



New models of tertiary education

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March 2017

The New Zealand Productivity Commission

Te Kōmihana Whai Hua o Aotearoa¹

How to cite this document: New Zealand Productivity Commission. (2017). *New models of tertiary education: Final Report*. Available from www.productivity.govt.nz/inquiry-content/tertiary-education

Date: March 2017

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ISBN: 978-0-478-44041-6 (print)

ISBN: 978-0-478-39536-5 (online)

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¹ The Commission that pursues abundance for New Zealand.

Foreword

Tertiary education improves the lives of students, and improves society. A good tertiary education system is one that can meet the needs of everyone who desires to participate, regardless of their background or life goals. This includes school leavers preparing for their adult lives and careers, young people needing a second chance after disengaging from education, older adults retraining to meet the needs of a changing labour market, and people of all ages who want to pursue learning.

A good tertiary education system also supports innovation and new models of tertiary education, so that it can respond flexibly to ongoing – and often unpredictable – changes in technology, demography, costs, internationalisation, and student and employer demand.

This inquiry considers how New Zealand's tertiary education system can better support new models of tertiary education, to help the system to respond to future trends and the evolving needs of New Zealanders.

The Commission finds that, at present, the tertiary education system does not adequately cater for diverse students or encourage new models to emerge to meet evolving needs and opportunities. Access to tertiary education is rationed in a way that excludes some people from participating at all; while others may not be able to find an offering that suits their study preferences.

The system is characterised by a high degree of central control: over time, government has responded to fiscal pressure, political risks and quality concerns with increasingly prescriptive funding rules and regulatory requirements. Stability has come before innovation and the interests of students.

The Commission makes wide-ranging recommendations to free up the system, so that a range of new models for delivering tertiary education can emerge to meet the needs of a wider variety of students. This will greatly increase the system's flexibility and responsiveness to deliver education for New Zealanders, whatever the future holds.

The Commission consulted extensively, receiving 176 submissions and holding around 130 meetings with interested parties. We explored developments in New Zealand and overseas, and looked at education practices and promising new innovations. I would particularly like to thank the tertiary teachers and students we met with up and down the country in the course of the inquiry.

I would also like to thank those from both within and outside government who helped us get to grips with the complexities of the system's funding and regulatory arrangements. The Commission delved more deeply into detailed operational design than in previous inquiries, at the request of officials.

Commissioners Professor Sally Davenport, Dr Graham Scott and I oversaw the preparation of this report. We acknowledge the work and dedication of the inquiry team: Judy Kavanagh (inquiry director), Dave Heatley, Kevin Moar, Amy Russell, Terry Genet, Zoe Pushon and Jack Garden. We also thank Lisa Meehan of the Commission's Economics and Research team, and Gail Pacheco, Director of NZ Work Research Institute, AUT for their valuable contributions.



MURRAY SHERWIN

Chair
March 2017

Terms of reference

NEW ZEALAND PRODUCTIVITY COMMISSION INQUIRY INTO NEW MODELS OF TERTIARY EDUCATION

Issued by the Minister of Finance and the Minister for Tertiary Education, Skills and Employment (the “referring Ministers”).

Pursuant to sections 9 and 11 of the New Zealand Productivity Commission Act 2010, we hereby request that the New Zealand Productivity Commission (“the Commission”) undertake an inquiry into new models of tertiary education.

Context

The tertiary education sector has adapted to significant change in the last two decades, with growing and changing demand for and participation in higher education, growing internationalisation, and the increasing importance of skills in the economy.

However, the sector operates in a dynamic environment where several key trends are likely to accelerate, offering strategic challenges and opportunities. These trends include:

- Ongoing technological change – offering new ways to deliver higher education programmes and more choice for students, and challenging traditional organisational and operating models.
- Increasing tuition costs.
- Increasing internationalisation of the tertiary education sector including: the growth and rising quality of universities and research organisations in Asia; competition internationally for students, academics and research investment; the growth of export education; and the acceleration of the English language as the language of global business and research.
- Changes in employer demand and student demand, including changes in the types of skills demanded; demand for options to combine study with work and other commitments; and demand for on-job and mid-career re-training.
- Demographic change – an ageing and more diverse population. New Zealand’s demography is set to reduce the number of domestic tertiary students for the next few years.

It was apparent at the 2014 Innovations in Tertiary Education Delivery Summit (ITES) that there are numerous emerging models of provision, but considerable inertia in New Zealand where tertiary providers appear reluctant to be “first movers” or “early adopters” shifting away from the traditional models. Yet ongoing change in the tertiary system is taking place influenced by the Tertiary Education Strategy (2014-19).

In comparison, some overseas tertiary providers appear to be faster and more ambitious in adapting to these trends, and in using new technology to respond to changing demand and improving the quality of education and research.

Scope

The focus of the inquiry will be on how trends, especially in technology, tuition costs, skill demand, demography and internationalisation, may drive changes in business models and delivery models in the tertiary sector.

The inquiry will take a whole-of-system perspective focussing on Crown Tertiary Education Institutions (ie, universities, polytechnics and wānanga) as well as private tertiary providers.

In undertaking the inquiry, the Commission should consider both demand and supply factors (including market, institutional and policy constraints) relevant to the adoption of new models of tertiary education, as well as looking broadly across what new models there are or what might emerge.

The Commission should use its knowledge of the tertiary education system, innovation and productivity performance to provide new insights drawing on new and existing sources of information. The Commission should also use its emphasis on public engagement and links with the OECD and other international agencies.

For the purposes of the inquiry the Commission should:

- Examine the key trends likely to drive strategic challenges and opportunities for New Zealand tertiary providers, including changes in technology, tuition costs, employer and student demand, demographics and internationalisation
- Draw on the Tertiary Education Strategy and the main challenges in tertiary education identified by the OECD² to assess the potential impacts of the trends and new models on the New Zealand tertiary system.
- Identify the potential barriers to innovation that could be addressed by government and providers to increase the benefits from adopting new models of tertiary education. This will include for example:
 - Policy and regulatory settings that govern tertiary providers.
 - The risks perceived by tertiary providers that may make them slow to innovate and develop alternative delivery models.
 - Internal change by tertiary providers and their sector bodies.
- Review and analyse evidence of success factors associated with innovative tertiary business and delivery models. This will include:
 - Exploring effective overseas models and their applicability in the New Zealand context.
 - Drawing where applicable on the business and delivery models identified through the 2014 Innovations in Tertiary Education Delivery Summit (ITES).
- Explore the options for changes to education funding and pricing mechanisms that may be required to facilitate new models of tertiary education. The focus will be on pricing and fee-setting and not on student support (ie, student loans and allowances).
- Explore the implications new tertiary models could have for the quality of tertiary education, including transparency, quality assurance and accountability, and the cost of provision.
- Consider the different activities and markets within tertiary education and how this might change with new tertiary models (eg, assessment, certification, the need for flexible, work-orientated study, and the need for face-to face teaching and pastoral support).
- Investigate opportunities through new tertiary models to improve access, participation and achievement in tertiary education of priority groups such as: Māori and Pasifika; at-risk youth; and those with limited access to traditional campus-based provision.
- Consider the impact of overseas domiciled providers on the New Zealand tertiary system.

² Refer www.oecd.org/education/skills-beyond-school/44007619.pdf

- Explore the implications new models of tertiary education could have for New Zealand’s position in the international market for tertiary educators, students, education products and services.

Policy findings and recommendations should address the challenges and opportunities as well as the levers available to government and the actions required by tertiary providers to increase responsiveness to new ways of delivering tertiary education. Consideration should also be given to links with the recommendations from the Productivity Commission’s reports on ‘Boosting Productivity in the Services Sector’ and ‘More Effective Social Services’.

Fit with existing work

The Productivity Commission has a comparative advantage as an independent agency to provide fresh insights into demand, supply and other factors relevant to the adoption of new models of tertiary education, as well as looking broadly across new and emerging models. The Commission will build on its existing programme of analytical and empirical research on the productivity performance of the New Zealand economy in both the public and private sectors.

This inquiry will complement, and is not intended to replicate, work being undertaken on Skilled and Safe Work Places and would contribute to the Business Growth Agenda.

Consultation requirements

In undertaking this inquiry, the Commissions should:

- work closely with the Ministry of Education, the Tertiary Education Commission and Ministry of Business Innovation and Employment.
- consult with key interest groups and affected parties including tertiary providers, students, employers and their representatives as well as academics and international agencies as required.

Timeframes

The Commission must publish a draft report and/or discussion document, for public comment, followed by a final report that must be presented to referring Ministers by 28 February 2017.

HON BILL ENGLISH, MINISTER OF FINANCE

HON STEVEN JOYCE, MINISTER FOR TERTIARY EDUCATION, SKILLS AND EMPLOYMENT

Disclosure

Commissioner Sally Davenport is a Professor of Management at Victoria University of Wellington. Professor Davenport is also involved with two New Zealand Centres of Research Excellence – as an Emeritus Investigator with the MacDiarmid Institute for Advanced Materials and Nanotechnology, and as a Principal Investigator with Te Pūnaha Matatini. She is an Adjunct Professor with the College of Business and Economics at the Australian National University. Professor Davenport is also Director of the National Science Challenge: Science for Technological Innovation. See www.victoria.ac.nz/som/about/staff/sally-davenport for further information.

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KEY

F

Finding

R

Recommendation

Commonly used terms

Term	Description
ACE	Adult and Community Education. Enables adults to engage in education with few barriers to participation and in a context relevant to the learner. It usually does not lead to a qualification and is often focused on personal development and skill enhancement with associated social, civic and community benefits, including literacy and numeracy skills. ACE clients include both second-chance learners with no prior qualifications, and well-qualified adults pursuing lifelong learning.
allocative efficiency	Allocative efficiency is the condition in which all possible gains from exchange in a market are realised. In other words, every good or service is produced in the quantity at which an additional unit would present a marginal cost to producers equal to the marginal benefit to consumers.
apprenticeship	A programme of study toward a qualification, usually at national certificate or diploma level on the New Zealand Qualifications Framework, that involves a mix of on- and off-job learning. Apprentices must be engaged in employment in the field for which they are training.
AQA	Academic Quality Agency for New Zealand Universities. A body established by Universities New Zealand, which conducts regular university audits and promotes quality enhancement practices.
articulation agreements	Agreements between tertiary education providers (or between different faculties of the same provider) about how they will recognise the prior learning of students transferring from one provider to another – especially where this helps students to move from lower to higher levels of study.
assessment	A process to determine a student’s achievement of identified learning outcomes. It may include written or oral presentations, or demonstrations.
business model	A business model specifies – at a high level – how an organisation carries out its business. A typical business model articulates how an organisation creates, delivers and captures value.
capital productivity	A measure of how efficiently capital (eg, land, buildings and equipment) is used in the production of goods and services. Generally measured as the average output produced per dollar of capital assets.
cartel	A cartel involves arrangements that reduce the competition between competitors, offering them increased market power. Examples include price fixing; the restriction of outputs; the allocation of customers, suppliers or territories; and bid rigging. Such arrangements are generally unlawful in New Zealand unless authorised under the Commerce Act 1986 or other legislation.
CEP	Community education provider. An organisation that delivers community education services, usually including Adult and Community Education (ACE). Those CEPs funded by TEC are registered with NZQA as PTEs. CEPs are often owned by charitable trusts rather than for-profit firms.
completion rate	The proportion of enrolled students who complete a course or qualification in a specified timeframe. See separate definitions for “course completion rate” and “qualification completion rate”.
co-production	In the context of education, the process whereby students and teachers both contribute to producing the student’s education outcomes.
credential	A verification of an individual’s qualification or competence issued by an education provider or third party with the relevant authority to issue such credential. Credential encompasses educational certificates, degrees, and diplomas and their component credits, as well as newer forms such as badges.

Term	Description
credit transfer	A system whereby successfully completed units of study contributing towards a qualification can be counted towards another qualification, sometimes at another provider.
credit value	A measure of course or qualification size. Credit values are assigned by the relevant quality assurance body (eg, the New Zealand Qualifications Authority or the Committee on University Academic Programmes) to each course or qualification, based on how many hours of learning the course or qualification represents for the typical student for whom it is intended. One credit nominally equates to ten learning hours. One EFTS comprises 120 credits
CUAP	Committee on University Academic Programmes. A committee established by Universities New Zealand to carry out its statutory role (as the New Zealand Vice-Chancellors Committee) in quality-assuring new or changed academic programmes at universities.
delivery model	The teaching interface between a tertiary education organisation and a student.
demand	The quantity of a specific good or service that consumers are willing or able to buy at a certain price.
demand side	Relating to the purchase and use (consumption) of the goods and services produced in the economy, personified by the "consumer". Demand-side policies aim to affect consumers' purchase and consumption decisions.
deprivation index	An index of socioeconomic deprivation, which combines census data relating to income, home ownership, employment, qualifications, family structure, housing, access to transport and communications. It is calculated and published for each meshblock in New Zealand. (Meshblocks are the smallest geographical area defined by Statistics New Zealand, with a population of around 60–110 people.) Deprivation scores are grouped into deciles: meshblocks with a score in the least deprived 10% of meshblocks are assigned an index of 1, and those in the most deprived 10% are assigned an index of 10. When used for research, individuals and households are assigned the deprivation index of the meshblock containing their address.
disruptive innovation	Innovation that significantly changes or "disrupts" a market, often through providing simpler versions of the product or service to previously unserved markets. Disruptive innovation is in contrast to sustaining innovation.
e-learning	E-learning is teaching and learning that is facilitated by or supported through the appropriate use of information and communication technology (ICT). E-learning can cover a spectrum of activities, from supporting learning, to blended learning (the combination of traditional and e-learning practices), to learning that is delivered entirely online.
economies of scale	Situations in which the per-unit cost of production falls as the quantity produced increases.
Educational Performance Indicator (EPI)	Four measures used by TEC to assess and report (including in published data) on provider performance, and to determine Performance-Linked Funding assessments. The four EPIs are: qualification completion rate; course completion rate; retention rate; and progression rate.
EFTS	Equivalent full-time student. It is the main unit of measurement of the production and consumption of education, and the basis for provider subsidies. One EFTS corresponds to one student enrolled full time for one year (1 200 learning hours over 34 weeks) in a standard programme of study.
EFTS quota	The funded EFTS allocated to a provider by TEC (specified as a dollar value associated with a nominal quantity of EFTS).

Term	Description
emergent property	An unplanned property of a collective or system that emerges from the interaction of the individual members of the collective or system, but is not a property of those members themselves.
equity funding	A government payment per EFTS to SAC-funded providers for enrolments of Māori and Pasifika students enrolled at NZQF level 5 and above, and (for TEIs only) students with disabilities studying at any level.
export education	Educating students from a different country. This might involve student travel, provider travel, a branch operation in another country, or course delivery across international boundaries (eg, online courses).
External Evaluation and Review (EER)	A periodic review, conducted by NZQA, to assess educational performance and capability in self-assessment of non-university tertiary education providers.
extramural study	Study that is not on-site at the education provider, for example distance learning.
financial surplus	The difference between revenue and expenses as declared in an organisation's financial accounts.
flipped classroom	A delivery model in which students consume lesson content (eg, watch videos of lectures) outside the classroom, and then process or learn to use that knowledge during classroom activities, facilitated by a teacher. This is a "flip" of the traditional lecture model whereby students consume content in class, and then process or learn to apply it during individual study (eg, homework).
foundation education	One of three broad levels of tertiary education, along with vocational and higher education. Foundation education covers levels 1–3 of the New Zealand Qualifications Framework and aims to provide students with the skills and knowledge that form the foundations for further learning, including literacy, numeracy, and self-management and study skills.
funded volume	The amount of funding allocated by TEC to a provider, specified as a dollar amount and a nominally equivalent number of EFTS.
higher education	One of three broad levels of tertiary education, along with foundation and vocational education. Higher education is tertiary education at degree level or above (levels 7–10 of the New Zealand Qualifications Framework), and aims to develop abstract and theoretical knowledge of a discipline alongside advanced cognitive and non-cognitive skills.
ICT	Information and communication technology. This includes digital networks, telecommunications and broadcast media.
industry training	Training for people in the workforce that leads to a formal qualification (eg, apprenticeships). Industry training is arranged by Industry Training Organisations and is delivered in the workplace or offsite at a training provider, or a mix of both.
ITO	Industry training organisation. Organisations (recognised by the responsible minister) that facilitate workplace learning for trainees in employment by setting national skill standards for their industry, developing appropriate training, and monitoring the quality and assessment of trainees. ITOs are TEOs but not providers.
innovation	The process of translating an idea or invention into a good or service that people value.
international rankings	Rankings of universities worldwide, published annually, based on their performance against various metrics (many of which relate to research). The three most high-profile ranking systems are the Quacquarelli Symonds, <i>Times Higher Education</i> magazine and Academic Ranking of World Universities. These are known respectively as the QS, THE, and AWRU rankings.
internationalisation	The influence on the tertiary education system (including in terms of the attributes, expectations, and options of its graduates and staff) of cross-border trade, knowledge transfers and the movement of people and ideas.

Term	Description
intramural study	Study on-site at an education provider.
Investment Plan	A Plan under s 159P of the Education Act 1989, written by a TEO and negotiated with TEC as a funding contract and public accountability document.
ITP	Institute of technology and polytechnic. A tertiary education institution that offers a wide diversity of tertiary education, including vocational training, and that conducts research, particularly applied and technological research.
labour productivity	A measure of how efficiently labour is used in the production of goods and services. Generally measured as the average output produced per unit of labour input.
labour specialisation	Specialisation of labour occurs when workers are assigned to specific parts of a production process. This generally requires them to have or develop skills specific to their assignment.
latent demand	Customer demand that a supplier might be able to fulfil if they had a product at a lower price or with different characteristics.
learning management system	A learning management system is a software application for administering, documenting, tracking, reporting and delivering courses.
lifelong learning	Learning pursued throughout a person's life to foster the continuous development of their knowledge, skills, competencies and interests. Lifelong learning includes both formal and informal learning. It is in contrast to a conception of education as something a person does only in childhood and early adulthood.
market	Somewhere (physical or virtual) where buyers and sellers interact to trade things.
market power	Strictly, the ability of a producer to set its prices above the level that would apply in a competitive market. More generally, the ability of organisations to be choosy about which customers they deal with and how they treat them, without fear of the consequences.
massification	The globally observable phenomenon in which tertiary education (especially university education) expands from serving only a small proportion of the population (usually much less than 10%) to serving a large proportion (at least 20% and often more). In New Zealand this process began in about 1990.
match (and mismatch)	Matching refers to the goodness of fit between, for example, the skills of graduates and the skills demanded by employers ("labour market matching"), or a prospective student and a tertiary education offering. A "mismatch" describes a poor fit.
mission maximiser	An organisation that seeks to maximise achievement of its mission, rather than being motivated principally by profit. All TEIs, and many PTEs and CEPs, are mission maximisers. Mission maximisers do want to make a surplus – to spend on or reinvest in mission-advancing activities, rather than to return to owners.
MOOC	Massive open online course. It is a model for delivering learning content online to any person who wants to take a course, with no limit on attendance, and usually with no charge for participation (though there may be charges for additional services such as certificates of completion).
monopoly	A situation in which customers have only one choice of supplier.
NCEA	National Certificate of Educational Achievement. National qualifications for senior secondary school students, administered by NZQA at levels 1–3 of the NZQF.
NEET	Not in employment, education or training. Usually refers to young people.
new entrant	A firm entering into trade in a given market for the first time.
new model	A model is a way of organising the production of tertiary education or the relations between system participants to achieve a defined goal or goals. A "new model" means one not currently in common use.

Term	Description
NZQA	New Zealand Qualifications Authority. NZQA is a government agency whose role is to ensure that New Zealand qualifications are regarded as credible and robust, nationally and internationally. NZQA manages the NZQF, administers the secondary school assessment system, assures the quality of non-university education providers, and performs qualifications recognition and standard-setting functions.
NZQF	New Zealand Qualifications Framework. A comprehensive list of all quality-assured qualifications in New Zealand (secondary and tertiary), administered by NZQA. NZQA stratifies qualifications across ten levels, from foundational certificates at level 1 (eg, NCEA level 1) to doctoral degrees at level 10).
New Zealand Vice-Chancellors Committee	A committee of the eight Vice-Chancellors of New Zealand universities established under statute. Operates as Universities New Zealand.
operating model	See business model.
OTEP	Other Tertiary Education Provider. OTEPs are organisations that deliver programmes of tertiary education or in support of tertiary education of some national significance, and that are recognised by the Minister of Education. They are neither TELs nor PTEs.
Pasifika	A collective term to describe peoples from Polynesia, Melanesia and Micronesia. In this report, Pasifika refers to those living in New Zealand.
PBRF	Performance-Based Research Fund. A fund administered by TEC that financially rewards participating providers based on metrics that reflect the quantity and quality of their research output.
pedagogy	The theory, method and practice of teaching.
Performance-Linked Funding	A policy whereby a proportion of a TEO's funding is conditional on meeting minimum performance thresholds set by government. For the SAC fund, 5% of providers' SAC funding is conditional on their performance in course completion, qualification completion, retention and progression. For ITOs, 5% of industry training funding is conditional on their performance in trainee credit attainment.
priority group	A group of people whose participation and success in the tertiary education system is a priority for the Government. The current Tertiary Education Strategy identifies four priority groups: Māori, Pasifika, young people at risk, and adults with low levels of literacy and numeracy.
provider	See <i>tertiary providers</i>
PTE	Private training establishment. A provider of post-school education or vocational training that is not a Crown entity.
qualification	A coherent set of credentialed learning outcomes; or the credential that signifies possession of these outcomes.
retention rate	The proportion of students enrolled in tertiary education in one year who re-enrol in the following year.
RPL	Recognition of prior learning. A process that assesses what an incoming learner already knows and can do, and provides the learner with credit toward a qualification on that basis.
SAC	Student achievement component. The largest of government's tertiary education funds, used to purchase provider-based tertiary education.
SAC 3+	SAC funding at NZQF levels 3 and above.
sector	Sometimes used as a shorthand for the "tertiary education sector" (ie, all tertiary education organisations).

Term	Description
secondary-tertiary partnership (STP)	An STP is a partnership between tertiary education organisations (TEOs) and schools. STPs aim to meet the needs of students at risk of disengaging from education by raising their achievement levels and promoting positive transitions to further education, training or work. Students attend courses provided by the TEO for part of the school week. Trades Academies are one example.
self-accreditation	Self-accreditation refers to a provider's ability to determine the content and nature of their educational delivery without seeking approval from an external quality-assurance body.
socioeconomic status (SES)	A measure of an individual's or family's economic and social position in relation to others, based on income, education and occupation.
skills-biased technological change	The tendency of technology to influence the relative demand for skilled versus unskilled labour, in favour of skilled labour.
skills	Subject-specific knowledge, such as literacy and numeracy, and non-subject-specific abilities, such as critical and creative thinking. Technical and vocational skills are a mixture of knowledge and abilities used to perform specific jobs with clearly defined tasks.
STEM	Science, technology, engineering and mathematics.
STM	Standard training measure. A measure of industry training quantity (the industry training equivalent of an EFTS). 1.0 STM corresponds to the amount of training that is required for a trainee to achieve 120 credits (or equivalent) on the New Zealand Qualifications Framework.
student allowance	A weekly payment to help students cover living expenses while they study. Entitlement to student allowance is based on criteria set out by StudyLink such as parental income or being over the age of 24.
Student Education Account (SEA)	A funding approach whereby each resident receives a cash entitlement in early adulthood to spend on the tertiary education of their choice.
Student Loan Scheme	A government scheme that lends money to students to finance their tertiary study, with repayments from their future income once it reaches \$19 084 per annum. The loan is interest free for New Zealand resident borrowers, while they remain in New Zealand.
subsector	One of universities, ITPs, wānanga, PTEs or ITOs.
supply side	Relating to the production and sale of the goods and services produced in the economy, personified by the "supplier". Supply-side policies aim to affect suppliers' production and selling decisions.
sustaining innovation	Innovation that improves an existing business model. Sustaining innovation is in contrast to disruptive innovation.
system	A combination of interrelated, inter-dependent, or interacting elements forming a collective entity.
TEC	Tertiary Education Commission. TEC is a Crown entity responsible for funding most tertiary education in New Zealand.
TEI	Tertiary education institutions are public tertiary education providers. A university, ITP or wānanga, all of which are Crown entities established under the Education Act 1989. (Universities were first established under earlier statutes.)
TEO	Tertiary education organisation. TEO is a catch-all term for organisations that provide tertiary education-related services. It includes universities, ITPs, wānanga, PTEs, Rural Education Activity Programmes, community education providers, TEC-funded schools (eg, those who provide Gateway or Adult and Community Education), ITOs, and a small number of employers in receipt of TEC funding.

Term	Description
Tertiary Education Strategy (TES)	A statutory document that describes the Government's current and medium-term priorities, and long-term strategic direction, for tertiary education. The current TES covers the period from 2014 to 2019.
tertiary education system	The various participants who fund, specify, regulate, influence, provide and consume tertiary educational services; and the formal and informal relationships between those participants.
tertiary provider	Tertiary education organisations that deliver courses. These courses range from transition (school to work) programmes, through to postgraduate study and research. "Tertiary provider" excludes ITOs, which arrange but do not deliver courses.
trainee	Someone who is participating in industry training but who is not enrolled in an apprenticeship.
trend	A general direction in which something is developing or changing.
tuition costs	Can refer to many different things, including the price paid by students (either gross or net of student loans), the costs incurred by providers, or the costs incurred by government (including or excluding the effective cost of student loans).
tuition fees	The price charged by providers to students for tertiary education, usually on a per-course basis.
Universities New Zealand (UNZ)	Operating name for the New Zealand Vice-Chancellors Committee, established under s 240 of the Education Act 1989.
university	A provider of higher education, including degrees and often (but not always) including postgraduate research degrees and other research services. In New Zealand, a university is defined in s 162 of the Education Act 1989 as a TEI that is "characterised by a wide diversity of teaching and research, especially at a higher level, that maintains, advances, disseminates, and assists the application of, knowledge, develops intellectual independence, and promotes community learning".
University Entrance	A common education standard that is a formal prerequisite for entrance to university in New Zealand for domestic students under the age of 20 (though students who lack it can apply for provisional entrance). The University Entrance standard is administered by NZQA under s 247 of the Education Act 1989 in consultation with universities and the Vice-Chancellors Committee. It currently comprises a package of credits at NCEA level 3, including a minimum number of credits in literacy, numeracy and various "approved subjects".
value add	Measurements of value-add in tertiary education attempt to identify what difference a given course of study makes to a student, taking into account where the student started from, and where they would likely have ended up without the tertiary study. This can be done by comparing "before" and "after" measures, or by modelling "actual" versus "expected" outcomes based on data about cohorts of students.
vocational education	One of three broad levels of tertiary education, along with foundation and higher education. Vocational education aims to provide students with practical skills for application in a particular occupational field, such as a trade. Most vocational education is at levels 4–6 of the New Zealand Qualifications Framework.
Youth Guarantee	<p>Refers in this report to the TEC-administered Youth Guarantee fund, which purchases fees-free tertiary provision at levels 1–3 of the NZQF (including NCEA 1 or 2 delivered by a tertiary provider) for students aged 16 to 19.</p> <p>The term "Youth Guarantee" can also refer to a collection of government policy and funding initiatives, including STPs (as well as the TEC-administered Youth Guarantee fund), aimed at helping secondary school students or school leavers acquire foundation qualifications and make a smooth transition from school into further study or work,</p>

Te reo Māori terms

Te reo Māori is one of New Zealand's three official languages – along with New Zealand English and New Zealand Sign Language. This report uses some terms that may be unfamiliar to international readers.

Term	Description
āhuatanga Māori	A Māori method of teaching that facilitates a community to give expression to its values and principles.
hapū	Kinship group, clan, tribe, subtribe.
hāpori	Section of a kinship group, family, society, community.
iwi	Often translated as "tribe". Iwi is a collection of hapū (clans) that are composed of whānau (defined below). The link between the three groups is genealogical.
kaupapa	Purpose, mission, or approach. Kaupapa Māori means an approach reflecting Māori values and culture.
kanohi ki te kanohi	Face to face.
marae	Literally "courtyard" – the open area in front of the <i>wharenuī</i> , (meeting house) where formal greetings and discussions take place. Often also used to include the complex of buildings around the <i>marae</i> .
mātauranga Māori	Māori knowledge – originating from Māori ancestors, including the Māori world view and perspectives, Māori creativity and cultural practices.
pākehā	New Zealander of European descent; literally English, European or foreign.
pāngarau	Mathematics.
pānui	Reading, speaking aloud.
tauira	Students.
Te Puni Kōkiri	The Ministry of Māori Development.
te reo Māori	The Māori language
tikanga	Literally "the things that are correct". Sometimes translated as "protocol" or "customary practice", tikanga is the customary system of values and practices that have developed over time and are deeply embedded in the social context.
tuhituhi	Writing.
whānau	Family. Whānau may refer to nuclear or extended families.
wānanga	A tertiary education institution that provides programmes in a Māori cultural context, with an application of knowledge regarding āhuatanga Māori (Māori traditions) according to tikanga Māori (Māori custom).

Overview

The Government asked the Productivity Commission to carry out an inquiry into new models of tertiary education.

The terms of reference suggested that the tertiary education system has “considerable inertia”, with tertiary providers reluctant to be first movers or early adopters in shifting away from traditional models. At the outset of the inquiry, the Commission was mindful of the importance of this alleged problem. If providers in the tertiary education system are inflexible and slow to adapt to changing circumstances, then that carries with it considerable risks for New Zealand and missed opportunities for improvement. As this Overview explains, tertiary education does have considerable inertia, but this is an emergent property of the system rather than a characteristic of tertiary education providers.

New Zealand’s tertiary education system

Why does tertiary education matter?

Tertiary education improves the lives of students, and improves society. For students, education develops knowledge and skills that allow them to live an enriched life. It helps people to understand and navigate the world around them, as well as question and challenge the way things are. It creates access to opportunities, forges identity and culture, and frequently leads to lifelong benefits in terms of health, wealth and life satisfaction.

There are public benefits too: a stronger civic society, the advancement of knowledge, the preservation of cultural heritage, and the development of a skilled workforce that can contribute to productivity and wellbeing.

Tertiary education is not an ordinary consumer good. It typically combines separate services like teaching, assessment, and pastoral care and it can be difficult for a student to fully assess the quality of education provided, even after it has been delivered. Most importantly, a successful tertiary education requires considerable effort on the part of both students and teachers. In this sense, an education is “co-produced”, and this has important implications for how the Commission has thought about the issues in tertiary education.

The current state of the tertiary education system

New Zealand’s tertiary education system has changed dramatically over the last 30 years. The system accommodated growing numbers of students through the last decades of the 20th century. The proportion of the adult population with formal post-school qualifications, and higher-level qualifications, has grown over time. Each of New Zealand’s universities is ranked in the top 3% in the world, vocational and industry training are well-regarded internationally, the wānanga subsector serves many people who would otherwise miss out on tertiary education, and the country has a diverse set of private training establishments, many of which are well-connected to employers and their local communities.

This inquiry considers how well-placed these providers are to continue to deliver successfully for New Zealand, given the risks and opportunities presented from ongoing changes in technology, demography, costs, internationalisation, and student and employer demand.

A good tertiary education system is one that meets the needs of all students. This includes school leavers preparing for their adult lives and careers, young people needing a second chance after disengaging from education, older adults retraining to meet the needs of a changing labour market, and people of all ages who want to become more educated in areas of interest to them.

The Commission finds that the tertiary education system is not well-placed to respond to uncertain future trends and the demands of more diverse learners. The system is not good at trying and adopting new ways of delivering education, and does not have the features that will allow it to respond flexibly to changing circumstances. The system does a good job of supporting and protecting providers that are considered

important, but it is not student-centred. Neither does it reach out, as much as it could, to extend the benefits of education to groups that have traditionally missed out on tertiary education.

This is largely due to the high degree of central control that stifles the ability of providers to innovate. Nobody set out to design a tertiary education system characterised by inertia. But over time government has responded to fiscal pressure, political risks, and quality concerns by layering increasingly prescriptive funding rules and regulatory requirements on providers. These have the cumulative effect of tying the system down.

This report recommends changes that would improve the tertiary education system's ability to respond flexibly to future pressures or opportunities. Providers need more freedom, and incentives, to try new things. They should have greater autonomy and responsibility. Students can be more powerful in driving quality and innovation within the system.

The current system is set up to be too supply-driven, with providers more responsive to government than to students. This report recommends improvements to government's approach to funding tertiary education to allow funding to be more responsive to student demand and to reward providers for good performance in adding value to students.

Where is the system innovative? What are the possibilities?

Teachers and providers innovate – but core business models persist

The Commission finds that, across the tertiary education system, many teachers and groups of teachers are innovating, including integrating new technology into their teaching practice. Passionate professionals are trying new things. But there is a lack of system dynamism necessary for these approaches to scale up and transform education delivery.

Innovation is also happening at the provider level, but usually this delivers incremental improvements to existing ways of doing things. Providers refresh their course offerings, upgrade their Learning Management Systems, offer Wi-Fi and invest in more flexible learning spaces. Examples of New Zealand tertiary providers with significantly new and different models of tertiary education are rare. Where significant innovations do emerge in New Zealand, they do so because government removes regulatory barriers to it (eg, allowing Secondary-Tertiary Partnerships), where providers can attract separate funding (eg, ICT grad schools, various programmes to encourage more young Māori into health studies) or they arise outside of the government-funded system (eg, the Dev Academy).

The Commission has seen examples in other countries of innovations that, rather than being incorporated into existing business models at the margins, have significantly reshaped how providers plan and undertake the delivery of education to students:

- providers striking out to deliver tertiary education online and through blended models that combine online and face-to-face models to previously under-served groups of students;
- cutting-edge approaches to using administrative and other data to tailor learning support to individuals; and
- the close integration of work and learning not just for vocational education, but also higher education.

None of these models would supplant existing delivery models in New Zealand. But a well-functioning tertiary education system would offer more diversity and specialisation on the part of providers, and students would be able to choose from models like these alongside more traditional options.

Better matching is possible via new models

New models of tertiary education present an opportunity to increase the diversity of delivery approaches, educational methods and learning environments available to students. In turn, this increases the opportunities for individual students to find a match that suits their needs and aspirations.

New models would also help the education system adapt to a changing society and world of work. For example, models at all levels of study that allowed students to combine education and work would improve

the ability of the education system to meet the needs of employers. A wider range of models could help ensure the technical curriculum meets employers' requirements, as well as encourage the development of transferable skills such as communication and teamwork.

Inertia is an emergent property of the system

The Commission finds considerable inertia in New Zealand tertiary education, but this is an emergent property of the system rather than an inherent feature of providers. In other words, this inertia is a product of the regulatory and funding system within which providers operate, combined with the decisions of large numbers of autonomous providers and students. Though higher-ranked universities have a strong attachment to traditional ways of delivering education, many providers (across all subsectors) show an appetite for doing things differently. In many respects, the system stymies or prohibits innovations, punishes risk-takers, and reinforces existing practices.

Government control is pervasive

The tertiary education system is controlled by a series of prescriptive regulatory and funding rules that dictate the nature, price, quality, volume and location of much delivery. These controls have extended over time as a result of different financial, quality and political risks. Together they constrain the ability of providers to innovate, drive homogeneity in provision, and limit the flexibility and responsiveness of the system as a whole.

Tuition subsidies allocated to tertiary providers come with tight specifications on the nature and volume of delivery, and these limit the ability of providers to develop new or innovative offerings. Government purchases a limited range of products: it will only subsidise study towards a full qualification, and the equivalent full-time student (EFTS) funding mechanism bundles teaching, assessment, credentialing and often pastoral care. Government also tightly regulates the fees that providers can charge.

The total number of domestic student places in the tertiary education system is capped, and the proportion of total government funding that shifts between providers year to year is very small. This means that high-performing providers have little scope to grow at the expense of poor performers.

Quality assurance in the tertiary education system inhibits innovation. In the university subsector quality assurance is delegated to Universities New Zealand through its Academic Quality Agency and its Committee on University Academic Programmes (CUAP). These arrangements are not conducive to innovation and focus primarily on processes rather than student outcomes. Some of the New Zealand Qualifications Authority's (NZQA) regulatory processes are also not as enabling of innovation as they could be.

Armstrong notes that in education, ideas of quality come to be defined by existing practice:

When an organization has been successful for a considerable length of time, the people in that organization come to believe that their value proposition defines quality in their field, and that the resources and processes used are necessary for the production of that quality... That is, the status quo of the entire business model comes to exemplify quality. (2014, p. 4)

So quality assurance processes can reinforce existing practices, rather than supporting new ones. Equating traditional models of delivery with quality also reinforces cultural resistance to change within providers.

Regulation does the opposite of what it does in other sectors

In most parts of the economy, government has an important role to play in controlling market power, limiting monopolistic behaviour, and preventing cartels. The reason for such regulation is to protect the public by facilitating new entrants, lowering prices, improving quality, and encouraging innovations to better serve existing and prospective customers.

In tertiary education, government regulates with the opposite effect: government regulations bestow market power, grant local monopolies, and require cartel structures. The results should not be surprising: significant barriers to new entrants, rising costs, and a lack of innovation in serving current or prospective students.

The result is the delivery of more “traditional” tertiary education

In recent years, students in New Zealand have become more likely to be engaged in a traditional conception of tertiary education. The average student is becoming younger and is more likely to be a school leaver. The share of full-year, full-time study is increasing. The share of intramural (on campus) study is also increasing. This is the result of:

- government's steering via the Tertiary Education Strategy, which for some time prioritised delivering education to these groups;
- the performance management regime which focuses on completions, which tend to be higher through full-year, full-time, intramural study; and
- the rationing of access to education through the allocation of EFTS, meaning that many providers can fill their quota by continuing their existing modes of delivery, and which offers no incentive for providers to try something new to reach unserved students.

A system that is educating fewer students in recent years...

Some inquiry participants noted that the New Zealand tertiary education system is both high quality and cost-effective when compared internationally. However, New Zealand's tertiary education system is still sufficiently expensive for government that it limits access to control its costs. The last two decades have seen a see-saw of iterative policy measures to first grow, then ration, participation in New Zealand's tertiary education system, as government has sought to balance access goals against rising costs.

When enrolments were uncapped in the late 1990s, the system expanded to serve the significant growing or latent demand for tertiary education, including from groups that had historically poor levels of participation. Significant quality problems occurred along the way, and the system was recapped in stages between 2003 and 2006. Subsequently, participation rates in tertiary education have fallen steadily, with more than 20% fewer domestic enrolments in provider-based tertiary education in 2015 than in 2005.

The inherent tension between expanded access and expanded public costs is tighter in New Zealand than in most other countries due to New Zealand's interest-free student loan policy. The significant costs that arise via the interest-free student loans scheme, has had the unintended consequence of creating a strong incentive to constrain the supply of tertiary education. The Commission has recommended options to address this.

The system's focus on educating school leavers, full time, and on campus, means that it does not recognise demand for education from other groups who would be well-served by new models.

...and continues to underperform for some population groups

Māori and Pasifika have higher rates of participation in tertiary education than New Zealand Europeans overall, but this is exclusively because of their higher rates of participation in subdegree-level study. While there have been improvements in recent years, participation and outcomes for Māori and Pasifika students at higher levels of study are still concerning. The performance of the schooling system is a major driver of this. Yet even allowing for prior achievement at school, young Māori have lower rates of participation in degree-level study; and while Pasifika with University Entrance are as likely to enter degree-level study as their New Zealand European peers, they are much less likely to complete a degree.

Students are disempowered

Providers often impose high switching costs on students and have incentives to do so. Students may change their mind about a field of study or provider, or want to change the qualification level they are studying towards. Students may be unhappy with the quality or type of education they are receiving or may just realise they have made a mistake. But the system does not support students to change their path or to have their credit or prior learning recognised. The way government measures and rewards provider performance means providers have little incentive to help students change their course of study.

The tertiary education system is exposed to uncertain trends

The economy and society of New Zealand have changed significantly, and the tertiary education system has changed with them. People are making different study choices in response to increasing labour specialisation, the development of the service economy, and skills-biased technological change.

The demands on the tertiary education system will continue to change. The student population is likely to become more diverse, and many people predict that ongoing technological change will reshape the economy, and require people to upskill and retrain more often.

Views differ about how disruptive these trends will be. But even taking a view that trends will be incremental in nature, they present numerous challenges for the system. For example, many of the students for whom the system underperforms belong to demographic groups forecast to grow as a share of the population in coming decades. The system is not well-placed to cater for growth in learners seeking to upskill or retrain. These learners are likely to be looking for specific skills rather than full qualifications and are more likely to want to have their existing skills and learning recognised. Current funding rules mean that neither of these options are presently well-developed.

Technology will continue to evolve, creating the need for new types of skills and the potential for diverse new models of tertiary education. The uncertainty around what the next development will be, and how it might affect education, makes system settings that allow flexibility and responsiveness particularly important:

The effectiveness of a tertiary education system may be measured by its ability to meet and resolve rapidly, and constantly changing, economic and demographic drivers. This requires a system that is agile and responsive, and high professional standards and ethical dispositions from those operating within it. (WelTec & Whitireia, sub. 59, p. 2)

Change is inevitable, but predicting how future trends will influence tertiary education is hard. Under current settings, the system has little or no ability to adapt spontaneously to such change. It falls to government to accurately predict these trends so that it can adjust its purchasing correctly and ensure its rigid regulatory controls are appropriate for changing times. This places a heavy responsibility on government to correctly predict the future and make timely anticipatory changes to policy – in the Commission's view, a near impossible task.

A better approach would be to allow providers to pursue different strategies, differentiate themselves, and adopt a wider range of new models. This would make the system more flexible, responsive, and resilient in the face of external shocks.

Providers respond to government, not students

Co-production works best when (among other things) providers and consumers have shared objectives, and shared expectations of what is required of each of them in the co-production process. In a student-centred system, providers would be responsive to the needs and aspirations of students – who in turn would have the skills and information they needed to make good decisions about their investments in tertiary education.

In the current tertiary education system, government allocates subsidies to providers who then allocate places to students. This system requires students to understand and meet the needs of providers (rather than the other way around), and means that providers are responsive to government (rather than to students).

Information to support new models

Better prepare students

Students' decisions about what, when, and where to study are an important driver of the tertiary education system. It is therefore critical that students are supported to make good decisions.

Concerns about how students transition into tertiary education are widespread, as are concerns about how well the compulsory education system prepares students for further learning and to take decisions about

future study. Inadequately prepared, prospective students are presented with a confusing array of official and unofficial information sources about what they should and could study.

The arrangement and delivery of career services in schools, and government provision of information to prospective tertiary students, is fragmented and does not prepare young people to make career and study decisions. Government should review the arrangements for career education in schools, to create a system that focuses on building career skills in young people rather than giving them information. It should also rationalise official sources of career and study information.

Government agencies produce a range of information with the aim of informing decision-making of government, providers, and prospective students. But information is difficult to navigate and more attention needs to be paid to its accessibility. Information often reports raw measures of student achievement which do not take account of the level of learning that students begin with. This can create perverse incentives for providers to cherry-pick students, and mean the system as a whole can underserve already disadvantaged learners. It also means that published performance data can give a misleading view of providers' relative performance. Government should do more to take account of students' prior achievement, both in monitoring TEO performance, and in publishing information about what types of provision or provider serve different students best.

Promote student access and mobility

Students should be able to mix and match courses from different providers more easily. Students should have clearer information from providers about how their learning will be recognised when they transfer between qualifications or providers and the Tertiary Education Commission (TEC) should change the way it measures provider performance to reduce existing disincentives to credit transfer. NZQA should set stronger guidelines about providers' credit transfer policies. Because providers have all the power in credit transfer decisions, students should have recourse to a dispute resolution body if necessary.

The University Entrance standard is an unhelpful signal. University Entrance does not reliably signify preparedness for higher-level study. It also implies that a young person who achieves University Entrance is best off attending a university, when this may not be the case. Some universities set higher standards, while others would like to enrol students that do not have University Entrance. University Entrance should be abolished.

Recommendations to get the regulatory balance right

Quality assurance needs to ensure acceptable levels of quality, without choking innovations that might help providers serve groups of students better. Providers who fail to meet acceptable standards should face real consequences, and equally, consistently high performing providers should be given greater freedom. This raises the stakes associated with quality assurance and places a premium on processes that are robust, credible and based on accurate information.

Competent institutions should self-accredit

The collective accreditation of programmes of study, through processes like the Committee on University Academic Programmes, stifles innovation. It tends to define quality in terms of existing practices. It also gives providers veto power over each other's offerings, and affords providers early notice of other providers' intentions, reducing the potential returns to innovation.

Providers with a strong track record of educational performance should be given self-accrediting status. Self-accrediting status should be open to providers (from any subsector) that demonstrate the capability to effectively manage their own quality assurance processes. Universities should be grandparented self-accrediting status and the statutory provisions relating to the Vice-Chancellors Committee in the Education Act 1989 should be repealed.

NZQA should also streamline programme approval processes and other ex ante controls for providers that do not have self-accrediting status.

Remove some restrictions on how funding is used

Funding mechanisms include tight specifications regarding how funding is allocated, and what can be delivered. Some of these specifications, particularly requirements that students be enrolled in a full qualification, restrictions on the delivery of short qualifications, and restrictions on higher level industry training, should be removed or relaxed.

TEC expects institutes of technology and polytechnics (ITPs) to concentrate primarily on delivering education that meets the needs of students in their region, and requires ITPs to gain prior approval before they deliver outside their region. This gives incumbent ITPs protection, dampens pressure to improve or increase efficiency, and restricts the spread of new models. Educational delivery by ITPs anywhere in New Zealand should not require the approval of TEC.

Address the imbalance between research and teaching

Incentives for providers to invest in teaching quality are weak and, in universities, research performance is much more important for academic career success than teaching performance. Introducing processes to assess and reward teaching performance and removing statutory requirements that degrees are taught mainly by people engaged in research would help to address this imbalance and support the emergence of new models.

Increase tertiary education institutions' autonomy and responsibility

One reason government maintains tight control over tertiary education institutions (TEIs) – ITPs, wānanga and universities – is because government bears legal liability for their debts in the event of failure. So government has a reason to closely monitor the financial performance of TEIs, and keeps close control over how TEIs use and dispose of assets. This inhibits the kind of innovation that might significantly change a TEI's business model.

A TEI is required to produce a small surplus, but it also has an incentive to spend what it earns. If its surplus is too big, the TEI will find it hard to seek higher funding levels from government. So it can have an incentive to accumulate assets like buildings, which can lock in particular models of delivering education and prevent capital being invested in new models.

Financially competent TEIs should own and control their assets and be liable for their debts. The exemption from paying local government rates should be removed. These recommendations enhance the ability of TEIs to direct capital investments towards new models of education.

Allow new entrants

Disruptive innovations that combine technology with new ways of delivering value are more likely to come from new entrants than established organisations. New entrants often begin by radically expanding the market for a product or service, and are frequently subject to criticism as offering an inferior product. But the beneficiaries are people who were previously not accessing the product or service at all. The Ministry of Education should systematically identify and remove regulatory barriers to new entrants of acceptable quality, including from offshore.

Purchasing to reward new models

Improving regulatory settings will increase the flexibility of providers to innovate. But providers' incentive to do so is significantly constrained by the central allocation of EFTS quotas to tertiary providers. Providers – especially public providers – can comfortably rely on being allocated a quota year-on-year, and resources do not flow to providers who are innovative or are better at meeting student or employer demand. There is little movement in funding from year to year. There are few rewards for providers that do better, or incentives to try new things.

The Commission's draft report described an alternative approach to allocating resources directly to students via a Student Education Account. The Commission has not recommended this in the final report, because the preconditions for the model to operate successfully are not present in New Zealand. Instead, the

Commission has noted requests from government agencies for more detailed advice about how such incentives could be created within the broad parameters of the current system.

Enable students to access courses that do not attract TEC funding

Because student loans are only available where TEC subsidises a course, and market failures prevent many students (those early in their career and without assets to borrow against) accessing private finance on affordable terms, the effective range of study choices available to students is limited to those subsidised by TEC.

Government should trial extending the Student Loan Scheme to courses that are approved by NZQA but not subsidised by TEC. These courses would not be subject to fee or volume caps, but borrowers would pay interest on their loans. This would provide an opportunity for existing providers to offer courses where there is high student willingness to pay (such as professional Master's), fund recognition of prior learning, or leverage economies of scale available from online provision. It would also facilitate new providers that TEC does not fund.

Reform fee regulation

Fee regulation protects student interests but also constrains innovation. It limits the ability of providers to create new products with different price/quality trade-offs and to signal these differences to students.

The current approach to fee regulation sets a cap on course fee increases. This approach is problematic on a number of grounds, including that it creates a disincentive for providers to experiment with lower prices, as any provider charging a lower price gets locked into a lower-price path in subsequent years. Maximum annual fee increases should be replaced with a policy that specifies a regulated maximum price for courses depending on their New Zealand Qualifications Framework level and field of study.

To encourage innovation while protecting access for low-socioeconomic status (SES) students, TEIs should be permitted to set higher fees (within limits) for some of the courses they offer, on the condition that the revenue raised is used to reduce fees, particularly for low-SES students.

Allocate funding in a way that follows student demand

Government should change its SAC 3+ funding approach, so that funded volume moves mechanistically between providers based on under- or over-delivery. Government should – cautiously – change prices, rather than volumes, to achieve other objectives such as encouraging participation by particular groups, in particular fields of study, or in particular locations.

The Performance-Linked Funding scheme was designed to encourage providers to reach an “acceptable standard of educational performance”. But Performance-Linked Funding provides weak incentives for good performance and an insufficient sanction for below-threshold performance.

Government should discontinue Performance-Linked Funding and instead design and implement a new pricing mechanism to incentivise providers to continually improve their performance in adding value to students. The mechanism should:

- use metrics that are adjusted for characteristics of the student intake;
- redistribute money (rather than funded student volume) from lower- to higher-performing providers at all levels of performance;
- avoid penalising providers when students leave study for reasons unrelated to provider performance; and
- affect a consequential amount of funding.

Because the results of innovation are uncertain, any funding approach that penalises providers for lower performance can discourage providers from adopting new models. Providers should be permitted to use a

fixed proportion of their SAC funding each year on “experimental courses”, with special conditions relating to monitoring and evaluation.

Enable new entrants to access funding

It is very difficult for new providers to access TEC funding. The Commission has heard that “the best way to become a TEC-funded PTE is to buy a TEC-funded PTE”. To encourage new models, it is important that new providers can get a foothold in the market, as they generally have more to gain, and less to lose, than incumbent providers in terms of experimenting with new models. Government should have a mechanism to ensure that a small number of EFTS are available each year to allocate to new providers.

Break open the EFTS

The EFTS model of subsidising tertiary education is a significant challenge to innovative models, particularly online models, because it entails measures of “learning hours” that can only be assured when everyone progresses through learning at the same pace. The EFTS is a barrier to education models that accelerate the delivery of learning, or that separate teaching, assessment and credentialing. TEC should remove any reference to inputs in its definition of an EFTS. It should instead rely on the relevant quality assurer’s careful assessment of “credit value” to determine the funded size of courses and qualifications.

System architecture to support new models

This inquiry presents an opportunity for government to design agency forms that provide clarity of function and reduce conflicts of role. In particular, responsibility for monitoring and managing the Crown’s ownership interest in TEIs should transfer from TEC and the Ministry of Education to Treasury.

In theory, government’s goals for the tertiary education system are expressed in the Tertiary Education Strategy (TES). But in reality the TES is a high-level wish list rather than a plan for achieving change. Government should develop a new TES that articulates a clear plan for how government will enable a wide range of New Zealanders to participate and succeed in tertiary education in a way that maximises the returns, broadly conceived, to government’s expenditure on tertiary education. The new TES should be supported by an indicator framework that shows how government will measure progress in achieving the goals of the TES. This framework should populate the accountability documents of education agencies, in line with their respective roles and responsibilities.

What it all means

Together, the recommendations in this report will create valuable dynamism and experimentation that is currently lacking in New Zealand’s tertiary education system, without making unmanageable demands of quality assurance or funding infrastructure. They will also enable a wider variety of New Zealanders to participate and succeed in tertiary education. The report provides the recipe for a system that is diverse, adaptable and responsive – in other words, a system that supports new models.

1 Why new models of tertiary education?

1.1 Introduction to the inquiry

The Government asked the New Zealand Productivity Commission to undertake an inquiry into new models of tertiary education, and to assess how well-placed the New Zealand tertiary education system is to respond to a range of key trends within tertiary education and the broader environment.

In New Zealand, “tertiary education” comprises all post-school education services, including:

- higher education;
- vocational education and training (both in workplaces and provider-based);
- foundation education and second-chance learning for adults whose compulsory schooling was inadequate;
- English language learning for refugees, migrants and foreign students;
- adult and community education; and
- “secondary–tertiary” programmes that combine elements of tertiary education with senior secondary schooling, and can be led by schools, tertiary providers, or both in partnership.

Tertiary education is sometimes called “post-compulsory education”, which emphasises its voluntary nature.

“New models” are new and improved ways of achieving an end. In this inquiry, and in line with the terms of reference, the Commission defines new models broadly (while focusing on teaching and learning, rather than on research). New models could be improved ways of facilitating learning or better ways of delivering tertiary education. New models could also include different policy, regulatory, funding and quality assurance arrangements. The terms of reference asked the Commission to

consider both demand and supply factors (including market, institutional and policy constraints) relevant to the adoption of new models of tertiary education, as well as looking broadly across what new models there are or what might emerge. (p. 2)

1.2 Tertiary education in context

A very short history of tertiary education up to the middle of the 20th century

The earliest universities of medieval Europe were privately and philanthropically funded institutions equipped primarily to train the elites of church and state, with a particular focus on theology, law and medicine. This model of institution dominated tertiary education for several centuries, until the emergence of the new natural and social sciences in the 19th century, and the development of the research university by reformers such as Wilhelm and Alexander von Humboldt (Perkin, 2007). The “Humboldtian Model” of higher education has become the dominant model of university education worldwide, and is characterised by:

- research and teaching activity across science and the humanities, with each discipline having a high level of independence to develop its own standards, culture and international community;
- considerable freedom for academics in determining research programmes and curricula;
- expression of core Enlightenment values such as intellectual freedom, the pursuit of truth, and the need to challenge conventions; and
- government funding but not government control: Humboldtian universities are autonomous and independent from government.

New Zealand's first universities were established on this model in the nineteenth century. They initially comprised four constituent colleges that awarded degrees under the University of New Zealand, but from 1962 the colleges were split into universities in their own right. Further universities, such as Waikato and Massey, were established in the second half of the twentieth century (UNZ, 2016a).

Formal *technical and vocational* education is a much more recent phenomenon. Until the late nineteenth century, almost all jobs outside the university-trained "professions" met skill requirements through on-the-job training and apprenticeships, with most of the population undertaking little or no formal education beyond basic primary schooling (which itself was far from universal). From the late nineteenth and early twentieth centuries, the formalisation of professions such as nursing and teaching led to the formation of dedicated training colleges, and a number of technical high schools were established to provide trades training, often instead of formal secondary education. However, vocational training was often not considered "tertiary education", which remained the preserve of a small elite well into the 20th century.

Global massification from the 1960s

The Humboldtian university remained an elite institution well into the 20th century. But from the 1960s governments throughout the Western world – driven by a range of post-war social and industrial changes – sought to significantly increase the number and diversity of their citizens receiving a tertiary education. This was in response to societal and industrial demands, and to stimulate new economic growth through increasing the number and range of skilled adults in the population.

Governments also hoped to enhance social mobility by expanding access, and thereby generate a more equal distribution of opportunities (Wolter, 2014). This was deemed desirable to promote social justice and also labour market productivity: social mobility improves matching in the labour market by ensuring that people's ability to realise their potential is not needlessly limited by their history or circumstances.

In seeking to "massify" their tertiary education systems, governments faced trade-offs between three goals of maximising access, maintaining quality, and maintaining affordability (Trow, 1974). It was clearly going to be unaffordable to teach very large numbers of students in high-cost research universities of the Humboldtian kind. Moreover, it was envisaged that massification would result in a student population with much more diverse needs and aspirations than the existing student population – and that not all of these new students would thrive in a traditional academic environment.

Accordingly, governments encouraged new types of tertiary provider to emerge, and sought to arrange them into coherent "systems" to meet national needs (Guri-Rosenblit, Sebkova & Teichler, 2007). Most countries opted for stratified systems of some kind, with different institutional types and settings for vocational versus academic provision (eg, Germany and the United Kingdom), or subdegree versus degree-level provision (eg, the United States). The idea was that a more diverse supply-side would help to control costs, and would cater better to the needs of a diverse student population.

In the United Kingdom, United States and large parts of Europe, rates of participation in tertiary education grew from well below 10% to well above 20% in only a few decades. The number of students studying outside their home country also grew significantly, especially from the 1990s. Chapter 10 provides data on these phenomena.

Impacts of massification

The particular circumstances by which different countries experienced "massification" vary considerably, with governments making different choices about policy and funding settings according to their social and political dynamics. However, some high-level observations hold true across most massified systems.

Massification changed the economic and social meaning of tertiary education ...

As increasing proportions of the population attained a tertiary education, it gradually changed from being "a privilege to being a right, and then ... to being something close to an obligation" (Trow, 1974, p. 5). Participation in tertiary education became, for the first time, a *de facto* requirement for middle class identity; and tertiary qualifications became necessary to compete for status and jobs that once upon a time required no more than a basic school education.

In addition, people increasingly acquired tertiary qualifications to demonstrate skills that were once learned on the job. This resulted in changing expectations about whose responsibility it was to train people for work, and made it more challenging to ensure that vocational training was well-suited to employers' needs. This is explored further in Chapter 4, which describes the role of employers in tertiary education.

... but the nature of most tertiary education itself did not essentially change

Governments seeking to significantly grow their tertiary education systems hoped that a more diverse group of providers would emerge to attract, and cater to the needs of, a diverse student population to a high level of quality – and that this would keep the costs of the system manageable, both to individuals and to taxpayers (Trow, 1974). In other words, it hoped to achieve goals of access, quality, and affordability all together, through the emergence of new models of tertiary education.

These hopes were by and large not realised. From time to time, new providers emerged with new offerings that tapped into latent demand from new groups of students, or delivered at much lower cost – or both. But in general, the dominant international story of massification was one of:

- powerful incumbent providers showing a preference to deliver a familiar education in familiar ways to traditional students, adhering to traditional standards and signals of “quality”;
- governments and students facing increasing costs;
- governments rationing access and administering funding in ways that tended to privilege traditional students and traditional educational products; and
- non-traditional students still not participating in the system, or participating but not achieving at the rate of their peers.

These themes reflect the strong and enduring influence of academic culture and traditions in tertiary education institutions, which were designed to be resilient to cultural pressures from the outside world, rather than respond to them. Chapter 6 discusses the origins and importance of academic culture at universities, and Chapter 11 explains why universities may be especially prone to “isomorphic” pressures that lead them to closely resemble one another.

Impact on student diversity

The terms of reference for this inquiry particularly ask the Commission to examine how new tertiary models might improve access, participation and achievement for “priority groups” (p. 3).

Wolter (2014), in a study of European higher education systems, found only a weak correlation between the expansion of higher education and diversity in the student population, and little change in disparities in participation of under-represented groups.

The expansion [of higher education] was accompanied by the expectation that historically evolved disparities in the participation in higher education could be eliminated or at least reduced. However, the social structure of the student body has proved to be a most stable pattern. (p. 22)

This was also a strong message of the Scottish Commission on Widening Access, which the Scottish Government established in 2015 to advise on similarly intractable issues of access and parity in Scotland. The Commission noted that:

18 year-olds from Scotland's 20% least deprived communities are more than four times as likely to enter university as those from the 20% most deprived communities. For those who wish to enter the most selective institutions, the position is considerably worse. (p. 3)

In the United Kingdom, attempts to raise tertiary participation by minority ethnic groups have been quite successful overall, but hugely variable between institutions. The demographic sub-group of young people least likely to access a tertiary education in England is now white working-class males, and this has become a policy focus for government:

Only around 10% of white British men from the most disadvantaged backgrounds go into higher education; they are five times less likely to go into higher education than the most advantaged white

men. Participation by this group is also significantly lower than participation by the most disadvantaged from [black and minority ethnic] backgrounds....

We intend to issue new guidance to the Director of Fair Access (DfA)... [asking him] to focus on the progression and success of those particular groups where there is evidence that more needs to be done, for example the progression of white males from disadvantaged backgrounds... (Department for Business, Innovation and Skills, 2015, p. 37-38)

In the United States, students have good access to postsecondary education through community colleges, which theoretically allow a smooth transition from two-year associate degrees to four-year degrees at universities. However, significant ethnic and socioeconomic status (SES) disparities persist in the pathway to higher education. Low-SES and minority students remain on average less likely to progress from community college to university, less likely to get into selective universities, and less likely to succeed academically if they participate (National Center for Education Statistics, 2012; Carnevale & Strohl, 2013). Furthermore, when low-SES and minority students do participate, they accrue substantially higher debt during their study (Scott-Clayton & Li, 2016).

Some individual institutions in the United States have made progress in eliminating disparities, such as Georgia State University, which has closed achievement gaps through an early warning support system for at-risk students (Chapter 11). However, these remain the exception for a postsecondary system heavily tilted against some participants.

In Australia, the shift to a demand-driven funding system at undergraduate level from 2009 resulted in a more diverse student population in terms of students' SES – a change that has not been universally welcomed (Box 1.1).

Box 1.1 **Does wider participation mean students are less-prepared to succeed?**

Gale and Parker (2016) noted repeated discussion in the Australian media, including from university commentators, expressing concerns about the effect on the quality of higher education in Australia of the big growth in student numbers since 2009.

The media discussion suggested that the lowering of entrance standards by universities, and the consequent inclusion of greater numbers of students with low SES, would result in higher attrition and lower retention rates, as these students would be "less-prepared" for success in higher education. Many commentators suggested that this would hurt quality standards over time, be harmful to students (including low SES students who would be "set up to fail"), and carry unacceptable costs for taxpayers and students.

However, data on student attrition and retention in Australia shows that the attrition and retention rates of low SES students are in fact very similar to those of other students. In some institutions – especially those with higher proportions of low SES students – retention rates are actually higher. Given this, Gale and Parker ask: "why does there appear to be such panic in Australia about the retention rates of low SES students"? (p. 81)

They suggested an explanation can be found in sociologist Bourdieu's thesis that education systems tend to misrecognise the possession of *cultural capital* (the manners and attributes of privileged groups in society) as "preparedness for university". This serves to maintain the social order whereby a small and fairly culturally homogenous group of students is selected to attend university. On this view, media discourse in Australia about the "harmful under-preparedness of low-SES students for higher education" serves to preserve the elite nature of university education, and protect against the perceived threat to its distinctive character that the inclusion of large numbers of culturally diverse students could pose.

Source: Gale and Parker, 2016.

Impact on costs

Costs to students and governments tended to rise over time. Altbach, Reisburg and Rumsley (2009) noted that “cost remains an enormous barrier to access” to higher education in many countries (p. vi), and that governments have struggled to maintain subsidy levels across much larger public systems in an environment of rapidly rising costs.

Meotti (2016) comments that, in the early days of massification in the United States after World War II through to about 1970, state governments had both the funds and the motivation to invest heavily on higher education to support and grow a booming economy. He describes this as a golden era for American universities during which state leaders’ mindset was “We want more of whatever you’ve got!” (p. 40). Since about 1970, though, state governments have faced tighter budgets and competing policy priorities, and appear increasingly reluctant to continue to invest in institutions that enjoy high private incomes and perhaps deliver things that state governments no longer want to buy. Meotti concluded that:

The extraordinary relationship between states and higher education that defined the golden era was one of the most important—if not the single most important—public investment in American social and economic success in the 20th century. That relationship has soured ... Higher education leaders and faculty will need to understand that they can’t return to high-priority status if they insist on total discretion to define what it is they offer to students and communities. (p. 45)

Similar concerns are emerging throughout the developed world. Altbach, Reisburg and Rumsley (2009) commented in a UNESCO report:

The expansion of student numbers has presented a major challenge for systems where the tradition has been to provide access to free or highly subsidized tertiary education. In financial terms, this has become an unsustainable model, placing pressure on systems to fundamentally restructure the 'social contract' between higher education and society at large. Parents and/or students are increasingly responsible for tuition and other fees. Tuition fees are emerging even in Europe, long the bastion of free public higher education. ...

In response to these financial pressures, universities and national systems have sought solutions on the cost and demand side. The first – increasing class sizes and teaching loads, substituting lower cost part-time faculty for higher cost full-time academic staff – are difficult, academically problematic and heavily contested.

Policy solutions on the revenue side include cost-sharing – generally associated with tuition fees and 'user charges' for room and board. Tuition fees have been introduced in countries where higher education was formerly free or nearly so (China in 1997, United Kingdom in 1998, Austria in 2001). (pp. xii-xiii)

1.3 Massification in New Zealand

In New Zealand, rates of participation in tertiary education remained comparatively low into the 1980s. Then in 1984 the fourth Labour Government (1984-1990) pursued reform in tertiary education (as in many other areas of the economy) with the aim of significantly increasing access and supply. It was framed by the “Learning for Life” policy agenda, which emphasised the need to enable a wider group of students, with diverse learning needs and aspirations, to access tertiary education throughout their lives. The 1988 *Report of the Working Group on Post Compulsory Education and Training* (the “Hawke report”) stated that:

There is virtual unanimity that access to education and training is so important that it should be ensured for all New Zealanders. Whatever other role government chooses, it should continue to accept a responsibility for ensuring that [tertiary education] is available to all groups in society. (Hawke, 1988, p. 18)

[Tertiary] institutions have a responsibility not only for attracting disadvantaged groups but also for ensuring that the services they find are ones to which they can relate. There should be a supportive environment for learning, and attitudes and teaching styles which do not constitute barriers to people of a particular gender or from other than the majority culture. ... (ibid, p. 23)

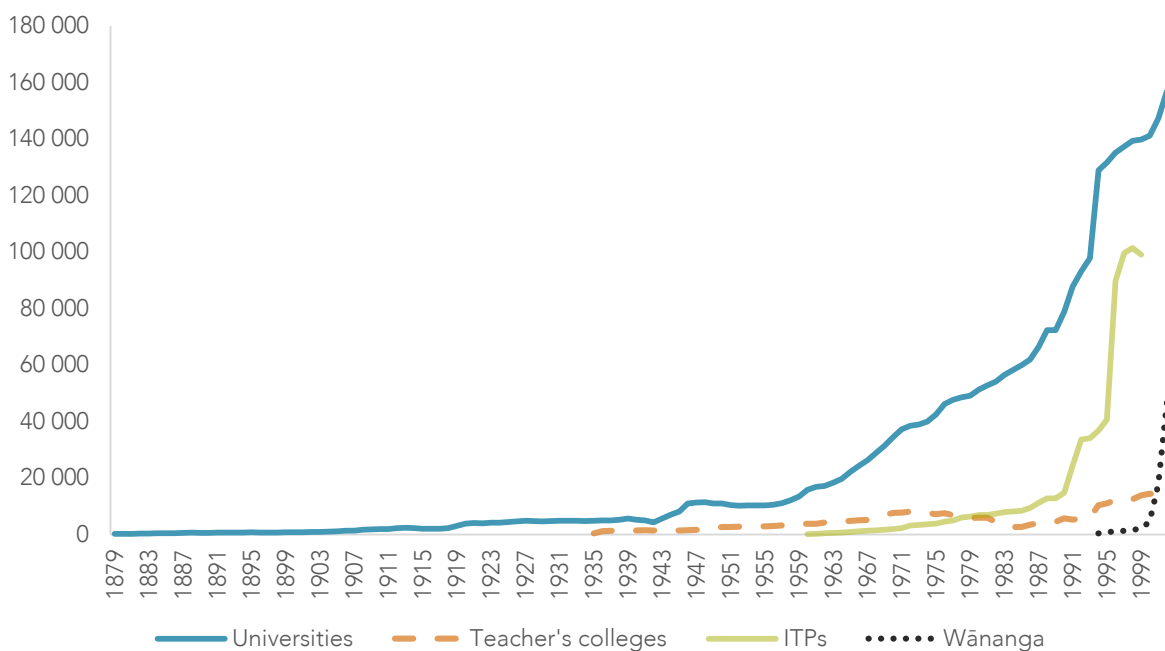
Students and adult learners need a variety of educational and training opportunities to satisfy their life needs [and] their employment needs... [They need] a supportive environment in any learning situation, especially for women, and for Māori, Pacific Island people and other minorities. ... [Tertiary education] involves much more than formal educational institutions dealing with young people, and should be

directed toward providing services for everybody... we also want [tertiary institutions] which are compatible with the government's equity goals. (ibid, p. 74)

The Learning for Life policy agenda advocated for the removal of false or outdated distinctions between "education" and "training", or between "academic" and "vocational" learning. Unlike most other countries, New Zealand sought to create a highly integrated tertiary education system, with all post-compulsory education services sharing (to a greater or lesser extent) a common policy, funding and regulatory framework administered by the government. This framework was set out in the Education Act 1989 and is still broadly in place. It is described in Chapter 5, and New Zealand's tertiary providers are described in Chapter 6.

Figure 1.1 shows the growth in the number of students enrolled in different institutional forms in New Zealand over the early period of massification. It mirrors the observation in the inquiry's terms of reference that the New Zealand tertiary education sector "has adapted to significant change in the last two decades, with growing and changing demand for and participation in higher education".

Figure 1.1 Student enrolments by subsector, 1879–2002



Source: Statistics New Zealand (historical data); Ministry of Education.

The high-level goals of New Zealand's tertiary education system continued under successive governments, even if Learning for Life as a phrase did not. In 2002, Parliament amended the Education Act 1989 to add a set of objectives for the New Zealand tertiary education system (Box 1.2). Broadly in keeping with the goals of Learning for Life, these objectives refer to the need for a diverse supply-side that responds to the needs of students and of New Zealand as a nation.

Box 1.2 The goals of the tertiary education system

Section 159AAA of the Education Act 1989 (inserted via an Education Amendment Act in 2002) sets out the goals for the tertiary education system:

159AAA Object of provisions relating to tertiary education

The object of [the provisions in this Act relating to tertiary education] is to foster and develop a tertiary education system that—

- (a) fosters, in ways that are consistent with the efficient use of national resources, high quality learning and research outcomes, equity of access, and innovation; and
- (b) contributes to the development of cultural and intellectual life in New Zealand; and

- (c) responds to the needs of learners, stakeholders, and the nation, in order to foster a skilled and knowledgeable population over time; and
- (d) contributes to the sustainable economic and social development of the nation; and
- (e) strengthens New Zealand's knowledge base and enhances the contribution of New Zealand's research capabilities to national economic development, innovation, international competitiveness, and the attainment of social and environmental goals; and
- (f) provides for a diversity of teaching and research that fosters, throughout the system, the achievement of international standards of learning and, as relevant, scholarship.

Balancing access goals against rising costs

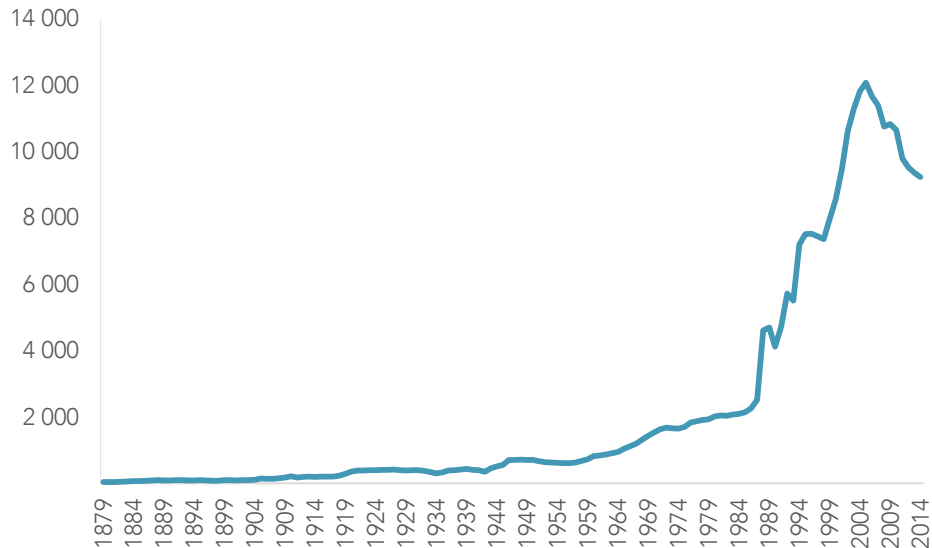
The Ministry of Education and Ministry of Business, Innovation and Employment submitted to this inquiry that “[c]ompared internationally, the New Zealand tertiary system is both high quality and cost-effective” (sub. DR162, p. 2).

However, New Zealand's tertiary education system is still sufficiently expensive for government that it limits access to control its costs. The last two decades have seen a see-saw of iterative policy measures to first grow, then ration, participation in New Zealand's tertiary education system, as government has sought to balance access goals against rising costs:

- To enable an expanding system to remain affordable to both students and taxpayers, the New Zealand government uncapped student fees in the early 1990s, and also introduced a reasonably generous student allowance scheme and a Student Loan Scheme that allowed students to borrow for tertiary study. This resulted in an upsurge in demand for tertiary education throughout the 1990s.
- Government removed caps on the overall number of student places³ at public tertiary institutions in 1998, in the belief that additional demand would be relatively modest – limited by the extent of government subsidies, the provisions of the Student Loan Scheme, demand from prospective students and academic norms. However, participation greatly accelerated, as did costs. Some of the rapid growth arose from “supplier-induced” enrolments in low-quality courses that amounted to rorting of the funding system. However, some arose from providers identifying and meeting latent demand from people who had not previously participated in tertiary education – for example, delivery by wānanga to older Māori.
- Government sought to address the rorting and escalating costs of the early 2000s not just through better quality assurance and adjustments to price, but also by re-imposing volume caps on tertiary places at PTEs from 2003, and at all providers from 2006. In doing so, it removed the incentive and reduced the ability for providers (existing and new) to generate new models and new products to attract new types of student into the system. The Commission believes this had significant long-term consequences for diversity of the supply-side and the student population in New Zealand, discussed in section 1.4.
- Tertiary fees were frozen in 2000, and allowed to rise slowly again from 2004, with a new regulatory approach introduced from 2010.
- Interest was removed from study loans during students' study from 2001, and for all domestic students from 2006. This created an exceptionally strong link between increased access to tertiary education and increased costs to taxpayers, *even when* those costs are nominally borne by students in the form of tuition fees. This too has had significant consequences for the system, discussed in section 1.4.
- Government has tightened student loan eligibility iteratively since 2009.

Figure 1.2 shows tertiary participation in New Zealand from 1879 to 2015. The massification from 1990 is clearly visible, as is the reduction in enrolment levels over the last decade.

³ The unit of the tertiary funding system is an Equivalent Full-Time Student (EFTS), and funding is allocated in dollars rather than in EFTS. See Chapter 7 for a more detailed discussion of EFTS. The phrase “student places” is used in this chapter as a convenient shorthand for “allocation of EFTS funding”.

Figure 1.2 Enrolments in tertiary education per 100 000 residents, 1879–2015**Notes:**

1. Data counts public and private enrolments, by domestic and international students.
2. Statistics New Zealand and Ministry of Education data. Historical data from Thorns & Sedgwick (1997)

Government tuition subsidies and tuition fees in New Zealand rose per full-time student in real terms over the last decade (Chapter 10). Despite this, inquiry participants, particularly from the university subsector, stated that revenue from subsidies and fees fail to keep pace with rising operational costs. Comparing 2005 with 2014, Universities New Zealand (sub. 17) stated that

university sector operating costs have increased by just over 50% on a per-student basis – mostly driven by rising salary costs, compliance costs, building maintenance costs, rising utilities costs, the cost of purchasing ICT equipment and licences from overseas and increasing costs of libraries as a consequence of subscriptions to online electronic resources.

CPI has risen by 25.5% over the same period. (pp. 16–17)

Universities New Zealand also stated that

unless the current government funding environment changes radically, the already extreme tension between a need to cut costs while maintaining curriculum quality will hit a crisis point in at least a part of the sector. (p. 97)

As noted in section 1.2, this trend of escalating costs alongside escalating participation is not unique to New Zealand. But the inherent tension between expanded access and expanded public costs is tighter in New Zealand than in most other countries due to New Zealand's interest-free student loan policy. In 2000, students paid on average about 33% of the cost of their tertiary education; this had reduced to about 18% by 2007 and has been fairly steady over the last decade (Chapter 10). One result is that the New Zealand government rations access to tertiary education more tightly than governments in (for example) the United Kingdom, United States or Australia.⁴

Diversity of students and supply

By international comparison, New Zealand has high numbers of part-time and older students. During the brief period in the early 2000s during which the system was uncapped, providers had incentives to identify and exploit latent demand from new types of students, for example older Māori students, part-time students or those wishing to study online. Incumbent providers could enrol these new students in addition to catering to their "traditional" student population of school leavers studying full-time on a campus; and providers such

⁴ New Zealand is unusual in having both a provider-level cap on tuition subsidy funding for domestic students and limits on providers' permission to enrol domestic students who do not attract tuition subsidies. In Australia, higher education providers can enrol as many domestic undergraduate students as they choose, and the provider receives a government tuition subsidy for every student. Enrolments are also unrestricted in the United Kingdom, with student tuition fees set at a level intended to cover providers' costs. Arrangements in the United States vary from state to state, but the norm is to allow unrestricted enrolment of domestic students, with some or all such enrolments attracting (federal or state) institutional funding.

as wānanga, whose mission involved serving a different population, were able to grow their student base. Green (2005) concluded that the uncapped system was “spectacularly successful in expanding learner choice and improving equality of opportunity” (p. 2).

However, over the last decade, the traditional model has come to dominate once more. Across the system as a whole, the average student in New Zealand has become younger and is more likely to be a school leaver; and the share of full-year, full-time study toward full qualifications is increasing. The share of intramural (on campus) study is also increasing. New Zealand students’ characteristics and choices are described in Chapter 3.

Furthermore, while massification has resulted in better access to tertiary education for Māori and Pasifika students, and despite significant gains in recent years, these students still experience persistently worse outcomes from tertiary education than their peers. System performance for these and other students is described in Chapter 9.⁵

1.4 How did New Zealand end up here?

Government has never formally distanced itself from the goals expressed in Learning for Life; and the current *Tertiary Education Strategy 2014–2019* describes the objective of the tertiary education system as being “providing all New Zealanders, from all backgrounds, with the opportunity to realise their potential and succeed in their chosen careers and other areas of their lives” (p. 24). Why has this vision of a diverse and expanding tertiary education system not been realised, and why do New Zealand tertiary providers show, to quote the inquiry’s terms of reference, “considerable inertia” (p. 1) in adopting new models of tertiary education?

The Commission considers that two points in time are key to understanding the current situation: the decision to re-cap provision in the mid-2000s; and the introduction of interest-free student loans.

Student places were uncapped in 1998, and then re-capped at PTEs from 2003, and at all providers from 2006. The recapping worked against government’s access and diversity goals, but was considered a necessary response to cost pressures and concerns about quality.

Recapping could have been an interim measure, buying government time to implement better quality assurance and price levers before widening access once more. Instead, the capped nature of the system has become an enduring characteristic, deeply embedded in policy and funding settings. The Commission believes this is in large part due to the introduction of interest-free student loans in 2006, which effectively ensured that any new growth in access would carry new costs to taxpayers, entrenching government’s need to control volume.

Government has sought to maintain access for school leavers studying full-time to complete a full qualification as this type of study generates large lifelong returns (both to the students and to New Zealand). For example, the *Tertiary Education Strategy 2010–2015* (MoE, 2010a) stated that while government was “committed to retaining broad access to tertiary education” (p. 10), fiscal constraints prevented it from funding all the growing demand, so providers and industry training organisations should focus on “increasing the number of young people (aged under 25) achieving at level four and above, particularly degrees” (p. 18), especially Māori and Pasifika.

Prioritising school leavers may be a sensible way of managing public investment in education in a rationed system. However, the tertiary education system has done so well at narrowing its focus to school leavers that over time providers and policy-makers appear to largely conflate tertiary students with school leavers. This is reflected in the way that government forecasts “demand” for tertiary education, and its decision not to seek to grow participation when this became affordable (to government) but instead to pay a higher price to institutions for their existing students (Box 1.3).

⁵ In New Zealand, while published performance data are often disaggregated by students’ ethnicity, it is rarely disaggregated by other factors known to influence students’ tertiary participation and achievement, such as SES and prior achievement. At the outset of this inquiry, the Commission found limited recent research on how ethnicity and other factors interact for New Zealand tertiary students. The Commission undertook research to fill this gap, presented in Chapters 3 and 9.

Box 1.3 “Demand forecasting” by the Ministry of Education

The “demand forecast” used by the Ministry of Education to set its budget allocations for its core teaching and learning fund (SAC 3+) is based not on information about demand (which government does not collect at present), but about historical supply in a capped system in which policy and funding levers prioritise delivery to young people studying full-time. It finds that the two main drivers of enrolments in the current system in recent years have been:

- the size of the school-leaver population; and
- the unemployment rate.

Forecasts of these two things are the main ingredients of the Ministry’s “demand model” for SAC 3+. Government then uses this model to determine what level of funding is required to ensure the right level of future supply to meet government goals for tertiary education. That is, it implicitly assumes that its goals – including promoting equity of access and lifelong learning for a wide range of New Zealanders – can be met by primarily subsidising school leavers studying full-time.

The embeddedness of this assumption is reflected in the Government’s commitment in February 2016 to take advantage of a “downturn” in university enrolments (ie, a reduction in “demand” as projected by the Ministry of Education’s forecast) to increase the price government pays per student (Gerritson, 2016), rather than by re-growing the number and range of students participating in the system.

Consequences for New Zealand’s tertiary education system

Box 1.3 explains that providers’ funded student places are, overall, indexed to forecast demand from a traditional student cohort. Chapter 7 explains that TEC’s allocations of these places to individual providers are also strongly determined by previous delivery, based on misconceptions about how well demand and supply match. The implications of these and other policy and funding settings are laid out in Chapter 8. As a result of the capped and tightly controlled system, most providers have little or no incentive to seek to stimulate demand from students outside their traditional cohort by offering new products or exploring new models of delivery. Individual providers who are struggling to fill their available places may have such incentives at the margins – but their ability to grow if they are successful is very constrained, so the incentives are weak.

Providers are also constrained by various rules about the nature of fundable delivery – for example, controls on the inputs of courses, and requirements that qualifications be of a certain size and duration.

Tertiary education institutions (TEIs: universities, polytechnics and wānanga, which are Crown entities) face additional constraints due to regulatory settings designed to manage the Crown’s ownership risk. Government lacks the usual levers of the Crown Entities Act 2004 for this group of entities, and has sought to address this gap through other regulatory and funding levers. The result is a web of risk-averse regulations that tend to protect the interests of providers and government rather than those of students. The regulatory settings have the subsidiary but critical effect of constraining experimentation and innovation.

The result is that the tertiary education supply side in New Zealand is good at producing certain kinds of educational products for a certain type of student at a certain price; but it is not large or diverse enough to attract in and generate good outcomes for a wide variety of students. It is not a system that supports new models – the innovation that does occur is “sustaining” innovation; that is, incremental improvements to existing ways of doing things, rather than “disruptive” innovation that involves charting a new course (Chapter 11).

Current tertiary education expenditure also appears to be a poor fit with government’s social investment approach, which aims to target present public expenditure to individuals in a way that minimises the future cost to government. Tertiary funding settings mean that students studying for longer at higher levels – who tend to get the highest private returns from their study – also tend to receive the highest total levels of

government subsidy, while others miss out altogether. And this is skewed along socioeconomic lines: Productivity Commission analysis finds that, of young people born in 1990, those from the most socioeconomically advantaged households received more than twice as much government subsidy for study at level 3+ between the ages of 15 and 25 than students from the most deprived households (Chapter 3).

Māori and Pasifika students appear to be particularly disadvantaged in the present environment:

- Controlling for prior school achievement, Māori school leavers are less likely than their New Zealand European peers to participate in tertiary education at the higher levels that deliver the best financial return (Chapter 3). When they do participate at higher levels, their educational and labour market outcomes are persistently worse than those of New Zealand European graduates (Chapter 9).
- Pasifika school leavers are just as likely to participate in degree-level tertiary education as their New Zealand European peers, controlling for prior school achievement (Chapter 3). And Pasifika graduates at degree level earn just as much on average as their similarly qualified peers (Chapter 9). However, they are much less likely to successfully complete a degree: the eight-year Bachelor's qualification completion rate for Pasifika is only 49%, compared to 69% for New Zealand Europeans (Chapter 9). For Māori it is 52%.

Chapter 11 outlines the concepts of “noisy harm” and “silent harm”, and explains that political pressures tend to coalesce around the former rather than the latter. The underperformance of the current system for Māori and Pasifika, and for all those who do not to participate at all, appears to be an example of largely silent harm.

There are also some indications that the system may be underperforming for the “best and brightest” talented school leavers who have the potential to make a significant contribution to the country in which they choose to live. These students are increasingly opting to study offshore rather than in New Zealand, attracted in part by targeted recruitment campaigns and scholarship offers from universities in Australia and the United States (Chapter 3).

1.5 Why new models of tertiary education are so important

Chapter 2 explains that diversity of supply is fundamental to getting good “matches” between diverse students and their education, which itself maximises the benefits of their tertiary education to them and to the economy and society. If massification grows the amount of supply, but does not diversify its products, then it will not fully deliver on its promise to maximise productivity and wellbeing.

This is what the Commission observes in New Zealand: despite an expanded system, neither access nor outcomes are equitable; the goal of lifelong learning remains just a goal; and the system does not facilitate the emergence of new models. As things are, latent demand from lifelong learners and non-traditional student groups – that is, those who currently either fail to find space in the tertiary education system, or fail to find an educational offering that suits their needs – is likely to remain latent. As a result, New Zealand is not realising the full potential of many of its citizens to generate benefits from tertiary education, both for themselves and for the nation.

New models of tertiary education, including (but not limited to) those enabled by new technologies, present an important opportunity to increase the diversity of delivery approaches, educational methods and learning environments, available to tertiary students in New Zealand. This will help the system to better suit the needs of a wide diversity of students – including those living in rural areas; those in full-time work who need to upskill or retrain; those at home caring for young children; and those who participate but are not succeeding in the current system. With a diversity of models on offer, these students will have a better chance of finding a “match” that reflects their goals, talents and resources – provided of course that they have good information and enough freedom to choose for themselves.

New Zealand's population (and workforce) is ageing, and the share of Māori and Pasifika entering the workforce is growing. Experimentation with new models of tertiary education may be particularly critical for New Zealand so it can better meet the needs of older workers, and Māori and Pasifika people.

The presence of diversity and new models in New Zealand's tertiary education system also increases the chance that New Zealand will be able to capitalise on the opportunities, and protect itself from the risks, presented by key trends affecting the education sector in the coming years. These trends, which are identified in the inquiry's terms of reference and discussed in Chapter 10, include:

- a more diverse student population (due in part to increasing diversity in the general population of many countries, including New Zealand);
- increasing demand for mid-career upskilling or re-training, and for qualifications that can be applied in a range of settings;
- increasing competition for international students and staff, and the growing importance of internationally relevant course content; and
- continuing advances in technology, making it difficult to predict what skills people will need in the future.

These trends represent big challenges for a tertiary education system that lacks diversity in its delivery approaches or is unable to expand without high costs to taxpayers. In contrast, a system that supports experimentation, innovation and new models would be well-positioned to seize the opportunities presented by a changing world.

Advances in technology

New models are certainly not all about technology – in fact much of the discussion in this introductory chapter has emphasised the importance of policy and funding models in shaping system outcomes. However, the last few years have seen exciting advances in new technology, as well as an important social change in people's comfort in using technology in their day to day lives. As noted in the inquiry's terms of reference, ongoing technological change is "offering new ways to deliver higher education programmes and more choice for students, and challenging traditional organisational and operating models" (p. 1).

A number of inquiry participants have taken the view that the production of tertiary education is most effective when it happens face to face, in real time, embedded in a physical location that is focused on learning. The University of Otago submission referred to "the irreplaceable value of learning and living with your peers under the guidance of world-class experts in your area of study" (sub. 37, p. 48). And Universities New Zealand submitted:

All things being equal, students prefer and are more successful when studying in a campus environment where their learning is supported by others and where they have access to libraries, laboratories, workshops and a range of social and recreational opportunities that facilitate wider personal growth. (UNZ, sub. 17, p. 12)

Universities New Zealand did say that new models of delivery such as distance and electronic learning might be suitable for some students, such as second-chance learners or adult learners. But it also argues that such new models are unlikely to supplant campus-based learning, presumably because they would be less preferred by students.

However, some researchers are demonstrating – and most submitters appear to agree, at least for some types of student – that technology can assist with the co-production of high-quality tertiary education by being adaptive to the student's input. One of the goals of massification was to provide educational delivery that was massified *and personalised*, at an affordable price. This was not technologically feasible to an acceptable level of quality even a decade ago; but recent advances in artificial intelligence, gamification and interactive software seem likely to make it so within the next decade. Chapter 11 describes these innovations in more detail. Smart pickup of such technology may enable providers and governments to improve on the historical equilibrium between massification's three goals of access, quality and affordability – it may be possible, for the first time, to break through to a new equilibrium that achieves higher levels of all three at once.

Some technologies also enable students to contribute actively, individually or via virtual interactions, to innovations in teaching and learning, rather than being passive recipients of a predetermined product. This

aligns with Hawkins and Davis' (2012) view that innovators can use consumers' contribution to co-produced goods – including their effort and experiences – as a resource or factor of production that can be effectively combined with other factors to transform into new or improved goods.

Another implication of improving technology is that, over time, increasing numbers of tertiary students might be able not only to *feel* at home in tertiary education but actually *be* at home. As one submitter put it:

The current [traditional campus-based] model typically extracts people from a context that gives their education meaning (social, community, employment), places them in an often alien and challenging environment, and then attempts to create a poor facsimile within the educational system to mitigate the most obvious effects of disengagement and alienation that naturally occur for many students.

Technology increasingly is providing opportunities to provide many elements of education to learners directly in their context. (Marshall, sub. 73, p. 6)

Technology also has the potential to allow access to people for whom it is the only feasible option. Chapter 11 (Box 11.6) gives the example of an online Master of Science in Computer Studies at Georgia Tech, where many students who just missed out on access to the (much cheaper) online programme ended up not enrolling in tertiary education at all, presumably due to a lack of suitable and affordable alternatives.

In summary

If New Zealand's tertiary education system better supported new models, it would be well-positioned to realise the benefits of massification that have so far been largely left on the table: more diverse delivery to a more diverse student population, with better results for individuals, the economy and society, at low or no increased cost to taxpayers. This would enable New Zealand to realise the potential of a larger proportion of its population (and avoid the considerable social and fiscal costs of not doing so), in keeping with government's investment approach. It would also allow New Zealand to view changes in the external environment, such as the trends identified in the inquiry's terms of reference, as opportunities rather than as threats.

The remainder of this report addresses the question posed in the inquiry's terms of reference: How can New Zealand's tertiary education system better support new models?

1.6 Structure of this report

Part I. Understanding the system

The first task for the inquiry was to thoroughly understand the New Zealand tertiary education system. Part I of this report, Chapters 2 to 8, lays out the Commission's analysis of the system:

- Chapter 2 examines the nature of tertiary education as a co-produced good.
- Chapter 3 describes students' characteristics and choices.
- Chapter 4 describes the role of employers in the system.
- Chapter 5 describes the many roles of government.
- Chapter 6 describes New Zealand's tertiary education providers.
- Chapter 7 describes how tertiary providers interact in various markets, in particular the TEC-funded market for subsidised equivalent full-time student places.
- Chapter 8 examines the implications of incentives in the tertiary education system's settings: for providers, students, employers, system efficiency, and innovation.

Part II. Outcomes, trends and innovation

Part II of the report is in three chapters:

- Chapter 9 looks at the outcomes New Zealand is getting from the current tertiary education system.

- Chapter 10 looks at some key trends that have shaped tertiary education in recent decades and are likely to do so in coming decades.
- Chapter 11 looks at innovation in the New Zealand tertiary education system – where innovation is happening and what can be learned from new models of delivery in other countries.

Part III. Recommendations for change

Part III of this report makes recommendations to increase the system's flexibility to innovate and try new models.

- Chapter 12 recaps the discussion of Parts I and II, and introduces Part III.
- Chapter 13 sets out the important role of information in the tertiary education system.
- Chapter 14 recommends changes to regulatory arrangements.
- Chapter 15 recommends changes to purchasing arrangements.
- Chapter 16 makes recommendations for tertiary education agency roles and concludes with a discussion of the implications of the Commission's recommended changes.

Part I: Understanding the system

2 What is tertiary education?

Key points

- Tertiary education is not an ordinary consumption good. Rather, it is a complex good, co-produced by students and educators, with characteristics that make its value hard to assess.
- Individuals decide to invest in tertiary education for many different reasons. The costs and benefits – both financial and non-financial – vary with each student’s personal circumstances and the resources available to them.
- A student’s sense of belonging at their tertiary education provider – that is, their sense of the rightness of and fitness of their presence there – also affects the non-financial costs they face in study. For Māori and Pasifika students in particular, a sense of belonging and a sense of collective endeavour are culturally important.
- Government values having a tertiary-educated population. The New Zealand government spends money in a number of different ways to encourage access to and participation in tertiary education. This includes helping students meet the financial and non-financial costs of study. Tertiary providers also take various steps to help students deal with barriers to tertiary enrolment.
- Different educational approaches and environments have different costs and benefits for different kinds of student. No one approach works best for everyone. Matching students to the right education for them is important.
- New models of tertiary education present an opportunity to increase the diversity of delivery approaches, educational methods and learning environments available to students. In turn, this increases the chance that a wider diversity of students will find a “match” of tertiary delivery to their aspirations and resources.

Chapter 1 gives an overview of the history of tertiary education, and why an inquiry into new models of tertiary education is important for New Zealand. This chapter explores why, in the present day, people invest cost, time and effort in their own education, and why government invests alongside them. It also considers the characteristics of tertiary education that make it special, and what this might mean for new models of delivery, consumption and regulation.

Subsequent chapters explore the New Zealand tertiary education system in more detail, taking a closer look, in turn, at students (Chapter 3), employers (Chapter 4), government (Chapter 5), providers (Chapter 6), and markets (Chapter 7). Chapter 8 considers the implications of the interactions of all these different actors, concluding Part I of the report.

2.1 Tertiary education is valued by individuals and government for the various benefits it brings

Why do people spend money, time and effort on their own education?

People decide to study for a wide range of reasons. Some people go on to the next stage of education after secondary school because that is what their friends are doing. Some people are trying to decide what to do with their lives. Some take up a general course of study that provides a range of skills for later employment, while others seek specific skills and qualifications with specific future work prospects in mind. Some study for interest, with little direct regard for future career prospects. Some people enter or re-enter tertiary education at later stages of life as a second-chance at education, for their personal development, or to upskill or retrain to enhance their employment prospects.

Whatever the reason, the prospective student will decide whether to embark on study by considering the value of a tertiary education to them, and the resources they have to call upon.

Education develops a person's knowledge and skills, enabling them to live a richer (in every sense of the word) life

Tertiary education develops a person's "human capital" – what they know and can do. Tertiary education can also provide a qualification that signals the acquired knowledge and skills to others (Becker, 1975). In an economic sense, tertiary education is a "capital good". Most people view spending money on tertiary education as an *investment*: an upfront cost they are willing to pay (including by borrowing) to get the resulting compensating benefits.

These benefits usually include a financial "premium" – that is, a higher future salary compared to a person who has not had the benefit of the education and/or attained the qualification. Benefits also involve a wide range of non-financial gains. Tertiary education endows individuals with discipline-based "hard" knowledge and skills, such as how to design a circuit-board or analyse a sentence. It can also help people to know themselves and the world they live in better, and to make deliberate choices about their values and behaviour (Bowen, 1977). Tertiary education can also provide social status, access to subcultures within society, access to professional or romantic relationships, better health, and life satisfaction. It can fulfil family expectations – and can also enable escape from them.

Education can also be enjoyable

Many people who engage in tertiary education enjoy it at the time, for its own sake, as well as for the benefits it brings. As well as being a capital good, tertiary education is a "consumption good". The consumption elements of tertiary education include both formal educational activities (eg, seminars and workshops) and the auxiliary activities that are often "bundled" together with it (eg, student clubs and social events).

As well as benefits, tertiary education carries cost and risk to individuals

Tertiary study carries financial costs to individuals – the direct financial cost, plus the income they might have earned if not studying. The families of some students also bear these financial costs. In these cases, the decision to study has to look worthwhile to both the family and the student.

In New Zealand, as in the United Kingdom and United States, parents are generally expected to help their children meet the financial costs of tertiary study where possible. This expectation is embodied in New Zealand's student support policy settings and explicitly acknowledged by government (Moayyed, 2015).

Family expectations can play out differently for different cultures and genders. In the United States, for example, young people in Hispanic communities (especially young women) who have finished their compulsory schooling are often expected – especially by older generations – to start contributing to the family through paid work or providing care for younger or older family members (Settles, 2011), rather than pursuing their own further study. This "family first, work first" expectation can be driven by collectivist cultural traditions, by economic necessity, or both. The same expectation is found in some Māori and Pasifika families in New Zealand, though both cultures also place a high value on education as a path to success, and families can make significant sacrifices to enable young people to pursue tertiary study (Williams, 2011; Chu et al., 2013).

Study also carries a range of non-financial costs, including the time and effort (including mental exertion, and emotional energy or "stress") involved in undertaking study, and the sacrifices (opportunity cost) involved in diverting this time and effort from other goals. These are likely to vary significantly from student to student, and may affect their ability to successfully participate (section 2.4).

The main risks involved in tertiary study include the risk of not successfully completing an intended course of study, the risk that the costs will be higher than anticipated, and the risk that the benefits will not arise as expected – for example, because of unforeseen changes to labour market demand.

Public benefits from tertiary education

It is widely accepted that tertiary education is good for society as well as for individuals, generating positive benefits and avoiding costs.

Human capital development

Tertiary education helps drive national economic growth by developing the human capital of the labour force.⁶ This much is widely accepted, though the extent of the effect and the mechanism are contested (Krueger & Lindahl, 2001). Goldin and Katz (2010) emphasise human capital's role in the development of frontier technologies, creating an unending "race" between education and technology. Acemoglu and Autor (2012) view this feature as essential to economic growth in the United States.

[H]uman capital is a major contributor to creation and adoption of frontier technologies. U.S. technological leadership in the world would not have been possible without the participation of a broad segment of the population in high-tech industries. U.S. workers were able to play this role because they had access to high-quality education by the standards of the time. (p. 432)

Non-financial social or civic benefits

Tertiary education is also held to deliver a wide range of non-financial social or civic benefits and avoided costs. Among these, Bowen (1977) identified advancement of knowledge, preservation and dissemination of cultural heritage, and progress toward the identification and solution of social problems. Non-financial public benefits identified by McMahon (2010) included the operation of civic institutions essential to democracy, human rights and political stability, as well as contributions to the reduction of crime and poverty, to environmental stability, and to the creation and dissemination of new knowledge.

Rationale for government involvement in tertiary education

There are two main rationales for government involvement in tertiary education. First, government intervenes to address various kinds of market failure – situations in which, without government's involvement, individuals would fail to make mutually beneficial contracts. For example:

- Private lenders are reluctant to lend students money to pursue education, even though it is usually a good investment.⁷ Government provides students with access to finance to ensure the investment is made.
- Providers inevitably know more than students about the quality and nature of their educational products. Government regulates quality (and information provision) in various ways to prevent providers from exploiting this information asymmetry.

Second, government subsidises tertiary education to stimulate demand for it, over and above what people would choose to consume without any government subsidy. It does so in the expectation of generating a return in the form of public benefits and avoided costs. The underlying assumption is that, in the absence of government investment, too few people would pursue education to deliver an optimum level of these benefits.⁸

The vast majority of voters and taxpayers in most countries accept that some level of public subsidy of tertiary education is justified, though its desirable level and type (including degree of targeting) is contested.

⁶ This inquiry is about teaching and learning. Research is another important output of many organisations delivering tertiary education.

⁷ Private lenders face an adverse selection problem. The students most likely to default would borrow the most. Interest rates high enough to cover the expected cost of these defaults would deter many low-risk students from borrowing. Lenders – concerned about ending up with a customer base skewed to high-risk borrowers – would refuse to participate unless interest rates were very high. In addition, a student's main source of collateral, when seeking a loan for to invest in education, is their future labour. But a commercial lender will not accept this as collateral, because they cannot forcibly extract (ie, force the student to work) it in the event of non-repayment.

⁸ In economic terms, tertiary education can be considered a "merit good": one that "despite its virtue would be undersupplied and under consumed in a free market economy driven by traditional notions of consumer sovereignty" (Koch, 2008, p. 1) and in whose supply and consumption government is therefore justified in intervening.

How government is involved in New Zealand

Chapter 5 sets out the New Zealand government's roles in tertiary education in some detail. In summary:

- Government subsidises the cost of delivery, including via direct funding to providers, student allowances for low-income students, and a universal interest-free Student Loan Scheme. It also regulates the fees that providers may charge to students. Tuition subsidies vary according to the type of education.
 - At levels 1–2 (“foundation education”, equivalent to senior secondary school), government provides higher levels of subsidy than at levels 3+, and requires providers not to charge fees to students. The principle reflected here is that all New Zealanders should be able to achieve a level 2 qualification, whether at school or via a tertiary provider, without having to pay tuition fees.
 - The government subsidy is lower for workplace-based education (industry training) than for provider-based education, based on the expectation that employers will meet some of the cost of the former.
 - Some types of education currently receive no government subsidy, such as personal-interest Adult and Community Education courses.
- Government maintains⁹ a network of public providers. In the case of institutes of technology and polytechnics (ITPs), these deliver a wide range of courses in regional New Zealand, ensuring people living outside main centres have access to tertiary education.
- Government regulates education quality, and provides information to providers and students about educational performance. This helps individuals to make informed decisions about their educational investments, and also allows government to make sure it is spending its money well and getting a return on its investment. As section 2.2 explains, this is important because tertiary education has particular characteristics – in particular, its “credence good” nature – that make its quality and value hard for people to assess for themselves.

Government also provides funding to some providers for research activity, which is outside the scope of this inquiry.

Government pays for tertiary education via taxation. This redistributes (some) wealth from those who have already benefited from tertiary education to those who could benefit in the future. With the exception of student allowances (and some restrictions for older students), student funding entitlements in New Zealand are universal, with prospective students from high-income families having the same entitlements to tuition subsidies and interest-free student loans as those from low-income families.

As noted in section 2.4, government also takes some measures to boost the *non-financial* resources that individuals bring to their tertiary education, such as personal disposition to engage in learning, or positive family and peer attitudes to tertiary education.

Some tertiary providers offer scholarships or fee discounts – especially to high-achieving students – to stimulate enrolments, which can attract a tuition subsidy from government. Chapter 7 describes providers' activity in attracting government tuition funding in more detail.

In addition, non-government organisations (NGOs) and many families provide financial support (and support of other kinds, as described in section 2.4) to students to help them afford their tertiary education.

2.2 Tertiary education is co-produced

A co-produced good is a good where, rather than a customer being a passive consumer (eg, buying a car or getting a haircut), the provider and the customer interact and both work together to produce the thing of value to the customer (eg, hiring a personal trainer).

⁹ Historically via direct capital or capability funding; now solely via tuition subsidy funding, combined with various governance and management controls (eg, on asset disposals, or taking on debt) as outlined in Chapter 5.

Education, including tertiary education, is a clear example of a co-produced good. Educators (human or machine) cannot insert education into, or attach it onto, a passive student. Rather, educators and students must interact – and different forms of interaction can be more or less effective in helping different students to learn. Motivation is important: students of all ages put more effort into the co-production process, and consequently learn better, when they are motivated (intrinsically or extrinsically) by a desire to learn (Ormrod, 2008). Different educational approaches and environments have different costs and benefits for different kinds of student, depending on the attributes and resources they bring to the co-production of their education. No one approach works best for everyone or is most attractive to everyone. Matching students to the right education *for them* is important.

McCulloch (2009) acknowledged that the “student as consumer” metaphor has some appeal, due to “its apparent challenge to organisational and institutional power, and its appeal to individual rights” as in the broader consumer rights movement (p. 172). However, he argues that the metaphor is inadequate because it:

- (a) overemphasises one aspect of the student’s role and of the university’s mission;
- (b) suggests undue distance between the student and the educational process, thereby de-emphasising the student’s role in learning;
- (c) encourages passivity on the part of the student;
- (d) fails to encourage deep learning;
- (e) implies in the student a level of knowledge and information, and the possession of tools to use them, that are unlikely to be present;
- (f) serves to deprofessionalise the academic role and encourage the ‘entertainment’ model of teaching;
- (g) compartmentalises the educational experience as ‘product’ rather than ‘process’; and
- (h) reinforces individualism and competition at the expense of community. (p. 177)

Inquiry participants raised some similar concerns (eg, TEU, sub. 83; Kennedy, sub. 23).

McCulloch suggested that thinking of and treating students as co-producers rather than as consumers might help to overcome these problems. He further noted that co-production works best when (among other things) providers and consumers have shared objectives, and shared expectations of what is required of each of them in the co-production process.

Problems in assessing value

Co-production can result in opportunism if expectations of each party’s contribution are unclear or hard to measure, as each can blame the other for any failure to achieve a desired outcome. In the case of students and teachers, it may be that both can plausibly claim that the failure of the student to succeed was due to a lack of ability or effort on the part of the other. As Parks et al. (1981) recognised, “the interaction of teacher and student in producing education in the classroom is a ready example of substantial interdependence” (p. 4).

Interdependent production relationships may be doubly threatened by shirking where the consumer producer activities are collective in nature... Consumer producers may shirk against one another as well as in their relationship with a regular producer. (ibid, p. 8)

As well as blaming one another for failing to co-produce effectively, students and teachers can also collude. George Kuh (2003) and Arum and Roksa (2011) wrote of a tacit “disengagement compact” between faculty and students, in which both parties effectively agree to allow one another to reap the fruits of their relationship (salary and qualifications respectively) with minimal effort. Partly in recognition of this kind of risk, economist and philosopher Adam Smith argued in *The Wealth of Nations* (1776) that the best teaching happens when teachers are paid directly by their students, but students’ learning is externally assessed.

Use of student evaluations may increase the risk of a kind of collusion in which teachers seek to entertain, rather than challenge, their students, in exchange for positive evaluations. McCulloch (2009, p. 180) noted that:

Bramming ... argues persuasively that transformational learning of the type implied by higher education is necessarily a painful process, and suggests that the methods of evaluation currently used to assess student satisfaction do not necessarily 'give valid answers ... might distort the corrective measures of teachers towards a more short-sighted "edutainment" approach and...[do] not capture the transformative, ontological forces at play'. (2007, p. 53)

Student evaluations are discussed further in Chapter 8.

The co-produced nature of tertiary education also interacts with experience-good and credence-good characteristics, both of which are present in tertiary education, in ways that make it hard to assess value or the performance of its participants.

An experience good

An experience good is a good whose value to the purchaser is hard to assess before purchasing, but becomes clear in the act of consumption – for example, a bottle of wine. Experience goods are in contrast to "search goods", where a consumer can do a diligent search and reliably deduce the benefits of the good.

Many aspects of tertiary education seem to fit the description of being experience goods. A person can find out what a course at a tertiary provider has to offer from people who have previously taken the course. However, as Lucey (2014) explains, full disclosure about teaching quality, the nature of the contact and interaction between educators and students, and the human and developmental side of the education process can be opaque. Also, Athakkakath, Al-Maskari and Kumudha (2015) suggested that the stylistic match between educators and student is important (section 2.4). This means what works well for one student may not work for another.

While an individual might get some indication of their probable job prospects from receiving a qualification, it is combining the attributes and effort of the student with the resources of educators that produces the value – in combination (for job-seekers) with labour market conditions at time of graduation. A student can really only know how valuable a course or programme of study is to their career prospects once they have obtained the qualification, got the job, and are earning a salary.

A credence good

A credence good is a good whose true value is hard to judge even after consuming it. This is usually because of information asymmetries where the consumer must rely on an expert to tell them (hopefully truthfully) whether the good or service was really required and about its quality.

The classic example of a credence good is medical treatment. The patient relies on the medical professional to both diagnose and treat (or refer) the problem. The professional has the opportunity to undertake more expensive and more extensive treatments than necessary, with little chance the patient will be able to spot the malpractice. Even after the treatment, the patient cannot be sure that they have received the right level of care – or even whether the treatment was of reasonable quality for the price paid.

For goods and services with these credence characteristics, consumers rely on licensing of professionals, professional ethics and standards, or third party verification of the quality of the services received.

In the case of tertiary education, in the absence of third-party quality assurance, students rely on tertiary providers to determine the curriculum and teaching. The provider might stipulate more or less delivery than actually needed for the student to successfully develop the knowledge and level of competency required. The student is reliant on the professional behaviour of the tertiary provider in stipulating the content and mode of the co-production.

The licensing of tertiary providers and the independent verification of qualifications are mechanisms that governments use to deal with this credence-good problem. The problem may also be helped by the growth of online delivery and student analytics – that is, data about what students are learning, based on automated assessment processes (eg, pop-up multiple-choice tests) built into learning management software. These data, and students' ability to choose when to be assessed in many online courses, allow students and teachers to test assumptions about what is and is not necessary to the learning process for different combinations of student, teacher and content.

2.3 Students bring different resources to their tertiary education

A student's willingness to invest time and effort in tertiary education depends on whether they can meet the upfront costs – both financial and non-financial – and whether those costs seem worth it, given the expected benefits. A prospective student's financial resources are an important consideration here, but so too are their non-financial resources – in particular the student's pre-existing human and social capital, and their sense of personal identity.

Human capital: personal attributes and prior education

Students bring differing levels of human capital to their tertiary education, including different personal attributes, and different amounts of prior education (formal and informal).

The most obviously relevant personal attribute is intelligence, or the ability and aptitude to learn. Research by Dweck (2000; 2006) showed that intelligence is not a fixed quality, but can be significantly developed in both children and adults through learning and practice. Dweck's research also found that although a student's beliefs about whether they can become more intelligent tend to be self-fulfilling, these beliefs (and, consequently, a student's ability to grow their intelligence) can be altered through the way parents and teachers give feedback to the student.

Another personal attribute of growing interest in tertiary education literature is "grit", or perseverance when facing a challenge. Duckworth et al. (2007) found that grit (as self-reported and scored on a 12-point scale) was a reliable predictor of academic and other forms of personal success, independent of intelligence – and the absence of grit was a risk factor, even for bright students. Jarden and Mackenzie (2009) looked at how three personal attributes – grit, values, and hope – influenced New Zealand tertiary students' success in their first year of study, and found that:

[T]he characteristic of grit (perseverance) was a stronger predictor of both retention and success in first year tertiary study than originally thought (and to a lesser extent values, and minimally, levels of hope). The Grit Scale in particular enables a quick and effective identification of students who may need more intervention in order to succeed...

Students also differ in how they learn best – for example, whether through words, pictures or hands-on experience, or through abstract analysis or concrete examples. Athakkakath, Al-Maskari and Kumudha (2015), in analysing a large study by Astin (1993) of 27 000 university students in the United States, found the compatibility of students' learning styles with the teaching style of the lecturer had more influence on what students learned than did the design of the curriculum.

This idea, that the quality of tertiary education depends not just on curriculum but on the "match" between students and educators, has important implications for how tertiary education is delivered and consumed. It suggests that students overall may do better in tertiary education if they can choose from among several different acceptable-quality options to find their "best fit", rather than being directed toward a single "highest-quality" (as assessed by a third party) provider or purchaser. It also suggests that high-quality providers will have the characteristic of being informed about, and responsive to, students' learning preferences.

Social capital: family and peer attitudes and identity

The attitudes of a prospective student's family and friends influence their social capital and the non-financial (and sometimes financial) costs they face in enrolling to study.

For some people, a decision to enrol in tertiary education is seen by their family and peers as a natural and positive step that is consistent with the identity of the student, family or peer group. This step is supported, encouraged and praised. In this context, students face low social costs in deciding to enrol in tertiary education (though they may face costs if they decide not to).

In contrast, some people are part of families or peer groups where tertiary study is viewed as a waste of time and money, representing an inappropriate level of ambition or selfishness, being inconsistent with group identity, or simply being a luxury the family cannot afford when the person could otherwise be working full-

time or helping with childcare (section 1.2). For these students, study becomes “more expensive” – not just financially, but also because it carries costs to their relationships with family and friends (Akerlof & Kranton, 2002).

These influences affect students of all ages, but are especially relevant for young people still dependent on their parents in various ways, and still forming their adult identities (Erikson, 1968). As Ghuman commented, the process of identity formation is smoother when the different forces in a young person’s social context are aligned, rather than pulling in different directions:

The development of coherent identity is likely to be facilitated only if there is a symbiotic relationship between home and school. On the other hand, if young people receive conflicting messages from these institutions and diverse emotional and social demands and commitments are expected, they are likely to be confused in their identity. (Ghuman, 1999; cited in Milne, 2013, p. 65)¹⁰

A sense of belonging

A student’s sense of belonging at their tertiary education provider – that is, their sense of the rightness of and fitness of their presence there – also affects the non-financial costs they face in study. For a student entering an unfamiliar or intimidating tertiary environment, where the surroundings and people seem alien, study may be a personally costly undertaking, involving feelings of stress, discomfort and isolation.

In contrast, a person who sees “being a tertiary student” as a natural part of their identity, and who feels a sense of belonging to their group of fellow students and to their tertiary provider, avoids these negative feelings. Indeed, they are likely to experience learning interactions as positive social benefits. A UK study found that “a sense of ‘belonging’ emerged as a key determinant of student outcomes”, alongside students’ different levels of economic, social and cultural capital (Mountford-Zimdars et al., 2015, p. iii).

For Māori and Pasifika students in particular, a sense of belonging and a sense of collective endeavour are culturally important. These influence the educational success of students at tertiary level (Williams, 2011; Chu et al., 2013). Chapter 3 expands on this; and Chapter 6 discusses how Māori and Pasifika academic staff are important in providing relatable role models for Māori and Pasifika students.

Chapter 3 (Box 3.6) also explains that some of the knowledge and skills that students need to succeed lie outside any formal curriculum, and their family background and high-school environment can affect their familiarity with this kind of information.

Students can be helped to meet the non-financial costs of study

Just as government, tertiary providers, non-government organisations (NGOs) and families help students meet the financial costs of study (section 2.2), they can also help with non-financial costs and resources. That is, they aim to help young people (in particular) acquire the kind of human and social capital, and “tertiary compatible” identity, that will help them become successful tertiary students.

Some current examples are listed below.

- Government provides (nominally) free compulsory schooling to educate all students to senior secondary level. The “Managing Self” key competency of the New Zealand school curriculum aims to develop each student’s perseverance and (by implication) “grit”.
- Government funds career advisory services via the schooling network and (separately) via Careers New Zealand. These services are available free to students wanting advice on their career path, including tertiary study options – though there are concerns about their quality and effectiveness (Chapter 3).
- Government funds schools and tertiary providers to participate in “secondary-tertiary programmes”, such as Secondary Tertiary Alignment Resource education and Trades Academies, which allow students to engage in tertiary education while still enrolled at school. These programmes, along with tools such as Vocational Pathways, aim to make tertiary education more visible and relevant to students who might not

¹⁰ Ghuman’s focus was on secondary school students, but the same is true of those students when they enter tertiary education a few years later.

otherwise consider it an option, and help them become comfortable with tertiary education before leaving a familiar school environment.

- Government includes a pastoral care payment as part of its tuition subsidy for Youth Guarantee fees-free places (targeted at young people who leave school without NCEA level 2).
- NGOs, such as the Graeme Dingle Foundation and YMCA, provide children and young people with support (including mentoring and social experiences) to help them to set and achieve positive and challenging educational and life goals.
- Durie (2009) noted significant “indigenisation” of higher education in New Zealand since 2000, including expansion of Māori academic and student numbers, and greater awareness and promotion of Māori ways of knowing and being in tertiary environments. Durie also notes the importance of wānanga in showing that academic achievement at high levels is compatible within a “distinctly Māori” setting (p. 16).

Older students, upskilling and retraining

Much of the discussion above is focused on the choices that young students and their families face. However, older people who are already in the workforce, and who may be facing a period of unemployment or uncertain future work prospects, also face financial and non-financial costs in deciding to undertake tertiary study. The opportunity costs for older working-age students are likely to be high. For them, a decision to study means either taking time out of the workforce, or combining study with existing work and family commitments. The situation is different for retired older adults, who generally have more leisure to pursue tertiary education (including Adult and Community Education) for personal development and to maintain social connectedness.

Older students may also be especially likely to face the non-financial costs of moving into an environment where they feel like they do not belong. This is because many think of the archetypal tertiary student as a school leaver – though there are many older students at both ITPs and wānanga (Chapter 3). For adult “second-chance” students (for some of whom, it is really a first chance), a sense of discomfort in a tertiary environment may be heightened by previous poor experiences of the education system.

Having said that, older students are likely to bring greater quantities of some valuable resources to the co-production of their tertiary education, including maturity and life experience.

In deciding whether to undertake tertiary study to upskill or retrain, older students are more likely to make an explicit calculation of the likely costs and benefits of their investment. Unlike for many school leavers, tertiary education is not a “default option” for older students.

2.4 What is the outcome of all these investments in tertiary education?

Despite the efforts of government, providers, NGOs and families, it is still overwhelmingly the case in New Zealand that those who start their education – schooling or tertiary – with more financial and other resources gain more from that education, and consequently acquire even more resources as adults. By contrast, those who lack resources from the start get left behind.

Madden (2011) noted that “children’s low educational attainment now is the primary driver of poverty for families in the future” in New Zealand. Boston (2013) noted that:

for those born into disadvantaged households, educational success is a primary mechanism for upward social mobility and escaping potentially lifelong (if not intergenerational) poverty. However, a large proportion of children born into disadvantaged families and/or who experience protracted periods of childhood poverty do not enjoy high levels of educational success. (p. 9)

This matters because school achievement is the single biggest predictor of tertiary participation and success (Chapter 9). The inequalities that emerge in compulsory education, rather than being ameliorated by what happens at tertiary level, are overall exacerbated and amplified.

2.5 New models can increase diversity

New models of tertiary education present an important opportunity to increase the diversity of delivery approaches, educational methods, and learning environments available to New Zealand tertiary students. As this chapter has explained, this matters because educational approaches and environments have different costs and benefits for different types of students. With a diversity of models on offer, students with different goals, talents and resources will have a better chance of finding a “match” that meets their needs. The characteristics and choices of tertiary students in New Zealand are examined in the next chapter.

3 Student characteristics and choices

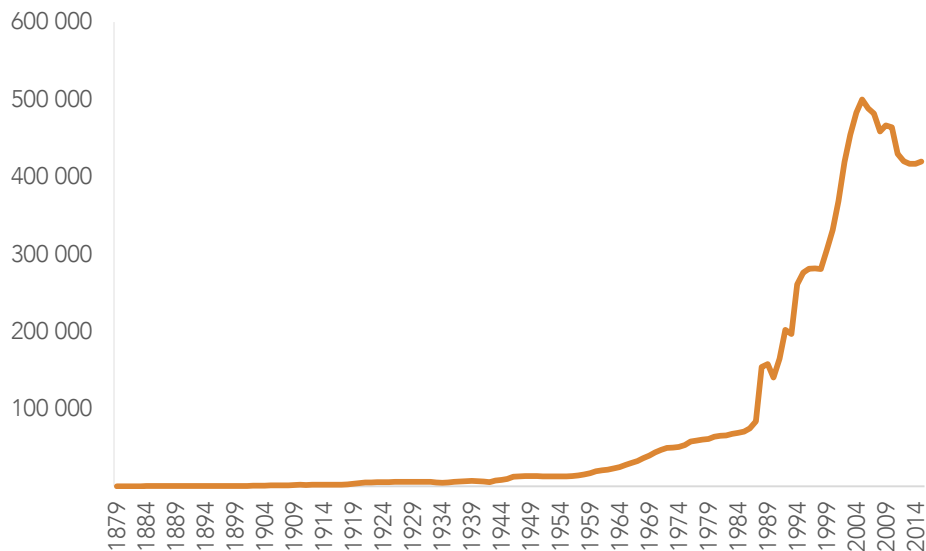
Key points

- Students choose tertiary study for a range of reasons. Improving career/job prospects and pursuing personal interests are two key reasons. However, students are also acutely concerned with whether their investment in tertiary education will lead to well-remunerated employment.
- Participation in tertiary education grew enormously through the 1980s and 1990s – but overall, participation rates have been falling since 2005. Participation in industry training follows a different pattern, declining sharply after 2010 due to an economic downturn, and the removal of “phantom trainees” following an operational review of industry training.
- Māori and Pasifika have higher levels of participation in tertiary education than other ethnic groups, but they are less likely to study at university. Their higher participation rates occur entirely in subdegree level study.
- In recent years, students in New Zealand have become more likely to be engaged in a “traditional” conception of tertiary education. The average student is becoming younger and is more likely to be a school leaver. The share of full-year, full-time study is increasing. The share of intramural (on campus) study is increasing. However, some students appear to do better through extramural study, including older people.
- There is widespread concern about how well school leavers transition into tertiary education, and how well the compulsory education system prepares them for further learning. The arrangement and delivery of careers services in schools, and government provision of information to prospective tertiary students, is fragmented and does a poor job of preparing young people to make career and study decisions.
- The New Zealand Qualifications Framework (NZQF) should make it easy for students to have prior learning and credit recognised – but this does not appear to work well in practice. Centralised approaches to coordinating credit transfer in other countries do not appear to have been effective.
- In contrast to domestic students, the number of international students enrolled with New Zealand tertiary providers has steadily increased. The majority of international students studying in New Zealand come from China and India, with Chinese students more likely to be enrolled at university and Indian students at institutes of technology or polytechnics (ITPs). Compared with Australia and the United Kingdom, New Zealand has a relatively high proportion of international students studying at subdegree level, and a lower proportion studying at postgraduate level. However, a high proportion of international students study at doctoral level in New Zealand because they receive the same subsidy as domestic students from the New Zealand government and are able to pay domestic fees.

3.1 Who studies and why?

Why study?

Chapter 1 described how rates of tertiary education study around the world increased in the 20th century. In New Zealand, the number of tertiary enrolments increased in the second half of last century. Enrolments increased dramatically from the late 1980s, before declining after 2005 (Figure 3.1).

Figure 3.1 Enrolments in New Zealand tertiary education, 1879–2015**Notes:**

1. Data counts public and private enrolments, by domestic and international students.
2. Statistics New Zealand and Ministry of Education data. Historical data from Thorns and Sedgwick (1997).

Chapter 2 discusses why people spend money, time and effort on their own education. Participation in tertiary education is voluntary (it is sometimes called post-compulsory education). Despite its voluntary nature, the growing expectation is that young people should enter tertiary education, and older people will need to continue to upskill over the course of their careers. And for good reason – a 2007 study by Nair et al. found that:

- attainment of tertiary qualifications is associated with a higher likelihood of employment – especially during times of economic recession;
- those with tertiary qualifications earn more than those without;
- the successful completion of a tertiary qualification results in a premium on earnings over those who do not complete a qualification; and
- the health and lifestyle outcomes for those who attain tertiary qualifications are better, including a higher standard of living and lower mortality rates from all causes.

On average, people with qualifications are more likely to be employed and receive higher wages, as shown in Figures 10.2 and 10.3. Even students who do not achieve at school benefit from a tertiary education. Tumen, Crichton and Dixon (2015) examined the labour market benefits gained by young people who leave school without National Certificate of Educational Achievement (NCEA) level 2, but enrol at a tertiary institution within the first few years of leaving school. They found completing levels 1–3 certificates was associated with an 8.5 percentage point increase in employment rate, and a 6.4 percentage point decrease in benefit receipt. The benefits were even higher for those who completed a level 4 certificate or higher. But the employment rate for those who enrolled but failed to complete was no better than their matched comparison group. Indeed, these students were 2.9 percentage points more likely to be on a benefit two years later. Scott (2009) finds that, although not as good as completing a qualification, passing some courses still has benefits.

In a longitudinal study (Vaughan, 2008), Year 11 and 12 students were asked “what might stop you having the life you want?” The top barriers reported as likely or very likely were:

- “not having qualifications”;
- “not being able to find a job or too much competition for jobs”;

- “not having skills”;
- “finding out that what I chose was not what I expected or really wanted”;
- “not being accepted into my chosen course or programme”;
- “feeling confused over which option to take for work or study”; and
- “not knowing what my options are or knowing what to do”.

Other concerns, such as relationships, money concerns, health concerns, peer pressure, time pressure, motivation and self-confidence came further down the list. A young person’s anxiety about their future, and the quality of support needed to help them formulate career plans and navigate education options are discussed in this chapter.

Future income and employment prospects are key considerations for students. Students appear acutely concerned with whether their investment in tertiary education will lead to well-remunerated employment:

Employers have always demanded tertiary-educated employees and seem like they will always prioritise a candidate with a degree over a candidate without one. However due to the oversupply of tertiary qualifications in many sectors, employers are only taking the absolute best. The tertiary system itself is not responding to this. It continues to produce more graduates and aims to increase graduate output without factoring in growth of the downstream job market. (Victoria University Wellington Students’ Association, sub. 80, p. 10)

My anecdotal impression, on talking with students, is that they regard their futures as precarious, with uncertain prospects of well-remunerated employment, no matter what they study now. They will be faced with debt and high rents anyway, and few will have secure or fulfilling jobs, or so they fear. (Duncan, sub. 18, p. 10)

Most learners, at every level of the system, expect that their studies will help them in the workforce – whether to obtain a specific job (in the case of a vocational qualification or professional degree for example), or simply to improve their chances of getting some kind of secure, meaningful, well-paid employment. This is also an expectation of government in funding tertiary institutions. However the pathway from school into and through tertiary to employment is unclear for learners and employers, and is often hazy even for educators. (COMET Auckland, sub. 50, p. 4)

In a similar vein, the New Zealand Council of Trade Unions highlighted financial returns to employment:

There must be recognition through financial rewards for further education and training. Otherwise workers may question its value. (sub. 69, p. 24)

Yet education is clearly not all about employment outcomes. The New Zealand Union of Students’ Associations submitted that improving a student’s employment prospects was important, but far from the only reason why a student engages in tertiary education:

Students want their education to enhance their employability, given the link between having a good job and a happy life, but it is not the sole function. Students primarily choose their education based on the things that they are interested in, they do better accordingly, and having a system that is not purely about cost/benefit and releasing human potential in civics, and as social beings, as well as economic units enhances the nation. (sub. 19, p. 1)

Similarly, Ed. Collective surveyed students and found the most important reasons for studying included both getting a job and studying a subject they are interested in and want to learn more about (sub. 89).

Clearly the objectives of pursuing knowledge in an area of interest, and seeking skills and qualifications to improve employment prospects are both important and, for many students, overlap. There is also some evidence for a “lengthening of adolescence” in developed countries, as the cultural transitions marking adulthood are delayed (Mortimer & Larson, 2002), that may be related to increased participation in tertiary education.

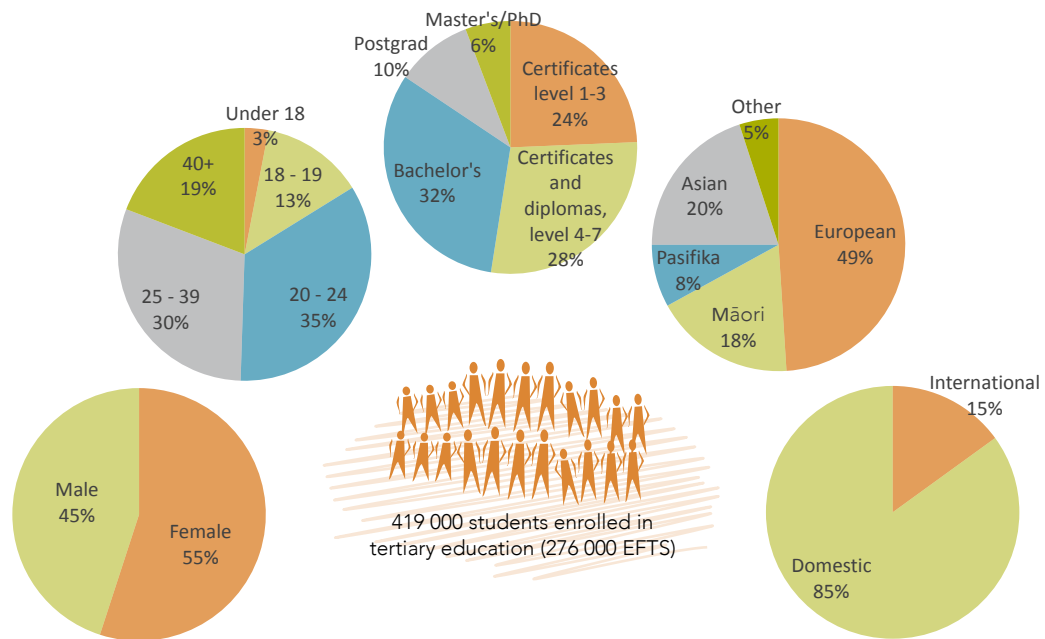
F3.1

Students choose tertiary study for a range of reasons, including improving their career prospects and pursuing their personal interests. Students are acutely concerned about whether their investment in tertiary education will lead to well-paid work.

Who studies?

Figure 3.2 sets out some characteristics of the 2015 domestic and international student population.

Figure 3.2 Characteristics of the New Zealand tertiary student population, 2015



Source: MoE, 2016a.

Notes:

1. Domestic and international students.
2. The pie charts are based on student numbers, not equivalent full-time students (EFTS). The shares in some of these charts would change if they measured EFTS. For example, students studying at Bachelor’s level account for 32% of students but, because those students are more likely to be studying full time, they account for 42% of EFTS.
3. The sum of some figures adds to more than 100%, because students can associate with more than one ethnicity, and can be enrolled at different levels of study simultaneously.

Almost 360 000 domestic students were enrolled in tertiary education in 2015. Table 3.1 provides information on the characteristics of domestic students, including their rate (and, where appropriate, their age-standardised rate) of participation in tertiary education.

Table 3.1 Domestic students’ participation in tertiary education by selected characteristics, 2015

Characteristic	Students	EFTS	Participation rate	Age-standardised participation rate
Females	206 200	135 575	11.0%	11.3%
Males	152 110	98 020	8.5%	8.3%
Under 18 years	12 255	7 175	6.6%	na
18-19 years	51 065	43 835	39.2%	na
20-24 years	113 805	89 565	33.5%	na

Characteristic	Students	EFTS	Participation rate	Age-standardised participation rate
25-39 years	102 075	55 380	11.7%	na
40 years and over	79 110	37 640	3.7%	na
Europeans	224 225	142 980	8.8%	9.7%
Māori	81 805	53 095	17.2%	14.5%
Pasifika	35 615	23 970	15.1%	11.4%
Asian	46 775	33 890	9.5%	7.6%
Other	16 965	11 005	na	na
Universities	146 015	112 070	4.0%	na
ITPs	129 870	65 870	3.6%	na
Wānanga	37 260	23 140	1.0%	na
Public providers	307 055	201 080	8.4%	na
Private training establishments	57 020	32 510	1.6%	na
Total	358 305	233 590	9.8%	na

Source: MoE, 2016a.

Notes:

1. Data relate to students enrolled at any time during the year with a tertiary education provider in formal qualifications of greater than 0.03 EFTS (more than one week's full-time duration).
2. Data exclude all non-formal learning and on-job industry training.
3. Data include those private training establishments that received Student Achievement Component funding, and/or had students with student loans or allowances, and/or Youth Guarantee programmes.
4. Private training establishments includes other tertiary education providers (OTEPs).
5. One equivalent full-time student (EFTS) unit is defined as the student workload that would normally be carried out in a single academic year (or a 12-month period) by a student enrolled fulltime.
6. The total participation rate is the percentage of the population aged 15 and over who were enrolled at any time during the year.
7. The age-standardised participation rate is standardised to the 2014 national age distribution (ie, it represents the rate a group would have if it had the same age distribution as the 2014 national age distribution).
8. Students are counted in each subsector they enrol in, so the sum of the various subsectors may not add to the total.
9. Students are counted in each ethnic group they identify with, so the sum of the various ethnic groups may not add to the total.
10. "na" indicates that the data are not available.

Overall, tertiary participation levels in New Zealand have fallen since 2005, but remain high compared to pre-1990 levels. The total number of EFTS enrolled in tertiary education remained relatively unchanged between 2007 and 2015. However, the number of enrolments declined, particularly among domestic students, as more students studied full-time. The share of EFTS at Bachelor's level increased (from 38.5% of EFTS in 2007 to 42% of EFTS in 2015), and the number of EFTS enrolled at lower levels reduced (MoE, 2016).

The Ministry of Business, Innovation and Employment (MBIE) and the Ministry of Education submitted that a sharper focus on the quality of provision, and changes to the employment market were important contributors to declining participation rates:

As the draft report notes (p33), domestic student enrolments dropped by 19% between 2007 and 2015. This was driven by a fall in enrolments in part-time study, extramural study, and degree level study, by students aged over 25, and those previously employed.

Before concluding that these trends were driven by the funding system's EFTS caps and performance measures, other contributing factors should be considered:

- From 2005, successive governments took active steps to cease funding some large lower level courses and programmes targeting part-time, extramural and older students. This was done because significant problems arose concerning quality, student outcomes and value for money;
- Changing labour market conditions have greater influence on enrolment rates by older, part-time students, and previously-employed students.

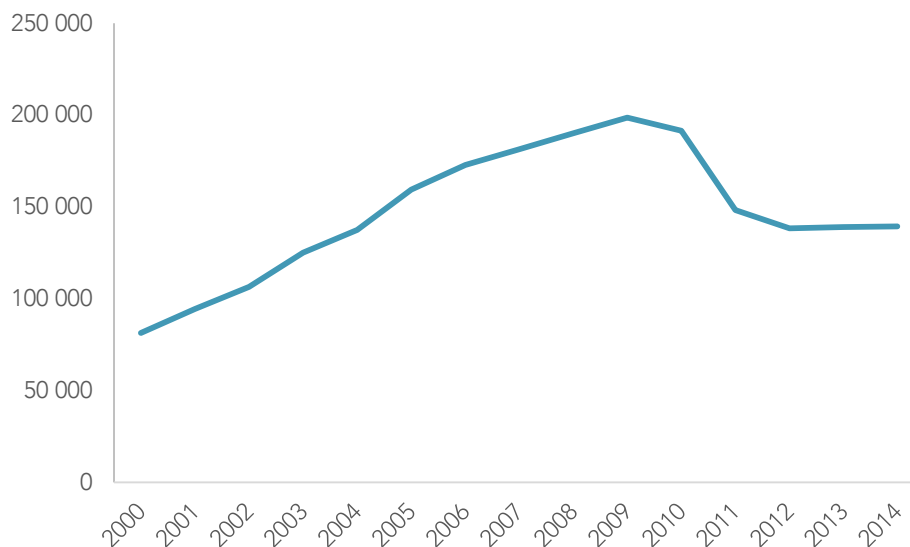
The growth in full-time and degree-level participation may also illustrate the system's responsiveness to changing demand, rather than an inherent bias against part-time and lower-level programmes. (sub. DR 162, p. 5)

Despite this recent decline in overall tertiary participation, New Zealand still has higher rates of participation than many other OECD countries:

At tertiary levels, participation remains higher than the Organisation for Economic Cooperation and Development (OECD) average for ages under 20, about average for ages 20-29, and higher than average for older ages. (MBIE & MoE, sub. DR 162, p. 2)

Participation in industry training (Figure 3.3) follows a different pattern to provider-based training. Participation grew through to 2010 and then declined quite sharply. This was a result not just of the economic downturn, but also of the operational review of industry training that removed significant numbers of trainees from the system (discussed below).

Figure 3.3 Participants in industry training, 2000–14



Source: MoE, 2016a.

Notes:

1. Data are counts of all apprentices and industry trainees, regardless of whether the Tertiary Education Commission funded their activity in the year shown.
2. The graph shows counts of distinct people in total in each year.

People from less deprived areas study at higher levels (Figure 3.4) and consume a commensurately larger average volume of EFTS (Figure 3.5).

Figure 3.4 Highest level of study by deprivation index, 1990 cohort

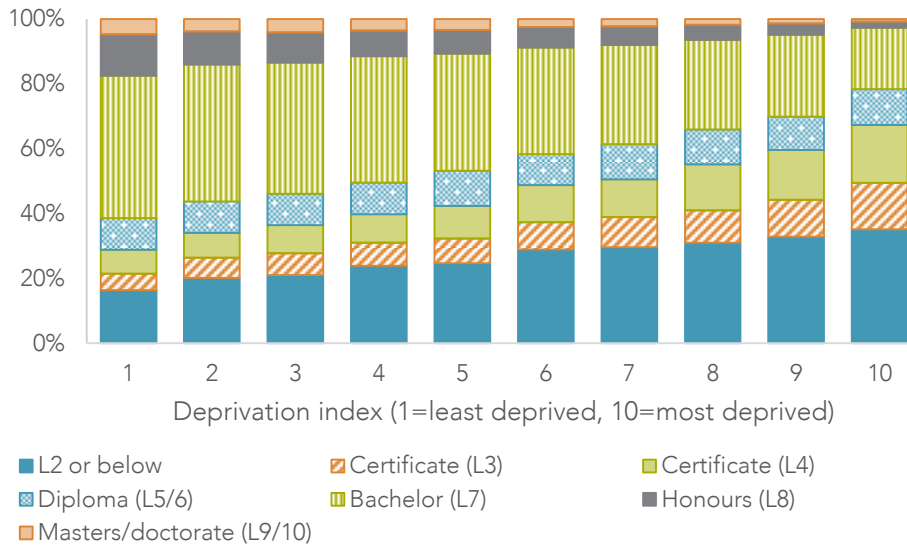
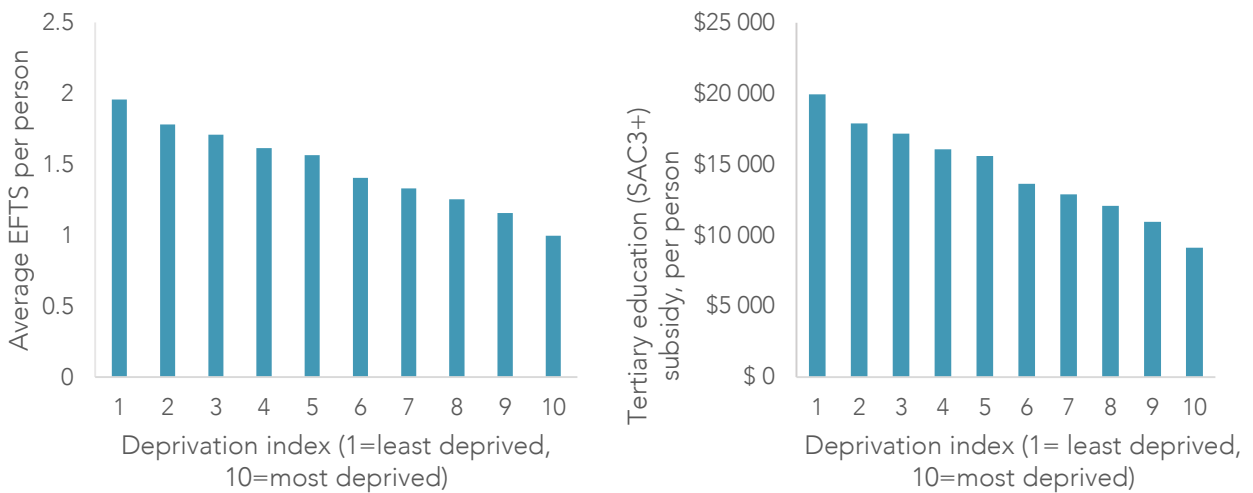


Figure 3.5 Average EFTS and SAC funding consumed per person by deprivation index, 1990 cohort



Source: Productivity Commission

Notes:

1. The population for this analysis is those people whose records in the Integrated Data Infrastructure database show they were born in 1990; attended a New Zealand school during ages 15 and 16; had an address at that age; and were in New Zealand for 300 days during the 15th and 16th years. People are included whether or not they undertook subsidised tertiary education.
2. Deprivation index for each person is the deprivation index for the meshblock containing their address aged 15-16.
3. The “highest level studied” is the highest level of all courses undertaken by that person. It does not mean that the person passed a course at that level, nor does it mean they completed a qualification at that level. “L2 or below” includes no tertiary study.

F3.2

On average people from higher socioeconomic communities study longer, and at higher levels. They also receive more government funding towards tertiary education at above foundation level.

Notes about tertiary ethnicity data

Ethnic identity is a complex characteristic. Most tertiary education ethnicity data reported by the Ministry of Education and the Tertiary Education Commission (TEC) are multiple-response data. This means a student

who indicates on their enrolment that they identify with both Māori and Pasifika ethnicities is included in both categories.¹¹ This can result in ethnic group data adding up to more than 100%.

Sometimes (especially in older datasets) the data are prioritised, rather than multiple-response. This means students are allocated to one ethnicity category only, according to the “highest priority” ethnicity they indicated in their multiple responses. A standard prioritisation order is: Māori, Pasifika, Asian, Middle Eastern/Latin American/African, Other, New Zealand European. This means if, for example, a student indicates on their enrolment that they identify with both Māori and Pasifika ethnicities, they will be recorded in the data as Māori. Only those students who identify solely with the New Zealand European ethnicity will be included in that group.

How ethnicity is defined in any given dataset can change what the data show. For example, Engler (2010a) found, consistent with earlier research by Chapple, that students who identify as Māori on at least one tertiary enrolment (“ever-Māori”) show statistically different results to those who identify as Māori on every tertiary enrolment (“sole-Māori”) on various measures of tertiary achievement and outcomes.

Ethnicity data throughout this report should be interpreted with this caveat in mind. The persistent overall patterns shown in the data will be accurate, but detailed statistics may change according to the chosen methodology.

Māori and Pasifika learners are often bracketed together in reporting and discussion, and many students have plural ethnic identities. However, Māori and Pasifika are culturally different groups with different patterns of tertiary participation and attainment, as shown in the data below and in Chapter 9.

Māori and Pasifika learners are over-represented in the low-income population, making it hard to separate ethnicity effects from income effects.

The number of domestic student enrolments dropped by 19% between 2007 and 2015, including drops for both male and female students, and students of all ethnicities – except for Pasifika students (Table 3.2).

Table 3.2 Domestic student enrolments by ethnicity and gender, 2007–15

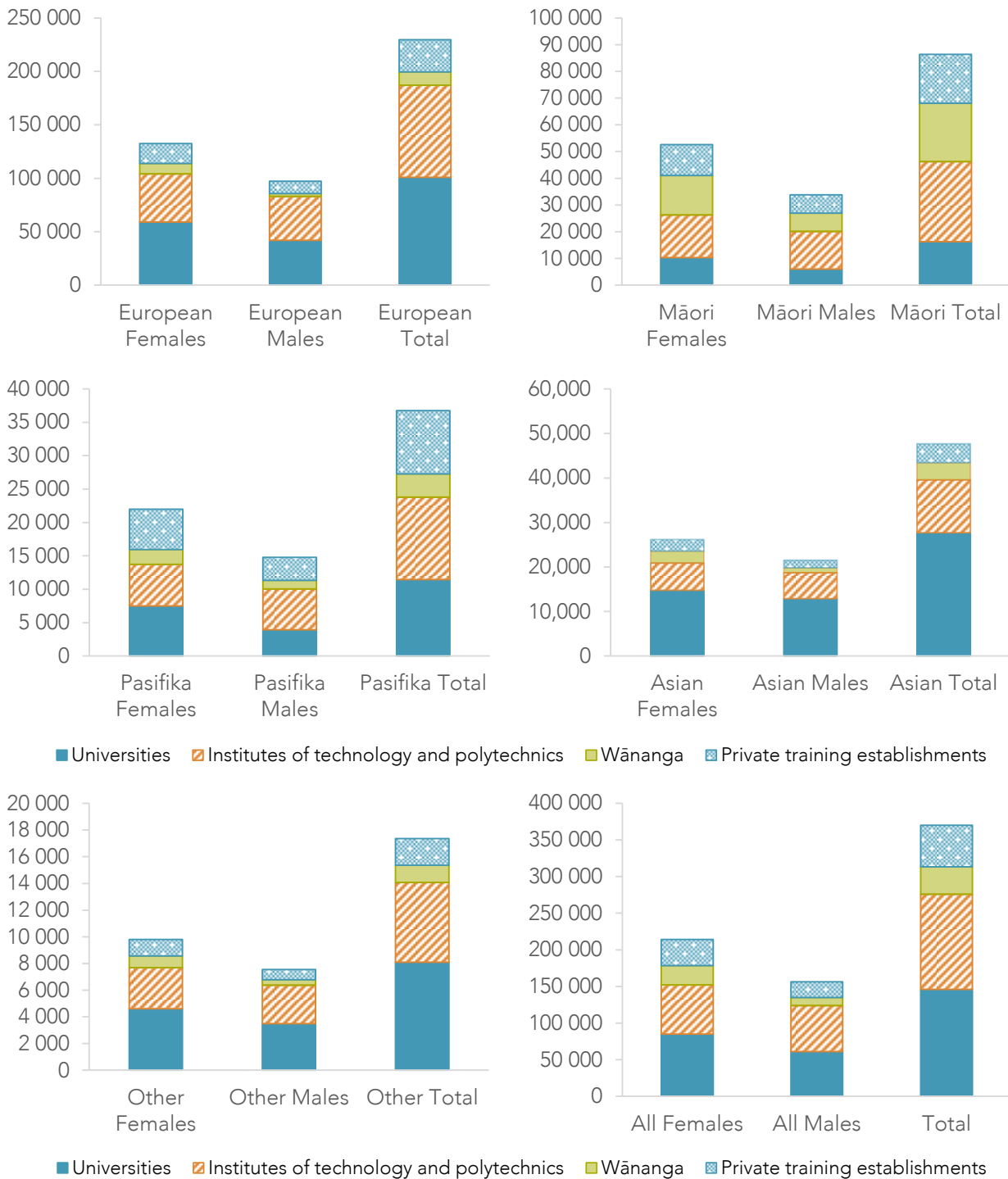
Ethnicity	2007	2015	Change, 2007–15
European	289 739	224 225	-23%
Māori	83 745	81 805	-2%
Pasifika	29 216	35 615	22%
Asian	54 072	46 775	-13%
Other ethnicity	20 702	16 965	-18%
Female	241 347	206 200	-15%
Male	200 644	152 110	-24%
Total domestic enrolments	441 991	358 305	-19%

Source: MoE, 2016a.

A rich amount of data are available about domestic student enrolments by ethnic group, age group, and gender. An overview of some of this data is presented in Figure 3.6.

¹¹ In some reports (eg, Mahoney, 2014a, 2014b) “Cook Islands Māori” is classified with “Māori” rather than with “Pasifika” in the aggregated data.

Figure 3.6 Number of domestic tertiary enrolments by ethnicity, gender and subsector, 2015



Source: MoE, 2016a.

Notes:

1. Data relate to students enrolled at any time during the year with a tertiary education provider in formal qualifications of greater than 0.03 EFTS (more than one week's full-time duration).
2. Data exclude all non-formal learning and on-job industry training.
3. Data include those private training establishments that received Student Achievement Component funding, and/or had students with student loans or allowances, and/or Youth Guarantee programmes.
4. Private training establishments includes other tertiary education providers (OTEPs).
5. Students are counted in each ethnic group they identify with, so the sum of the various ethnic groups may not add to the total.
6. Students are counted in each subsector they enrol in, so the sum of the various subsectors may not add to the total.

There are more female enrolments than male enrolments across all ethnicities and subsectors, though at certain ages there may be more males enrolled (eg, students aged under 18). Students who identify as Māori

are more likely to be enrolled in a wānanga. Pasifika students are the most likely to attend a private training establishment (PTE). European students and those who identify with an “other” ethnicity are most likely to be enrolled in university. Women participate in tertiary education at higher rates than men across most qualification levels (Table 3.3).

Table 3.3 Age-standardised participation rates by gender and level of study, 2015

Level of study	Females	Males	Total
Certificates 1	0.4%	0.4%	0.4%
Certificates 2	0.9%	0.9%	0.9%
Certificates 3	1.8%	1.4%	1.6%
Certificates 4	1.6%	1.4%	1.6%
Certificates and diplomas 5-7	1.6%	1.1%	1.3%
Bachelor’s degrees	4.4%	2.6%	3.5%
Graduate certificates/diplomas	0.4%	0.2%	0.3%
Honours	0.7%	0.6%	0.7%
Master’s	0.4%	0.3%	0.4%
Doctorates	0.2%	0.1%	0.1%
All study levels	11.3%	8.3%	9.8%

Source: MoE, 2016a.

Notes:

1. The age-standardised participation rates are standardised to the 2015 national age distribution (ie, they represent the rate a group would have if they had the same age distribution as the 2015 national age distribution).
2. Data relates to students enrolled at any time during the year with a tertiary education provider in formal qualifications of greater than 0.03 EFTS (more than one week’s full-time duration).
3. Data exclude all non-formal learning and on-job industry training.
4. Data include those private training establishments that received Student Achievement Component funding, and/or had students with student loans or allowances, and/or Youth Guarantee programmes.
5. Students are counted in each qualification level they enrol in.

However, women and men have different patterns of participation by field of study (Table 3.4).

Table 3.4 Distribution of participation by broad field of study and gender, 2015

Field of study	Total enrolments	Male %	Female %
Engineering and Related Technologies	33 565	86.0	14.0
Architecture and Building	19 315	79.4	20.6
Information Technology	17 555	72.0	28.0
Agriculture, Environmental and Related Studies	18 620	59.5	40.5
Mixed Field Programmes	19 165	48.0	52.0
Natural and Physical Sciences	31 350	48.0	52.0
Management and Commerce	76 055	38.2	61.8
Creative Arts	30 395	37.6	62.4
Society and Culture	99 555	33.1	66.9
Health	47 205	26.7	73.3

Field of study	Total enrolments	Male %	Female %
Food, Hospitality and Personal Services	13 415	22.1	77.9
Education	27 370	19.6	80.4
Total	358 305	42.5	57.5

Source: MoE, 2016a.

Notes:

1. Data relate to students enrolled at any time during the year with a tertiary education provider in formal qualifications of greater than 0.03 EFTS (more than one week's full-time duration).
2. Data exclude all non-formal learning and on-job industry training.
3. Data include those private training establishments that received Student Achievement Component funding, and/or had students with student loans or allowances, and/or Youth Guarantee programmes.
4. These tables present statistics relating to the predominant field(s) of study of students enrolled at tertiary education providers. These data look at all the courses studied within a qualification to determine a student's predominant field(s) of study.
5. Students are counted in each field of study they enrol in, so the sum of the various fields may not add to the total.

The narrow fields of study with the lowest proportion of male participation were in personal services (6.3%) and nursing (7.9%). The narrow fields of study with the lowest proportion of female participation were in mechanical and industrial engineering and technology (8.4%), electrical and electronic engineering and technology (9.9%), building (10.1%), and automotive engineering and technology (10.1%).

OECD's *Education at a Glance* (2016a) reports that women make up the majority of entrants into tertiary education in all OECD and partner countries studied except Germany, Greece, India, Japan, Mexico, South Korea and Turkey. On average across OECD countries, 54% of new entrants are women. The reasons for women's higher participation in many in tertiary education has been the subject of considerable academic discussion (Box 3.1).

Box 3.1 Why do women have higher rates of participation in tertiary education?

A review of the literature by Callister et al. (2006) finds a number of theories given for increasing female participation, including that:

- the schooling system has become feminised, in terms of both curriculum and teaching staff, which assists a greater proportion of girls to move on to tertiary education;
- more boys are being raised by mothers, without good male role models present in the family, which influences their propensity to study;
- new courses being developed by tertiary education providers tend to be in "female dominated" subjects;
- women have seen higher returns than men in earnings and other material benefits from their participation in higher education;
- women are genetically "brighter" than men, but have historically been held back by discrimination within the family, within schools and in the wider society;
- boys have slower social development and more serious behavioural problems than girls, so fewer advance to tertiary education;
- the increase in the age at first marriage has enabled women to invest more time in education; and
- more effective birth control methods have helped women invest in education and their careers.

Becker et al. (2010) examined the question of why women's participation in higher education is now outstripping that of men in many countries, given that women face the same traditional costs of study

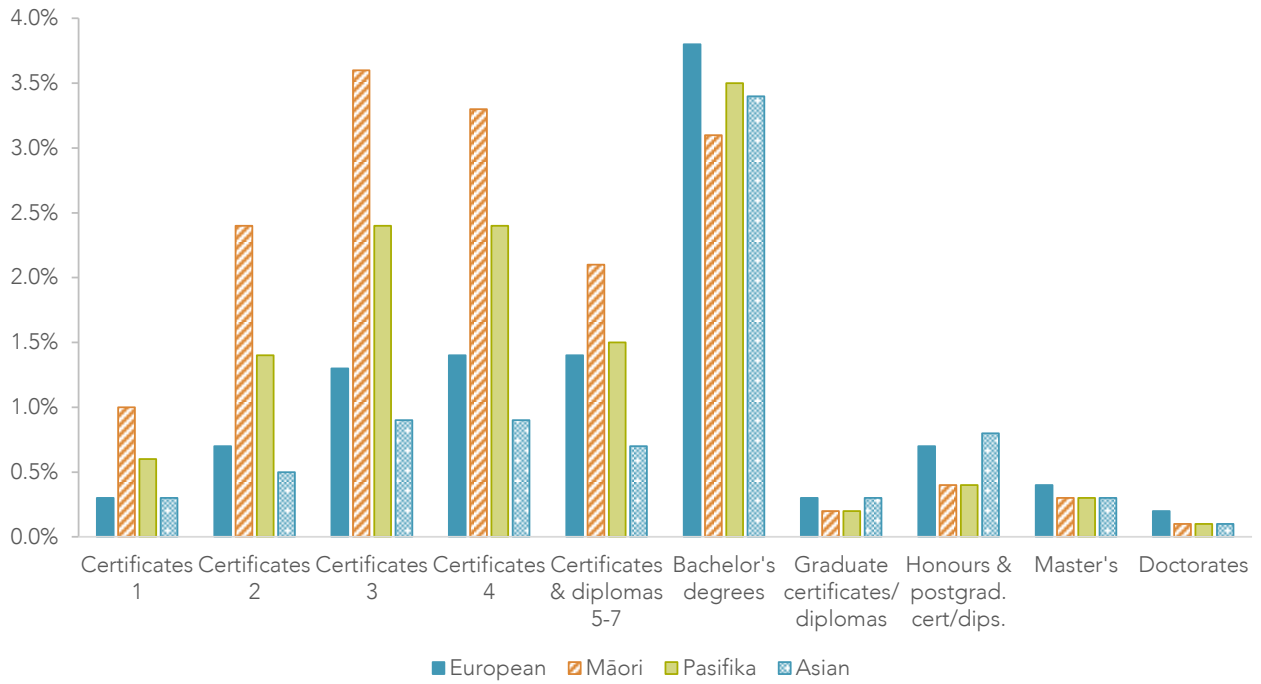
as men, and tend to receive lower returns. They suggested women face lower “non-traditional costs” of study than men; in particular, that the higher mean and lower variability of women’s non-cognitive skills (which are known to contribute to educational success) mean that a higher proportion of them, relative to men, receive positive net returns from tertiary education.

In New Zealand, females have typically outperformed males in NCEA assessment, providing greater access to tertiary education, though some of the influences noted here may also be responsible for that achievement gap.

Māori and Pasifika have relatively high levels of participation in tertiary education. In 2015, 17.2% of Māori aged 15 and over were enrolled in tertiary education, while the corresponding figure for Europeans was 8.8%. The participation rate for Pasifika was also much higher than Europeans at 15.1%. Demographic factors partly explain these higher rates of participation in tertiary education for Māori and Pasifika. Both groups have a relatively young population, meaning that a greater share of their population is in the age category where tertiary enrolments are highest (18 to 24 years). The age-standardised participation rate eliminates the effect of different age distributions, by adjusting the age distribution of each ethnic group to match that of New Zealand’s total population. The 2015 age standardised participation rates for European, Māori and Pasifika were 9.7%, 14.5% and 11.4% respectively. As shown in Figure 3.6 and Figure 3.7, Māori and Pasifika are less likely to study in university, and their higher participation rates occur entirely in subdegree level study. Ako Aotearoa submitted:

Simple measures or analysis can be particularly misleading when applied to marginalised or under-served learners. For example, Māori have the highest rates of participation in tertiary education; in 2014 14.7% of the (age-standardised) Māori population engaged in tertiary education, compared to 11.4% of Pacific, 9.9% of Pakeha, and 8.2% of Asian New Zealanders (Ministry of Education, n.d. a). However, most of this enrolment occurs at foundation levels; in 2014 approximately 52% of Māori tertiary learners were enrolled in Level 1-3 Certificates, compared to 43% of Pacific, 26% of Pakeha, and 19% of Asian learners (Ministry of Education, n.d. b). This suggests that high participation by Māori – an apparent indicator of success – may actually reflect issues in our compulsory education sector’s capability to serve young Māori. (sub. 58, p. 6)

Figure 3.7 Age-standardised participation rates by ethnicity and level of study, 2015



Source: MoE, 2016a.

Notes:

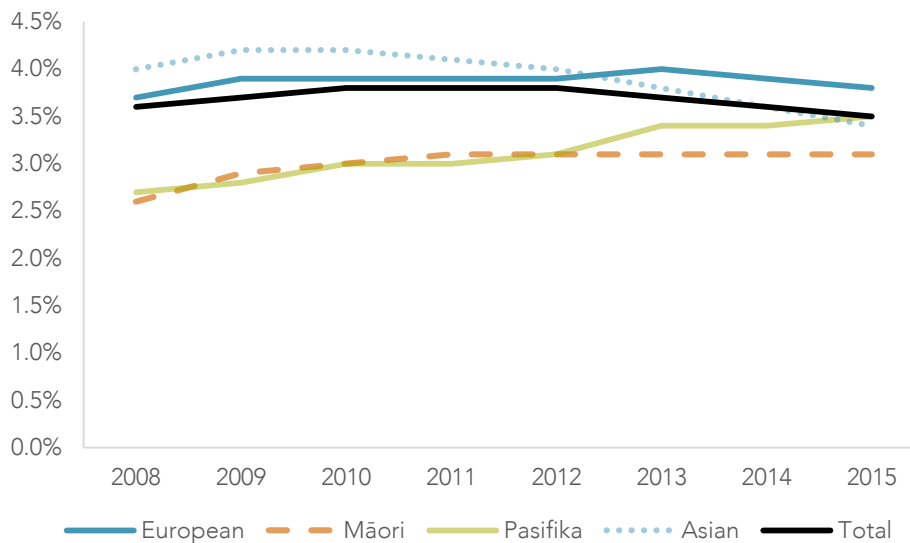
- Shows the percentage of the population aged 15 and over who were enrolled in tertiary education at any time during 2015.
- Does not include international students.

MBIE and the Ministry of Education submitted that:

While Māori in particular have higher participation rates in lower-level qualifications than the whole population, participation by both Māori and Pasifika as measured in EFTS in bachelor degree level or higher study has improved steadily since 2001. (sub. DR162, p. 8)

The age-standardised participation rates towards Bachelor’s degrees of different ethnic groups have been converging over time, particularly as Asian participation rates have declined and Pasifika participation rates have increased. More recently, Māori and European participation rates have been steady (Figure 3.8).

Figure 3.8 Age-standardised participation in Bachelor's degree study by ethnicity, 2008–15



Source: MoE, 2016a

Notes:

1. The total participation rate is the percentage of the population aged 15 and over who were enrolled at any time during the year.
2. The age-standardised participation rates are standardised to the 2015 national age distribution (ie, they represent the rate a group would have if they had the same age distribution as the 2015 national age distribution).
3. Data relates to students enrolled at any time during the year with a tertiary education provider in formal qualifications of greater than 0.03 EFTS (more than one week's full-time duration).
4. Students are counted in each ethnic group they identify with.
5. Total and Māori rates are based on the latest available population estimates. Pasifika, European and Asian rates are based on the 2001, 2006 and 2013 ethnic population projections.

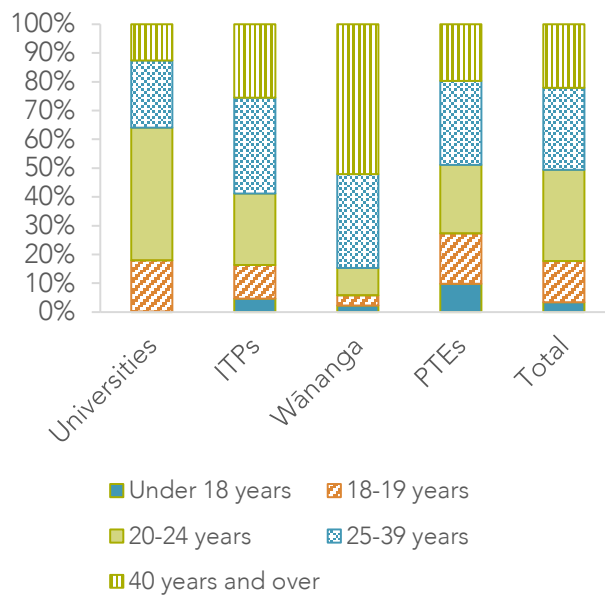
Between 2008 and 2015, age-standardised participation rates towards Bachelor's degrees at universities increased for Pasifika, but were flat or decreased for European, Māori, and Asian ethnic groups and for the total population. Age-standardised participation rates towards Bachelor's degrees at ITPs increased for Māori and Pasifika, but were flat for European and Asian ethnic groups, and for the population as a whole.

F3.3

Māori and Pasifika have relatively high rates of participation in tertiary education, but the high participation rates are entirely at subdegree-level study.

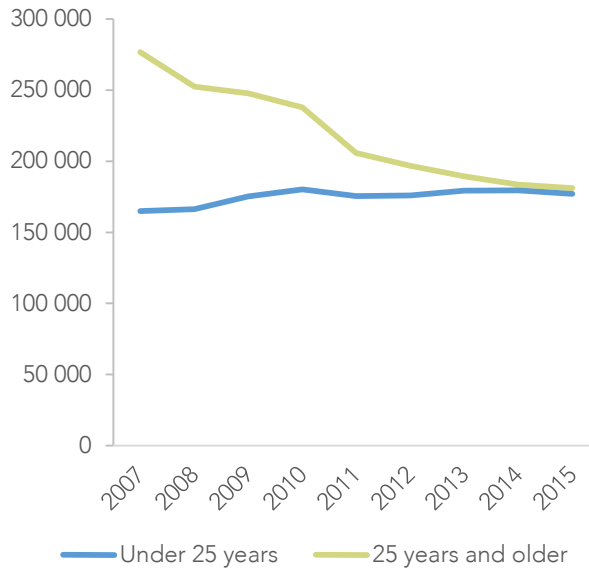
Compared to other OECD countries, New Zealand has a high proportion of older students in tertiary education (Scott, 2014). Universities have the youngest student profiles, and wānanga by far the oldest (Figure 3.9). However, the overall number and proportion of enrolments of students aged over 25 fell each year from 2007 to 2015 (Figure 3.10).

Figure 3.9 Domestic enrolments by subsector and age, 2015



Source: MoE, 2016a.

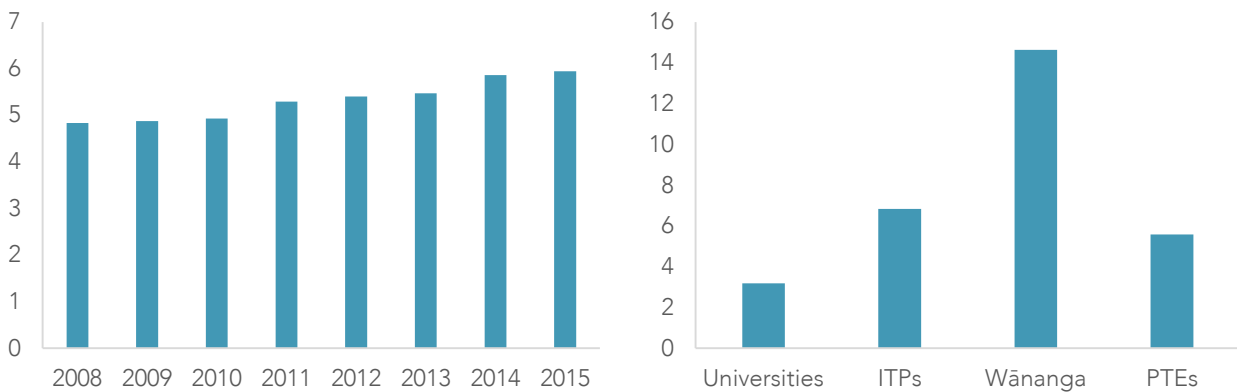
Figure 3.10 Domestic enrolments by age, 2007–15



Source: MoE, 2016a.

The proportion of students who have a disability has been increasing in recent years. In 2015, 5.94% of students reported having a disability. Students enrolled at a university were less likely to report having a disability, and students at wānanga more likely to do so (Figure 3.11). Students studying at levels 1–4, Māori students, and students aged under 18 years or 40 years and over were more likely to report having a disability. Disability status did not vary significantly by gender. It is difficult to draw inferences from the available data about the performance of the tertiary education system for students with disabilities, in terms of either access or outcomes.

Figure 3.11 Domestic students who reported having a disability, by year and subsector, 2015 (%)

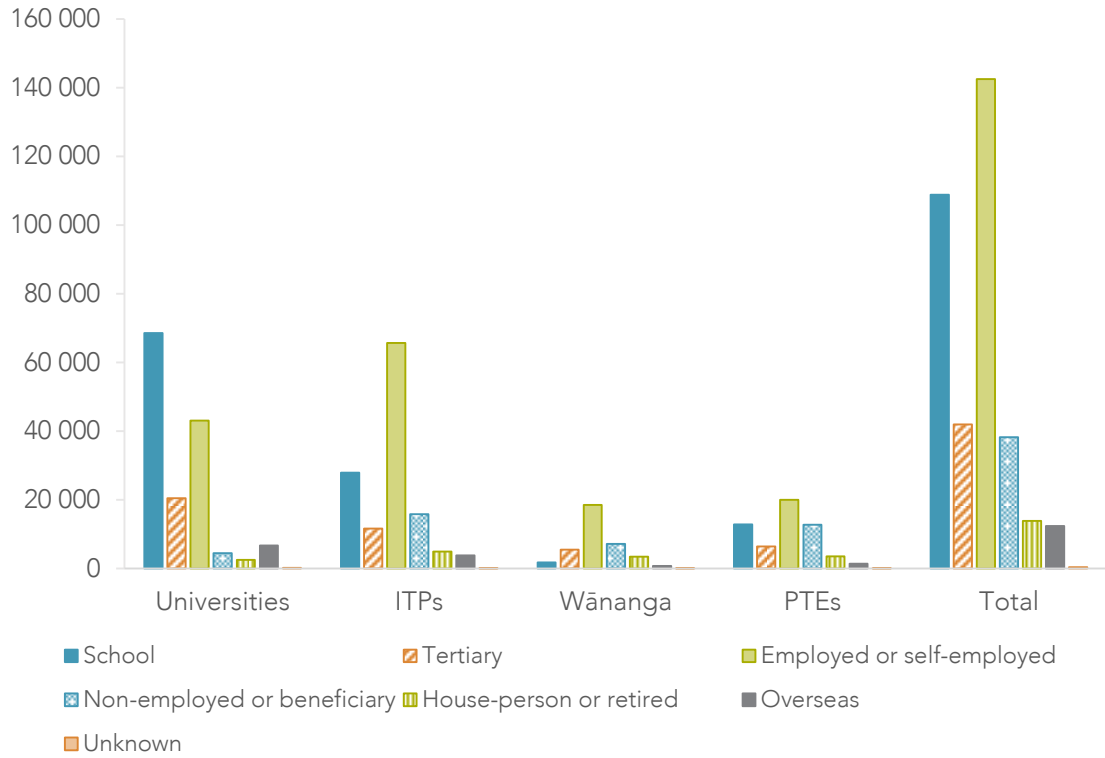


Source: MoE, 2016a.

Students’ prior achievement

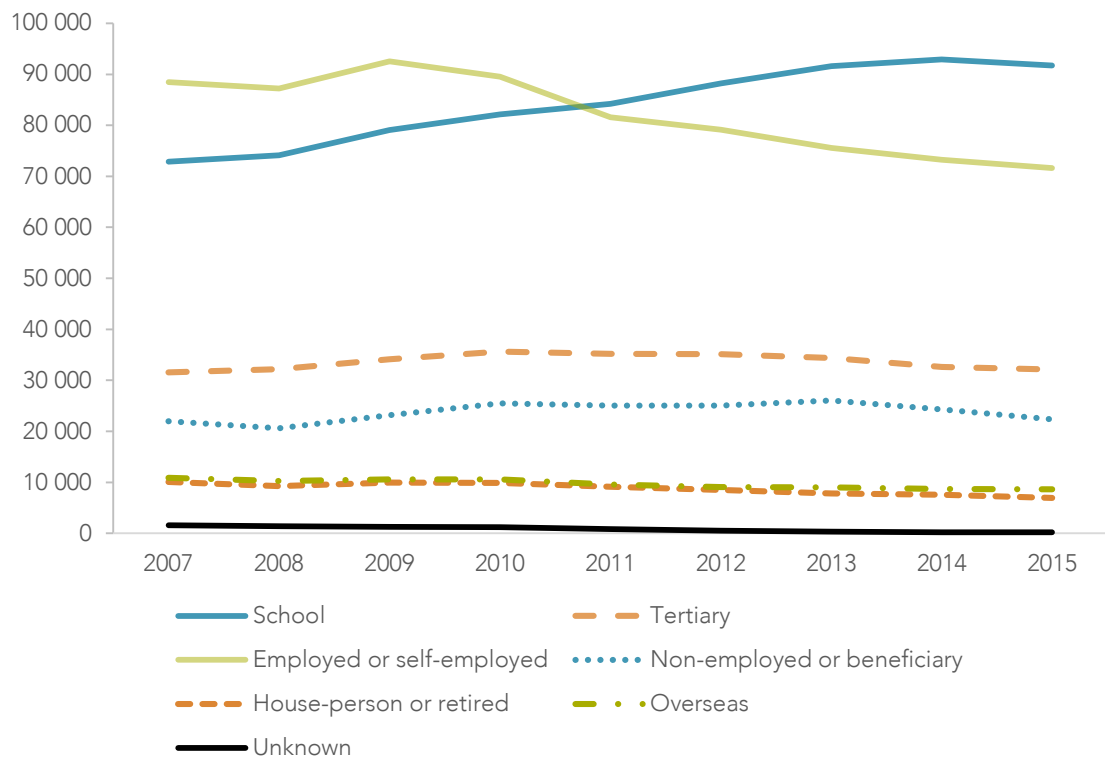
Universities take almost half of their students directly from school. For other provider types, the most common activity prior to enrolling is employment, and this is also true for the enrolled student population as a whole (Figure 3.12). Overall, most tertiary students in New Zealand do not come to study directly from school. Most students had been most recently employed, unemployed, or on a benefit. Looking at the prior activity of EFTS takes into account that many students enrol part-time, and school leavers are more likely to study full-time. Over time, more tertiary students are coming to education from school, and fewer from employment (Figure 3.13).

Figure 3.12 Domestic students' prior activity by subsector, 2015



Source: MoE, 2016a.

Figure 3.13 Domestic EFTS by prior activity, 2007–15



Source: MoE, 2016a.

Notes:

1. Data relate to students enrolled at any time during the year with a tertiary education provider in formal qualifications of greater than 0.03 EFTS (more than one week's full-time duration).
2. Data exclude all non-formal learning and on-job industry training.
3. Data include those private training establishments that received Student Achievement Component funding, and/or had students with student loans or allowances, and/or Youth Guarantee programmes.

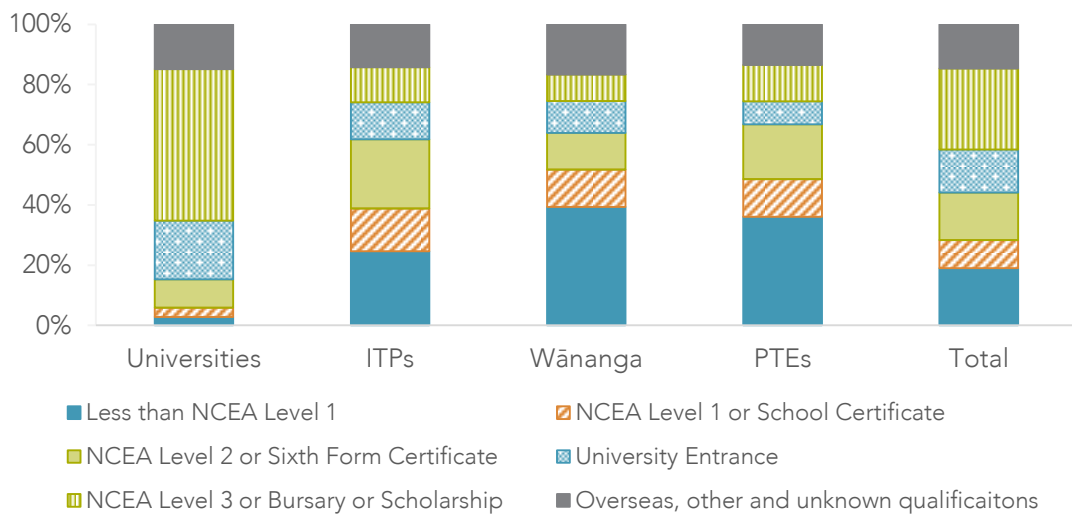
4. Private training establishment includes other tertiary education providers (OTEPs).
5. Students are counted in each subsector they enrol in, so the sum of the various subsectors may not add to the total.
6. Prior activity relates to the student's main activity at 1 October in the year before they started their first year of current formal study.

The 2007 and 2010 Tertiary Education Strategies both had a focus on people under 25 achieving qualifications, and the 2010 strategy also focused on enrolling students in tertiary education directly from school.

The highest school achievement of tertiary students varies significantly by subsector (Figure 3.14). At wānanga, the highest school achievement of more than half the students was NCEA level 1, School Certificate, or lower. The highest school achievement of almost two-thirds of university students was NCEA level 3, Bursary, or higher.

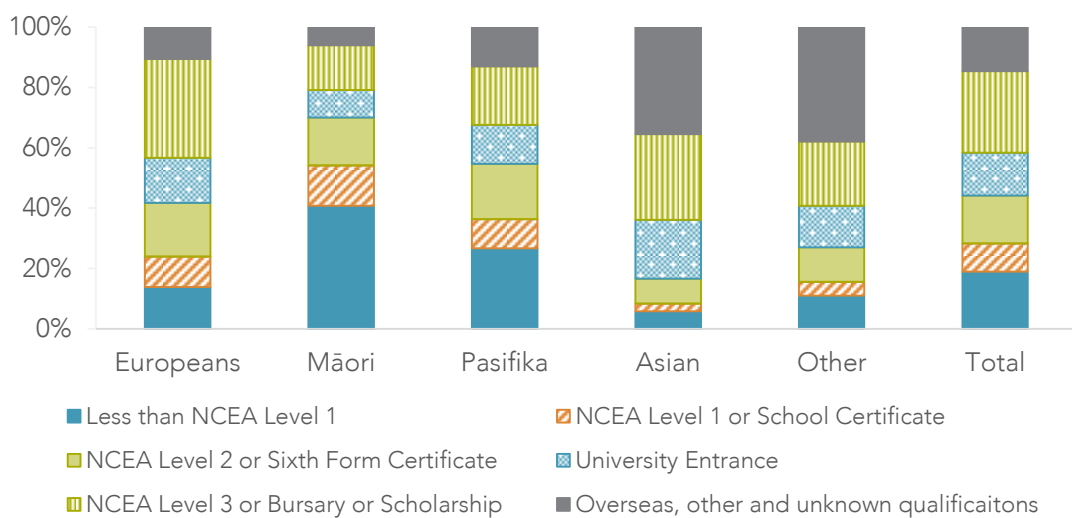
The highest level of school achievement of domestic tertiary students also varies significantly by their ethnicity (Figure 3.15). Students who identify as Māori are very likely to have NCEA level 1, School Certificate or lower as their highest school qualification. Almost a third of students who identify as European have a school qualification of NCEA level 3, Bursary or higher as their highest school qualification.

Figure 3.14 Highest school achievement of domestic tertiary students by subsector, 2015



Source: MoE, 2016a.

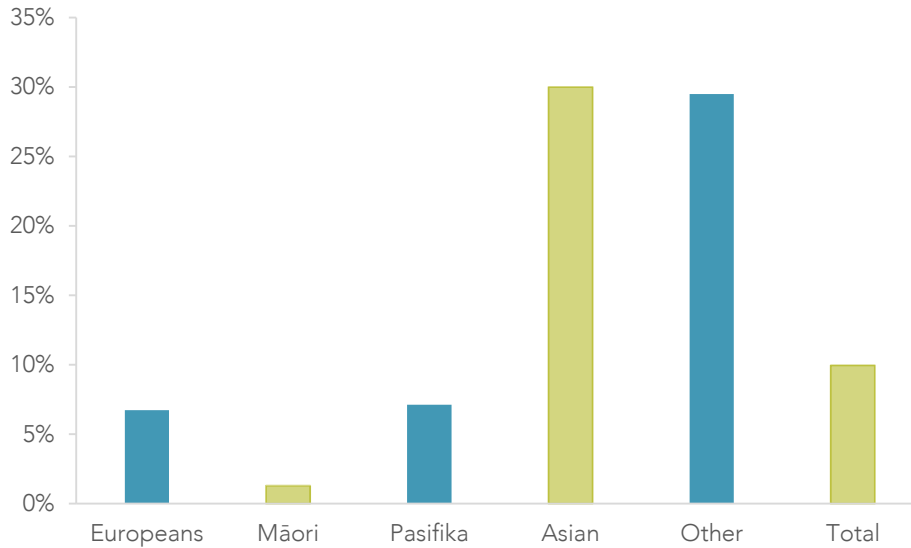
Figure 3.15 Highest school achievement of domestic tertiary students by ethnicity, 2015



Source: MoE, 2016a.

In 2014, 10% of domestic students' highest school qualification was from overseas¹² and, for domestic students of Asian or other ethnicity, as many as 30% had an overseas school qualification (Figure 3.16). Even putting aside international fee-paying students, New Zealand's domestic student population is ethnically diverse. Immigration settings are likely to play a role here. Unlike international students, domestic students face no English language proficiency requirements.

Figure 3.16 Domestic students who gained highest school qualification overseas, by ethnicity, 2015

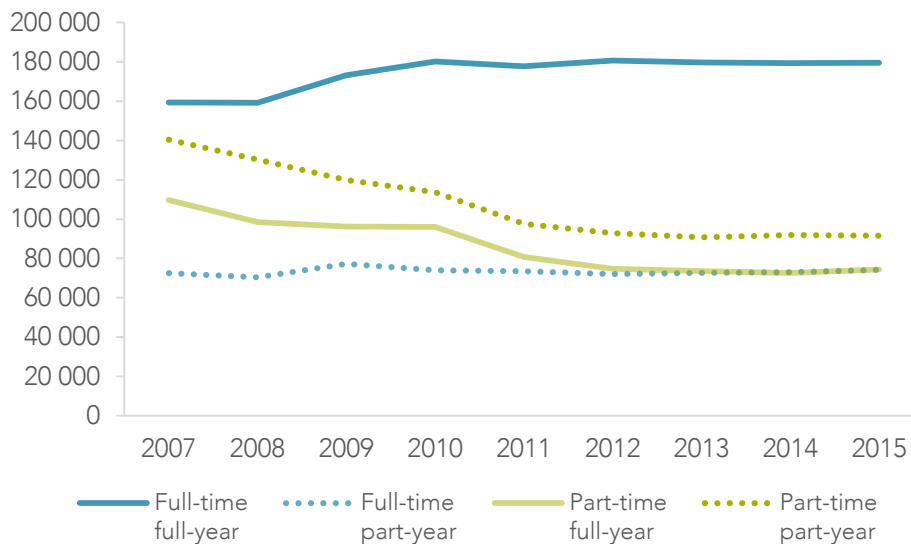


Source: MoE, 2016a.

What type of study?

Enrolments in part-time study have been declining since 2007 (Figure 3.17).

Figure 3.17 Students by study type, 2007–15

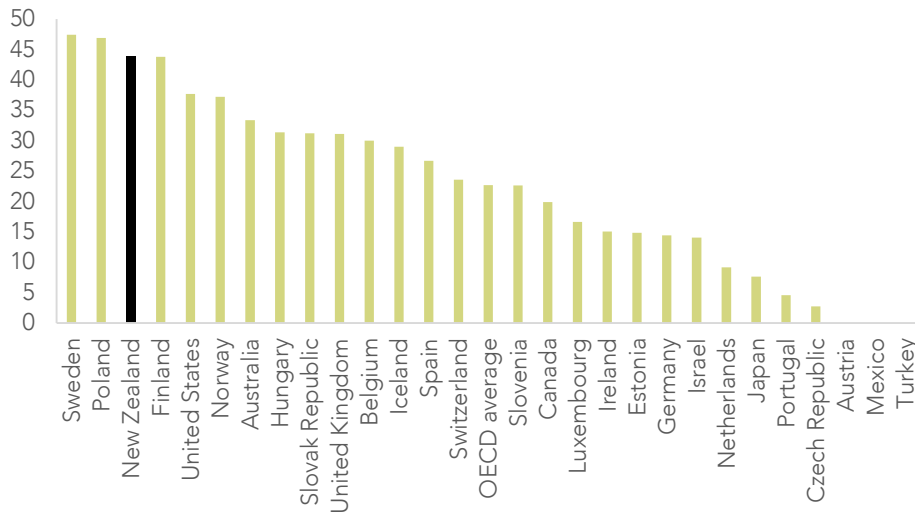


Source: MoE, 2016a.

Despite the relative decline in part-time study, New Zealand still has among the highest rates of part-time study in the OECD (Figure 3.17). For every provider type, more than half of enrolments come from full-time study, either full-year or part-year, and more than half of their EFTS come from full-time, full-year study (Figure 3.18).

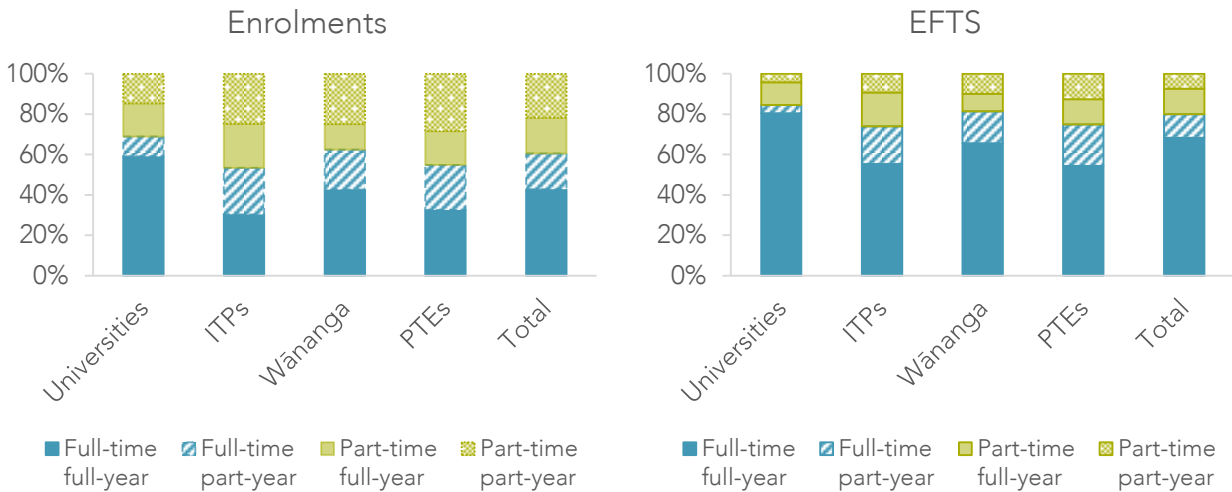
¹² This includes students who studied at school overseas, as well as students who achieved an overseas qualification (such as Cambridge or International Baccalaureate) in New Zealand.

Figure 3.18 Percentage of tertiary students studying part-time in OECD countries, 2013



Source: OECD, 2015.

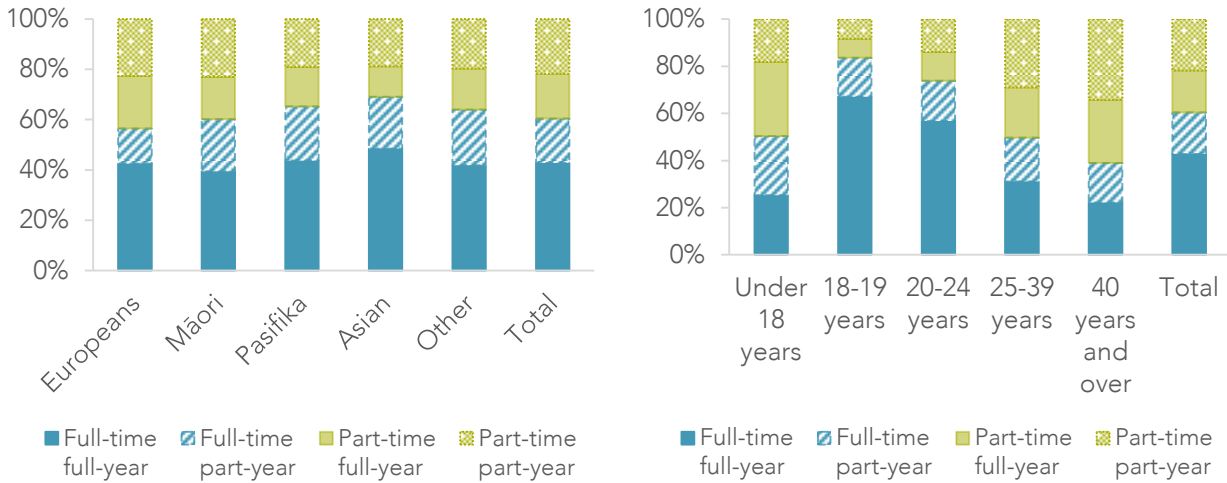
Figure 3.19 Enrolments and EFTS by study type and subsector, 2015



Source: MoE, 2016a.

Study type does not vary much by ethnicity, although students who identify as European are slightly less likely to be enrolled in full-time, part-year study, and slightly more likely to be enrolled in part-time, full-year study. Study type shows no significant differences by gender. As might be expected, study type varies significantly with age, although full-time study comprises a large share of enrolments at all ages (Figure 3.20).

Figure 3.20 Enrolments by study type, ethnicity and age, 2015

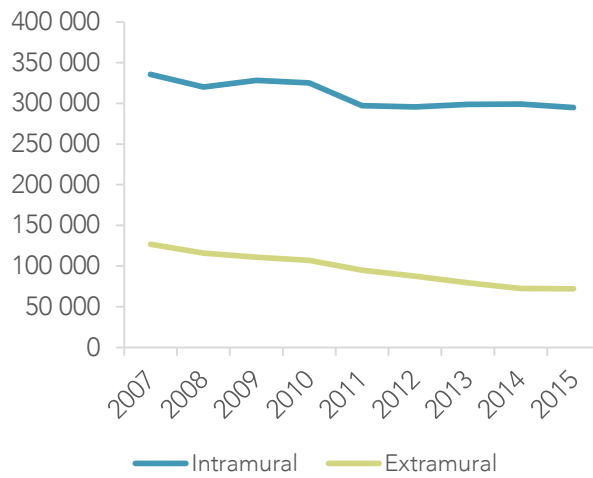


Source: MoE, 2016a.

Generally, New Zealand students can leave school when they turn 16. A range of secondary-tertiary partnership schemes provide for part-time study at school and part-time study at a tertiary institution.

Despite technological innovations in distance education, the number of students studying extramurally has declined continuously since 2007, with more than 40% fewer extramural student enrolments in 2015 than in 2007 (Figure 3.21).

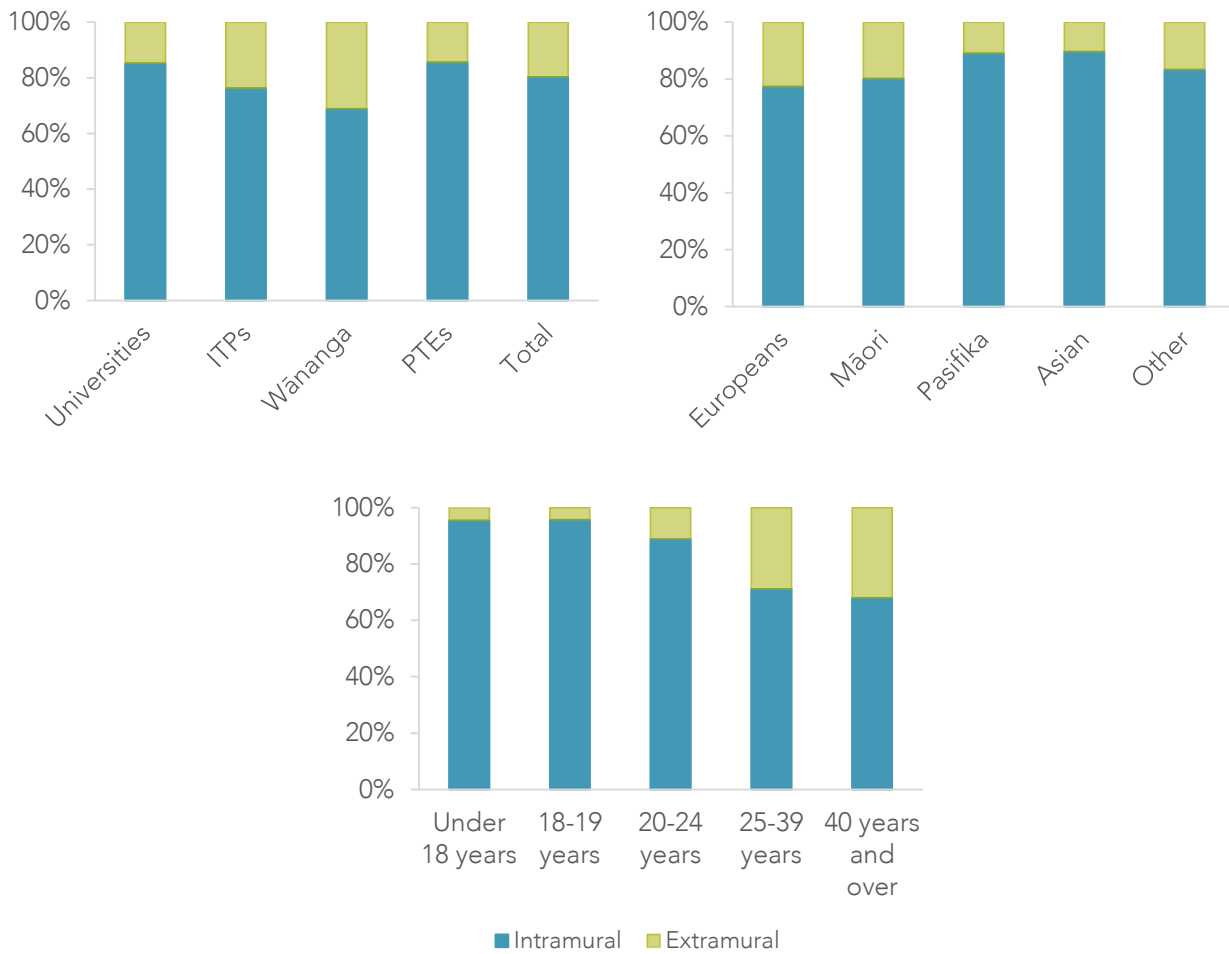
Figure 3.21 Domestic enrolments by attendance status, 2007–15



Source: MoE, 2016a.

Students enrolled at a wānanga are more likely to study extramurally, and European and Māori students are slightly more likely to study extramurally. The likelihood of students studying extramurally increases with age (Figure 3.22).

Figure 3.22 Attendance status of domestic enrolments by subsector, ethnicity and age, 2015



Source: MoE, 2016a.

Much extramural study occurs at the certificate and diploma level. Depending on the mode of delivery, completion rates in extramural study can be higher than those in intramural study for students aged over 40, students with non-working backgrounds, students at wānanga, students taking Agriculture, Environmental and Related Studies, and students in Mixed Field Programmes (MoE, 2014).

Over the last decade, students have become slightly less traditional in some respects. Female participation in tertiary education has increased notably, as has the proportion of Pasifika students. On average, however, it is clear students in New Zealand have become more likely in recent years to be engaged in a “traditional” conception of tertiary education. The average student is becoming younger; the share of full-year, full-time study is increasing; and the share of intramural (on-campus) study is increasing.

In a profile, Tony Angelo, long-serving Professor at Victoria University of Wellington’s Faculty of Law, commented on the way the university had changed over time:

When I studied, the first-year classes were 50 or 60 people. The library that the Faculty of Law used was a small room on the first floor of the Hunter Building, and on today’s standards there was hardly anything in it.

In those days, the majority of students were part-timers. Classes tended to be before 10am and after 4pm, so they would come from their office job and the academics would come from the courts. (“From “chalk and talk””, 2016)

The type of study undertaken by Professor Angelo has largely disappeared in New Zealand.

F3.4

The tertiary education system is increasingly oriented towards full-time study, towards younger students (under 25 years) and away from extramural study.

Why study at a university?

Some 146 000 domestic students were enrolled at New Zealand universities in 2015, representing about 4% of the population. Universities took most of their students directly from school and, unsurprisingly, the vast majority of their learners achieved at least NCEA level 2 (or Sixth Form Certificate) at school.

Many young people now view university as the default pathway for those able to enrol there. This is reinforced by the messages young people receive from diverse sources. This view is also supported by the existence of the University Entrance qualification; for those who attain it, the strong implication is that the place for the young person is in a university.

“Generally you are told you need a tertiary qualification to get a job. But this is very general. Lots of my friends go to university because they’re told they should, do a BA and then struggle to find a job. We need to be teaching students the right skills and give them good career advice at high school.” (Student quoted in Victoria University Wellington Students’ Association, sub. 80, p. 10)

Universities New Zealand says that universities here “have some of the best graduate outcomes in the world” (sub. 17, p. 8), with 97–98% of graduates being in employment three years after graduating. The Commission has not been able to substantiate this percentage but, by itself, this does not mean the skills acquired by graduates are being well-used (skills matching is described further in Chapter 4). Universities New Zealand says that, all things being equal,

students prefer and are more successful when studying in a campus environment where their learning is supported by others and where they have access to libraries, laboratories, workshops and a range of social and recreational opportunities that facilitate wider personal growth. (sub. 17, p. 12)

Universities New Zealand says that the value students place on the wider academic and social environment means they “generally regard gaining knowledge and skills as only one part of the value proposition of a university education” (sub. 17, p. 27).

For example, universities also provide opportunities for students to network with each other and sometimes with industry representatives, and to form relationships that will be useful to them in later life, especially in business. This can include international connections through studying alongside international students and/or spending time studying overseas.

Some university students value university as a coming-of-age experience or “rite of passage” between leaving school and entering the workforce. This is often supported by auxiliary services provided by the university, such as student accommodation and campus activities. The University of Otago notes that one of the valued dimensions of the University is

[t]he transformative effect that living and studying at a residential university has on Otago’s students as they progress through study and emerge as well-rounded, confident and independent work-ready graduates. (sub. 37, p. 6)

Other submitters take a different view on the value of campus life. Nichols comments that, with respect to learning,

[t]here is no substitute for real-world experience, as opposed to the rarefied on-campus setting. Perhaps the rite-of-passage idol is part of the problem. (sub. 6, p. 9)

Ed. Collective comments that “the days when students spent the bulk of their time on campus are already behind us”, as the student body becomes more diverse, and students increasingly juggle study with work and family commitments (sub. 89, p. 43).

Professor Kerry Shepherd, who researches higher education policy and practice, argues the value proposition offered to prospective students in respect of the knowledge and skills they might gain is opaque:

The logic is clear. Higher education promises all sorts of benefits to learners (in particular for employment and lifetime earnings) and to employers, essentially on the basis of the improved skills that graduates will have. But higher education has been unable or unwilling to identify what these skills are, other than in the form of elaborate wish-lists, or to employ quality-assured processes that will identify

who has these skills and who does not. Rather the message that comes from higher education is “trust us and trust our reputation”. ... The inability or unwillingness of higher education to engage in an evidence-based research-exploration of gradueness leads many to assume that it is scared to look under this particular carpet. (sub. 16, p. 4)

Professor Shepherd suggests alternative online private providers will emerge that are able to emulate this “trust and reputation” model, without three or more years of institutional study.

Why study at a wānanga?

Some 37 000 domestic students were enrolled in wānanga in 2015, representing about 1% of the population. Students at wānanga are predominantly Māori, though many identify with European, Pasifika and Asian ethnicities. The majority (about 70%) are women. Most learners at wānanga had poor achievement at school, achieving no more than NCEA level 1 (or School Certificate). Few learners come to wānanga from school; most have most recently been employed, while a smaller proportion have most recently been unemployed or engaged in other tertiary study. Students at wānanga are more likely to study extramurally than students in other subsectors, but the majority of enrolments are still classified as intramural. Students at wānanga are significantly older than students in other subsectors, with the majority aged over 40. Contrary to some perceptions, a majority of wānanga students study full-time, either in full-year (44% of enrolments) or part-year (18% of enrolments) programmes.

The Tertiary Education Union (TEU) submitted:

The emergence and continued growth of wānanga in the tertiary education sector provides a defined space where mātauranga Māori can flourish in a setting determined by āhuetanga Māori and tikanga Māori. Wānanga have made a substantial contribution to improvements in educational outcomes for Māori in the sector, but equally importantly to social and cultural wellbeing indicators that underpin productivity for wellbeing. (sub. 83, p. 12)

The Education Act 1989 says:

[A] wananga is characterised by teaching and research that maintains, advances, and disseminates knowledge and develops intellectual independence, and assists the application of knowledge regarding ahuetanga Maori (Maori tradition) according to tikanga Maori (Maori custom). (s 162(4)(b)(iv))

In a report into the economic contribution of wānanga, BERL said:

People choose to study in a Wānanga learning environment to enhance their skills and productivity, to improve their current and future job and career prospects; to increase their earning potential and to increase their knowledge about things Māori. Each of these factors impacts on the individual, their whanau and the community they live in. They also lead to economic growth, which in turn contributes to higher living standards.

However, economic benefits are not the only driver behind investment in skills, education and training. People also choose to study in a Wānanga learning environment because this sector is focused on inter-generational, marae-centred learning, and te reo Māori and mātauranga Māori are central tenets of the activities of Wānanga. (2014, p. 5)

TEC says that “New Zealand’s three wānanga provide quality education using Māori ways of teaching and learning; contributing towards the survival and well-being of Māori as a people. Wānanga also have a continuing role to play in re-engaging learners into education” (2015).

Why study at an institute of technology or polytechnic?

Some 130 000 domestic students were enrolled at ITPs in 2015, representing about 3.6% of the population. Students at an ITP are generally older than students at university, but younger than those at wānanga. The majority of students were most recently employed, though a significant number also entered from school. ITPs have a larger proportion of part-time students, and a smaller proportion of full-time, full-year students, than wānanga or universities.

Unlike Universities whose major source of students is school-leavers, ITPs source over 50% on average from already-employed or mid-career adults seeking to upskill or retrain in the course of their working lives. Very many enrol part-time so they are continually framing their study purpose in the context of their industry’s or profession’s requirements. (NZITP & Metro Group, sub. 42, p. 3)

In 2014, some 1 730 students were in Managed Apprenticeships, which are administered by ITPs with little involvement by industry training organisations (ITOs). This was a large increase from the number of learners between 2010 and 2013, driven by increased enrolments in building trades qualifications in Christchurch (MoE, 2015a).

Like providers of vocational education in other countries, study at an ITP is distinctive because the learning is contextualised in work. In their submission, NZITP and Metro Group emphasised that ITPs “offer an extensive and wide ranging provision from foundation to post graduate level study” (sub. 42, p. 13). Wellington Institute of Technology (WelTec) and Whitireia Community Polytechnic (Whitireia) submitted that study at an ITP, and vocational education generally, has the potential to transform the lives of many groups of people including those:

- for whom an applied and industry-infused programme of study that has the direct link to employment, or the aspiration to run their own business is their dream;
- for whom an applied postgraduate programme provides them greater career and career progression options;
- who are simply great at creating things, whether that be performance, jewellery, or robotics;
- who are good at developing and innovating systems/products/constructing and deconstructing, and in doing so sometimes create that bright new idea that improves productivity and efficiency, or leads to something new;
- who want the next job opportunity and are looking to upskill;
- who are sitting in our prisons and at some point will be released;
- for whom compulsory education was not a success; and
- who are young sitting on their couches at home, disengaged and disaffected. (sub. 59, p. 26)

Why participate in industry training?

Industry training is the delivery of work-related learning to employees, often in work settings. ITOs are not providers of education, but they do arrange industry training through other providers. Three types of industry training are noted below.

- Traineeships are industry training programmes that do not meet the New Zealand Apprenticeships criteria. This is the majority of industry training, often comprising “short-burst, just-in-time skills acquisition training” (MoE, 2015a, p. 5).
- New Zealand Apprenticeships, Industry Training Apprenticeships, and Modern Apprenticeships (the latter of which is being phased out) lead to qualifications on at least level 3 and, from 2018, at least level 4 on the NZQF.
- Managed Apprenticeships are administered by ITPs, rather than ITOs, and attract student achievement component (SAC) funding. They are not considered in this section.

The number of workers in industry training increased through the 2000s, then declined steeply between 2010 and 2012, though it has since stabilised (Figure 3.23).

Figure 3.23 Participants in industry training, 2001–14



Source: MoE, 2016a.

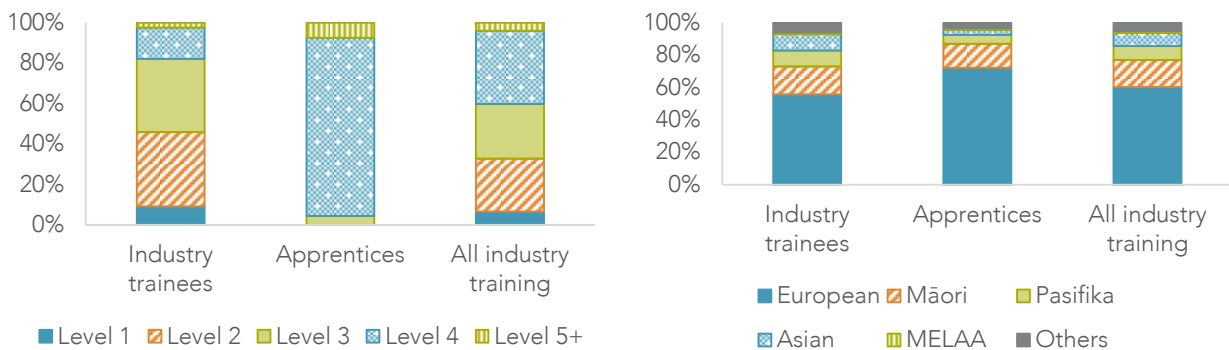
Notes:

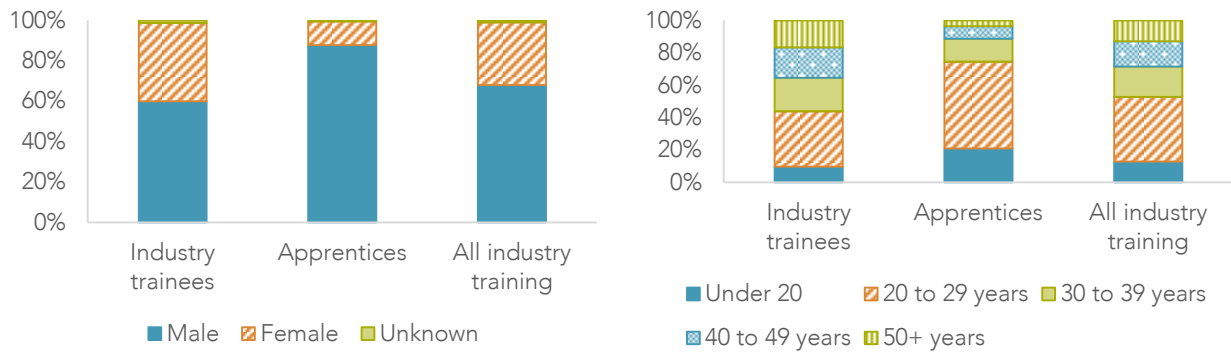
1. These definitions of industry trainees and apprentices differs from those used by TEC
2. Data are counts of trainees, regardless of whether their activity was funded by TEC in the year shown.

The decline in industry trainees from 2009 is because of operational and compliance reviews that found significant performance and enrolment issues in ITOs. Some 53% of trainees enrolled in 2008 (96 831 trainees) and 54% of trainees enrolled in 2009 (100 801 trainees) achieved no credits at all; some 44 400 people were enrolled in both years without achieving any credits (Joyce, 2011).

Almost all industry training occurs at level 2, 3 or 4 on the NZQF, with almost all apprenticeships being study towards level 4 (as required by the new New Zealand Apprenticeships pathway). Apprentices are slightly more likely to be European than other industry trainees, and industry trainees are predominantly male, particularly apprentices. Despite New Zealand Apprenticeships recently opening up the apprenticeship pathway to all ages, most apprentices are still aged under 30. More than half of non-apprenticeship industry trainees are aged 30 or over (Figure 3.24).

Figure 3.24 Industry trainees by level of study, ethnicity, gender and age, 2014





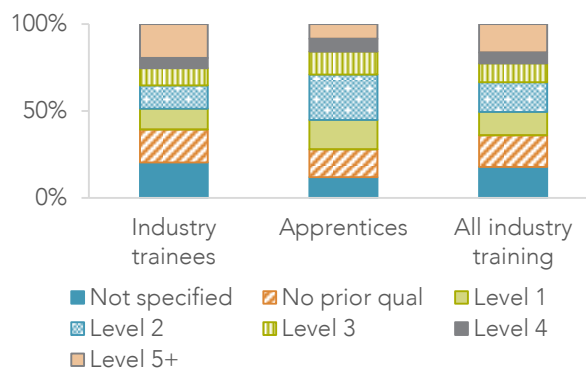
Source: MoE, 2016a.

Notes:

1. Industry Trainees are defined as non-apprentice industry training learners. They are industry trainees whose programme does not meet the New Zealand Apprenticeship criteria.
2. This graph shows counts of trainees during the calendar year.
3. Trainees participating with multiple ITOs are counted just once.
4. Ethnic group is a multiple response value. People can be counted in multiple ethnic group categories. Summing the categories will give a higher number than the total number of people, and summing the percentages calculated from them will often give a percentage greater than 100%.
5. MELAA is Middle Eastern, Latin American and African ethnic groups.
6. Age is at 30 June in the given year.
7. NZQF level is the highest level the trainee was active in in each year.

Industry trainees have a range of prior education experience (Figure 3.25). Apprentices are slightly more likely to already have a level 2 or 3 qualification than other industry trainees; but a large number of non-apprenticeship industry trainees already have a qualification at level 5 or above, and are presumably seeking to fill particular skill gaps.

Figure 3.25 Industry trainees by previous qualification, 2014



Source: MoE, 2016a.

Notes:

1. Industry Trainees are defined as non-apprentice industry training learners. They are industry trainees whose programme does not meet the New Zealand Apprenticeship criteria.
2. This graph shows counts of trainees during the calendar year.
3. Trainees participating with multiple ITOs are counted just once.
4. The previous highest qualification is at the time the trainee enters their training.

The Industry Training Federation submitted that:

increasing numbers of people are seeking out work-based learning options, such as apprenticeships, either because they wish to secure a future in industries which traditionally use this model, or because it provides a way to up-skill the existing workforce throughout the lifetime of a career without having to leave their job, lose income, spend money, and potentially attract debt. (sub. DR160, pp. 1–2)

Why study at a private training establishment?

Some 57 000 domestic students were enrolled at a PTE in 2015, representing about 1.6% of the population. The profile of PTE students is diverse. Students are more likely to be under 18, and under 20, than for any other subsector, but many people from older age groups study at a PTE as well. PTEs have relatively high participation by Māori and Pasifika learners. PTEs have the highest rates of intramural study among subsectors, and students are less likely to study full-time, full-year than students in other subsectors.

The majority of PTE students were most recently in the labour market (employed or unemployed). Almost half of the students' highest school achievement was no higher than NCEA level 1 (or School Certificate).

The largest area of delivery for PTEs has been in levels 3–6; but, since competitive funding was introduced for level 1 and level 2 Certificates, participation at this level of study through PTEs has increased.

PTEs are diverse and tend to operate in niche areas of provision, so it is difficult to generalise about why students study there.

Why study in community education?

ACE Aotearoa pointed to the diversity of people who study through the Adult and Community Education (ACE) sector:

Those who have had a lack of success in their school education experience a burden of guilt and shame with at times total disengagement and feelings of hopelessness about trying again – they may not have learned relevant subject matter but they have learned they are “no good at learning” or “Dumb”. Part of the ACE sector (often taxpayer funded) is focused on helping those learners regain their confidence, and reach their potential as contributing adults. Most of the ACE Sector (user pays) is focused on enriching courses for successful, curious and high achieving adults (who experienced success in their school education) who wish to continue to grow, contribute and have satisfying lives and have the financial capacity to action this option for themselves. (sub. 32, p. 1)

Like other submitters, the ACE Strategic Alliance and Methodist Mission Southern stressed the poor learning skills of many ACE learners:

ACE learners generally have a low base from which to start tertiary education often due to not having the appropriate skills to learn (organise learning materials for future use) or those who have had damaging experiences in the compulsory school system ... Learning how to think, how to learn and how to collaborate are key focuses for ACE. (ACE Strategic Alliance, sub. 34, p. 2)

...in Foundation Education it is clear that most students are still developing the skillset required for informed choice: that of developing a frame of reference, understanding and legitimising their own needs and motivations. (Methodist Mission Southern, sub. 5, p. 2)

SeniorNet Wellington said older people wanted to learn new skills for a range of reasons (including to play a meaningful role in the community, and to maintain independence), but acquiring a qualification was not a priority for older people (sub. 11).

3.2 Who does not study in New Zealand?

Young people entering the workforce

Not much information is available about school leavers that do not progress to any form of tertiary education, unless they are not in employment, education or training (NEET):

There is a great deal of data available on students and the tertiary system, but it is focused on those already in the system and what they have achieved. What it does not tell us is what the gaps are, and why they exist. The exception to this is the work on NEET (young people not in employment, education or training), where government has put in considerable policy and resource effort to address the issues for this group. However, once on an employment track, these people disappear from view and little is known about whether a gap remains between their achievement and their potential. Joining up the data that exists across the government system would help show the gaps that exist, and suggest effective policy responses – government is already doing this for its social investment approach in the health, social welfare and justice sectors. (New Zealand Federation of Graduate Women, sub. 47, p. 4)

Young people who are not in employment, education or training

Most young people are NEET at some point. One paper finds only 24% of people are not NEET at some point between ages 16 and 22 (Dixon, 2013). But while 23% are only NEET for one short-term spell (up to five months), 25% experience multiple short-term spells, and 28% experience at least one long-term spell of six months or longer.

Dixon found that Māori youth were more likely to be long-term NEET than Europeans, and that long-term NEET status was also associated with: living in a neighbourhood with a high New Zealand Index of Deprivation, living in a rental property, living with a non-working parent, leaving school without a qualification or with a level 1 qualification, and becoming a parent at ages 16 to 18.

However, Dixon found that around two-thirds of young people who had long-term NEET spells enrolled in some education or training before age 20, and half worked for a year or more before that age.

A study by Earle (2016) of the 1991 birth cohort found those who had only studied in levels 1–3 certificates by age 22 had the same incidence of being NEET during the year at age 22 than those who had undertaken no tertiary study.

Young people who choose to study abroad

There is some evidence that an increasing number of young New Zealanders are choosing to study abroad, supported by scholarships from foreign universities. According to the OECD around 2% of New Zealand tertiary students study abroad. Some 47% of New Zealanders who study abroad do so in Australia, with 19% in the United States and 16% in the United Kingdom (OECD, 2016a).

Universities New Zealand submitted that universities from Australia and the United States “are now actively recruiting top students from within New Zealand and this is only likely to grow” (sub. 17, p. 85). The US Embassy runs a yearly expo in Auckland and Wellington promoting US providers to New Zealand students. Inquiry participants told the Commission scholarships to overseas universities were increasingly available to New Zealanders. Indeed, one elite Australian university said it made conditional offers to top New Zealand students before NCEA results were reported, stealing a march on New Zealand universities that tended to wait for results. The Commission was told of one New Zealand school where as many as 19 of the top 20 students in 2015 had left the country to study overseas.

Older people in various situations

Fewer older people are undertaking tertiary education over recent years. A range of drivers for this is likely. These include a reduction in student support for older students, and the removal of “phantom trainees” from the industry training system. It is also clear that government has asked the tertiary sector to focus provision on younger students, and school leavers in particular. The effect of this government priority, coupled with the quota system for funded student places and increased emphasis on completions, is that fewer older people are participating in tertiary education.

New Zealand does have high rates of participation in “non-formal” education¹³ compared to other OECD countries by one measure. The Survey of Adult Skills (PIAAC) found that 64% of New Zealand respondents reported participating in non-formal education in the previous 12 months, compared to an OECD average of 46% – the highest among participating countries. However, the number of hours New Zealanders spend on non-formal learning is at or below the OECD average (OECD, 2016a). Other OECD data shows New Zealand has high rates of participation in online courses (which are likely to be classified as non-formal learning) among internet users, behind only Korea, Canada and Finland (OECD, 2016b). More discussion on workplace learning is found in Chapter 4.

¹³ The OECD defines non-formal education as “institutionalised, intentional and organised learning that is not formally recognised. It can include for example, online or distance courses, organised on-the-job training, seminars or workshops, or other non-formally recognised courses”.

3.3 Decisions and transitions into tertiary education

Many submitters to the inquiry pointed to problematic transitions for young people from school into tertiary education. The Commission was told collaboration between secondary schools and tertiary institutions was limited:

Transitions from compulsory to post-compulsory education need better ownership, funding support, strategies and capability. The lessons from successful initiatives such as the Auckland Starpath Project should be taken up nationally and the traditional guidance counselling and careers planning functions in schools should be replaced by nationally supported academic and vocational pathway planning functions. (UNZ, sub. 17, p. 14)

Such concerns are not new. A report from the age-16 stage of the longitudinal Competent Children, Competent Learners project (Vaughan, 2008) looked at the aspirations and concerns of young people for their future study and career. The project commented on two issues arising from the study:

The first is that while young people are required to make decisions about an ever-increasing range of in-school courses and post-school possibilities, they receive no real preparation for doing this well. Schools – the major site of school to work transition preparation for most young people – are not yet in step with many knowledge society shifts that have affected labour markets, skills demands, employer-worker relationships, and the very nature of “career”. The second issue is that those in-school and post-school possibilities for young people continue to be structured by family and background experiences and resources, and by school experiences and in-school learning systems. Yet the “pathways framework” and its underpinning invocation of “Choice for all” means our understanding of young people’s transition from school implicitly sidesteps any recognition of the structural constraints around those choices. The danger is that we may miss patterns of inequality, misreading them for individual failure to make a good transition. (p. 2)

Tertiary providers submitted that the funding arrangements for secondary-tertiary programmes acted as a barrier to students moving to study at the tertiary settings that may better provide for their needs:

The secondary-tertiary interface is a complicated one and current conflicting policy settings do not help with certainty and smoothness in this space. While we all appreciate a learner cannot be funded twice for the same hours of contact – both through compulsory education funding and tertiary funding – it does make it hard for schools making choices to release students to the tertiary provider and potentially lose funding as a result. (WelTec & Whitireia, sub. 59, p. 14)

Pathways and transitions and the link to compulsory education are not yet a coherent set of policies operating at a level that is best for the learner. Compulsory sector partners [schools] feel the cost of learners transitioning to the tertiary sector earlier than “normal” even though the outcome for the learner is often better. A transitions funding model that is linked to student outcomes and carries no penalty for the “releasing” educator is required. (Manukau Institute of Technology, sub. 67, p. 3)

How does school prepare students for tertiary study?

A number of submitters pointed to growing problems with schools in preparing students for, and providing a clear pathway to further study:

University Entrance through NCEA does not sufficiently prepare students to be independent learners. (Faculty of Arts, University of Canterbury, sub. 35, p. 5)

Other submitters pointed to poor preparation by schools in particular subject areas. One professor expressed particular concern about the quality of mathematics teaching in schools, submitting that “[t]ertiary education, no matter how configured, cannot overcome insurmountable obstacles left for it by an inadequate secondary system” (Shepherd, sub. 16, p. 7). Unitec Department of Civil Engineering submitted that:

[t]he importance of ... preparing high school students in communication English, mathematics and the general sciences (particularly physics – anecdotally we have learned that some high schools do not even offer this subject) cannot be overemphasized and is something that the E2E [engineering education to employment] and other initiatives are well aware of and seem to be addressing. (sub. 76, pp. 6–7)

The E2E initiative is discussed further in Chapter 11.

Many other submitters told the Commission in engagement meetings that increasing pressure on schools to meet government NCEA level 2 targets was resulting in students collecting standards that did not provide a coherent qualification that would enable participation in tertiary study. The Commission heard of the surprise and anguish many young people and their parents experience when they find that a school qualification they achieved does not contain the prerequisites to enrol in their desired field of tertiary study.

[T]he NCEA Level 2 target is encouraging secondary schools to direct students into courses of study where they are most likely to pass and achieve NCEA Level 2, rather than directing students into programmes of study that will more adequately prepare them for success in tertiary education and leave options open for study at university. (University of Waikato, sub. 93, p. 4)

University Entrance

Section 247 of the Education Act 1989 requires the New Zealand Qualifications Authority (NZQA), in consultation with universities, to establish criteria a student must meet to gain entrance to a university if under the age of 20. These criteria includes setting the standard known as University Entrance. The University Entrance criteria currently comprises a package of credits at NCEA level 3, including a minimum number of credits in literacy, numeracy, and various “approved subjects”.

Several submitters commented that the University Entrance qualification had little relevance for the type of students who should be eligible for study at university:

The long-standing notion of setting a University Entrance standard may not be assisting student choice. The entry requirement for a student to have a “reasonable chance of success” is not uniform across all university degrees. Furthermore, to have a reasonable chance of success in many Level 7 ITP qualifications, the student at entry should have reached the University Entrance standard. It may be that the concept of a standardised University Entrance is now outdated. Moreover, gaining it may be interpreted as a signal that the student should enrol in university, even when their academic record suggests that they would have a higher likelihood of success enrolling in a vocational qualification at an ITP. (Royal Society, sub. 41, p. 5)

The University of Auckland has “selective entry for all programmes, with undergraduate entry standards for all programmes that are significantly above minimum University Entrance (UE) requirements” (sub. 85, p. 1). Conversely, the University of Waikato considered that University Entrance arbitrarily restricted access to university for students who might benefit:

The requirement that all students achieve University Entrance as it is currently defined also represents both a minimum quality mechanism and a barrier to competition. Given the potential for students to acquire knowledge and skills as part of their degree, it is not clear why particular sets of knowledge and skills should be imposed on entrance to all universities and all degree programmes in universities. Neither is it clear why an arbitrary standard of readiness for university study would be used instead of an assessment of who would benefit from tertiary study. The TEC has the power to constrain universities from taking students with lower academic results from Year 13 (if it thought this was a bad thing) by constraints on the number of funded places. So it is not clear why universities cannot be left to set their own entrance standards and be judged on their ability to bring those students up to the level required for degree completion. (University of Waikato, sub. 93, p. 5)

University Entrance holds little or no value, and may do harm.

1. Despite the name, attaining University Entrance does not guarantee a student entrance to university study. Each university is free to institute additional requirements for entrance to particular courses, and they all do so for some or all of their courses. The University of Otago submitted that students should consider University Entrance to be the standard necessary to be considered for enrolment in a university (sub. DR130).
2. Conversely, not having University Entrance does not prohibit access to universities. Each university has alternative admission pathways for promising students who lack University Entrance (in addition to the statutory provision¹⁴ that guarantees access at age 20). Students who fail to achieve a University Entrance qualification at school may be unaware of this, and be dissuaded from applying to study at university.

¹⁴ See s 224 of the Education Act 1989.

3. Students seeking University Entrance need to accumulate a certain number of credits in “approved subjects” nominated by the universities. The Commission heard that senior secondary teachers, in order to make sure students earn enough credits in a particular “subject”, tend to arrange NCEA delivery into traditional subject clusters (eg, English or biology). This means they do not take advantage of the intended flexibility of NCEA to teach and assess learning from multiple disciplines within a single project or theme (eg, teaching elements of maths, physics, design, carpentry and art, via a single project to design a skateboard).
4. The statutory provision for entrance requirements for universities, but not for other tertiary provider types, reinforces the traditional view that university education is better, and has higher standards, than other types of education.

How do students make decisions?

Education is sometimes described in economic literature as an *experience* or *credence* good (Chapter 2). Essentially, this means that students cannot accurately judge the quality of the education they are choosing until they are already undertaking it, until it is finished, or perhaps ever. Methodist Mission Southern emphasised the inability of prospective students to undertake such quality judgements when making decisions about tertiary education:

If education is the one transformative good – a position the Mission strongly endorses – then axiomatically, the very nature of learning is that students can only fully understand the costs and benefits of attending any particular course via any particular provider once the experience has been completed. (sub. 5, p. 2)

Although now more than a decade old, Leach and Zepke’s 2005 literature review *Student decision-making by prospective tertiary students* still provides rich evidence on how individuals make decisions about entering tertiary education (Box 3.2).

Box 3.2 Decision making by prospective tertiary students

Leach and Zepke (2005) systematically reviewed the literature on decision making by prospective tertiary students, and identified 13 findings.

1. *Decision making is a complex process.* Transitions from school to tertiary education are complex, with numerous studies identifying varied influences on decision making. Personal experiences, interests, aspirations, academic achievement and psychological variables interplay with family, socioeconomic and cultural influences.
2. *Decision making can be modelled,* and the authors adopt a working model for decision making across three phases: *predisposition, search* and *choice* phases.

Decisions	Factors	Information	Diversity
Predisposition	<ul style="list-style-type: none"> • Socioeconomic status • Parental disposition • Self-belief in ability • School 	<ul style="list-style-type: none"> • Family experience 	<ul style="list-style-type: none"> • Socioeconomic status • Gender predispositions • Cultural habitus
Search	<ul style="list-style-type: none"> • Career outlook/aspirations • Academic achievement • Subject area interest • Institutional profile (location, courses offered, reputation/image) 	<ul style="list-style-type: none"> • Information networks • Interpersonal information (school, home, peers) • Contact with tertiary providers (taster courses, involving parents, brochures) 	<ul style="list-style-type: none"> • Different aspirations • Minorities (have community orientation, job often more important) • Gender differences

	<ul style="list-style-type: none"> • Costs and financial aid 		
Choice	<ul style="list-style-type: none"> • Right courses/degrees • Admission • Social fit 	<ul style="list-style-type: none"> • Communication with institution of choice (open days, information on needs) 	<ul style="list-style-type: none"> • Cultural differences • Gender differences • Age differences

3. *Decision making starts very early.* Studies consistently found the decision-making process starts much earlier than Years 11 and 12, likely as early as Year 7. One study of Year 10–12 students intending to go to university found they had made an initial decision two to three years earlier (James, 2000). So, early identification of a student's interests, strengths and skills is important (Boyd et al., 2001) and a student should be made aware of the ramifications of subject choices (Whitney & Neil, 1998).
4. *Socioeconomic status is a powerful factor and the strongest predictor of tertiary study.* School decile is strongly predictive of whether a student enters tertiary education and where they study (Choat, 1998). Maani (2000), using data from the 1977–1995 Christchurch Health & Development Surveys, found that the probability of attending university increases significantly with parental income decile, even while controlling for IQ and academic performance.
5. *Parents influence decisions,* which can have negative and positive effects on study decisions.
6. *Academic achievement is important,* with a number of studies finding that school achievement, when combined with social class background, reliably predicts choices about tertiary study.
7. *Subject area interest affects choice of and type of institution.* Interest in a subject area strongly influences people to choose one institution or type of tertiary education over another. An institution's reputation (but not prestige) was important, but research track record and international rankings were not considered important (James, 2001; Lilly et al., 2000).
8. *Full information on cost and financial support is necessary.* Where students and their families perceive high costs, and lack money or finance, they are less likely to participate in tertiary education. Where programmes are seen as affordable or good value for money, these become important factors in choice of institution. Many studies found that students and parents did not have a realistic perception of cost (Connor & Dewson, 2001). Offsetting this is knowledge of the availability of financial aid, which can affect dispositions to attend tertiary education from as early as Grade 9 [the equivalent of Year 10 in New Zealand] (Looker & Lowe, 2001).
9. *Schools can influence decisions.* Although the research in this area is weak, schools, teachers and career guidance staff can play an important role, particularly for "non-traditional students" and students from families with lower socioeconomic status (SES).
10. *Family experiences of tertiary education inform decisions.* Parental levels of education are influential at the predisposition stage, with the children of professionals and managers tending to assume they would attend university (Chalmers, 2001). Parents without education were less informed and participated less in planning for tertiary education, and their children had lower aspirations for study. "The more complex the system gets, the more "choices" are inserted, the more difficult it is for these working class parents to understand and move competently around the education system ... The implication is that working class families in the future are likely to depend more on the schools to get everything right for their children" (Connell, 2004, p. 238).
11. *The most effective information is interpersonal,* and mass information campaigns (including advertising) may not be very effective. Students are part of a "complex web of interpersonal information networks" where teachers, career advisors, parents, family, and friends all play a role.

12. *Information sharing between students, families, schools and tertiary providers is effective, and this is more effective as an ongoing exchange. Taster and foundation courses, visits and open days were effective, providing the focus was on information exchange rather than recruitment (Boyd & MacDowall, 2003).*
13. *Additional factors for “non-traditional” students makes their decision making even more complex. Research on the decision-making processes of Māori and Pasifika learners is limited, but a number of studies emphasised that, for many other ethnic groups studied, a key decision-making factor centred on the needs of the family and community. Students “at risk” were less likely to choose tertiary education. Where these students had friends already studying, had taken a foundation course, or had parental involvement in study decisions, they were more likely to enrol (Choy et al., 2000).*

Advice to prospective students

Many submitters to the inquiry were critical of the types of information, advice and guidance available to prospective tertiary students:

Information asymmetries are right across the system. The information and data on labour markets, education and training offerings, education and training quality and outcomes is spread across multiple websites, is difficult to navigate and is insufficient for key tertiary education actors, employers and students to make informed decisions. (BusinessNZ, sub. 77, p. 9)

NZQA submitted that Māori and Pasifika in particular were not well served:

[S]ome Māori and Pasifika parents and families are unaware of the different education pathways available. Information about tertiary pathways often occurs too late, when subject and programme choices have already been made. Some Māori and Pasifika learners are not provided with sufficient guidance and advice on clear pathways and may find themselves enrolled in low-level or foundation programmes. This limits the choice and access to preferred tertiary study. (NZQA, sub. 88, p. 3)

COMET Auckland submitted better advice could reduce “false starts” and save learners and government money:

Providing more information and advice for learners to help them choose a career direction (not a specific job) but broad pathway based on their values, strengths, and interests), and to use this to identify the most suitable course(s) to take. Effective advice, provided before and during the transition to tertiary, could reduce the number of learners swapping courses mid-stream, thus reducing cost to taxpayers and to students themselves. There are some key points where it would be useful for stakeholders to align: late primary school, year 10 and the senior higher school. (sub. 50, p. 5)

Universities New Zealand notes that work is underway to improve the information available to prospective students, but says that advice on this is

being developed in a largely uncoordinated and inefficient manner across at least five different agencies through at least eight different initiatives. ... From the perspective of the university sector, all of these initiatives have been implemented following a ministerial decision and all of them have significant methodological and operational flaws ... (sub. 17, pp. 14, 34)

Submissions from ITPs expressed concern that the advice and information given to young people was already too biased in favour of promoting university study:

It is unfortunate that in terms of the perceived pathway from secondary to tertiary, while the school to University route is well-marked and clearly understood by school and career advisers as well as by most families, school-based advisors in general regard the ITP as a destination for less able and successful leavers. This flavour has come through Ministry of Education communications and guidance as well. We acknowledge that the problem is widespread and that it will take input from all players to solve. (NZITP & Metro Group, sub. 42, p. 4)

School leavers are not always prepared for the possibilities that exist for them across the tertiary system. There is still a strong bias to university education, due in part no doubt to the fact that the secondary

school system is populated in the main by university graduates, and therefore new and different vocational opportunities are not presented to school leavers either through the vocational pathway programmes or in discussions about careers. This is not about our relationships with schools, nor the engagement they have with some of our programmes. Rather it is a wider societal lack of understanding about vocational education and the careers that lead from it. It is also about the alignment of compulsory education with that of tertiary education, and the preparedness of our school leavers to succeed within it. (WeITec & Whitireia, sub. 59, p. 14)

Similarly, the peak body for ITOs expressed concern that academic pathways were emphasised at the expense of vocational qualifications:

Careers advice tends to focus on higher level qualifications and the 'professions', reinforcing the parity of esteem issue between academic and vocational tertiary education. (Industry Training Federation, sub. 54, p. 6)

Careers services in schools

Schools are required to provide careers education. Specifically, they must

provide appropriate career education and guidance for all students in Year 7 and above, with a particular emphasis on specific career guidance for those students who have been identified by the school as being at risk of leaving school unprepared for the transition to the workplace or further education/training. (MoE, 2013a, NAG 1f)

In 2012, the Education Review Office (ERO) evaluated the provision of careers information, advice, guidance and education in secondary schools (Box 3.3).

Box 3.3 **ERO review of *Careers Information, Advice, Guidance and Education (CIAGE) in Secondary Schools***

ERO reviewed the provision of CIAGE in 44 secondary schools against MoE's *Career Education and Guidance in New Zealand Schools* (2009). ERO described the guidelines as setting out

a model of career education and guidance that emphasises the need for students to develop career management competencies. This represents a move away from career guidance based on vocational counsellors managing student exits from school and towards an approach in which students take more control of their lives. (ERO, 2012, p. 4)

ERO categorised the 44 schools reviewed into four approaches.

- **Whole-School Higher Quality** – four schools had innovative school-wide approaches to student futures. Through the integration of CIAGE, these [schools] regularly supported students to develop set goals, explore opportunities and make decisions.
- **Conventional Established** – 17 schools had careers departments that provided some opportunities for students in CIAGE. These initiatives were driven by the school's careers department and did not extend across the school's curriculum departments.
- **Conventional Developing** – 19 schools had limited opportunities for students to set goals, develop self-awareness, and explore opportunities. CIAGE systems and processes were also driven by the school's careers departments – although these schools had yet to develop the same level of organisation as the schools in the categories above.
- **Low quality** – four schools had low-quality CIAGE systems and processes typically focussed on Year 13 destinations and little else. CIAGE at these schools was typically characterised by leadership difficulties, either in the careers department or in the school's senior management. (ERO, 2012, p. 7)

ERO concluded that, although there were some positive factors,

it was evident that significant system-wide improvements in CIAGE will require schools to move from having efficient careers departments to having innovative school-wide systems and processes that are consistent with those developed by a small group of schools in this evaluation. This potentially represents a significant shift for schools and policy-makers, as it involves a broad range

of secondary school staff actively supporting students to develop career management competencies, and focussing on their futures. (ERO, 2012, p. 2)

Source: Education Review Office, 2012; Ministry of Education, 2009.

Similarly, an earlier longitudinal study (Vaughan, 2008) found nearly half of Year 11 and 12 students, when asked what activities were useful in thinking about their future career, were unable to evaluate the usefulness of “talking with teachers or careers advisors”, “visiting tertiary settings”, “careers expos” or “carrying out careers/life planning” because they had not undertaken such activity. Vaughan and Spiller describe “three persistent and long-standing problems: inequitable access, marginalisation and lack of fitness-for-purpose” (2012, p. v).

Provision for careers services in schools appears not to have substantially changed since the ERO report was released.

In its recent report ... ERO noted that the careers service needs to more actively support schools. PPTA [Post Primary Teachers’ Association] would point out that the formula for career guidance in schools hasn’t changed in more than 50 years. There is provision for only one allowance per school (\$1500) regardless of the number of students and they receive no guaranteed time to do the work. (PPTA, sub. 61, p. 8)

Yet providing careers education is important not just for the transition to tertiary education. Having an intention in junior secondary school to undertake post-school study makes a material difference to a student’s attitude to learning while still at school. Khoo and Ainley (2005) find this association to be important, irrespective of student background or academic aptitude.

The National Council of Women of New Zealand submitted that good career advice has the potential

to encourage girls to consider trades as a career option, and boys to consider roles in the caring and health sectors. The breaking down of gender segregation in different types of studies and subsequent employment is a necessary part of address the gender pay gap that is large in Aotearoa New Zealand. (sub. DR131, p. 2)

Chapter 2 discusses the importance of co-production to student success in tertiary education. Similar ideas are prominent in describing what good careers services in schools look like. Vaughan and Spiller write of the importance of emphasising not just the provision of information, but building career skills in young people:

It is clear that, while career information and career guidance are essential, *they [are] not sufficient* to support young people to deal with complex pathways and transitions. This is because individuals differ in their capacity to source information, to interpret it, to relate it to themselves and their circumstances, and to make meaningful decisions based on it. It is also because we do not have good systems in place to help young people develop those capabilities. ...

One of the most important aspects of a shift from career guidance to career management is the emphasis on individuals as playing an active role in their own development regarding work (and learning). (2012, pp. 1–2)

Other sources of information

Careers New Zealand (Careers NZ) is a Crown agent established under the Education Act 1989. Its functions, as described in s 280, are to:

- establish and maintain a database of information about occupations and about post-compulsory education and training;
- make information available to the public and to institutions, PTEs, students, and other interested bodies and people;
- provide training and assistance to people who advise about occupations, and career advice and associated counselling relating to post-compulsory education and training;

- liaise with, and monitor the needs of, institutions, PTEs, students and other bodies and people with respect to information, training, and advice relating to occupations, and career advice and associated counselling relating to post-compulsory education and training; and
- provide support services for the purpose of promoting transition education that prepares students for employment, or further education and training, or both.

Careers NZ does this through a number of activities. It works with and connects local schools, tertiary organisations, communities, employer and iwi groups in four “Career Capable Communities” to support the transition of young people to study and work, and to promote career skills. Careers NZ publishes benchmarks for quality careers education in schools. It runs seven “career networks” in regions, and it provides a number of online tools that give information about career and study options.

A 2013 Performance Improvement Framework review of Careers NZ was critical of its delivery of core business. The review said its staff and other agencies were confused about Careers NZ’s role and had “serious questions about its mandate and capacity to assert an interagency leadership role” (SSC, Treasury & DPMC, p. 21). The review said it was difficult to assess Careers NZ’s success in developing career competence in the absence of agreed baselines and robust performance measures. Although its online tools were praised, reviewers found its website was not widely known or used, “particularly among learners and at-risk groups” (p. 24).

Careers NZ aims to ensure school leavers are “career management competent” individuals making smart career decisions. Yet, according to reviewers, it lacks the levers to achieve this, particularly given the patchy delivery of careers education in schools. In 2016, government introduced legislation to transfer Careers NZ’s functions, described above, into TEC. The Bill would also make it a function of TEC to:

- provide a publicly available careers information service that includes a database of information about occupations and tertiary education and training; and
- facilitate and strengthen the connections between schools, employers, and tertiary education organisations to ensure students are better prepared for employment and further education and training, or both.

Government has a number of new initiatives that aim to improve the quality of information and guidance to prospective students:

- The *Employment Outcomes of Tertiary Education* (EOTE) project provides information about how students’ choices may affect their labour market outcomes, enabling them to have realistic expectations for the future. From 2017, this information will be available at provider level.
- Under the *Information for Learners* initiative, TEOs will from 2017 be required (as a condition of funding) to publish standardised *Key Information for Students* on their websites. This includes a statement of expected outcomes, fee information, completion rates and graduates’ employment outcomes. Learners will be able to compare qualifications across providers when deciding what and where to study. [...]
- The MyQual pilot project will enable employers to provide direct feedback to tertiary providers and students about the qualifications they value. The feedback will inform student decision making in 2017 for the 2018 year. (MBIE & MoE, sub. DR162, p. 10)

MBIE and the Ministry of Education also noted that the latter Ministry was developing indicators of industry training learners’ outcomes, to publish by 2018. The *Key Information for Students* is a new version of the existing *Key Information Set*. These initiatives add to an already crowded landscape that includes:

- Careers NZ’s existing *Compare Study Options Tool* and its searchable database of courses;
- Studylink’s *Sussed? What will you study?* website;
- MBIE’s *Occupation Outlook*;
- Te Puni Kōkiri’s *Māori Future Makers* website;

- marketing campaigns by providers and ITOs; and
- websites and tools (such as the University of Auckland's *What in the world do I want to study?*) of individual providers.

MBIE and the Ministry of Education submitted that government intended to consolidate the careers information provided by government agencies in TEC, "with the ultimate aim of providing a single authoritative source of careers information for end users" (sub. DR162, p. 12).

Submitters were almost unanimous that the careers education system (both nationally and in schools) is fragmented, poorly coordinated, poorly targeted, and often poorly delivered. Ako Aotearoa points to the challenge of providing information in a way that takes into account how students use information:

Although the quality and availability of information for learners has received significant attention in recent years, in our view focusing on data is less useful for young people than focusing on learner decision-making. Specific data sources and sets are often problematic for or irrelevant to the position of the individual learner. For example, they may relate only to young learners, are often historical rather than representing the situation a learner will actually experience, or may relate only to short-term outcomes.

Moreover, learners are not always well-placed to make sense of and understand the significance of data when it is available. Notably, such data may be competing for learners' attention with aspirational marketing campaigns of TEOs that emphasise 'best possible' results, such as outcomes for one or two exceptionally-talented and high-performing graduates. This can be a particular issue for learners and communities who have lower levels of pre-existing educational capital and are less well-positioned to make sense of the range of information with which they are presented. For example, feedback from our Pacific Caucus is that some Pacific communities feel that they cannot fully trust information that TEOs provide to learners, as they assume that this will be intended to serve the organisations' interests over those of the prospective learner.

Focusing on developing career management skills and competencies that support decision-making is therefore likely to be more practically useful to learners. This would involve enabling learners to identify what information is relevant to them, make sense of that information, and then make realistic choices on the basis of that within the context of a broader career pathway that meets their goals and needs. This has been a particular focus of our work on support for foundation learners (Educational Attainment Working Group, 2012; Ako Aotearoa, 2014), and we supported its inclusion in the graduate profiles and outcomes for the new Foundation and Bridging Qualifications.

Active support for learner decision-making can be achieved in multiple ways. One method of doing so would be through a brokerage approach: an independent agency (such as Careers NZ) tasked to actively consult with prospective learners about their career goals and capabilities and then place them within appropriate programmes. The work of Skills Development Scotland provides one example of how this can work with regard to vocational education, while a centralised admissions process – accompanied by effective integrated career guidance and support – might be valuable for degree-level education. The Finnish model is one of the strongest international examples of guidance systems, involving active 'wrap-around' support for young people from early teenage years, formal qualifications for career professionals, and an assumption that such support should be easily available throughout a person's lifetime. (Ako Aotearoa, sub. 58, pp. 10–11)

Other submitters noted career education is also important in tertiary education and beyond. By itself, transferring Careers NZ's functions to TEC is unlikely to improve arrangements for career education and information, in particular in schools.

Box 3.4 NZCER's submission on career education

The New Zealand Council for Education Research (NZCER), building on its substantial research into career education, submitted that:

- **Career decision making is not linear:** "Young people do not so much follow pathways as *produce* them".

- **Career management competencies need to be supported:** “As a society we continue to privilege the provision of career information over supporting meaning-making and information use ... We need to help young people and those within the tertiary education system itself develop capabilities – skills, attitudes, knowledge, values – to enable *lifelong* and *lifewide* management of work and learning. We think career management competencies would be most effectively woven throughout the school and its activities, including subject classes (ie, not confined to the school careers department activities)”.
- **Career education in schools needs to be transformed:** “Career brochures, expos and websites provide information, but it only becomes worthwhile when situated within a school-wide focus on developing students’ long-term capabilities for managing multiple education and work commitments throughout life.”
- **Career management and competency development must continue beyond school:** “[W]ell over half of the tertiary student population do not come directly from school. Career education must continue into the tertiary sector itself.”

Source: NZCER, sub. DR135.

Despite the evidence on the complex nature of young people forming intentions about future study and making decisions about post-school study, “at a systemic level, providing *information* (often marketing brochures) is privileged over assisting students to *make sense* of the information or to learn decision-making skills” (Ministry of Women’s Affairs, 2008).

Because co-production is an essential element of tertiary education, helping ensure students are prepared is important. Prospective students need to make sense of the many available study options. Individual motivations and preferences matter. Yet the systems supporting young people to make these decisions are not individualised, and pay too little attention to equipping them with career skills.

MBIE and the Ministry of Education submitted that the latter ministry was “engaging schooling sector representatives to explore how careers advice and guidance services can be improved and how these services might evolve in the context of Communities of Learning | Kāhui Ako” (sub. DR162, p. 112).

F3.5

Decisions about entering tertiary education and the influences on prospective students are complex. The arrangement and delivery of careers services, including in schools, and government provision of information to prospective tertiary students, is fragmented and operating poorly.

Student fees

There is some evidence that differences in subsidy, fee and student support arrangements can influence the study decisions of students (and employers). For example, members of the ITO sector expressed concern about these influences on decisions on undertaking industry training while in full-time employment through an ITP, PTE or ITO (Chapter 6).

In the Issues Paper, the Commission presented evidence from Robbins (2016) that suggested higher tuition fees have not restricted access to UK universities by disadvantaged students. Using data from Universities and Colleges Admissions Service (UCAS), it showed that, in 2015, those aged 18 and living in disadvantaged areas of the United Kingdom were more likely to apply for university than ever before. The difference in probability of applying for university between an “advantaged” person aged 18 and living in the United Kingdom and a “disadvantaged” person of the same age living there fell from 3.7% in 2006 to 2.4% in 2014.

Sampson et al. (sub. 14) submitted that this represented a normalisation of debt, and noted that those UK universities that had been most successful in expanding access also had the highest drop-out rates, citing Reay et al. (2010). Ako Aotearoa submitted:

We suspect that the availability of student loans, the necessity of tertiary education qualifications in the modern labour market, and low levels of financial literacy amongst young people mean that the direct impact of fees on whether young people choose to engage in tertiary education may be small (beyond choosing which TEO to enrol with). (sub. 58, p. 11)

The University of Waikato submitted that fees combined with geographic distance may still represent a substantial barrier to obtaining a university education. In particular, it notes:

While parents with professional incomes and substantial net assets may not be concerned about their children acquiring large amounts of debt to fund tertiary study, the poorest families with minimal net assets will quite rationally be averse to their children acquiring large amounts of debt. (University of Waikato, sub. 93, p. 6)

Understanding the effect of student fees on students' decision making is difficult. The direct application of international literature on the subject is problematic, because of the mix of policy settings. This includes the availability of interest-free loans, the rules around loan repayment, the effect of student allowances, and the apparently relatively low returns to education in New Zealand (Zuccollo et al., 2013).

The evidence suggests that higher fees reduce demand, that students in non-university tertiary education and lower-income students are more price-sensitive, and that some minority groups may be more price-sensitive (Leslie & Brinkman, 1987; Heller, 1997). Where the actual cost students will pay is not transparent, because various grants or discounts apply that mean actual cost is lower than the advertised price, students from lower-income families are more likely to be discouraged. The availability of loans and allowances will offset this, although students from lower-income households may also be more debt-averse.

Most students underestimate the amount of subsidy provided by government to tertiary education costs and, in particular, the level of direct financial assistance provided to students (Baxter, 2012).

More detail on trends in student fees is presented in Chapter 10. A recent literature review concludes "[i]nteractions between socioeconomic status, geographic proximity, financial costs, and tertiary education rates are highly complex and difficult to measure (NIDEA, 2016, p. 18). It also notes evidence that price elasticity can be greater, and geographic proximity more significant, for socioeconomically disadvantaged families.

Student support

Along with tuition subsidies paid to tertiary providers, government also contributes to the student support system. That contribution is comprised primarily of the Student Loan Scheme and student allowances.

Loans

New Zealand citizens, residents who have been in New Zealand for three years, and residents who hold refugee status, or have a family member who holds refugee status, are eligible for student loans. Students can borrow for course fees, course-related costs, and living costs – but people aged 55 or older and part-time students can only borrow for course fees. People who are bankrupt or have overdue loans cannot borrow; and prisoners and people on a benefit cannot borrow for living costs. Students can usually borrow up to \$1000 a year in total for course-related costs, and up to \$176.86 a week for living costs.

An individual has a limited amount they can borrow in their lifetime. Generally, students can only borrow for study up to seven EFTS. Students need to pass at least half of their study to maintain access to a loan.

No interest is charged on loans if borrowers remain in New Zealand; even the real value of the loan is not maintained. Borrowers must start making repayments if they earn more than \$19 084 a year before tax; that is, repayments would be required for an individual working more than 24 hours a week on the minimum wage.

The number of active borrowers has been reducing each year since 2010. In 2014, some 186 000 students, about 72% of eligible students, borrowed. Together, they borrowed \$1.6 billion in 2014.

Allowances

A student allowance is a weekly payment to help with living expenses. Unlike student loans, the allowance does not need to be repaid. Students generally have to be aged between 18 and 65 to get an allowance, studying full time at an undergraduate level, and be a New Zealand citizen or meet the residency requirements.

The size of an allowance depends on the income of a student, the combined income of a student and their partner, if any, and the income of the student's parents if the student is aged under 24. As with loans, students have to pass at least half their study to maintain access to an allowance. Student allowances also have lifetime limits: up to 200 weeks for those aged under 40, and 120 weeks for those aged 40 and over.

In 2014, almost 80 000 students received a student allowance, with an average value of \$6 800. Of these students, 44% also borrowed money for living costs.

More detail on trends in student support is presented in Chapter 10.

Location of study

Proximity to a tertiary provider is a key influence on student decisions. Ussher (2006) studied patterns of student travel to tertiary study, using last secondary school attended as a proxy for home location.

- Almost all tertiary education institutions (TEIs) draw the majority of their students from less than 44 km away, with some notable exceptions (Whitireia in Porirua, Otago Polytechnic in Dunedin, and the University of Otago in Dunedin).
- Students will tend to travel to a close tertiary provider, up to a point. Once a student has to travel a moderate distance to study, they become more likely to travel still further to a provider that is not the closest to them.
- Students were less likely to travel large distances to attend an ITP than a university, except where the ITP offered specialist courses.
- Māori students were more likely, and Pasifika students less likely, to travel long distances for tertiary study. Women were more likely to travel long distances than men, and students from low-decile schools were more likely to do so than those from high-decile schools.

Ussher suggests students from low-decile schools may be more likely to travel long distances because they are more likely to be able to access student allowances. By contrast, students from high-decile schools may "be less inclined to move away from the comforts of home and the financial support offered by parents" (2006, p. 4).

Ussher contrasts these findings – that access to a campus most influenced a student's likelihood of travelling to study – with an Australian study on student mobility. This study found academic ability and subject choice as the most dominant factors in choice of provider. The relatively homogenous nature of tertiary institutions in New Zealand, in terms of course offerings and entry requirements, means students do not have to travel far to find a TEI campus that offers their preferred course of study, and will accept them.

Concerns about student decisions on field of study

Many submitters, particularly industry groups, submitted that more students should be studying to enter their field. Horticulture New Zealand submitted that:

[a]t more of a micro level our industry is in need of graduates yet both universities struggle to capture horticulture students. [...]

HortNZ will often field calls from horticulture businesses looking for university graduates that could be considered for agronomist and pack house manager positions. A recent graduate of Massey University was offered four positions and indicated that her colleagues were also in a similar situation. The number

of graduates at all levels from industry trainees to postgraduates is not enough to cater for need. (sub. 92, pp. 8, 13)

Rural Women New Zealand submitted that “the low number of students graduating with degrees in agricultural based subjects also suggests there is a mismatch between tertiary education and demand for skilled workers in primary production” (sub. 30, p. 1). It argued that “additional government funding may also be necessary to attract students to enrol in skill shortage areas” (p. 3).

The Tourism Industry Association submitted:

A significant gap exists in the bigger picture of employers influencing the tertiary environment, particularly in the supply of training places. For example, there have been shortages of chefs for many years. The role has become a permanent fixture on the government’s Long-term Skill Shortage List. While there is insight into how many extra chefs are required (... an extra 6213 will be required by 2025), there is no strategy or process that drives how this will be achieved. (sub. 51, p. 5)

The New Zealand Manufacturers and Exporters Association (NZMEA) submitted:

Too many young people and their parents, teachers and other influencers regard attaining a university degree as a preferred option, never mind what the degree is in and what the employment and career opportunities post-graduation may be. Compared to that, they do not see a career in manufacturing that is launched from a tertiary qualification at certificate or diploma levels as attractive. This is based on a perception of pay levels, career advancement opportunities and work environment that is far from reality and fails to recognise the scope of opportunities in manufacturing. (sub. 66, p. 3)

Of the submitters, NZMEA recognised the role that industry should play in addressing these perceptions. It submitted: “We suggest that fixing that is outside the scope of this review and largely a task the industry itself has to shoulder. However, a government ... should play an active role too” (sub. 66, p. 3).

Students may well be taking rational decisions in at least some of these areas, given what’s known about graduate outcomes (Table 3.5).

Table 3.5 Average salary and employment outcomes of graduates in selected fields

	Bachelor’s: Horticulture & Viticulture	Bachelor’s: Agriculture, environmental and related studies	Bachelor’s: All fields
Median salary two years after study	\$42 547	\$43 490	\$44 709
Employment rate two years after study	58%	60%	66%
Median salary five years after study	\$46 285	\$56 003	\$52 822
	Diploma: Manufacturing, Engineering & Technology		Diploma: All fields
Median salary two years after study	\$31 116		\$33 376
Employment rate two years after study	62%		54%
Median salary five years after study	\$42 939		\$40 470

	Certificate level 4: Food & Hospitality	Certificate level 4: All fields
Median salary two years after study	\$29 522	\$30 344
Employment rate two years after study	57%	43%
Median salary five years after study	\$37 241	\$37 077

Source: Careers NZ's "Compare Study Options" website.

Wages send important signals about what type of study will be rewarded. In none of the examples cited is it obvious that a student would be clearly better off pursuing the suggested qualification instead of an alternative. Where there is an income premium, it is typically small and takes time to emerge. On this data, no clear evidence exists that employers are responding to a shortage of suitably trained graduates through increasing wages.

F3.6

Wage levels send important signals to prospective students about what type of tertiary education will be financially rewarding to them, and of value to employers.

Equity of access

Equity of access aims to ensure everyone has a fair opportunity to participate in tertiary education. This is widely regarded as an important aspect of system performance, but is inherently challenging to both define and achieve:

[T]he public debate on fair access is often unhelpfully simplistic: some argue that it is a straightforward matter of closing the school attainment gap, others that it is simply down to what they perceive as the elitism of universities.

In reality, it could hardly be a more sophisticated, subtle problem. It is rooted in family homes and local communities, in the complex mix of factors that shape aspiration and in the cultural differences between socioeconomic groups. It is exacerbated by the systemic unfairness evident in the admissions and selection processes of institutions, in the school attainment gap and in the efficiency of transitions between education sectors. (Scottish Commission on Widening Access, 2016, p. 3)

In New Zealand, s 224 of the Education Act 1989 gives people right of entry to tertiary education at a public TEI at age 20, regardless of prior attainment. This reflects the principle that everyone who is capable of benefiting from education should have an opportunity to do so – and that part of the role of tertiary education is to give people a second chance at learning. Provider and system performance in achieving equity of access is hard to measure.

Access is also an important goal of Adult and Community Education, especially for those who have become disengaged in education through bad experiences in the compulsory system:

ACE learners generally have a low base from which to start tertiary education often due to not having the appropriate skills to learn (organise learning materials for future use) or those who have had damaging experiences in the compulsory school system (finished or dropped out of school with no qualifications). ... ACE learners are not ready for higher-level learning. ... ACE providers work toward increasing confidence in a person to the point where they feel confident to contribute to society or go on to further learning. (ACE Strategic Alliance, sub. 34, p. 4)

Another measurement challenge is knowing how to adjust for a person's skills and potential, which affects their participation at higher levels of tertiary education. One option would be to use prior school attainment as a proxy for skills and potential. However, schools do not themselves produce equitable outcomes for different types of learners (Education Review Office, 2015a; Engler, 2010b). Using data on prior school attainment to set expectations about tertiary participation could therefore reinforce pre-existing educational disadvantage.

How much should tertiary education providers do to try to rectify inequalities in schooling outcomes, given their funding and policy arrangements – and how much should government do to help? This is a fraught question, here and overseas. Georgia State University in the United States has successfully closed the achievement gap between its black and Hispanic students and its white students through a data-driven overhaul of its educational administration. The university's Vice President, Tim Renick, argues universities have – and should use – the power to improve equity for students:

Universities are honour-bound to defy conventional approaches to students, otherwise they merely perpetuate inequalities for disadvantaged students that the higher education system has been producing for decades. ... The bottom line is, [our] approach has levelled the playing fields. (Jenvey, 2016)

Florida State University (Engle, 2012) and Carnegie Mellon (Thille, 2012) have taken similar approaches, and other examples are presented in Chapter 11.

Universities New Zealand seems to place most responsibility on government and the schooling system to address equity of access in New Zealand:

The universities are already doing a lot of work on improving access, participation and achievement for Māori and Pasifika students, and they are committed to improving parity in both access and achievement. ...

The best way to increase participation and completion rates would be [for the government] to increase Equity Funding for the specific purpose of lifting Māori and Pasifika participation and achievement and to allocate that funding equitably between the universities in a way that carries low overhead and compliance costs. ...

Until Māori and Pasifika are achieving at a much better rate in the compulsory and non-compulsory schooling system, any significant participation increases [at universities] will be both costly and challenging to achieve. (sub. 17, p. 19)

The idea that government should specifically “buy” improved outcomes for Māori and Pasifika learners appears to conflict with Universities New Zealand's position that universities should be bulk-funded to achieve agreed goals: “Bulk funding is not just desirable, it is essential for a modern university. [...] Universities would strongly oppose anything that reduced or removed this operating flexibility” (sub. 17, p. 36).

In the ITP subsector, ITPs identify delivering educational opportunities to a wide diversity of learners as part of their value proposition:

ITPs are the most successful sector at providing an open door and a learning pathway to success to students who have not felt at home in the compulsory or the academic environment. Achievement and retention levels for Maori and Pasifika students are very high and ITPs have developed an innovative range of programmes to engage and support priority learners. (NZITP & Metro Group, sub. 42, p. 3)

However, they too noted that funding settings effectively penalise them from enrolling learners who need more help to succeed. Potter (2016) notes that providers used to invest substantially in programmes to help improve outcomes for Māori. However, “much of the investment in culturally-responsive teaching and student support services has been wound-back across the tertiary sector in recent years”, once government no longer supported it via a separate funding stream (p. 3).

The wānanga model, as a tertiary education model designed by Māori for Māori, has played a role in providing education to Māori learners who many not be able to access tertiary education through other institutions.

New research into ethnic disparities in Bachelor's qualifications in New Zealand

The Productivity Commission and the Auckland University of Technology (AUT) undertook research into how degree-level participation and completion rates vary by ethnicity in New Zealand, and to what extent the differences can be explained by observable characteristics (Box 3.5).

Box 3.5 Participation, Retention and Completion: Explaining ethnic disparities in Bachelor's qualifications in New Zealand

The research

Meehan, Pacheco and Pushon (2017) use newly linked administrative data to investigate the key factors associated with ethnic disparities in study towards Bachelor's degrees in New Zealand. They track almost 200 000 people from a cohort of young people born between 1990 and 1994, and who were enrolled in a New Zealand secondary school during their 15th and 16th year.

Their research describes differences in enrolment, progression and completion in Bachelor's level study by ethnicity, and examines the effect of controlling for other individual, family and school characteristics in explaining these differences. These include factors previously suggested in the literature as being explanatory variables, such as SES, parents' educational attainment, and students' prior academic achievement.

Marginal effect of higher socioeconomic status and prior school achievement on Bachelor's degree study

One aspect of the study looked at the marginal effects of differences in SES, prior school achievement, and other variables on the likelihood of participation in Bachelor's level study. The authors found, for example, that while higher SES generally increased the probability of studying towards a Bachelor's degree, the marginal effects were larger for European students than for other ethnicities. Europeans living in the least deprived areas were 13.5% more likely to enter Bachelor's study than Europeans living in the most deprived areas, holding prior academic achievement and other variables constant. For Māori, the difference was 7.8%, Pasifika 5.8%, and Asian 9%.

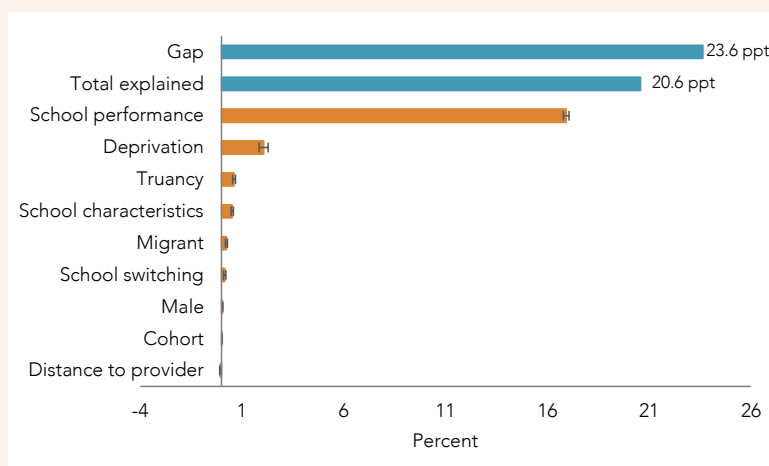
The authors also found achieving NCEA increased the likelihood of study towards a Bachelor's degree compared to not achieving it, and that each level of endorsement (Merit or Excellence) further increased that likelihood. These effects, however, were smaller for Māori students than for other ethnic groups. The authors said:

These results signal that it is not enough for Māori to just attain an NCEA level 1 qualification, it appears imperative to have that qualification endorsed with either merit or excellence if we wish to improve their propensity for participating in bachelor's qualifications. (Meehan, Pacheco & Pushon, 2017, p. 21)

Explaining the Māori – European participation gap

Most, but not all, of the gap between Māori and European participation in Bachelor's level study was explained by differences in observed characteristics (Figure 3.26).

Figure 3.26 Contributors to the gap between Māori & European participation in Bachelor's level study



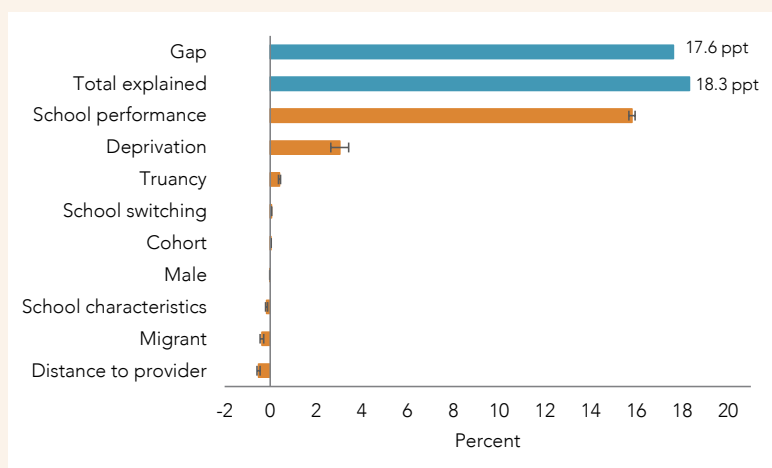
The biggest contributor to the explained portion of the gap was “school performance”, which is the students’ prior achievement at school. The study used achievement and endorsement at NCEA level 1 as the measure of students’ prior school performance, because virtually all students, regardless of whether they intend to pursue tertiary study, attempt this qualification. The second largest contributor to explaining the gap in participation was deprivation, which is the deprivation index of the “meshblock” in which the student resides. This is a far more refined measure of SES than has been available to previous studies, which have used school decile as a proxy for students’ SES.

The results show that, for Māori, the observable characteristics in the study explained just 86% of the gap in participation in Bachelor’s level study. That is, even if Māori in the cohort had the same prior school achievement, SES, and other characteristics studied as European students, there would remain a gap in participation that was unexplained by variables measured in the study. This unexplained gap could arise from cultural-specific factors, discrimination, or any other factor that was not measured in the study.

Explaining the Pasifika – European participation gap

All of the gap between Pasifika and European participation in Bachelor’s level study was explained by differences in observed characteristics (Figure 3.27).

Figure 3.27 Contributors to the gap between Pasifika & European participation in Bachelor’s level study



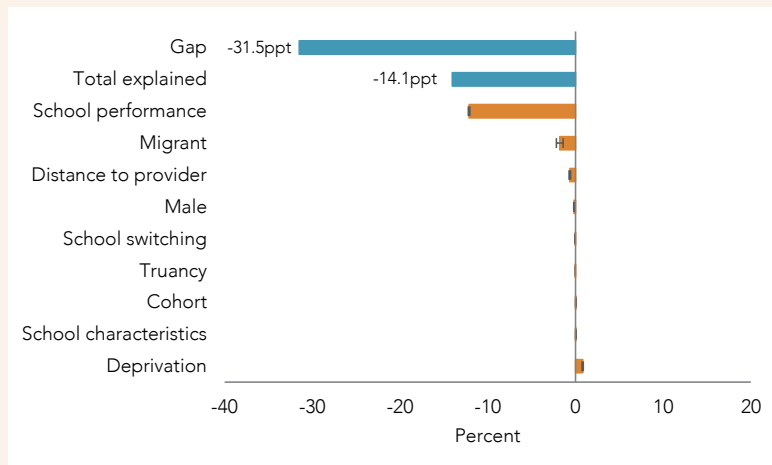
The biggest contributor to the explained portion of the gap was students’ prior achievement at school. The second largest contributor was deprivation. The results showed that, for Pasifika, the observable characteristics in the study explained more than the entire gap in participation in Bachelor’s level study. That is, Pasifika were slightly more likely than Europeans to participate in Bachelor’s level study, once the study adjusted to take account of their lower prior achievement at school, lower SES, and other observed characteristics. Again, this difference could arise from any other factor not studied, including cultural-specific factors.

Explaining the European – Asian participation gap

In this cohort, Asians had higher participation in Bachelor’s level study than Europeans.¹⁵ Less than half of the gap between Asian and European participation was explained by differences in observed characteristics (Figure 3.28).

¹⁵ Although, see Figure 3.8 which shows that age-standardised participation rate for Asians in Bachelor’s level study has fallen behind that of Europeans in recent years.

Figure 3.28 Contributors to the gap between Asian & European participation in Bachelor's level study



The higher prior school achievement of Asian students explained some of their higher participation in Bachelor's level study, relative to European students. The results for deprivation show that Asians had higher participation, despite having lower SES than Europeans. Most of the gap, however, was unexplained by observed characteristics in the study. The unexplained portion may arise from any other factor not studied, including cultural-specific factors.

The effect of parents' education levels

The researchers also included parents' education level as an additional variable for the subset of the cohorts for which this information was available (some 91%). This may be the first study to include parents' education level in a population-wide analysis of higher education outcomes.

Including this variable finds that parental education level explained almost as much of the Māori/European and Pasifika/European gaps as "deprivation" did. The marginal effects of parental education are stronger for Europeans in the cohort than for other ethnic groups. A European with a parent who had a Bachelor's qualification was 17.4% more likely to study at Bachelor's level than a European whose parents had no school qualification, all else being equal. For Māori, a parent with a Bachelor's qualification increased the child's likelihood of Bachelor's study by 6.8%, for Pasifika by 13.7%, and for Asians by 11.3%.

The authors concluded:

These results are relatively easy to summarise – consistent with the extant literature, the three factors of importance are socioeconomic status, prior performance in school, and parents' educational attainment. What is most interesting from these findings is the relative contributions of each of these factors – which indicate that prior performance in school plays the largest role, by far. (Meehan, Pacheco & Pushon, 2017, p. 24)

Source: Meehan, Pacheco & Pushon, 2017.

These results confirm that the biggest contributor to lower levels of Bachelor's degree study among Māori and Pasifika school leavers was their lower average achievement at school. A key implication of the research is that improving the performance of the school system for Māori and Pasifika learners is key to improving their participation in Bachelor's study.

SES is the second and far smaller contributor to differences in participation. For all ethnic groups, living in higher socioeconomic communities increased the likelihood of bachelor's study. More attention needs to be paid to improving the participation of people living in lower socioeconomic areas in Bachelor's study. This could include, for example, through raising aspirations and awareness of study opportunities at this level, and providers making connections with students and schools in poorer communities.

However, Pasifika had slightly higher participation, and Māori lower participation, than would be expected when these and other variables in the study are taken account of. The research finds more Māori would be expected to have participated in Bachelor's study than was the case, notwithstanding differences in school achievement and SES. This finding should challenge providers of Bachelor's study to do more to increase Maori students' participation.

Chapter 9 further discusses this research in explaining ethnic differences in progression and completion rates towards bachelor's degrees.

F3.7

Differences in prior school achievement are the major drivers of lower Māori and Pasifika participation in Bachelor's degree study. Improving school-level outcomes for Māori and Pasifika is important to improve their participation at higher levels of tertiary study. But Māori participate in Bachelor's degree study at lower rates even after taking account of prior school achievement and socioeconomic status.

Figure 3.4 and Figure 3.5 showed people from less deprived areas studied more (consumed more EFTS) and at higher levels. This research confirms that remains true, at least for Bachelor's degrees, even after correcting for prior school achievement and the other variables measured in the study.

3.4 Decisions and transitions within tertiary education

Who leaves study?

Not everyone who starts study completes it. Across all levels of study, 61% of students who began a qualification in 2011 had completed it within four years. Overall qualification completion rates have been improving over time. For example, only 43% of those who started a qualification in 2007 had completed it within four years, and 52% within eight years. Showing completion rates over a long period of time is necessary because it takes some students years to complete a qualification, particularly if they are studying part time; but this also masks subsequent improvements in completion rates.

Qualification completion rates measure students who complete a qualification at the same or higher level of study than they initially enrolled in. The rates take account of students who switch to a different qualification at the same level, or "upgrade" their qualification. Completion rates vary by provider type (Figure 3.29). Part-time students have a lower completion rate than full-time students.

Figure 3.29 Eight-year qualification completion rates by subsector, 2007–14



Source: MoE, 2016a.

Scott (2009) found about 12% of degree students end up completing a lower-level qualification, and this is particularly prevalent among students who study part-time.

TEOs are required to enrol students in a qualification, but some students likely do not enrol with the intention of completing a qualification. Scott (2009) reports that 12% of part-time students and 7% of all degree students pass all their courses, but leave without a qualification. The author infers that, in many cases, these students did not intend to gain a qualification.

However, this leaves a number of students who “fail” at their study, or choose to drop out. Students leave study for a variety of reasons, often including personal circumstances. One study of students in New Zealand universities finds that “convenience” is a major reason to consider leaving study. The author comments:

One interesting finding from the AUSSE [Australasian survey of student engagement] is that early departure is often due to personal and convenience reasons. This suggests that the provision of more flexible learning options (e.g. using mobile technologies and online learning or supported environments) may help mitigate some students’ early departure intentions, by making study more convenient when trying to balance financial, family, work and study commitments. Especially among first-year students, there are a large number who plan to change their qualification and/or shift to a different university. This highlights a need for more quality academic advice in the early stages of the tertiary experience, to help students better understand the different study options available to them and for them to work out the best options available. (Radloff, 2011a, p. 54)

Although students at universities and ITPs report similar levels of student engagement, ITP students are more likely to consider leaving study. In ITPs, the major reasons given are boredom and quality concerns, which should be amenable to intervention by the provider:

A significant relationship exists between ITP students’ feelings of support and their departure intentions, suggesting that if more can be done to support students at risk of leaving before completing their qualification, ITPs may be able to retain more students. (Radloff, 2011b, p. 25)

Success at tertiary study requires particular knowledge and skills that not all learners possess (Box 3.6).

Box 3.6 **Some of the knowledge and skills necessary to success in tertiary study sit outside any formal curriculum**

To succeed at university, students need to master not only the content of the formal curriculum in school and during their university study, but also the “mix of bureaucratic know-how and sound study skills that can make or break a student’s first year in college” (Zinshteyn, 2016).¹⁶ These skills often lie outside any formal curriculum, and include:

- knowing how to deal with bureaucratic processes for admissions, enrolment and finance;
- knowing how and when to communicate with faculty, and what to expect from these interactions;
- knowing how, when, and who to ask for help or guidance when needed; and
- being able to manage an independent (and often quite loosely structured) programme of study, to make good decisions about how to allocate time and energy, and how to deal with stress.

Universities often implicitly expect students to possess these skills on arrival. Indeed most students do learn them at secondary school or via conversation with family during the lead-up to tertiary study and in its first few months. By contrast, students who are the first in their family to go to university, or those from schools with few school leavers attending university, may arrive at university not possessing this information, and not knowing where to find it – or sometimes even that they need to know it. This can increase the stress and difficulties they face in navigating the university environment. It may also contribute to a higher drop-out rate for such students (Hodge & Mellin, 2010).

¹⁶ Zinshteyn uses the term “hidden curriculum” to refer to this useful and practical know-how as something positive and valuable. However, the term “hidden curriculum” more usually refers to the implicit or unofficial set of norms, beliefs and values transmitted to students by schools or tertiary institutions, with negative connotations of oppression (eg, Jackson, 1968) or structural inequality (eg, Raskoff, 2012). Snyder (1970) argued that alongside the formal and explicit college curriculum ran a second, tacit curriculum, teaching students the “right way” to think and to learn. Snyder argued that the normative pressure of this hidden curriculum served to thwart students’ creativity and independence of thought. Raskoff (2012) described the hidden curriculum as “a by-product or otherwise unintended knowledge that is generated within an organization and that often reinforces systematic inequality”, and argued that it is manifest in various aspects of modern US college administration.

Universities can do various things to make the implicit explicit, and help ensure all students acquire the knowledge and skills they need to succeed in tertiary study. One way is to provide mentoring and coaching services, which appear to be effective in increasing first-generation students' retention and completion rates (eg, Bettinger & Baker, 2011). Mentors and coaches can pass along practical advice, but they can also provide valuable emotional and moral support to students. Barry, Hudley, Kelly & Cho (2009) found many first-year college students find relief in disclosing their stressful college experiences to someone who understands what it is like to be in their situation. Some students can use their parents or older siblings for this; but for first-in-family students, a coach or mentor may fill the role. Zinshteyn (2016) quoted one student as saying that her phone conversations with her college mentor reminded her that "I'm not alone, I'm not the only one that's going through these issues".

Universities can also provide more structure for students who have not yet acquired the skill of self-managing their tertiary study. Complete College America (2012) promotes the value of default pathways for students and "intrusive, on-time advising" to help ensure all students get and stay on track to graduate.

Who switches programmes and providers?

Many features of the New Zealand tertiary education system should make it easy for students to change their course of study, and even their provider. The tertiary sector is managed as a single system, with a single qualifications framework and statutory power for NZQA to make rules relating to credit transfer and recognition of prior learning.

Student mobility requires effective arrangements that allow for the recognition of learning that has occurred elsewhere, and the transfer of credit. An effective system for recognising learning and transferring credit reduces costs to students and empowers them to choose qualifications and providers that best meet their needs.

The New Zealand Union of Students' Associations submitted the system to allow credit transfer was broken:

Another aspect of the system which fails students and the other investors in tertiary education is the wastage that comes from poor arrangements between institutions – despite the unified Qualifications Framework. We believe that there would be considerable advantage in requiring articulation agreements between (particularly) regional polytechnics and universities. ... There also need to be better arrangements between universities for movement between them. (sub. 19, p. 6)

Some submitters disagreed that there were problems. The University of Otago submitted that "our Student Records Office is unaware of any recent student complaints about the process" (sub. DR130, p. 7).

But there is a lack of systematic data about credit transfer. There is some old data about students who change their course of study. In 2008, the Ministry of Education reported on a study of 170 000 students who either began a degree or postgraduate qualification for the first time in 1997, or began a certificate or diploma for the first time in 2000. The study found that:

- 5% of students completed a higher-level qualification than the one they started;
- 5–10% of students completed a lower-level qualification than the one they started;
- 40% of Bachelor's students, 34% of diploma students and 25% of certificate students changed qualification before they completed;
- 19% of students transferred to a different provider before completing a qualification; and
- 52% of students who completed a qualification and progressed to higher-level study transferred to a new provider after completing their first qualification.

These data are quite old. Universities New Zealand submitted that 16% of students coming to university already have some credits at a similar or lower level in their field of study, although it also acknowledges that recognition of prior learning is rare.

Universities New Zealand submitted that “New Zealand currently lags somewhat behind many other countries by not having clear nationally agreed policies and standards” providing for credit transfer (sub. DR119), but notes risks from overly generous or highly prescriptive credit transfer arrangements, and from reduced focus on the integrity of qualifications. MBIE and the Ministry of Education, however, noted:

Taken too far, this fails to acknowledge students’ interests. It reduces providers’ collective responsibility to maintain standards, and imposes costs on students and taxpayers by restricting mobility and forcing wasteful repetition of study. (sub. DR162, p. 17)

It is difficult to know whether students who shift providers or courses of study are aware of the opportunity to have credit recognised. If credit transfer is not working well, students can be locked into their choices.

COMET Auckland submitted that “competition between institutions for enrolments” was behind poor practice in credit recognition:

If the tertiary system was truly student-centred, learners would be able to build up qualifications across several providers, learning from the best teachers and experts in each subject area they wanted to explore, with their learning in each case recognised across institutions. Learners would also be able to integrate academic learning and on-the-job skill building, and be recognised and attested for both.

The Qualifications Framework makes this theoretically possible, but competition between institutions for enrolments, recognition in league tables, and even reporting systems make it unattractive for tertiary organisations to offer such flexibility to learners. (COMET Auckland, sub. 50, p. 9)

However, many institutions do not have to compete for enrolments. Funded places are capped and, although there may be competition for top students, many institutions fill their quota without much effort. Given these policy settings, providers have little incentive to recognise prior learning. By contrast, in Australia, where institutions can grow (because funded places are not capped, and funding follows students), providers seem far more willing to recognise prior learning because they are competing to attract new students.

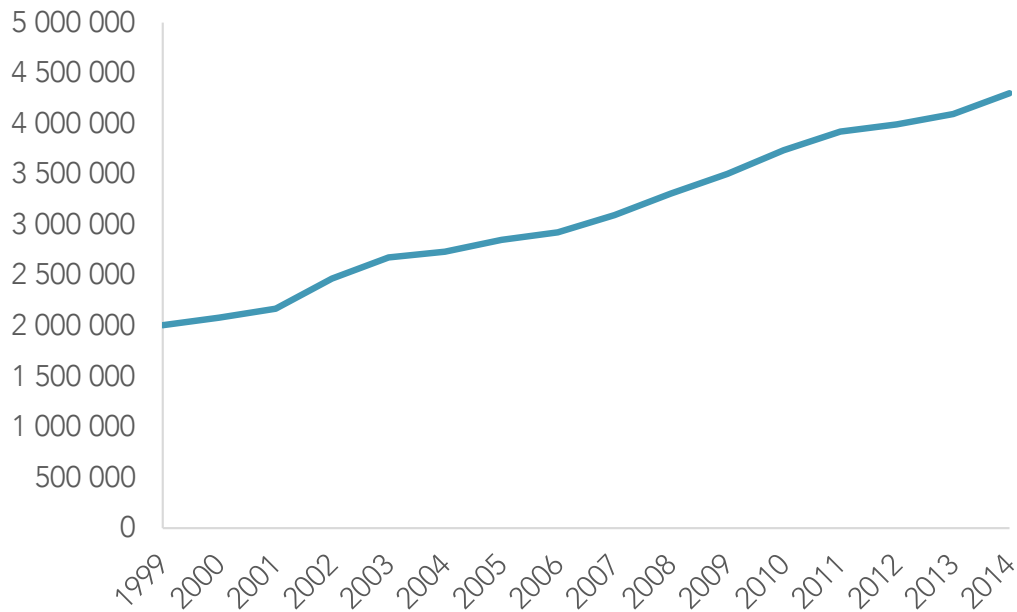
The University of Auckland (sub. DR118) submitted that, in most markets, switching costs are typically imposed by current providers (such as banks, or power companies) rather than those consumers wish to join. In each of the markets mentioned, however, firms can increase their number of customers. In a rationed system, where the number of customers a provider can serve is capped (as in the New Zealand tertiary education system), both current and prospective suppliers can have incentives to impose switching costs.

Recent US research shows students who switch majors do not harm their likelihood of graduating, or the time taken to do so. Students who never switch majors are less likely to graduate (even taking into account the effect of attrition). The research concludes, “we should be investing in structures, such as meta majors, that encourage exploration while still ensuring that common early requirements are satisfied and the student is making progress” (EAB, 2016, p. 7).

Recommendations to improve student mobility are in Chapter 13.

3.5 International students

The number of students enrolled outside their country of origin has been growing for some time (Figure 3.30).

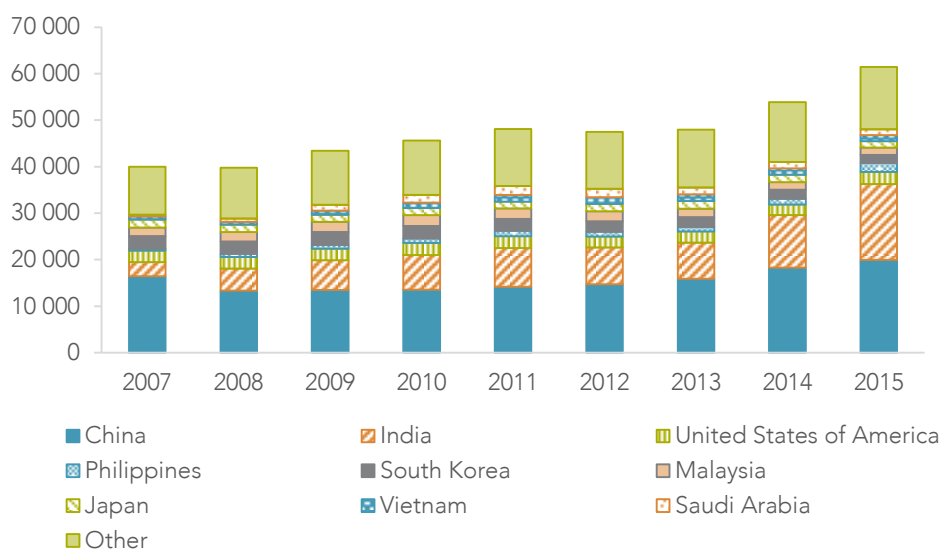
Figure 3.30 Students enrolled outside of their country of origin, 1999–2014

Source: UNESCO Institute for Statistics

Many of the source countries for international students are now investing heavily in their domestic systems as part of their own “catch-up” massification projects. Marginson (2011) predicts that “[o]n present trends the level of education and research infrastructure across the whole of East Asia ... will reach that of Western Europe within a generation” (p. 609). South Korea is well on the way to a massified system, whereas India and China have some way yet to go.

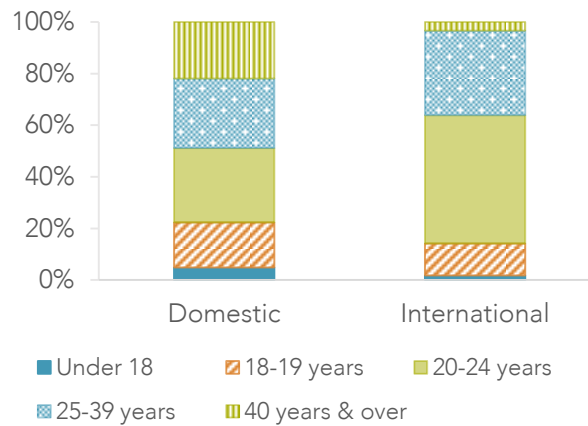
Who comes to New Zealand?

In 2014, more than 54 000 international students were enrolled at New Zealand tertiary providers. Students with citizenship of 167 foreign countries studied in New Zealand. But two countries, China and India, contributed 59% of the international students studying in New Zealand, with students from India having grown significantly over the last decade. Seven other countries had more than 1 000 nationals enrolled in New Zealand – together, 19% of international enrolments. The remaining 22% of enrolments came from 123 other countries – from Afghanistan to Zimbabwe (Figure 3.31).

Figure 3.31 International students studying in New Zealand by country of citizenship, 2007–15

Source: MoE, 2016a.

International students are less likely to be aged over 40 than domestic students (Figure 3.32).

Figure 3.32 Domestic and international students by age, 2015

Source: MoE, 2016a.

What do they study?

Students from China and India have different enrolment patterns, with more than half of Chinese students enrolled at a university, and more than half of Indian students enrolled in a PTE (Table 3.6). In addition, while Chinese students are evenly split by gender, 77% of students from India were male in 2014/15 (MBIE, 2015a¹⁷).

Table 3.6 International students from China and India, by subsector and level of study, 2014

Country	Subsector	Certs 1–4	Dips 5–7	Bachelor's degrees	Graduate certs/dips	Honours & postgrad. cert/dips	Master's	Doctorates	Total
China	University	1 598	94	5 738	268	793	1 551	550	9 966
	ITP	1 657	1 465	2 441	318	86	41	1	5 310
	PTE	627	2 536	184	147	77	70	0	3 426
	Total	3 862	4 080	8 330	732	956	1 662	551	18 294
India	University	7	7	157	79	326	382	312	1 239
	ITP	339	1 426	456	1 438	488	25	0	4 028
	PTE	286	5 035	123	227	380	93	0	6 088
	Total	631	6 429	735	1 744	1 194	500	312	11 282

Source: MoE, 2016b.

In 2015, more than three-fifths of international students who specified a region of study were studying in Auckland (MBIE, 2015a).

For universities, the number of fee-paying international students peaked in 2004 and declined between 2005 and 2008, but has been relatively stable since. The number of international doctoral students has increased over the last decade. Doctoral students pay the same fees as domestic students because of New Zealand government subsidies.

Some 17% of new international fee-paying students in 2009/10 had gained residence in New Zealand within five years (ie, by 2014/15). This percentage was higher for students from India (34% by 2014/15).

¹⁷ MBIE (2015a) analyses visa data and does not distinguish between international students in school and tertiary education.

Around 3 000 international students enrolled with New Zealand providers are studying offshore rather than in New Zealand. In 2014, 1 222 were enrolled in universities. However, no reliable information is available on who these students are.

International student decision making

Universities New Zealand submitted that “[International] Students will typically choose a country first, then select between universities (sub. 17, p. 25)”. In fact, Hobsons' research says that students typically choose a course of study first, then a country, and then an institution (some students decide based on a different order).

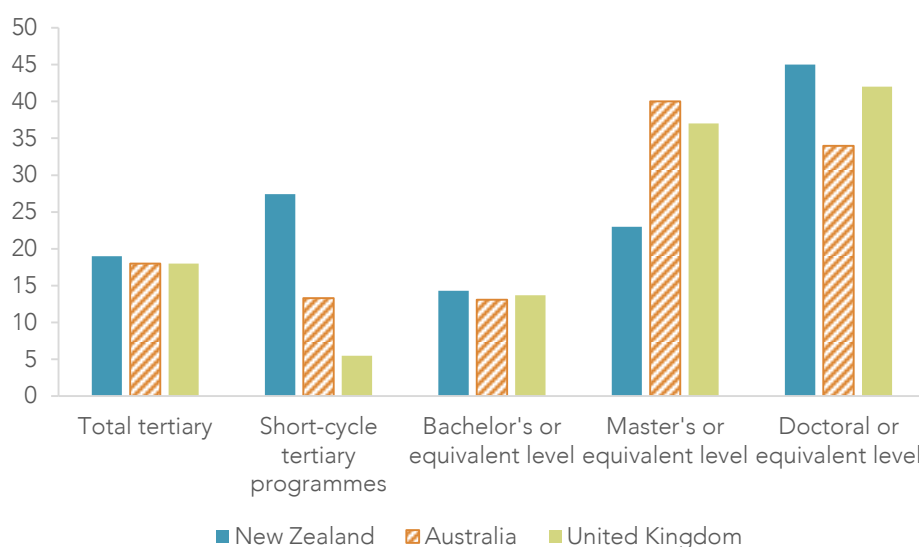
Quoting Hobsons' (2014) survey of international students, Universities New Zealand submitted:

The five most important factors for international students when considering study abroad are consistent regardless of where they intend to study. These five factors in order of importance are (1) quality of education (compared to their home country), (2) international recognition of qualifications, (3) the country's attitude to international students, (4) safety, and (5) ease of getting a visa. (sub. 17, p. 77)

Programme choice

While New Zealand has a comparable proportion of international students in the tertiary education system as Australia and the United Kingdom, a significantly higher proportion of these students are in “short-cycle tertiary programmes” (approximately levels 4–6 on the NZQF), and a much smaller proportion are in postgraduate study (except for doctoral level, where international students pay domestic fees) (Figure 3.33).

Figure 3.33 International students as share of tertiary students by level of study, selected countries, 2014



Source: OECD, 2016a.

One explanation for the relatively low number of international students at Master's level is that, until 2013, a Master's required 240 credits, or the equivalent of two years' study. Subsequent changes to allow 180 credit Master's degrees are expected to be more attractive to international students. Allowing shorter Master's degrees was supported by universities and the New Zealand Union of Students' Associations, but opposed by the Tertiary Education Union (Gerritsen, 2012).

One submitter argued that this pattern of enrolments had consequences for the revenue generated by international students:

The relatively high proportion of international students studying in New Zealand tertiary institutions does raise the question as to why the revenues reported are so low. Clearly the relative level of fees being charged is also a significant factor. However, part of the explanation for the lower revenues attracted by New Zealand universities can be found in the type of tertiary qualification being sought, with students undertaking proportionately more shorter vocational qualifications at New Zealand (31%

of the total; OECD, 2014, Table C4.1) compared to Australia (11% of their international students). (Marshall, sub. 73, p. 8)

Country choice

The Hobsons survey found that New Zealand was fifth in the list of countries that international students considered as potential study destinations, with 9% considering university here – some way behind the 42% reported for Australia and the United Kingdom. A 2011 survey placed New Zealand sixth, with 14% of students considering study here.

One of the advantages New Zealand has as a destination is that it is an English-speaking country:

Recruitment of international students at degree-level depends on market advantages derived from reputation, distinctiveness, quality of delivery, student experience and learning, and employability outcomes. For students whose first language is not English, overseas study in an English-language environment provides an invaluable means of developing sophisticated language skills which will enhance their future life prospects. (University of Auckland, sub. 85, p. 10)

New Zealand has some natural and cultural advantages:

ENZ has also found that New Zealand is an attractive proposition for some international students to study for a semester (for example, US students – under the Generation Study Abroad initiative) as well as to experience New Zealand's setting, culture, and lifestyle. Many students are attracted to our outdoor adventure, quality universities, and learning about our Maori and Pacific cultures. (ENZ, sub. 52, p. 8)

An organisation representing English language schools told the Commission they tried hard to combine English-language training with facilitating enjoyable experiences of the country, because it was these "tourist" experiences that brought many English-language learners to New Zealand.

Some submitters to the inquiry emphasised the importance of a New Zealand brand in influencing international students to choose to study in New Zealand:

New Zealand universities are all well known within New Zealand, but their names are not necessarily well known in the countries where they source international students. There, the brand of New Zealand as an education destination, combined with brand-linked factors (such as international ranking) are used to differentiate our universities for marketing purposes. ...

An NZ-Inc approach is necessary to ensure that the overall experience of international students in New Zealand align with in market messaging. (UNZ, sub. 17, pp. 22, 77)

Others argued that a national brand was not always a dominant consideration:

Survey research undertaken with current international students shows that Brand New Zealand is not the most significant driver for destination choice for all international students. UC's [University of Canterbury] analysis of the International Student Barometer (ISB) data reveals that while half of undergraduates came to UC because of Brand New Zealand, around two-thirds of postgraduates came because of the particular institution, presumably to access certain sets of expertise or personnel. Therefore, we must exercise caution in the management and validation of offshore franchise activity because of the potential risk of damaging an individual institution's brand in addition to Brand New Zealand. (Sampson et al., sub. 14, p. 4)

Reliance on a national brand also had risks. Australian tertiary education administrators the Commission spoke to noted incidents of violence against Indian students had undermined Australia's attractiveness as a destination for Indian students.

However, even the best promotion of Brand NZ in market cannot compete with unwelcoming immigration policies, impediments to being able to work, or most crucially, incidents of crime against international students and racial prejudice. (UNZ, sub. 17, p. 77)

Around ten or more years ago, there was a series of failures of private training establishments (PTEs), particularly the ones focused on international students. They were found to be issuing qualifications improperly and to be operating illegally. There was a relatively weak regulatory system in place at the time. The result was a loss of confidence in New Zealand education in overseas education markets, and considerable national reputational and economic damage that has taken many years to rebuild. (New Zealand Federation of Graduate Women, sub. 47, pp. 4–5)

The interaction between demand for international education and demand for immigration to New Zealand is complex. For many students, the right to work during and after study is extremely important:

Immigration New Zealand data indicates that 40% of immigrants coming through the skilled migrant category are former international students. (ENZ, sub. 52, p. 4)

Many students reported that personal recommendations and “word of mouth” are important:

International students become brand ambassadors for New Zealand when they return to their home country, and have a strong influence on their peers’ education country destination, which in turn has the ability to increase the number of international students studying in New Zealand. (UNZ, sub. 17, pp. 75–76)

International students who return home can also be our greatest advocates. They can share stories of their time in New Zealand and thus influence friends, family and others to choose to undertake study in New Zealand. (ENZ, sub. 52, p. 4)

Provider choice

Universities New Zealand submitted that if universities cannot remain highly ranked, “they will lose both domestic and international students” (sub. 17, p. 26).

Additionally, the importance of rankings as a tool for recruiting international students, and the model’s high level of emphasis on QS [world university] rankings and other performance-based mechanisms, can stifle “blue skies” initiatives and quality research, as staff increasingly substitute research quality for quantity to meet this new ranking driven goal. (Sampson et al., sub. 14, p. 11)

A 2014 survey of international students by Hobsons found that “students do consider rankings important, but they typically care more about subject ranking or a course’s academic reputation than that of the institution” (p. 6).

The survey also found that students categorise both institutional and discipline-level rankings into three groups – those in the top quintile, those in the middle three quintiles (between whom students did not discriminate), and those in the bottom quintile. In other words, students are sensitive to rankings only at the top and bottom ends.

4 Employers, industry training and the labour market

Key points

- Tertiary education is an important source of skills for employers. Migration is also important and, in recent years, there have been strong net inward migration flows with migrants comfortably outnumbering young New Zealanders as entrants to the working-age population.
- Data collected through the OECD's 2014/15 Survey of Adult Skills suggests that New Zealand workers' qualifications and fields of study are poorly matched to their occupations. Overseas studies show that poor matching has negative consequences for individuals, employers and the wider economy. However, the extent to which these consequences play out in New Zealand is unclear given some data limitations and a lack of New Zealand-specific evidence.
- Despite formal and informal mechanisms to facilitate employer input into the tertiary education system, there is a long-standing perception that many parts of the tertiary education system are weakly connected with industry. The incentive for employers to engage with tertiary providers may be muted by the relative ease of access to skilled migrants while tertiary providers lack incentives to respond to employer input as the majority of their revenue comes from government.
- Government has established various initiatives that seek to improve the links between tertiary providers and employers. Initiatives are targeted toward specific parts of the tertiary education system, often require additional government funding, and can come with high administrative costs.
- Employers and students agree tertiary education qualifications should equip graduates with transferable skills that retain their relevance in a changing job market. Several tertiary providers noted they are focusing on developing transferable skills; however, in some cases, these skills are not well integrated into providers' assessment processes.
- The industry training system is a formalised approach to learning within the workplace. Industry training is overseen and arranged by 11 Industry Training Organisations (ITOs), involves a mix of on-the-job training and off-job provision, and includes apprenticeships and shorter bursts of training. The design of the industry training system encourages close links between ITOs and employers and, unlike other forms of tertiary education, industry training is part-funded by industry.
- Funding for industry training is limited predominantly to provision at levels 1 to 4 on the New Zealand Qualification Framework (NZQF). This limits the ability of the industry training subsector to respond to demand for higher-level training, and inhibits the adoption of new models.
- Apprenticeships can also be managed and delivered by Institutes of Technology and Polytechnics (ITPs). In addition, employers or groups of employers can also apply for TEC funding to organise industry training without the need for an ITO. These approaches provide valuable diversity in the subsector and increase the likelihood of new models emerging.
- The government funding rate for managed apprenticeships is significantly higher than those administered by ITOs. The rationale for this difference is unclear.
- Many inquiry participants suggested that retraining for mid-career workers will occupy an increasing share of tertiary education provision in coming years. But a focus on younger, full-time learners completing full qualifications, the design of the student support system, and funding rules that make recognition of prior learning difficult all present barriers to mid-career retraining.

4.1 The role of employers in the tertiary education system

Employers rely on the tertiary education system (along with immigration) to supply them with a skilled workforce. People vary widely in their underlying capabilities, personal preferences, past experience, knowledge, skills and motivation. The knowledge, skills and characteristics acquired through the tertiary education system make an important contribution to the New Zealand economy.

This chapter examines how well the tertiary education system responds to the needs of employers. It begins by considering how employers select prospective employees, and how qualifications and tertiary education affect hiring decisions.

Section 4.2 examines the outcomes of the tertiary education system for employers, and the extent to which the skills acquired through tertiary education are matched with the skills needed in employment. Section 4.3 describes three main pathways by which students transition from tertiary education and employment:

- a traditional pathway where students undertake a qualification prior to entering the workforce;
- in-work training models including industry training, and
- mid-career retraining.

Sections 4.4, 4.5 and 4.6 examine the effectiveness of these pathways in greater detail.

How do employers select prospective employees?

Employers need reliable information about prospective workers in order to recruit staff who are well-matched to the needs of the workplace. Over-employment (a worker lacks the skills to perform a job productively) and under-employment (a worker has excess skills for the job, and those skills could be more productively used elsewhere) are missed opportunities for a good match.

Similarly, workers need a way to signal their abilities to prospective employers. There is some debate about what is being signalled by tertiary education – innate ability, or skills acquired through learning (Box 4.1).

Box 4.1 Human capital and signalling theories

There is some debate about the causal mechanism through which education affects employment and earnings. Human capital theory (discussed in Chapter 2) posits that education endows individuals with skills and attributes that enhance their productivity in the labour market. In contrast, signalling theory suggests an individual's contribution in the labour market is determined by their innate ability, and that more productive people seek to gain additional education in order to differentiate themselves from less productive people (Kjelland, 2008).

Becker's seminal examination of the returns to tertiary education considered the extent to which tertiary education is value-adding, as opposed to signalling innate ability. Using American data, Becker estimated the private rate of return to college graduation at 13%. He attributed just 12% of this return solely to innate ability, while the remaining 88% was attributed to other factors, including the value-add of education (Breneman, 2001).

Others report that graduates from top tier universities get a foot in the door – a better chance of interviews with top employers. This translates into a higher chance of employment with such employers:

University education is perceived as one of the main ways for young people to achieve social mobility and to have better careers and lives. Parents and students are more likely to pay as much as they can to get the branded qualifications they believe will lead to better employment and life outcomes. (UNZ, sub. 17, p. 75)

The international evidence supports the view that both effects exist, with skills attainment more important than signalling.

A qualification is the most common way to signal skills and abilities acquired through tertiary education. Employers use qualifications in different ways. The lack of a qualification can act as a screen to filter out unsuitable candidates. The grades or relative status of qualifications (and the institutions issuing them) can also act as a proxy for candidate quality. The reliability of such proxies matters, as they potentially affect the quality of the match between job and worker. For example, if the grades awarded by tertiary providers were increasing without reference to the skills and attributes of the students achieving them (sometimes referred to as *grade inflation*), this would distort their signalling effect.

In order for qualifications to effectively signal certain skills and abilities, it is also important employers understand the content of different qualifications, and their relevance to different roles. In recent years, the New Zealand Qualifications Authority (NZQA) has initiated a major piece of work to review the content and composition of qualifications, with a view to increasing the relevance of qualifications for employers (Box 4.2).

Box 4.2 The Targeted Review of Qualifications

The Targeted Review of Qualifications (TRoQ) was initiated by NZQA in 2008 in response to concerns raised by employers, employees and unions about the clarity and relevance of qualifications, particularly vocational qualifications. The review identified that the qualifications system:

- was not relevant to some employers and industry;
- was not user-friendly, and the status of qualifications was unclear; and
- contained 5 937 qualifications (as at December 2008), many of which were difficult to differentiate from one another (NZQA, 2009).

Subsequently, NZQA has implemented a series of changes to simplify and streamline the qualifications system including:

- a requirement for tertiary education organisations (TEOs) to use existing quality assured qualifications, and the introduction of provisions to allow for more inclusion of local components;
- mandatory periodic reviews of qualifications to determine whether they are still fit for purpose;
- strengthened requirements for industry involvement in the development of qualifications; and
- stronger requirements to develop qualification outcome statements setting out the knowledge, skills and attributes expected of a graduate in a standardised format.

NZQA suggests the review has been successful “in both reducing the future number of qualifications and ensuring they are relevant and fit-for-purpose. For example, before the review there were 275 English language qualifications. As a result of the review there are now six New Zealand Certificates in English language” (NZQA, 2015, p. 16).

Employers' views are more mixed. For example, Horticulture New Zealand (sub. 92) supported the TRoQ's focus on industry needs, and the New Zealand Board for Engineering Diplomas (sub. DR145) noted employers had considerable input into the New Zealand Diploma in Engineering (which was developed through the TRoQ process). Other inquiry participants noted the process has restricted providers' abilities to target qualifications toward specific niches:

With providers no longer able to establish “local qualifications” on the framework, there is a much reduced opportunity for market-led innovation in delivery, and a much stronger emphasis on consensus-led quality. Where the discipline being taught has strength and maturity, this is fine. Where it does not – and arguably social services stands out for this – it is most definitely not. (Methodist Mission Southern, sub. 5, p. 3)

ITI members were disappointed that the local provider-specific qualifications they developed have been subsumed into generic qualifications under the Targeted Review of Qualifications...the Targeted Review of Qualification (TRoQ) is designed to deliver a far smaller number of far more generic qualifications. This reduces the incentive to innovate as a providers' qualification (from the outside) will look exactly the same as a non-innovative provider. (ITI, sub. 81, p. 3, 23)

These competing views on the consolidation of qualifications under the TRoQ process point toward the need for the NZQF to balance two priorities. NZQF should provide all users (including employers) with a reasonable degree of certainty about the skills and characteristics associated with different qualifications. But at the same time, providers should retain sufficient freedom to develop and tailor programmes of study in a way that responds to needs of specific stakeholders, including local employers. The regulatory settings that control this (eg, the processes for programme approvals, changes to programmes and development of new qualifications) are administered by NZQA and are examined in detail in Chapter 5.

4.2 Outcomes for employers

Employer satisfaction with graduates

Opinions on how well New Zealand's tertiary education system prepares graduates for employment are mixed.

For example, Universities New Zealand (sub. 17) submitted it is a myth that universities are producing poor quality graduates, or graduates that are not work ready. Others, including Ed. Collective (sub. 89), offered a different assessment.

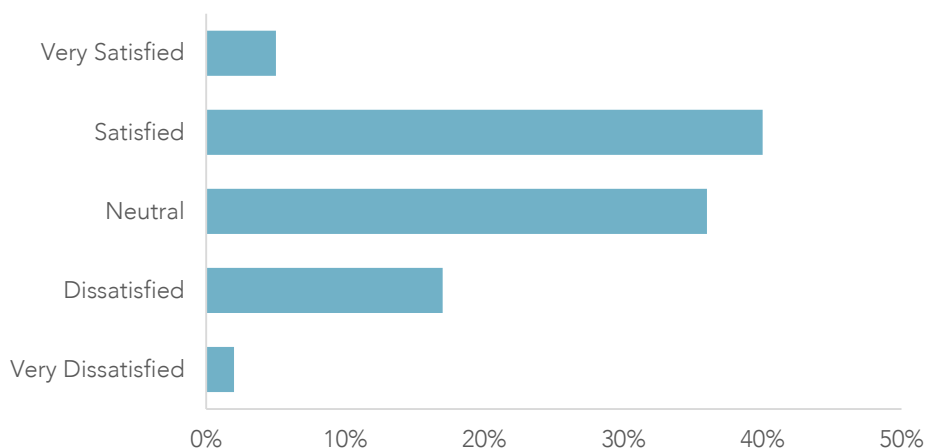
...there are areas where our graduates are falling short of employer expectations. This is not because they have not invested enough money or spent enough time in their learning endeavours... we are just plain doing it wrong. Given the financial and life significance of studying today, we should not sit back and accept that this is just how it is. (Ed. Collective, sub. 89, p. 21)

The New Zealand Union of Students' Associations (NZUSA) reported concerns raised by students about to enter the teaching workforce:

Many of these student teachers did not feel equipped to be a teacher. Some concerns that we heard included: a lack of foundational teaching skills such as lesson planning, poor education around implementing Māori tikanga into their teaching, and inadequate preparation for working with children who require additional support. (NZUSA, sub. DR139, p. 7)

The Employers and Manufacturers Association's (EMA) 2016 mid-year survey asked its members how satisfied they were with the work readiness of tertiary students. 45% of respondents were either satisfied or very satisfied, while the remaining 55% of responses fell into the neutral or dissatisfied categories (Figure 4.1).

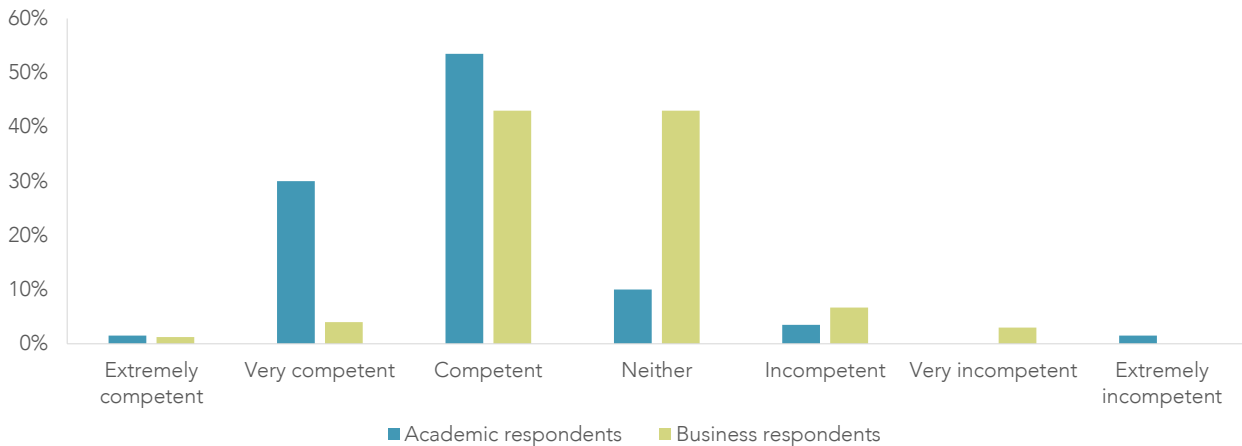
Figure 4.1 Satisfaction with the work readiness of tertiary students, 2016



Source: EMA employers half yearly survey, 2016 (EMA, sub. DR136, p. 3)

A 2013 New Zealand survey of 700 business school academics and employers also found tertiary providers and employers have different views of graduates’ work-relevant skills (Figure 4.2).

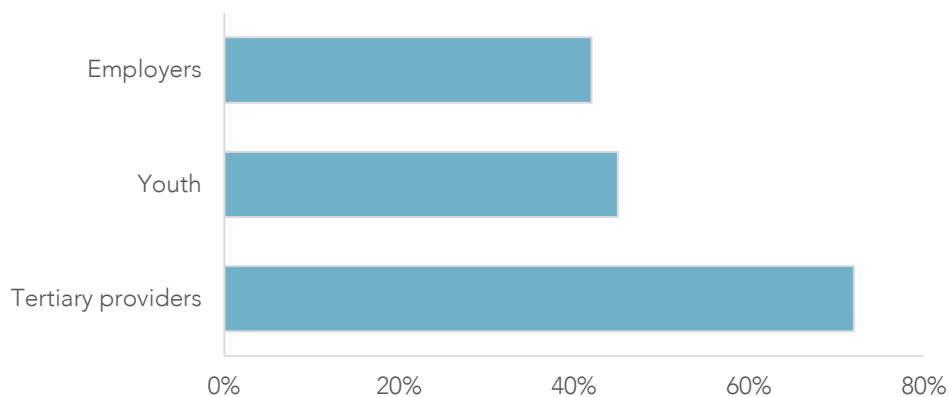
Figure 4.2 Perceived ability of business schools to produce well-trained and prepared graduates



Source: Burt, Smith & Young, 2013.

Similar differences in opinion are evident in other countries. For example, a survey of 8 000 young students and workers (aged 15 to 29), employers, and tertiary providers from nine different countries identified contrasting views on how well tertiary graduates are prepared for the workforce (Figure 4.3).

Figure 4.3 Share of survey respondents who agree that graduates are adequately prepared for work



Source: Mourshed, Farrell & Barton, 2012.

Notes:

1. Survey participants were drawn from Brazil, Germany, India, Mexico, Morocco, Turkey, Saudi Arabia, the United Kingdom, and the United States.

Similarly, Vandeweyer (2016) cites a recent survey that found “while 48% of the interviewed employers indicate that youth lack written communication skills, only 6% of young people participating in the survey acknowledge lacking these skills”. This suggests a wide gulf between youth and employer understandings of performance and preparedness.

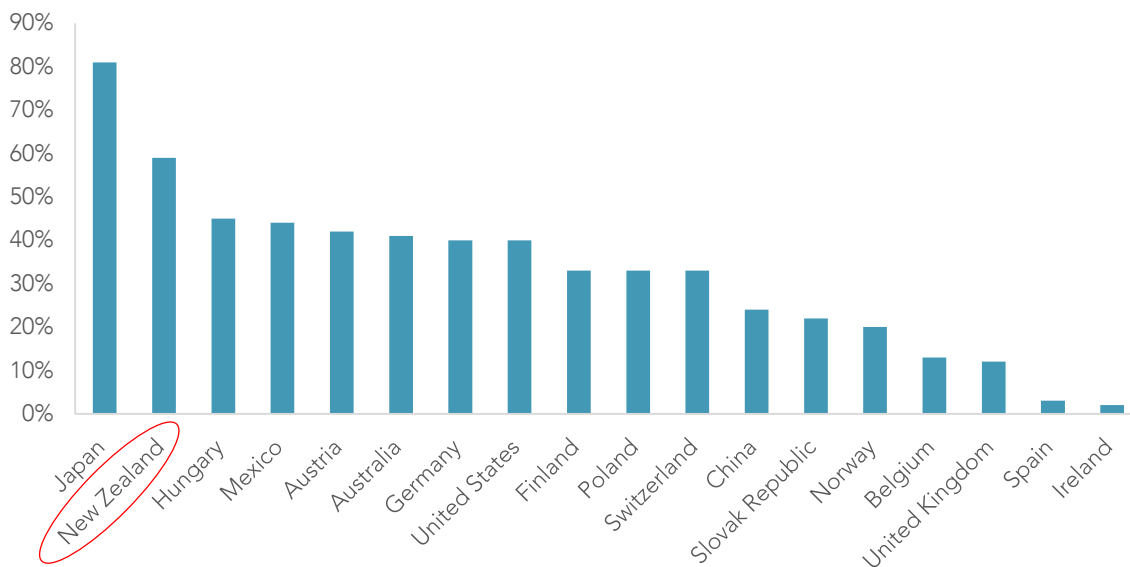
Skills matching

Employers seek to recruit workers who offer the best value for what they can afford. Employers will generally prefer situations where there is an abundance of suitably skilled potential employees as this reduces the risk of unfilled or under-filled positions, and may enable employers to suppress wages. In contrast, workers will prefer a situation where there is a scarcity of comparably skilled workers, as this reduces their risk of unemployment and gives them a strong bargaining position when negotiating wages.

Available data on the current supply and matching of skilled workers suggests the tertiary education system is not as well-aligned with the world of work as it could be. Managers of New Zealand firms with 10 or more

employees reported the second highest level of skills shortages among a selection of OECD countries (Figure 4.4).

Figure 4.4 Percentage of firms reporting difficulties filling vacancies, selected OECD countries



Source: OECD, 2016c.

Notes:

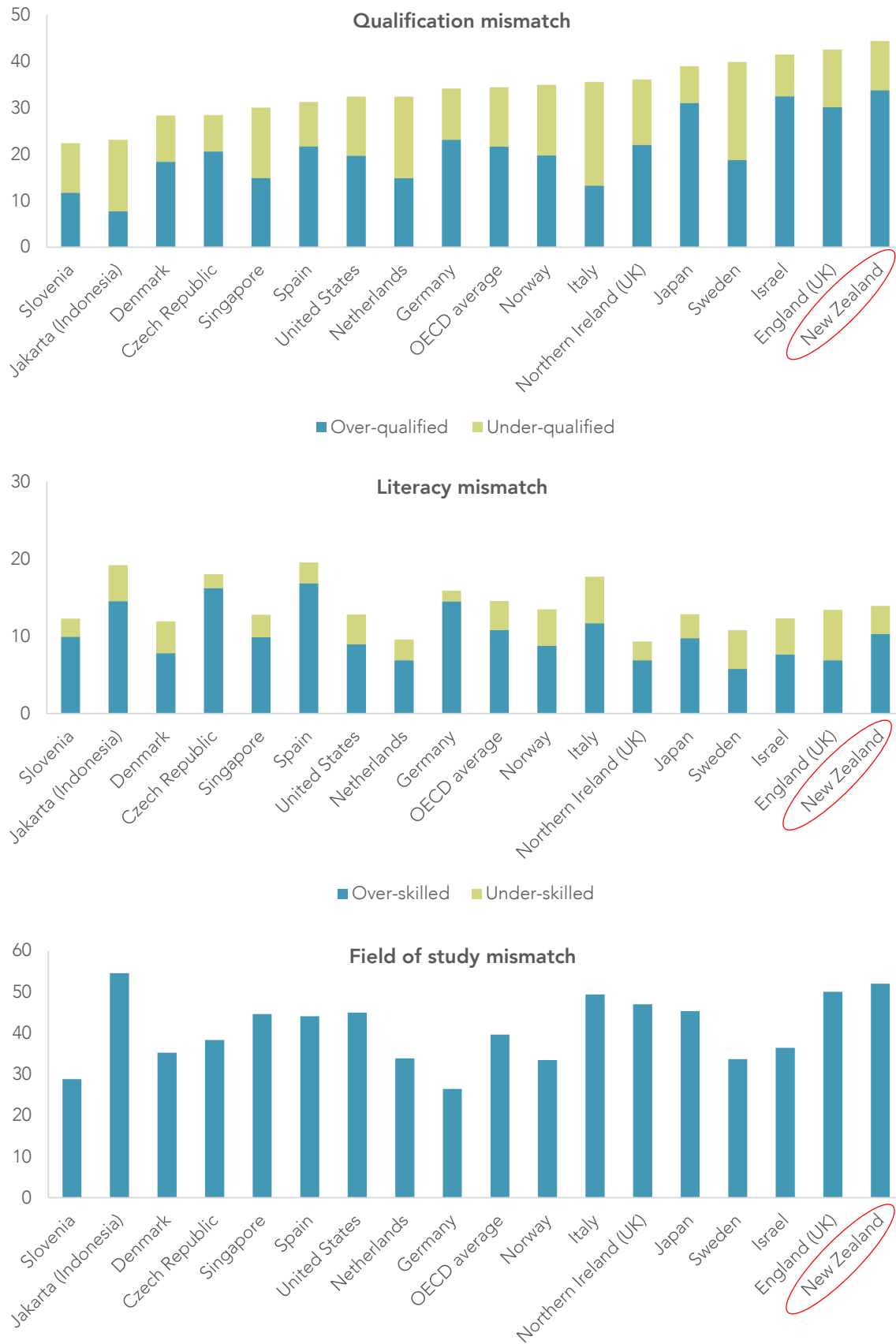
1. As a percentage of all firms with 10 or more employees.

However, in contrast to reported shortages in skilled workers, data recently collected through the OECD's Survey of Adult Skills (the survey) suggests New Zealand workforce is perceived to be over-qualified, relative to other countries.

The survey asked workers what would be the usual qualifications, if any, "that someone would need to get (their) type of job if applying today" (OECD, 2016d). 34% of New Zealand workers surveyed reported they hold higher qualifications than required to get their jobs (compared with an average of 22% among participating countries). 11% reported they have lower qualifications than required to get their jobs (compared with an average of 13%) (Figure 4.5).

The survey also measured the match between workers' literacy skills and those required in their work, and how closely workers' qualifications matched their occupation in terms of field of specialisation. New Zealand has a relatively high mismatch in terms of field of study, while results for literacy matching are similar to the OECD average (Figure 4.5).

Figure 4.5 Qualification, literacy and field of study mismatch, selected OECD countries



Source: OECD, 2016d.

The interaction of the three sets of matching data shown in Figure 4.5 is important. For example, many workers who report they are over-qualified are well-matched in terms of their literacy skills. This situation is referred to as “apparent qualification mismatch”, and suggests qualifications are an imperfect proxy for skills (OECD, 2016d). Apparent qualification mismatches can also occur if employers inflate recruitment criteria

with the idea this will help them select a higher quality candidate. Similarly, individuals may gain higher qualifications than are required in order to appear more attractive to prospective employers (Manca, 2016). 34% of New Zealand workers reported that they were over-qualified, but just 5% of the sample were both over-qualified and over-skilled. Looking at the OECD as a whole, 22% of workers reported they were over-qualified, while 3% of workers were both over-qualified and over-skilled (OECD, 2016d).

A degree of mismatch between the qualifications and skills the population holds and where they are employed is inevitable. Chapter 2 notes people have a diverse range of motivations for undertaking tertiary education – and these motivations are not always related to an employment outcome. Montt (2015) notes that, in any dynamic economy, some level of mismatch is expected as workers accept jobs in which they are mismatched while they search for the job that best fits their skills and interests; and as a result of changes in countries' economies.

Additionally, the consequences of a field of study mismatch are likely to vary depending on the nature of the qualification. Where a qualification teaches technical skills relevant to a specific occupation (e.g. a Bachelor of Medical Imaging) and a graduate does not find work in a related field, then a mismatch might be seen as wasteful. However many qualifications seek to develop graduates with transferable skills that can be put to use in a range of fields. In these situations, (eg, somebody with a Bachelor of Arts working as a sales manager) a mismatch may be of less concern. The OECD data does not differentiate depending on the nature of the qualification.

Although a degree of mismatch is inevitable, international research has found that higher levels of mismatch are correlated with negative consequences.

- For individuals, field of study mismatch combined with over-qualification entails lower wages, increased likelihood of unemployment, lower levels of job satisfaction, and possibly frustration stemming from the inability to put all their skills to use in the workplace (Montt, 2015).
- For employers, mismatched workers are more likely to be dissatisfied with their position, and this can lead to lower productivity and increased absenteeism (Quintini, 2011a).
- For society as a whole, mismatches entail the sunk cost of developing human capital that will not be used (although there are benefits from individuals undertaking education, even if it is not put to use in the workplace) (Montt, 2015).
- Adalet McGowan and Andrews (2015a) analysed the relationship between mismatches and labour productivity. Their results suggest higher skill and qualification mismatch is associated with lower labour productivity, with over-skilling and under-qualification accounting for most of the impacts.

Research examining the effect of mismatches in the New Zealand context is scarce meaning it is difficult to assess the extent to which these consequences play out in New Zealand. One exception is a recent paper (Yeo & Maani, 2017) which found approximately half of workers in New Zealand were either over- or under-educated. The research found that under-education is associated with earnings penalties of around 4.5% for each year of under-education compared to the required level for the job. Each year of over-education was shown to have a positive effect on earnings of about 3% to 4%.

F4.1

Compared with other OECD countries, workers in New Zealand are poorly matched with their positions (based on their qualifications, field of study, and literacy). Overseas studies show that poor matching has negative consequences for individuals, employers and the wider economy. However, the extent to which these consequences play out in New Zealand is unclear given some data limitations and a shortage of New Zealand-specific evidence.

Inquiry participants offered contrasting views regarding skill mismatches. ServiceIQ (sub. DR168, p. 2) agreed "that workers in New Zealand are poorly matched to the needs of the workplace, and that this mismatch correlates with lower labour productivity". Other submitters were less concerned about mismatches and

noted the practical difficulties of achieving perfect matching. These submitters argued transferable skills gained through tertiary education can be applied in a range of occupations without the need for matching.

While it is certainly noteworthy that New Zealanders self-report the greatest mismatch between qualifications and roles, we caution against the temptation to focus too heavily on qualification and labour market mismatch, particularly in terms of how it relates to productivity. It is neither possible nor desirable to create an exact match between the skills recognised in a qualification and current job roles; and evaluating the tertiary education system in these terms can be unhelpful. (Industry Training Federation, sub. DR160, p. 2)

We are ... not convinced that there is a worrying mismatch between type of qualifications and available jobs. With some exceptions, it is not the role of the tertiary sector to teach on the job skills. They rightly focus on underlying principles which can often be transported across professions. For example, a law degree offers highly useful skills, attitudes and approaches well beyond the practice of the law itself. (Quality Public Education Coalition, sub. DR145, p. 2)

Inquiry participants also noted New Zealand's relatively high levels of mismatch are likely to be influenced by factors outside the tertiary education system. For example, New Zealand has a relatively small, thin labour market and a general tendency towards a lack of specialisation by employers. In some cases, this might make it more difficult for graduates to find employment that is well-matched with their qualifications.

International literature presents a number of policy recommendations to reduce skill mismatches, and to make the most of investments in human capital. Some of these recommendations are outside the scope of this inquiry. For example, Adalet McGowan and Andrews (2015b) noted policies that create barriers to mobility (such as restrictions on housing supply, and high transaction costs associated with buying and selling dwellings) are associated with higher skill mismatch. Similarly, stringent labour market regulations can also exacerbate mismatches, as they reduce labour market flexibility and the ability of firms to adapt to changing circumstances. International studies also find qualification mismatches tend to be higher among migrants – which may well be influential in New Zealand, as migrants account for a relatively large share of the labour market.

There are also policies within the education system that affect matching. Each of these initiatives is likely to offer significant benefits for students, regardless of the degree to which matching is a problem in the New Zealand economy.

- Improving the responsiveness of the education system to changes in skill demand is crucial to reducing mismatches (Quintini, 2011b).
- High-quality career guidance counselling, accompanied by information on the returns to education by field of study, helps students make informed choices (Quintini, 2011a).
- Comprehensive lifelong learning frameworks are essential in addressing skill obsolescence, as well as new skill requirements driven by technological change. Similarly, on-the-job training can help avoid skill obsolescence, and bring under-skilled workers up to the level required for the work they undertake (Quintini, 2011a).
- Encouraging the development of transferable skills and qualifications that enhance the flexibility of their recipients allows graduates from saturated fields to find jobs at their qualification level in a different field (Montt, 2015).
- Although not tested empirically, policies that enable students to switch between different study options are likely to improve matching (where switching enables students to achieve a qualification and skills more closely matched to their career aspirations).

F4.2

Career guidance, information about the returns to different tertiary education programmes, opportunities to upskill and retrain, development of transferable skills, and an education system that is responsive to employer demand are all important for improving matching between graduates and employment.

Each of these policy areas are covered in detail in this report. Chapters 13 to 15 present recommendations to significantly improve the responsiveness of the tertiary education system, including mechanisms to reduce student switching costs. Chapter 13 recommends an overhaul of New Zealand's careers advice system, and improved provision of information about employment outcomes associated with different study options. The development of transferable skills, in-work training, and lifelong learning are examined in greater detail in sections 4.4, 4.5, and 4.6 of this chapter.

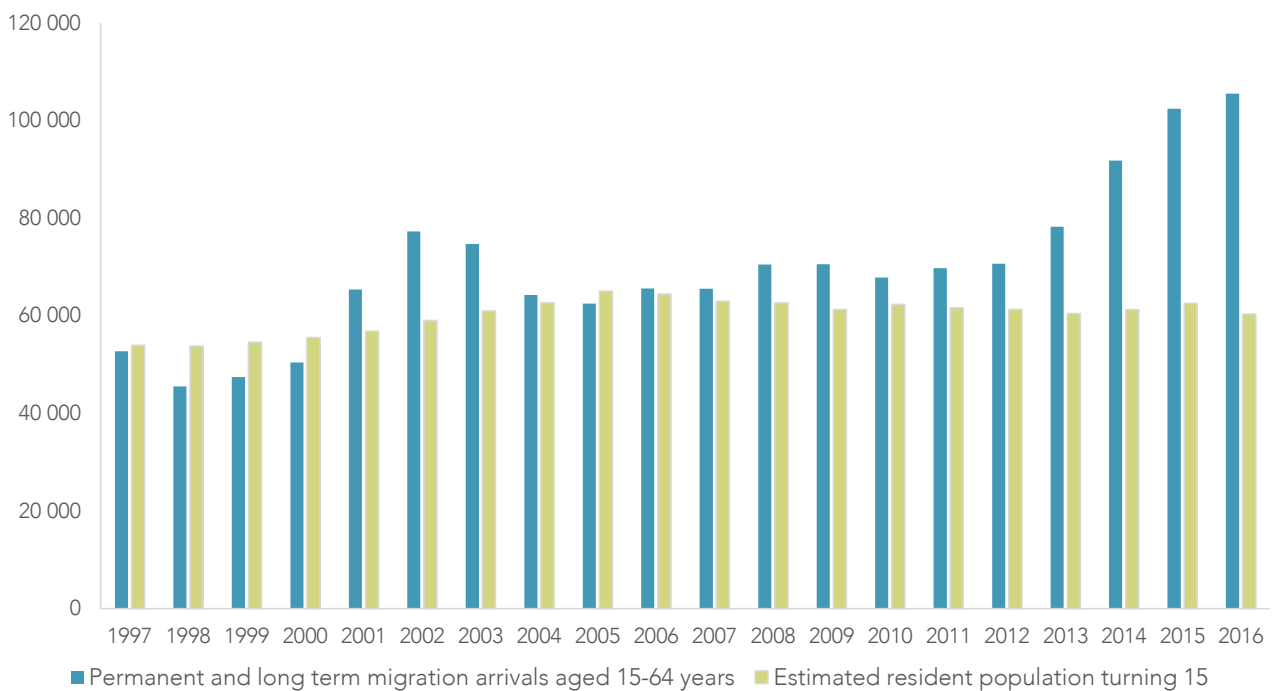
An open labour market can adjust through immigration and emigration

New Zealand's labour market is very open and is characterised by high levels of mobility across regions and national borders, between jobs and between industries, and in and out of training. In particular, the Trans-Tasman Travel Arrangement allows all citizens of Australia and New Zealand to travel, work and reside in both countries indefinitely. With the exception of the European Union, such free movement of people is rare (APC & NZPC, 2012).

New Zealand's net migration patterns tend to be cyclical and, over the past 20 years, have fluctuated between a net outflow of 11 300 in the year 2000, to a net inflow of 70 600 in 2016 (Statistics New Zealand, 2017).

In all but five of the past 20 years, immigration has been a bigger source of new skills to the New Zealand labour market than local population growth (Figure 4.6). In recent years, a strong upswing in inward migration has resulted in new working-age migrants outnumbering New Zealand residents turning 15 by 39 900 in 2015, and by 44 500 in 2016.

Figure 4.6 Additions to the New Zealand labour market, 1997–2016



Source: Statistics New Zealand, 2017.

The openness of the labour market influences the quantity and mix of skills available on the local labour market. In some cases, this can be detrimental to matching efficiency. For example, strong inward net migration may increase the pool of skilled labour and, if demand for skilled labour has not increased, there will be fewer suitable jobs for people to fill. This creates a decline in matching efficiency. However, if inward migration were occurring in response to increasing demand for skilled labour, the inflow would likely improve matching efficiency (Craigie, Gillmore & Groshenny, 2012).

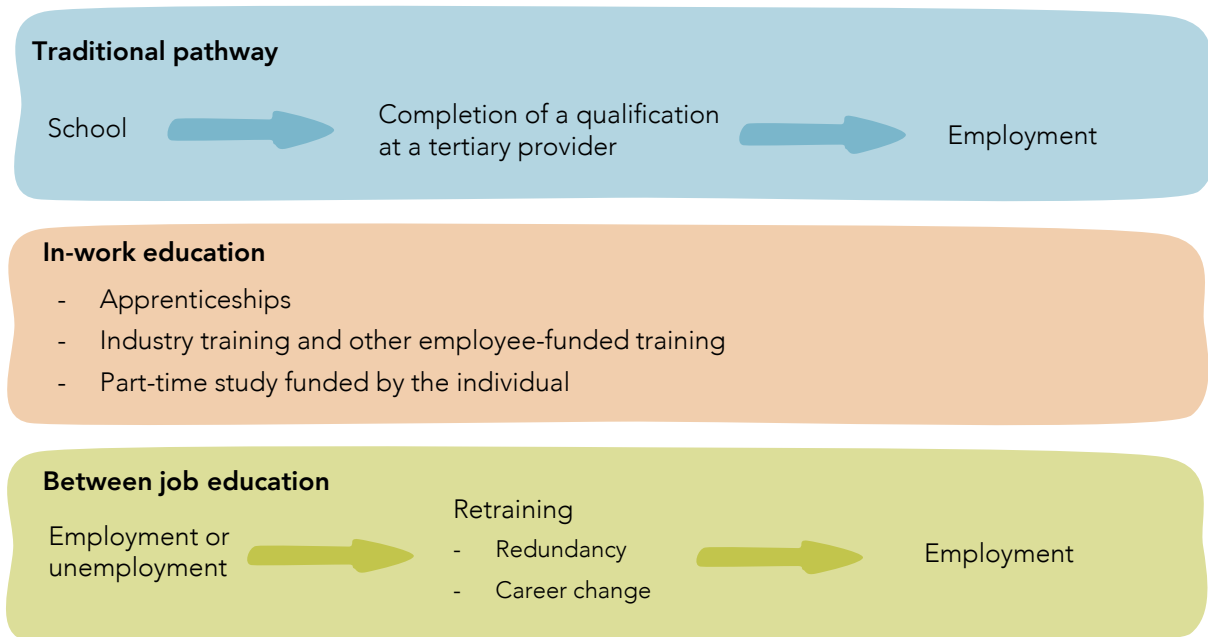
Migration flows can also affect employers' incentives to invest in the skills of their employees, and to engage with the tertiary education system to influence the skills of potential future employees. As discussed in

section 4.4, engagement between employers and tertiary education providers is a longstanding concern in New Zealand.

4.3 How do students transition from education to employment in New Zealand?

There is a range of different pathways between tertiary education and the workforce. Three broad pathways are set out in Figure 4.7.

Figure 4.7 Pathways between tertiary education and employment



The following sections of this chapter examine the role employers play in each of the pathways outlined in Figure 4.7.

4.4 Role of employers in the traditional tertiary pathway

This pathway to employment typically involves a student entering tertiary education after secondary school, completing a qualification, then moving into employment. Qualifications vary significantly in terms of how closely they are linked to specific occupations. For jobs subject to occupational licensing, a certain qualification is a mandatory requirement (such as law, teaching and nursing). Other jobs vary between those where a certain qualification is the norm, but not necessarily required, and those jobs where employees have a diverse range of educational backgrounds. Reflecting this diversity, qualifications vary between the job-specific and those purporting to equip graduates with skills and attributes that can be applied in a range of occupations.

This section examines two potential problems that can occur when students enter employment through a traditional pipeline. First, it considers whether there is sufficient coordination between employers and the tertiary education sector to ensure up-front investments in education are aligned with employer needs. Secondly, it examines the extent to which tertiary education is providing graduates with skills that can be applied to a range of employment types.

Coordination between employers and the tertiary education sector

There are several ways employers can interact with the tertiary education system to influence the nature of provision. These include formal mechanisms, such as engagement with curriculum development and NZQA quality assurance processes. Government has also developed specific initiatives to improve the links between education and employment in certain fields, including ICT and engineering.

Employer input into curriculum development and quality assurance

If a tertiary education provider wishes to develop a new programme of study or qualification, it must first go through an approval process administered by NZQA or, in the case of universities, the Committee on University Academic Programmes (CUAP) (Chapter 5). Both approval processes include steps requiring engagement with employers. For example, NZQA requires qualification developers to provide “clear and robust evidence that a qualification will be useful, relevant and of value to learners, employers, industry and communities” (NZQA, 2014a, p. 8). Similarly, CUAP requires that universities establish the acceptability of new programmes through engagement with relevant communities, including employer, industry and professional bodies (CUAP, 2015). Part of the qualification development process involves developing an outcome statement for prospective employers, which includes a profile of what a person awarded the qualification must be able to “collectively do, be and know” (NZQA, 2016).

Where qualifications are part of a professional registration process, the professional registration body will be involved in qualification development, approval and monitoring processes. NZQA will not approve a programme, or accredit an institution, until the specific requirements of relevant registration bodies are met. These requirements are set out in written agreements between registration bodies and NZQA (NZQA, 2014b).

Quality assurance processes, such as NZQA’s External Evaluation and Review (Chapter 5), also include requirements for TEOs to engage with employers. As part of the review process, TEOs are required to undertake a self-assessment, which includes an assessment of the extent “TEOs systematically determine and address the needs of learners, employers and the wider community” (NZQA, n.d. a).

NZQA uses the information in self assessments to determine the relevance of provision. For example, in its 2016 External Evaluation and Review of MFH International Institute (a Wellington-based private training establishment), NZQA determined there was a good match between MFH’s programmes and the needs of learners and other stakeholders. The review noted MFH’s Training for Work programme “is based on strong business networks in the retail and hospitality industry and constantly uses employer feedback, informal and formal, to reflect on the relevance of the training courses and matching the needs of learners in workplaces” (NZQA, 2016a, p. 14).

Other mechanisms for employer input into tertiary education

Alongside the formal mechanisms for employer involvement in qualification design and quality assurance, providers noted a range of other mechanisms for employer engagement. For example, the University of Otago (sub. 37) lists a range of initiatives including:

- Employer, industry or professional representation on panels for our own internal reviews;
- Visits by employers for recruitment purposes;
- Involvement in student internships;
- Our academic staff sharing their expertise and undertaking research with industry, policy makers and/or end users;
- Periodic surveys of employers. (p. 30)

The College of Humanities and Social Sciences at Massey University (sub. 27) also provided an example of how it incorporates employer input into the design of qualifications:

The core curriculum recently introduced into the Bachelor of Arts (BA) at Massey University was substantially informed by input from employers. Three aspects of these changes speak to the ways in which interactions between employers and tertiary providers might be pursued.

- In the programme design phase, the views of employers were solicited (particularly in the lower North Island/Wellington region) – with the assistance of Business New Zealand – on a range of matters (e.g., skills likely to be in demand in the future; value of transferable skills).
- Consistent with the call for stronger links between tertiary providers and employers... the organisational arrangements designed to support Massey’s new model BA provides for an institutional ‘champion’ for the programme, one of whose responsibilities is to foster relations with employers. The arrangements also include digital and physical student engagement spaces in which BA students can engage with external interests.

- A new capstone paper designed for first delivery in 2017, will provide BA students with the opportunity to engage critically with issues relevant to employers in the public and private spheres. (p. 3)

Some tertiary qualifications include opportunities for students to develop work-relevant skills through internships or periods of work experience. In a survey of 149 major New Zealand employers conducted by the University of Otago in 2015, more than two thirds of respondents agreed that graduates who had been involved in an industry placement were better prepared for employment (University of Otago, sub. 37). The Tourism Industry Association also voiced support for industry placements, noting “programmes that involve a work-experience component are generally more highly valued by employers due to the experiences and on-job skill development those graduates gain during a work-experience component” (sub. 51, p. 6). The University of Canterbury (sub. DR124, p. 5) noted it is expanding work experience components in undergraduate study:

UC continues to innovate with its work internship and placement programme for undergraduates, which is progressively being expanded beyond engineering and initial teacher education to other colleges. Of those graduating from UC with an undergraduate degree in 2015, 57% had met a relevant work experience requirement, or had studied overseas, or engaged in an academic course that included a community engagement requirement.

While the value of work placements was widely acknowledged, several inquiry participants noted it can be difficult to find employers willing to provide placements:

We often find that it’s very hard for employers to give even a small amount of time to students who are seeking to do projects with them. People are simply too busy; sometimes it’s not appropriate for people to talk openly to students about their business. In the private sector, they tend to say ‘too busy’; in the public sector, they often say that things are too sensitive and confidential. (Duncan, sub. 18. p. 7–8)

Employer/education interaction in nursing programmes is high due to the requirement for clinical placements for students to obtain the required clinical skills of their programmes. However... access to placements can be variable depending on the employer, and quality of placements can be variable due to a range of factors including staff shortages, heavy workloads and little value placed on having students in the workplace. (New Zealand Nurses Organisation, sub. 25, p. 6)

How effective is the engagement between employers and education providers?

Despite the presence of formal and informal mechanisms for employer input into the tertiary education system, there remains a perception that stronger links between employers and tertiary providers are needed. For example, each of the past four Tertiary Education Strategies¹⁸ (TES) has expressed a desire for the tertiary education system to be more closely aligned with the needs of employers, usually accompanied by statements calling for greater input from employers and industry groups:

We need to create... a comprehensive set of educational pathways to cater for modern lifestyles and employment patterns, informed by vastly better links between employers, unions and the tertiary education system. (MoE, 2002)

While the tertiary education sector can do a lot to plan for and respond to skill needs in the trades and technical occupations, tertiary education organisations cannot be expected to do this alone. Contributions will be needed from employer and industry groups to the planning by individual tertiary education organisations. (MoE, 2007)

The Government wants a tertiary system that rewards successful providers who demonstrate that they meet the needs of students and employers, for instance through their connections with firms. The system will also reward providers who respond to market signals, including the changing skill needs of industries. (MoE, 2010a)

TEOs need to create opportunities for industry involvement in planning and delivering education... while industry will need to clearly identify its medium and long term needs. (MoE & MBIE, 2014)

Several submitters to this inquiry voiced similar concerns. For example, the Ministry of Business, Innovation and Employment (MBIE) notes that skills utilisation is a weakness in New Zealand, due in part to the relatively ineffective relationships between employers and the tertiary education system. MBIE also notes that:

¹⁸For a description of the TES’s role in the tertiary system, and an overview of the current TES, see Chapter 5.

We need to change TEOs' behaviour so that they proactively seek employer engagement, and we also need employers to support providers by identifying demand for skills, helping anticipate demand and plan ahead, providing time and resources in the design and delivery of education and training, and taking responsibility for providing on the job training. (sub. 63, p. 2)

DairyNZ (sub. 26) suggests that greater industry input is still needed:

In the current model of tertiary education, institutions typically decide what constitutes a coherent body of knowledge, with an inbuilt driver to preserve the traditional composition and size of qualifications. However, what makes up a coherent body of knowledge is changing rapidly and will continue to do so. Equally, what is coherent and deep for one person is not the same for another even in seemingly parallel work environments. The system has to become a lot more agile and tolerant to accommodate this dynamism and diversity... We are seeking a greater industry input into what makes up a coherent body of knowledge and the practical skills that can apply it. (p. 3)

The University of Auckland (sub. DR118) also pointed to a disconnect between industry and the university subsector, and suggested this stems from a lack of clear input from industry:

New Zealand industry has singularly failed to articulate a coherent sense of how universities may contribute to national well-being. With the exception of a few firms and accrediting agencies, it relies on empty shibboleths such as 'work readiness'. (p. 2)

There is also evidence that some recent graduates feel their tertiary education could have been more closely aligned with the realities of employment. For example, a New Zealand survey of 785 lawyers, whose practising certificate had been issued in 2013 or later, found respondents were satisfied with the theoretical components of their training, but were less satisfied with the practical aspects. 87% of surveyed law graduates suggested their training at law school ought to have been more practical. Fewer than 50% of respondents agreed that law school gave them a good grounding in practical legal skills or prepared them well for practising law. By contrast, 93% agreed law school had given them a good grounding in theory and analytical skills (Pemberton, 2016).

It is likely that the apparent disconnect between some parts of the tertiary education sector and employers is a by-product of the incentives that motivate employers and tertiary providers.

Employers are not directly faced with any of the costs associated with education (where somebody enters employment through the traditional pipeline). This contrasts with industry training, where employers are required to meet some of the costs and other forms of in-work training, where employers frequently meet some of the costs (Section 4.5). Some inquiry participants noted the absence of a direct financial contribution to tertiary education was a driver of employer behaviour:

If employers are to have greater involvement, in terms of specifying the types of graduates they want, then they need to make greater investment. Tertiary education is an intriguing market where the customer (industry) does not pay for the product (the graduate) except indirectly through general company taxation.

It might be advisable, if greater industry involvement is desired, to remedy this "false market" by introducing an industry levy whereby if industry wish to shape the graduates provided, they pay. This avoids them demanding features for which they will bear absolutely no cost. (Alach, sub. 8, p. 6).

New Zealand's migration policy settings are another factor that may dampen the incentive for employers to engage with the tertiary education system. As set out in Figure 4.6, new working-age migrants have typically been equal to the number of New Zealand residents turning 15 while, in recent years, migrants have comfortably outnumbered local additions to the labour market. As a result, it may be easier for some industries to buy in skilled labour through international migration, rather than engaging with the domestic tertiary education system to make skills locally.

For tertiary providers, the vast majority of funding is sourced directly from government. Funding is allocated through Investment Plans negotiated between providers and government, and funding comes with tight specifications on the nature and volume of delivery it can be used toward (see Chapter 5 for further detail). As a consequence, providers are incentivised to respond to the signals sent by government, rather than by employers. For example, the Methodist Mission Southern and BusinessNZ both voiced doubts about the effectiveness of current employer engagement:

Our experience was that we were heard, and then the agenda of the ITPs – principally, what was convenient for them to teach– was allowed to outweigh the voices of employers. (Methodist Mission Southern, sub. 5, p. 3)

Industry and employers provide a range of government agencies and tertiary education organisations with information about their needs but at no point is this intelligence pulled together and utilised. (BusinessNZ, sub. 77, p. 6)

F4.3

Employers can have input into the tertiary education system through a range of formal and informal avenues. The incentive for employers to engage with tertiary providers may be muted by the relative ease of access to skilled migrants. Tertiary providers lack incentives to respond to employer input as the majority of their revenue comes from government.

Recent initiatives to improve the links between education and employment

In some instances, government has established specific mechanisms to improve the links between education and employment. ICT Graduate Schools are a prominent example (Box 4.3).

Box 4.3 ICT Graduate Schools

Budget 2014 allocated \$28.6m over four years for an ICT Graduate School programme. The programme aims to improve the links between tertiary providers and the ICT industry, and to produce graduates that are well-prepared for a career in the industry through real-world learning experiences (MBIE, 2015b).

Universities New Zealand notes the initiative has provided much-needed additional funding for the education and upskilling of ICT graduates, but also raised concerns that ICT Graduate Schools:

- have added significant administrative overhead and administrative complexity because they are managed as discrete contracts with separate performance and reporting arrangements and separate governing bodies [and]
- ...are unwieldy – requiring at least two organisations to collaborate on delivery. (sub. 17, p. 37)

The University of Otago noted similar concerns:

The ICT Graduate School initiative... has been characterised by extraordinarily complex contracts, unwieldy and inefficient governance suggestions, and protracted negotiations. (University of Otago, sub. 37, p. 10)

Ed. Collective was also critical of the initiative, suggesting the skills needed for employment in the industry could be developed without the need for postgraduate study:

Internationally, companies have also been able to take people from 'zero' to employable computer programmers in 6 months. Why, then, do we send the message that aspirant computer programmers need to spend a full 3 years getting a computer science degree? Worse still, we are now encouraging them to spend even longer and take on even more debt studying in graduate ICT schools. (sub. 89, p. 25)

The Sector Workforce Engagement Programme is another government initiative addressing education and employment issues. MBIE noted:

...this programme has supported dairy employers to develop new employment relationships and co-develop new training programmes with TEOs that better meet skill requirements of employers and utilise employer resources for pre-employment experience. Such a programme requires sector leadership and the flexibility and incentives for developing new models of delivery. (sub. 63, p. 2)

MBIE noted that a feature of this initiative and the ICT Graduate Schools was the requirement for government to intervene and support greater coordination between the tertiary sector and employers.

From 2017, employers will be able to provide direct feedback on the value of qualifications held by their employees through a “Rate My Qualification” survey. The survey will question both employers and recent employees on how well the recent employee’s qualification has prepared them for their current role. TEC will be responsible for collecting and collating the dataset, and will provide the data to TEOs to publish on their websites. The data will also be made available for third-party information providers to publish, allowing users to compare information across a range of providers and qualifications (MoE, 2015b).

Chapter 11 provides an overview of the Engineering Education to Employment (E2E) programme, which is another example of a government initiative to improve coordination between employers and tertiary providers.

Some inquiry participants saw the presence of such initiatives as a symptom of weaknesses in the system:

The Engineering Education to Employment programme (E2E) is a positive initiative but the fact that it is there over and above the main system indicates a weakness in the system. (Horticulture New Zealand, sub. DR152, p. 3)

Despite a lot of ad hoc activity and initiatives there is little robust evidence that business and industry engagement is currently effective and has had the desired impact. One point solutions like ICT Grad schools fail to recognise the complexity involved in developing a supply of talent to better meet the needs of industry in the medium term. The Engineering Education to Employment programme also highlights the shortcomings of existing funding levers and a single agency approach. (BusinessNZ, sub. 77, p. 6)

F4.4

Government has established numerous initiatives to improve coordination and links between tertiary education providers and employers. The need for such initiatives is symptomatic of longstanding coordination difficulties between the tertiary education system and employers.

Transferable skills for a changing employment market

One potentially problematic feature of the traditional pipeline from tertiary education to employment is the employment prospects associated with certain qualifications can change rapidly. Several inquiry participants noted the tertiary education system should seek to equip students with skills that can be applied in a diverse range of situations – such as communication skills, ability to work well in a team, planning and organisational skills, and problem-solving skills.

There is a range of different terms to define such skills, including *soft skills*, *key competencies*, *non-cognitive skills*, *employability skills* and *transferable skills*. This chapter uses the term transferable skills.

... we consider a skills-based education that heavily focuses on immediate employability to be limited and short-termist. Workplaces require graduates who are, first and foremost, informed, flexible and critical thinkers. Given the changing nature of work, the disappearance and the emergence of new jobs, alongside the recalibration of existing jobs, the future demands on workers will continually change. (Massey University Business School, sub. 96, p. 2–3)

I do think that universities cannot be expected to meet specific technical skills of every employer in the country (also because over the course of a degree that takes 3-4 years, the work market can change). Instead, universities should provide a set of basic skills that could be useful for a range of jobs. Graduates should then be expected to pick up the specific skills they need for a specific employer over a short period of time but also to be self-learners over their working life. (Ben-Tal, sub. 15, p. 1)

Flexible and transferrable skills are the best solution for an employment market that is constantly changing. (University of Canterbury Faculty of Arts, sub. 35, p. 2)

Several providers gave examples of how they seek to develop transferable skills that can be applied in numerous settings (Box 4.4).

Box 4.4 **Provider initiatives to prepare graduates for a changing employment market**

The University of Waikato notes it is redeveloping its curriculum to ensure graduates can maintain pace with the fast-changing employment market, by being able to:

1. Apply discipline (and profession) specific knowledge
2. Apply critical thinking in systematic, innovative and creative ways
3. Communicate and collaborate effectively
4. Demonstrate competence in culturally diverse local and global contexts
5. Exhibit professional and personal integrity. (sub. 93, p. 6)

NZITP and Metro Group notes soft skills are a growing part of ITP provision:

For several decades employers have continued to emphasise the importance of 'soft skills' and graduates with the right aptitude and attitude for employment as well as the significance of graduates with work or work related experience; such skills are an integral aspect of all ITP provision. The transferable skills sought by employers are a growing part of all ITP provision. (sub. 42, p. 24)

The University of Otago notes that it:

...regularly interacts with employers and industry to ensure that we maintain an up-to-date understanding of what is required in workplaces. We take a deliberate approach to identifying an overarching set of attributes we seek to inculcate in all students (what might be called transferable skills). These attributes link very directly to what employers tell us they are seeking from graduates. ... Otago has been surveying our graduates for two decades, which means we are able to map development and application over long periods and respond to increases in need. For example, our graduates are reporting a greater need for teamwork skills, and Otago has put considerable effort into increasing development opportunities in this area (University of Otago, sub. DR130, pp. 7–8)

The University of Canterbury has developed a co-curricular record to help quantify non-academic skills:

UC has also developed the co-curricular record (CCR). The CCR keeps verifiable records of those activities which foster the development of skills and attributes, but that are not directly credited to degrees such as volunteer work, sporting achievements and some internships. This record is a useful mechanism that enables students to identify and keep connected with their own co-curricular development that aligns with the graduate profile. As employers indicated that highly desirable employees present with a well-rounded suite of experiences, the CCR facilitates students to be able to pro-actively respond to this. (Sampson et al., sub. 14, p. 2)

While many providers acknowledged the importance of transferable skills, some inquiry participants questioned whether tertiary education is equipping students with these skills:

Only about a quarter of employers believe recent graduates are well prepared in critical thinking and analytic reasoning, written and oral communication, complex problem solving, innovation and creativity, and applying knowledge and skills to real-world settings. (New Zealand Union of Students' Associations, sub. 19, p. 1)

Industry is increasingly asking for students to have 'soft skills' that represent their work ethic. The system has not responded to the flexibility, adaptability and entrepreneurship graduates currently need to survive in the 21st century work environment. (Victoria University of Wellington Students' Association, sub. 80, p. 9)

One way to gauge how transferable skills are incorporated into tertiary curricula is to examine the skills reflected in assessment techniques. Box 4.5 sets out the assessment techniques used in undergraduate political science and sociology courses at Victoria University of Wellington (VUW).

Box 4.5 Assessment techniques, sociology and political science

The College of Humanities and Social Sciences at Massey University notes the following:

Within the HSS [Humanities and Social Sciences] in New Zealand there is substantial everyday innovation to incorporate and leverage changes in technology, internationalisation, and a focus on non-cognitive/soft skills and employability. (sub. 27, p. 1)

A recent survey, conducted by the Careers and Employment service at VUW, of employers who were recruiting between January 2013 and May 2015, supports the suggestion that transferable skills are important (Kusmierczyk & Medford, 2015). The 10 skills and attributes most valued by employers were:

- | | |
|--------------------------|-------------------------------------|
| 1. Work ethic | 2. Verbal communication skills |
| 3. Energy and enthusiasm | 4. Analytical and critical thinking |
| 5. Problem solving | 6. Teamwork |
| 7. Interpersonal skills | 8. Written communication skills |
| 9. Self-management | 10. Initiative and enterprise |

However, the assessment approaches used in the 12 undergraduate political science and sociology papers offered in 2015 at VUW focus heavily on written work (primarily essays), and on tests and exams. On average, these traditional forms of assessment accounted for 96% of total assessment in both disciplines. Assessment techniques clearly linked to verbal communication skills, interpersonal skills and teamwork were used infrequently and accounted for a very small share of the total assessment (Table 4.1). Only one assessment involved a verbal presentation (accounting for 10% of the course total), and only one assessment was based on group work (accounting for 5% of the course total). All other assessments were completed individually.

Table 4.1 Assessment in political science and sociology courses, VUW, 2015

Assessment technique	Political science		Sociology	
	Frequency used	Average weighting	Frequency used	Average weighting
Essay	19	49%	21	56%
Other written exercise	5 ¹	8%	8 ⁴	12%
Verbal presentation	0	0%	1	1%
Interpersonal exercise	5 ²	4%	4 ⁵	3%
Exam or test	12 ³	39%	10 ⁶	28%

Source: Victoria University of Wellington, 2016a.

Notes:

1. Examples of "other written exercises" include a research proposal, literature review, and blog posts.
2. Interpersonal exercises were tutorial attendance, a peer review exercise, blog comments, and group work.
3. Seven assessments using a formal end-of-semester exam, and five take-home or in-class tests.
4. Examples of "other written exercises" include a research poster, a practical observation exercise and experiential essays.
5. Interpersonal exercises were tutorial attendance (used twice), an open space meeting, and a peer review exercise.
6. Four assessments using a formal end-of-semester exam, and six take-home or in-class tests.

This is a selective analysis, and it is not clear whether the assessment practices used in undergraduate political science and sociology at VUW is indicative of wider assessment practices in tertiary education disciplines purporting to equip students with transferable skills. Also, the assessment methods may not be a

fair reflection of the full range of learning sociology and political science students are exposed to. However, NZUSA submitted that the predominance of written and exam-based assessment is a concern for students, and suggested there is considerable scope for greater integration of transferable skills into assessments:

The concerns raised about assessment is one that students feel strongly about. The bulk of programmes continue to use essays and exams as the primary method of assessment, when desired graduate profiles will require different assessments in order to have any credibility. Education researchers in tertiary institutions contribute extensively to assessment methods across other levels of education, yet we struggle to adapt this into our own education. This needs to be changed if institutions are genuine about creating a graduate that can work as part of a team, be able to present complex ideas to groups of people, and demonstrate competence in working with a range of people from different backgrounds. These are not uncommon as published graduate attributes, yet an essay or exam would struggle to assess them. (New Zealand Union of Students' Associations, sub. DR139, p. 8)

F4.5

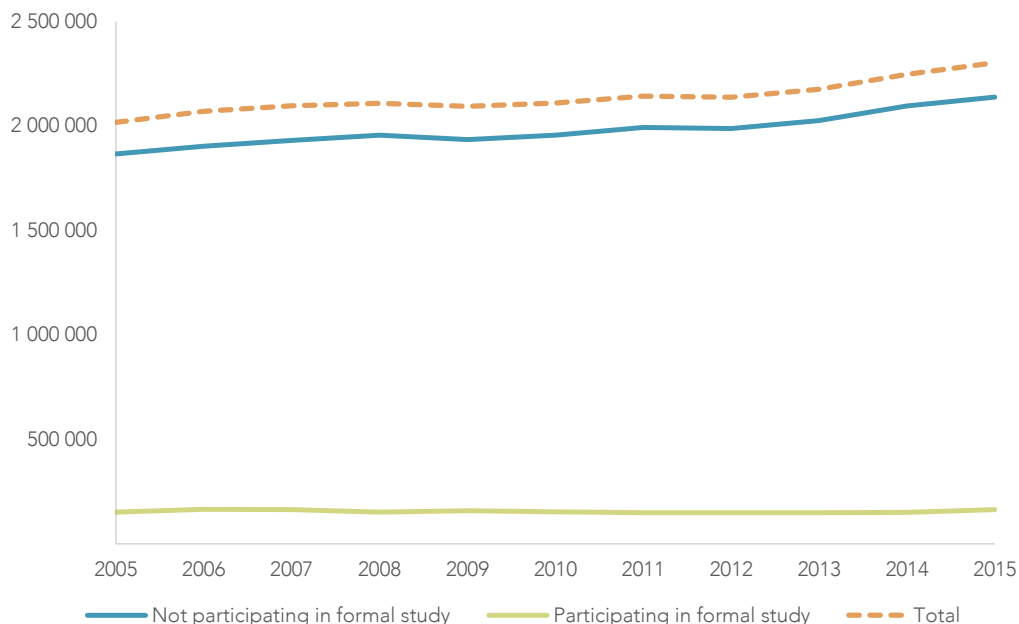
Tertiary education qualifications that equip graduates with transferable skills are desirable, as such skills retain their relevance in a changing job market. Several providers noted they are focusing on developing transferable skills; however, in some cases, these skills are not well integrated into assessment processes.

4.5 In-work education and industry training

In most workplaces, workers gain skills and experiences on the job. This can include informal learning (such as learning from colleagues and learning by doing), or specific training programmes – including those delivered through the tertiary education system and fully private professional development courses.

Figure 4.8 shows the study status of New Zealand's total labour force. Between 2005 and 2015, the number of people employed and not participating in formal study has increased steadily from 1.86 million to 2.14 million. By contrast, the number of workers participating in formal study has remained relatively constant, fluctuating between 150 000 and 165 000.

Figure 4.8 Numbers employed in the labour force by formal study status, 2005–15



Source: Statistics New Zealand, 2016a.

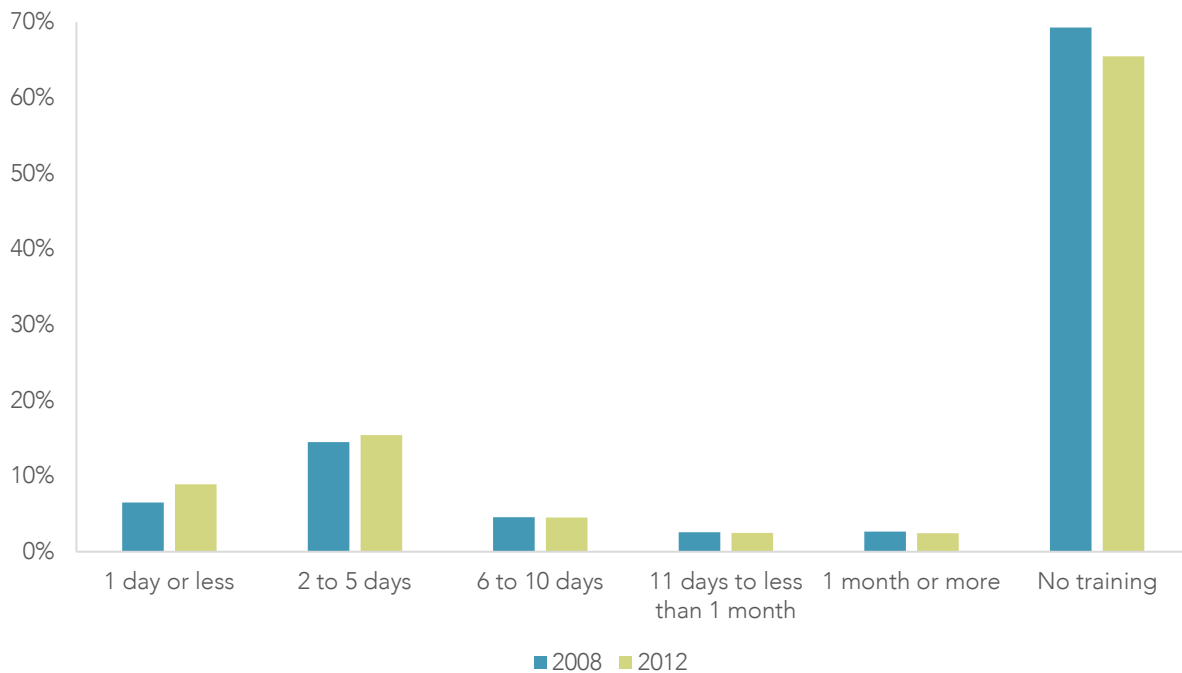
Notes:

1. To be participating in formal study, a person must be working towards a qualification that takes three or more months of full-time study (at least 20 hours per week) to complete.
2. The Household Labour Force Survey is reported quarterly. The figures shown here are the average for the four quarters in each calendar year.

The data shown in Figure 4.8 only shows whether or not an individual has participated in formal study – defined as study toward a qualification that would take three or more months of full-time study to complete – and hence excludes a range of other types of education and training. Figure 4.9 shows the results of a 2008 and 2012 survey of employees, which asked if they had done any training courses or education¹⁹ paid for by their employer (in part or in full) in the last 12 months. 31% of respondents had received some training in 2008, and this increased to 34% in 2012. In both instances, the majority of education was for a duration of 10 or fewer days.

Analysis of the 2008 survey results identified that participation in employer-funded education was positively correlated with workers' levels of education, number of hours worked, length of tenure in the role, and employment in the public sector. Gender did not affect the likelihood of having participated in employer-funded education, and participation rates were lower for young (24 and under) and older (60 plus) workers (Barnes & Dixon, 2008).

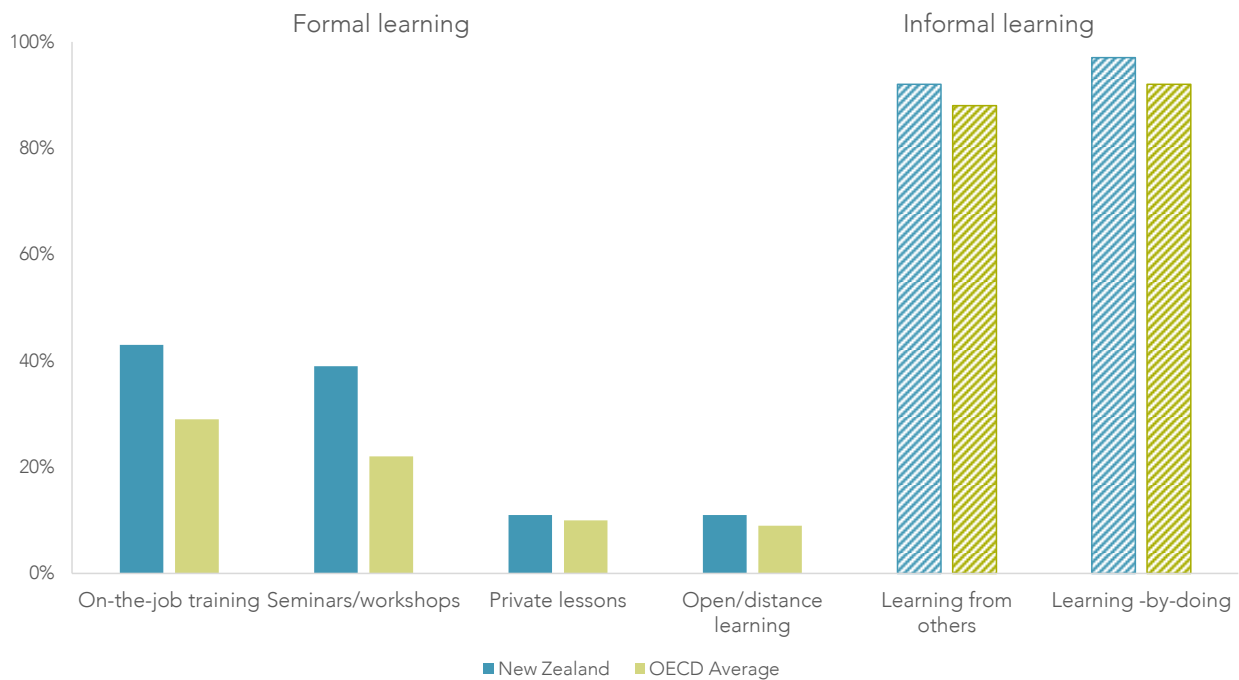
Figure 4.9 Employer-funded education and training that employees receive, 2008 and 2012



Source: Statistics New Zealand, 2008; 2012.

The OECD collects information about New Zealanders' participation in work-related learning. Participation in work-related learning exceeded the OECD average on all measures of formal and informal learning (Figure 4.10).

¹⁹ The definition of education and training included training that was organised by the employer or an external training provider, conducted in-house or externally, and delivered by the company's own employees or external training providers. On-the-job training at an employee's desk or normal place of work was excluded, as was attendance at conferences.

Figure 4.10 Participation in formal and informal work-related learning

Source: MoE & MBIE, 2016a.

Industry training

The industry training system is a formalised approach to learning within the workplace, which provides employees with training linked to the NZQF. The Industry Training Federation notes the close links between education and the labour market sets industry training apart from other forms of tertiary education in New Zealand:

Industry training is the part of the tertiary education system with the closest link to the labour market. Industry training happens in the workplace, with existing employees. The majority of the training is delivered on-job by knowledgeable and experienced staff members and managers, in real rather than simulated situations... Firms are intimately involved in both the creation of the content for the training, and the training itself. This enables them to evaluate and influence the 'education supply' first-hand, rather than being a passive recipient of this supply. (sub. 54, p. 4)

Industry training involves a mix of on-the-job training and off-job provision, usually delivered by ITPs or Private Training Establishments (PTEs). Around 140 000 trainees participated in industry training in 2014 (Chapter 3 contains an analysis of the types of trainees participating in the industry training system). Industry training can be broken into two broad categories: apprenticeships and traineeships.

Apprenticeships

Apprenticeships accounted for 26% of industry trainees in 2014. The main category of apprenticeship is the New Zealand Apprenticeship. It aims to enable learners of any age to become work-ready in an occupation or industry, including meeting any regulatory requirements for entry into an occupation. The apprentice must be employed in the occupation for which they are training, and be supported by a training plan agreed by the apprentice, the employer, and the organisation arranging the training. All New Zealand Apprenticeships contain a strong theoretical component to support further learning, as well as a practical element, and result in (at least) a level 4 qualification (TEC, 2016a). New Zealand Apprenticeships have (from 2014) replaced the Modern Apprentice programme, which was targeted specifically towards those aged 16 to 21 years.

There are two other types of apprenticeship. Industry training apprenticeships include those industry trainees not enrolled in the New Zealand Apprenticeship programme, but whose programme of study meets or exceeds the New Zealand Apprenticeship criteria. Managed Apprenticeships (discussed below) are funded primarily through Student Achievement Component (SAC) fund as opposed to the industry training

fund, and are administered by tertiary providers such as ITPs, with ITOs having little or no role in arranging training.

Traineeships

Traineeships are industry training programmes that do not meet the New Zealand Apprenticeship criteria. Traineeships accounted for 74% of industry trainees in 2014. Trainees are often involved in “short-burst, just-in-time skills acquisition training” (MoE, 2015a).

Industry Training Organisations

Eleven industry-owned ITOs oversee the industry training system under the Industry Training Act 1992. ITOs are required to undertake one or both of the following core activities:

- developing and maintaining skill standards to be listed on the Directory of Assessment Standards and used in the assessment of trainees; and
- developing and maintaining arrangements for the delivery of industry training that will enable trainees to achieve the relevant skill standards.

“Skills standards” are a specification of skills and a level of performance in skills. The Industry Training Federation (sub. 54) notes development of skill standards is undertaken in consultation with employers, industry associations and education providers to ensure training arranged by ITOs is relevant to the employer.

Since the 1992 establishment of the industry training system, the number of ITOs grew to 52 in 1996 (MoE, 2012). Subsequently, the ITO subsector has consolidated significantly and there are currently 11 ITOs receiving TEC funding. Some concentrate on a narrowly defined industry such as the Hair and Beauty ITO, and Skills Active Aotearoa Limited, which represents the sports, fitness and recreation industry. Other ITOs are larger and cover multiples industries – such as Service Skills Institute, which represents tourism, travel, hospitality, museums, retail, aviation and wholesale goods operations. The Industry Training Federation notes that differences between ITOs and their industries result in different approaches to training:

There are... significant differences in business models and drivers among the industries they serve, so the models for arranging training and assessment can vary greatly. (sub. 45, p. 6)

MITO (the ITO for the automotive, transport, logistics, industrial textile fabrication and extractive industries) noted that close links between industry and ITOs are critical to the effectiveness of the industry training model.

The fact that ITOs would not exist if they didn't have the support of their industries is testament to the effectiveness of the model. Before an ITO is recognised under the Industry Training and Apprenticeships Act the Minister must take into account whether the organisation is, or will be, adequately funded by employers in the specified industry and whether the organisation has in place adequate arrangements for involving employers in the governance of the organisation. These matters ensure the ITO model is effective in meeting the needs of learners and employers. (sub. 53, p. 12)

Careerforce (the ITO for the health and wellbeing, youth work and cleaning industries) made a similar point, noting ITOs deliberately match the supply and demand for skills.

A unique strength of the existing industry training model is that it strongly matches skills to employer demand. Careerforce sees industry training and ITOs as a bridge or nexus between tertiary education and employers, therefore mitigating the risk of disconnect between stakeholder expectations and realities. (sub. 56, p. 5)

Funding for industry training

Funding arrangements for industry training are split between industry and government. The sharing of costs between government and industry is intended to reflect an expectation that both parties gain from industry training.

Society as a whole benefits from having a skilled labour force which is able to work productively and efficiently, and industry also benefits from increasing the pool of skilled labour, which in turn helps lower the direct cost to employers of employing skilled labour. (Mahoney, 2012, p. 4)

Government contributions

The Industry Training Fund is government's main funding contribution to industry training. The available funding is set through government's annual budget process, and the Ministry of Education develops a funding mechanism setting out conditions on how the fund can be used. Funding is allocated through the Investment Plan process (Chapter 5). Funding is calculated based on the anticipated number of standard training measures²⁰ (STMs) that an ITO or eligible organisation intends to deliver, with a different rate for industry training and apprenticeship training (Table 4.2). ITOs then purchase services from contracted providers, workplace-based trainers, and staff who assess skills in the workplace (Mahoney, 2012). In 2015, TEC allocated \$167 million through the Industry Training Fund.

Table 4.2 Industry training funding rates, 2016

	ITO	Direct Funding Scheme organisations
Industry training	\$3 200	\$2 880
New Zealand Apprenticeship	\$5 200	\$4 680

Source: TEC, 2016a.

The Ministry of Education (2012) sets out the following rationale for government funding of industry training.

- The practical skills of many occupations are most effectively gained on the job. Industry training utilises employers' capital and equipment, which may be more efficient for government than investing in replicating similar education in tertiary providers.
- Industry training incentivises the credentialisation of practical skills, increases labour market flexibility for employees, and reduces transaction costs for employers making hiring decisions.
- Education in the workforce reaches people who may be unlikely to enrol at tertiary providers, and takes place in a familiar setting. It therefore may provide an opportunity for educational achievement for people who had limited success in secondary school or other forms of tertiary education.

In addition, many of the arguments for government funding of industry training, such as the benefits of a more highly skilled workforce, and the fact higher education levels are associated with improved health and social outcomes, are the same as those for funding other types of tertiary education (MoE, 2012).

Industry contributions

ITOs are expected to receive cash contributions from the industries they represent. The value of this contribution is expected to be at least 30% of the cost of traineeships, and 20% of the cost of apprenticeships (Mahoney, 2015). For example, MITO charges an annual training fee for each year of an apprenticeship, which covers all training and assessment costs including off-job training, visits and support from an industry training advisor, and study materials. This fee is charged to the employer, who may either cover all or part of the costs, or recover the costs through deductions from the apprentice's salary (MITO, 2016).

Limits on funded industry training provision

The funding mechanism for the Industry Training Fund states the purpose of the fund is to subsidise training, predominantly at levels 1 to 4 on the NZQF. TEC may allow ITOs to spend up to 10% of their industry training funding at level 5 and above. MBIE and the Ministry of Education noted that "actual delivery at level 5 has never come near this 10% limit" (sub. DR162, p. 19). They also noted that the rationale for limiting industry training funding at higher levels "is that qualifications beyond level 4 accrue high private benefits to individuals and firms. It is not a demonstrable market failure which would justify a subsidy" (p. 19).

²⁰ An STM is defined as the amount of training that is required for a trainee to achieve 120 credits (or equivalent) on the New Zealand Qualifications Framework in an approved structured training programme.

The Industry Training Federation (sub. DR160, p. 6) suggested there is “no reason in principle to have a level-based cap on subsidies”. It provides a compelling critique of the argument for limiting funding for higher-level industry training on the grounds that such training generates large private benefits:

A policy position that claims that above Level 4 there is a weaker public good argument for government investment in industry training does not hold water. Firstly, at Level 5, skills like management and supervisory skills – critical to improving business productivity – are not firm specific, and certainly transferable. Secondly, the government invests enormously in higher study, so it is difficult to see why this argument would only apply to employment-based training. (Industry Training Federation, n.d.)

Competenz (sub. DR159) was supportive of removing funding limits for industry training at level 5, given strong demand for employees with this level of training. However, it notes that the industry training funding rates are not sufficient to expand industry training at higher levels:

The most critical skills shortages in our industries, particularly the manufacturing sectors, are intermediate level management. High quality supervisors, foremen and technical leaders are hard to attract. Our industries are struggling to find employees with Level 5 (advanced trade) and Level 6 (technicians) training, as the current system does not support these levels to the same extent as Level 4 and below.

An appropriate level of funding is not provided to these higher levels, yet these levels of training are often costly to the employer, and require a mix of on-job learning and off-job study. We believe ITOs are not sufficiently funded to support higher level learning. (p. 25)

The government rationale for funding industry training (set out above) provides no compelling reasons why provision should be restricted to levels 1 to 4. It has been noted industry training may provide a valuable educational pathway for people who had limited success in secondary school or other forms of tertiary education. While this may be the case, 32%²¹ of industry trainees in 2014 already held a qualification at level 4 or higher, indicating industry training is valued by people from a range of educational backgrounds.

Many inquiry participants anticipated the increasing speed of technological progress will result in growing demand for upskilling and on-the-job training. If this trend does materialise, the responsiveness of the industry training system would be limited. In addition, the restriction on higher-level industry training is limiting the ability of the tertiary education system to adopt new models, such as degree apprenticeships. Degree apprenticeships have recently been developed in the United Kingdom and Singapore (Chapter 11). Competenz submitted that industry training should be expanded beyond level 4, and ITOs should have the opportunity to develop advanced apprenticeships:

We also believe ITOs should have the opportunity to explore the development of advanced apprenticeships within their industries at levels 5 to 7. The recent work through the Engineering E2E initiative ... [identifies] Apprenticeships as a valid and high quality model for delivering higher level qualifications. International research from the UK and US also support this as a highly regarded pathway. ITOs specialise in apprenticeship delivery; the expansion of this beyond level 4 is a natural progression. (sub. 45, p. 4)

F4.6

Funding for industry training is predominantly restricted to provision at levels 1 to 4 on the New Zealand Qualifications Framework. This limits the ability of the industry training subsector to respond to demand for higher-level training, and inhibits the adoption of new models such as degree apprenticeships.

New approaches to industry training

Until recently, all industry training was facilitated by ITOs. However, a new approach known as the Direct Funding Scheme was introduced in 2014. This allowed employers to apply directly for access to the industry training fund (Box 4.6).

²¹ This figure is based on those trainees for whom prior qualification data was available – for 20% of industry trainees the previous qualification was not specified.

Box 4.6 Direct Funding Scheme

The Direct Funding Scheme (the scheme) for industry training was incrementally introduced by TEC from 2014. The scheme allows employers or consortia of employers (with at least 40 trainees) to apply for direct access to industry training funding, without the need for facilitation by an ITO. Funding granted through the scheme comes with the same obligations and requirements as funding granted to ITOs.

The scheme aims to improve educational participation and achievement, as well as drive performance and innovation by encouraging competition in the provision of industry training.

The anticipated benefits of this approach for employers are that they can:

- organise training themselves to suit their business needs;
- use innovative approaches to training;
- deal directly with education providers; and
- reduce the transaction costs associated with training.

In the scheme's first three years, seven organisations received funding totalling \$5.5 million. TEC's initial evaluation of the scheme identified a range of issues, including:

- a lack of tailored support from TEC for employers through the application process;
- a lack of flexibility around numbers of trainees and what funding can be used for; and
- significant costs of reporting training information to TEC, and complex funding and accountability requirements.

A subsequent evaluation found that TEC is providing more individualised support to organisations interested in the scheme. The evaluation also found that the scheme is creating greater choice for employers and that some ITOs are changing their approach to better respond to the needs of employers.

Source: TEC, 2016b; 2015m.

The Managed Apprenticeship system

The main difference between Managed Apprenticeships and New Zealand Apprenticeships is that the former are administered by ITPs and are eligible for SAC funding. As with ITO-administered apprenticeships, Managed Apprenticeships involve a significant amount of on-the-job training. However, because ITPs are registered training providers, they can deliver the off-job training requirements and may also be involved in producing materials for use in workplace-based training (Mahoney, 2015).

The Commission supports the ability of different subsectors to be able to deliver apprenticeships, and for businesses to be able to organise industry training directly through the direct training scheme. In addition to being a valuable source of competition, different subsectors will have different cultures and ways of doing things. This may expand the range of options available to students, and increase the likelihood of diverse students finding a training option to which they are well-matched.

F4.7

The ability of different subsectors to deliver apprenticeships, and for employers to organise industry training through the direct training scheme, creates valuable competition and diversity in available training options.

Funding rates vary markedly for different types of apprenticeship

Between 2003 and 2013, 13 ITPs offered Managed Apprenticeships in automotive engineering, carpentry, and plumbing and gas fitting. A feature of the Managed Apprenticeship system is that providers are eligible for SAC funding rates. These funding rates are significantly greater than those available through the Industry Training Fund (Table 4.3).

Table 4.3 SAC funding and industry training funding for apprenticeships, 2014

	SAC funding per EFTS (Managed Apprenticeship)	Industry training funding per STM (New Zealand Apprenticeship)
Automotive engineering	\$9 724	\$5 200
Carpentry	\$9 856	\$5 200
Plumbing and gas fitting	\$9 821	\$5 200

Source: Mahoney, 2015.

Notes:

3. STM refers to a standard training measure, and is the industry training equivalent of an equivalent full-time student (EFTS).

In addition, learners enrolled in Managed Apprenticeships are eligible to apply for student loans and allowances, whereas these supports are not available for trainees completing a New Zealand Apprenticeship. Several inquiry participants, including MITO (Box 4.7), raised concerns about the lack of consistency in funding rates and student support availability.

Box 4.7 Extract from MITO submission: study to become a qualified automotive technician

In its submission, MITO provided an example of the different funding, fee and student support arrangements between apprenticeships delivered through an ITP or ITO. The example is based on a learner in full-time employment studying to become a qualified automotive technician²², and compares the arrangements for ITO delivery with the offerings of two anonymised ITPs:

Comparative information tabled below shows these [two] ITPs receive \$32,964 from the government for a "course where delivery is comparable to industry training" and the ITO receives up to \$17,248 from the government for the same training. Further, the ITP is able to compress the course duration as there is no cap on annual funding, and the students enrolled with the ITP are able to apply for a student loan; a benefit not available to an ITO apprentice. Student loans can be used to purchase tools needed for the on-the-job practical training; ITO apprentices have to fund these themselves.

	ITO	ITP "A"	ITP "B"
Fund	Industry Training Fund (ITF) for provision of a New Zealand Apprenticeship programme.	Student Achievement Component (SAC) funding for provision at level 3 and above.	
Funding rate	New Zealand Apprenticeship Standard Training Measure (STM) rate: 1 STM = \$5 200	Equivalent full-time student (EFTS) at the SAC rate for courses that fit within the course classification Vocational Training for Industry funding category P1 (trades): 1 EFTS = \$9 938	
Total government contribution	3.317 STMs = \$17 248	3.317 EFTS = \$32 964	

²² The learners in this example would be enrolled in a programme leading towards the National Certificates in Motor Industry (Automotive Electrical and Mechanical Engineering) with a strand in Light Vehicle (level 3 and 4) [NZQA Ref: 1421 & 1422]. The level 3 qualification is a prerequisite for the level 4 qualification; together they are 398 credits.

Duration	Funding from the ITF is limited for each apprentice up to a maximum 70 credits per year. For this programme this equates to a total duration of 5.75 years. In reality apprentices complete in less time than this, so the ITO receives less government funding (a maximum of \$3 000 per year the learner is enrolled).	Advertised as taking approximately 120 weeks part-time over 3 years.	Advertised as taking up to 4 years of part-time study.
Annual government contribution, based on durations above	\$3 000	\$10 988	\$8 241
Employer cash contribution	Expected. A condition of the ITF is that the TEO must ensure that all employers of industry trainees or apprentices who are enrolled with the TEO make a financial contribution towards the cost of each industry trainee's or apprentice's training. For MITO this contribution takes the form of an annual training fee payable to the employer.	There is no requirement for the employer to contribute to the cost of training.	
Eligible for student allowances and student loan?	No	If a course is approved as eligible for SAC funding, students enrolled in the course may be eligible for the Student Loan Scheme.	

If there was a common framework (i.e. a level playing field) for all industry training that covered training of learners in employment this would encourage enhanced strategic relations between subsectors, rather than competition based on differentiated funding rates and funding conditions.

Source: MITO, sub. 53, pp. 7–8.

Despite the higher rate of government subsidy, and the availability of student loans and allowances, the qualification completion rates for Managed Apprenticeships are slightly lower overall than those for New Zealand Apprenticeships (Table 4.4). These completion rates, combined with the higher subsidy rates for Managed Apprenticeships, result in much higher costs to government for each apprenticeship completion, irrespective of whether subsidies for non-completers are included or excluded (Figure 4.11).

Table 4.4 Five-year qualification completion rates for apprenticeships

Broad field of study	5 year qualification completion rate	
	ITPs (Managed Apprenticeship)	ITO (New Zealand Apprenticeship)
Automotive	32%	45%
Carpentry	38%	44%
Plumbing and gas fitting	43%	42%
All	38%	44%

Source: Mahoney, 2015.

Notes:

1. Completion rates are based on blended cohorts of people starting apprenticeships between 2005 and 2008.

Figure 4.11 Government funding per apprenticeship completion

Source: Mahoney, 2015.

The submission from MBIE and the Ministry of Education (sub. DR162) did not provide any explanation for the difference in funding rates.

The usual rationale for the funding differential between provider-based delivery and industry training is that, in the case of industry training, the student can access the supervision and infrastructure of the workplace to support their learning. However, this is also the case for a Managed Apprenticeship.

NZCTU (sub. DR172) suggested that the difference may be justified on the grounds that ITPs require higher funding rates in order to retain the physical infrastructure needed to support training:

There has been concern that funding ITPs at the rate of ITOs would strip ITPs of funding for their much more extensive facilities often needed for practical training. If funding were equalised downwards many ITPs may exit from apprenticeship training because of an inability to maintain the facilities needed for that training. (NZCTU, sub. DR172, p. 11)

However both types of apprenticeship require similar amounts of off-the-job instruction, so it is not clear why the costs incurred by ITPs in delivering this instruction would be significantly higher than those incurred by ITOs when they arrange off-job training.

The Commission has also heard an argument that managed apprenticeships *with good qualification completion rates* are providing government with equivalent, or better value for money than industry training apprenticeships; and that poorer performing managed apprenticeships are being addressed through the removal of TEC funding. If TEC is indeed removing funding from lower-performing managed apprenticeships, it is ensuring that government gets equal value for money from each type of apprenticeship by setting much higher performance standards for ITP-based apprenticeships. But this limits students' ability to choose between different types of apprenticeship of comparable quality. Chapter 15 recommends that government instead solve the value-for-money problem by equalising the funding rates for both types of apprenticeship provision. Chapter 15 also recommends that TEC's approach to funding incorporates a mechanism that incentivises providers to continually improve their performance and redistributes money from lower- to higher-performing providers.

F4.8

The government funding rate for apprenticeships differs markedly, depending on whether they are administered by an Industry Training Organisation or a polytechnic. The rationale for this difference is unclear.

4.6 Retraining and between-work education

Many inquiry participants suggested retraining for mid-career workers will occupy an increasing share of tertiary education provision in the coming years, as technological advancements create the need for new types of skills and some occupations become obsolete:

As routine tasks are automated and work becomes more flexible and dynamic, the importance of creativity, soft skills and cross-cultural competencies grows. Even if these changes are half as radical and widespread as some experts predict, large numbers of people could need to refresh their skills frequently to remain employable. Some of these people will be looking ... for 'just-in-time' provision aimed at giving them the skills they need to get back into the workforce as quickly as possible. (TEC, sub. 2, p. 3)

The pace of change and technological disruption will render technical skillsets redundant with increasing speed. Productive employees will need to maintain a constant cycle of training and retraining to keep pace with new innovations and shifting paradigms of how we do business. Training will need to be delivered in bite sized chunks to be consumed regularly throughout a career. We can no longer rely on a single base qualification being the only formalised learning that we undertake in our working lifetime. (Competenz, sub. DR159, p. 31)

The University of Otago notes it is already familiar with developing and delivering programmes that explicitly address retraining and upskilling:

More substantial upskilling will likely see increased demand for the types of courses and programmes many universities – Otago included – already offer. These typically comprise a mix of non-credit and credit-bearing courses that sit under the general umbrella of executive education, and specialist qualifications – typically at the postgraduate coursework level. This has been targeted as an area for development and growth by Otago for some years. (University of Otago, sub. 37, p. 38)

While mid-career retraining is anticipated to become increasingly prevalent in future, data on students enrolled in 2014 suggests this form of study has declined in recent years. As set out in Chapter 3, the share of EFTS in employment prior to entering tertiary education has declined from 37% in 2007 to 31% in 2015. Despite this decline, being in employment was still the most common activity prior to study when measured as a share of student numbers (40%), and the second most common prior activity in terms of EFTS (31%) behind secondary school education (39%).

The Household Labour Force Survey records the number of people unemployed based on their study status (Figure 4.12). The number of unemployed people who participate in formal study increased sharply in 2008; however, this largely reflects an increase in the total number unemployed. The share of all unemployed people who are participating in formal study has remained relatively constant, at around 15%, between 2005 and 2015.

Figure 4.12 Numbers unemployed in the labour force by formal study status, 2005–15

Source: Statistics New Zealand, 2016a.

Notes:

1. To be participating in formal study, a person must be working towards a qualification that takes three or more months of full-time study (at least 20 hours per week) to complete.
2. The Household Labour Force Survey is reported quarterly. The figures shown here are the average for the four quarters in each calendar year.

Barriers to retraining

There are several funding and regulatory settings for tertiary education affecting the ability of tertiary providers to respond to demand for retraining.

A focus on qualification completions and younger learners

Chapter 5 provides an overview of the tertiary funding system, and finds the current system includes tight specifications on the type of provision that can be offered, including a requirement that students be enrolled in a qualification, and restrictions on the provision of short courses or micro credentials. Chapter 3 concluded that, in recent years, students in New Zealand have become more likely to be engaged in a “traditional” conception of tertiary education: the average student is becoming younger; the share of full-year, full-time study is increasing; and the share of intramural (on campus) study is increasing.

One consequence of these two phenomena is tertiary providers may be less inclined or unable to cater for the predicted increase in demand for retraining and mid-career study. For example, the Industry Training Federation notes that a full qualification can be important for students who enter the tertiary education system directly from secondary school, but that “this value becomes less clear for mid- and late-career workers, particularly those who already hold an entry-level qualification... many employers and students want the portability and flexibility of short, targeted training” (Industry Training Federation, sub. 54, p. 2).

Other submitters expressed similar views:

The system needs much greater flexibility in order to be able to offer the part-time, extramural study options that older adults need. It also needs to recognise that qualifications are not always an accurate measure of success. Learners need to be able to pick and mix courses that provide the learning they need at any given time, whether this eventually leads to a formal qualification or not. (COMET Auckland, sub. DR120, p. 4)

Limits on student support

NZUSA argues restrictions on access to the student support system are a barrier to those seeking to retrain or enter tertiary education later in life:

NZUSA believes that education is necessary life-long process. With a rapidly changing employment market students will need to reskill and retrain so they are able to make meaningful contributions towards society. There are many late-in-life learners, or those needing up retrain after redundancies or change in life circumstance. These people need to be able to access tertiary education but have limited access due to Studylink restrictions. Without the opportunity to access tertiary education throughout their life they will have restricted access to quality employment and their opportunity to contribute meaningfully to society will be restricted. (NZUSA, sub, 19, p. 6)

Table 4.5 shows a selection of changes to the student support system in recent years. Some changes are likely to affect those seeking to retrain or enter tertiary education later in life. For example, if somebody over the age of 40 had already completed a Bachelor's degree over three years with support from the student allowance scheme, they would likely have used close to the 120 week life-time limit. This would mean they would not be eligible for a student allowance if they sought to retrain.

Table 4.5 Selected changes to the student support system, 2010–14

Year	Changes to student allowances	Changes to the Student Loan Scheme
2010		7-EFTS life-time limit introduced to borrowing entitlement. ¹
2011	Exceptions to the 200-week limit on student allowances removed. ²	
2012		Part-time full-year students are no longer able to borrow through the Student Loan Scheme for course-related costs.
2013	Student allowance eligibility removed for postgraduate certificates or diplomas, Master's and doctorates.	Student loan access for people aged 55 years and over is restricted to compulsory fees only. Borrowers who have overdue student loan payments amounting to \$500 or more, and who have been in default for one or more years, are not eligible to access new borrowing from the Student Loan Scheme.
2014	The student allowance life-time limit reduced to 120 weeks for those aged 40 and over. Student allowance eligibility was removed for those aged 65 years and over.	

Source: MoE, 2016c.

Notes:

1. Possible additional entitlements allow up to an overall maximum of 10 EFTS units to support higher level study.
2. Tertiary transition courses were previously not counted toward the 200-week limit. And prior to 2011, the Chief Executive of the Ministry of Social Development was able to grant an exemption to the 200-week life-time limit.

Recognition of prior learning

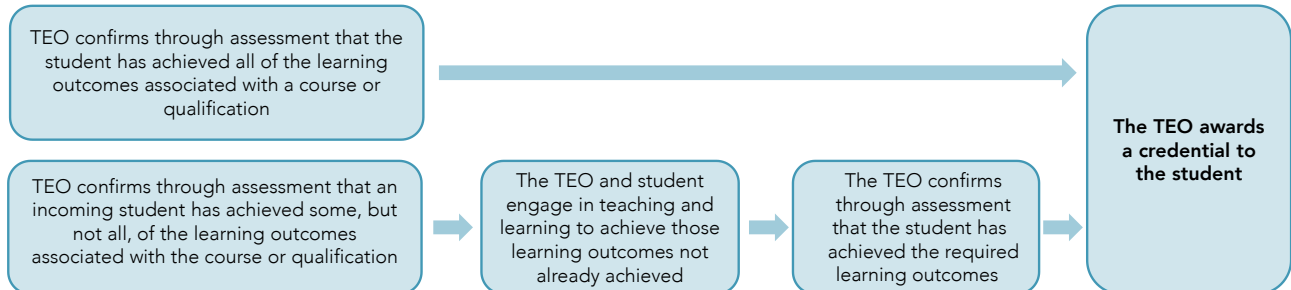
Recognition of prior learning (RPL) (or "recognition of current competency", or "recognition, validation and accreditation", or one of a number of other labels) involves assessing what an incoming learner already knows and can do, and providing the learner with credit toward a qualification on that basis. Learners wanting to take advantage of RPL are often people with workplace experience and vocational expertise, whose lack of qualification is a barrier to career advancement or further study.

A "pure" RPL model would involve a tertiary provider assessing that a student has all the necessary learning outcomes associated with a particular course or qualification, and then awarding that credential to the

student (Figure 4.13). Under this model, the provider adds value through providing a credential with labour market currency that formally attests to what a student already knows and can do.

A more common model involves determining that an incoming student already holds some of the learning outcomes associated with a certain course or qualification but lacks others. The provider then tailors the programme accordingly (Figure 4.13).

Figure 4.13 Two models for recognition of prior learning



Several inquiry participants anticipated greater demand for RPL in the future, and questioned whether New Zealand’s tertiary education system is well-equipped to meet this demand (eg, NZUSA, sub. 19; ACG Tertiary and Careers Group, sub. 84). Ako Aotearoa suggests technological changes are likely to increase the demand for upskilling and re-credentialing, and notes this will require:

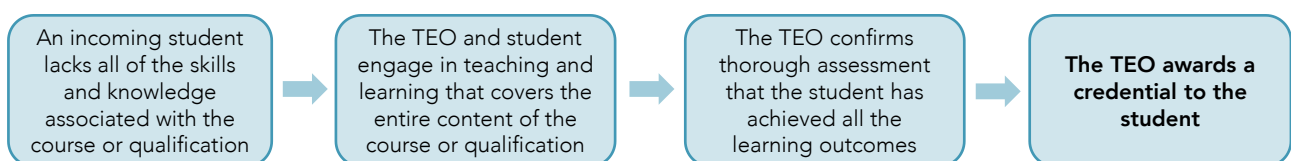
... changes to government policy settings in areas such as financial support, funding rules, TES priorities etc., to ensure that the system is accessible for and evaluates its performance with regard to older learners. This also suggests that our system will also need to pay more attention to Recognition of Prior Learning (RPL), both in terms of TEO approaches to RPL and how funding and regulation creates barriers or incentives for TEOs in this regard. (Ako Aotearoa, sub. 58, p. 21)

The ITP subsector notes there are “a number of areas where the current accreditation, recognition, and funding systems are not sufficiently flexible” and that “recognition of and credit for workplace experience is clunky and expensive for all concerned” (sub. DR127, p. 4).

The main barrier to RPL stems from a requirement that providers deliver a certain number of learning hours per funded EFTS. The funding determination for SAC 3+ states that TEC must measure enrolments in units of EFTS, and that one EFTS is defined as the student workload that would normally be carried out by a student enrolled full-time in an academic or calendar year. TEC’s corresponding funding conditions state that one EFTS equates to a programme of study or training that is 1 200 learning hours or 120 credits delivered over 34 teaching weeks. TEC holds providers accountable for delivering this volume of teaching for each funded EFTS (TEC, 2017a).

As such, the current funding model assumes a process where students lack all of the skills and knowledge associated with a certain course or qualification (or at least that all incoming students are consistent in regard to which skills and knowledge they have and which they lack), and that the delivery of a prescribed number of learning hours are required to achieve the relevant learning outcomes (Figure 4.14).

Figure 4.14 Teaching and learning under the current funding model



Chapter 15 recommends that TEC removes any reference to inputs in its definition of an EFTS, and instead uses the relevant quality assurer’s assessment of “credit value” as the means of determining the size of a funded course or qualification (without any additional stipulations about learning hours or teaching weeks). This would allow for funded RPL.

Although RPL is not funded by TEC, many tertiary providers do offer RPL programmes. In most cases, students' prior learning is assessed through an examination of a portfolio of relevant work. If the prior learning meets assessment standards, students are awarded a certain amount of credit toward their qualification. In most cases, the amount of credit that can be obtained through RPL is capped. For example, at Massey University, the maximum credit from RPL towards an undergraduate degree is 120 credits (out of a total of 360). Credit earned through RPL at Massey University can only be at 100- or 200- level, and no RPL credit is permitted toward a graduate or postgraduate qualification (Massey University, 2016). Southern Institute of Technology limits RPL to one third of a programme's total credit (SIT, 2016a). The University of Otago limits RPL credits to nine first-year courses (University of Otago, 2016).

The fees associated with this type of RPL vary. In some cases they are typically significantly lower than the course for which RPL is a substitute. For example, students applying for RPL at Whitireia Community Polytechnic are required to pay an application fee of \$50. If they are granted the RPL, they are charged 15% of each paper, course, module or unit standard approved (Whitireia, 2016).

Otago Polytechnic, through Capable NZ, have developed degree programmes that are eligible for TEC funding, while still retaining some elements of RPL. Under this process, Otago Polytechnic screens applicants to identify those whose experience represents around two years' worth of a degree. They then help students to consciously recognise their existing knowledge, and deliver additional learning as required to complete the degree. The Commission understands that the costs to students for this model of delivery are similar to a standard fee for one year of a degree.

F4.9

Barriers to mid-career retraining include current funding and regulatory settings for tertiary education that focus on younger, full-time learners completing full qualifications, the design of the student support system, and funding rules that make recognition of prior learning difficult.

4.7 Conclusion

Tertiary education is an important source of skills for employers. However, there is some evidence that the current tertiary education system does not always prepare students well for employment. While tertiary providers believe that they do a good job in preparing students for employment, this view is not always shared by employers or students.

There is also some evidence that the current tertiary education system is not producing a mix of skills that is well-matched to the needs of employers. Although further evidence is needed to assess the consequences of mismatches, policies that seek to improve matching are likely to offer significant benefits for students, regardless of the degree to which matching is a problem in the New Zealand economy.

There are long-held concerns about the level of engagement between the tertiary education sector and employers. There is a range of mechanisms built into the quality assurance system to improve coordination between tertiary providers and employers, and many tertiary providers supplement these with additional engagement approaches. Despite these mechanisms, engagement between the tertiary education system and employers does not always occur in any meaningful way. This reflects underlying incentives in the system that encourage tertiary providers to respond to their primary funder – government. The incentive for employers to engage with tertiary providers may be muted by the relative ease of access to skilled migrants.

Government has established various initiatives to improve the links between tertiary education providers and employers. These initiatives are targeted toward specific parts of the tertiary education system, often require additional government funding, and can come with high administrative costs.

Transferable skills are important, particularly if young students are undertaking a lengthy qualification in the hope this will serve them well over the remainder of their working life and beyond. Several providers noted they are focusing on developing transferable skills. However, in some cases, these skills are not well integrated into assessment processes.

In-work training is an important part of the tertiary education system – it enables employed people to upskill in order to keep pace with the changing nature of employment, and to gain qualifications. The industry training system is a formalised approach to learning within the workplace. Industry training is overseen and arranged by 11 ITOs, involves a mix of on-the-job training and off-job provision, and includes apprenticeships and shorter bursts of training. The design of the industry training system encourages close links between ITOs and employers and, unlike other forms of tertiary education, industry training is part-funded by industry. Funding for industry training is limited predominantly to provision at levels 1 to 4 on the NZQF. This limits the ability of the industry training subsector to respond to demand for higher-level training, and inhibits the adoption of new models.

Many inquiry participants suggested retraining for mid-career workers will occupy an increasing share of tertiary education provision in coming years, as technological advancements create the need for new types of skills and certain occupations become obsolete. However, some features of the current funding and regulatory settings create potential barriers to such training. These include a focus on younger, full-time learners completing full qualifications, the design of the student support system, and funding rules that make recognition of prior learning difficult.

5 Government's many roles

Key points

- Government performs many roles in the New Zealand tertiary education system through a complex array of agencies. In some instances government functions are poorly assigned among government agencies.
- Government significantly subsidises tertiary education, but also limits flexibility and responsiveness in the system through prescriptive rules dictating the nature, volume and location of delivery.
- Government seeks to set the overall direction of the tertiary education system using the Tertiary Education Strategy (TES). Priorities in the current TES encompass a very wide range of provider activity. The TES gives no sense of the relative importance of these priorities, or how inevitable trade-offs between priorities should be managed. Nor does the TES outline government's plan for achieving these priorities.
- A large share of government expenditure on tertiary education is directed toward students through student loans and allowances. The fiscal cost associated with student support is an important driver of other tertiary policy settings, such as the cap on total enrolments.
- Government subsidies paid to tertiary providers are formulated into numerous different funds, each with a set of tight specifications. The rules and specifications attached to funds limit tertiary providers' ability to develop new or innovative offerings. Funding models, such as Performance-Linked Funding, have served to reinforce this rigidity.
- Tertiary providers apply for government funding through the Investment Plan process whereby they forecast their volume and mix of provision. Once a Plan has been approved, there are limited opportunities to adjust delivery in response to changes in student demand, and providers must adhere to detailed monitoring and reporting requirements.
- Because the total number of domestic student places in the tertiary education system is capped, and the proportion of government funding that shifts between different providers year-to-year is small, there is little scope for high-performing providers to grow at the expense of poor performers.
- Government regulates the fees providers charge by placing a limit on fee increases for existing programmes, and by requiring that fees for new programmes are comparable to those of existing programmes. This significantly limits the amount of differentiation possible within the system.
- As the agency responsible for quality assurance in the non-university tertiary sector, the New Zealand Qualifications Authority (NZQA) administers a registration process for new entrants, as well as approval and accreditation processes for new programmes and qualifications. There is scope for some of these processes to be streamlined.
- Quality assurance in the university subsector is largely delegated to Universities New Zealand. Its collective process for approval of new qualifications and programmes is not conducive to innovation, while audits tend to focus on processes rather than student outcomes.
- In the event that an Institute of Technology and Polytechnic (ITP), wānanga or university is disestablished, government, although technically not an owner, is legally liable for all of the organisation's debts, liabilities and obligations. This arrangement creates an unusual allocation of risk and encourages government to closely monitor these organisations' financial performance.
- At least five government agencies are responsible for gathering and publishing information about tertiary education and careers options for students and employers. Government also plays a role in the promotion of New Zealand as a destination for international students.

5.1 Government involvement in the tertiary education system

As described in Chapters 2 and 3, students accrue a wide range of benefits from investments in tertiary education, most evidently through improved employment prospects and higher future earnings. In addition, tertiary education is generally accepted to bring a range of benefits for society as a whole. These include contributions to national economic growth through developing workers' knowledge and skills, along with non-financial social benefits such as contributions to democracy and civic society, a reduction of crime and poverty, and the creation and dissemination of new knowledge.

Government's involvement in the tertiary education system seeks to capture these public benefits by ensuring a substantial proportion of the population receives a good quality education. Individuals should not be prevented from accessing tertiary education because of financial barriers. Government support, including through the availability of income-contingent student loans, is an important mechanism to enable access for those who could not otherwise afford it.

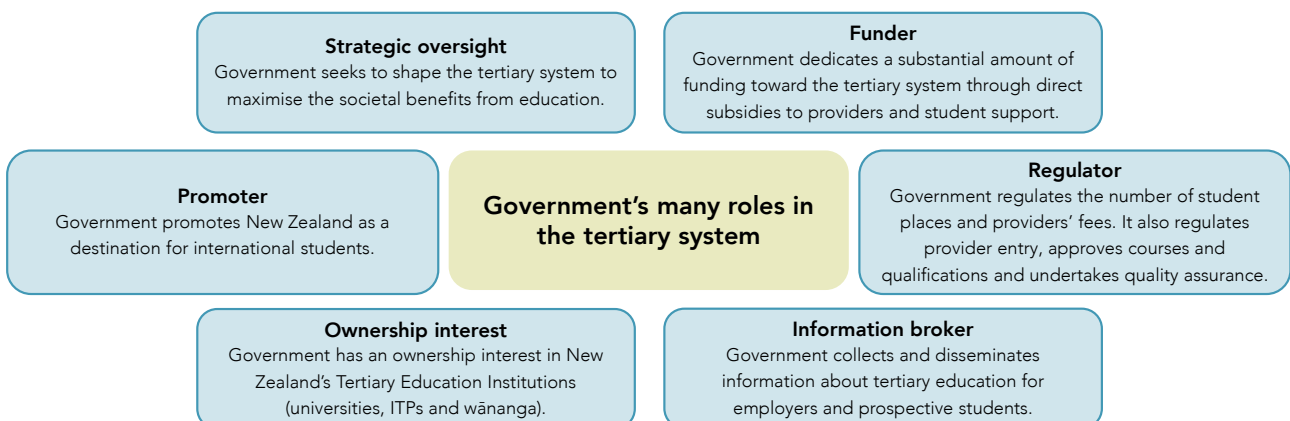
The way New Zealand governments have approached their involvement in the tertiary education system has evolved and changed over time. Crawford (2016) suggests that since the late 1980s, there have been two significant shifts in government's approach to tertiary education and six rounds of reform. These reforms resulted in many changes to the system, including:

- the enactment of the Education Act 1989, which sets the framework for all tertiary education;
- creation of the Student Loan Scheme in 1992;
- introduction of demand-driven funding in 1999, and a return to a capped funding environment in 2006;
- establishment of the Tertiary Education Commission (TEC) in 2003 as the agency responsible for allocating government funding among tertiary providers; and
- publication of provider performance data and the introduction of Performance-Linked Funding from 2010.

Government's current roles in the tertiary education system

Under the current settings, government's involvement in the tertiary education system plays out in many different ways, and involves a range of agencies. The main functions government performs are set out in Figure 5.1.

Figure 5.1 Government's roles in the tertiary education system



The roles played by government seek to address a number of problems that may prevent the tertiary education system from working as efficiently as it could. For example, as an information broker, government seeks to address information asymmetries, such as those between prospective students (who have less information about the quality and relevance of different education options) and tertiary providers.

Another explanation for government's wide-ranging involvement in the tertiary education system stems from the various different groups with an interest in the tertiary sector, including employers, students and their

families, taxpayers, and tertiary providers and their staff. These groups all lobby government in relation to different incentives, aspirations and demands. Frequently, this requires government to balance different priorities and interests.

While government involvement in the tertiary education system appears omnipresent, there are some areas of the system where government is less involved. One example is the provisions in the Education Act 1989 regarding academic freedom for tertiary institutions, and universities' role as critic and conscience of society. Academic freedom is defined in the Education Act 1989 (s 162) as the freedom of academic staff and students "to question and test received wisdom, to put forward new ideas and to state controversial or unpopular opinions". Universities are specifically asked to play a role as critic and conscience of society in recognition that freedom to publish ideas and conclusions without fear of retribution or persecution can help to enrich societal debates, encourage reflection and critical thinking within society, and facilitate an ongoing discussion about how society could be improved (Ambury, 2004).

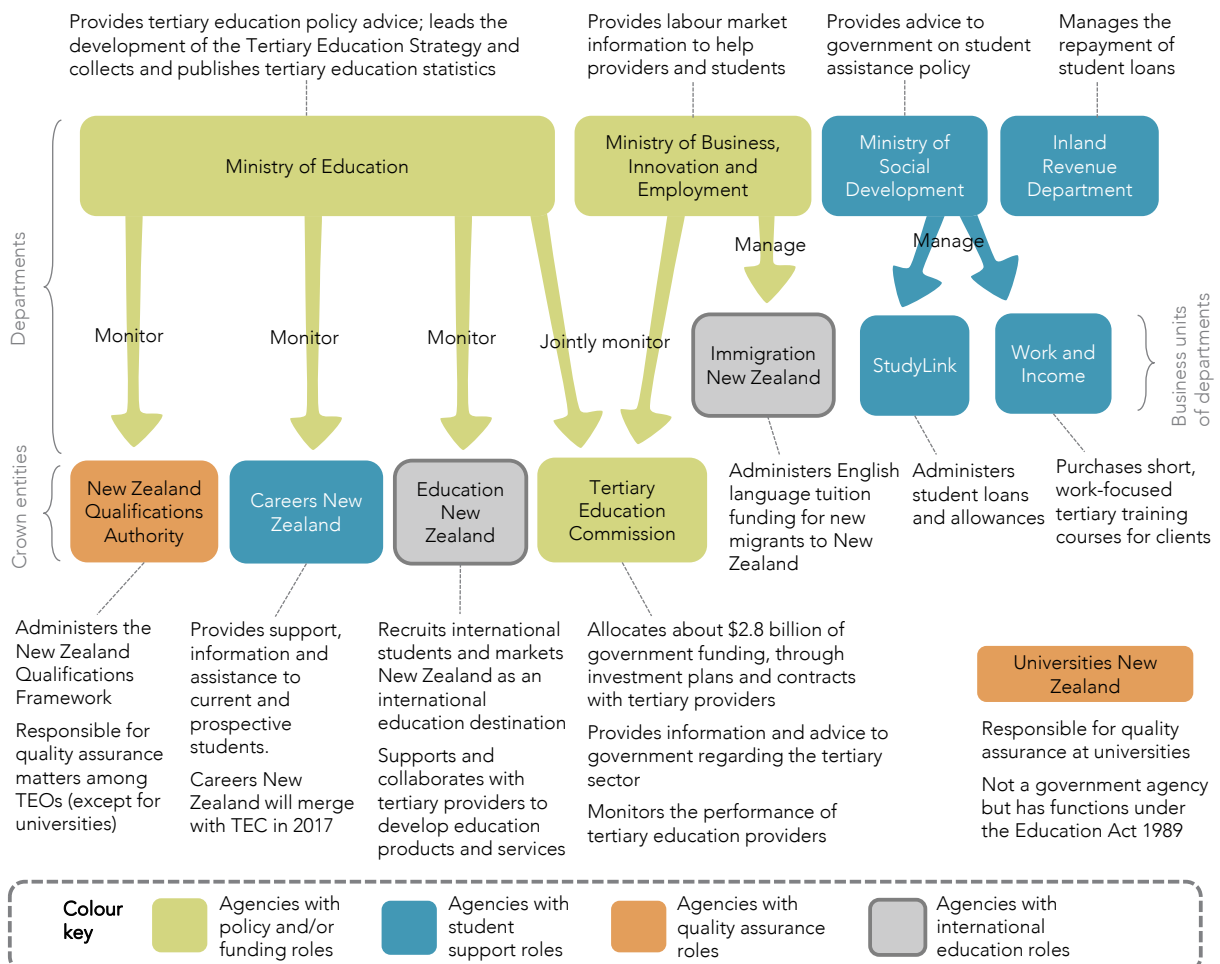
In addition, there is scope for fully private businesses to deliver education, such as professional development programmes, that is totally separate from the tertiary education system government funds and regulates. While these businesses can operate with relative freedom, they are not eligible for TEC funding, are not able to deliver qualifications on the New Zealand Qualifications Framework (NZQF), and are not able to enrol international students.

Current architecture

To fulfil the various roles government plays within the tertiary sector, it has created a complex architecture of agencies that includes: four government departments reporting directly to ministers; four Crown agents reporting to boards (whose members are appointed by the responsible minister); and one statutory body, Universities New Zealand, which has specific functions relating to universities.

The relationships between the agencies involved in the tertiary education system are set out in Figure 5.2.

Figure 5.2 Government agencies involved in the tertiary education system



In addition to describing the relationships between the different agencies, Figure 5.2 also sets out the primary roles performed by each agency. But in practice, there is significant overlap in the roles performed by government agencies. For example, TEC's primary responsibility is for the allocation of funding to tertiary providers. However, it also performs quality assurance functions, such as the administration of a Performance-Linked Funding scheme that is designed to encourage all providers to reach certain standards of educational performance. And although TEC allocates funding, Ministry of Education policy decisions determine funding rates and other funding parameters, such as the total amount of funding that can be directed to each tertiary subsector. Likewise, at least five different government agencies are involved in the provision of information for students. These include TEC, the Ministry of Education, the Ministry of Business, Innovation and Employment (MBIE), NZQA and Careers New Zealand (Careers NZ).

Several inquiry participants suggested there was scope for government to reorganise the allocation of responsibilities among agencies to improve clarity of function, and create a more streamlined structure:

The tertiary education sector is required to work with a plethora of government ministries and agencies who have responsibility for both regulation and purchasing decisions for the sector. This increases administrative and compliance requirements in the sector and also often means replication of effort. Developing a much more streamlined structure for regulatory and purchasing functions will address this but also importantly will assist in maintaining a cohesive approach to provision in the sector. (TEU, sub. DR132, p. 9)

We support any initiatives that will ensure that the roles and responsibilities of these three agencies [TEC, NZQA and MoE] are clear, do not overlap and encourage collaboration between the three. (REAPANZ, sub. DR155, p. 6)

There does need to be a more streamlined structure for regulatory and purchasing functions on the basis of this providing a cohesive joined-up approach to provision in the sector. This must take into account the need for better coordination between the many statutory bodies and involvement and genuine consultation with stakeholders. (NZCTU, sub. DR172, p. 6)

Better integration of NZQA, MoE and TEC toolsets to develop joint frameworks to manage quality of education should be considered. (Taratahi Agricultural Training Centre, sub. DR171, p. 2)

F5.1

In some instances, government functions are poorly assigned among government agencies.

5.2 Strategic oversight

The Tertiary Education Strategy

The Education Act 1989 sets out the framework for tertiary policy, funding and governance. It identifies the Ministry of Education as the principal policy advisor on tertiary education matters. The Education Act 1989 requires that the Minister for Tertiary Education, Skills and Employment periodically releases a Tertiary Education Strategy (TES) setting out government's long-term strategic direction for tertiary education, and the short- and medium-term priorities for the system. The part of the strategy that sets out the long-term direction for tertiary education must address economic, social and environmental goals, as well as the development aspirations of Māori and other population groups. Before issuing a TES, the Minister must consult with TEC, and with those stakeholders in the tertiary education sector that he or she considers ought to be consulted.

New Zealand's legislative requirement that government publish a TES at reasonably regular intervals is distinctive from an international perspective. Other countries tend to have less formalised processes, and instead derive strategic direction from periodic policy reviews of their tertiary education systems. This less formal approach is also the norm in most other policy areas in New Zealand.

Both NZQA and Careers NZ are required to have regard to the TES in exercising their functions – and TEC's first statutory function is to give effect to it through its management of the Investment Plan system. Specifically, when TEC assesses Investment Plans (section 5.5) to determine whether providers receive

funding, it must assess how a provider contributes to the priorities set out in the TES. As such, the TES underpins the current funding approach and TEC operations.

New Zealand's current TES (MoE & MBIE, 2014) presents six priorities. These are:

- delivering skills for industry;
- getting at-risk young people into a career;
- boosting achievement of Māori and Pasifika;
- improving adult literacy and numeracy;
- strengthening research-based institutions; and
- growing international linkages.

The effectiveness of the TES

The priorities of the current TES encompass a very wide range of provider activity. The TES gives no sense of relative importance of these priorities, or how the inevitable trade-offs between priorities should be managed. Nor does the TES outline government's plan for achieving the priorities. In this regard, the TES is closer to a description of government's desired future state, or a list of things it would like providers to do, than a description of a plan to achieve change.

Some submitters to the inquiry commented that New Zealand's tertiary education system currently lacks a clear strategic direction or shared vision for its future – something the TES might be expected to provide. For example, Te Wānanga o Aotearoa calls for "a more coherent vision for the future and the role of the tertiary education in Aotearoa" (Te Wānanga o Aotearoa, sub. DR121, p. 1). Wellington Institute of Technology (WelTec) and Whitireia Community Polytechnic (Whitireia) argue there is a need for an ongoing "national conversation" about the purpose of tertiary education for New Zealanders (sub. DR134, p. 11).

Inquiry participants also questioned the effectiveness of the TES in directing or shaping the behaviour of TEC or tertiary providers. For example, Ako Aotearoa (sub. 58, p. 7) notes there is "little evidence that the priority given to Pacific success in the Strategy has resulted in agencies clearly steering TEOs to take actions that will improve performance for Pacific learners". Alach (sub. 8) suggests that a lack of progress toward TES priorities can be explained by a disconnect between the TES and the tertiary funding system:

One of the key principles of public policy is that funding influences behaviour. We have an input-focused funding system and an outcomes-focused TES. Institutions will validly pursue funding at the expense of other goals. (p. 7)

Inquiry participants raised concerns about the composition of the TES, noting the absence of any reference to ongoing learning throughout an individual's lifetime:

The list of goals in the current TES ...omits one key area – the need for adults to have access to high-level learning, to increase their skills and to retrain for new areas of work... This is especially important in our changing job market, where workers need to continually build skills to keep up with technological change and to move into expanding industries. (COMET Auckland, sub. 50, p. 4)

The major feature shaping the system currently is the focus on transitioning school leavers into employment. While this is important, it is not the only reason for investing in a national system of education. The TES also notes other priorities such as Maori and Pasifika success but is virtually silent on how the system supports the ongoing development of individual capability through life. (Marshall, sub. 73, p. 2)

Submitters also noted there is little incentive to pursue objectives, such as innovative new models, that are not included as TES priorities:

There is nothing in it [the current TES] that promotes innovation, transformation or efficiency across the sector. Instead, priority groups are identified. What of the rest of the sector and its development? (Nichols, sub. 6, p. 7)

The current Tertiary Education Strategy makes no mention of the role that technology plays in a modern system. This is in stark contrast to the schooling sector where there are a number of government initiatives guiding the increasingly sophisticated use of technology, and a clearly articulated vision for future growth. (Marshall, sub. DR122, p. 3)

Monitoring the TES

Attached to each of the TES's priorities are "indicators of success". Some indicators include specific quantifiable targets against which government has established ways of measuring progress. For example, indicators of success in getting at-risk young people into a career include government's Better Public Services target that, in 2017, 85% of 18-year-olds will achieve NCEA level 2 or an equivalent qualification, and 55% of 25-to-34-year-olds will have a qualification at level 4 and above.

However, other indicators refer only to vague descriptions of desirable outcomes that do not lend themselves to measurement. For example, an indicator of success in delivering skills for industry is that "Investments in education (by students, employers and government) make use of good information about employment outcomes" (p. 10). The TES does not specify what constitutes "good use of information," nor is it clear how the use of information might be measured.

The Ministry of Education is responsible for monitoring the progress of the tertiary education sector towards the goals of the TES. Although the Ministry of Education website states that monitoring and evaluation of the TES is published annually, the most recent publicly available monitoring report (as at February 2017) covers the period from 2010 to 2012, which relates to the previous TES (MoE, 2013b).

The lack of a clear performance framework underlying the current TES means that, when and if government again reports publicly on progress, it will have to make choices about what measures to publish for each indicator. Government will have incentives to select whatever measures show the most progress over the period of the TES. This lessens the potential power of the indicators as public accountability mechanisms.

F5.2

The priorities of the current Tertiary Education Strategy (TES) encompass a very wide range of provider activity. The TES gives no sense of relative importance of these priorities, or how the inevitable trade-offs between priorities should be managed. Nor does the TES outline government's plan for achieving the priorities. Its performance indicators are frequently vague and monitoring against the strategy is sporadic.

5.3 Government funding

One of government's most influential roles in the tertiary education system is that of a funder. In 2015/16, total government expenditure on tertiary education amounted to \$4 046 million (MoE, 2016a). This expenditure can be split into two broad categories:

- expenditure directed toward students – this includes student allowances, scholarships, and the costs of operating the Student Loan Scheme; and
- expenditure directed toward tertiary providers – this includes tuition subsidies (which are split into numerous different funds, such as the Student Achievement Component (SAC) Fund, and the Industry Training Fund), research funding, and several smaller funds.

Such expenditure is variously described as funding, purchasing and subsidising according to context (Box 5.1).

Box 5.1 Funding, purchasing and subsidising

This report variously describes the financial relationship between government and providers using the terms "funding", "purchasing" and "subsidising". Each term has its place in different contexts.

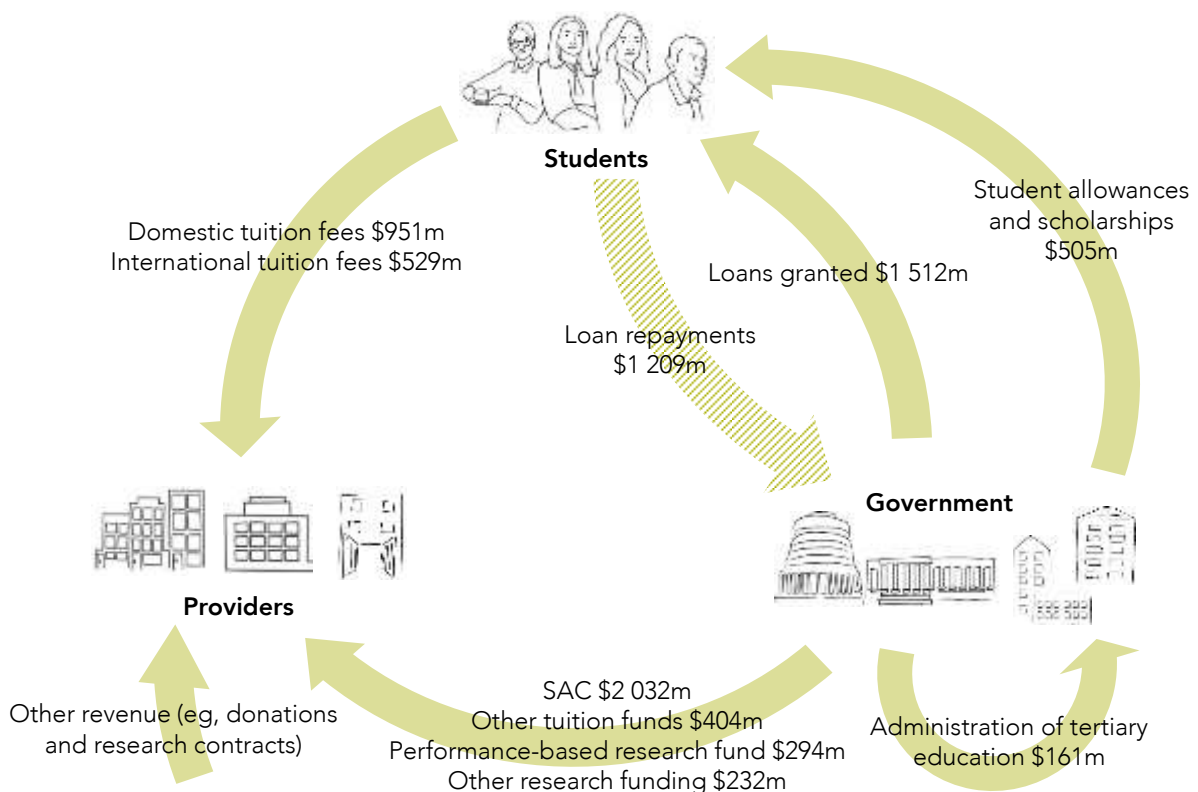
- *Funding* reflects the language in the Education Act 1989, and this term is commonly used within government and providers. Providers have no inherent right to funding from government. Government can choose both how much it spends on tertiary education, and how it allocates those funds.
- *Purchasing* is a better description of the nature of the transactions between government and providers. Government enters into contractual arrangements with providers that specify the quantity and type of education providers must deliver, usually specified in terms of equivalent full-time students (EFTS). Payment is ultimately conditional on delivery within the terms specified in the contract.
- *Subsidising* describes the economic effect of government funds paid to providers and students. Some tertiary education would happen in a purely private market. Government, wishing to increase the quantity of education provided and consumed, subsidises both students and providers.

This report generally uses the term appropriate to the context. This chapter, for example, mostly uses the term “funding”, reflecting the legislation and government’s administrative arrangements. Chapter 7 describes the market for EFTS as a purchasing arrangement.

Figure 5.3 sets out the main funding arrangements in the tertiary education system, including the contributions from students through tuition fees.

The following sections provide further detail about funding for students (section 5.4) and funding for tertiary providers, including government’s role in regulating tuition fees (section 5.5).

Figure 5.3 Tertiary education subsidies, fees, loans and student support, 2015/16



Source: MoE, 2016a; 2016d.

Notes:

1. Tuition fees are for the 2015 calendar year and include compulsory student charges and levies. Tuition fee data are based only on tertiary education institutions (data for total fees at private training establishments (PTEs) are not available).
2. Other tuition funds include Youth Guarantee, Industry Training, Gateway, Intensive Literacy and Numeracy, Workplace Literacy, Adult and Community Education, and Foundation-Focused Training Opportunities.
3. Other research funding includes Centres of Research Excellence, Building Research Capability in the Social Sciences, Building Research Capability in Strategically Relevant Areas, the Marsden Fund, and funding from the Health Research Council and the Ministry of Business, Innovation and Employment.
4. For tertiary education institutions, other income (which includes research contracts and interest) amounted to \$745m in 2015 (data on other income are not available for PTEs).

5.4 Funding for students

Student support

Through the student support system, government aims to support affordable and equitable access to high quality, relevant tertiary education (MoE, 2015c). The two main student support mechanisms are student allowances and student loans.²³

Student allowances

The student allowance is a weekly, non-repayable grant to help students cover their living costs. Access to the student allowance varies depending on students' income, age, living situation, relationship status, and whether the student has dependent children. The number of students receiving a student allowance nearly doubled between 2005 (56 800) and 2011 (99 300), before falling to 75 050 in 2015 (MoE, 2017a). Government spending on student allowances in 2015/16 was \$486 million.

Student loans

Most domestic students are able to access the Student Loan Scheme (the Scheme) to cover course fees and some course-related costs, and to help with living costs. Student loans are currently interest free while the borrower lives in New Zealand. The Inland Revenue Department collects repayments. Repayment is mandatory once the borrower earns over a certain threshold, which has been set at \$19 084 per year since 2009.

- In the 2015 calendar year, 182 500 students borrowed from the Scheme, with total lending of \$1 522 million in 2015/16.
- At 30 June 2016, there were 731 754 student loan borrowers (people who have borrowed from the Scheme at any stage that have not yet fully repaid their loan), and the nominal value of all outstanding loans was \$15.3 billion.

The Scheme reduces the effective cost of study to students. Contingent repayment and a zero nominal interest rate mean students face a negative real interest rate and strong incentives to repay loans as slowly as possible. In addition, loans are written off when a borrower dies or becomes bankrupt, and a large proportion of overseas-based borrowers do not meet their repayment obligations. Some of these overseas borrowers are expected to not fully repay their loan (MoE, 2015c). The combination of these features means the Inland Revenue Department writes off a significant share of the total amount loaned each year (Figure 5.1).

In the 2015/16 financial year, borrowers took up \$1 522 million in loans and \$659 million was written off – an average of 43.3 cents for each dollar lent. This write-off equates to a subsidy of around \$2 800 per EFTS enrolled in 2015.

Based on lending in 2011, Baxter (2011) found about 45% of the government write-off is attributable to the interest-free nature of the Scheme. The remaining 55% is attributable to non-repayments due to bankruptcy, death, failure to meet the income threshold for repayments, or failing to repay while overseas.

²³ Government also provides support through scholarships – expenditure on scholarships in 2015/16 was \$19 million (MoE, 2017a).

Table 5.1 Student loan lending and initial write-down on lending, 2008/09–2015/16

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
New lending (\$ millions)	1 269	1 434	1 465	1 489	1 481	1 522	1 529	1 522
Initial write-down (\$ millions)	532	728	713	702	536	629	602	659
Average cost of lending (cents per dollar)	41.92	50.77	48.67	47.15	36.19	41.33	39.37	43.3

Source: MoE, 2015c.

Another feature of the student support system is that the number of students who benefit from the system is not capped. Although a number of restrictions have been applied to the Scheme in recent years (Chapter 4), most domestic students enrolled in an approved programme (a programme funded by TEC and part of an NZQA-approved qualification) are eligible to access the Scheme.

A consequence of these two design features is that if student numbers increase, so too does the immediate cost to government through allowances, and the write-down on the Scheme. Similarly, if the fees charged by providers increase, student borrowing for fees will increase – meaning the write-down on loans will also increase. This creates a strong incentive for government to control student numbers and provider fees. Indeed, as set out in the following section, government applies controls on student places and regulates provider fees.

F5.3

Government typically recovers just 60 cents per dollar lent through the Student Loan Scheme – due in large part to the use of a zero nominal interest rate. This fiscal cost, along with the cost of other student support payments, creates a strong incentive for government to control student numbers and provider fees.

5.5 Funding of tertiary education organisations

The total budget allocated for tertiary education is set through the Budget appropriation for Vote Tertiary Education. This appropriation includes specific allocations for tuition and industry training subsidies, research funding for tertiary providers, and for services delivered by government agencies such as the Ministry of Education, TEC and Education New Zealand (ENZ).

Funding for research and tuition is broken down into a selection of different funds that tertiary education organisations (TEOs) can apply for. Broadly speaking, the Ministry of Education is responsible for defining the purpose and parameters of different funds (including the total value of funding available) through funding mechanisms. TEC is responsible for implementing funding mechanisms and allocating funding to TEOs. Through this process, TEC allocated around \$2.8 billion for research, tuition and training subsidies in 2015 (TEC, 2015a). TEOs can also access research funding administered by other government agencies such as the Health Research Council and the Ministry of Business, Innovation and Employment.

Funding mechanisms

The Minister for Tertiary Education, Skills and Employment must “from time to time, determine the design of the funding mechanisms that the [Tertiary Education] Commission must use to fund organisations” (Education Act 1989, s 159L). Funding mechanisms must identify the general form and essential components of the fund (and may also specify the amount of money available under the fund), provide for funding for specific types of TEO or particular groups of students, and specify conditions TEC must attach to funding. The main restriction on funding mechanisms is they may not identify a specified organisation or organisations to which funding is to be provided or denied.

Once the design of a funding mechanism has been determined, it is TEC's responsibility to develop the operational policy and practices needed to implement the mechanism (funding conditions). Because funding mechanisms tend to contain prescriptive specifications, TEC has relatively little discretion in the way that it

allocates funding. For example, the funding mechanism for the largest fund TEC administers, Student Achievement Component for provision at levels 3 and above (SAC 3+), includes the following:

- a matrix of 60 different funding rates per EFTS based on 18 different disciplines and five levels of study;
- a requirement that TEC measures enrolments in units of EFTS;
- minimum amounts of funding that must be allocated to each subsector, with 10% of funding free for allocation without reference to the subsector;
- restrictions on the use of funding for delivery of programmes longer than 34 weeks in a calendar year;
- restrictions on the use of SAC funding for specialist professional qualifications – for example, health and safety, regulatory compliance, and some health-related professional qualifications;
- numeric caps on the number of EFTS permitted in high-cost programmes;
- a formula that places 5% of each provider’s funding at risk based on a set of performance indicators;
- restrictions on the use for the funding for short programmes of study, such as Certificates of Proficiency; and
- a requirement that funding is only used for courses that form part of a programme of study or training scheme that leads to the award of a qualification.

Inquiry participants noted some of the controls specified in funding mechanisms make it difficult to introduce new or innovative offerings. The most frequently cited examples were the requirement that students be enrolled in a qualification, and restrictions on the provision of short courses or micro-credentials (smaller packages of learning designed to meet particular learner needs) (Box 5.2).

Box 5.2 **Qualification requirements and restrictions on short courses**

The funding mechanism for the SAC 3+ includes the following restrictions:

The TEC must ensure that the SAC funding paid to a TEO under this funding mechanism, is only used for a course that is part of a programme that leads to the award of a qualification at level 3 to 10 on the NZQF...

The TEC must restrict the availability of short awards and training schemes, certificates of personal interest, and certificates of proficiency, by developing criteria limiting the eligibility of related courses or programmes for SAC funding at level 3 and above on the NZQF. (Minister for Tertiary Education, Skills and Employment, 2016, p. 7)

To operationalise the restriction on short awards, TEC’s funding conditions state that providers must ensure that certificates of proficiency, certificates of personal interest, or short awards comprise no more than 5% of the dollar value of their total delivery (TEC, 2017a).

Several submitters noted that these restrictions are at odds with a growing demand from mid-career students looking to upskill or acquire specific skills needed for their work. For example, the Victoria University of Wellington Centre for Lifelong Learning (sub. 39, p. 1) notes that, with the nature of work changing rapidly, “employers and sector groups are increasingly asking for credentialing of shorter pieces of learning that are delivered flexibly”. NZQA also anticipates a growing role for alternatives to full qualifications:

When considering the future of qualifications, NZQA assumes that in addition to the ongoing value of full formal qualifications, there may be greater use of micro-credentials, badging, and workplace learning, especially for mature learners who are upskilling. Components of learning may become increasingly important as learners draw on wide-ranging formal and informal, domestic and international learning experiences, work based and experiential learning to build a rich and diverse record of achievement. (sub. DR161, p. 2)

NZITP and Metro Group (sub. 42, p. 6) notes that micro-qualifications “are subject to unhelpful rules” and funding systems are not flexible enough to enable provision that is responsive to the learner’s circumstances, including learners who are not school leavers (who make up at least 50% of the ITP student body). Otago Polytechnic has developed, and is currently piloting, a micro-credential model, but notes that “current policy settings not only do not support this approach but directly oppose it” (sub. 91, p. 3).

F5.4

Funding mechanisms tightly specify how funding is allocated, and what providers can deliver.

New funding models

While the specific conditions attached to different funds was a source of concern for TEOs, the funding system is not static. In recent years, several new approaches to allocating funding have been introduced, including Performance-Linked Funding and a competitive process for funding at levels 1 and 2. These approaches have drawn criticism from some TEOs.

Performance-Linked Funding

Performance-Linked Funding conditions were added to the funding mechanisms for SAC funds from 2012. As a result, a maximum of 5% of a TEO's funding is based on its performance in the previous year. Performance is measured using four educational performance indicators (EPIs) – qualification completion, course completion, retention, and progression. Different weightings apply to these indicators for provision at different NZQF levels.

TEC sets upper and lower performance thresholds. For TEOs performing above the upper threshold, TEC allocates the full amount of reserved funding. For those providers below the lower threshold, all of the reserved funding is withheld. A portion of the reserved funding is withheld for providers whose performance scores fall between the upper and lower thresholds.

One submitter suggested Performance-Linked Funding has little impact, given the amount of funding at risk under the policy is very small when compared to the amounts provided through standard EFTS-based measures (Alach, sub. 8). However, the majority of submitters were critical of the policy and suggested it is a barrier to innovation:

The TEC’s metrics... dampens innovative teaching, since staff become risk-averse to drops in educational performance indicators that may initially result from trialling new teaching developments. (Sampson et al., sub. 14, p. 5)

Innovation requires an element of risk and the current EPI funding performance driven model does not encourage innovation because if a new model of delivery is tried and there are not high rates of learner success this could have adverse financial consequences for institutions. (NZITP & Metro Group, sub. 42, p. 21)

...a significant potential barrier to innovation lies in the nature of our funding system, which can (or at least is perceived to) penalise attempts to innovate. Innovation often involves an element of risk – even models that have worked successfully elsewhere can fail when implemented in a new setting... yet we have a funding and monitoring system that discourages risk-taking because the stakes of potential failure can be high. (Ako Aotearoa, sub. 58, p. 17)

As it stands, Performance-Linked Funding could be better described as “Non-Performance Linked Funding.” It makes providers more cautious about innovation as they have little (financially) to gain and potentially a lot to lose if innovation does not work out. (ITI, sub. 81, p. 23)

Inquiry participants also noted that the inclusion of the Qualification Completion Rate indicator in Performance-Linked Funding calculations “militate[s] against institutions which seek to recognise student achievement in less than entire qualifications” (NZITP & Metro Group, sub. 42, p. 7). For example, entering full-time employment before completing a qualification may be a “positive outcome for the learner but has negative consequences for the institution” (Otago Polytechnic, sub. 91, p. 4). TEC revised the Qualification

Completion Rate indicator in 2016 to make it more robust²⁴, but the changes did not address this particular problem.

Table 5.2 shows the total allocation of SAC funding for provision at levels 3 and above (SAC 3+) between 2013 and 2015, along with the amount of funding TEC withheld under Performance-Linked Funding. In each of the four tertiary subsectors, the amount withheld was less than 0.5% of funding. The maximum amount withheld from any single provider ranged from 0.1% in the university subsector to 5.2%²⁵ in the private training establishment (PTE) subsector. The median proportion withheld was highest in the wānanga subsector (1.2%), and was much smaller in the other subsectors.

Table 5.2 Funding withheld under Performance-Linked Funding, 2013–15

	Total SAC 3+ funding (2013–15)	Funding withheld under Performance- Linked Funding (2013–15)	Funding withheld as a proportion of SAC 3+	Maximum proportion withheld from a single provider	Median proportion withheld
PTEs	\$521.6m	\$2.2m	0.420%	5.263% ¹	0.008%
Wānanga	\$363.2m	\$1.5m	0.399%	2.345%	1.234%
ITPs	\$1 421.9m	\$5.7m	0.400%	1.556%	0.384%
Universities	\$3 464.8m	\$0.95m	0.028%	0.109%	0.007%

Source: Data provided by TEC.

Notes:

1. The theoretical maximum amount that can be withheld is 5%; but, in any given year, the amount withheld as a proportion of funding that is distributed may be more than 5% because of carry-over effects from the performance scheme in previous years.

TEC notes that Performance-Linked Funding “is targeted to encourage all SAC-funded TEOs to reach an acceptable standard of educational performance” (TEC, 2015b). The tiny share of funding withheld under the policy suggests most provision is already delivered to an acceptable standard (assuming the standard is set at an appropriate level). The behavioural impact of Performance-Linked Funding, as reported by submitters, appears to be much greater than the fiscal impact of the policy.

F5.5

The fiscal effect of Performance-Linked Funding is frequently overstated. Between 2013 and 2015, less than 0.2% of SAC 3+ funding was withheld under Performance-Linked Funding. However, Performance-Linked Funding does appear to strongly affect provider behaviour to the detriment of innovation and the development of new models.

Performance-Linked Funding conditions have also been introduced for industry training funding. The system for industry training applies just one performance indicator: that at least 80% of industry trainees and apprentices actively training with an Industry Training Organisation (ITO) for 90 days or more in the calendar year achieve at least 10 credits. Failure to achieve this results in a funding reduction of up to 5%.

The proportion of funding withheld under Performance-Linked Funding for industry training is also very small. In 2015, payments from the industry training fund to ITOs amounted to \$163 million – the total amount of funding withheld was \$81 259.

²⁴The Qualification Completion Rate indicator used in EPIs up to and including 2016 involved measurement of completions for an artificially constructed cohort, and was affected by changes in student volumes. For example, in 2014, 26 tertiary providers had apparent qualification completion rates of over 100%. TEC introduced a cohort-based indicator from 2015, publishing it alongside the historical measure. It also improved its Retention Rate indicator to reflect international best practice in measuring first-year retention.

²⁵ The theoretical maximum amount that can be withheld is 5%; but, in any given year, the amount withheld as a proportion of funding that is distributed may be more than 5% because of carry-over effects from the performance scheme in previous years.

Competitive funding

In 2012, government introduced a competitive funding process for allocating a portion of SAC funding for foundation-level provision (levels 1–2 on the NZQF). Under this process, eligible providers are invited to submit applications for competitive funding, which are then assessed by TEC against criteria including the provider's capability in delivering foundation learning, and ability to achieve successful learner outcomes (TEC, 2016c).

Since introducing competitive funding in 2012, TEC has increased the portion of funding allocated through the competitive process, with 100% of funding to be allocated to foundational courses through this approach for the years 2017/18.

The competitive funding approach appears to be less locked-down than funding allocated through the regular Investment Plan process, as it provides greater opportunity for funding to move among providers. For example, a provider with a good track record of effective provision may be able to increase their share of funding at the expense of lower-performing providers. The process also allows an opportunity for providers not previously funded for delivery at these levels to receive funding.

However, WelTec and Whitireia noted there is very little flexibility in how funds allocated through the competitive process can be used:

In 2016, WelTec and Whitireia will be making a bid in the competitive level one and two funding process. We have to be sure that we pick the 'right' programmes, at the 'right' volumes, and at the 'right' price. If we are successful then we receive specific conditions, performance measures, and reporting requirements that lock these specific programmes, to a location, to a volume, and at a specific time (over a two-year period). We have limited, to no, ability to change this provision on any parameter than that approved through the bid process.

Prior to the competitive processes we had the ability to move funding around our wider mix of provision to accommodate changes in industry, learner demand and impacts in the market/economy. This flexibility enabled us to be somewhat more responsive and agile... the competitive bid process ended all flexibility and has created a rigid, fragmented and siloed set of programmes that struggle to meet need in a modern economy...

The rigidity of these contracts, as if the future was certain, does not put the learner, the societal need, the public (or even private) good first, but is actually about the probity of the process. (sub. 59, p. 24)

In June 2016, TEC announced up to \$35 million of SAC funding for provision at levels 3–4 in 2017/18 will be allocated through the competitive process (previously, the competitive process had only been used for SAC funding at levels 1–2). Two of TEC's aims for this process are to "direct investment towards higher quality delivery" and to "increase responsiveness to industry needs" (TEC, 2016d). However, any progress toward these aims is likely to be hindered by the tight timelines for providers to respond to the new funding model (Box 5.3).

Box 5.3 **Tight timelines for the competitive funding process at levels 3–4**

TEC opened the competitive tender process in June 2016, and tenders closed on 24 August 2016. TEC expected to make provisional announcements about successful tenders in early October 2016, with final funding confirmed in October or November 2016.

This timeline gave providers as little as two months to make any necessary changes to staffing and facilities in order to be ready to deliver (or to cease delivery) in 2017, significantly limiting providers' ability to depart far from the status quo in terms of their proposed delivery arrangements. TEC also stated providers must have NZQA programme approval by November 2016, which effectively prevents providers tendering for delivery of a new programme – unless they are willing to seek NZQA approval for it before they know whether the programme will attract any funding.

Source: New Zealand Government, 2016; TEC, 2016e.

Allocation of funding

Once a funding mechanism has been issued, it is the responsibility of TEC to operationalise the mechanism and allocate funding to tertiary providers.

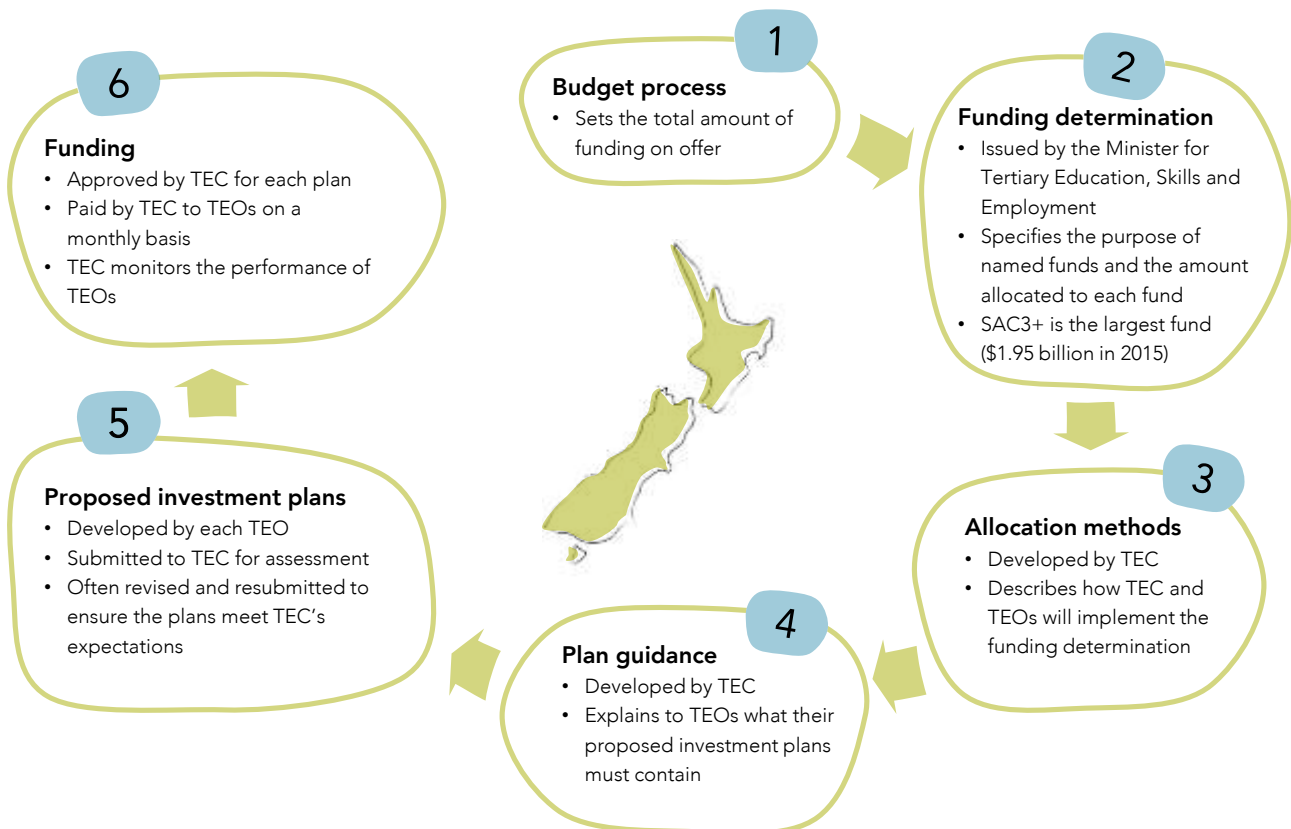
At the time of writing, TEC administered 33 different funds across seven different categories (TEC, 2017b).

- Teaching and learning (12 funds)
- Literacy and Numeracy and English for Speakers of Other Languages (six funds)
- Adult and Community Education (five funds)
- Funding for industry (three funds)
- Research capability (four funds)
- Three other funds

There is significant variation in the size and purpose of these funds. For example, in 2015, the SAC fund for provision at level 3 and above was allocated to all tertiary education institutions (TEIs) and 171 PTEs, and accounted for 70% of total TEC funding. By contrast, the fund for Adult and Community Education Search and Rescue was allocated to just one TEO in 2015, and the amount of funding available (\$1.3 million) amounted to less than 0.05% of total TEC funding.

TEC's main process for allocation of funding is the Investment Plan-based system (Figure 5.4).

Figure 5.4 The Investment Plan-based funding system



Most providers seeking funding from TEC are required to prepare an Investment Plan. However, as of 2016, some smaller PTEs and community education providers are exempt from the requirement. Providers' Plans must set out the following information for a three-year timeframe:

- their mission and role;
- how they will address the needs of stakeholders;

- how they will give effect to the TES;
- a description of programmes, activities and outcomes (including those programmes for which no TEC funding is sought);
- the amount of funding sought in relation to the programmes and activities; and
- a description of proposed outcomes and indicators to measure whether outcomes are achieved (TEC, 2016f).

In deciding to approve an Investment Plan, TEC applies decision-making criteria that includes: alignment of delivery with government priorities; accurate identification of stakeholders and their needs; and whether performance commitments are set at a level that represents an improvement on past performance (TEC, 2015k).

Regional delivery restrictions

TEC's decision-making criteria for Investment Plans also includes consideration of whether delivery is desirable and appropriate in the context of regional and national need. In the case of ITPs, TEC applies a specific policy regarding regional provision (Box 5.4).

Box 5.4 ITP regional provision restrictions

TEC's criteria for approving ITPs' Investment Plans sets an expectation that ITPs should concentrate primarily on delivering education that meets the needs of their region. If an ITP wishes to deliver outside their own region, they must first seek TEC approval. As part of the approval process, the ITP outside of the region in question is required to demonstrate there is a regional industry or community need for the proposed provision, and to engage with the local ITP to determine that the proposed offering is not already offered in the region (TEC, 2015e).

TEC's submission provides further information on the rationale for these restrictions, and suggests that there are pros and cons associated with the restrictions:

The TEC implemented this requirement to stop widespread duplication of generic provision. It also helps to ensure that ITPs focus their delivery on their home regions so that all regions of New Zealand have tertiary education providers. Removing this requirement could allow direct competition between ITPs, which could result in increased choices for students. However, it could also result in ITPs focusing on delivery in main centres at the expense of their regional provision. Also, it is possible that we could see the re-emergence of the widespread duplication of generic provision this requirement was designed to quell. (TEC, sub. DR167, p. 4)

It is not clear that duplication of provision is problematic. Allowing only one ITP to operate in a certain region significantly reduces incentives to introduce new models or increase efficiency. As noted by TEC, direct competition between ITPs could result in increased choices for students. It could also encourage providers to re-examine their offerings to identify improvements that would make them more attractive to prospective students.

As the number of funded EFTS places is currently capped, it is plausible that such competitive delivery could come at the expense of regional provision. However, if TEC believes there are good reasons for ensuring that certain types of tertiary provision are delivered in specific regions – for example, to ensure that students have the opportunity to access intramural education without the need to relocate – then these expectations could be explicitly negotiated through the Investment Plan process.²⁶ It is not clear that limits on out-of-region provision are necessary.

²⁶ As discussed in Chapter 15, in instances where the price for delivery in a given location is too low to cover delivery costs, then TEC should address this directly by raising the price in that location.

F5.6

The Tertiary Education Commission's regional delivery rules restrict the ability of Institutes of Technology and Polytechnics (ITPs) to deliver outside their own region. This dampens competition between ITPs and, in conjunction with enrolment caps, limits their ability to grow. Both effects reduce ITPs' ability or incentives to introduce new models of tertiary education, increase efficiency, or improve their educational performance.

Timeframes for funding decisions

TEC's timelines for 2016 stated that TEOs will be notified of final funding decisions for the 2017 calendar year in October 2016. However, several inquiry participants reported it is not uncommon for providers to receive confirmation of their funding allocations for a coming calendar year in the last business week before Christmas. Indeed, it was suggested that this occurred in 2016:

TEC (rightly) holds providers to account for meeting a large number of deadlines. They should model the behaviour they require from the sector. Again this year TEC has pushed back their approval deadlines, including reserving the right to issue some approvals on 24 December 2016. This is exactly what they promised would not happen this time. (Quality Tertiary Institutions (QTI), sub. DR156, p. 8)

TEC (sub. DR167) acknowledged this issue and noted that it uses indicative allocations as a way to give providers a sense of likely funding before amounts are confirmed. It also noted that the scope for further improvements in the timeliness of funding decisions are limited, given the timeframes of Budget decisions:

The main driver of TEC's timeframes is the timing of Budget decisions. Budget decisions that affect Vote Tertiary Education are not made until May of the same year that Investment Plans are to be submitted and funding allocations agreed. TEOs need time after Budget announcements to finalise their Plans accordingly. TEC needs time to run competitive processes, assess Plans, and prepare advice to support decision-making. This leaves little room for timeframes to be adjusted without presupposing Budget decisions.

For TEC to make funding allocations earlier, Budget decisions could be made in May one-and-a-half years prior to coming into effect – for example, Budget 2016 for implementation from January 2018, rather than Budget 2016 for implementation from January 2017. But, this has several downsides, including that it effectively delays the implementation of government policy. (TEC, sub. DR167, p. 4)

While the timing of Budget decisions does constrain the total time available for TEC to finalise funding decisions, this does not preclude TEC from setting and sticking to timeframes. It seems unlikely that processes could not be sufficiently expedited in order to avoid final confirmations being granted on Christmas Eve.

F5.7

The Tertiary Education Commission frequently delays confirmation of providers' funding allocations.

Shifts in TEC funding between providers

In theory, the Investment Plan process allows TEC discretion to incentivise and reward performance by shifting funding between different providers. Independent Tertiary Institutions (sub. 81, p. 23) noted that "the shift of funds from under-performing PTEs to quality PTEs, while welcome, is slow and unpredictable".

Ako Aotearoa (sub. 58) raised similar concerns about the Investment Plan process:

The intent of these [investment] plans ... was that they would be negotiated strategic documents that managed funding to support priority outcomes and development of the TEO, the organisation's 'distinctive contribution' within a network of provision, and government priorities. In practice, they appear to have largely become passive funding contracts that simply outline deliverables to be achieved by a TEO. We believe that there is potential for these Plans to be used more effectively as genuinely strategic documents, and Investment Managers to take a more active partnership role in supporting the future development of TEOs. (pp. 7–8)

One manifestation of the passive nature of the Investment Plan process is that the allocation of funding between different providers changes very little year-to-year. As shown in Table 5.3, the allocation of the SAC 3+ (which typically accounts for around 70% of all funding allocated by TEC) has shifted very little between different subsectors.

Table 5.3 Distribution of SAC 3+ funding between subsectors, 2008–14

	% share of SAC 3+ funding				% point change in share of SAC 3+ funding		
	2008–10	2011–12	2013–14	2015–16 ¹	2008–10 to 2011–12	2011–12 to 2013–14	2013–14 to 2015–16 ¹
All universities	59.3%	59.1%	59.7%	60.5%	-0.3%	0.6%	0.8%
All ITPs	25.7%	26.1%	25.1%	24.3%	0.4%	-0.9%	-0.8%
All wānanga	5.8%	6.1%	6.2%	6.1%	0.3%	0.2%	-0.1%
All PTEs	9.2%	8.8%	9.0%	9.0%	-0.4%	0.2%	0.0%

Source: Data provided by TEC.

Notes:

1. Data for 2009–14 are for actual funded delivery. Data for 2015 and 2016 are for funding allocations.
2. Figures are rounded to one decimal place (as a result, some figures showing the percentage point changes in the share of funding may appear inconsistent with other figures in the table).
3. Data exclude the Universities Tripartite Adjustment Fund, which had its final year of payment in 2008.

The absence of significant shifts in the distribution of funding is also apparent within subsectors. Table 5.4 shows the allocation of SAC 3+ within the university subsector has remained relatively constant between 2008/10 and 2015/16.

Table 5.4 Distribution of SAC 3+ among universities

	% share of SAC 3+ funding				% point change in share of SAC 3+ funding		
	2008–10	2011–12	2013–14	2015–16 ¹	2008–10 to 2011–12	2011–12 to 2013–14	2013–14 to 2015–16 ¹
University of Auckland	15.2%	15.2%	15.6%	16.2%	0.0%	0.5%	0.5%
University of Waikato	3.7%	3.7%	3.7%	3.6%	0.1%	0.0%	-0.1%
Massey University	8.1%	7.7%	7.7%	7.5%	-0.4%	0.0%	-0.1%
Victoria University of Wellington	7.0%	6.8%	6.7%	6.7%	-0.2%	-0.1%	0.0%
University of Canterbury	6.3%	6.3%	6.2%	6.3%	-0.1%	0.0%	0.1%
Lincoln University	1.3%	1.3%	1.4%	1.5%	0.0%	0.2%	0.0%
University of Otago	11.2%	11.3%	11.2%	11.4%	0.1%	0.0%	0.2%
Auckland University of Technology	6.6%	6.8%	7.0%	7.3%	0.3%	0.2%	0.3%
All universities	59.3%	59.1%	59.7%	60.5%	-0.3%	0.6%	0.8%

Source: Data provided by TEC.

Notes:

1. Data for 2009–14 are for actual funded delivery. Data for 2015 and 2016 are for funding allocations.
2. Figures are rounded to one decimal place (as a result, some figures showing the percentage point changes in the share of funding may appear inconsistent with other figures in the table).
3. Data exclude the Universities Tripartite Adjustment Fund, which had its final year of payment in 2008.

One possible explanation for the static nature of funding allocations under the Investment Plan process is that providers have been unable to convincingly demonstrate a case for being granted a greater share of available funding. Two features of the funding system appear to support this diagnosis. First, if the tight specifications of the SAC 3+ funding mechanism are preventing providers from doing things differently, it would be difficult for providers to make improvements they could use to support a business case justifying a greater share of available funding. Secondly, the Investment Plan process requires providers to forecast in advance the number of EFTS in different programmes and the activities the provider will deliver. Providers are then funded at the start of the calendar year for that delivery. Funding is recovered if actual delivery ends up being less than 99% of the volume set out in Plans, and TEC factors the level of delivery achieved when determining future funding allocations. This requirement to forecast demand in advance may lead providers to take a relatively conservative approach in setting their Investment Plans and to stick with the status quo (ie, what they delivered the previous year).

Another explanation for the stability in funding allocations is a reluctance on the part of TEC to exert undue financial pressure on tertiary providers where government has an ownership interest (section 5.8).

F5.8

A very small share of funding allocated through the Investment Plan process shifts between tertiary providers, resulting in a very stable funding environment with little reward for successful innovation or high performance.

Delivery

As part of their Investment Plans, TEOs are required to set out their planned provision in different subject areas and levels of study. Following approval of their Investment Plans, TEOs are allocated funding at the start of the calendar year based on the commitments in their Investment Plans. As discussed previously, TEC will recover funding if the TEO delivers less than 99% of the provision set out in its Investment Plan. As a result of recent changes, most providers are able to access funding (which is paid in March of the following year) for over-delivery – up to 102% of what is set in Investment Plans.²⁷

Providers may initiate Investment Plan changes (amendments, significant amendments or replacement Investment Plans); however, there is no guarantee of being able to access funding over and above that already allocated through the initial Investment Plan.

In addition to specifying the amount of funded delivery, TEC also regulates unfunded delivery and imposes an upper tolerance band for over-delivery at 105%. This is because students enrolled in approved programmes of study are able to apply for student loans and allowances – both of which incur significant fiscal costs for government. Hence, government is exposed to the costs of providing this support, even if it is not paying a subsidy for students enrolled in unfunded places.

There are no caps on the number of international students providers may enrol. Section 224 (10) of the Education Act 1989 states that providers may not enrol international students if they take up places that could otherwise be offered to domestic students. However, this clause does not apply if the international student fills a place that is only available as a result of the fees payable by the international student who enrolls in it.

²⁷ To be eligible for funding for over-delivery, TEOs (except for universities) must have an NZQA External Evaluation and Review (EER) rating of category 1 or 2; deliver a minimum of 20 funded EFTS; and have an average course completion rate of 70% or higher.

The capped nature of the domestic system means tertiary providers are allocated a certain number of EFTS for whom they must deliver a certain mix of programmes at specified levels on the NZQF. As a consequence, TEOs are locked into a predetermined pattern of delivery, with limited options to adjust delivery in response to changes in student demand. Where demand exceeds allocations, providers are only able to access funding for up to 102% of the EFTS agreed in their Investment Plan. Where demand is insufficient to meet a provider's allocation, the provider is incentivised to retain existing learners for as long as possible, as failure to meet an EFTS target often has consequences for future EFTS allocations.

Independent Tertiary Institutions (sub. 81) noted that delivery caps prevent quality providers from expanding their offerings:

In order to contain this loss of money, the Government constrained the number of EFTS in the whole system, thereby restricting the number of loans that would be taken out. In doing so, they turned a free market into a controlled one with perverse economic results.

For example: assume that in a particular discipline, prospective students have a choice between two providers, one that is very high quality and the other that is mediocre. The high quality provider is over-subscribed and so must turn away a number of applicants. Those declined applicants then find a place in the mediocre institution, which then meets its EFTS target. Two negative effects occur – a number of students receive a lower quality education than they might have had, and the mediocre institution stays in business. (p. 5)

ACG Tertiary and Careers Group (sub. 84, p. 13) raises a similar concern, noting that funding and delivery caps have “resulted in entry criteria being increased by many providers to manage their enrolment cap. This has impacted accessibility to high quality and high demand providers, and is impacting the overall quality of tertiary outcomes as some students are forced to choose providers that may have lower levels of quality and/or performance”.

Inquiry participants noted significant frustration at the lack of options available to increase their allocation of EFTS. Some reported they had resorted to purchasing less successful PTEs in order to access their EFTS allocation, before gradually reorienting the provision of that PTE toward what they want to deliver. This practice is accepted by TEC, provided it is informed of the change of ownership. However, inquiry participants noted this strategy is risky because TEC ownership rules state that “approval of funding does not automatically transfer to a new PTE as a result of a change of ownership” (TEC, 2014).

Other providers reported that the rigidity of the EFTS allocation system can be overcome through sub-contracting arrangements. However, such arrangements are relatively uncommon as they rely on the presence of a willing seller and buyer of EFTS, and involve relatively high transaction costs – including gaining prior approval from TEC.

F5.9

Caps on the enrolment of domestic students mean tertiary providers are allocated a certain number of Equivalent Full-Time Students for whom they must deliver a mix of programmes on the New Zealand Qualifications Framework. Tertiary providers have little ability to expand or contract delivery in response to changes in student demand.

Alongside the frustrations outlined above, some inquiry participants also questioned whether enrolment caps are the most effective approach for managing fiscal costs associated with student support. Under current policy settings, government typically only recovers between 50 and 60 cents per dollar loaned to students (section 5.4). This suggests there is considerable scope to reduce costs of student support through policies encouraging swifter repayment, or through a repayment system that more closely reflects the true costs of lending.

The cap on funded and unfunded tertiary provision in New Zealand differs substantially from the approach to tertiary education in Australia (Box 5.5).

Box 5.5 Australia's uncapped tertiary funding approach

In the past, the allocation of funding for universities in Australia was determined through a negotiation process between each institution and the federal government. From 2009, a new funding approach was phased in, which culminated in 2012 with the removal of the cap on the number of university places. As a result, Australian universities may enrol as many students as they wish based on their own entry requirements. Each student generates the same level of government funding, with different rates applying to different fields of study (King & James, 2014).

The shift to a demand-driven system resulted in a significant increase in student numbers (Table 5.5), and a rapid increase in government expenditure.

Table 5.5 Equivalent full-time student enrolments at Australian universities, 2003–15

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Equivalent full-time students (000s)	503	499	502	512	529	543	574	609	628	660	693	719	731
% change (from previous year)		-0.8%	0.6%	2.0%	3.3%	2.6%	5.7%	6.1%	3.1%	5.1%	5.0%	3.8%	1.7%

Source: Australian Government Department of Education and Training, n.d.

In a review of the demand-driven approach, Kemp and Norton (2014) identified a range of teaching-related innovations that emerged since the removal of enrolment caps – but noted it is difficult to attribute innovations directly to the demand-driven system. One change the authors do attribute to the change in funding approach is the sharp increase in online delivery that occurred from 2009:

While improved online educational technology must have contributed to this growth, it was the demand driven system that enabled a major expansion in online provision. Under the previous system of capped university places, universities had to apply for new places or reduce their on-campus enrolments if they wanted to expand online. Now those restraints have been removed, and we observe rapid growth in this market. (p. 47)

Fee regulation

In addition to funding TEOs through direct subsidies, government also regulates the fees providers charge students. For domestic students, the Minister for Tertiary Education, Skills and Employment administers the Annual Maximum Fee Movement (AMFM) policy, which limits annual increases providers can make to their fees. This policy's purpose is to promote affordability of study for domestic students, and a level of certainty about the fees payable throughout the course of study for a qualification. The policy also controls flow-on costs to the Student Loan Scheme, while allowing providers some flexibility in fee-setting.

Fees for international students are unregulated. Providers are not able to charge a domestic student a fee that exceeds the maximum fee allowable under the AMFM policy (ie, a domestic student cannot be enrolled as if they were a full-fee-paying international student).

In setting the AMFM, ministers appear to be balancing two competing political risks. A high AMFM would enable significant fee increases, which would be unpopular with students and their families, and could impact participation levels in tertiary participation. Additionally, because most students use the Student Loan Scheme to pay for tuition fees, government incurs the fiscal costs associated with additional borrowing equivalent to fee increases. However, setting the AMFM too low may limit the ability of providers to deal with inflationary pressures, making them financially vulnerable and increasing the risk of poor quality provision.

Source: Universities New Zealand, 2017.

Notes:

1. Tuition fee data for Lincoln University was not available in a comparable format.
2. Data for University of Auckland was not available in a comparable format for the years 2015 to 2017.
3. The source notes that: "This is not an official statement of fees. Indicative only."
4. The percentage change for 2011 has been adjusted to account for increase in GST in October 2010.

F5.10

Current tightly specified fee regulation:

- inhibits differentiation in educational offerings within the tertiary education system;
- has locked providers into historic fee relativities; and
- works against provider experimentation with prices, as any fee decrease is immediately locked in.

Alongside the effects described above, Independent Tertiary Institutions (sub. 81) noted that providers' fee rates are not publicly available. This means that when a provider is developing a new programme, they have no visibility of the fee mid-point for similar programmes. This generates uncertainty about what fees may be charged and creates a disincentive to invest in new programmes:

The fees charged for individual modules in any particular funding category are not publicly available – only TEC has access to the whole picture. With all the key cards held tightly to the agencies' chest, it is impossible for a provider to know when making a change to a module what fees they will be allowed to charge for it until after the module has been changed and approved by NZQA to be offered. (sub. 81, p. 21)

Monitoring and reporting requirements

TEOs that receive TEC funding are required to monitor their performance and report it to TEC. These requirements vary between different types of provider, and for different funds. The specific requirements are outlined in each TEO's Investment Plan funding approval letter.

TEOs must monitor their performance against commitments agreed in their Investment Plans and then report to TEC. TEC uses the data to inform subsequent funding decisions, and also publishes some performance information such as EPIs. While each fund has specific reporting requirements, typical areas that TEC monitors include:

- delivery volume and mix of provision against agreed allocations;
- delivery against performance standards agreed in the Investment Plan;
- compliance with legislative requirements and funding conditions; and
- achievement of Performance-Linked Funding thresholds.

Where TEC identifies concerns, or receives complaints about funded providers, it has the option to review or investigate individual providers. Investigations of six providers were completed in 2014/15, along with a further six focused reviews. The outcomes of these investigations varied but, in several cases, resulted in TEC recovering funding and requiring providers to make changes to their operating procedures.

Inquiry participants noted that TEC monitoring requirements are cumbersome, and complying with them diverts resources away from more valuable activity:

Instead of a high trust, low touch, outcomes focused environment, we operate in a low trust, high touch, high compliance and reporting environment. Attached to our submission is an Investment Plan letter, as you can see it is nearly 100 pages long with a huge number of complicated funding conditions... Linked to this, is the multiplicity of funds and their associated conditions, reporting requirements and compliance. (WelTec & Whitireia, sub. 59, p. 22)

One of the consequences of remaining in a purchasing mindset is that TEOs continue to dedicate significant resources to ensuring that funding rules related to learner eligibility, capped EFTS, agreed mixes of provision and other factors are observed. This analytical capacity could be more productively utilised if the system shifted significantly to one of high trust where funding was invested over multiple years linked to strategic responses to regional learner demand, employment opportunities and demographics. (Manukau Institute of Technology, sub. 67, p. 2)

The system is often described (by officials) as high-trust/high-accountability. This is not totally accurate. It is low-trust/high-accountability, usually at the last minute. The level of compliance is excessive... (ITI, sub. 81, p. 9)

The Ministry of Education monitors the performance of the tertiary sector as a whole, particularly progress toward priorities contained in the TES (section 5.1), and NZQA is responsible for monitoring TEOs' effectiveness in providing quality education (section 5.6).

5.6 Quality assurance arrangements

Under current government settings, NZQA is responsible for quality assurance in the non-university tertiary sector. It does this by:

- operating a registration process for tertiary providers;
- an accreditation process that includes moderation of assessment standards;
- a programme approval process; and
- External Evaluation and Review.

The following section outlines each of these processes, and considers what objectives they fulfil and how they affect the ability of tertiary providers to innovate or respond to changing circumstances. Quality assurance for universities is conducted by a separate agency, Universities New Zealand, and is discussed in section 5.7.

Alongside its quality assurance role, NZQA is also responsible for managing the NZQF. The framework provides a way to classify and compare the different qualifications in New Zealand's tertiary education system and has 10 levels that range in complexity – from a level 1 certificate, to a level 10 doctoral degree. The NZQF is designed to optimise the recognition of educational achievement by providing information on the knowledge and skills expected of people with different qualifications, and the types of further education or employment opportunities to which the qualifications may lead (NZQA, 2016b).

Registration process

Section 232 of the Education Act 1989 sets out the requirements that PTEs must be registered before providing approved training schemes or programmes of study, and before enrolling international students. In order to gain registration, PTEs must submit a written application to NZQA setting out the kinds of education the establishment proposes to provide, and the outcomes it seeks to achieve through providing this education. Applications must also demonstrate how the establishment intends to meet a set of requirements (contained in s 233 of the Education Act 1989) that include:

- that every governing member of the establishment is a fit and proper person;
- that the establishment has, or will have, adequate staff, equipment, and premises to provide its programmes or training schemes; and
- that the establishment has, or will have, acceptable financial management practices and performance.

If NZQA is satisfied the establishment meets the requirements set out in s 233, it must grant the registration. NZQA sets a timeframe of six months for the analysis of applications and, if successful, the process of granting registration (NZQA, n.d. b). NZQA charges a standard evaluation fee of \$150/hour²⁸. In assessing

²⁸ All NZQA fees stated in this report exclude GST.

applications, NZQA will usually conduct a site visit, and will also make a validation visit to the PTE six months after registration to check it is meeting registration requirements. Site visits are also charged at \$150/hour, plus travel costs (NZQA, 2013).

Obtaining registration opens a number of doors for tertiary providers. Registered providers are able to enrol international students, are eligible to deliver programmes of study leading to qualifications on the NZQF, seek funding from TEC, and subsequently enrol students who are eligible for student loans and allowances. However, once registered, PTEs must comply with a series of conditions including complying with rules made by NZQA under s 253 of the Education Act 1989. At the time of writing this report, NZQA had eight sets of rules that apply to PTEs, covering a range of issues including the storage of enrolment and academic records (PTE Enrolment and Academic Records Rules 2012), and rules that provide protection for students in the event a PTE closes or stops offering a programme (Student Fee Protection Rules 2013).

Registered PTEs must also pay an annual registration fee, consisting of a base fee of \$775 plus an additional \$10 for every EFTS enrolled in the previous calendar year. Wānanga and government training establishments are also required to pay the registration fee. The registration fee covers the cost of work undertaken by the Quality Assurance Division of NZQA that benefits the whole tertiary sector, which cannot be charged at an hourly rate to individual providers (NZQA, n.d. c).

Between 2009 and 2015, 96 newly established PTEs gained registration with NZQA, and 45 PTEs received TEC funding for the first time.

Accreditation process

PTEs, wānanga and ITPs must be granted accreditation by NZQA for each programme of study they deliver. This check is designed to ensure the provider has the necessary capabilities and resources needed to successfully deliver the programme.

The accreditation process varies depending on the NZQF level of the relevant programme but, in broad terms, applications have to include evidence that the provider has the capability and resources to effectively provide the programme, and a description of the overall structure of the programme. A less onerous accreditation process applies for applicants that hold a category one rating based on NZQA's External Evaluation and Review process (described below) who can demonstrate a successful history of provision in programmes similar to that for which they are seeking accreditation.

NZQA charges its standard rate (\$150/hour) to review accreditation applications, and sets a timeframe of 30 working days for providers holding a category one rating, and 55 days for providers holding a lower rating.

Consent to assess

If a provider proposes to assess students against unit or achievement standards, it must apply for NZQA consent to assess the relevant standards. Consent to assess is granted to organisations that can provide evidence they have the necessary resources, skills, knowledge and experience required for assessing against the standards (NZQA, 2011).

To maintain consent to assess, providers must continue to meet the consent and moderation requirements for which they have been granted consent, carry out self-assessment, participate in external evaluation, accurately report credits for students within three months of assessment, and pay credit reporting fees to NZQA (NZQA, 2011).

NZQA sets a timeframe of 60 working days for processing consent to assess applications and charges \$150 per hour for analysis of consent applications.

TEOs with consent to assess must engage in the national external moderation system for standards for which they are assessing and reporting credits. This involves periodically submitting samples of learner work, which are then assessed by NZQA to determine whether the provider's judgements are consistent with the national standard.

F5.11

New providers must complete a multifaceted set of requirements before being eligible to deliver qualifications on the New Zealand Qualifications Framework or apply for Tertiary Education Commission funding.

Programme approval process

Tertiary education providers planning to provide a programme of study that leads to a qualification listed on the NZQF must first apply for NZQA approval for the programme. NZQA's criteria for assessing programme approvals requires providers submit good evidence demonstrating how the programme will meet the requirements of the relevant qualification. Different processes apply depending on whether the programme of study relates to a qualification at levels 1 to 6, or to a degree or higher qualification.

Levels 1 to 6

Applications for programme approval must include:

- a self-assessment report illustrating how the programme design matches the qualification outcomes and strategic purpose; and
- a programme document that sets out details including how the programme is acceptable to relevant communities and stakeholders, how the learning outcomes map to the qualification's graduate profile, and a brief description of each of the units of learning that make up the programme.

Applications are assessed by NZQA.

The programme approval process includes provisions for making changes to previously approved programmes. Relatively minor changes (type 1) – such as a change to the content of a component, but not the learning outcomes – do not have to be reported to NZQA. However, TEOs need to retain evidence of the internal quality assurance processes that approved the changes. More significant changes (type 2), such as a change to learning components that change the learning outcomes of the programme, must be approved by NZQA before they are implemented (NZQA, 2014a).

In the year to June 2016, NZQA received 958 applications for programme approval and accreditation (including type 2 changes), of which 781 were approved, 45 were declined and 132 withdrawn. The average cost for these applications was \$1 400.

Degree level qualifications and above

Approval applications for degrees and postgraduate qualifications require similar documentation as for applications at levels 1–6, but involve a different assessment approach. After an initial assessment by NZQA, these applications are then subject to a panel evaluation. The composition of the panel is decided on a case-by-case basis; however, a full panel will normally be made up of:

- an independent chairperson;
- an NZQA representative;
- two university academics from the area of specialisation relevant to the application;
- one senior academic from the applicant institution, but from a different discipline;
- one senior academic from a similar institution, with accreditation to award a degree in a similar subject area;
- two representatives of industry; and
- one Māori representative and, where appropriate, a representative of Pasifika or other relevant communities, who has knowledge and understanding of the discipline to which the application relates.

The panel is required to provide specialist expertise in evaluating the application against NZQA rules, and to contribute to a final report that recommends whether to grant approval, and whether any conditions should be attached to an approval. As part of this process, the panel will typically visit the provider to view the facilities and to meet with management, teaching staff, programme developers, other staff, and students (NZQA, 2014a). Independent Tertiary Institutions (sub. 81) questioned the need for the involvement of university representatives on the evaluation panel for degree approvals:

...when a PTE seeks approval from NZQA for a degree, it must include a representative from the university sector. This is far from a “high trust, high accountability” model. It also suggests that the university sector is the owner of all degrees. Surely if the approval processes of NZQA are deemed by the government to be robust enough to award degrees, then the imprimatur of the universities is not necessary. Or perhaps CUAP [Committee on University Academic Programmes] will recognise this and start requiring representatives of the PTE sector on their approval panels. (p. 12)

NZQA aims to complete the degree approval process in six months, and notes that total costs for approval (which include the NZQA evaluation rate of \$150/hour, costs for panel members, and travel costs for site visits) can exceed \$20 000.

For minor changes to degree level programmes (type 1), providers need to notify NZQA of the changes made using an online application form. More significant changes require NZQA approval, and this may involve a panel assessment and a site visit.

Inquiry participants noted that a change of programme delivery site (such as moving to a different floor within the same building) was an example of a change that required NZQA approval. Indeed, NZQA guidance notes that any change to a delivery site can affect the quality of teaching and learning, and the resources available to learners. Changes to the delivery site will normally require evaluation by an external panel (NZQA, n.d. d; NZQA, 2014b).

After degree and higher level qualifications have been approved, NZQA will appoint a monitor. The monitor will conduct an annual visit to the TEO and complete a monitoring report. This process is designed to provide assurance to NZQA and stakeholders that the programme and its delivery continue to meet the criteria for approval. Costs associated with monitoring are charged to the provider.

If the monitoring process highlights major concerns, NZQA may request the provider take remedial actions or, in the event of persistent concerns, initiate a procedure to withdraw the provider’s accreditation to deliver the programme. If monitoring reveals the programme is stable, once the first cohort has graduated, the provider may request to replace external monitoring with self-monitoring. This involves the provision of an Annual Programme Evaluation Report to NZQA.

The programme approval processes outlined above describe the process by which providers can seek approval to deliver a programme of study towards a qualification listed on the NZQF. Separate processes apply if a provider wishes to develop a new qualification (Box 5.6).

Box 5.6 Listing qualifications on the NZQF

Qualifications at levels 1 to 6

Developing a qualification at levels 1 to 6 involves a two-step process. Developers first apply to NZQA for approval to develop a qualification. Applications must include:

- a summary and rationale of the evidence to establish the need for each qualification;
- the stakeholder profile for the qualification; and
- a completed qualification template containing information such as the qualification title, type, level and credit value, and a qualification outcome statement (comprising graduate profile, and education and employment pathways).

The second step involves the development of the qualification and application to NZQA to list the qualification on the NZQF. Applications must include some of the information required at the Approval to Develop stage, along with additional information such as:

- details on the award of the qualification;
- a specification that contains mandatory and optional conditions for the qualification and programmes leading to the award of the qualification, including the evidence requirements for assuring consistency of graduate outcomes;
- a description of stakeholder involvement in developing the qualification and attestations providing evidence of support; and
- identification of, and explanation for, any changes to the qualification's type, level, strategic purpose statement and/or graduate profile subsequent to Approval to Develop (NZQA, 2014b).

Degree level qualifications and above

For degrees, NZQA considers the associated qualification beside the proposed programme. If approved, both the qualification and programme are listed at the same time.

Source: NZQA, n.d. e.

Many inquiry participants argued that NZQA approval processes are too time-consuming, and present barriers to the development and delivery of new material:

It has become prohibitively time-consuming, for instance, even to make changes to the assessment processes in a single paper, thanks to excessive bureaucratic regulation and control. (Duncan, sub. 18, p. 14)

Generally the process is time consuming and requires considerable and often repetitive documentation. The approval processes tend to be all about compliance with existing regulations with no obvious interest in innovative or more productive proposals which may be outside established squares. (Hooker, sub. 36, p. 16)

We developed what we thought was an innovative, promising course/model for training advanced software developers, and NZQA turned us down on what seemed like a technical/administrative basis. (Francis, sub. 94, p. 17)

The current qualification approval and assurance systems relies on a centrally driven quality assurance system, currently led in our case by NZQA. This system requires operationally intensive, time-consuming and time delayed approvals through a plethora of quality assurance mechanisms from a macro to micro level, from establishing a new service provider to making changes to programmes. (WelTec & Whitireia, sub. 59, p. 24)

Delays and costs at NZQA is a significant part of the policy vice. (QTI, sub. DR156, p. 8)

ACG Tertiary and Careers Group (sub. 84, p. 20) argued that NZQA's programme approval process "lacks flexibility and is bureaucratic". This hinders innovation and deters those within the sector from seeking to develop qualifications because it is "too hard". By contrast, Alpha Training and Development Centre (sub. 9, p. 14) noted it had "not experienced any hindrances in our dealings with NZQA since 1992; only warm cooperation and encouragement by all persons at all times".

NZQA submitted that it has simplified requirements in the application process for approval and accreditation applications and that, for most of 2016, "turnaround time for standard approval and accreditation applications has been an average of three weeks" (NZQA, sub. DR161, p. 4).

F5.12

Some tertiary providers view New Zealand Qualifications Authority processes as time-consuming, costly and a barrier to innovation in the development and delivery of programmes.

External Evaluation and Review

The quality assurance activities outlined above all monitor “front-end” aspects of provision. External Evaluation and Review (EER) is NZQA’s main policy mechanism to ensure ongoing compliance with statutory policies and criteria after initial programme approval, accreditation and registration is granted. The main purpose of EERs is to evaluate the:

- extent to which the TEO systematically determines and addresses learner and wider community needs
- key processes contributing to the achievement of outcomes for learners
- quality of educational provision and its impact on learner progress and achievement
- achievement of outcomes for learners and the wider community...
- effectiveness of the TEO’s self-assessment in understanding its own performance and using this for improvement. (NZQA, n.d. a).

All non-university tertiary providers, except for Adult and Community Education (ACE) providers who are not also PTEs, are required to undergo External Evaluation and Review (NZQA monitors and regulates ACE providers through the annual reports and attestations they submit). EERs are initiated through an annual schedule and occur at least once every four years. The EER process involves four main steps:

1. *Developing the scope and the plan of the inquiry* – this involves establishing the areas of the TEO’s business that will be included in the evaluation, reviewing available information such as recent Investment Plans and annual reports, and early engagement with the TEO.
2. *Undertaking the inquiry, on-site* – this involves the evaluation team meeting with key decision-makers at the TEO and, where necessary, collecting additional data from staff, students and external stakeholders.
3. *Reaching judgements on educational performance and self-assessment capability* – judgements are classified as one of four levels of confidence: Highly Confident, Confident, Not Yet Confident or Not Confident.
4. *Reporting findings* – findings are reported using a standard template that sets out the findings and conclusions of the process, the reasons for conclusions being reached, and any recommendations for improved TEO performance.

TEOs must achieve and maintain a whole-of-organisation rating of Confident or Highly Confident (category 1 or 2) in order to comply with NZQA’s policies and criteria. If the EER reaches any judgements of Not Yet Confident or Not Confident (category three or four), the TEO must take actions aimed toward improving performance. Progress is then monitored by NZQA, and a further External Evaluation and Review will be scheduled to determine whether the actions taken have resulted in satisfactory outcomes. If not, NZQA may take further regulatory action, which, in some cases, may result in the removal of accreditation, course approval or (in the case of PTEs) registration.

Providers are charged \$150/hour per evaluator for time spent preparing for the evaluation, undertaking the site visit and preparing the report. The total cost varies depending on the size of the provider being reviewed, the length of time the review takes, and whether the findings of the review are contested (if a provider challenges the findings of the review, they are required to meet the cost of additional work in the event that the original decision is upheld). Information provided by NZQA states that the following charges are typical:

- \$8 000 to \$11 000 for a small provider;
- \$15 000 to \$20 000 for a medium-size provider; and
- \$40 000 to \$50 000 for a large provider.

NZQA submitted that the EER process addresses minimum standards, while also helping providers identify opportunities to improve performance:

Current EER practice is sufficiently flexible to recognise that quality will look different in different contexts. Minimum standards are addressed by focusing on assessing outcomes for learners in the context of learner and stakeholder needs, and the organisation's capability in self-assessment as a means of understanding and improving its performance. (NZQA, sub. DR161, p. 4)

Ako Aotearoa submitted that the approach to EER is effective and should be retained:

NZQA's SA & EER [self-assessment and external evaluation and review] model balances top-down control with the flexibility to innovate and respond. The agency establishes broad expectations, individual organisations (and units within those organisations) then identify how those should be expressed and implemented in their context, and NZQA then evaluates how effectively the TEO has done this. Although engagement with this model has varied, the basic approach is based on encouraging and facilitating new models of education practice. (Ako Aotearoa, sub. 58, pp. 18–19)

... we believe that NZQA's current model of internal Self-Assessment (SA) and External Evaluation and Review (EER) appears to be working well and we would strongly oppose developing a new approach to organisational quality assurance for the non-university sector. In our view this model not only represents an example of innovative, world-leading practice in its own right, but also represents an example of a process designed to balance the tensions between consistency and flexibility referred to earlier in this submission. (Ako Aotearoa, sub. DR157, p. 9)

By contrast, WelTec and Whitireia (sub. 59) noted the EER process is costly, and suggested there may be benefits from adopting a more targeted approach to quality assurance:

In terms of NZQA's External Evaluation and Review (EER) process WelTec and Whitireia urge further exploration of a quality assurance regime that places a heavy emphasis on the initial and comprehensive investigation of a tertiary provider's internal quality processes at establishment, which is then reviewed periodically, where providers receive delegated authority for internal approval at relevant levels. Between reviews, a light touch sampling for compliance can be carried out, and where providers are not measuring up, heavy penalties can be applied. It should also be noted that an EER is a high cost activity... (WelTec & Whitireia, sub. 59, p. 23)

This criticism suggests there may be scope for NZQA to adopt a more risk-based approach to EER. Risk-based regulation focuses on identifying and assessing the risk of harm, and on channelling resources to modify or reduce harm (NZPC, 2014a).

NZQA's current approach does include some differentiation based on the level of risk. For example, following a provider's first EER, the frequency of subsequent reviews varies depending on the results of the initial review. Category 1 and 2 providers are reviewed within four years of their previous EER, category 3 providers within 12 to 24 months, and category 4 providers within six to 12 months. NZQA also has a Risk Group within its quality assurance division that is solely targeted on the highest risk providers.

NZQA noted that there is scope to make greater use of data analytics to identify risk, and that it is in the process of developing a new TEO Performance Register:

NZQA's experience is that simultaneously it must further bolster systems for identification and proactive management of risk that harms student learning. This is facilitated by the increasing availability of data analytics. The management of risk will require more frequent and robust use of assessment evidence as a window into education performance, and sophisticated data analysis and modelling to identify risk factors. To this end, a new NZQA TEO Performance Register is currently under development. (NZQA, sub. DR161, p. 2)

Some inquiry participants also raised concerns about the measures used in evaluations. Marshall (sub. 73) notes the NZQA *Policy and Guidelines for the Conduct of EER* state that "evidence of actual learner achievement, including, where possible, the progress or value-added component, is the primary indicator of effective educational delivery" (NZQA, n.d. a). However, Marshall suggests evaluations are "dominated by the TEC EPI [Educational Performance Indicator] data" and there is "no evidence from the available reports or the external review that the value-added component is measured in any way other than the aggregate measures of cohort achievement generated through the EPI process" (pp. 18–19).

Recently published EER reports do refer heavily to providers' EPI results. But reports also make use of employment outcomes information – however, this tends to be based on the provider's own data, and hence may not be externally verifiable. This issue should be resolved from 2017, when provider-level employment outcomes data will be publicly available (section 5.9). Indeed, NZQA notes that it “welcomes the richer data on employment and earnings outcomes that has become increasingly available” (sub. DR161, p. 4). EER reports also include feedback from employers, industry representatives and recent graduates.

F5.13

There is scope for the New Zealand Qualifications Authority to adopt a more risk-based approach to External Evaluation and Review, and for reviews to concentrate more on providers' value-add and student outcomes.

5.7 Quality assurance in the university subsector

The quality assurance arrangements for universities are distinct from the rest of the tertiary sector. Sections 240–241 of the Education Act 1989 grants the New Zealand Vice-Chancellors Committee quality assurance functions for the university subsector, including course approval, moderation procedures and accreditation processes.

The New Zealand Vice-Chancellors Committee operates under the name “Universities New Zealand”. Membership is comprised of the Vice-Chancellors from the eight universities.

Universities New Zealand undertakes its quality assurance role through two entities.

- The Committee on University Academic Programmes (CUAP) approves qualifications and undertakes moderation processes across universities.
- The Academic Quality Agency for New Zealand Universities (AQA) is an independent body that supports universities through regular institutional audits and the promotion of quality enhancement practices (UNZ, 2013).

The CUAP process

CUAP's membership is made up of a representative from each university (usually at Deputy Vice-Chancellor Academic level), a chair (a Vice-Chancellor), a deputy chair and a student representative. CUAP conducts a peer review process on all new qualifications or significant changes to existing qualifications.

Universities New Zealand sets out an overview of the CUAP process:

The CUAP approval process is based on peer review. All submissions to CUAP (which encompass new qualifications and programmes and substantial modifications to qualifications and programmes) are subject to inter-institutional university review at a disciplinary level. Through the CUAP online system, proposals are made available for review by disciplinary experts in each of the universities. Where disciplinary expertise is lacking within New Zealand, it is a CUAP requirement that an international reviewer with disciplinary expertise provides feedback on the proposal.

Universities peer reviewing another university's proposal cannot oppose it on the grounds that a programme is already being offered elsewhere; they can only challenge it on academic criteria such as:

- Is there any chance that it will cause confusion for students or employers – for example, a one-year taught master's with a similar name to a two-year research-based master's qualification?
- Is the graduate profile (the expected skills and capabilities of a graduate) appropriate for the qualification? Has it had suitable input from relevant employers and sign-off by industry bodies? Where appropriate, has it had input from community and Iwi, whānau, hapū, and hāpori Māori?
- Is the proposed curriculum likely to produce graduates who conform to the graduate profile? (sub. 17, pp. 122–123)

After being granted approval to deliver a new programme, universities must prepare a report that demonstrates the programme is meeting its original objectives and an acceptable standard of delivery. These reports are prepared once a programme has produced its first cohort of graduates and must include

consultation and input from industry, employers, graduates, and other stakeholders. Reports are reviewed by members of CUAP and decisions are made on whether the programme has approval to continue.

Inquiry participants presented a broad range of views regarding the CUAP process (Box 5.7).

Box 5.7 **The views of submitters on CUAP**

Several inquiry participants suggested that the CUAP process suppresses innovation and reduces competition:

The current very time consuming approval process over-emphasises documentation and does not incentivise innovative approaches that are genuinely game-changing. Instead it encourages the reproduction of existing models as a straightforward way of satisfying the compliance requirements. (College of Creative Arts, Massey University, sub. 33, pp. 6–7)

The self-accreditation of university programmes through CUAP serves as both a mechanism to ensure minimum levels of quality in teaching programmes and standardisation in degree nomenclature, and as a mechanism that constrains the scope for competition. (University of Waikato, sub. 93, p. 5)

Other criticisms of the process centred on the timeframes involved:

Under the current CUAP system new courses and qualifications can take up to two years to be approved. This does not work for employers who want the development and delivery within a much shorter period. (Victoria University of Wellington Centre for Lifelong Learning, sub. 39, p. 1).

...the CUAP process may in some circumstances hinder innovation due to the lengthy and protracted review processes. Innovation is usually associated with opportunities to react and provide services and programmes rapidly. The CUAP process does not facilitate this timely response. (College of Health, Massey University, sub. 70, p. 18).

I have been on committees reviewing proposals for new programmes requiring CUAP approval and also reviewed proposals from other universities. The processes, internally and externally, are bizarre, laborious, time-consuming and slow. Proposals take several years to work through the system, hardly a model of agility and fleet-footedness... I see no reason for CUAP at all – if universities want to offer a degree in Obscure Studies they will wear the consequences of either having no students because the course is unwanted or has a bad reputation, or has a low calibre of graduates who devalue the brand-name of the university. In short courses should be a university-level decision. (McNeill, sub. 13, p. 3)

Universities New Zealand disputed the suggestion that CUAP processes are slow, noting that all urgent requests in the past three years have been completed in significantly truncated timeframes. Universities New Zealand also suggested the process is not a barrier to innovation:

22% of proposals put to CUAP in the past three years were amended with nearly all the amendments being the submitters providing additional information or clarifying programme regulations, graduate profiles, course titles, course descriptors or course schedules. No programmes were amended (or opposed) because they were innovative, or because they needed to be brought in line with other existing teaching models... 99.7% of proposals put to CUAP in the past three years were approved. (sub. DR119, p. 2)

Submissions from the University of Otago (sub. DR130), Massey University (sub. DR143), the University of Canterbury (sub. DR124) and the University of Auckland all strongly supported CUAP. For example, the University of Auckland argued that

...the CUAP forum plays an important role in challenging proposals that present a risk to students and to the reputation of New Zealand higher education by falling short of international quality standards. CUAP plays an important function in detecting regulatory and quality weaknesses in programmes before they are put to market. This is preferable to leaving students to find out after the fact that the programme that they invested in was of inherently poor quality. Losing this quality mechanism would be disastrous for students and for New Zealand universities which would be exposed to unprecedented legal and reputational risk. (sub. DR118, p. 3)

Victoria University of Wellington argued for a change in CUAP's role, suggesting that universities should become self-accrediting subject to initial approval from CUAP:

Victoria supports a 'lighter touch' regulatory model that would permit it to offer new degrees without requiring CUAP approval as is currently the case. Any new self-accreditation system could involve a review of universities' capacities and capabilities to develop new qualifications generally (rather than approval of each individual qualification). We suggest this takes place at regular intervals, say every eight to 10 years. (sub. DR166, p. 3)

The University of Waikato presents a mixed view on the appropriate role for CUAP:

With respect to ... CUAP, the University of Waikato supports the Universities New Zealand submission to the extent that an internal review may be an appropriate mechanism for addressing concerns, but the University believes that it would be appropriate for the Productivity Commission's final report to continue to press for liberalisation or removal of the CUAP mechanism for university course approval and to press for serious consideration of the idea that New Zealand universities should become self-accrediting. (sub. DR169, p. 1)

While most universities strongly supported CUAP, the regime includes several features that are not conducive to innovation.

- Providers receive early notice of other providers' intentions and this reduces the potential returns to innovation.
- The collective nature of the process increases the risk that universities will internalise their conception of good quality, equating it with their current practice.
- Providers can, in theory, effectively exercise veto over other providers innovations. In practice, this does not appear to be occurring given that 99.7% of proposals in the last three years have been approved. However, an alternative explanation for the high approval rate is that academics are deterred from submitting proposals where they believe there is a high probability they will not be approved.

F5.14

The Committee on University Academic Programmes process is not conducive to innovation in the university subsector.

Academic Quality Agency

The Academic Quality Agency for New Zealand Universities (AQA) was established in 1993 by the New Zealand Vice-Chancellors Committee to carry out audits of university processes that underpin academic quality. AQA's Governing Board is appointed by the New Zealand Vice-Chancellors Committee, but AQA is operationally independent of Universities New Zealand.

AQA's submission describes its work as follows:

Since its creation, the AQA has conducted 4 cycles of academic audit of New Zealand universities, with a fifth cycle in progress. The frameworks for each of the cycles of academic audit have drawn on international best practice and the requirements of the New Zealand universities. Academic audits for an individual university occur every five years and universities are required to provide follow up reports on progress on recommendations made in audit reports. (Academic Quality Agency, sub. 29, p. 2)

Audit reports are structured around a framework of 40 Guideline Statements (grouped into seven themes), which articulate qualities or standards that a university of good international standing would be expected to demonstrate (Table 5.6).

Table 5.6 Academic audit guideline statements: themes and examples

Academic audit themes	Example of guideline statements
Leadership and management of teaching and learning	Universities should have appropriate strategic and operational planning documents, which include objectives related to student achievement and teaching quality, with key performance indicators that inform academic quality assurance processes.
Student profile: access, transition and administration processes	Universities should use processes for providing academic advice and course information to both new and continuing students.
Curriculum and assessment	Universities should have clearly defined intended graduate outcomes (graduate attributes) which are publicly available and are accessible to students and staff.
Student engagement and achievement	Universities should use processes for monitoring and enhancing students' engagement with their study and learning.
Student feedback and support	Universities should use processes for gaining feedback from graduates regarding their satisfaction with their university experience and learning outcomes, and should be able to demonstrate that this feedback is used.
Teaching quality	Universities should use processes for assessing teaching quality and for monitoring and enhancing individual teaching capability of all teaching staff.
Supervision of research students	Universities should use documented processes for ensuring staff who are supervising research students are appropriately trained and experienced as supervisors, including processes to enable new or inexperienced staff to gain experience as supervisors.

Source: AQA, 2016.

A feature of the AQA process is that it focuses on “enhancing quality processes rather than directly examining the quality of delivery; for example, AQA works to enhance the process of student support but does not evaluate the outcomes of this support” (Crawford, Harvey & Keng-Mun Lee, 2015, p. 26). Box 5.8 sets out two examples that illustrate the focus of AQA reports, drawing on the most recently published audit report (at the time of writing this report).

Box 5.8 Examples from an AQA audit report, Auckland University of Technology

One of the guideline statements assessed in the 2015 audit of Auckland University of Technology (AUT) is: “Universities should use processes for assisting the retention, academic success and completion rates for particular groups, including Māori and international students”. In the case of AUT, Māori and Pasifika students were the priority groups identified for targeted assistance.

Drawing on AUT's self-assessment report, the audit describes a number of processes AUT uses to support these students, including pedagogical enhancements and regular assessment of EPI data. The audit notes the university has achieved slight increases in EPI results for Māori and Pasifika students in recent years. However, the audit report provides no further evidence as to how these EPI results compare with other groups, or how the results compare with other universities, and does not provide any assessment regarding the acceptability of AUT's current retention and completion rates.

Another guideline statement that is assessed is: “Universities should use processes for gaining feedback from graduates regarding their satisfaction with their university experience and learning outcomes and should be able to demonstrate that this feedback is used”. The audit report notes AUT runs an annual graduate survey that seeks feedback from graduates on their satisfaction with their university experience, and on how relevant their programme of study was for employment. The audit report provides no detail on the response rate to this survey or its results. The report does note that it is unclear how any feedback gained from graduates is used for programme or service improvement.

Source: AQA, 2016.

The emphasis of audits on process, rather than outcomes, appears to be a missed opportunity to identify improvements that matter most for students. AQA (sub. DR126) defended the focus on processes, noting that

good processes are required to achieve consistent outcomes and there is an important relationship between process and outcomes that should not be devalued ... Other internationally recognised models of quality assurance, for example ISO [The International Organization for Standardization], also consider processes to be an important aspect of quality. (p. 2)

At the same time AQA acknowledged that “there is scope in the future development of its framework to make outcomes and impact more visible” (p. 2).

Inquiry participants had mixed views about the effectiveness and independence of the AQA audit process:

AQA audits are not in themselves consequential, they have no impact on funding and any impact is entirely dependent on the alignment of the recommendations with university priorities. The collegial nature of the process combined with the focus on self determination of priorities and evidence mean that these audits are unlikely to ever stimulate a re-examination of university priorities, mechanisms or focus... Although the focus of audit has shifted between cycles it is clear that the quality model is very much aimed at incremental improvements of existing activities dominated by internal systems and process improvements with no real evidence of any impact on student outcomes. (Marshall, sub. 73, p. 20)

The current AQA systems of periodic audit based on self-review reflect international best practice following guidelines issued by the OECD. National quality assurance arrangements via AQA are sufficiently robust to assure stakeholders that universities are operating in a transparent manner, which is fit for purpose. (Sampson et al., sub. 14, pp. 6–7)

This divergence in views was also apparent in the independent review of AQA commissioned by Universities New Zealand in 2015. This review ultimately concluded the AQA audit system “meets the highest standards of independence and integrity” (Crawford, Harvey & Keng-Mun Lee, 2015, p. 27). However, the report does note that several stakeholders who were interviewed suggested the relationship between universities and AQA was too close to be truly effective. One interviewee from the university subsector noted that “AQA owes its existence to the universities and could draw fire if it were seen to be challenging the universities too much. It appears unusual that the main university quality agency for an entire (albeit small) country is funded entirely by the universities themselves” (Crawford, Harvey & Keng-Mun Lee, 2015, p. 27).

F5.15

Audits conducted by the Academic Quality Agency focus primarily on process rather than the quality of delivery or outcomes achieved. This is a missed opportunity to identify improvements that matter most for students.

5.8 Financial monitoring

In addition to monitoring all TEOs that receive funding (section 5.5), under s 159KBA of the Education Act 1989, the Chief Executive of TEC must monitor TEIs in order to assess whether the operation or long-term viability of any institutions is at risk. The outcome of monitoring must be periodically reported to the Minister for Tertiary Education, Skills and Employment. This responsibility recognises that the Minister (on behalf of the Crown) has an ownership interest in TEIs (Box 5.9).

Box 5.9 The Crown’s ownership interest in TEIs

Although TEIs are not technically owned by the Crown (in the way that state-owned enterprises and other Crown-owned enterprises are), the Crown takes an ownership interest in TEIs. This stems in part from the requirement that the Crown act as a guarantor of TEIs’ financial obligations:

TEIs are statutory corporations and for general purposes are separate from the Crown. Moreover, despite their status as “Crown entities” under the Fourth Schedule of the Public Finance Act 1989, it is generally agreed that they are not, at least in common law, owned by the Crown. Instead the

assets of TEIs are deemed, under the Education Act 1989, to be vested in each institution's governing body (ie, the council)... Nonetheless, it is argued by many of the government's advisers that the Crown is the "in-substance" or "economic" owner of TEIs. Such a case rests on at least two grounds: first, the government's long-standing role as the primary funder and regulator of tertiary education; and second, its legal liability, under section 217 of the Education Act 1989, "to pay and discharge all the debts, liabilities and obligations" of a TEI in the event that such an institution is disestablished (eg, because of its financial difficulties). For such reasons, TEIs have been included in the Crown's balance sheet... Whether the claim that the Crown is the in-substance owner of TEIs, especially universities, is justified is open to debate. Nevertheless, there can be little doubt that the Crown's legal responsibilities as the ultimate guarantor for the financial obligations of TEIs give it a legitimate ownership interest in the tertiary sector. (Boston, 1997, p. 7)

Until government disestablishes a TEI, it provides a comprehensive financial guarantee for the TEI's creditors and council members. This includes actions taken and liabilities incurred after the TEI becomes insolvent (ie, it could not raise enough cash to meet its obligations, or to pay debts as they became due for payment).

This differs from the standard arrangements for both for-profit and not-for-profit organisations, in which there are no guarantees for creditors, and any guarantee for directors extends only to the point of insolvency.

TEC has developed a financial monitoring framework, which is the primary method it uses to monitor TEIs' financial wellbeing. The framework bundles together a range of financial measures pertaining to the institution's immediate viability, and its longer-term sustainability (TEC, 2011). TEC uses the framework to establish a financial risk rating for each TEI, which is reported to the Minister. TEC also reports to the Minister on the capital asset management of each TEI.

The Education Act 1989 allows the Chief Executive of TEC or the Minister to formally intervene in the management of a TEI if it is considered the operation or long-term viability of the institution is at risk. There are three intervention options.

- The institution's council may be required to provide the Chief Executive of TEC with specified information about the institution's operation, management, or financial position.
- The Minister may appoint a Crown observer to the council of the institution.
- Where other methods of reducing the risk have failed or appear likely to fail, the Minister may dissolve the council of an institution and appoint a commissioner to act in its place (s 195B-D).

A commissioner was appointed at the Western Institute of Technology Taranaki from late 2006 to mid-2008, and at Te Wānanga o Aotearoa between 2005 and 2007. More recently, in December 2015, TEC and Lincoln University jointly agreed to appoint an independent financial advisor to provide specialist support to the university, and to report monthly to TEC.

Some inquiry participants suggested TEC's dual role as an independent funder and Crown monitor are "complementary and appropriately managed" (University of Otago, sub. 37, p. 9). Others noted there is a tension between TEC's two roles:

There is an inherent tension between the funding role seeking cost efficiencies and the monitoring role seeking to strengthen the performance and viability of organisations... funding decisions made on the one hand could undermine the Crown's ownership interest on the other. (NZITP & Metro Group, sub. 42, p. 13)

Two submitters from the PTE subsector noted the government guarantee for TEIs creates a significantly different operating environment compared with that of PTEs:

TEIs, with an effective Government guarantee, will never be allowed to fail. There may be implications for individual managers and staff (though in many cases there are not), but a PTE can fail utterly and the

Government will let it. This can have massive consequences for owners, staff and students. The game is a lot more real for PTEs without a Government safety net. (ITI, sub. 81, p. 4)

With no option of a Government bailout, unlike the public sector, PTE's must operate with significantly more flexibility, speed, and efficiency to ensure financial sustainability and ongoing relevancy. (ACG Tertiary and Careers Group, sub. 84, p. 2)

Government's role as a financial guarantor for TEIs creates an unusual allocation of risk and responsibility. The standard arrangements for both for-profit and not-for-profit organisations provide a strong incentive for both creditors and directors to monitor closely for insolvency, and to act quickly to avoid or reveal such insolvency. In the case of TEIs, responsibility for responding to the consequences of financial failure sits with government. Therefore, government is compelled to undertake its own financial monitoring. However, it does so based on the data that is reported to it periodically by TEIs, which inevitably will be less current and more aggregated than that available to TEI council members.

F5.16

Government's comprehensive financial guarantee for creditors and council members of tertiary education institutions compels it to undertake financial monitoring. However, government is not in the best position to fulfil this role as it has neither the most current or comprehensive information, nor is it best placed to intervene when financial issues first emerge.

Other financial monitoring

Although the Crown's ownership interest is limited to TEIs, TEC acknowledges that any TEO failure would have negative consequences for learners. Accordingly, TEC monitors the financial performance of non-TEI providers. For example, TEC requires each ITO to provide financial information each year, including statements of comprehensive income, movements in equity, financial position, and cash flows.

TEC also monitors the financial viability of PTEs with a view to minimising any future failures, to provide additional assurance to students that PTEs are viable, and to provide greater assurance and security over the use of public funding. PTEs are required to annually submit financial data pertaining to a set of prudential standards. Where a PTE does not meet minimum standards, TEC may opt to cease funding, impose funding conditions, or require the PTE to enter into an action plan to ensure it meets minimum standards within a specified period.

PTEs are also required to have their accounts audited or reviewed by a Chartered Accountant (depending on the amount of TEC funding they receive).

5.9 Information broker

Another role of government in the tertiary education system is to provide information and careers advice to prospective students. Career information typically includes information about education and training, the content and nature of different jobs, and the level of demand for different skills. One reason for this type of government involvement in the tertiary education system is that it can help to improve labour market efficiency by creating better matches between the skills of individuals and those required by employers. Career advice can also improve the efficiency of education markets by assessing learning needs and interests, and helping students to enrol in programmes that match their interests and abilities. In addition, career advice can promote social equity when it helps individuals maximise the use of their talents, regardless of their social background:

Disadvantaged groups are likely to be less familiar with key educational and labour market information than more advantaged groups. They may be less confident in, skilled in, or used to negotiating access to, complex learning systems. They may need more assistance in finding opportunities that can maximise their talents, and in overcoming barriers to accessing these opportunities. (OECD, 2003, p. 46)

Government's primary involvement in the provision of careers information and advice is through the Crown entity Careers NZ. Careers NZ has a staff of 102 (full-time equivalent) and receives Crown funding of \$15.5 million (Careers NZ, 2015). Its current strategy focuses on young people, Māori and Pasifika through:

- connecting educators and employers to improve career pathways and transitions;
- developing capability among people in organisations who influence other people's career choices; and
- developing new and existing digital tools and resources to help people make informed decisions about education and careers (Careers NZ, 2015).

In May 2016, government announced Careers NZ would become part of TEC.

Alongside Careers NZ, at least four other government agencies are involved in the provision of information.

- MBIE publishes *Occupation Outlook*, which is designed to be one of the first places young people look when making career decisions. *Occupation Outlook* provides information about occupations, including the expected future demand for the occupation, current study fees, average salary, qualifications valued and needed by employers, and information about where to study or train (MBIE, 2016).
- NZQA provides a range of information about tertiary education in New Zealand and available qualifications, targeted toward international students.
- The Ministry of Education maintains some information for students, such as the *Which Course Where* website, which enables students to search for providers of specific courses and qualifications in different parts of the country. Since 2009, the Ministry of Education has also published national-level information about graduates' labour market outcomes as part of its Employment Outcomes of Tertiary Education project, and will be publishing provider-level information from 2017.
- TEC also provides information targeted toward students, trainees and apprentices, including the educational performance of each TEO as measured by four EPIs (course and qualification completion rates, student progression to higher level study, and student retention). As discussed in Chapter 4, from 2017, employers and graduates will be able to provide direct feedback on the value of qualifications through a TEC-administered "Rate My Qualification" survey.

Reflecting the fact information for prospective students is spread across several locations, TEC has developed, and is currently piloting, a Key Information Set for tertiary learners. The Key Information Set pulls together a structured set of information such as entry requirements, tuition fees and student success from a range of publicly available sources, and presents it in a consistent and comparable format on tertiary providers' websites. (TEC, 2016g).

F5.17

Government has a multitude of initiatives to provide information about careers and tertiary education to students and employers. Responsibility for these initiatives is spread across five government agencies.

The effectiveness of government information initiatives in helping students to make informed decisions about study and career options is examined in Chapter 3.

5.10 Promoter

Government takes an active role in promoting New Zealand as a destination for international students. ENZ was established in 2011 to increase the value of the international education industry, strengthen the capabilities of the industry, and to ensure export education providers deliver high-quality and high-value education. ENZ's main areas of activity are marketing, student recruitment and business development. It sets out its role as follows:

ENZ is a Crown Agency tasked with growing the value of New Zealand's international education industry. It works collaboratively with industry and Government partners to market New Zealand as an international education destination, and to help grow New Zealand's education's products and services and associated industry capabilities. (ENZ, sub. 52, p. 1)

The *Leadership Statement for International Education* (New Zealand Government, 2011) sets out three goals for ENZ and the international education sector. Each of these goals is linked to a set of measurable objectives (Table 5.7).

Table 5.7 Goals and objectives in the Leadership Statement for International Education

Goals	Objectives
New Zealand's education services, delivered in New Zealand, are highly sought after by international students.	Double the annual economic value of international education delivered in New Zealand to \$5 billion over the next 15 years, through increasing international enrolments.
New Zealand's education services in other countries are highly sought after by students, education providers, businesses and Governments overseas.	Over the next 15 years: <ul style="list-style-type: none"> • Develop and sustain mutually beneficial education relationships with key partner countries. • Increase annual revenues from providing education services offshore to at least \$0.5 billion. • Increase the number of international students enrolled in providers offshore from 3 000 to 10 000.
New Zealand makes the best possible use of its international education expertise to build skills in the New Zealand workforce, to grow research capability, and to foster wider economic connections between New Zealand and overseas firms.	Over the next 15 years: <ul style="list-style-type: none"> • Double the number of international postgraduate students from 10 000 to 20 000. • Increase the transition rate from study to New Zealand residence for international students with Bachelor's level qualifications and above. • Increase New Zealanders' skills and knowledge to operate effectively across cultures.

Source: New Zealand Government, 2011.

ENZ's focus in the four years since its establishment has been largely on the first of these goals, and the number of international students studying in New Zealand has increased since ENZ's establishment.

New Zealand is not alone in establishing a dedicated government agency with a target to increase the scale of the international education sector. For example, the United Kingdom's strategy for international education sets a target to increase the number of international students in higher education by 15% to 20% over five years (Department for Business, Innovation and Skills, 2013a). To support this goal, the UK Government established the International Education Council, which works to identify actions that will lead to a major increase in UK education exports.

The Australian Government recently released the *National Strategy for International Education 2025*, which sets out a 10-year plan for further developing Australia's international education sector, and seeks to increase Australia's share of the international student market (Australian Government, 2016). In addition, the Australian Trade Commission is tasked with helping education institutions develop international markets and promote international education (AusTrade, 2016). Canada also has an international education strategy, which includes the target of increasing the number of international students in Canada from 239 000 in 2011 to more than 450 000 in 2022 (Canada's International Education Strategy, 2014).

Policy and regulatory framework for international students

In addition to directly promoting New Zealand as a destination for international students, government also sets the migration policy settings for international students, and regulates the providers who enrol them.

Regulatory controls regarding source countries, visa conditions and potential pathways to longer-term migration all have an important influence on the ability of New Zealand's tertiary providers to recruit international students (Bestwick & Ewan, 2016). Foreign nationals who want to study for more than three

months usually have to apply for a student visa. Immigration New Zealand grants student visas, which allow students to stay in New Zealand for the duration of the course they are enrolled in, and usually allow students to work for up to 20 hours per week. Immigration New Zealand will only issue a student visa if the course, programme or qualification the student plans to undertake is approved by NZQA or CUAP.

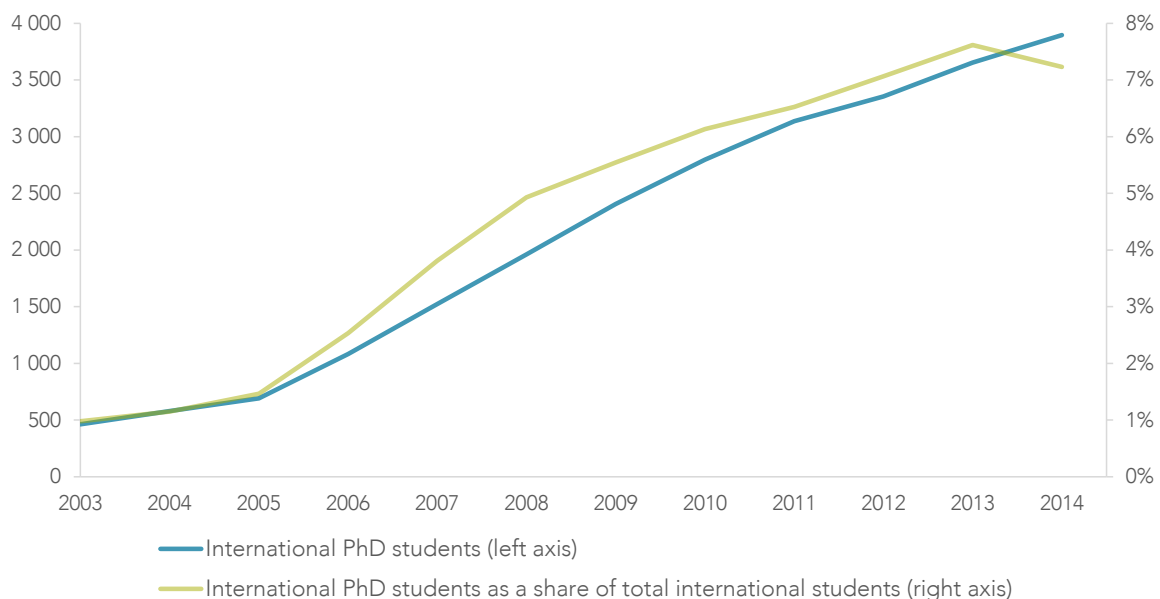
In 2014/15, 48 000 international student visas were granted. In June 2015, there was a total of 74 400 student visa holders in New Zealand (MBIE, 2015a).

NZQA requires all tertiary providers that enrol international students are signatories to the *Education (Pastoral Care of International Students) Code of Practice 2016*. The code sets out minimum standards of advice and pastoral care, and sets out procedures that international students can follow if they have concerns about the treatment they receive from their education provider.

Unlike the arrangements for domestic students, government does not set limits on the number of international students enrolled, and does not limit fees. In 2014, New Zealand tertiary providers collected a total of \$753 million in fees from international students. The average fees charged per international EFTS in 2014 were \$14 200 (ITPs), \$23 200 (universities), and \$10 900 (PTEs) (MoE, 2016b).

In 2006, a policy of subsidising international doctoral students as if they were domestic students was introduced. This policy enabled providers to reduce their fees for international PhD students to the same level as for domestic students. This significantly reduced the annual fees charged for international PhD students at the time from around \$28 000 to \$5 000 (Gerritsen, 2010). The introduction of this policy resulted in a sharp increase in the number of international PhD students enrolled in New Zealand, both in absolute terms and as a share of total international student enrolments (Figure 5.6).

Figure 5.6 International PhD enrolments, 2003–14



Source: MoE, 2016b.

More recently, a government subsidy was made available for international students enrolled in research-based postgraduate qualifications (such as a thesis-based Master's degree). This value of this subsidy is less than half that paid for domestic students enrolled in equivalent qualifications, and providers are still able to charge international fees for these programmes.

Several inquiry participants (University of Auckland Society, sub. 38; Auckland University of Technology, sub. 64) supported the policy of charging domestic fees for international PhD students. The University of Auckland notes:

Domestic fee levels for international PhD students support our UG/PG [undergraduate/postgraduate] profile and boost the pool from which we can recruit well trained and high achieving postgraduate

researchers. Many of these highly qualified graduates will be available to meet the needs of New Zealand employers. (sub. 85, p. 12)

By contrast, Hansen suggested that “New Zealand taxpayers receive very little value in return for paying for students from overseas to do PhDs and Masters” (sub. 55, p. 1).

5.11 Conclusion

Government’s role in the tertiary education system is pervasive and wide-ranging. Each year, government allocates a significant amount of funding to tertiary education, which is delivered as direct subsidies to tertiary providers and to students through the student support system. The fiscal costs associated with student support and interest free student loans is an important driver of other tertiary policy settings, such as the cap on total enrolments and fee regulation.

Tuition subsidies allocated to tertiary providers come with tight specifications on the nature and volume of delivery, which limit the ability of providers to develop new or innovative offerings. Government also regulates the fees that providers charge. These settings have created a very stable funding environment in which resources rarely move between providers, and providers find it difficult to differentiate on the basis of fees or quality.

A small number of submitters were relatively satisfied with the current policy settings for tertiary education. However, for the majority of inquiry participants, the rigidity of the tertiary education system that stems from government involvement is a source of considerable frustration. One inquiry participant summarised that extent of government control as follows:

The Government only controls the number of students, the amount of funding available, the level of fees and what you can teach. Everything else is up to you. (ITI, sub. 81, p. 20)

Alongside a tightly controlled funding system, government plays a quality assurance role within the system by setting entry requirements, an accreditation process, and programme and qualification approval processes. Streamlining these processes would make it easier for providers to adjust existing programmes or to develop new offerings to meet changing student demand. Quality assurance in the university subsector, which is largely delegated to Universities New Zealand, is not conducive to innovation and focuses primarily on processes rather than student outcomes.

6 Providers of tertiary education

Key points

- Most providers, including all tertiary education institutions (TEIs), are not-for-profit “mission maximisers”. Providers want to generate a surplus to support activities that further their mission. These missions vary within and between tertiary subsectors.
- Many tertiary education staff are strongly committed to, and believe in the moral value of, the work they do. There is a widespread, though not universal, view among tertiary education staff that “red tape” and excessive management increase costs and reduce their ability to do good and enjoyable work, without any compensating gains in quality.
- Academic culture is a powerful force in TEIs, especially universities. This culture tends to run along disciplinary rather than organisational lines, and places value on independence, reputation and prestige.
- Government funding is the most important revenue source for most providers, including all TEIs. Funding for teaching and learning is much larger than funding for research.
- The Performance-Based Research Fund (PBRF) and international rankings incentivise providers to focus on particular kinds of research, and to prioritise investment in research over investment in teaching.
- New Zealand providers appear to do relatively little formal research into tertiary pedagogy and the quality of tertiary teaching. This may be a missed opportunity for internally informed improvement.

Chapters 3 to 5 describe respectively the nature of students, employers and government involvement in New Zealand tertiary education. This chapter is also largely descriptive, setting the context for the analysis in Chapters 7 and 8. It makes generalisations about what the Commission observed, and these will not be true for all providers or all activity within providers. But they will be true enough, for enough system participants, to support meaningful analysis in the following chapters:

- Chapter 7 describes the Tertiary Education Commission (TEC)-funded market in which providers operate, and the incentives in that market; and
- Chapter 8 examines the implications of policy, funding and regulatory settings for providers, students, system efficiency, employers, and innovation.

6.1 Providers and funding

Government controls the number and form of providers

Chapter 5 documents the extensive licensing controls government applies to tertiary education. The vast majority of tertiary funding is only available to TEIs, and the number and form of those TEIs is fairly static. Government controls market entry, and some types of delivery are limited to particular TEIs or to specified subsectors. Chapter 5 also explains that government provides an unusually comprehensive guarantee of TEIs' finances.

Figure 6.1 shows New Zealand's TEC-funded tertiary education organisations (TEOs), including industry training organisations (ITOs), which Chapter 4 discusses. These TEOs supply to one or both of two main

markets²⁹ in tertiary teaching and learning: domestic provision funded by TEC, and unsubsidised (user-pays) domestic and international provision.

Provision funded by the Tertiary Education Commission

TEC provides the bulk of its funding to 27 public tertiary education institutions (TEIs: eight universities, 16 Institutes of Technology and Polytechnics (ITPs)³⁰, and three wānanga). Together, these institutions received about 82% of TEC funding in 2015, and accounted for about 74% of all funded equivalent full-time students (EFTS).

Around 250 private training establishments (PTEs) also receive TEC funding. The largest of the PTEs rival the smaller TEIs in size, but most are smaller (in many cases, much smaller).

TEC also funds 30 Community Education Providers (CEPs) and a large number of schools for specific programmes, including Adult and Community Education (ACE), Gateway and the Secondary Tertiary Alignment Resource (STAR).

TEC funds 11 ITOs to arrange training for employers.

Chapter 7 expands on the nature of competition in the market TEC funds.

Provision not funded by the Tertiary Education Commission

Many providers deliver unfunded user-pays services alongside TEC-funded provision, to international students and sometimes to fee-paying domestic students (eg, user-pays ACE at universities).³¹

In addition, about 240 providers registered with the New Zealand Qualifications Authority (NZQA) receive no TEC funding. Such providers include English language schools aimed at international students.

The main business of a large number of companies is to provide training (such as professional development, sports coaching or unfunded personal-interest learning). Some of these companies are not registered with NZQA and do not receive any TEC funding. In 2015, some 534 enterprises in New Zealand were working in the field of “tertiary education”, and a further 3 507 in “Adult and Community Education” (Statistics New Zealand, 2016b).

In addition, employers across all industries train employees in aspects of their work. They manage much of this training informally and in-house, though larger employers may employ their own training staff.

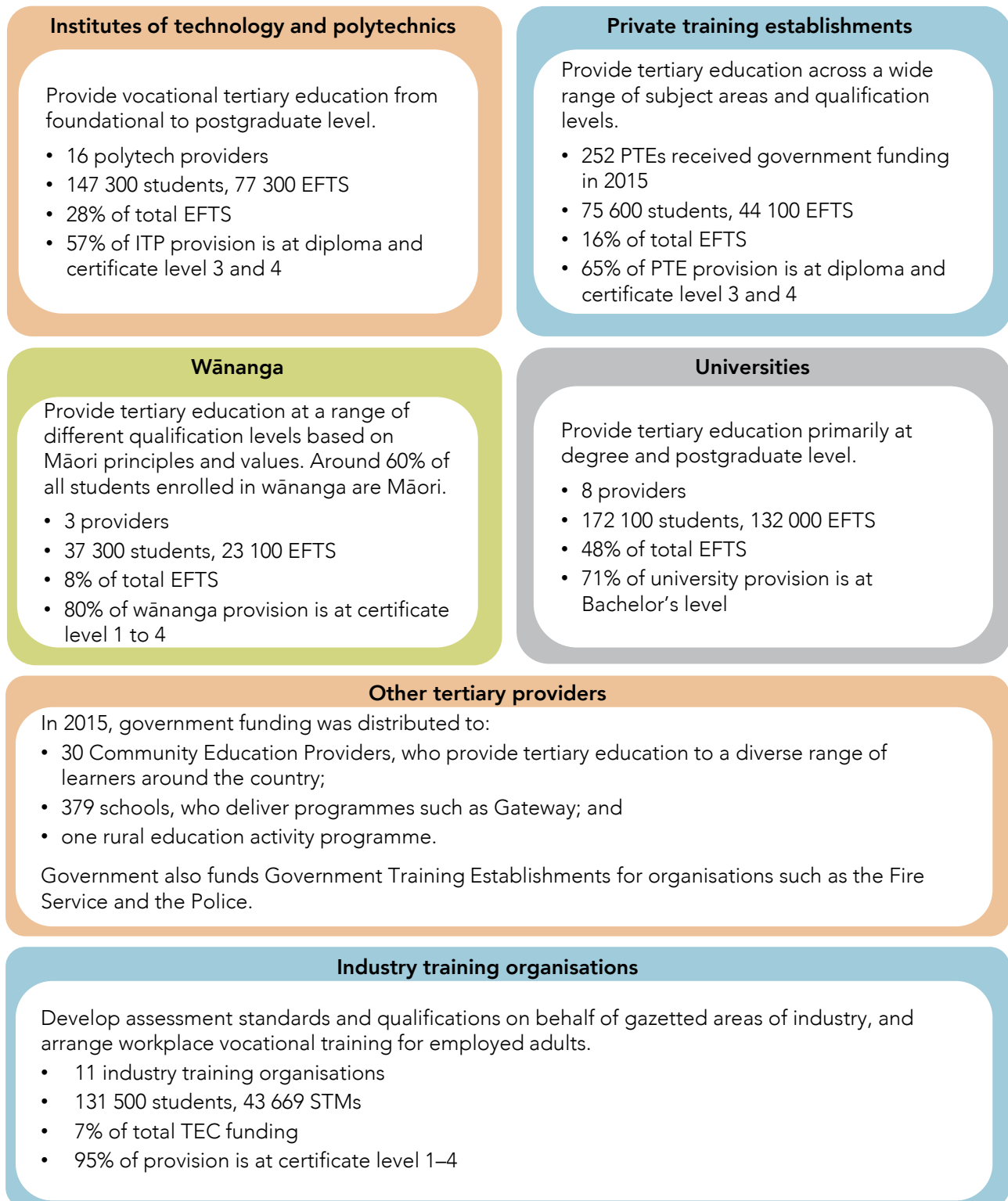
Other markets

As well as TEC-funded and unfunded teaching and learning, providers may also supply goods and services in markets for student accommodation, research and consultancy, and philanthropic donations (Chapter 7).

²⁹ While many inquiry submitters used the term “market” in describing tertiary education, the Commission acknowledges the term has negative connotations for some submitters (eg, TEU, sub. 83; Quality Public Education Coalition, sub. 48). These submitters may take “market” to imply an inappropriate commodification of education. As the discussion in this chapter about complex goods makes clear (in addition to the more extended discussions in Chapters 2 and 7), the Commission does not consider that characterising tertiary education delivery as happening in a market means it must be viewed as a simple commodity.

³⁰ There were 18 ITPs in 2015. Since then there have been two mergers: Aoraki Polytechnic and Christchurch Polytechnic Institute of Technology merged to form Ara Institute of Canterbury; and Bay of Plenty Polytechnic and Waiariki Polytechnic merged to form Toi Ohomai. Consequently there are now 16 ITPs.

³¹ Fee regulation prevents tertiary education providers from offering full-fee delivery to domestic learners on any courses that attract TEC funding. Courses that attract no TEC funding are not subject to fee regulation, but students cannot borrow from the Student Loan Scheme to cover fees for these courses.

Figure 6.1 Tertiary education providers that receive TEC funding**Notes:**

1. The summary figures for PTEs include only those PTEs that received funding from government in 2015. Data are not available for the approximately 240 PTEs that receive no government funding.
2. The Industry Training Federation provided the data on industry training. An STM (Standard Training Measure) is the industry training equivalent of an EFTS.

6.2 Most providers are not-for-profit “mission maximisers”

Public TEIs can be characterised as not-for-profit firms that seek to maximise their mission, as opposed to for-profit firms, which seek to maximise profits. The Education Act 1989 clearly sets out the purpose of TEIs (Box 6.1) and requires people in governance positions to pursue that purpose (s 176A).

Box 6.1 Statutory characterisation of TEIs in s 162(4) of the Education Act 1989

(4) In recommending to the Governor-General under subsection (2) that a body should be established as a college of education, a polytechnic, a specialist college, a university, or a wananga, the Minister shall take into account—

(a) that universities have all the following characteristics and other tertiary institutions have 1 or more of those characteristics:

(i) they are primarily concerned with more advanced learning, the principal aim being to develop intellectual independence:

(ii) their research and teaching are closely interdependent and most of their teaching is done by people who are active in advancing knowledge:

(iii) they meet international standards of research and teaching:

(iv) they are a repository of knowledge and expertise:

(v) they accept a role as critic and conscience of society; and

(b) that— ...

(ii) a polytechnic is characterised by a wide diversity of continuing education, including vocational training, that contributes to the maintenance, advancement, and dissemination of knowledge and expertise and promotes community learning, and by research, particularly applied and technological research, that aids development: ...

(iii) a university is characterised by a wide diversity of teaching and research, especially at a higher level, that maintains, advances, disseminates, and assists the application of, knowledge, develops intellectual independence, and promotes community learning:...

(iv) a wananga is characterised by teaching and research that maintains, advances, and disseminates knowledge and develops intellectual independence, and assists the application of knowledge regarding ahuatanga Maori (Maori tradition) according to tikanga Maori (Maori custom).

New Zealand also has some private providers, including PTEs and CEPs. Some are for-profit, but many are not-for-profit mission maximisers.

Mission maximisers that produce multiple services (as do all TEIs) can treat some activities as “profit centres”, and use those profits to do more of the other activities most important to their mission. This gives mission maximisers essentially the same incentives as for-profit firms that want to maximise profits for the benefit of owners or shareholders. The motivation is different, and so is the destination of surplus funds – but the incentivised behaviour is largely the same.

This is consistent with the observations of Philipson and Posner (2009) that, for many regulatory purposes, not-for-profit firms should not be treated any differently from for-profit firms. In particular, the authors noted the efficiency costs arising from the absence of competition between not-for-profit firms are just as large as the efficiency costs of reduced competition between for-profit firms.

Bowen's Law: tertiary education expenditure is ever-increasing

Howard Bowen (1980) described five "laws" of tertiary education expenditure.

1. The dominant goals of institutions are educational excellence, prestige, and influence.
2. In quest of these goals, there is virtually no limit to the amount of money an institution could spend for seemingly fruitful educational needs.
3. Each institution raises all the money it can.
4. Each institution spends all it raises.
5. The cumulative effect of the preceding four laws is toward ever-increasing expenditure.

New Zealand TEIs and commentators provide support for Bowen's Law:

Universities will always tend to spend all the funds they raise because one of the key reasons they exist is to share, advance, promote and apply knowledge. So, just as a strong commercial entity will do well at generating a financial return to its shareholders, an effective university will excel in investing all that is available to it in producing knowledge-related returns. (University of Otago, sub. 37, p. 14)

...costs in publicly funded TEIs are endogenous, in that they expand to consume the revenue provided. (Evans & Quigley, 2006, p. 234)

These observations are also consistent with characterising TEIs as mission maximisers.

Some submitters interpreted "raising all the money" in Bowen's law 3 as fundraising from donors:

Bowen's law has perhaps more application in markets where funding is less constrained than it is in New Zealand and fundraising is more prominent – the US is a key example. Laws 1 and 4 (and to a lesser extent, Law 2) can be applied easily to New Zealand institutions, but Law 3 ("Each institution raises all the money it can"), while desirable, probably does not apply so much. If it does, it occurs mostly in the university sector. (ITI, sub. 81, p. 16)

However, Bowen's laws, taken as a group, appear applicable to all sources of revenue.

6.3 What missions are providers maximising?

Universities

A primary mission of New Zealand universities is to advance knowledge via teaching and research. The Education Act 1989 (the Act) characterises universities as being "primarily concerned with more advanced learning, the principal aim being to develop intellectual independence" (s 162). Views differ on the extent to which universities should advance knowledge for its own sake or in order to benefit external users.

The Act also notes that universities should be a "repository of knowledge and expertise" (Box 6.1). Certainly part of the historical value of universities was that they brought together knowledgeable individuals and books at a time when both tended to be dispersed and inaccessible. However, this is arguably becoming less important. As Ed. Collective commented:

Places of learning like universities used to hold the monopoly on knowledge. If you wanted to learn something, they were the place to go. That is not the case anymore. There are, arguably, higher-quality, more relevant, more affordable and more flexible ways of acquiring the same knowledge. (sub. 89, p. 41)

The research mission of universities is discussed in section 6.5.

The Act also states that universities should "accept a role as critic and conscience of society", which is discussed in Chapter 9. Academic culture at universities is discussed in section 6.4.

Institutes of technology and polytechnics

ITPs share a mission to support regional economic growth and community wellbeing, by providing work-relevant vocational training to a wide diversity of students, and by doing applied research that solves practical problems for local end-users.

The submission from the 16 ITPs emphasises the industry-led nature of ITP education:

ITPs have a distinctive business model that combines theoretical and practical learning in an applied context. ... [The model] is strongly driven by industry. Learning and teaching are immersed in the industry/workplace environment. Teaching staff are recruited primarily for their industry experience and credibility; learning takes place within either real or simulated workplace environments and especially at the higher levels is project-based, where students learn by solving real-life problems, often with real profits or penalties at risk. (NZITP & Metro Group, sub. 42, p. 2)

ITPs also emphasise their role in providing accessible tertiary education to students from all walks of life and, in particular, for students who are not academically minded, or did not have a good experience at school:

ITPs have a remarkable track record of providing a high support environment for a wide cross section of school leavers, from the intellectually most able, through those who know their preferred career path and want to get started as fast as possible, to those who have enjoyed minimal success in the compulsory school system and who need a combination of support and the autonomy due to their age and maturity. ... ITPs are the most successful sector at providing an open door and a learning pathway to success to students who have not felt at home in the compulsory or the academic environment. (ibid, p. 3)

ITPs enrol a much higher proportion of older students than do universities (Chapter 3). Many ITP students are in the workforce or raising families, and need flexible delivery that does not require them to be on campus every day. The Open Polytechnic of New Zealand, as a specialist distance provider, specifically targets this group of students (including via its new iQualify online platform described in Chapter 11). Most other ITPs also provide distance or block-course learning options to accommodate the needs of students in work.

ITPs are often regarded as a second choice

Vocational education in New Zealand (as in many other countries) is traditionally regarded as a “second choice” for those not capable of success in an academic context – as opposed to a legitimate and desirable high-quality first choice for students whose talents and strengths are practical rather than academic.

The ITPs commented in their shared submission that the ITP subsector is “held back by its image in a society which has inherited the outmoded dichotomy that differentiates 'theoretical' and 'practical' knowledge and that ranks the former above the latter” (NZITP & Metro Group, sub. 42, p. 2). Waikato Institute of Technology (Wintec) submitted this public perception “creates a barrier to many students who would otherwise gain enormously from participation in ITP education and training services” (sub. 46, p. 1).

The creation in 1990 of a single tertiary funding system was intended by government to diminish the distinction between academic and vocational education. However, the legislative provisions gave universities unique power to set standards for University Entrance, to approve their own qualifications, and to self-regulate the quality of their delivery. These provisions support, rather than undermine, the traditional view that university education is of higher status, quality or desirability than that of other tertiary providers.

Two-way “mission creep” between universities and ITPs

The Commission heard a suggestion that, for some time in the 1990s, some ITPs “lost their vocational roots” in seeking to become universities (and in some cases ceased to pay sufficient attention to their core vocational business, with PTEs and wānanga moving into their market space). One PTE observed

a migration of ITPs from vocationally oriented provision to more academic, research-informed delivery, along with the promotion of “tutors” to “lecturers” and “senior tutors” and even professorships. (Methodist Mission Southern, sub. 5, p. 4)

This may be changing, as ITPs’ submissions to this inquiry suggested a strong focus on their shared “brand” as industry-led vocational providers, distinct from universities – but with an ongoing commitment to providing postgraduate degrees.

Several universities told the Commission they believed ITPs should be restricted to providing undergraduate or two-year “associate degrees” (as per the American system of community colleges) that can pathway to full university degrees for those who want them, with postgraduate study undertaken exclusively at universities.

As is explained in Chapter 11, the Commission believes government should resist any such regulatory change.

As well as ITPs moving into postgraduate study, which used to be the exclusive province of universities, the Commission has also observed that all universities now deliver academic qualifications in fields that used to be viewed as straightforwardly vocational, and were the exclusive domain of polytechnics and apprenticeships. Examples include nursing, accountancy or journalism.

One explanation for this change is that work in these formerly vocational fields has become more complicated and demanding, such that workers now genuinely require academic skills in order to attain professional competence.

Another explanation is that universities have proactively expanded into vocational activity primarily to increase their market share, aware that, for reasons of prestige:

- many students will opt for a university qualification over an ITP qualification in the same field; and
- many employers and occupational regulatory bodies will express a preference, or even set a requirement that individuals in their vocation be university-trained (strengthening the incentive on prospective students to opt for the university qualification).

Wānanga

The following factors, from a 1999 Waitangi Tribunal report, characterise wānanga and shed light on their mission:

- (a) wānanga have been established by iwi as independent institutions to meet the developmental needs of iwi and, through iwi, Māori generally;
- (b) each wānanga enjoys the participation of all sectors of the iwi, from young members as students through to elders as teachers;
- (c) mātauranga Māori, and its maintenance, development, and dissemination, are central to wānanga activities;
- (d) each wānanga operates according to the tikanga of the founding iwi, and is identifiably Māori in its environment and operations;
- (e) the majority of the wānanga student body are described as being 'second chance' learners, whose experience of education prior to arriving at the wānanga was not satisfactory;
- (f) the development of spiritual strength and depth among the students is an integral part of the wānanga programme; and
- (g) the wānanga, as a whole, is guided, directed, and controlled by Māori people.

(Waitangi Tribunal, 1999, p. 17)

Further to this, the wānanga noted in their collective submission on the Commission's draft report that

Wānanga is not another variation on the education theme – it has a much deeper purpose. Our whole core of existence is about returning maoriness to Māori. ... we are constituted to support the revitalisation and survival of Māori language and culture. (sub. DR173, p. 3)

In addition to the above shared characteristics are the mission statements of the three wānanga.

- Te Wānanga o Raukawa has been guided since 1975 by the principles of its founding iwi development strategy *Whakatupuranga Rua Mano: Generation 2000*. That strategy identifies the health and wellbeing aspirations of its founding iwi (Te Wānanga o Raukawa, n.d.). The wānanga also has a strong commitment to protecting and enriching te reo Māori and tikanga Māori.
- Te Wānanga o Aotearoa pursues a mission of enabling large numbers of Māori nationwide to participate and succeed in tertiary education. To this end, it delivers in local communities all over New Zealand (both via distance learning, and face-to-face at community facilities or on marae), making tertiary education visible and accessible to those who might not otherwise access it. Anecdotally, by attracting

older students who are influential within the whānau, Te Wānanga o Aotearoa also attracts younger, hard-to-reach Māori students who were previously disengaged from education (Davies, 2012).

- Te Whare Wānanga o Awanuiārangi’s mission is to “Pursue knowledge to the greatest depths and its broadest horizons. To empower the descendants of Awanuiārangi and all Māori to claim and develop their cultural heritage and to broaden and enhance their knowledge base so as to be able to face with confidence and dignity the challenges of the future” (Te Whare Wānanga o Awanuiārangi, n.d.). The wānanga delivers provision from foundation to doctorate level, catering to all levels of ability and ambition. It identifies itself on the international stage as having expertise in indigenous issues, and participates in the PBRF. It has lobbied for permission to describe itself as an “indigenous university”.³²

Private Training Establishments and Community Education Providers

Not-for-profit (ie, mission-maximising) PTEs and CEPs tend to have strong social-good missions. They may deliver, or be allied with organisations that deliver, social services as well as educational services. They may be general providers, or may specialise in students with particular characteristics, or in particular locations or fields of study.

Providers involved in ACE tend to share a mission to provide accessible lifelong learning opportunities at the local level for two different groups of adults:

Part of the ACE sector (often taxpayer funded) is focused on helping [adults whose school experience has been negative] regain their confidence, and reach their potential as contributing adults. Most of the ACE Sector (user pays) is focused on enriching courses for successful, curious and high achieving adults (who experienced success in their school education) who wish to continue to grow, contribute and have satisfying lives and have the financial capacity to action this option for themselves. (ACE Aotearoa, sub. 32, p. 1)

Some ACE organisations provide additional services, such as childcare and transport, to enable students to overcome barriers to educational engagement (ACE Strategic Alliance, sub. 34). These additional services do not receive any TEC funding, though some may receive government funds via other sources.

SeniorNet is a nationwide network of CEPs focused on teaching older adults new technology. SeniorNet Wellington stated its mission is “To foster opportunities for older adults to embrace and keep pace with emerging technologies that will not only enrich their lives but also enable them to effectively and efficiently share their knowledge and wisdom in the community” (sub. 11, cover letter, p. 1). SeniorNet historically received ACE funding, but is no longer eligible because of policy changes to the purpose of ACE (Chapter 7).

Individual staff

It is clear many people working in tertiary education have a high level of personal dedication to and passion for their work; that is, dedication to their students and to their field/discipline. The Commission observed wide endorsement of the view that working in tertiary education, as an educator or researcher, is intrinsically rewarding and worthwhile. For many people in the sector, the work they do is a very important and highly valued feature of their personal identity, and a personal passion.

Many people working in TEIs in particular, but also in PTEs and CEPs, hold a widespread and intrinsically motivating strong belief in education as a public good, in the moral purpose of their organisations, and in the meaningfulness of their personal service in support of this purpose.

Many people working in TEIs also believe in the proper role of the academic as an independent, autonomous, respected and trusted professional.

6.4 Academic culture

Culture is important in understanding how any organisation operates. Culture is embedded in an organisation’s artefacts, practices and behaviours (such as policy and process, logos and images, and

³² At present, only PTEs can seek permission to use the protected term “university” (Chapter 5). A current Education Amendment Bill proposes to extend this permission to wānanga (but not to ITPs).

physical use of spaces), as well as held in the beliefs and values of its staff. Because culture is reinforced through practice and custom, and through hiring of new staff who have good “cultural fit” with the organisation (Bouton, 2015), it also tends to be self-preserving and can create a powerful bias toward the status quo.

Academic culture, paradigmatically that of universities, has characteristics that make it particularly effective at preserving and sustaining itself. These characteristics arise from the special role of universities in Western society, democracy and culture, as discussed below. New Zealand’s academic workforce is discussed further in section 6.8. Academic freedom is described in Chapter 9 in the context of the role of the university as the “critic and conscience of society”.

Universities’ role as independent holders, developers, and transmitters of knowledge and values

Since the Enlightenment, universities in Western societies have had a valued role in protecting, testing, refining and transmitting (especially through teaching) cultural and scientific knowledge and values, in accordance with intellectual ideals, and – crucially – without political allegiance or interference. In the words of a former Vice-Chancellor of the University of Waikato:

The belief [is] virtually a given in democratic countries [that] universities are centrally important to the new thinking, and the challenge to the existing order, that are essential characteristics of free societies. (Gould, 2017)

Lemann (2014) observed that:

Universities are just about the only institutions that are set up to transcend the limits of time, location, and immediate circumstance that constrain just about all workplaces. If they take full advantage of that, they can impart to the mind an ability to achieve dispassionate distance, to assess, to contextualize, to connect—as John Henry Newman put it, “a power of judging of passing events, and of all events, and a conscious superiority over them, which before it did not possess”.

Universities could not have carried out this role effectively over hundreds of years of social and political change without an internal culture that placed a high value on independence, stability, consistency, self-sufficiency and resistance to external forces. That culture could not have survived unless it were itself supported and sustained by a rich set of customs, beliefs and behaviours. Massification of tertiary education may have significantly changed its nature (Chapter 1), but strong echoes of some of the earliest traditions of academic life can still be seen in today’s universities (as well as some other tertiary providers). Shugart (2013) noted that these include

...the shapes of academic terms, the roles of professors, the issues of town and gown, the authority of the professoriate, the rituals and academic rites, the expectation for learners to fully apprentice themselves and eschew distractions such as employment, [and] the static nature of the general education curriculum. (p. 10)

He concluded that “academic culture has ancient roots—and the older the roots, the deeper they are likely to go” (p. 10).

Armstrong (2014) noted that a strong culture and tradition of excellence can be a mixed blessing:

When an organization has been successful for a considerable length of time, the people in that organization come to believe that their value proposition defines quality in their field, and that the resources and processes used are necessary for the production of that quality. ... That is, the status quo of the entire business model comes to exemplify quality. (p. 4)

Armstrong considered that this challenge is especially relevant to American higher education for two reasons:

First, American higher education has been widely considered to be the best in the world for over a half century, and many U.S. colleges and universities provide models of excellence for institution building around the world. This is success writ large, much more pervasive on an industry-wide basis than that experienced in even the best corporate setting. Nearly everyone who works in these top institutions experiences a professional lifetime immersed in a system that defines excellence globally. Second, the

vast majority of faculty at these institutions got their graduate education at one of the leading U.S. universities, and so were immersed in this ethos of excellence as part of their training too. (p. 4)

This cultural effect plausibly operates in New Zealand universities too.

To this, it can be added that universities are overwhelmingly still the place where powerful decision-makers are tertiary educated, and are taken to signal a nation's intellectual quality and maturity. This creates widespread incentives on government and much – though certainly not all – of the voting public to resist changes to tertiary education that may endanger these institutions.

Prestige and reputation matter a great deal

For academic institutions internationally, prestige – that is, widespread recognition of, and admiration for the quality and standing of the institution – powerfully influences self-image at both the organisational and individual level. Along with reputation, prestige is important for attracting high-quality students (or their parents), staff and external funders. This is the despite the fact that, in the United Kingdom at least, university prestige or “brand value” is a poor indicator of students' employment outcomes (Kleiman, 2015).

Old buildings can denote prestige, as in the terms “redbrick” and “Ivy League”. So can new buildings, if sufficiently impressive. University publications and advertisements (in New Zealand and overseas) tend to feature their oldest, most Oxbridge-like buildings alongside their most modern facilities.

Research profiles – including, within New Zealand, PBRF scores – are also increasingly important in building institutional reputation and prestige. As Armstrong (2014) commented:

In higher education, success in the realm of research has a strong influence on overall institutional reputation, which then has a considerable impact on the brand value of the undergraduate education. This coupling provides impetus to institutions at all levels to increase their research activities. (p. 6)

University research activity is discussed further in section 6.5.

The nature of the “university collective”

Usher (2016) gave the following short history of US universities as collective organisations:

It was Robert Hutchins, influential President of the University of Chicago from 1929 to 1945, who once described the university as “a series of separate schools and departments held together by a central heating system”. This was an astute observation about the nature of universities and their relationships with the disciplines that inhabited them.

In the 18th and 19th centuries, universities slowly ate the sciences. It was a pretty good trade: by joining the university system, scientists got other people to pay for the development and upkeep of their laboratories, whilst universities benefitted from the prestige of having scientists on payroll. But there was a certain price exacted. Universities stopped being small, unified institutions teaching liberal arts. They had to share space in the minds of their staff with various “invisible colleges”, the global networks of scientists that form the backbone of what we call “the disciplines”. By the early twentieth-century, the local branches of these invisible colleges were asserting primacy over the organizations to which they legally belonged.

But then, gradually, even the bonds of discipline weakened. WWII and its aftermath created the research university, and that changed academic priorities. By the 1960s, Clark Kerr, President of the University of California, described the university as a “federation of independent academic entrepreneurs held together by a common grievance over parking”. That is: not only did universities have a weak centre, but now even the disciplines were not particularly an organizing principle.

Shugart (2013) commented to similar effect that US universities “have always been something of a loose confederation of faculty, staff, and students organized around purposes that are not always aligned” (p. 7). Similarly, the earliest UK universities were (and in some cases still are) federations of independent colleges.

Likewise, university academics in New Zealand tend to identify first and foremost as autonomous and independent professionals loyal to their discipline, rather than as employees loyal to an employer.³³

³³ This is not unique to academics – it can arise in any job in which professional imperatives derive not from the employer but from the profession. Examples include in-house lawyers, corporate or public-service doctors or veterinarians, and the clergy.

An implicit bargain between academics and university management

A senior academic and public servant who spoke to the Commission persuasively presented the view that it is helpful to think of universities as representing a “bargain” between academics and university management: academics accept a reduction in lifetime earnings (compared to what they could earn elsewhere), in exchange for a high level of autonomy and scope for self-directed activity under the banner of academic freedom.

The second part of this bargain was explicitly invoked by a Professor of Economics at the University of Auckland, when he stated in a 2016 editorial that:

[It is a principle of universities that] the academic staff of the university choose what they will research (and teach), and the job of the Vice Chancellor and his managers is to basically feed and house us as best they can in support of our autonomous efforts. (Hazledine, 2016)

Tension arises when university central management (which, perhaps tellingly, academics often refer to as the “administration”) seek to influence the behaviour of faculty or individual academics. Where this influence is brought to bear on the content of teaching or research, academic freedom may genuinely be at stake. Tensions also arise, however, from non-academic matters of how the university is run, with decision rights disputed between academics and university managers. This may be because academics see such administrative interference as reneging on the implicit bargain on which the institution rests.

On this view, the nature of the bargain between academics and managers is changing over time, as:

- increased staff mobility means academics and institutions make shorter-term commitments to one another;
- the boundaries between academia and industry become more porous, diluting the academic culture and resulting in more people who are not “career academics” spending time in academic roles; and
- new entrants to academia accept as normal some of the more recent managerial interventions that older staff see as new and inappropriate.

However, the age structure of the New Zealand university workforce (dominated by older academics, especially in senior roles) means most of the senior staff signed up to the bargain as it existed some decades ago.

Is a university more like a workers’ collective than a hierarchy?

According to this model, a university is best described not as a hierarchy (like most firms), but rather as something like a workers’ collective. A workers’ collective is characterised by strong horizontal sharing of decision rights between largely autonomous individuals, with weak central governance or management.

Some support for this conception of universities comes from observations made to the Commission during the course of the inquiry:

- Several senior university administrators commented that the PBRF (described in section 6.5) is valuable to them as an externally imposed performance management tool, because the culture of their institutions limits the effectiveness of internal performance management.
- University councils have been characterised to the Commission as largely symbolic, with limited control over the behaviour of faculties or departments. Similarly, faculty management has been characterised as having limited control over the behaviour of academics.

The idea also finds support in Trow (2003), who described universities as being governed by a weak central administration, with the chancellor or vice-chancellor “more of a chairman of committees, primus inter pares [first among equals], than a chief executive officer able to initiate and effect changes and reforms in the institution’s mission or its capacity to carry it out, with substantial power over the budget” (p. 12).

This conception of the institutional nature of a university has two important implications for this inquiry.

Universities face particular difficulties adapting to external change and innovating at scale

Workers' collectives thrive in stable environments with stable lines of business, but they struggle to adapt when the environment changes and the market moves. Collectives' horizontally dispersed decision rights make it expensive, or sometimes impossible, to agree to changes in direction and renegotiate business arrangements as a group of peers – at least where such renegotiation necessarily creates winners and losers. Often there is also no mandate or structure for anyone to lead the renegotiation.

These same conditions plausibly exist in universities. While individual academics can clearly be very innovative, they also expect to be autonomous, and will have varying levels of motivation and willingness to learn new ways of doing things. Trow (2003) observed:

[A] weak administration is a conservative force, subjecting internal change to the approval of academics – usually senior academics – who often are comfortable with the existing arrangements, and wary of significant change. When social and intellectual change was slow, the costs of weak administration to the speed of academic change ... were arguably worth the preservation of academic freedom. But today institutions need to be able to change rapidly and nimbly, both because of the fantastically rapid change in the map of learning that has come with the scientific explosion, and also because of the rapid expansion and changes in the nature of institutions and their students and missions... The need for stronger [university] leadership is widely recognized in many countries. (p. 13)

Without strong and effective governance, there is no straightforward way for a university to scale up and "routinise" the successful innovations of individual academics or departments. This idea is expanded on in Chapter 11.

In this picture, innovation at scale may be more likely to occur at non-university providers that are less constrained by academic culture. Innovation may also occur at universities facing an existential crisis that enables them to significantly renegotiate the relationship between academics and management – such as, for example, the case of Arizona State University, described in Chapter 11.

F6.1

Traditionally, universities are non-hierarchical collectives with horizontally dispersed decision rights and weak central control. Such organisations face particular difficulties in adapting to external change or innovating at scale.

Government may be using funding and regulation levers to compensate for a lack of effective governance levers

As explained in Chapter 5, government faces liability (both political and legal) for TEI financial losses and poor performance, but lacks the governance levers it holds for other Crown entities under the Crown Entities Act 2004. If the "workers' collective" comparison is apt, then university governance and management also have very limited power over these institutions. This would increase government's need to use regulatory and funding levers as a means of managing risk.

On this view, government's extensive and intrusive TEI regulatory and funding levers compensate for an absence of governance levers. TEIs, for their part, have had to increase their managerial and administrative capacity and capability to ensure compliance with government's detailed requirements – to the considerable frustration of many academics (see section 6.8). It follows that if the Crown had more effective ownership levers for universities, then it could safely withdraw some of its regulatory and funding levers.

The person who presented this view to the Commission suggested there could be value in having the right governance form in place on paper even before it is "culturally possible" –the expectation being that it will become culturally possible over time. This reflects a view that the current university "bargain" between academics and management will not prove sustainable in the face of greater external competition, changing staff demographics, fast technological change, and increasing massification.

6.5 The research mission of universities

Academics get important personal, cultural and reputational payoffs from doing research that is well-regarded by peers or of interest to them personally. In addition, the PBRF and international rankings create a

strong financial incentive for universities to engage in research that will attract external income, or result in publications in international peer-reviewed journals.³⁴

These incentives act very powerfully at the level of the individual, as well as at the organisational level, because providers have created internal incentives that reward individual academics for particular activities. The incentives are cultural as well as financial, and mutually reinforcing (eg, boosting research reputation with peers can deliver both reputational and financial returns). The incentives operate in both the TEC-funded and the non-TEC-funded markets, as they influence recruitment of international staff and international students as well as the provider's reputation with TEC.

The role of the Performance-Based Research Fund

Multiple submitters commented that the need to publish research and perform well in the PBRF is a dominant driver of university activity (eg, the New Zealand Union of Students' Associations (NZUSA), sub. DR139; New Zealand Medical Association, sub. DR117; Richards, sub. DR108).

The PBRF allocates funding to participating providers based on three metrics:

- Research Degree Completions (25% of fund): the number of postgraduate research degrees completed at the provider, measured each year;
- External Research Income (20% of fund): how much research income the provider has attracted from external sources, measured each year; and
- Quality Evaluation (55% of fund): a qualitative and quantitative assessment of the research performance of eligible staff, as judged by panels of expert peer reviewers in the relevant discipline.

Quality Evaluations were held in 2003, 2006, and 2012. Another is due in 2018. The Commission heard providers have been "innovative" in altering their staffing arrangements to improve their Quality Evaluation scores. This was variously represented as a sensible and respectful response to policy settings in line with the policy intent, or as cynical gaming to exploit policy settings contrary to the policy intent (Box 6.2).

Box 6.2 **Ways that universities alter their staffing arrangements to maximise PBRF revenue: a selection of submitters' views**

Universities are very responsive to funding incentives. For example, since [the] PBRF was introduced in 2002, universities have shifted to recruiting academic staff on their potential to be ranked PBRF A or B (the two top PBRF rankings). (UNZ, sub. 17, p. 35)

The system of performance management encourages 'gaming' of the system, with staff for example, responding to the pressure from their institution to produce a certain amount of research outputs undertaking research in limited areas or repeatedly 'mining' the same information for multiple outputs. (TEU, sub. 83, p. 22)

The PBRF probably had a useful impact in its first two rounds, of challenging traditional practices; as it has become 'bureaucratized' its effects are increasingly damaging. ... [Techniques to "game" PBRF scores] have included offering 'voluntary' severance packages to academics whose publishing records might lower the overall university score, and through offering special incentives to academics from around the world who can boost a university's score. (Norman, sub. 21, p. 1)

All the universities are seeking to game the PBRF system, hiring specialist staff to help researchers write more impressive PBRF portfolios, 'hiding' non-performers, and so on. (McNeill, sub. 13, p. 3)

Particularly in the years leading up to the PBRF census, academics are actively discouraged from engaging in formal [professional development] programmes. (Marshall, sub. 73, p. 6)

I have not mentioned the deleterious effects of the PBRF exercise on academics' morale and the palpable increase in cynicism and 'game playing' – sanctioned and encouraged at the highest levels – that I have observed. (Hansen, sub. 55, p. 3)

³⁴ Universities are not the only providers that participate in the PBRF but, collectively, they receive more than 97% of its funding (TEC, 2015a).

It [the PBRF] has changed the priority of (primarily) university education even further towards research and has had a detrimental impact on teaching The PBRF has seen an academic landscape that is focused on hiring academics with good PBRF scores as opposed to their fantastic teaching background (NZUSA, sub. 13 , p. 8)

The PBRF threatens my job because I write History books ... Managers pressure me to change my research, and write articles instead of books. Writing a biography saw me deemed 'Research Inactive'. (Richards, sub. DR108, p. 1)

Not only do PBRF incentives tend to favour research skills in academic staff (as opposed to teaching skills), the 'red tape' that tends to be imposed on academic staff stems from the disparity of this emphasis. (Massey University, sub. DR143, p. 22)

Evans and Quigley (2006) examined the PBRF in the context of competition between universities. They argued that "competition between universities is necessary because of the general difficulty in assessing quality in service industries and the specific problems associated with the stakeholder governance structures and academic freedom of universities", and that the PBRF has been effective in generating competition "because of its very substantial impact on both the reputation and the income of the universities" (p. 245).

Evans and Quigley considered this research-based competition was likely to be benign if universities were also competing for students (EFTS at TEs were uncapped until 2006). However, "if competition for students is muted by a new funding regime, universities would rationally invest less in teaching and learning and focus their attention on maximising PBRF revenues" (p. 245). Multiple submitters suggested this is now happening:

We do have concerns that the Performance Based Research Fund (PBRF) has created tension between the relative priority given to teaching and research at universities (and other participating TEOs), in which the clear financial benefits attached to PBRF performance often make research the winner. (Ako Aotearoa, sub. 58, p. 15)

In the light of the specific relationship of teaching and research characteristic of the university environment, the single most effective strategy would see the elevation of the value of teaching within the sector. The current funding model favours research as it drives significant funding through PBRF and other mechanisms. (Sampson et al., sub. 14, p. 5)

The PBRF was established to support degree and postgraduate teaching with higher quality research. However, its unintended consequence has been to significantly uncouple teaching and research, with more researching academics sequestered in activities or departments that have no contact with students or the university's educative function. (Auckland University of Technology, sub. 64, p. 9)

F6.2

Universities have significant incentives to invest in research to maximise their Performance-Based Research Fund revenue, and they are responding to these. Universities have no similarly strong external incentives to improve teaching quality.

International rankings

The three main international ranking systems reward (among other things) research published or cited in international journals (MoE, 2016i).³⁵

These ranking systems are widely accepted to be flawed. However, they are also widely assumed to influence a student's decision about where to study (although, as discussed in Chapter 3, the reality is nuanced). Rankings also affect a university's ability to attract high-quality academic staff. Universities are mindful of their ranking performance, as reflected in Universities New Zealand's submission to the inquiry:

³⁵ The three main international ranking systems are the Times Higher Education, the Quacquarelli Symonds (QS), and the Academic Ranking of World Universities (ARWU) systems.

Most leading universities [around the world] now have staff dedicated to optimising rankings results. Significant effort and investment goes into gaining an international profile, citations and influencing the staff:student ratios that drive rankings scores. ...

If universities cannot remain highly ranked, they will lose domestic and international students. As previously noted, a majority of students consider an institution's reputation and rankings when they choose where to study. (sub. 17, pp. 23, 26)

Crown Research Institutes as partners in tertiary research

Universities and New Zealand's seven Crown Research Institutes (CRIs) partner to undertake research, and to ensure the supply of tertiary graduates meets the workforce needs of the CRIs, particularly in science and engineering. Universities benefit from including CRI staff in their PBRF reporting.

Science New Zealand, the peak body for the CRIs, provided the following information in its submission:

1. CRIs make a considerable contribution to the education of Masters and PhD learners (NZQF [New Zealand Qualifications Framework] levels 9 and 10). In 2015, CRIs were involved in the supervision of 645 tertiary learners: 411 PhD candidates and 204 Masters learners. In 2011, the total was 514, and it has been growing steadily;
2. CRIs partner in graduate schools in conjunction with universities and in specialist courses or programmes;
3. CRI staff hold academic positions, primarily at Professorial or Associate Professorial level. This may be as part-time employees paid directly by the university; or via their CRI employer. The minimum number of hours is 0.2 [of an FTE] as this enables the staff member's entire publication record to be counted for PBRF purposes. (Science New Zealand, sub. 79, p. 6)

The teaching and research nexus

The Education Act 1989 requires of universities that "their research and teaching are closely interdependent and most of their teaching is done by people who are active in advancing knowledge" (s 162(4)(a)(ii)), and that degrees at non-university providers "must be taught mainly by people engaged in research" (s 253B(a)).

The research-led nature of university teaching activity is deeply embedded in the culture of New Zealand universities, similar to research universities in other countries. As Armstrong (2014) commented with respect to US universities:

While faculty may be uncomfortable with, or opposed to, many types of sustaining change, increasing emphasis on research is generally viewed quite favourably.³⁶ This is understandable on at least two grounds. First, most faculty come from a pre-selected group of individuals who like research and discovery, and thus chose to pursue a Ph.D. It is natural that most faculty would want to continue to follow those early interests in their work. Second, research provides external visibility for individuals that teaching does not, and external visibility has many potential benefits. (p. 6)

Lemann (2014) argued that research universities not only see mass teaching of undergraduates as a secondary activity to research, but often as regrettable but necessary means of financing the "true" research mission of the university and providing a pipeline of postgraduate students.

There is no doubt that academic institutions have a core role to play in a knowledge economy. However, there is lively debate about whether this means every degree-level course should be taught mostly by academics who are actively engaged in research in their discipline. The requirements to bundle research and teaching are less strict in other countries, allowing providers – insofar as their organisational culture and mission allows – to make different choices about the relative emphasis they give to teaching and research. The legislation in New Zealand effectively positions all degree-level teaching in New Zealand at one end of the spectrum from "research-led" (most or all teaching is delivered by academic researchers) to "research-

³⁶ [Footnote in Armstrong (2014):] "For example, a study that looked at attitudes of California State University faculty found that 55 percent wanted to do less teaching, and 85 percent wanted to do more research. (Social and Behavioural Research Institute, California State University San Marcos, February 2002, p. 23)"

informed" (most or all teaching is delivered by teachers who are informed by and familiar with, but not engaged in, research in the relevant discipline).³⁷

This subsection explores the implications of these settings for New Zealand's degree-level providers.

Do students learn better in a research-led teaching environment?

Institutions as a whole, and individual academics, face choices about how to prioritise research and teaching. The two activities often complement each other, but inevitable trade-offs exist. Research and teaching have different goals, and require different skills and personal attributes (Rugarcia, 1991; Felder, 1994). So, do students learn better in a research-led teaching environment – and if so, is it worth the additional costs involved in maintaining the required workforce and infrastructure?

The evidence on how combining teaching and research affects students' learning is mixed. A review by Jenkins (2004) found that, while the evidence clearly shows that students – especially those with a more academic orientation – value studying in a research-based environment, there is "very limited evidence of the impact of different forms of research-based learning on student epistemological and intellectual development" (p. 32).

Meek and Davis (2013) found that, while research training at postgraduate level was obviously important, "[a]t the undergraduate level, it is easier to identify the negative aspects of a heavy emphasis on the teaching/research nexus than the positives ones" (p. 73). These negative aspects included "devaluing teaching and diverting staff time from teaching; forcing staff who have little interest and/or skill in research to become research active; and diluting scarce financial resources" (ibid).

Prince, Felder and Brent (2007) found that even when academics were active in research, this research is often not effectively integrated into their undergraduate teaching.

Barrett and Milbourne (2012) did a multivariate analysis of comprehensive Australian higher education data on institutional research and teaching performance. They found that, holding other factors constant (including provider type and size, its mix of delivery, and its students' school-leaving results), research performance correlated positively with a student's employment and retention outcomes, but correlated negatively with a student's assessments of teaching quality:

The interesting result from this regression is that research performance exhibits a significant negative effect upon satisfaction with good teaching, taking into account all other factors. In terms of the perceptions of students of teaching quality, the competing nature of teaching and research outweighs the complementary nature: Undergraduate students possibly perceive inadequate time or interest devoted to them in research-intensive faculty environments. (p. 76)

However, the analysis found no relationship between research performance and overall student satisfaction, suggesting that "while students may be unhappy with teaching in research-intensive environments, it [may be] more than compensated for by the entire learning environment" (ibid).

Figlio and Schapiro (2017) used data from over 15 000 students at Northwestern University in Illinois between 2001 and 2008, matched to data on faculty research performance, to explore the relationship between teaching and scholarly quality:

[W]e empirically generate two new measures of teaching quality—one an indicator of inspiration (the rate of "conversion" of non-majors to majors) and the other an indicator of deep learning (the degree to which a professor adds lasting value to students' learning that is reflected in success in future classes). We also investigate two measures of research quality—one based on a measure of the relative importance of a scholar's research in the field, and the other a measure of national or international prominence as reflected by major awards. (p. 1)

Figlio and Schapiro found that, regardless of which measures they combined, there was "no relationship between the teaching quality and research quality" of faculty (ibid, p. 1).

³⁷ The constraint applies only at the whole-of-organisation level for universities, but at the individual programme level for non-university providers. This is discussed further in Chapter 14.

Challenges of measurement and relative priority

As noted in the discussion earlier in this section on the PBRF, a common argument in the New Zealand context is that, even if there is no problem in principle with combining teaching and research, existing policy and funding settings measure and reward the latter at the expense of the former. Ed. Collective commented that:

The difficulty with research and teaching is not so much that they are 'bundled' at universities, it is the relative internal priority and prestige attached to each area. A good researcher is held in higher regard than a good teacher. ... [T]he system does not reward good teaching in the same way that it rewards good research. ... In order to get ahead, lecturers are encouraged to follow a research pathway. In that context, students can become a hindrance. (Ed. Collective, sub. 89, p. 30)

Massey University submitted:

With an historical focus on research outputs for academic staff, particularly related to promotion, universities face challenges of increasing teaching excellence. This focus on research at the expense of teaching has the potential for undermining the learning experience for students. (sub. DR143, p. 5)

One possible reason for this apparent imbalance is that it is much easier to develop quantitative measures of research performance than it is of teaching performance. The University of Waikato submitted this is one reason why it emphasises research performance more than teaching performance for higher-salaried positions:

The University of Waikato sets minimum standards for teaching performance as part of its promotion processes; but the higher the salary applied for, the more strongly research performance will weight in the assessment. This reflects the fact that there are well-established international criteria for assessing research performance, as well as the value that their university and their society obtain through higher levels of research performance. (sub. 93, p. 3)

The UK Government in the process of implementing a "Teaching Excellence Framework" that aims to monitor and assess the quality of teaching in UK universities. This will sit alongside the "Research Excellence Framework" (the UK equivalent of the PBRF). Universities New Zealand has suggested that, in New Zealand, government should replace the existing Educational Performance Indicators with measures of the quality of teaching (sub. DR119, p. 18). This is discussed further in Chapter 14.

Box 6.3 examines how funding incentives that privilege research can influence the delivery of work-integrated and project-based learning.

Box 6.3 **Work-ready graduates at the cost of research revenue?**

Work-integrated and project-based learning is valuable in preparing students for the realities of the workplace, and for producing graduates who are able to contribute productively to their industry from the beginning of their careers. Unfortunately, current policy and funding settings do not enable or incentivise this kind of activity (Chapter 4). Universities New Zealand submitted that:

Repeated university experience with internships and industry/project enabled work has proven how resource-intensive these programmes are to establish and to maintain – while also proving how valuable they can be to students and their eventual employers. However, there is no offset in additional revenue or reduction in existing cost structures for such value-added schemes. (UNZ, sub. DR119, p. 10)

In other words, universities earn no additional revenue for delivering high-quality work-integrated and project-based learning. However, these programmes cost more to deliver. An important part of the "cost" to universities of delivering such programmes is the opportunity cost of foregoing research-based rewards, such as the PBRF. Under current policy and funding settings, an academic can maximise their PBRF score and that of their department by focusing purely on theory-based teaching and research activity, rather than the practical application of skills. The academic also thereby helps to generate a pipeline of theory-trained postgraduate students, who can then complete research degrees that will also contribute to PBRF income.

Increased PBRF scores, research activity and postgraduate numbers may also help boost the research reputation of the department, and its international rankings, potentially generating further revenue via increased international student numbers.

During the course of the inquiry, the Commission met Mr Keith Robinson, an experienced industry practitioner with ten years' experience working within university engineering departments. Mr Robinson had developed a successful engineering programme that provided students with a wide range of advanced professional skills, preparing them for the realities of a career in the industry.

Mr Robinson explained that his programme was regarded by the international engineering teaching community as world class, and had resulted in good outcomes for both students and their employers. However, the New Zealand university where he ran the programme treated the work as a low priority and gave it minimal support – largely because it ran counter to its research-led agenda and had a negative impact on PBRF evaluations, research revenue and international rankings. Academic staff keen to participate in his programme were advised by their academic managers that their careers would suffer if they did not focus on maximising their research output.

Mr Robinson commented:

The “application led” programme, taught by practitioners with real world experience, had a very positive impact on student outcomes, and graduates' ability to integrate quickly into leadership roles in industry. But the programme was always subservient to the interests of the “research led” agenda in the faculty. Staff at universities have become professional researchers – recruited on the basis of their research, not on the basis of their track record of success in industry. This means that graduates do not receive the well-rounded, business savvy, education that is required for success in the 21st Century. (Robinson, 2017, pers. comm.)

Mr Robinson also expressed concern that doctoral students in the engineering department were being trained only to pursue narrow academic careers. He commented that doctoral students received advice on how to apply for government or university grants, but often received no training in those professional competencies – such as entrepreneurialism, marketing, sales, product development and operations – that would help their research become more applicable in a commercial environment. In his view, this greatly lessened the ability of these highly talented graduates, whose expensive education is highly subsidised by taxpayers, to use their skills to generate wealth for New Zealand.

In its draft report, the Commission found emphasis on, and rewards for, research could crowd out a focus on teaching and learning. Mr Robinson said the same forces shaped what and how students were taught, with an emphasis on theory and research at the expense of developing skills and competencies that may be more directly relevant to students and employers.

Concerns about the impact on prestige

Arguments against allowing non-research-led teaching in a university rarely hold that this would directly impair the quality of the undergraduate student experience. Most appear to agree that a skilled teacher, who is well-informed about the nature and status of research in the relevant field, can do a competent job at delivering undergraduate education.

Rather, arguments tend to express the concern that a faculty or university that allows this kind of activity will thereby lose precious status and prestige, and will be unable to attract high-quality international staff and students. This would have negative flow-on effects to university finances, staff quality, and the postgraduate student experience – and, indirectly, the undergraduate student experience. The University of Auckland noted:

Should a national framework for assessing and rewarding tertiary teaching performance be introduced in NZ, it is important for universities like the University of Auckland that such a framework adequately recognise the value of research-informed teaching that is important to research intensive universities like ours competing for international standards (sub. DR118, p. 7)

Universities may also be concerned at giving other providers (including ITPs, PTEs and, potentially, offshore universities delivering online) an advantage in competing for undergraduate students. Such providers, freed from requirements relating to research-led teaching, could take advantage of lower overheads and economies of scale to offer a competitively priced, high-quality, teaching-focused student experience at undergraduate level. This would deprive universities of an important source of revenue they rely on to bolster their postgraduate teaching and research (Chapter 7).

Allowing differentiation and new models

The literature on the teaching-research nexus, in combination with the discussion in Chapter 1 of the value of diversity, suggests no single arrangement of tertiary-level research and teaching will always be the most successful or the best for students. The traditional model of the “teacher as researcher” may be a good fit for some students and some academics, but is not the only good model. Current legislation effectively prevents New Zealand providers from experimenting with new models of arranging teaching and research resources at degree level.³⁸

Furthermore, many new models of tertiary education propose a disaggregation of the “teaching” function in a way that makes it very difficult to assess *who* is doing the teaching. Many online models of education involve the separation of different elements of course design and delivery. For example:

- **design of curriculum and content** tends to remain the province of academics;
- **design of the instructional process** is often supported or managed by professional learning designers, who may be experts in pedagogy but have no background in the discipline in which the course sits;
- **delivery of content** is primarily through software; and
- **delivery of learning support** (whether group-based or person-to-person) may be provided by a mix of automated software programmes, tutors, pastoral-care staff, and academic staff.

Models seeking to deploy academic resources differently in this way may fail to meet legislative requirements for degree-level teaching, effectively preventing online provision from growing at scale. Chapter 14 makes recommendations aimed at remedying this, and allowing new models to emerge.

F6.3

No single arrangement of tertiary-level research and teaching will always be the most successful or the best for students. The traditional model of the “teacher as researcher” may be a good fit for some students and some academics, but is not the only good model.

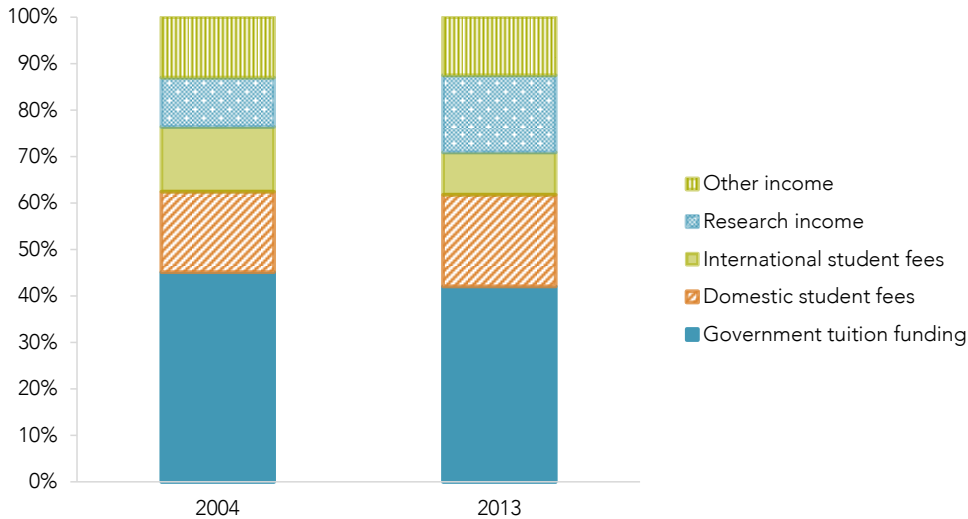
6.6 Revenue sources

Government is the single largest revenue source for TEIs.³⁹ Over the decade to 2013, the proportions of TEI revenue that came from government tuition funding, domestic student fees, and other income were stable, while the proportions of revenue from international student fees and research inverted (Figure 6.2).

³⁸ As discussed in Chapter 14, the legislation constrains non-university providers more than universities.

³⁹ This inquiry focuses on government funding administered by TEC rather than that from other government agencies. Providers may also receive government funding from the Ministry of Business, Innovation and Employment; Callaghan Innovation; the Royal Society of New Zealand; the Ministry of Social Development; and others.

Figure 6.2 Sources of TEI income, 2004 and 2013



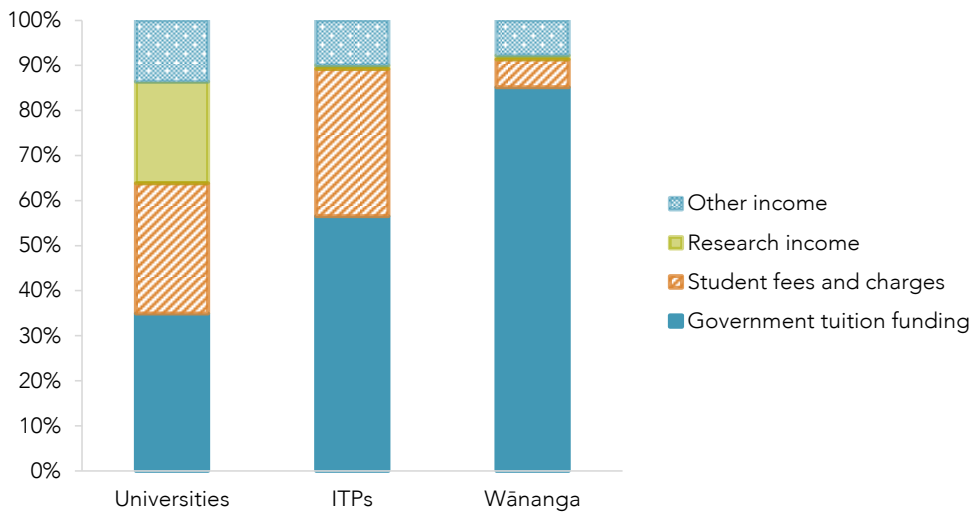
Source: TEC, 2015f.

Notes:

1. "Other income" includes off-Plan TEC funding, non-TEC government funding, subcontracting income, interest, dividends, trust income, and income from consultancy and sale of intellectual property, as well as miscellaneous other income.

Revenue sources differ across types of TEI (Figure 6.3). Government tuition funding comprises only 35% of revenue for universities, but 85% for wānanga. Student fee income (domestic and international) is much more important to universities and ITPs than to wānanga.

Figure 6.3 Sources of TEI revenue, by TEI type, 2013



Source: TEC, 2015f.

Notes:

1. "Other Income" includes off-Plan TEC funding, non-TEC government funding, subcontracting income, interest, dividends, trust income, and income from consultancy and sale of intellectual property, as well as miscellaneous other income.

Universities New Zealand noted that, for universities at least, student-based funding (government subsidies and student fees) is more important than other revenue sources:

Student volumes are the target because New Zealand universities have so little control over most other key elements that generate revenue. (UNZ, sub. 17, p. 27)

No public information is available about the non-government revenue of private providers.

Equity funding

Government currently makes an extra payment per EFTS to SAC-funded providers for enrolments of Māori and Pasifika students enrolled at NZQF level 5 and above, and (for TEIs only) students with disabilities studying at any level. These extra payments are termed “equity funding”. The funding rates are set out in Table 6.1.

Table 6.1 Equity funding rates per EFTS, 2014 to present

Enrolment type	NZQF level	Payment per EFTS
Māori or Pasifika students	1–4	No payment
	5–6	\$133.33
	7	\$320.00
	8+	\$444.44
Students with disabilities	All	\$28.60

Source: Minister for Tertiary Education, Skills and Employment, 2014

Equity funding is very small in comparison to provider’s SAC 3+ funding (Table 6.2). It may be sufficient for funding some shared organisation-wide facilities or services (eg, marae, or some forms of assistive technology) but is unlikely to cover the cost of providing individual support to students with learning needs different to those of the majority.

Table 6.2 Equity funding in proportion to SAC 3+ funding, by subsector, 2015

Subsector	Equity funding	SAC 3+ funding	Equity funding as % of SAC 3+ funding
Universities	\$9 176 798	\$1 177 491 468	0.78%
ITPs	\$3 769 646	\$478 605 850	0.79%
Wānanga	\$1 840 027	\$124 168 410	1.48%

Source: TEC, 2015a; Productivity Commission.

Several submitters commented that equity funding does not incentivise or enable providers to deliver better outcomes for its target students, nor is it sufficient to encourage providers to enrol such students:

Equity Funding has the fine intent of supporting initiatives in relation to the participation and achievement of Māori, Pasifika and students with disabilities. However, while any funding to support work in these areas is welcome, the amount of funding delivered via this mechanism is well short of the actual funding deployed by Otago to support its existing initiatives in these areas. It falls even shorter of the amount needed to support an upscaling of initiatives that could deliver even greater results. (University of Otago, sub. 37, p. 10)

Many QTI [Quality Tertiary Institutions] members believe the Equity Funding currently provided is not sufficient to provide the necessary support to providers working with non-traditional or underrepresented groups in tertiary education. (QTI, sub. DR156, p. 11)

[The level of equity funding] is increasingly inadequate and this is producing negative outcomes.... Currently, at some institutions, all students fund through either their tuition fee or their Compulsory Student Services Fee the balance needed to provide for what are considered adequate support for students with additional learning needs. At other institutions the equity funding is all that is available for these services. This creates perverse incentives which leads some institutions to recommend that students attend other institutions than their own, and also means that there are students not getting the support they need, which if they got then they would be more likely to succeed. (NZUSA, sub. DR139, p. 6)

Capital funding

Except in rare circumstances (eg, the Canterbury earthquakes and the special case of wānanga described in Box 6.4), TEIs receive no separate capital funding from government. Instead, they are expected to invest in and maintain capital assets on their balance sheets, and government sets its tuition subsidy rates with this in mind.⁴⁰

Box 6.4 WAI 718 and capital funding for wānanga

In the mid-1990s the three wānanga lodged a claim, WAI 718, with the Waitangi Tribunal for capital funding to put them on an even playing field with other TEIs. The wānanga argued that, while universities and ITPs had benefited from decades of government investment, wānanga received little funding at their establishment as TEIs, and that this disadvantaged them and their students compared to other TEIs.

The Waitangi Tribunal upheld this claim in its 1999 *Wānanga Capital Establishment Report*. The Tribunal noted:

We have found that the Crown's tertiary education policies have served to disadvantage wananga and place their operations at risk. Wananga now lack a stable capital base from which to deliver their educational services. The evidence clearly shows that this has served to compromise both their financial viability and their integrity as a significant Maori educational initiative. We therefore recommend that a one-off payment of a capital sum be made to each of the wananga... (p. 12)

Over the following decade, government agreed payments with each wānanga: \$60 million to Te Wānanga o Aotearoa, \$51 million to Te Wānanga o Raukawa, and \$14 million to Te Whare Wānanga o Awanuiārangi.

Source: Waitangi Tribunal, 1999; 2005.

6.7 Capital investment by tertiary education providers

Buildings, plant and equipment (including IT), and new programmes of delivery all involve a large one-off investment up front, with the aim of generating net positive savings or revenue before the asset becomes unusable or technologically obsolete. Different providers make different business decisions about these capital investments. For example, the Open Polytechnic has recently invested a significant amount in building its own e-learning delivery platform, and is now licensing it to other providers (Chapter 11); while the University of Auckland has chosen to lease a learning management system from Canvas for a yearly licence fee of about \$1 million (sub. 85). Some providers capitalise their programmes of delivery, and others treat them as operating expenses.

In general, TEIs, especially universities, are very capital intensive:

As at 31 December 2014, TEIs collectively owned or managed assets with a net book value of around \$9.4 billion. This made TEIs' assets collectively the fourth-largest social-asset portfolio across government. The majority of assets were held by universities (\$7.27 billion), followed by ITPs (\$1.84 billion) and wānanga (\$0.27 billion). The largest asset category across the sector is land and buildings. (TEC, 2015g)

As noted in section 6.4, prestige is associated with owning very old, or else very modern, buildings, which may be one factor. One submitter argued that capital intensity is part and parcel of being a university:

A university is expected to be a multi-generational, century-spanning entity. ... An organisation that intends and expects to exist in perpetuity has a different approach to capital structure to one that might expect to last no more than decade or two. (Dodgson, sub. 28, p. 3)

⁴⁰ During the mid-2000s, the EFTS tuition subsidy rate for PTEs was 9.5% lower than that of TEIs, on the grounds that government should not contribute to the capital cost of private providers. However, the rate for PTEs was raised in 2013 to halve the funding differential, and raised again in 2015 to close the gap completely, and to increase "competitive innovation" between private and public providers (New Zealand Government, 2012).

Another reason for universities to invest in buildings may be the desire to compete successfully for high-calibre domestic students and for international students. As Christensen et al. (2011) explained with respect to US universities:

The facilities for learner dining, athletic activity, and classroom learning that existed 30 years ago at Harvard University were Spartan compared to the opulent facilities that today's learners enjoy. Harvard has no option but to keep ratcheting up its attractiveness and, therefore, its cost structure in order to compete successfully against the likes of Stanford and Yale. (p. 24)

Universities and other TEIs operating at a surplus may also have an incentive to invest in capital assets to avoid any possible appearance of over-funding – and land and buildings may be a particularly attractive option (Chapter 8). TEIs do not pay rates on land and buildings used for educational purposes.

The Crown tightly manages how TEIs can dispose of property (Box 6.5).

ITPs and wānanga tend to combine ownership and leasing arrangements. Some ITPs invested significantly in capital assets over the last decade, meaning they are now asset-rich and cash-poor. Others have held off making capital investments, putting them in the reverse position. ITPs' historical choices in this regard significantly affect their ability to invest in new technologies now. Unitec is an outlier among ITPs in that it is seeking to divest itself of a significant amount of land, so it can concentrate technology-enabled delivery on a much smaller campus (Unitec, 2016).

The ITPs' submission suggested that, as a sector, ITPs have tended to under-invest in the facilities needed for a "modern learning environment":

[P]robably compared to the university sector ITPs have much lower capital values and the balance of investment is arguably right; indeed many would argue there needs to be greater investment in capital to improve the facilities and premises for students. ... [T]he increased capital deepening assumed (in most studies of national productivity) to be needed in New Zealand's business sector needs similarly to occur in the ITP sector. (NZITP & Metro Group, sub. 42, p. 17)

PTEs tend to invest less in fixed assets and usually lease their premises. These providers face rental costs that rise and fall with the commercial property rental market, which may include rates charges passed on by landlords to their tenants.

Box 6.5 Capital asset management for TEIs

Several New Zealand universities have long-term (pre-1990) use of land and buildings in Crown title. Until recently, there was no clear policy on how the proceeds of any sale of such assets would be split between the Crown and the university, or who was responsible for maintaining the asset. As a result, universities tended to retain (but not always maintain) assets they did not need.

Cabinet agreed in 2009 to set clear rules about transferring assets from Crown title to university title, and splitting the proceeds in the event of a sale. This policy, implemented by TEC from 2011, gives universities strong – and efficacious – incentives to have assets transferred into their own title, and to dispose of them when they are surplus to requirements.

All TEIs must seek permission from the Secretary of Education to demolish or dispose of land or buildings (of any value). They must also participate in the Asset Management element of Treasury's "Investor Confidence Rating" programme (previously the Capital Asset Management programme).

Source: TEC, 2015h.

6.8 The workforce of tertiary education providers

Staff salary costs comprise the largest proportion of the operating budget of most tertiary providers. This is partly driven by nature of the business activity, dominated by human-delivered services. For academic

providers, it is also driven by the nature of the academic workforce, with its cultural expectations, that academics will:

- design and teach their own material, rather than using “off-the-shelf” material prepared by others;
- teach for 30 to 35 weeks a year, with the other 20 or so weeks spent on research and preparation – with the most senior academics sometimes expecting to teach less and research more; and
- receive yearly pay increases above the rate of inflation, supported by strong union bargaining (which may also extend to general staff).

Teaching staff across all subsectors are also increasingly expected not just to teach and do research, but also to provide pastoral care and learning support for students with diverse needs.

For some providers, helping those unskilled at learning is a longstanding feature of their business model. One ITP operating a school–tertiary partnership programme for senior secondary school students said to the Commission that “teaching 15 year olds is not a big deal for our [tutors], because that is what ITPs were originally set up to do [when they were community colleges]”.

However, other providers have found it challenging to adjust from teaching a relatively homogenous and well-prepared student body, to one that is diverse in terms of its cultural background and preparedness for study. One university told the Commission that even students with a University Entrance qualification were arriving without the independent learning skills needed to succeed in a university environment. The university is in the process of adjusting its first-year delivery to develop in students the “academic literacy” they need to embark on second-year study as independent learners. The university indicated that designing this learning process for under-prepared students presents a very different challenge to traditional tertiary teaching.

Some Australian providers have responded to both challenges – high-cost academics, and the need of a different skillset for teaching diverse students – via two strategies:

- increasing the proportion of undergraduate teaching done by fixed-term “adjunct faculty” staff, freeing up permanent academic staff to focus on postgraduate teaching and research; and
- outsourcing learning design and/or pastoral care of students – that is, either purchasing it from outside the organisation, or having it delivered by expert non-teaching staff within the organisation.

Similar things are occurring in New Zealand:

- Wensvoort (2013) noted the former effect in universities between 2001 and 2011, and a 2013 Tertiary Education Union (TEU) survey had similar findings (TEU, 2013).
- Te Wānanga o Aotearoa avoids the high costs of the standard academic resourcing model by operating a centralised curriculum arrangement. As part of this, its tutors receive consistent training in delivery of consistent curricula nationwide, supported by standardised resources. Open Polytechnic’s iQualify platform (Chapter 12) and the new TANZ eCampus (TANZ, 2016) enable multiple providers to take a similar approach.
- Many providers, including the University of Auckland and Otago Polytechnic, employ learning designers to work alongside academics, unbundling the design of academic content from its delivery. Open Polytechnic and Auckland University of Technology both outsource some elements of pastoral care.

Little, Smith and Brookes (2016) raised concerns about what the unbundling of academic content from teaching delivery means for academics’ ownership of intellectual property, and whether automation of the teaching process will harm students’ learning.

Concerns about commodification and excessive management

Since the advent of mass tertiary education and especially the introduction of tuition fees, some tertiary providers and their staff have expressed concern about education being viewed as a commodity for sale by a

business, or a commercial service delivered to a consumer for private gain (eg, see Srigley, 2015; Greatrix, 2011; Katopes, 2009). They have argued that, in contrast, education should be viewed (and funded) as a public service provided for the collective good of society. These concerns are reflected in some submissions:

Government policy and regulatory decisions since the mid-1980s have led ... to a focus on tertiary education as a commodity, an economic output rather than the position that tertiary education is the foundation of a good society. Changes in tertiary education policy since the 1990s have seen the sector narrowed to an increasingly user-pays model emphasising heightened competition between institutions which risks losing sight of the value of tertiary education as a public good. (New Zealand Council of Trade Unions, sub. 69, p. 11)

For the purposes of this document, "innovation" ... seems to mean [a] way of delivering the commodity called tertiary education to larger numbers of people at less cost; in other words a narrow profit-driven agenda. (Post Primary Teachers' Association, sub. 61, p. 3)

The rise of New Public Management ideologies based on market models ... are a poor fit to wider social objectives for education. (Marshall, sub. 73, p. 22)

We consider that the liberal, humanist model is severely threatened and already extensively damaged by pervasive neoliberal, market-driven developments. (Quality Public Education Coalition, sub. 48, p. 2)

As well as concerns about viewing tertiary education as a business, some have raised concerns about tertiary education providers behaving like businesses. Bridgman (2007), Zepke (2012) and TEU (sub. 83) described a growing managerial culture (driven either from within the organisation or as a result of high levels of external compliance), perceived to represent a lack of trust in academics and teachers as professionals, and a lack of understanding of the nature and value of their work. Section 6.4 suggests this may reflect an implicit "bargain" between academics and university central management that is increasingly under pressure, and results in government funding and regulatory settings for universities that carry high compliance costs.

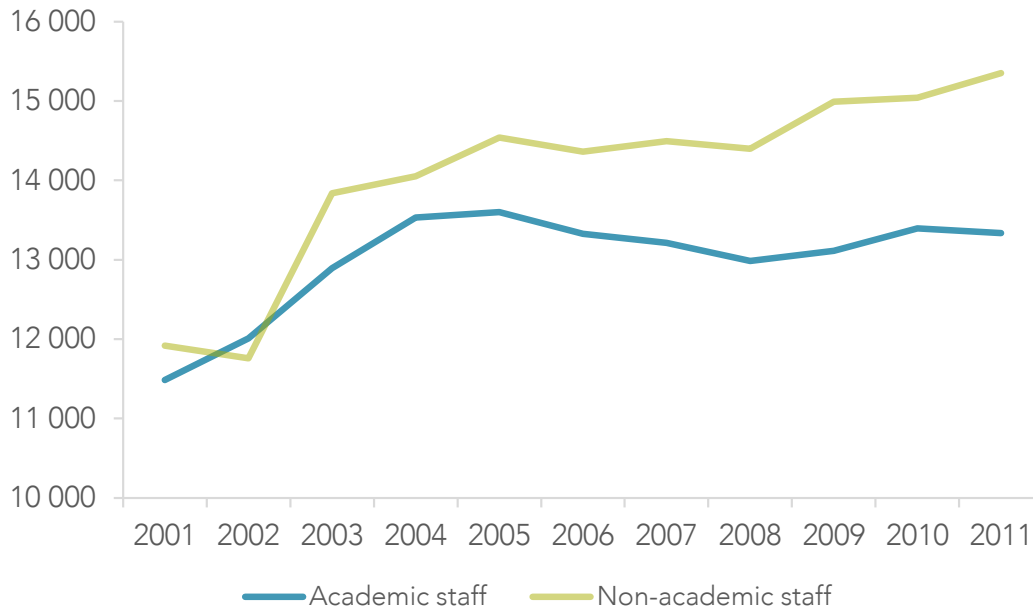
A TEU (2016) survey of tertiary sector staff found that half of respondents considered they had less autonomy over their work than a decade ago. A majority of staff surveyed considered they had less influence over decisions in their workplace compared to a decade ago. Some 70% of respondents disagreed that "there is good communication between management and staff".

The Commission heard concerns from submitters that "too much red tape" is taking the joy out of teaching, with negative impacts both for teachers and for students. To quote from the Independent Tertiary Institutions submission:

In the eight years I have worked for ITI there has been a definite trend in members employing more staff (and more senior staff) solely to deal with paperwork. "I miss teaching," one senior manager lamented at the last ITI Board meeting. (sub. 81, p. 2)

A senior academic at one university said to the Commission: "I don't see joy and love and passion in a lot of young scholars. There's a sense of burden – being assessed, evaluated. An emphasis on compliance." Another senior academic's submission expressed "concern about the wider systemic problems of university management and administration generated by a combination of external government-driven initiatives for accountability and contestability and universities' responses to these demands" (McNeill, sub. 13, p. 1). These themes were repeated by multiple submitters and people with whom the Commission met in the course of this inquiry.

Hazledine (2008) noted that, between 1987 and 1997, the ratio of managers to academics in the University of Auckland's Department of Economics increased from 1:27 to 1:4. The number of full-time non-academic staff at public TEs grew faster than academic staff between 2001 and 2011 (Figure 6.4). The Commission has been unable to find more detailed information about the particular changes in composition that underlie these data.

Figure 6.4 Full-time equivalent staff at public tertiary education institutions, 2001–11

Source: Wensvoort, 2013.

Notes:

1. The data are derived from Table 13 of the downloadable Excel files associated with Wensvoort's report. Definitions are the same as those used in the body of the report; that is, "academic staff" comprises academic and research-only staff, and non-academic staff comprises all other staff.
2. The Y axis starts at 10 000.

A submitter from the Otago Business School at the University of Otago argued:

Universities waste too many resources on administration and bureaucrats.

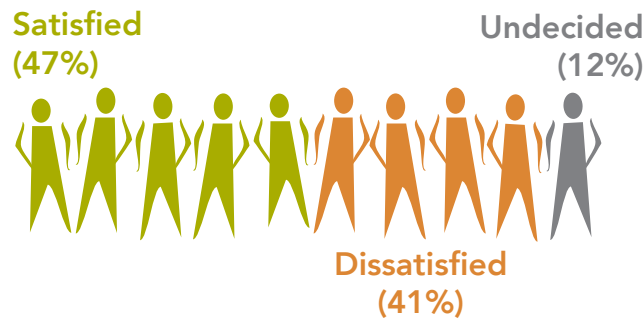
Like most universities, the University of Otago has three main layers of management: (1) the University overall, (2) Divisions (and Schools), and (3) Departments. According to the School of Business website, there are 19 people attached to the Dean's Office of the School of Business (...and bear in mind, there are another three Divisions), of whom at least seven have 'Dean' in their title... Above that, at the University level, there is another, even larger management structure. ...

When I first enrolled as a student at the University of Otago in 1984, the size of the administration ... was a tiny fraction of [the present size]. Of course, the world has changed since then, and Otago has three times the number of students that it had in the 1980s. Nonetheless, it seems unlikely that the current size is anywhere near the optimal size. Large amounts of resources are being swallowed up by this administrative burden... (Hansen, sub. 55, p. 5)

Both of these concerns – education as a commodity for sale, and increased managerialism in institutions – come together in a quotation included in TEU's submission:

The ascendancy of entrepreneurial university managements who emphasise a market-based rationality in which education becomes a consumer good, and who have a correspondingly anxious eye on consumer satisfaction and public relations as well as governments concerned with fiscal constraints, corporate ties and short term priorities, are paving the way for dangerous widespread institutional change. (Stewart (2011, p. 49), quoted in TEU, sub. 83, p. 23)

While this quotation focuses on universities, the Commission heard similar concerns from representatives of every subsector during the course of this inquiry. TEU (2016) found significant levels of dissatisfaction among its members (Figure 6.5).

Figure 6.5 Satisfaction of Tertiary Education Union members with their jobs as a whole, 2016

Source: TEU, 2016.

By comparison, a 2013 survey of Public Service Association members found 63% of respondents were satisfied with their jobs, 14% were dissatisfied and 23% were undecided (Plimmer et al., 2013).

F6.4

Tertiary education sector staff hold a widespread, though not universal, view that “red tape” and excessive management increase costs and reduce their ability to do good and enjoyable work, without any compensating gains in the quality of that work.

Is the tertiary workforce becoming less ethnically diverse?

Chapters 2 and 3 explain that students who feel culturally confident and comfortable in a tertiary education environment do better overall. Some evidence shows Māori and Pasifika academic staff act as important role models for Māori and Pasifika students and help to motivate their success (eg, Chu et al., 2013; Lattimore et al., 2003).

The ethnic composition of the tertiary academic workforce was fairly stable from 2012 to 2015 (Table 6.3), the single biggest change being a reduction in the proportion of staff whose ethnicity was not recorded.

Table 6.3 Ethnic composition of tertiary academic workforce, 2012–15

	2012	2013	2014	2015
European	56.2%	54.7%	56.3%	56.5%
Māori	10.4%	11.6%	11.8%	11.8%
Pasifika	2.7%	3.3%	3.1%	3.4%
Asian	6.1%	6.7%	7.0%	8.9%
Other	7.0%	8.3%	7.1%	10.4%
Unknown	18.1%	15.7%	15.6%	11.5%

Source: MoE, 2016a.

Notes:

1. Data excludes non-academic tertiary staff, eg, research-only staff, administrative staff and general staff.
2. Data relate to the number of staff employed during the last week in July or the first week in August.
3. Private training establishments included in this data are those that receive Student Achievement Component funding, or whose students receive a student allowance or loan or a Ministry of Education grant.
4. Proportions calculated including the unknown category. The proportions do not add to 100%, as some staff are included in more than one ethnic group.
5. Data rounded to protect the privacy of individuals, so counts may not add to the total.

Some TEIs have goals to increase their number of Māori and Pasifika academic staff, but often they set no specific targets (eg, AUT, 2011; University of Otago, 2012). Ed. Collective submitted:

[T]he academy remains largely white, middle-class and male – certainly at the most senior levels. One of the challenges for the tertiary education system will be to invest in becoming more diverse – more reflective of the communities it serves. (sub. 89, p. 39)

A submission from Te Mata o te Tau, the Academy for Māori Research and scholarship at Massey University, noted:

- numbers of Māori academic staff at Massey have reduced significantly in the past five years, especially at senior level; and
- Māori staff are disproportionately likely to be on casual or fixed-term contracts (sub. 99, p. 3).

Te Mata o te Tau also expressed concern that some Māori-specific positions or business units (at Massey University and elsewhere) have been or merged into mainstream units. TEU dubbed this process “whitestreaming”. Potter and Cooper (2016) surveyed and interviewed TEU Māori members about whitestreaming, and reported that it:

- occurs in all universities, most polytechnics and at least one wānanga;
- has multiple drivers; and
- has negative effects on Māori staff and students.

These claims about impacts on students need to be treated with caution as they are based on the impressions of staff, rather than by surveying students directly or analysing their educational participation or achievement data. Also, it appears Potter and Cooper’s definition of “whitestreaming” was extremely broad.⁴¹

Teaching qualifications in the tertiary workforce

Tertiary providers train and certify primary and secondary teachers, but they often require little specific training for their own tertiary teachers. A 2009 survey of literature relating to tertiary teacher development and qualifications in New Zealand noted tertiary teachers are usually appointed on the basis of the knowledge, qualifications and experience in their subject area, and (in contrast to teachers in schools) lack pre-service teacher education:

A number of studies have suggested that many tertiary teachers do not receive a substantial education for their teaching role, and that their teaching-related continuing professional development is also not extensive. Some factors identified as contributing to that situation include the perceived low status of teaching in some institutions, compared with people’s expertise in their research, discipline or profession. Other factors include varying levels of commitment to teacher education and development found in some institutional cultures. Those factors can be seen both overseas and in New Zealand. (Viskovic, 2009, pp. 8–9)

However, differences do exist among the various provider types. One survey of providers (Ako Aotearoa, 2010) found that:

- 10 out of 12 surveyed ITPs, and around half of 131 surveyed PTEs, required a teaching qualification to be gained within two or three years of full-time appointment, but no university had such a requirement.
- 40% of PTEs required a teaching qualification for appointment to a full-time teaching role, but no ITP or university had such a requirement.

Ako Aotearoa (2010) also found providers offered a range of tertiary teaching qualifications (many with low completion rates), and that qualification descriptions did not provide clarity on the different outcomes that could be expected from different levels of study. A later report (Ako Aotearoa, 2014) noted that where universities do offer tertiary training to staff, inevitably “they look to offer [interested] staff ... opportunities

⁴¹ For example, the survey reported interview participants as saying that “one key way in which [kaupapa Māori pedagogies had been whitestreamed] was via the transfer of a kanohi-ki-te-kanohi approach to an online approach, both in teaching and in student learning support” (p. 21). If a shift from face-to-face to online delivery to Māori students is automatically considered whitestreaming, then it will likely have occurred at every tertiary provider over the last decade. More evidence would be needed to determine whether or not the shift had been helpful or harmful to students. Two of the three wānanga currently deliver education and support services to students online, and (presumably) consider this to be consistent with kaupapa Māori pedagogies.

to undertake qualifications at Level 7 and above” (p. 13). TEU (2016) found that, when its members were asked to rate “[the] ease with which you can get access to professional development” now compared to a decade ago, one-fifth reported improved access; two-fifths reported no change; and two-fifths reported worse access.⁴²

One submitter commented that upskilling of tertiary teachers presents an opportunity for them to experience first-hand the modern learning approaches they need to learn to deliver for their students:

Teaching staff need to be encouraged to update their skills as teachers, particularly in those parts of the sector where teaching qualifications are not common. This is an opportunity for teachers to start to experience e-learning directly themselves, to start to demonstrate their own skills and knowledge in ways that are not framed just by qualifications but rather placed in a richer context that respects their individuality as well. Wider use of approaches like portfolios and formal accreditation as part of university academic promotion processes would be a good start. (Marshall, sub. 73, p. 6)

6.9 In summary

New Zealand’s tertiary education providers are diverse in terms of their history, size, form, mission and culture. Most – including all the TEIs – have in common that they are not-for-profit “mission maximisers”, seeking to generate surpluses to support activities that further their mission. What those missions are, however, and how providers pursue them, varies significantly. Having said that, for universities, academic culture is a powerful force and may mean these institutions face particular barriers to innovation at scale. Universities also have strong financial and reputational incentives, at both the individual and the organisational level, to prioritise research activity over teaching.

⁴² “Professional development” was not further defined in the survey, so would include non-teaching-focused development.

7 Tertiary education markets

Key points

- An equivalent full-time student (EFTS) is the main unit purchased by the Tertiary Education Commission (TEC) and delivered by tertiary providers. It necessarily commodifies a complex, co-produced service into a quantifiable product, which is supplied and purchased in a “market for EFTS”.
- EFTS funding is the single biggest source of revenue for most tertiary providers. Many other sources of provider revenue – domestic student fees, equity funding and the postgraduate completion component of the Performance-Based Research Fund (PBRF) – are proportional to the relevant quantity of EFTS.
- Government constrains the market for EFTS. Government purchases a limited range of products, sets quotas for each provider, and controls price.
- EFTS funding rates are not sensitive to important drivers of costs, such as economies of scale, differences in student characteristics, and differences in location and mode of delivery.
- Quotas are fixed both for each provider and overall. Quotas do not directly respond to demand from either students or the economy.
- Providers can increase their surplus by persuading government to increase their quota of EFTS, increase the price they receive (tuition subsidy and fees), or lower costs. All but the latter option involve lobbying government. Tertiary education institutions (TEIs), especially universities, are powerful lobbyists.
- The agencies operating the tertiary education funding system observe student demand imperfectly. The funding system observes enrolments, but is largely blind to two types of demand:
 - demand partly served, where students enrol in a course or with a provider that is not their first preference; and
 - unserved (or latent) demand, where students would enrol if the right opportunity at the right price were available.

The funding system misclassifies the former as demand satisfied, and ignores the latter. Such a funding system effectively defines student demand in terms of education delivered, so demand cannot exceed supply.

- Providers also supply other markets, including the market for international students, domestic user-pays provision, student accommodation, consultancy, and research. These markets interact. For example, constraints in one market can lead to increased activity in another.
- Government is both financially and politically liable for the ongoing viability of TEIs, and faces costs of different kinds in making changes to funding or regulation.
- The EFTS market as designed and regulated is effective at sustaining incumbent suppliers. Government’s market regulation contributes to, rather than reduces, the market power of providers, with consequences for consumers (ie, students and prospective students).

Chapter 6 describes how all TEIs, and many private providers, try to maximise their mission by generating a surplus to support activities that further their mission.⁴³ In doing so, providers of tertiary education often operate in more than one market – such as the markets for domestic and international students, and the market for research funding. This chapter describes the characteristics of these markets, and, in particular, explores the market for government-funded domestic education: the “market for EFTS”.

7.1 Government subsidises tertiary education by purchasing EFTS

Under long-standing arrangements, government (via TEC) purchases tertiary education from providers in units of EFTS. An EFTS is a unit of input – it is contractually complete when the provider delivers the required number of learning hours to a student (Box 7.1). It does not measure the quality of the teaching delivered, nor the student’s learning.

Box 7.1 What is an EFTS?

An EFTS is the funding unit specified in ministerial funding determinations for the bulk of tertiary educational delivery, including the Student Achievement Component (SAC), Youth Guarantee, and Adult and Community Education (ACE) funds. An EFTS is defined with reference to its inputs: 1 200 learning hours or 120 credits delivered over 34 teaching weeks.

Many other sources of provider revenue – domestic student fees, equity funding, performance-based funding and the postgraduate completion component of the PBRF – are proportional to the relevant quantity of EFTS. Student loan borrowing is tied to EFTS, insofar as students can only borrow from the Student Loan Scheme if they are enrolled in a course that receives TEC EFTS funding.

Providers indicated to the Productivity Commission that discussions about EFTS dominate their negotiations with TEC.

In an ideal system, government would purchase outcomes for students. The Investment Plan system, introduced in 2007, was designed as a step in this direction.

In theory, TEC purchases education outcomes

The Investment Plan system theoretically enables TEC to fund tertiary providers for producing outcomes (ie, end results) through specified activities. Section 159P of the Education Act 1989 states that a proposed Investment Plan must:

- (a) describe how an organisation will give effect to the Government’s current and medium-term priorities as described in the tertiary education strategy; and ...
- (d) set out a description of all—
 - (i) tertiary education programmes run by the organisation for which the organisation is seeking funding [in the Plan] and specify the amount of funding sought in relation to those programmes; and
 - (ii) activities (including, without limitation, programmes and initiatives that will be undertaken by the organisation in order to build its capability) for which the organisation is seeking funding [in the Plan] and specify the amount of funding sought in relation to those activities; and
- (e) describe an organisation’s proposed outcomes ... and the performance indicators that the organisation will use to measure whether those outcomes have been achieved...

Section 159Y requires TEC to set criteria for assessing Investment Plans for funding approval, including criteria for assessing how the provider will contribute to government priorities, and the appropriateness of its proposed activities, associated outcomes, and performance indicators. Section 159YC enables TEC to place any conditions on funding that it considers “necessary to ensure that the specified outcomes in a plan that

⁴³ Some private providers seek to generate a financial surplus to return to owners, rewarding them for equity capital supplied.

relate to tertiary education programmes and activities in relation to which funding is being given are being achieved or will be achieved”.

These sections collectively frame the Investment Plan as a contractual mechanism in which providers specify various activities and outcomes (with associated performance criteria), and TEC provides funding in return for (ie, conditional on) the delivery of these activities and outcomes.

In practice, TEC requires providers to deliver EFTS, not outcomes

However, the contractual mechanism does not work like this in practice. This is because the “specified activities” that providers commit to in their Investment Plans are predominantly the delivery of EFTS. EFTS are defined by their inputs (Box 7.1) – that is, by what goes into them, not what comes out of them.

The method of calculating EFTS assumes all students in any given course have the same learning needs, whereas in reality their needs are varied. For this reason, a provider cannot be sure in advance that exact delivery of all the inputs of its EFTS (no more and no less) will result in good outcomes for every student. Providers may sometimes face a choice between using EFTS funding to deliver the EFTS inputs as contracted, and delivering good student outcomes. Recent TEC investigations and funding recoveries have indicated that, in such a situation, TEC will hold the provider accountable for delivering the EFTS inputs. For example, in late 2015, TEC announced that it would recover \$6.2 million in funding from Agribusiness Training Ltd. for under-delivering on the EFTS inputs specified in its Plan, even though its students had achieved the learning outcomes associated with their qualifications:

[TEC Chief Executive] Mr Fowler said Agribusiness knew the rules, and could expect to have to refund tuition subsidies for breaching them. “The TEC has found in some cases Agribusiness has not provided the teaching it was funded to deliver. This effectively means that between 2009–2014 Agribusiness received \$6.24 million (GST-exclusive) more than it was entitled to for the education services it provides.”

It should be noted that NZQA is confident that Agribusiness has conducted student assessments correctly and that student qualifications are valid. (TEC, 2015i)

In other words, TEC purchases the inputs, not the outcomes, of the learning process. This example also clarifies that an EFTS is an actual deliverable supplied in a contractual arrangement, not just the basis of a funding formula to purchase the outcomes outlined in a Plan, or a convenient means of allocating subsidies across providers.

Government is still trying to purchase outcomes

It is notable that, in 2014, despite TEC having by that time administered three rounds of Investment Plan-based funding, government’s *Tertiary Education Strategy 2014–2019* identified a focus on outcomes as something new:

This strategy signals a shift in focus for the Government. While we will continue to have high expectations of TEOs’ performance in terms of outputs, efficiency and student achievement, a stronger focus on the outcomes of tertiary education is needed. (MoE & MBIE, 2014, p. 7)

TEC’s “Investment Approach” project has a similar goal, and is explicit about the need to change the basis of funding:

The Investment Approach is about moving away from a reliance on funding based on inputs and outputs, to outcomes that focus more on broader social and economic outcomes for New Zealand. (TEC, 2016h)

Currently, however, as required by ministerial funding determinations, TEC-funded tertiary provision is overwhelmingly driven by EFTS.

But it actually purchases EFTS

The EFTS unit necessarily commodifies the complex, co-produced service of tertiary education into a simple and fairly homogenous product. This product is purchased and supplied in a market – albeit a highly constrained one, as described in sections 7.2 and 7.4. That is, TEC, in allocating EFTS, chooses between

multiple competing suppliers according to its understanding of demand, and its view on which providers will do the best job of meeting that demand, based on the quality of providers' Investment Plans.

F7.1

An EFTS is the main unit purchased by the Tertiary Education Commission and delivered by tertiary providers. It necessarily commodifies a complex, co-produced service into a quantifiable product, which is supplied and purchased in a "market for EFTS".

TEC allocates EFTS, and it is up to providers to fill them

Another way to characterise an EFTS is a conditional contract between three parties: TEC, a provider, and a student. TEC allocates a number of EFTS to each provider.⁴⁴ This report refers to these allocations as quotas. Students, in choosing where to study, determine whether providers can fulfil their contractual commitments to TEC (Figure 7.5).

EFTS quotas offer something close to a revenue guarantee to providers who meet their quotas, with payment for each calendar year of delivery made in 12 equal monthly instalments from January to December.

7.2 Government controls product, quantity and price

This section discusses government's settings and controls in the market for EFTS.

Government buys a limited range of products

Government stipulates a limited range of products it will purchase via EFTS funding (Chapter 5).

Full qualifications

For most TEC funding, a qualification must comprise at least 40 credits (and the larger the qualification, the larger the amount of funding it attracts).

Students must enrol in full qualifications with an intention of completing them. Providers are not allowed to knowingly enrol students who intend to drop out after completing only one or two courses.

The proportion of students studying full-time for full qualifications has increased in recent years (Chapter 3). This reflects the funding and regulatory environment, but may not reflect demand from students or the demand for skills from the labour market.

Bundles

TEC funding conditions (driven in turn by ministerial funding determinations) require the inputs that make up an EFTS to encompass a bundle of activities, including teaching, assessment, credentialing and pastoral care. For degree-level teaching, this bundle must be provided mainly by people who are active in research – effectively requiring providers to bundle research with teaching.⁴⁵

Courses delivered within a calendar year

Providers are not required to deliver courses within a calendar year, but they have funding incentives to do so. The "course completion" Educational Performance Indicator (EPI) (which contributes to Performance-Linked Funding) calculates the proportion of students who have completed a course in the calendar year in which they first enrolled (with exceptions for special cases, such as research degrees).

⁴⁴ More specifically, an Investment Plan specifies a limit in terms of dollars, and an expected number of EFTS based on a specified mix of courses (when charged at the applicable SAC rates). The expected number of EFTS corresponding to the dollar limit can vary upwards or downwards if the actual mix differs significantly from the specified mix. This chapter generally makes the simplifying assumption that such variance (on the scale typically observed) is inconsequential in the overall system. TEC data shared with the Commission were consistent with this assumption.

⁴⁵ At non-university providers, the requirement that degree-level teaching be done mainly by people who are active in research applies to each individual degree offered. At universities, the requirement applies only at the whole-of-institution level (Chapter 15).

Government sets quotas

TEC sets a funding limit (quota) for each provider, based on a nominal number of EFTS to be delivered at each funding rate.⁴⁶ This process is largely invisible to students. Quotas are strongly determined by historical patterns of delivery (Chapter 5).

Annual Budget allocations fix the overall EFTS quota. In some funds, TEC must allocate a stated minimum amount to specified subsectors. At the individual provider level, EFTS quotas are fixed, with a 1% tolerance for under-delivery (ie, providers will receive 100% of their funding, provided they deliver at least 99% of their funded value) and, from 2016, a small allowance for over-delivery (Box 7.2).

Box 7.2 Changes at the margins of EFTS funding quotas from 2016

Until 2016, providers received no funding for delivery over 100% of their quota, and faced penalties for delivering more than 105% of it. (Such over-delivery does not cost TEC directly. However TEC imposes penalties presumably because of the flow-on costs to government of student allowances and the Student Loan Scheme.)

For the first time in 2016, eligible providers attracted TEC funding for delivery of up to 102% of their funded quota (as calculated by dollar value, not by EFTS volume).

Source: New Zealand Government, 2015.

The exception to this quota system is contestable SAC provision at levels 1 and 2 and, in selected fields from 2016, levels 3 and 4 (Chapter 5). For this provision, providers bid into a contestable pool for a specified volume of EFTS at their chosen price, and TEC allocates volume on the basis of an assessment of “value for money” (cost and quality) adjusted as necessary to reflect regional demand. Competitively allocated SAC provision amounted to \$54 million in 2015, representing the majority (57.9%) of SAC funding at levels 1 and 2, but a very small minority (2.7%) of all SAC funding (TEC, 2015a).

Government controls price

The “price” a provider receives for a funded EFTS comprises the subsidy that TEC pays, and any fees that the student pays. Government controls both elements of price.

- Domestic fee increases are regulated by the Annual Maximum Fee Movement (AMFM, Chapter 5). The AMFM is set at 2% for all delivery across all providers in 2017 (MoE, 2016e).
- Providers cannot set a course fee above the AMFM-regulated price for non-subsidised domestic students, unless the provider receives no subsidy for any student on that course.
- Tuition subsidy rates for each EFTS are set yearly (by the Minister for Tertiary Education, Skills and Employment), in a matrix that varies only by the level of qualification and the field of study.⁴⁷ These rates are estimates of delivery costs made in the late 1990s and early 2000s. Rates were subsequently adjusted at the margins to reflect government’s assessment of costs relative to providing a Bachelor of Commerce, using data from the New Zealand Benchmarking Tool (New Zealand Government, 2013).⁴⁸

Providers can consume more tuition funding from the same number of students by directing students to courses that attract a higher tuition subsidy per EFTS (eg, engineering rather than commerce). However, as long as average margins are fairly similar across EFTS cost categories (ie, as long as relative prices reflect

⁴⁶ The EFTS quota is actually a funding quota. TEC purchases an indicative, but not fixed, number of EFTS – at least at larger providers where the mix of EFTS delivered may differ from that funded. However, the EFTS remains the unit of both funding and delivery. For this reason, this chapter uses the term “EFTS quota”.

⁴⁷ TEC also provides a very small amount of “equity funding” (Chapter 6). The analysis in this chapter largely ignores equity funding.

⁴⁸ Subsidy rates have increased in recent years for science, engineering, agriculture, and selected health sciences as “analysis by the Ministry of Education shows that these areas were underfunded historically relative to less-expensive provision such as the humanities and commerce” (New Zealand Government, 2014).

relative costs across different fields and levels of study), a market analysis that treats EFTS as a single product at a single price will be reasonably accurate. This chapter makes that assumption to simplify its exposition.

Performance-Linked Funding puts 5% of SAC tuition subsidy at risk based on providers' performance against four EPIs (Chapter 5).

Government controls on price are insensitive to many cost drivers

Tuition subsidy rates for EFTS vary by level of study, and by field of study, in a rough approximation of a cost-plus model. This model ignores all other drivers of variation in costs, such as economies of scale, student characteristics, location, and delivery mode (discussed in turn below).

It is unclear to the Commission what economic assumptions underlie the AMFM policy. If it intended to be cost plus, then continued application of the model implicitly assumes that:

- historical fee levels and relativities were reasonably well-matched to provider costs at the time they were set; and
- those relativities have stayed well-matched over time, even as student demand and the market price of provider inputs has changed.

These assumptions are unlikely to be true. The result is various mismatches between costs and revenue, enabling (or in some cases requiring) providers to cross-subsidise. This is not always problematic (or indeed avoidable), but can have implications for system efficiency (Chapter 8).

Economies of scale

Government controls on price are not sensitive to economies of scale. Government pays the same amount for the first student and the hundredth student on any given course; and it pays the same for large first-year undergraduate courses as it does for small graduate certificate courses in the same field of study. The same AMFM also applies across all delivery by every provider.

Yet a substantial body of research supports the existence of economies of scale in undergraduate teaching (see, eg, Daraio, Bonaccorsi & Simar, 2015; Bowen, 1980). This means the cost of teaching an additional (marginal) student is significantly less than the average cost of teaching a student. Similarly, significant economies of scale are possible in staff and student administration, arising, for example, from the use of IT (NZPC, 2014b).

Provider scale can support a more diverse range of course offerings:

Size and economies of scale is a huge driver in considering the range of course offerings. Larger providers have more scope for diversification. (ACG Tertiary and Careers Group, sub. 84, p. 21)

However, submitters pointed out that economies of scale in teaching can be difficult to achieve in specific circumstances, including serving dispersed populations, postgraduate education and newly introduced courses (eg, NZITP & Metro Group, sub. 42), or high-touch vocational learning:

[The TEC funding model] works best when able to maximise economies of scale. ... For us, our educational model of predominantly face-to-face, small class size, group work, and industry-infused project work, means we rarely receive the revenue benefits of scale. High quality vocational education requires a different pedagogical model from that from large class lecture-style delivery. (WelTec & Whitireia, sub. 59, p. 20)

No submitter disputed the existence of economies of scale in teaching, but some identified that large class sizes had negative consequences for students:

On the teaching front, economies of scale work efficiently from a provider perspective, but without sufficient resourcing growing class sizes will result in larger, more seemingly cost-effective courses. Yet these are logistically more difficult to transform into active learning environments, critical for both domestic and international students. Instead, these classes will likely default to a lack-lustre environment of 'stand-and-deliver' lectures, where the cost is overwhelmingly borne by the student. (Sampson et al., sub. 14, p. 11)

In economic terms, the existence of economies of scale means that providers face a falling “long-run average cost” (LRAC) curve.⁴⁹ This means that the first student they enrol in a course costs them a lot (because of the overheads involved in creating and delivering the course), but each successive student has a lower marginal cost. The provider reaches a break-even point when the class size is such that total revenue covers total costs. Any students added after this break-even point, while the cost curve is still falling, contribute to the provider’s surplus.

In some cases, the class size will be determined not just by student demand and costs, but by the provider’s need to stay within its overall TEC quota.

Providers who under-deliver their TEC quota, despite apparent unmet need (eg, youth not in employment, education or training) in their catchments, may have calculated that the marginal cost of attracting or teaching an additional student outweighs the marginal revenue. That is, the additional students would represent a net cost to them. This may especially be the case if the provider expects additional, hard-to-educate students to negatively affect its Performance-Linked Funding.

Section 7.3 outlines three possible interactions between costs and revenue in the market for EFTS.

Differences between students

With the exception of “equity funding”, government pays the same amount for every EFTS, regardless of the characteristics of the student enrolled. Equity funding, described in Chapter 6, provides a small increment to the EFTS price in the SAC fund for Māori and Pasifika students (levels 3+) and students with disabilities (all levels).

Differences in location and mode of delivery

Government pays the same for highly personalised delivery, with a lot of contact time, as it does for delivery of a standardised product with minimal contact time. It also pays the same for distance delivery as for face-to-face delivery. These various delivery modes, when done well, may be of equivalent quality and effectiveness (at least for some types of learning). For providers, however, these modes involve different ratios of upfront investment to ongoing costs.

Government also pays the same for face-to-face delivery everywhere in the country, despite the plausibly different costs involved in delivering in, say, central Auckland compared to central Invercargill.

F7.2

Government constrains the market for EFTS. Government purchases a limited range of products, sets quotas for each provider, and controls price. EFTS prices are not sensitive to important drivers of costs, such as economies of scale, differences in student characteristics, and differences in location and mode of delivery.

7.3 Three possible interactions between costs and revenue in the market for EFTS

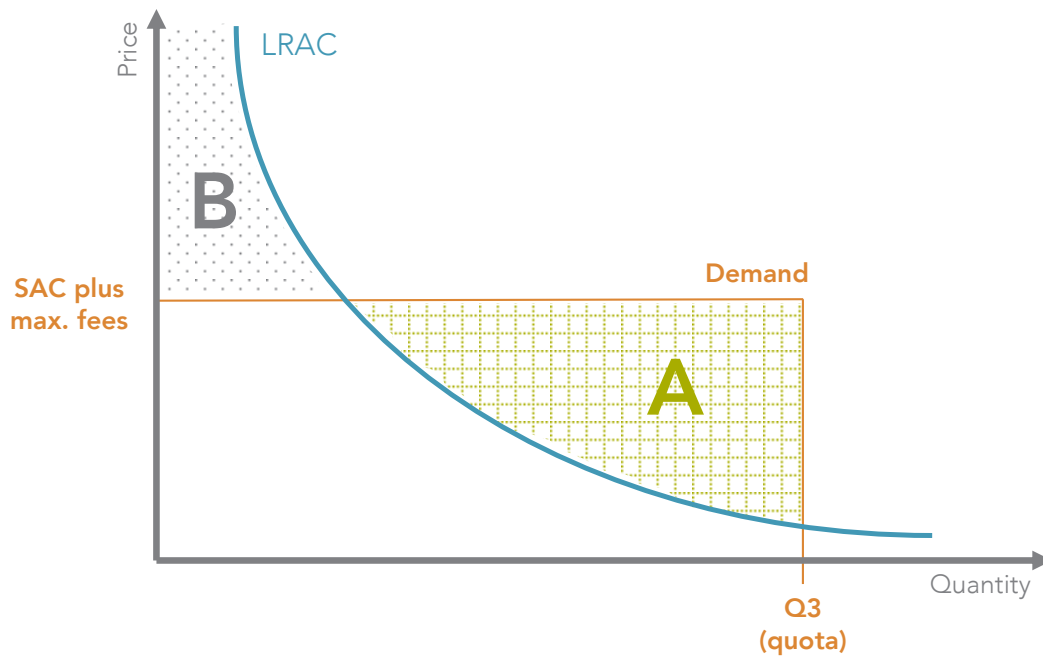
From the perspective of providers, the economics of the market for EFTS falls into three broad cases.

The Commission does not know the exact cost structure of any provider. Inquiry participants told the Commission that many providers would struggle to generate this information themselves. However, the Commission believes that its assumptions about costs reflect reality for most providers.

Case 1: Provider able to fill its quota with students paying the maximum fee

Figure 7.1 depicts the demand faced by a provider as a horizontal line at the level of the SAC price plus student fees, cutting out at the provider’s quota. The provider can maximise its surplus (revenue in area A less costs in area B) by charging all students the maximum permitted fees and supplying the quota (Q_3).

⁴⁹ “Long-run”, as used in this chapter, means the long-term consequences of *current* regulatory settings and funding arrangements.

Figure 7.1 A provider able to fill its quota with students paying the maximum fee

Provision is financially viable if the provider can make a surplus – that is, if A is larger than B.

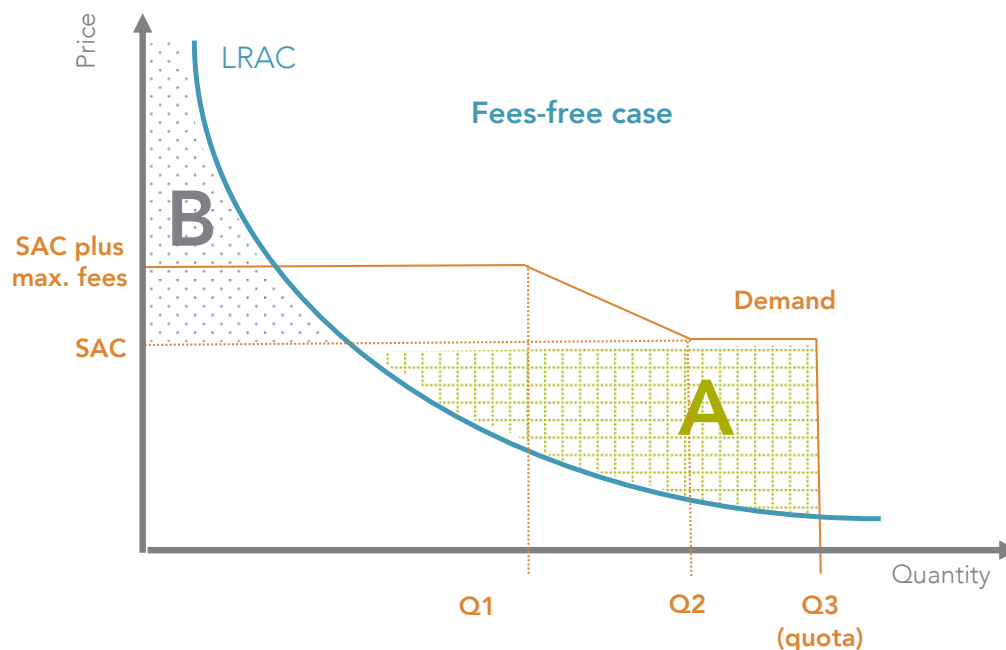
Most New Zealand universities and many other TEIs fit this case. They fill their yearly quotas and are financially viable. A provider in these circumstances cannot significantly increase its revenue through attracting extra domestic students, unless TEC increases its quota. However, the provider may compete to attract more able students (section 7.5).

Case 2: Provider unable to fill its quota with students paying the maximum fee

Figure 7.2 depicts the situation of a provider unable to fill its quota with students paying the maximum fee.

The provider seeks to maximise its surplus (revenue in area A less costs in area B). This involves making a choice between:

- charging full fees (and supplying Q_1);
- charging partial fees (and supplying the corresponding quantity between Q_2 and Q_1); or
- charging no fees (and supplying the quota Q_3).

Figure 7.2 A provider unable to fill its quota with students paying the maximum fee

Southern Institute of Technology appears to have chosen the third option (SIT, 2016b). Some providers offer scholarships that lower the effective fees paid by students. Such providers compete for revenue through competition for student enrolments. Independent Tertiary Institutions, a peak body for private training establishments (PTEs), submitted:

Competition for student enrolments (and the associated funding) is probably the largest influencer of provider behaviour. Look at the multi-million [dollar] university advertising campaigns (including two at the Wellington premiere of *Star Wars: The Force Awakens*), Zero Fees, education fairs, school visits, scholarships, pastoral care, and travel assistance.

When discussing this issue, ITI members have a saying – “always follow the money.” The money follows the student. In the last two years ITI members have noted an increase in what we would consider “inducements” to students, particularly from ITPs who are facing declining numbers. (sub. 81, p. 6)

Case 3: Students are expensive to attract or teach

Some providers face a different situation where the cost of attracting and teaching the marginal student offsets the economies of scale in teaching. This could occur, for example, with a programme such as Youth Guarantee, which provides foundation education for young people who are not in employment, education or training. Wellington Institute of Technology (WelTec) and Whitireia Community Polytechnic (Whitireia) submitted:

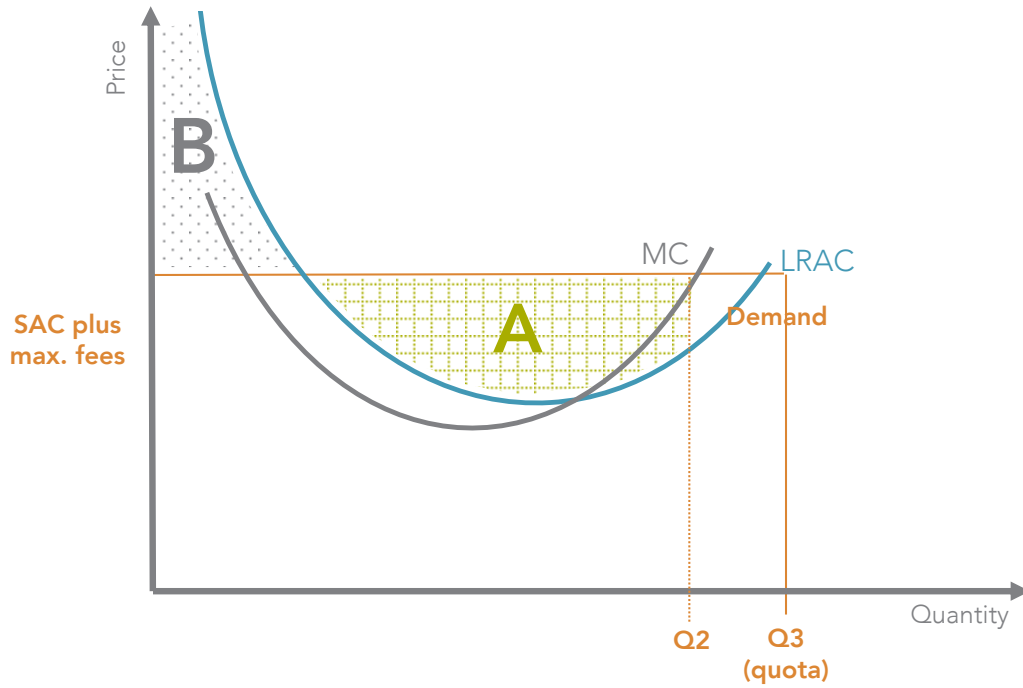
There is a significant amount of learner support required for learners for whom compulsory education has not worked. The levels of disengagement, disillusionment, literacy and numeracy needs, lack of confidence and life skills all require particular management and specialist support. (sub. 59, p. 18)

It may also occur where a provider calculates it is likely to face Performance-Linked Funding penalties for enrolling additional students who are relatively unlikely to pass the course or complete a qualification. These penalties apply to the whole fund, not student by student; so a provider can face a large net cost in enrolling a student who will tip the organisation from “just meeting” to “just below” the performance benchmark.

Such providers would appear to face a U-shaped cost-curve (Figure 7.3). If the costs of the marginal student (MC line) rise above the demand line (Youth Guarantee payments), then a surplus-maximising provider will limit its supply to Q_2 , even though its quota would allow them to enrol Q_3 students.⁵⁰ If Q_2 is less than 99% of Q_3 , then the provider will under-deliver on its TEC quota, and will have to repay funding. It may also receive a smaller quota in the next funding round.

⁵⁰ Youth Guarantee students pay no course fees.

Figure 7.3 A Youth Guarantee provider with a U-shaped cost curve

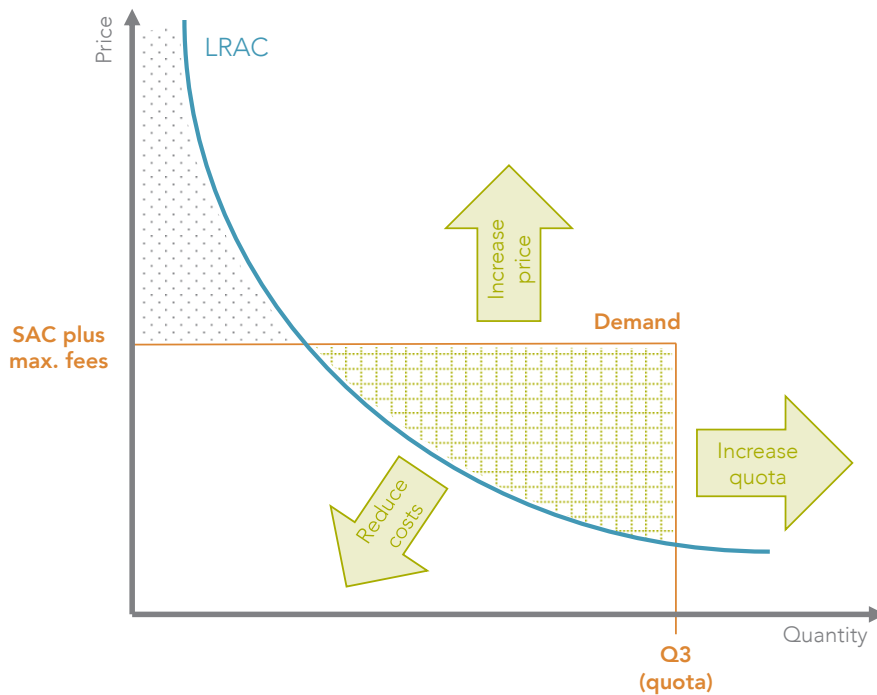


These cost structures could lead providers to be very careful about which programmes they offer and which students they accept.

Provider strategies for surplus maximisation

A provider is motivated to further its mission, and increasing its surplus creates discretionary funds, which can be applied to that mission.⁵¹ There are three general ways a provider can increase its surplus. Figure 7.4 illustrates these ways for a Case 1 provider.⁵²

Figure 7.4 Three ways for a Case 1 provider to increase its surplus



⁵¹ In the case of a for-profit provider, its mission could include returning funds to its owners.

⁵² Providers in Case 2 and Case 3 would unambiguously gain from government paying a higher SAC funding rate but they may not gain from government allowing them to charge higher fees. They would not necessarily gain from an increase in their quota.

Figure 7.4 shows that providers can attempt to increase their surpluses from the EFTS market by:

- increasing the price of an EFTS, through lobbying government for tuition subsidy increases or changes to fee regulation;
- increasing their quotas through lobbying government; or
- reducing their costs of production.

Lobbying features prominently in these strategies. This suggests that political considerations are an important factor, as is discussed further in section 7.7.

The second strategy, increasing the quota, may be attractive as it can be seen as a signal of success. Ed. Collective submitted:

In the absence of profits and losses (at least in the public system), the size of an institution has become a proxy for its success. A larger institution is, by definition, more successful than a smaller one. The same is true of the various departments within the institutions. (sub. 89, p. 28)

Walsh (2011) commented:

It is only as [New Zealand universities] shift from volume-driven funding to [Plan-based capped EFTS funding] that it has become apparent the degree to which academic practices have been driven by the expectation of plenty, and the manner in which volume driven funding profoundly affected institutional culture. (p. 4)

The third strategy, reducing the cost of production, can take many forms, and providers will select the form most consistent with their mission. Forms of cost-reduction include:

- changing the mix of products, for example by maximising delivery in higher-margin areas, or removing any non-essential elements of delivery (eg, non-essential engagement with employers);
- being more selective in student intake, avoiding students with higher learning needs, and retaining able students for as long as possible;
- avoiding Performance-Linked Funding penalties by allowing “borderline” students to pass rather than fail;
- exploiting economies of scale (within or across providers), such as by running larger classes or merging back-office functions;
- introducing cost-reducing innovations, such as buying “off-the-shelf” courses instead of designing them in-house, or changing the mix of full-time tenured academics and fixed-term, part-time adjunct faculty; or
- lobbying for special treatment.

Some of these strategies can have a negative effect on students, staff and the system as a whole (Chapter 8).

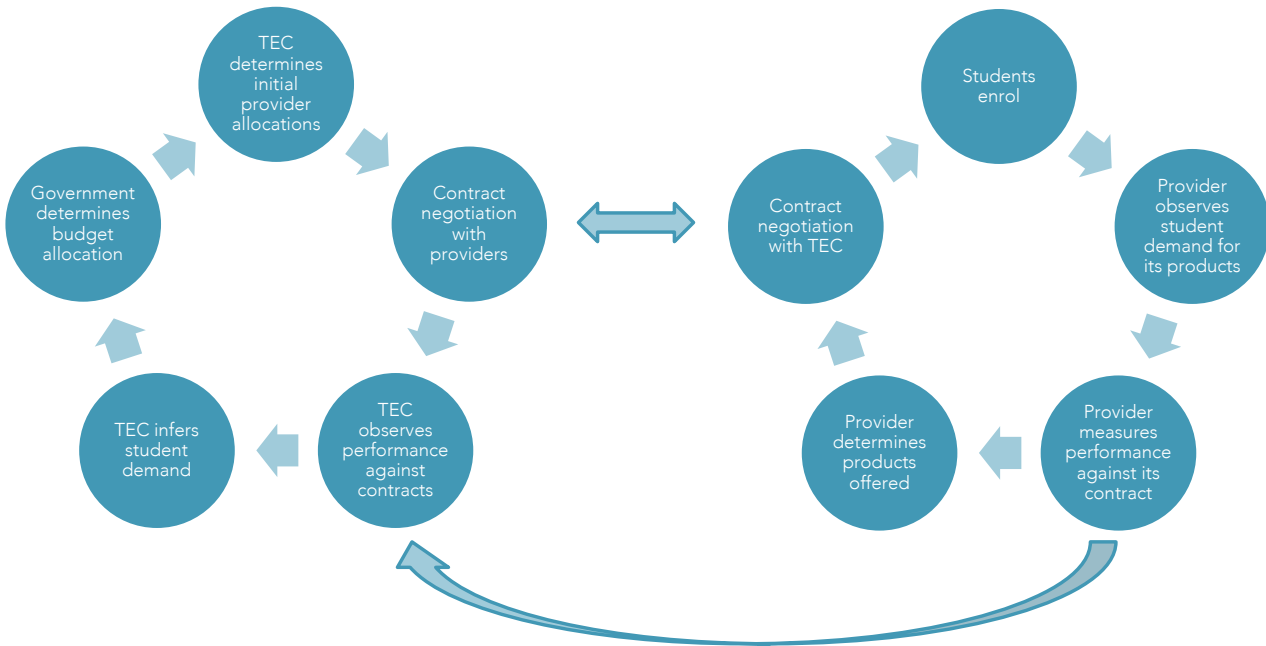
7.4 Supply management: meeting demand and shaping the products offered

Government agencies maintain that the number and allocation of funded EFTS is responsive both to student demand, and to government goals to do with educational quality and relevance. There is a necessary trade-off between these two, because demand from students does not always align with government assessments of the quality and relevance of providers’ offerings. TEC theoretically faces choices between which of these objectives it prioritises in making funding allocations to providers – but, in fact, it has little information about student demand.

Managing EFTS supply to meet student demand

Delivery of a funded EFTS requires two different series of transactions, which occur in different “markets”. In one market, TEC allocates EFTS to a provider; and in the other, students enrol at a provider and consume EFTS. Figure 7.5 depicts these two markets and their points of interaction.

Figure 7.5 Government allocates EFTS in one market, inferring the demand in a second market



Source: Productivity Commission

The Ministry of Education maintains that these series of transactions match supply to demand. For example, in 2015:

the number of government-funded (Student Achievement Component) equivalent full-time student (EFTS) places dropped to 223,000, around three percent lower than in 2014. The drop in funded places reflects the overall drop in participation in the tertiary education system. (MoE, 2016, p. 9)

The Ministry of Education produces annual “demand forecasts” for tertiary education. However, as described in Chapter 1, these actually forecast the number of places government must supply to continue to meet the demand that the tertiary education system currently meets.

Government observes places supplied and filled, not demand

Table 7.1 lists different types of demand, classified by the extent to which the tertiary education system served that demand.

Table 7.1 Demand served and unserved by the New Zealand tertiary education system

Demand fully served	Demand partly served	Unserved demand	Legitimate non-demand
Students enrolled in their first choice of provider and course	Students rejected from their preferred provider/course, but enrolled in a lower-order preference ¹	Students rejected from their preferred provider/course, who do not enrol in an alternative	Individuals who decide tertiary education is not suited for them
	Students unable to afford their preferred provider/course, but enrolled in a cheaper course	Individuals who find no provider/course suited to their requirements that they can afford	Individuals deferring tertiary education while they pursue more preferred activities (eg, work, family or leisure)

Demand fully served	Demand partly served	Unservd demand	Legitimate non-demand
	Students unable to meet the entry requirements for their preferred provider/course, but enrolled in a course for which they can meet the requirements ²	Individuals unable to meet the entry requirements for any of their provider/course preferences	Individuals deferring tertiary education while they learn more about themselves and refine their preferences
		Individuals who find no provider/course suited to their requirements, despite being willing to pay for such a course	
		Individuals purchasing education outside the government-funded system	
		Individuals travelling overseas to study	

Notes:

1. This classification implicitly assumes that individuals are fully informed in making their choices and weighing the relevant costs and benefits. Partly informed individuals may make choices that are not optimal for them and costly to change. The aggregate effects of partly informed choices are unclear. It could be, for example, that students not enrolling because they underestimated the private benefits (or over-estimated the costs) are balanced by those who do enrol because they over-estimated the benefits (or underestimated the costs).
2. There is a difference between a system that limits enrolment based on entry criteria related to student ability, and one that limits enrolment due to a supply constraint (ie, quotas). However, the two may be difficult to distinguish in practice. This table assumes that a student's first preference is for a course for which they have the requisite ability.

When TEC observes "demand", it is observing enrolments. This is the aggregate of the categories of student in the "demand fully served" and "demand partly served" columns. TEC does not collect the information required to make finer distinctions.

Similarly, when the Ministry of Education refers to "participation rates", it is comparing the number of people in the first two columns with the number in the other two. It does not have the information to make finer distinctions.

Providers do not have much more information. A provider may observe a student enrolling in a lower-order preference, but only if the student expressed their higher order preference to the same provider. Some providers may be collecting this information in a systematic way. However, the Commission is not aware of any provider publishing such information or sharing it with other system participants.

Similarly, providers observe domestic demand at the course fee regulated by government. This means they are unable to determine *price elasticity*; that is, how demand would respond to increases in price.

When TEC and the Ministry of Education provide statistics and analysis of "demand", they are describing *demand fully served* and *demand partly served*. This is misleading. A full concept of demand includes the third column, *unserved demand*. This is closely related to the concept of *latent demand* – demand that a supplier may be able to fulfil if they had a product at a lower price, or with different characteristics.⁵³

A funding system blind to these distinctions effectively defines student demand in terms of education delivered, so demand cannot exceed supply. A clear view of demand is crucial to understanding how markets evolve to better serve actual and potential customers (Box 7.3).

⁵³ In a marketing context, *latent demand* also refers to an opportunity to influence potential customers in favour of purchasing a product.

Box 7.3 Why demand is central to new models

Innovation in products and services is the norm across much of society, and everyone benefits over time. Customers (with varying preferences) create demand, and suppliers (with varying capabilities and goals) seek to fill this demand. In markets that reward suppliers for better serving customers and serving more customers, suppliers develop and experiment with “new models” of two broad types: those that expand the market to new customer groups, and those that reduce production costs. Competition between suppliers weeds out unsuccessful models and reinforces successful ones, and further expands the market by reducing the prices faced by customers.

Government asked the Commission to inquire into an apparent lack of such new models in New Zealand’s tertiary education market, particularly in the context of predicted trends including ongoing technological development, changing student and employer demand, and market internationalisation.

The Commission observes a poorly functioning market, in which supply is constrained and not well matched to student demand. The observed lack of new models is one symptom. Apparent cost and price inflation is another. A further consequence is limited participation – many New Zealanders are excluded or under-served.

Quality Tertiary Institutions (QTI) explained the consequences for students of missing out on their first preference of provider:

It is a serious issue when students have to go to their second (or worse) choice provider because the system is so inflexible. A senior manager at a QTI member says one of the worst parts of her job is “each year having to direct students to our rivals down the street because we are already full. I know we would provide a better education here if we got the chance.” (QTI, sub. DR156, p. 11)

F7.3

The agencies operating the tertiary education funding system observe student demand imperfectly. The funding system observes enrolments, but is largely blind to two types of demand:

- demand partly served, where students enrol in a course or with a provider that is not their first preference; and
- unserved (or latent) demand, where students would enrol if the right opportunity at the right price were available to them.

The funding system misclassifies the former as demand satisfied, and ignores the latter. Such a funding system effectively defines student demand in terms of education delivered, so demand cannot exceed supply.

Under-delivery and over-delivery

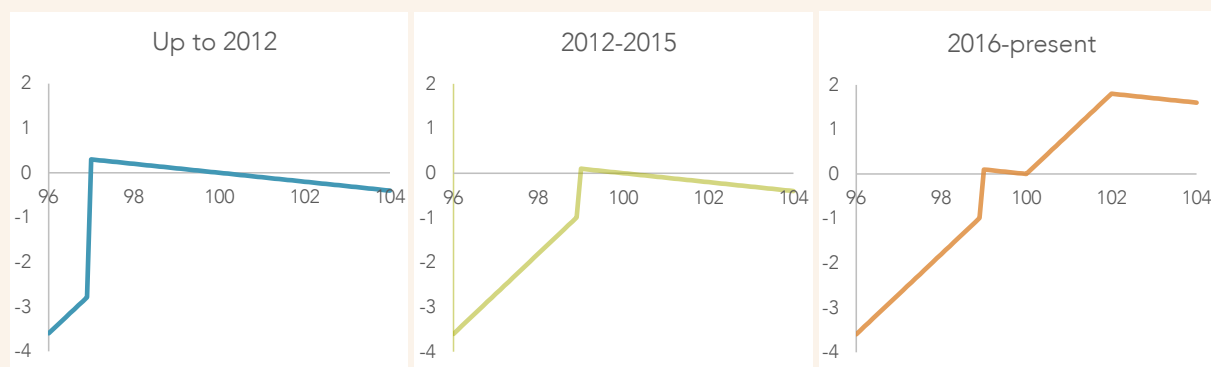
TEC contracts with providers for a certain dollar value of funded EFTS. It observes the dollar value of EFTS delivered versus the dollar value funded, and describes a shortfall as “under-delivery” and excess as “over-delivery”.

In the absence of other information, TEC regards under-delivery as supply exceeding demand, and over-delivery as demand exceeding supply. This information is unreliable, due to the design of the contracts (Box 7.4).

Box 7.4 Investment Plans are not designed so that they reveal accurate information

Providers' under- and over-delivery is affected by the complex payoff structure they face relative to the funded value of their Investment Plans. The rules surrounding these payoffs changed in 2012 and again in 2016. Figure 7.6 shows the provider payoffs under three sets of rules, given some reasonable assumptions about fees and marginal costs. A provider having agreed in its Investment Plan to supply a specific dollar value of EFTS would have maximised its profit by supplying 97% (until 2012), 99% (between 2013 and 2015) or 102% (from 2016) of its contracted dollar value. Notably, under none of these rules is the provider incentivised to deliver 100% of its contracted value of EFTS.

Figure 7.6 Modelled payoff structure for a provider delivering below and above agreed EFTS



Source: Productivity Commission.

Notes:

1. X axis is % of contracted value of EFTS delivered.
2. Y axis is profit relative to that achieved when delivering the contracted value of EFTS (nominally 100).
3. Profit modelled with SAC revenue of 1.0 units/EFTS, fee revenue of 0.3 units/EFTS and marginal cost of 0.4 units/EFTS.
4. The choice of a marginal cost larger than fee revenue appears justified (at least for TEIs) by the data shown in Figure 7.7. That Figure shows all TEIs delivering below the maximum permitted level (ie, 105%). Presumably, if marginal fee revenue exceeded marginal cost then all TEIs would aim to deliver at that maximum, and at least some would succeed.

This complex payoff structure means that a provider has incentives, after agreeing its Investment Plan with TEC, to aim for a different level of delivery than set out in the Investment Plan. If TEC takes those incentives into account when agreeing Investment Plans, then the value of EFTS agreed in Investment Plans may be an unreliable indicator of government's actual purchasing intent.

The potential for strategic behaviour by both providers and TEC makes under-delivery a less-than-ideal signal that the provider faced less-than-expected demand. Similarly, over-delivery is a less-than-ideal signal that the provider faces more-than-expected demand.

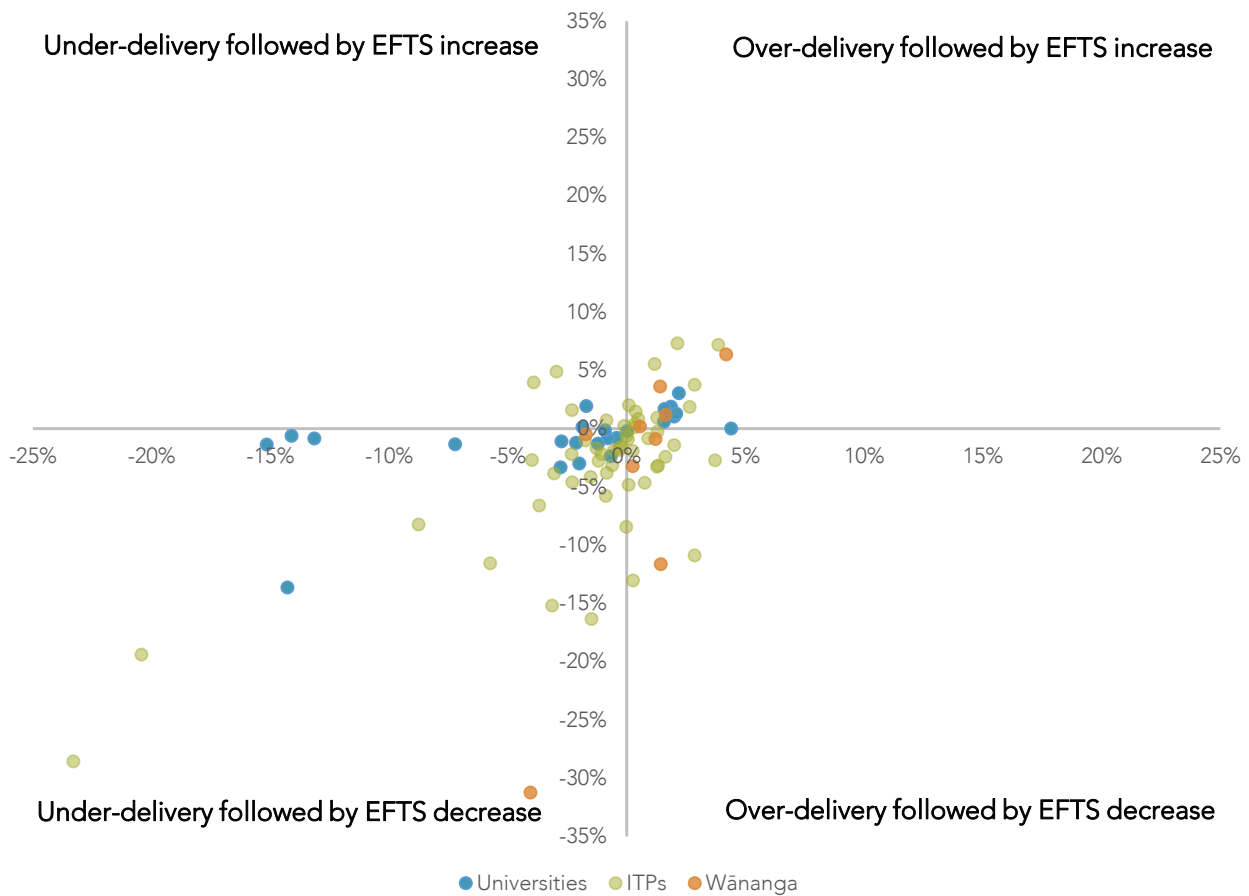
Better design could overcome these issues. A contract that maximised the provider's profit at 100% of contracted delivery, with a gradual symmetric drop either side of that peak, would provide more accurate information, and reduce opportunism and strategic gaming. Chapter 15 recommends a change along these lines.

Does under-and over-delivery influence EFTS allocations in subsequent years?

The Ministry of Education and Ministry of Business, Innovation and Employment submitted that "funding has overall followed changing patterns of demand" (sub. DR162, p. 21). The most plausible mechanism by which funding overall follows overall changing patterns of demand is that TEC adjusts providers' EFTS allocations following its observations of under- and/or over-delivery. The Commission analysed a TEC dataset to establish whether this has occurred.

Figure 7.7 shows the relationship between each TEI's under- or over-delivery in one calendar year and its EFTS allocations in the subsequent year.⁵⁴ If TEC's allocations responded reliably to a provider's past under- and over-delivery, then all data points should fall in the bottom left and top right quadrants. This is not the case in the data shown in Figure 7.7 and summarised in Table 7.2.

Figure 7.7 Funded EFTS changes in the year following under- or over-delivery, 2012–15



Source: Tertiary Education Commission; Productivity Commission.

Notes:

1. The graph shows TEIs only.
2. The graph plots three data points for each TEI, corresponding to the pairs of years 2012–13, 2013–14 and 2014–15.
3. The X-axis is "EFTS funded" less "EFTS delivered" in the base year.
4. The Y-axis is "EFTS funded" in the subsequent year less "EFTS funded" in the base year.
5. Providers are required to obtain special permission from TEC before over-delivering by more than 5%. This could explain why no TEI exceeded this limit.

Table 7.2 Counts of funded EFTS changes in the year following under- or over-delivery, 2012–15

Quadrant	Description	Datapoints	% of total
Upper left	Under-delivery followed by EFTS increase	7	8%
Upper right	Over-delivery followed by EFTS increase	22	25%
Lower right	Over-delivery followed by EFTS decrease	17	20%
Lower left	Under-delivery followed by EFTS decrease	41	47%

Source: Tertiary Education Commission; Productivity Commission

⁵⁴ TEC makes allocation decisions during one calendar year for the following year or (for some providers) the following two years. So TEC makes its decisions well before it knows actual delivery numbers for the current year. This suggests that allocation responses could be delayed beyond one year. However, the Commission's analysis of two- and three-year responses found a significantly weaker relationship than the one-year responses presented here.

It is possible, perhaps likely, that there is a story behind the 24 data points in the upper left and lower right quadrants (ie, data points where a TEI has over-delivered then received a smaller subsequent allocation, or under-delivered then received a larger one).⁵⁵ However, to the extent the data represent an aggregate of special cases, they undermine any suggestion of a reliable allocation response to under- and over-delivery.

The data in Figure 7.7 weakly support the proposition that TEC responds to under-delivery, but not over-delivery, as there are fewer data points in the top-left quadrant than in the bottom-right quadrant. Clearly though, factors other than delivery against funded EFTS contribute to TEC's allocation decisions.

Providers develop their own understandings of how the system "works". Generally speaking, it is costly for them to under- and over-deliver on their contractual commitments.⁵⁶ If providers doubt a reward in a future period for a cost incurred in the current period, they will be reluctant to incur such a cost.

F7.4

A provider's under- and over-delivery of EFTS has relatively little effect on its future EFTS allocations. Policy and provider-specific factors are more important.

Does aggregate under-and over-delivery influence aggregate Budget allocations?

Budget allocation at the aggregate level (ie, Vote Tertiary Education) is not directly responsive to fluctuations in student demand. That is, tertiary education spending is adjusted to fit the Budget allocation, rather than the Budget adjusted to fit demand. Budget allocations are influenced by political priorities, and competing demands on public finances.

Policy settings (eg, fee levels) affect what demand is visible, and these settings are influenced by fiscal pressures. Budget allocations and policy settings are co-determined, rather than independent.

F7.5

Tertiary education Budget allocations ultimately determine provider revenues. However, Budget allocations are not directly responsive to fluctuations in student demand. Rather they are influenced by political priorities, and competing demands on public finances.

Reliable and unreliable symptoms of supply–demand mismatches

In the absence of good information about demand, including latent demand, government agencies risk using less-than-reliable information in their decision making. Table 7.3 lists some symptoms that supply exceeds demand in the tertiary education system as reported to the Commission, alongside reasons why each symptom may be unreliable.

Table 7.3 Unreliable symptoms that demand exceeds supply

Reported symptom	Reason why symptom may be unreliable
TEC does not spend its entire budget allocation.	This could indicate administrative inefficiencies; eg, an inability to move money between Budget categories without a Cabinet decision.
Providers do not deliver their entire EFTS allocation.	Under current system settings, many providers can make higher profits delivering less than their entire allocation. Also, government price controls may mean a provider's marginal revenue is less than their marginal cost (see Case 3 in section 7.3).
Supply-side interventions to expand supply for particular fields do not stimulate demand.	Demand-side interventions (eg, student scholarships) are required if the underlying issue is students' willingness to pay.

⁵⁵ No doubt, a small number of data points can be explained by government's decisions to maintain revenue for TEIs that experienced a downturn in enrolments following the Canterbury earthquakes.

⁵⁶ The costs involved depend on the specific contractual arrangements and the marginal costs and revenues of the provider. See also Appendix B.

Reported symptom	Reason why symptom may be unreliable
Providers advertise to attract students.	Providers may be advertising to attract students with particular characteristics, rather than to increase student numbers.

Source: Productivity Commission.

Other symptoms should be more reliable as indicators. If supply exceeded demand, then the following symptoms should be prevalent:

- providers accepting all applicants;
- providers lowering their fees to attract additional students (including by offering scholarships);
- low course failure rates, as providers seek to retain marginal students; and
- providers consistently delivering fewer EFTS than the quantity that would maximise their profits; and

Conversely, if demand exceeded supply, then the following symptoms should be prevalent:

- lower levels of participation by students with the lowest willingness to pay (ie, rationing by price);
- providers raising entry criteria, and/or some students not getting into their preferred course or provider (ie, rationing by quantity); and
- providers seeking to raise fees.

At the current time, the second set of symptoms is more prevalent. Accordingly, the Commission is of the view that demand exceeds supply in the tertiary education system. The system is, in effect, rationing tertiary education.

F7.6

The balance of evidence supports the view that demand exceeds supply in the tertiary education system. The system rations education, by price, by quantity and by product.

7.5 Competition for domestic students

Monopolistic competition

The market structure for tertiary education can be characterised as consisting of providers in monopolistic competition with one another. As government regulates prices for domestic students, providers' main means of differentiating themselves and competing for these students are via attributes such as quality, location and brand. While the products on offer at different providers are relatively homogenous in many respects, they are not perfect substitutes – especially as regards location.

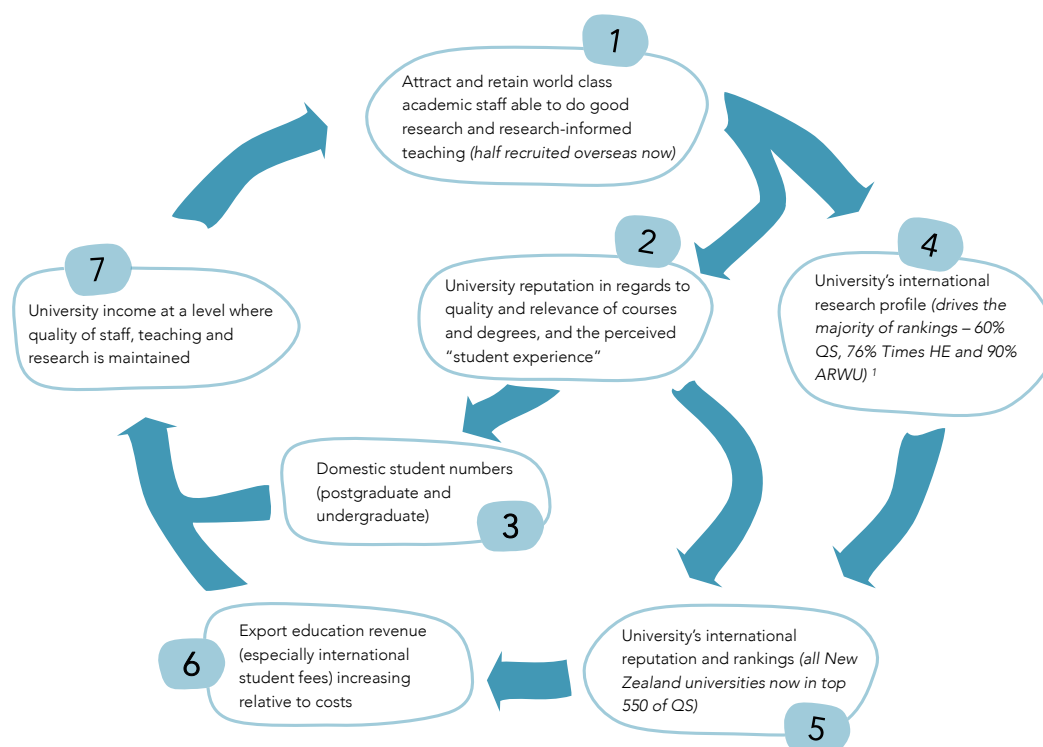
This differentiation gives each provider a degree of market power. For example, in a town with a single tertiary provider (differentiation by location), that provider could offer a lower-quality service to resident students. However, such market power is limited by the ability of some students to move, or to study by distance. Similarly, if the provider wishes to attract students from elsewhere, it may have to lower price (or lift quality) to match that of providers in other locations. Competition for domestic students is limited by EFTS quotas, and is strongest where providers struggle to fill their quotas.

Universities compete with one another for TEC quotas

Universities New Zealand (2014) provided the Commission with a business model that it suggests operates in New Zealand universities (Figure 7.8). In this model, an improving university reputation, as reflected in international rankings, drives an increase in international student numbers on which the university makes a significant profit margin. Increased income allows a university to attract and retain high-quality academic staff (who drive teaching and research performance), and larger numbers of domestic students. Improved

performance – particularly research performance – lifts a university’s reputation and international rankings. The university’s purpose appears to be wholly internal to the institution (Box 7.5).

Figure 7.8 Business model of New Zealand universities



Source: UNZ, 2016b.

Notes:

1. QS, Times HE and ARWU are yearly publications of university rankings by (respectively) Quacquarelli Symonds, *Times Higher Education* magazine, and the Shanghai Ranking Consultancy (which publishes the Academic Ranking of World Universities (ARWU)).
2. Continuous growth in domestic [3] and international [6] student numbers are required to fund [7] ongoing increases in the costs of recruiting and retaining high-quality academic staff [1], maintaining and improving each university’s reputation and positioning in international rankings [4, 5], and in delivering a quality student experience on and off campus [2].

Box 7.5 Who or what are universities for, in the Universities New Zealand business model?

The Universities New Zealand business model is “deliberately circular and self-reinforcing and is based on maintaining brand, reputation and scale” (UNZ, sub. 17, p. 26). This is presumably because brand, reputation and scale matter to a university’s mission of advancing human knowledge; but neither this value proposition nor its customer are visible in the model itself. The visible customers (domestic and international students) are framed as a means to a university-centric end.

Ed. Collective submitted critically on this:

The business model published by Universities New Zealand is a good characterization of how things are, including the conspicuous absence of any real emphasis on learners, their experience or achievement of the life goals their education is intended to support. Far more emphasis is placed on securing the good opinion of the rest of the academy, rather than their own learners. (sub. 89, p. 28)

Another submission asked:

We wonder whether the individual universities would agree with the Universities New Zealand business model. There is nothing here about achieving the purpose of universities as described in the Education Act; rather, the emphasis is on rankings and supplementing income by ‘export education’, which some may consider essentially peripheral activities to core business. (Davies, Mabin & Hodder, sub. 100, p. 3)

In the Universities New Zealand model, domestic student numbers are driven by a university's reputation for providing quality, relevance, and a good student experience. In other words, universities compete with one another for domestic students on the basis of their reputations. Universities New Zealand's submission stated that "the majority of students appear to make choices about what they study and where they study based on what they think will demonstrate they are smarter, more hard working and employable to future employers" (UNZ, sub. 17, p. 24).

This is likely true at the margins, and for providers unable to fill their quotas. However, the number of school leavers enrolling at any given university is heavily influenced by geography (Chapter 3), and quotas are set centrally by TEC based on historical patterns rather than latent student demand (Chapter 5). As far as domestic student revenue is concerned, therefore, geography and a university's reputation with TEC are more important determinants than student choice. Universities New Zealand noted in its submission that a university wanting to grow must sell its value proposition not only to prospective students but also to TEC:

The TEC has the ultimate say on whether it will fund the programmes established by a university. In addition to demonstrating the value of a particular programme to a student, the university must also demonstrate it to the satisfaction of the TEC. (UNZ, sub. 17, p. 29)

Having said that, universities may be competing not just on student quantity at the margins, but also on student quality. This includes competition for the "best and brightest" students who are likely to be cheaper and easier to teach, and more likely to boost the reputation of the university after graduation (Steindl, 1990).

Universities compete with offshore institutions

Universities in New Zealand compete with overseas universities for top students (Chapter 3). For example, the Australian National University in Canberra told the Commission it routinely makes conditional scholarship offers to New Zealand school leavers before NCEA results are released, while New Zealand universities tend to wait until results are available. This means that domestic universities miss out on some of the top students. The Commission heard that, of the top 20 school leavers from a prestigious Auckland school in 2015, only three are studying at New Zealand universities. The other 17 are studying at universities overseas.

ITPs compete with one another for TEC quotas

ITPs compete with one another for funding from TEC. As with universities, this competition is managed by TEC, rather than being the outcome of student decisions.

TEC prohibits institutions of technology and polytechnics (ITPs) from delivering provision outside their home region unless it is "niche" provision (ie, something not offered by other ITPs). TEC expects an ITP to get the consent of any other ITP in whose region it wants to deliver (including ITPs located close to one another in Auckland).

ITPs compete with PTEs for foundation-level SAC and Youth Guarantee

TEC allocates a portion of SAC levels 1–2 funding (which must be offered fees-free to students) based on competitive tenders from providers, who bid variable prices according to their cost structures. PTEs have tended to under-bid ITPs in low-cost, low-overhead areas of provision. ITPs have retained most higher-cost foundation delivery, paid at a government-set SAC tuition subsidy rate. Yet ITPs are no longer able to cross-subsidise this higher-cost delivery from the lower-cost delivery. The Commission heard this presents a financial challenge for some ITPs. This challenge may increase now that all SAC-funded agriculture and horticulture provision at levels 3 and 4 will be allocated via competitive tender (Chapter 5).

ITPs compete with PTEs and ITOs for vocational education and training at certificate and diploma level

The Commission did not hear much about competition between PTEs and ITPs for vocational provision, but would anticipate it varies depending on location and scale. ITPs report that they are obliged (morally, or by policy or funding requirements) to deliver in fields or locations where delivery is not profitable at the available price. In these cases, ITPs will face no competition from PTEs unless the PTE has a different cost structure. Intense competition may occur in fields or locations with more students.

ITP competition with industry training organisations (ITOs) is discussed in Chapter 4.

Sometimes, rather than competing for EFTS, providers enter into a subcontracting arrangement (Box 7.6).

Box 7.6 **Subcontracting, mergers and acquisitions**

Subcontracting arrangements between providers (eg, an ITP subcontracting a PTE to deliver a particular course in a regional location) can have benefits for multiple parties. For example, they allow the subcontracting party to:

- consume EFTS within its cap that it may not be otherwise able to use, while retaining a portion (reportedly up to a third) of the TEC subsidy;
- offer provision in fields or locations that might not be economic to service directly; and
- create pathways into its core provision for a larger geographic catchment of students.

The subcontracted party gets access to funding that it has not been able to access directly (though at a reduced rate than if the EFTS were directly allocated by TEC). This access to funding allows the subcontracted party to enter a market or increase its market share.

Subcontracting arrangements must be registered with, and approved by, TEC. They carry risks as well as benefits for providers. In future funding rounds, TEC could decide to purchase the provision directly from the subcontracted party, cutting out the “middle man” and creating a winner and loser in terms of market share. Alternatively, TEC could decide to disallow the subcontracting arrangement, so that the owner of the EFTS would have to either:

- deliver the provision directly, which could be uneconomic, or a poor fit for provider expertise or culture; or
- withdraw from the delivery. This could reduce student access and choice, and require staff redundancies, both of which can be costly in terms of a provider’s reputation with its staff, students, local community and TEC.

Purchasing or merging with another provider with an existing TEC quota is an alternative means for a provider to gain a foothold in the market, to increase its EFTS quota, or to lower costs through greater scale. Most commonly, PTEs purchase or merge with other PTEs. ITPs have also merged in the last few years. In the case of PTEs, TEC does not guarantee that a PTE will retain its quota when it changes ownership. So this strategy carries risk.

ITPs compete with universities for professional education at diploma and degree level

ITPs and universities are keen to emphasise the distinctive nature of the degree-level education they each provide. However, over time, universities have shifted into both the subject areas (eg, nursing) and delivery approaches (eg, project-based learning and in-study work placements) that were previously the province of ITPs (Chapter 6).

Beddie (2014) noted that, in Australia:

[as a result of academic drift since the 1960s, Australian technical] colleges came to look more like universities, while TAFE institutions were pressed — until the last decade — to relinquish their paraprofessional education. (p. 22)

For some vocational degree qualifications, students must study at a university (eg, for a Doctor of Medicine) but, in other cases, students can choose between a university or an ITP (eg, a Bachelor of Nursing, or a Bachelor of Business). Because ITPs have traditionally been regarded as a second choice (Chapter 6), universities tend to out-compete them in attracting the most able students.

ITPs and PTEs compete with schools

Senior secondary school students aged 16 and over can choose to attain their NCEA level 2 or 3 qualification either wholly at school or wholly at a tertiary provider, or via a secondary-tertiary programme that contains elements of both. ITPs and PTEs compete with schools for these students.

The competition was sharpened in 2011 when the Ministry of Education started to calculate the roll-based funding of schools quarterly rather than at the start of the year. This meant that schools lost funding if a student unenrolled part-way through the year. This created new incentives for schools to retain students – and to discourage them from leaving school to enter tertiary study.

PTEs and ITPs both report this has created tension in their conversations with schools about improved school–tertiary pathways. WelTec and Whitireia commented in their submission:

While we all appreciate a learner cannot be funded twice for the same hours of contact – both through compulsory education funding and tertiary funding – it does make it hard for schools making choices to release students to the tertiary provider and potentially lose funding as a result. (sub. 59, p. 14)

ITP attitudes to competition

The ITPs submitted to the inquiry that they welcome the fact they operate in a highly competitive market, but are frustrated by constraints on their ability to compete effectively:

Not only are we, to an extent, competing with each other, we compete with multiple private providers and, in some ways, with the Industry Training Organisations. This is a good thing. It makes us better operators and encourages innovation. Unfortunately not all the sector is open to such competition. And because of the heavy hand of Government we are not able to respond fully to competitive pressures. ... [Constraints] include the impacts of fee caps, our ability to specialize and operate outside of our home geographies, the impact of the incredibly slow NZQA approvals process ... [and] a TEO's ability to make decisions around capital funding and give them autonomy to act without reference to central Government. If competitive bidding is to continue then Crown owned institutions must be given the latitude to manage their revenues and costs more effectively. (New Zealand ITP subsector, DR127, p. 3)

Competition within providers

The Commission heard that some TEIs operate an “internal economy” within their institutions, requiring departments to compete with one another for shares of the provider’s overall EFTS quota. A discussion forum initiated by Sainudiin (sub. 74) described the situation at a university, where competition for EFTS occurs between departments within a college, and between colleges within the overall university. A forum contributor argued that this competitive approach disincentivises cross-university collaborations and results in wasteful duplication.

Providers compete to gain government funding – or the other way around?

Methodist Mission Southern noted that competition for students exists not only between providers, but also between funders, with implications for PTEs:

[I]t is not just providers that compete. Funders do too. In the case of Work & Income’s Training for Work and Skills for Industry courses, not all of which have been provided by trainers who are NZQA registered and accredited, W&I are effectively competing with ITOs and TEC funded providers.

... [Work & Income] (and their sub-contracted off-shoot, Youth Services) have considerable power as a referral mechanism in the supply chain of foundation education students, [so] any decision by [W&I] or Youth Services to prefer their own product, or to prioritise part-time and marginal income work rather than training, has a significant impact on the market.

Where there has been contracting of non-NZQA providers, funders have effectively undercut the price point of providers who have had to bear the cost of NZQA registration, accreditation, and [External Evaluation and Review]. (sub. 5, pp. 2–3)

7.6 Other markets

This section briefly describes the market for teaching and learning that TEC does not fund. This market includes international students and domestic user-pays provision. This section also describes other markets

that tertiary providers may operate in, including student accommodation, research and consultancy, and philanthropic donations. Providers also supply skills to the labour market (Chapter 4), and many compete in a “market” for academic staff and reputation (especially research reputation) (Chapter 6).

The domestic and international market that TEC does not fund comprises some PTEs (eg, those specialising in English-language provision or professional development) and user-pays ACE, including some delivery at TEIs. Some parts of this market are regulated by government as tertiary education. For example, a provider must be registered with the New Zealand Qualifications Authority (NZQA) if it wishes to award New Zealand qualifications or enrol international students travelling on student visas. Other parts operate under the same regulatory framework as any other business.

International students

International students below doctorate level attract no tuition subsidy funding, and there is no regulatory limit on the fees a provider can charge these students. Where providers offer places on courses also offered to domestic students, the provider faces only the marginal cost of an extra student. This means that delivering international education is potentially very profitable for providers, and such providers have incentives to enrol as many international students as is compatible with their brand and mission.

This creates incentives for providers to:

- pursue international rankings (Chapter 6);
- maintain NZQA Category One status to access the most favourable visa entitlements (Chapter 5); and
- deliver products and services that international students want buy.⁵⁷

New Zealand tertiary education providers face competition for international students from overseas providers, including those in the student’s home country. Providers compete for international students in a market where the interaction of supply and demand sets price and quantity for different quality products.

A provider may choose to limit its international enrolments below the level of demand in some circumstances.

- If a provider markets itself onshore or offshore on the basis that it is exclusive and accepts only the best students, it will need to manage its international enrolments in a way that is visibly consistent with this claim.
- The larger a provider’s international student body (especially if dominated by students from a single country), the more potential for international students to interact primarily with one another, rather than with domestic students. Providers who want to assure international students an immersive English-speaking experience on campus may need to limit their international student numbers accordingly.
- A large international student body changes the nature of the domestic student experience, and the look and feel of the provider. While some providers embrace this, others limit international enrolments to maintain a “Kiwi culture” on campus.

The Commission has observed, that in general, New Zealand universities pursue international enrolments less energetically than do their Australian counterparts. Australian universities face more competition. Australian universities see international student delivery as crucial to secure their financial future in an environment where policy changes can lead to large fluctuations in revenue.

Domestic user-pays provision

A proportion of domestic delivery is user-pays rather than TEC-funded. This includes some ACE provision (eg, “personal interest” courses principally aimed at educated adults), as well as professional or personal development. It also includes provider-based Recognition of Prior Learning (Chapter 4).

⁵⁷ For example, NZQA and the Committee on University Academic Programmes (CUAP) began to approve 180-credit Master’s degrees (instead of the usual 240 credits) from 2013 specifically to grow international student enrolments at this level.

Providers have incentives to do as much of this business as they profitably can, and to be responsive to their customer's needs and preferences in terms of content design and delivery. The customer may be a student or sometimes (eg, for professional development) an employer. For ACE provision, the direct customer may be local government or a community group (eg, a Rotary or Lions club) that has moved in to fill the gap left by withdrawn TEC funding, subsidising the provision as a community good.

One constraint on student demand in this market is that students may struggle to access finance to meet the upfront costs of study (as student loans are only available to those enrolled on TEC-funded courses). Chapter 15 proposes a solution.

Student accommodation

Student accommodation is highly capital-intensive. TEIs have business advantages over potential competitors in this market as they can offer a bundled product (ie, education plus accommodation), and have access to finance at low rates (Chapter 8).

Student accommodation is an expanding business line for universities in particular. For example, in late 2015, the University of Auckland announced it was increasing its student accommodation by about 25% (about 600 beds) over the next two years:

This investment in mostly apartment-style accommodation reflects a trend for more university students to seek rooms in a University residence rather than find a flat in a suburb beyond their first year. (University of Auckland, 2015)

In June 2016, Victoria University of Wellington (VUW) announced it was building a new 300-bed hall of residence, bringing the number of its student accommodation beds to around 3 300 across 12 halls, reflecting "steadily increasing demand from students" (VUW, 2016b).

Contestable funding for research

Providers compete for research funding from government. Multiple agencies offer contestable funding, including TEC, the Ministry of Business, Innovation and Employment, Callaghan Innovation, the Royal Society of New Zealand, and the Health Research Council. Universities New Zealand noted:

According to the biennial research and development (R&D) survey conducted by Statistics New Zealand, universities account for 30% of research activity in New Zealand, which in turn generates around 25% of total university income. (sub. 17, p. 69)

Most contestable research funding is granted for a specific purpose, or to develop capability in a specific area. This is in contrast to the PBRF, which is awarded competitively based on research quality, but which the provider can use for any purpose (including activities unrelated to research).

Research commercialisation and consulting

Despite a few standout exceptions (eg, the Massachusetts Institute of Technology in the United States), commercialisation of research is a minor activity for most tertiary institutions worldwide. This also appears to be the case in New Zealand. According to TEI accounts, research commercialisation and consulting provide a small proportion of their overall revenue.⁵⁸

The market for donations

Philanthropic funding is not a large revenue source for most New Zealand providers. An examination of university annual reports for 2015 shows that donations and trust income comprised between 0.02% and 3% of total revenue, averaging around 1%.

However, some providers have received significant donations attached to particular facilities, such as VUW's International Institute of Modern Letters (supported by United States philanthropist Glenn Schaeffer), and its Adam Art Gallery and Adam Concert Room (supported by local philanthropists Denis and Verna Adam).

⁵⁸ "Other research-derived income" (ie, not funded by foundations, TEC or other government agencies) was 2.1% of total TEI income in 2015. However, this average is uninformative, as the University of Auckland earned the majority of such income (8.8% of its total income). The proportion was between 0% and 1% for other TEIs, excepting VUW at 1.7%.

Interactions between markets

Providers constrained in one market may choose to increase supply in a less constrained market. For example, many providers look to increased numbers of fee-paying international students as a source of increased revenue. Submissions from Ako Aotearoa and the Tertiary Education Union (TEU) discussed the relationship between domestic and international student markets:

We firmly believe that increasing internationalisation is a positive element of New Zealand's education system, but we do accept the associated risks outlined on p69 and the ethical dimension noted on p68 relating to the purpose of the education system (although this dimension is more relevant to public institutions than the PTE sector). In our view, these dangers become significant only if large parts of the system – particularly TEIs – become reliant on international income to remain viable. We are, however, aware of concerns in the tertiary sector that we may be approaching or are already at this point. (Ako Aotearoa, sub. 58, p. 20)

Another effect of underfunding is the political decision to force institutions to supplement public funding with revenue from international student enrolments... [This] has left the sector exposed to the vagaries of global influences, while not actually fundamentally addressing the issue of declining public funding for the sector. (TEU, sub. 83, p. 30)

However, as noted earlier in this chapter, New Zealand providers have not chased the international student market as vigorously as their Australian counterparts.

Providers facing limits on differentiation in one market can sometimes differentiate in another linked market. For example, because providers are constrained in how they can differentiate themselves on the price of their educational services, they might instead aim to differentiate themselves on the quality or diversity of their student accommodation.

Some educational delivery moves between markets as government funding policy changes, and providers respond in accordance with their mission and cost/revenue structures. For example, the types of ACE provision eligible for TEC funding reduced in 2008, and again in 2011. Some ACE providers (eg, SeniorNet) chose to maintain provision no longer funded by TEC, through cross-subsidising with funded provision, charging fees, running smaller courses, relying on volunteer labour, or finding other sources of revenue including philanthropic or community funding. Other ACE providers reduced their provision to deliver mainly, or only, what TEC still funded.

7.7 Government's incentives and constraints

Government faces financial and political constraints

Providers have three main means of increasing their surplus: a higher price, a larger quota, or lower costs (section 7.3). The first two involve lobbying the government.

- Increasing EFTS tuition subsidy rates is a direct cost to government.
- Allowing increases in the fees cap is an indirect cost. Most students will borrow more to cover the increased fees, and government provides a substantial subsidy to Student Loan Scheme participants.
- Increasing overall quotas is both a direct and indirect cost to government, through subsidies and student loans respectively.

All are expensive for government. Faced with these financial consequences, government may prefer providers to reduce costs. However, pushing them to do so is not a soft option for government. In common with other social services, education programmes are often assessed in the political arena in terms of budgetary commitments (ie, dollars spent), rather than in terms of the outcomes achieved (even though dollars spent may bear little relation to actual outcomes) (NZPC, 2015). This makes it politically difficult for government to push down the prices it pays to providers, as the public may take this to represent a lack of commitment to education.

These dynamics place relatively little pressure on TEI managers to reduce their costs (Chapter 8).

Government is also sensitive to the politics of higher student fees and of rationing student places via quotas. It is therefore constrained fiscally and politically on all sides. Funding settings over the last decade (ie, very small changes in TEI quotas; small or tightly targeted increases in EFTS tuition subsidy rates; and small increases in permissible fees) suggest that the political consequences of small increases in costs and prices are more acceptable than other types of change, especially those affecting TEIs.

Tertiary education institutions, especially universities, are powerful lobbyists

Universities, in particular, are a powerful lobby group. They have managed to secure significant advantages, some of which have been enshrined in legislation.

New Zealand TEIs, especially the universities and their academics, have status in society and can be powerful voices in public debates. The majority of politicians and public servants are tertiary educated, and many have ties back to the institutions they attended. This has many positive consequences. However, TEIs are autonomous and can thus exercise choice over how they use their status and influence. Misuse to create and entrench privileges for TEIs could be to the detriment of students, employers and the economy, or wider New Zealand society.

Market regulation sustains institutions rather than getting the best for students

Market regulation describes the regulation that government uses to control market power and limit monopoly profits. The desired effects of market regulation are to lower prices, improve quality, and encourage innovation – for the benefit of current and potential consumers. In essence, market regulation seeks to make incumbent suppliers act as if they were subject to current and possible future competition.

In New Zealand, the Commerce Commission is most commonly responsible for market regulation. It oversees implementation of the Commerce Act 1986, which applies to all markets except those specifically exempted. The Commerce Commission implements additional regulation in some specific markets – particularly those where industry cost structures lead to a small number of suppliers and make further market entry unlikely. Examples include airports, electricity distribution, and gas pipelines.

Service suppliers – such as education providers – in domestically isolated markets often face light competitive pressure. This reduces the usual competitive discipline on cost, efficiency and customer orientation. In the TEC-funded market for EFTS:

- many providers face light competitive pressure;
- parts of the market are specifically designed so that TEIs act as a statutory cartel;⁵⁹
- new universities, ITPs and wānanga are effectively prohibited; and
- the market power of TEIs is an established part of the system.

In short, the market as designed is effective at sustaining incumbent suppliers. Government's market regulation contributes to, rather than reduces, the market power of providers, with consequences for consumers (ie, students and prospective students).

Government is not as constrained in how it treats PTEs and Community Education Providers

Most PTEs and Community Education Providers lack the political power of TEIs and are arguably more vulnerable to adverse TEC-funding decisions. Independent Tertiary Institutions submitted:

A PTE can fail utterly and the Government will let it. ... The game is a lot more real for PTEs without a Government safety net. (sub. 81, p. 4)

⁵⁹ This includes CUAP, which would likely be an illegal collaboration arrangement under the Commerce Act 1986 were it not authorised in the Education Act 1989. Chapter 14 further discusses these issues.

Another PTE told the Commission of the stress of living with the knowledge that “a stroke of a pen in Wellington” could cause its business to vanish overnight. ACE Aotearoa noted that ACE funding expands and contracts with government policy and funding, and that “when [government] resources are scarce, there is a very high likelihood that priority will be given to learners who are ready to enter formal institutions” rather than to ACE clients (sub. 32, p. 3).

The effect of government policy and regulation

BusinessNZ summed up this situation:

Funding and accountability policy currently provide limited incentives for improved performance, efficiency and responsiveness to priorities. Incentives, regulations, and accountability mechanisms are often misaligned. Regulations are not very flexible or durable; often lack transparency and predictability; and the capability of the regulators is mixed. All of this is compounded by the fragmented way the system and subsectors are administered. (sub. 77, p. 2)

Chapter 8 explores the implications for providers, domestic students, employers, system efficiency, and innovation.

8 The implications of the incentives in tertiary education system settings

Key points

- The incentives inherent in tertiary education system settings, especially in the market for equivalent full-time students (EFTS), have implications for the behaviour of providers, domestic students and employers, and for system efficiency and innovation.
- There is a mismatch between the incentives on provider behaviour and government's stated goals.
- Students choose between relatively homogenous offerings, increasingly aimed at school leavers.
- The Tertiary Education Commission (TEC) requires public providers to produce financial surpluses. Providers have incentives to keep these small, so as not to weaken their case for funding increases.
- The system incentivises providers to meet minimum acceptable standards, but does not reward providers for better quality or responsiveness to students. The system does not measure unserved or partly served demand, and supply does not readily adjust to meet demand.
- The system disincentivises providers from enrolling those students who need the most help with their study.
- Unless the employer is paying for education or training, and has the option of taking their business elsewhere, tertiary providers face weak incentives to respond to employers' needs.
- Productivity improvement in the tertiary education system is hampered by low levels of reallocation of funded student volume and revenue between providers.
- The tertiary education system maintains high cost structures because of providers' market power, and because government requires every tertiary education institution (TEI) to make a surplus.
- There is significant dispersion in labour productivity across TEIs, and even larger dispersion in capital productivity. Such dispersions generally indicate weak pressure to improve and, on the other hand, significant improvement opportunities for the worst-performing institutions.
- Quality control arrangements discourage innovation, as do barriers to new entrants.
- Where innovation does occur at scale across the system, it tends to be top-down (driven by government) rather than bottom-up (initiated by providers).
- The tertiary education system has high political and financial risks for government. Government seeks to control these risks through top-down control of providers, with more prescription, less trust and less autonomy. This results in less diversity, flexibility and innovation.
- There is "considerable inertia" in the New Zealand tertiary education system. This inertia is an emergent property of the system, rather than a characteristic specific to providers.

Tertiary education system settings influence the behaviour of system participants. This chapter primarily focuses on the incentives inherent in TEC-funded domestic tertiary provision, as described in Chapter 7. This chapter examines the implication of those system settings for providers, domestic students, system efficiency, employers, and innovation.

Incentives matter a lot because they are strong influences on behaviour, even though they do not completely determine behaviour (Box 8.1).

Box 8.1 Incentives influence, but do not completely determine, behaviour

This chapter identifies the incentives on participants created by the general and specific features of the market for EFTS. *Incentives*, in this context, refers to rewards and sanctions, both monetary and non-monetary.

The tertiary education system is comprised of many actors, with varying degrees of autonomy. They will exercise their autonomy to achieve the goals important to them, and those goals will differ among actors.

An incentive to take a particular action does not of itself mean that all affected actors adopt that course of action. Incentives interact and can reinforce or conflict with each other, and with an actor's mission and ethics.⁶⁰ Actors may also respond to the actual or anticipated actions of others.

Where this chapter identifies an incentive, that is not a statement that all affected actors have responded or will respond. Yet these incentives should not be ignored. Government is a very powerful actor, and its system design creates powerful rewards and sanctions for others. A response – even from a small proportion of affected actors – can reinforce or undermine government's intent.

So it is very important that the incentives government creates are compatible with what it wants to achieve.

8.1 Implications for providers

Tertiary providers want to advance their missions and, for that, they want to maximise their available resources, which means maintaining their reputation with government as chief funder and regulator. Providers have to strike a careful balance between doing what government asks for, and what it actually pays for – and these are not always the same.

The incentives on providers from TEC funding do not reflect government's stated goals

Current funding arrangements incentivise providers to:

- enrol as many well-prepared, easy-to-teach students as possible, and keep them in study for as long as possible, ideally in large classes with standardised enrolment deadlines and low-touch delivery formats; and
- invest time and energy in tightly managing the inputs and processes monitored by government – and in lobbying government for more favourable arrangements.

Yet government's goal as presented in the *Tertiary Education Strategy 2014–2019* is for a system that is:

- accessible and responsive to a wide diversity of students;
- efficient at moving students up and through the system into higher levels of study and the labour market; and
- focused outwardly on outcomes for students and employers, rather than inwardly on itself or government (MoE & MBIE, 2014).

Government's goals for the system appear to be compatible with the stated ambitions of many providers, yet a number of inquiry participants commented on the apparent disconnect between the system's stated aims and the incentives it embodies.

⁶⁰ Monetary incentives, in particular, can have counter-productive effects on behaviour by reducing intrinsic and social motivations (Gneezy, Meier & Rey-Biel, 2011).

The underlying themes of the tertiary funding system – that it favours the largest number of fulltime students enrolled for the longest period and by individual institutions; and that it is long on penalties for failure and short on incentives for collaboration or for thoughtful risk-taking – are both potentially inimical to what the ITP sector sees as appropriate responses to the changing global economy. (NZITP & Metro Group, sub. 42, p. 4)

Instead of an operating environment where the learner is at the centre of decision-making, where they are provided high-quality information, exposure and experience, and a system that enables them the ease of movement between various players in the tertiary education system; we have the opposite. Currently the incentives provided by the funding and monitoring regimes run counter to this approach... (WelTec & Whitireia, sub. 59, p. 22)

A number of political decisions made by successive governments over a long period of time have resulted in perverse effects on the education system. They encourage behaviours that are either uneconomic, unsustainable or both. At worst, these decisions have indirectly allowed a small number of providers to engage in unethical behaviours that threaten the whole system. (ITI, sub. 81, p. 10)

There have been issues with achieving the government's directive of all Maori and Pasifika students achieving at the same rate as the general population by 2018. This is an admirable goal but the policy settings to achieve it are crude and unmanageable. (ibid, p. 19)

The system is currently designed to focus on institutions and qualifications, not students as individuals. (Marshall, sub. 73, p. 17)

We acknowledge that moving to an outcome linked funding framework is part of the language of the Tertiary Education Commission and the tertiary Policy Unit at the Ministry, however, there is no tangible evidence that meaningful steps in this direction have been taken. (Manukau Institute of Technology, sub. 67, p. 2)

The following comment sums up the situation from one Private Training Establishment's (PTE) perspective:

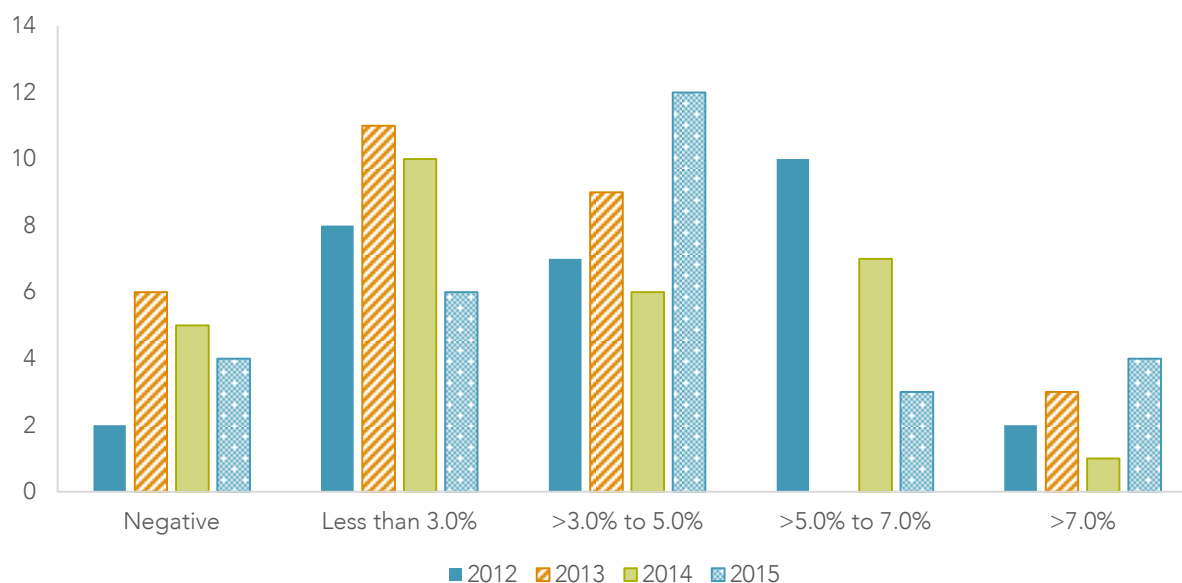
We, and other PTEs, I'm sure, long to be able to make quality decisions in terms of how we deliver programmes and assess and judge learner learning and ultimate quality. Yet the all-consuming driver of what we do is how to preserve our funding (SAC and YG [Student Achievement Component and Youth Guarantee] in our case). To ensure funding for next year, for example, we have to (1) promise something we can't control (eg, how many learners we expect in next year's programmes), (2) accept as many learners as we can to reach our 'cap', and (3) 'pass' as many learners as we can to ensure our 'completions' meet TEC targets. This is a terrible model for ensuring high quality education. (1) is close to crystal ball-gazing. (2) forces us to accept learners who don't really meet entry criteria. Interviewing staff have uneasy feelings about a learner, but feel they have to accept him/her because the cap demands it, and then that learner becomes a real threat to our completions, notwithstanding superhuman staff efforts to get him/her through. (3) forces tutors to pass learners who don't really deserve to pass – contributing to the low academic quality of graduates – and even enormously tempts institutions to 'cheat' on allowing learners to complete. Institutions who try to maintain their integrity in graduating learners, and who 'fail' some learners, are penalised by their relatively low completion rate. Everything seems to mitigate against honest, quality, meaningful academic outputs and outcomes. (Francis, sub. 94, pp. 9–10)

TEIs must produce a financial surplus – but they have incentives to keep it small

TEC expects TEIs to deliver a minimum financial surplus of 3–5% to demonstrate viability and sustainability, and as evidence of operational efficiency and governance ability. However, making large observable surpluses undermine TEIs' lobbying efforts to maintain or increase prices or quotas. Large surpluses may even make it politically possible for government to reduce funding levels or claw back assets from TEIs.⁶¹

These factors strongly incentivise TEIs to limit their observable surplus. In 2015, only seven of 29 TEIs reported a surplus of more than 5% (Figure 8.1). Ten reported a surplus of less than 3%.

⁶¹ The most practical way for government to effect a claw-back is to reduce future EFTS prices. Such claw-backs are termed "government opportunism" by Spiller (2008).

Figure 8.1 Distribution of TEIs by financial surplus, 2012–15

Source: TEC, 2015f.

Notes:

1. Measure is of TEIs' "net surplus ratio" as monitored by TEC.

The incentive to minimise an observable surplus is likely to operate more powerfully at the subsector level than at the level of individual TEIs. Because all TEIs receive the same tuition subsidy rates, an individual TEI can deliver a healthy surplus fairly safely, as long as its peers could not survive a government funding decrease.

These incentives lead TEIs towards a delicate balancing act between demonstrating a need for additional funding, and demonstrating efficiency and innovative activity. This arises because observable success in reducing costs and being more efficient with resources undermines lobbying attempts to maintain or increase price and quantity.

University New Zealand's *Briefing for the Incoming Minister 2016* provides an example of the balancing act:

You will have oversight of a university system that is extraordinarily effective by international standards.

- o New Zealand is the only country in the world where all of its universities are world-ranked [using the QS world rankings]. ...

Although this high level of efficiency can be viewed as a benefit, the system is extremely stretched and is at risk due to current funding and policy settings.

... New Zealand universities are now also 25 places lower in QS rankings in 2016 than they were in 2009 (UNZ, 2016b, p. 3, 5).

F8.1

Tertiary education institutions (TEIs) perform a delicate balancing act between making calls for more funding while at the same time demonstrating efficiency and innovative activity. Observable success in reducing costs and being more efficient with their resources undermines TEIs' lobbying attempts to maintain or increase price and quantity.

TEIs can minimise their observable surplus in three main ways:

- spending on mission-maximising activities;
- accumulating assets that create future accounting costs; and
- taking on debt.

Spending on mission-maximising activities and accumulating assets can boost the reputation of an institution, which can attract quality staff and the best students. These in turn both reinforce reputation and lower teaching costs, creating a positive feedback loop.

Spending on mission-maximising activities

TEIs have multi-purpose missions, so they can divert surpluses from profitable activities to expand or maintain activities that would not otherwise cover their costs. These could include research or brand building. This minimises a TEI's observable surplus immediately. The institution need declare only the *residual* financial surplus in its financial accounts.

Accumulating assets that create future accounting costs

TEIs can purchase assets. This creates a stream of future accounting costs (ie, depreciation), and operation and maintenance costs.

TEIs have incentives to accumulate assets in forms that are not amenable to claw-back by government. Special-purpose and heritage buildings, the land on which they sit, and specialist research equipment are examples. These have reduced value in alternative uses, and can enhance a provider's reputation. Such assets are termed "sunk", when their sale will not recover their purchase price.

Some university submitters strenuously objected to the suggestion that they would respond to this incentive:

[The Commission] will not find evidence of surpluses being directed away in unnecessary infrastructure. They will find that capital works are being entered into to replace aging building stock that is increasingly uneconomic to operate (due to seismic issues, asbestos and other health & safety challenges), or that is unable to support modern teaching and research models, or they will find that universities are responding to changing patterns of demand (e.g., fewer people doing arts degrees and more doing STEM [science, technology, engineering and mathematics] – requiring more laboratories & workshops). (UNZ, sub. DR119, p. 21)

Massey University disputes the claims that universities are hiding large surpluses in the purchase of assets and land. The current funding model, fee restrictions and increasing costs, limit the underlying profitability of the University. The margins in business and real-dollar terms are insignificant when considering the capital intensive nature of the programmes we deliver. Massey, like many Universities, has significant assets, many established by the Ministry of Works in the 1960s and 1970s. These assets require midlife refit or replacement, hence the significant focus on reinvestment at this time. Furthermore, Massey has a history of divesting surplus assets in order to drive cost efficiency; however, [Massey] does not divest at the expense of research and teaching or our students, staff and communities. (Massey University, sub. DR143, pp. 26–27)

Universities New Zealand provided some data in its submission about usable floor area per EFTS by field of study in the buildings of New Zealand universities, benchmarked against guidelines produced by the Australasian Tertiary Education Facilities Management Association. However, a TEI can invest in capital assets in many ways that have no effect on the quantity of the usable floor area in its buildings – for example, by upgrading existing buildings, adding technological assets, investing in "non-usable" floor area (eg, lobbies) or outdoor facilities, or buying artwork and sculpture.

Building programmes can enhance the reputation and attractiveness of an institution to prospective students and staff. Steve Maharey, then Vice-Chancellor of Massey University, emphasised positive student impressions of the wider university environment:

Students are much more aware of the level of facilities that they want, but also just the look of the campus, and feeling like they are somewhere special ... If the estate that they come to does not look world class, then they are going to judge the university much more on that than they would have 20 years ago. (Jones, 2013)

TEIs hold \$9.5 billion in capital assets (as at 2015, valued at market prices). In 2014, TEIs were planning to spend a further \$8.2 billion on capital assets by 2024 (Controller and Auditor-General, 2017). Some plans include the sale or upgrading of existing assets (eg, Unitec's plans described in Chapter 11). These plans represent a very significant expansion in capital assets, during a period in which the Ministry of Education forecasts declining domestic student enrolments.

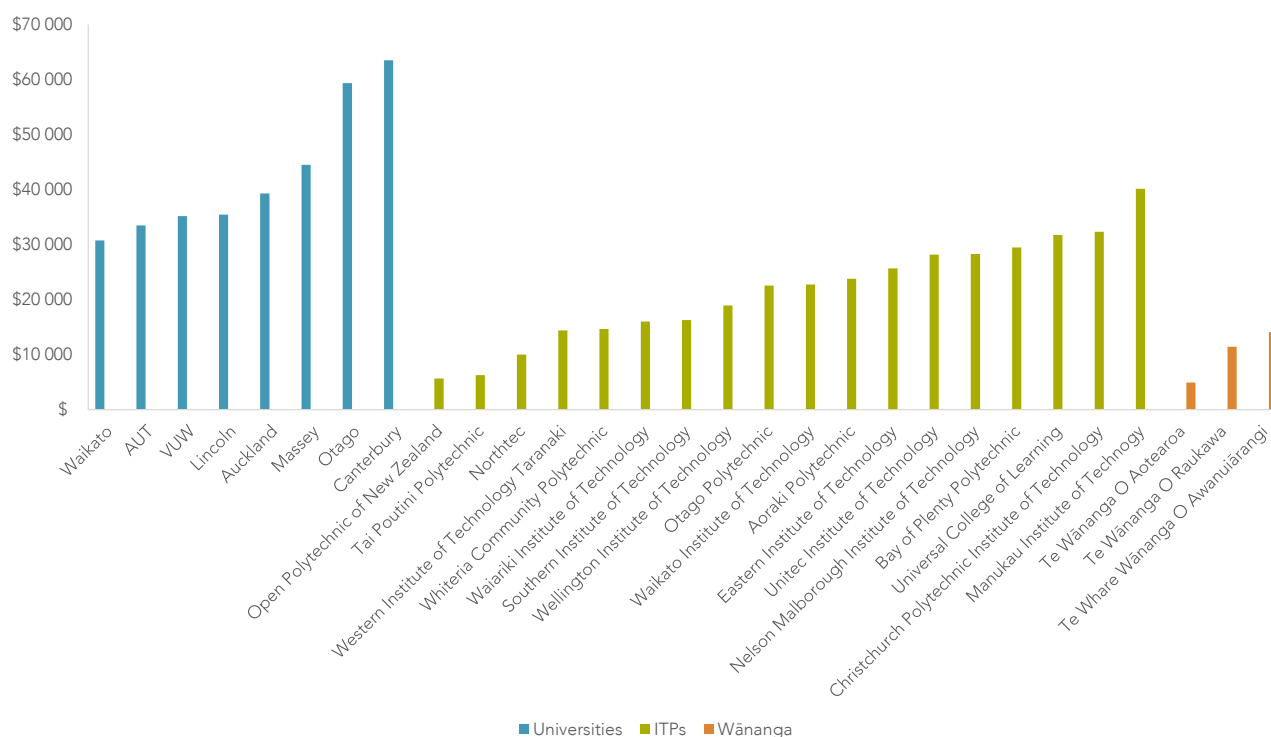
The Controller and Auditor-General (2017) expressed concern about TEIs' business cases and asset investment proposals.⁶² Specifically, TEIs paid insufficient attention to enrolment forecasts and to the investment decisions of other TEIs. However, government has committed to increasing TEI funding, at least for universities, despite an expected downturn in student numbers (Chapter 1). There is also reason to doubt the accuracy of the Ministry's forecast, as it is not really a measure of demand (Box 1.3). In such circumstances, it is logical for TEIs to continue to invest in assets that are not amenable to claw-back.

The Controller and Auditor-General (2017) calculated an "investment effectiveness" measure based on the net assets that each TEI was using to produce an EFTS. It showed

a wide range of investment effectiveness between tertiary education institutions. There is little apparent relationship with the size, location or type of tertiary education institution. (p. 30)

The Commission adapted this concept to produce a simple measure of the capital productivity of teaching activities. This measures the value of plant, property and equipment used by each TEI (adjusted for the research-intensity of that TEI) to produce an EFTS. Figure 8.2 depicts this measure, where lower column height means higher productivity. The graph demonstrates the wide dispersion in capital productivity across New Zealand TEIs.

Figure 8.2 Capital productivity: teaching assets per EFTS, by TEI, 2015



Source: TEC, 2015f; Productivity Commission.

Notes:

1. The most productive TEI has the shortest column height.
2. "Teaching assets" are capital assets (ie, plant, property and equipment) adjusted by teaching income as a proportion of teaching and research income. The adjustment accounts for the relative research intensity of TEIs.

Using this measure, the most productive TEI had 13 times the capital productivity of the least productive TEI. The wide dispersion in capital productivity among TEIs could arise for many reasons.⁶³ The main reasons are:

⁶² In addition, TEC's 2016 *Briefing to the Incoming Minister for Tertiary Education, Skills and Employment* (TEC, 2016l) notes TEI debt was forecast to increase from \$383 million at December 2015 to \$705 million in 2018. TEC is "introducing increased monitoring and reporting arrangements" for a number of TEIs as debt levels increase (p. 12).

⁶³ Dispersion would also arise if some TEIs taught in fields that were highly capital intensive, while others did not. The Commission did not assess what fields of study have this characteristic; however, many TEIs teach in one or more fields that are plausible candidates (eg, engineering, performing arts, medical sciences, physics and ICT).

- significant differences in business models (eg, some TEIs may choose to lease rather than own the majority of their assets, or do a lot of distance delivery);
- weak pressure to make effective use of assets; or
- long-term surplus generation showing up as capital asset accumulation.

The first of these reasons could explain the high capital productivity of the Open Polytechnic, which operates a different business model to other TEIs. It could also explain, at least to some extent, the differences between subsectors. It is not obvious, however, how this reasoning explains the within-subsector variability apparent in Figure 8.2. Echoing the Controller and Auditor-General (2017), there is little apparent relationship with the size, location or type of TEI. Weak pressure to make effective use of assets, and surpluses being used to accumulate assets over time, are more plausible explanations for much of the dispersion observed in Figure 8.2.

Taking on debt

TEIs can borrow at low interest rates as their creditors have the advantage of an explicit government guarantee for TEI debts (Chapter 5).⁶⁴ Debt has the advantage for TEIs of locking in future costs, which helps to reduce observable surplus in future accounting periods. In part for these reasons, government directly regulates the amount of debt TEIs can take on (s 192 of the Education Act 1989).

F8.2

The incentives facing tertiary education institutions (TEIs) encourage them to over-invest in reputation and physical assets, and to take on more debt than might otherwise be prudent. In (partial) response, government directly regulates the amount of debt TEIs can take on.

It is usually in the collective interest to defend the status quo

The collective interest of providers can, depending on the issue, be stronger or weaker than the interests of providers individually. For example, all providers have an interest in raising Student Achievement Component (SAC) prices, and in excluding new entrant providers who might lead to a quota reduction for incumbents.

However, the various peak bodies for providers will struggle to get consensus on issues that affect their members differentially. Any proposal with a negative outcome for one member faces the likelihood of veto. The “safe” middle ground is, in many cases, to maintain the status quo.

Such collective organisations are unlikely to champion innovation unless each individual organisation believes it will benefit.

Marketing remains important, despite fixed quotas

Submitters commented that TEIs, particularly universities, undertake extensive and costly marketing campaigns apparently aimed at recruiting domestic students.

Competition for student enrolments has led to what seems to be a disproportionately large spending on advertising which seems an inappropriate use of university funds. (Victoria University of Wellington Students’ Association, sub. 80, p. 3)

Tertiary institutions have established corporate and marketing departments and spend considerable sums each year in branding, advertising and other marketing expenses. Unless this investment can be justified in terms of substantial improvements in the productivity of the sector this expenditure, a significant amount of which is public money, must be viewed as wasteful. (Cocker, sub. 62, p. 1)

We find the level of funding spent on advertising to be appalling. This funding is students and taxpayers’ dollars and is used to try and win EFTS as opposed to promoting tertiary study itself. At best advertising shifts students from one capped institution to another, making it a poor spend in terms of

⁶⁴ Only some TEIs had substantial levels of debt at the end of 2015. The debt-to-equity ratio of AUT was 21%, Wintec 16%, MIT 12% and VUW 8%. However, the ratio for the majority of TEIs was at or near zero.

national priorities, and the initial findings of our 2016 Income and Expenditure survey shows an institution's advertising campaign was one of the least influential factor in choosing a place to study, suggesting it a poor business decision as well. (New Zealand Union of Students' Associations, sub. DR139, p. 12)

Expensive marketing aimed at prospective domestic students may appear in conflict with the Commission's finding that TEC funding and regulation, rather than student demand, is the most important driver of domestic student revenue for providers in this market. However, the current system does incentivise providers to advertise for students.

- Providers need to fill at least 99% of their EFTS quota (if not, they lose revenue), and can receive funding for up to 102%.
- Providers who are at their quota might want to illustrate excess demand to TEC (eg, "more students want to come here, but we're having to turn them away") so as to get a larger quota in the next funding round.⁶⁵
- Providers compete on the quality, as well as the quantity, of domestic students they attract. This might include efforts to recruit particularly high-achieving students (to enhance peer effects, enhance reputation, or to provide research assistance to further a provider's research mission).
- Providers may need to attract Māori and Pasifika students to meet TEC participation targets.
- Providers may market themselves to grow enrolments in SAC levels 1–2, as there is more scope for providers to grow their quotas for these funds in each funding round (as most funds are allocated via competitive tender).
- Providers may seek to attract additional students to particular courses where those courses are not profitable without a minimum number of enrolments.
- Providers may seek to enhance their reputation with the general public, or to improve their bargaining power for negotiations with government.

8.2 Implications for domestic students

Students come to tertiary education with very different interests, abilities and aspirations – and those who do not find an offering that suits them may choose not to participate at all. A common theme of the following discussion is that government's one-size-fits-all funding and quality assurance system is a poor fit for the diversity of student demand for tertiary education.

The system ensures minimum acceptable standards are met, but does not reward quality or responsiveness to students

The quality of teaching and learning in the tertiary education system is formally regulated in two main ways:

- TEC administers the Educational Performance Indicators (EPIs), with funding at risk for poor results via Performance-Linked Funding; and
- the New Zealand Qualifications Authority (NZQA), the Committee on University Academic Programmes (CUAP) and the Academic Quality Agency for New Zealand Universities (AQA) administer various quality assurance processes, most of which are heavily focused on input and process controls (Chapter 5).

The system offers no rewards for being exceptional

Providers supplying the TEC-funded domestic market have strong incentives to manage – to a minimum acceptable standard – those aspects of quality that are measured by government, or are important to their reputation. Regulators face complementary incentives to set a performance standard that almost all providers will meet (Box 8.2).

⁶⁵ However, Chapter 7 finds weak evidence that TEC responds to such signals from providers.

Box 8.2 Incentives to set and meet minimum regulatory standards

Quality regulation creates a complex set of incentives on providers, government, and the regulator. These incentives encourage regulators to set standards at a level that almost all providers can meet.

- Autonomous providers will pursue their mission within the regulatory and political constraints they face. Providers will prefer regulatory settings where they anticipate being able to influence a regulator in their favour, for example, by setting standards at a level that excludes new entrants (Stigler, 1971; Carlton & Perloff, 2005).
- Government faces conflicting incentives. It wants to be able to take the credit for overseeing a well-performing system, but the visible failure of providers to meet regulatory standards could undermine this – the public may ask “what did government do wrong?” Yet removing the worst performers from the system would improve system performance over time.
- Too many failures by providers might lead to accusations that the regulator is ineffective. Yet an assertive regulator’s reputation might be damaged by a coalition of aggrieved providers. Regulators also need the ongoing confidence of government to ensure their survival.

Lodge and Stirton (2012) emphasised:

... the complex trade-offs between ensuring the fidelity of regulators’ decisions to use the roles entrusted to them by politicians and the public, ensuring that regulators have the appropriate powers and adequate discretion to carry out their mandate effectively, as well as the credibility to retain the confidence of regulatees, users, and others affected by their decisions. (p. 350)

Students can be fairly confident that government-funded providers meet government-regulated minimum acceptable standards of quality. Once these conditions are satisfied, however, providers have weak financial or regulatory incentives to spend resources in further improving teaching or learning for domestic students, unless it increases the chances of retaining those students (especially for postgraduate degree completions that might contribute to Performance-Based Research Fund income).

F8.3

The funding and regulatory system does not materially distinguish between a provider who is just “satisfactory” and a provider who is “exceptional” at teaching. No robust information is currently available to help prospective students make this distinction either.

Quality regulation does not assess teaching quality

Quality assurance requirements are extensive but, as far as the Commission is aware, no element of domestic quality regulation specifically assesses teaching quality. Providers themselves seem to be doing relatively little research on this topic (Box 8.3).

Box 8.3 Who is doing research in New Zealand on tertiary education?

TEC funds Ako Aotearoa to furnish tertiary providers with advice and information (including from original research) on quality teaching and learning. Aside from Ako Aotearoa, the Commission found little New Zealand research on tertiary education, with education departments within universities focused heavily on early childhood and schooling education. One submitter commented on this:

I am confident that if Government wished to review any other major national service, such as the medical service or the legal service, it would consult academic specialists in relevant departments in our universities who have research-led, internationally-relevant, expertise in the matter at hand. ... Although such expertise exists in New Zealand, it is remarkably thin on the ground. While we

have substantial Departments of Medicine, and of Law, our equivalent academic 'departments of education' in our universities are dominated almost exclusively by school-based educational research and development. The questions that the Issues Paper asks relate, in New Zealand, to a data-poor and research-impooverished field of enquiry. (Shephard, sub. 16, p. 1)

Most large tertiary providers in New Zealand have units dedicated to staff professional development, including teaching. However, the Commission understands that these units seldom undertake the kind of research and scholarship typical of an education department.

It is possible that tertiary providers consider they have effectively outsourced their tertiary education research activity to Ako Aotearoa. However, it could equally be the case that Ako Aotearoa needs to exist and be co-funded by government (alongside direct government grants such as the Teaching and Learning Research Initiative) precisely because providers would not otherwise undertake or publish this research. One submitter commented that funding from Ako Aotearoa and the Teaching and Learning Research Initiative is "crucial for the dissemination of many teaching and learning innovations throughout the New Zealand tertiary sector" (Higher Education Research and Development Society of Australasia (HERDSA), New Zealand branch, sub. 72, p. 1).

Another submitter lamented relevant research on education going unused:

I continue to be amazed at how much high-quality research on pedagogy is out there and yet remains untapped by tertiary teachers. Just recently I attended a seminar by Professor Peggy A. Ertmer (visiting here from Purdue University) on "Increasing Teachers' Capacity for Innovative Learning Pedagogies", and I wished there were more tertiary teachers in attendance... (Kennedy, sub. 23, p. 8)

Independent Tertiary Institutions submitted, with respect to PTEs, that

[a]s a generalisation, the private sector tends to put more emphasis on practical ways of improving teaching. It is fair to say the PTE sector has the least engagement of any sector with Ako Aotearoa because their research and workshops are seen as largely too academic. Their work is generally produced by researchers rather than practitioners. While the quality of the Ako work is high, it can fail to answer the question "how is this going to help me teach better tomorrow?" (sub. 81, p. 7)

Student choice is limited by supply-side constraints

EFTS quotas allow providers to raise entry criteria or reduce quality (within regulated limits) with only a modest risk of losing students to a competitor. TEC's volume allocations do not appear to be driven by quality or student demand:

- TEC rarely actively reallocates funded volume based on quality considerations, except in the PTE subsector (Chapter 5).⁶⁶
- TEC does not appear to reallocate funded volume based on revealed information about student demand – either by systematically reducing funding allocations to providers that under-deliver, or increasing allocations to providers that over-deliver (Chapter 7).

System settings give an impression of study choice for students, but that choice is only available within supply-side constraints. Government, with input from providers through the Investment Plan process, decides how many EFTS are available, what courses will be offered, and who will offer them. In effect, government is a proxy agent for the demand side, but is not necessarily a well-informed agent.

As described in Chapter 7, actual demand is likely to be different from supply as allocated, yet providers have limited ability to shift supply to match demand. Larger providers can make changes within their TEC-approved "mix of provision", provided the changes are not material and the provider stays within its overall

⁶⁶ Within the PTE subsector, reallocations are based largely on meeting delivery targets and performance against EPIs. EPIs measure overall results for the average student, rather than for individuals, and are not value-added measures. This means a PTE may lose funding due to "poor performance", even though it is getting better results for high-needs learners than its competitors.

funding cap. However, this ability is limited for providers whose delivery is concentrated in a small number of funding rates, or those funded via competitive tender.

Prior to the competitive processes we had the ability to move funding around our wider mix of provision to accommodate changes in industry, learner demand and impacts in the market/economy. This flexibility enabled us to be somewhat more responsive and agile. First, the government policy setting split the level one and two SAC from the level 3 and above SAC, this began the process of reducing flexibility. But the competitive bid process ended all flexibility and has created a rigid, fragmented and siloed set of programmes that struggle to meet need in a modern economy. (WeITec & Whitireia, sub. 59, p. 24)

Over-subscribed providers with the capacity to increase supply are unable to respond quickly (beyond the 2% funded over-delivery allowance introduced from 2016). The process of applying to TEC for additional funding can take months and it is a speculative exercise on the part of providers.

These arrangements lead to the over-subscription of some courses and providers, while others are under-subscribed, with supply unable to readjust. Some students are inevitably left with their second (or lower order) preferences, and this means less efficient matching of students to tertiary education.

In order to contain [its fiscal costs], the Government constrained the number of EFTS in the whole system, thereby restricting the number of loans that would be taken out. In doing so, they turned a free market into a controlled one with perverse economic results.

For example: assume that in a particular discipline, prospective students have a choice between two providers, one that is very high quality and the other that is mediocre. The high quality provider is over-subscribed and so must turn away a number of applicants. Those declined applicants then find a place in the mediocre institution, which then meets its EFTS target. Two negative effects occur – a number of students receive a lower quality education than they might have had, and the mediocre institution stays in business.

Were there no cap on EFTS, the higher quality institution might have accepted all those who applied (giving them the education they wanted and deserved), and the mediocre institution would either improve or fail and exit the system. The policy lever designed to contain student loans is responsible for some students receiving a lesser education than they deserve and for keeping poor quality institutions in business. While the system does have mechanisms for removing the poorest quality institutions (with sluggish results), there are a number of mediocre institutions that may not be the worst in the system, but they survive when perhaps they should not. (ITI, sub. 81, p. 5)

As described in Chapter 7, these outcomes represent, at best, partially met demand on the part of students. The system has no way to gauge frustrated demand that is partly met, or is not met at all. Rather, it assumes these second-best matches represent real demand being met.

Student choices may still lead to reallocation of revenue within a provider (eg, between faculties).

F8.4

Student choices have limited impact on provider revenue, as long as providers can fill their allocated EFTS quotas. Student choices may lead to a reallocation of revenue within (rather than between) providers.

F8.5

The EFTS quota system leads to the over-subscription of some courses and providers, while others are under-subscribed, with supply unable to readjust to demand. Instead, demand has to adjust to supply – and some students are inevitably left with their second (or lower order) preferences. This means less efficient matching of students to tertiary education.

Funding arrangements incentivise homogeneity of offerings to students

Ako Aotearoa considered the New Zealand tertiary education system to be diverse in some respects:

We do disagree with the Commission's view that the New Zealand education system is relatively homogenous. This may be true within specific sectors and education levels; a degree programme at one

New Zealand university probably does look much like a degree programme at another, as do programmes where industry has a strong influence on content and requirements (such as in many regulated professions). Overall, however, our system does display relative diversity – especially given its size.

For example, the report acknowledges that wānanga are based on a fundamentally different education approach to that taken by other TEIs (and there is notable differentiation in focus between the three wānanga), while in vocational education and training there are significant differences between provider-based offerings and the workplace-based models arranged by ITOs [Industry Training Organisations]. Within specific sectors there are clear organisation-level differences – for example, Unitec, the Open Polytechnic, and the Southern Institute of Technology have different strengths, strategies, and approaches despite all being ITPs. Indeed, a diversity of approaches and business models is arguably one of the defining features of the PTE sector. (sub. DR157, pp. 5–6)

The Commission agrees that there is some diversity in the system, but considers that this diversity is materially limited by funding incentives that push TEIs towards homogeneity. TEIs need to offer a comprehensive suite of those programmes with sufficient popularity (and therefore scale) to generate a surplus. Specialisation is a luxury available to wealthier institutions; or those supported by subject-specific quotas (eg, medicine or dentistry) or programme-specific funding (eg, ICT Graduate Schools). The Commission agrees the PTE subsector is much more diverse – Quality Tertiary Institutions (QTI) noted that “it is the most diverse part of the tertiary education system” (sub. DR156, p. 11).

TEC (sub. DR167) submitted that the requirement that degrees be taught mainly by people engaged in research also drives homogeneity.

Ako Aotearoa noted that homogeneity can be

a product of industry expectations and requirements, recognised good practices, or ensuring that learners – and the government – can have confidence in the quality of their education wherever and however they study. (sub. DR157, p. 6)

This can offer advantages for students. For example, if all ITPs, for example, offer the same courses at the same quality, then a student need not spend time and effort choosing a provider – the closest provider is as good as any. In addition, students who are unable to travel are not disadvantaged. This may be especially important for ITP provision, because of the prevalence at these TEIs of older students who are more likely to have family and work commitments tying them to a particular location. However, homogeneity in study timetabling may exclude many such students from tertiary education.

The period of tertiary education provision on a daily and weekly basis (with a few exceptions) runs at the very time the majority of people are at work. Right there you have a barrier that excludes those who want or need to learn in the evenings or weekends. At the same time, the huge investment in specialist facilities and equipment lays idle, night after night, weekend after weekend, year after year. The options for starting and ending learning programmes still run, in the main, from the beginning of the calendar year till near the end, leaving at least some facilities on most campuses empty and closed for months on end.... While it is possible ‘in exceptional circumstances’ to extend time for individual learners, as a system we have failed to entertain the idea that the ‘exceptional’ could become the norm. (WelTec & Whitireia, sub. DR134, p. 11)

Homogeneity can also embed mediocrity. Experimentation is all but impossible if providers have to move in lockstep; and systems without experimentation generate insufficient information for improvement. Providers will not seek to improve quality if rewards are absent or unclear. Neither will they seek to better match their product to student demand.

Price regulation can reduce the variety of products from which consumers may choose (Carlton & Perloff, 2005). The University of Otago submitted that fee regulation discourages differentiation because providers cannot charge higher fees for higher-quality delivery:

The inability to differentiate upwards in fees for quality is, in conjunction with the absence of any element within the SAC system that rewards quality, a barrier to incentivising excellence and differentiation in the teaching side of tertiary delivery. (sub. 37, p. 11)

A homogenous system will underperform in particular for students seeking an excellent education in specialised fields. Wealthier students and those able to gain scholarships can choose to study overseas. Others, however, miss out. In this way, a homogenous system can be discriminatory.

F8.6

The funding system pushes tertiary education institutions towards homogeneity in what and how they deliver. This risks mediocrity and discriminates against some students.

The system disincentivises providers from enrolling those who most need help

Well-prepared, able and resilient students with good family resources are likely to be easier for providers to support to achieve success in tertiary education. Performance-Linked Funding (Chapter 5) sharpens providers' incentives to attract students who will readily succeed (and to pass as many of them as possible without devaluing the award).

In addition, and for universities in particular, it is good for providers' reputation to have high-achieving students and successful alumni (Steindl, 1990). This may generate financial incentives insofar as reputation attracts revenue (eg, from international students or philanthropic donors).

Providers who can meet their quotas by attracting well-prepared students have disincentives to attract "hard-to-reach, hard-to-teach" students who have not had previous positive experiences of education. These students are, on average, likely to cost more to attract into study and to support to succeed. However, these are precisely the students for whom a "second chance" at education is most important.

Māori and Pasifika students are disproportionately represented in this group, and it has been a stated government priority to improve their outcomes since at least the late 1980s (Hawke, 1988). TEC requires all providers to set participation targets for Māori and Pasifika students as "Plan commitments" for this reason. However, current rates of equity funding are insufficient to cover real costs (Chapter 6). Wellington Institute of Technology and Whitireia Community Polytechnic commented that "it costs us more per learner on the [Māori and Pasifika Trades Training] programme than the funding we receive from government" (WelTec & Whitireia, sub. 59, p. 19).

The rate of actual improvement in tertiary education outcomes for Māori and Pasifika has been slow (Chapter 9) and, in the absence of changes to funding and quality assurance settings, this seems likely to continue.

F8.7

The funding and quality assurance systems do not reflect stated government commitments to improving educational outcomes for priority student groups, including Māori and Pasifika.

The system requires everyone to learn at the same pace

Providers get funded per course, and are required to deliver a certain number of "learning hours" in each course, designed to meet the needs of the average student. Providers therefore have disincentives to enable capable students to complete a qualification with fewer courses, or to sit assessments early on without consuming the associated learning hours – as this risks a breach of a provider's funding conditions. TEC has recovered funding from providers on these grounds (TEC, 2016i). This means that more capable students, who can master material more quickly, must slow down their learning to keep pace with the rest of the class.

Similarly, providers are not funded for delivering extra support to students who need it, and cannot (without funding penalties) delay assessment for a student who is not yet ready. Therefore, less capable students must speed up their learning or run the risk of failure.

Providers also face incentives to confine courses to a calendar year (Chapter 7). One submitter provided the following case study of how this, in combination with EFTS quotas, can have adverse effects on students:

PTE-A is a private training establishment (PTE) providing vocational training to approximately 1500 students engaged in full- and part-time study. ... PTE-A's students are predominantly mature and are based throughout New Zealand, usually in either part-time or full-time employment in a single very tightly defined and regulated industry. ...

A unique feature of the pedagogical model used by PTE-A was the flexibility they offered students around commencement of the programme and the way that the PTE supported the development of a community of learners. Courses are structured in modules of several weeks. Students could commence the programme at any time during the year and immediately join the first module. A consequence of this was that any one time the cohort of students taking a particular module would be distributed evenly, some new to the module, others in the middle, and some close to completion.

Students close to completion were encouraged to act as mentors to students starting the module, sharing their experience and insight and helping the new students join the online forums. This model, while pedagogically excellent, also had the advantage of aligning well to the workplaces the students were intending to enter, as a similar work pattern is normal in that industry.

This excellent model, however, has failed through an unintended consequence of the New Zealand quality system managing funding. In order to ensure that student numbers are managed by institutions to maximise the completion and retention rates, the TEC has imposed student number limitations on providers through the operation of an annual funding plan with severe penalties for those providers who exceed the allocations.

The perception this created amongst students was that access would be limited to those who enrol early. Consequently, a large number of students applied to start immediately in the academic year such that the continuous flow of previous years was replaced by a single cohort all in lock step. The opportunity to sustain a pedagogically valuable model well aligned to the needs of employers was lost as a result of the funding model. (Marshall, sub. 73, p. 13)

Providers with market power can impose switching costs on students

Students can find themselves in a course not well matched to their abilities or preferences, either because their higher preferences were unavailable, or because they have learnt more about the subject area or about themselves during study. Similarly, they learn more about the actual quality of their teacher and provider over time. They may also need to move location because of a change in their personal circumstances.

For a provider, no enrolment means no revenue. Providers therefore have incentives to impose switching costs on students to discourage them from ending their enrolment. These costs – and the absence of articulation and staircasing agreements (Chapter 3) – increase the likelihood that students will stay in a poorly matched programme of study, rather than seek out one that is a better fit for their needs or aspirations.

If, for example, a student applies to university to do an engineering degree, and is not accepted into the degree, then the university has incentives (unless it is at its quota and can enrol a better-prepared student instead) to encourage them to do a science degree at the same university. The university has no incentive to encourage the student to enrol in an engineering technician qualification at an ITP. Enrolment with an ITP might be a better match with the student's aspirations to have an engineering qualification or be involved in the engineering profession – especially if the student can later credit their ITP study toward a university degree.

In addition, if a student leaves part-way through a course or qualification for a neutral or positive reason (eg, because they have found a job, or because they are transferring to a higher-level qualification at another provider, or moving to another location), the provider is punished in its EPI statistics, and potentially via Performance-Linked Funding, for the student's non-completion.

Joint delivery of programmes between providers is effectively disincentivised, as only one provider can be awarded the completion.

The fractious issue of credit transfer and the recognition of prior learning between various parts of the tertiary system is an example. Instead of an operating environment where the learner is at the centre of decision-making, where they are provided high-quality information, exposure and experience, and a system that enables them the ease of movement between various players in the tertiary education system; we have the opposite. Currently the incentives provided by the funding and monitoring regimes

run counter to this approach – hold on to the learner, not for their benefit but to maximise the funding you as an institution receive and the tick you get in the completion box; put undue barriers up for recognising prior learning or in credit transfer processes to insist learners do more of your courses and transfer less from learning done elsewhere thus maximising fee/SAC revenue. (WelTec & Whitireia, sub. 59, pp. 23–24)

As well as funding incentives to maximise volume, providers also have reputational incentives to enrol new students for whole qualifications, rather than accept students who wish to complete the last part of a qualification.⁶⁷ The destination provider, by awarding a qualification, is attesting publicly to a student’s skills and knowledge. The destination provider may be unwilling to do this if it has overseen a minority of the student’s study and assessment, especially if it lacks control over, or confidence in, the quality controls of the student’s original provider.

Government has attempted over time to deal with this problem at non-university providers through prescribing the content and nature of courses at any given level of the New Zealand Qualifications Framework (NZQF), so far with limited success.⁶⁸ In the university subsector, CUAP, in theory, offers each university very good control over the quality of courses offered by other universities (Chapter 5). However, universities are often unwilling to recognise, for credit at their own institutions, courses they previously approved via CUAP.

If, in effect, our universities sign off on the quality of each other’s programmes and courses, there is no quality-based reason why they should not give equal recognition to the achievements of each other’s learners. (Ed. Collective, sub. 89, p. 15)

The Commission also heard concerns about the ability of students to transfer credits when they partially complete a New Zealand Certificate⁶⁹ at an ITP, wānanga or PTE, and then transition either:

- into employment, and want to continue their training at an industry training organisation (ITO); or
- into further training at another provider.

Both concerns arise from the different assessment units used by different tertiary providers and ITOs. ITOs mostly use unit standards (standardised nationwide) for assessment, while tertiary providers may use a variety of assessment standards (including standards they design). This can be problematic for

students who study at a tertiary provider ... and part-complete a qualification prior to entering into a training agreement with an ITO... [Such students] will need to have that learning mapped against unit standards (in all likelihood through an RPL [recognition of prior learning] process) so that the ITO can cross credit this prior learning against the New Zealand Certificate. I am aware that over many years some “local” Polytechnic qualifications at Level 3 and 4 have been delivered by the ITP sector, which were not assessed against unit standards, and upon employment the ITOs have started the trainee from Level 2 as they had no evidence of how their learning translated to unit standards. The trainee could have undertaken an RPL process however they did not have the money to pay for this, and no funding was available to cover the cost. (Kelly, 2016)

In the case of providers who use a variety of standards,

[t]he question is how will the student provide evidence of part-completion if the qualification has been assessed through provider-developed assessment standards? It could be possible for them to fund an RPL process to map their learning against another provider’s qualification, however in most cases students or their families do not have the money to do this, and the student loan does not cover the cost of this. (Ibid)

⁶⁷ A provider who accepts a student for just the last part of a qualification can achieve a “cheap” qualification completion to boost its EPIs; but it foregoes much more in tuition subsidy and fee revenue than it stands to retain through the effect of improved EPIs on Performance-Linked Funding.

⁶⁸ The NZQF was (reportedly) designed in part to allow students to package up learning from different providers; but the Commission was consistently told that credit transfer is not working well. Existing NZQA guidance in this area is weak. It has a work programme to improve the guidance (Chapter 13).

⁶⁹ New Zealand Certificates (formerly known as National Certificates) are certificate qualifications on the NZQF that are not exclusively “owned” and awarded by a specific provider, but rather can be offered and awarded by any provider that NZQA approves to do so. In theory a student can start studying toward a New Zealand Certificate at one provider, and then transfer to another provider and have all their existing learning recognised; but as the quote from Kelly on this page suggests, this does not always work in practice. One goal of NZQA’s Targeted Review of Qualifications is to replace multiple provider-specific certificates with single New Zealand Certificates wherever possible, to make it easier for students and employers to understand and navigate the qualification system.

F8.8

Providers with market power are able to impose high switching costs on students – and have financial and reputational incentives to do so.

The system is moving away from supporting lifelong learning

Chapter 3 presents evidence that the domestic tertiary education system is increasingly oriented towards full-time study, towards younger students (under 25 years) and away from extramural study. These trends are consistent with a provider preference for students who are more likely to complete qualifications (a preference that is itself driven by government financial incentives), and with the explicit direction in the previous *Tertiary Education Strategy 2010–2015* to prioritise enrolments of young students (MoE, 2010a).⁷⁰

These trends run counter to the theme of lifelong learning prominent in government policy since the 1980s (Crawford, 2016; Chapter 1). Lifelong learning was a favoured response to perceptions of a fast-changing labour market with fast and unpredictable skills depreciation. The New Zealand Council of Trade Unions (NZCTU), for example, submitted that work has become less secure in the recent past, and that ongoing access to tertiary education is important to enabling working people to adapt to a fast-changing world:

Improved and increased access to tertiary education is critical to enable working people to get new employment opportunities in a world with changing work roles and changing industries due to increased automation, new technology, climate change, globalisation and changing demographics. (sub. DR172, p. 2)

However, QTI submitted that “even the term ‘lifelong learning’ seems to have ‘gone out of fashion’” (sub. DR156, p. 11).

Inquiry participants commented that skills obsolescence will accelerate in the near future:

At the employment end of the education pipeline, technological change and increasing automation will mean workers need different skills. Technology also allows development of new models of education delivery so that education will be integrated much more seamlessly into everyday life. People in or out of the workforce will need the capacity for lifelong learning and the means to access the tertiary education system to up-skill or re-skill. (TEC, sub. 2, p. 1)

TEC further submitted that:

In a world where technological change can make some skills and knowledge obsolete within a matter of years, New Zealanders need a continuing ability to learn. TEOs that maintain close ties with employers will be better placed to deliver relevant retraining and upskilling. (sub. DR167, p. 5)

The Open Polytechnic submitted that rigidities in the system and the controls on tertiary providers prevent providers from responding to these trends:

The Commission’s Draft Report correctly identifies a fundamental disjunct between a tertiary education policy and funding regime that focuses strongly on immediate post-school learning in a face-to-face environment, and wider socio-economic-technological trends driving the imperative for lifelong learning and skilling.

Both are necessary, and the school-to-tertiary transition will plainly remain the cornerstone of tertiary education. But the rigidity and bias of the current system and the behaviours it imposes on providers, goes against the vision of tertiary education that the Commission proposes and is broadly supported by many of the submissions received: a tertiary education system that is able to respond in flexible ways to a diversity of social, economic and educational needs through innovative thinking, operational practice and models. (sub. DR174, pp. 1–2)

The tertiary education system is not yet configured for such a “learn, unlearn, relearn” world. BusinessNZ submitted that:

We would like to see a stronger focus on learning and specifically lifelong learning in the final report. It is not enough to focus on the needs of young people. Being able to upskill and learn throughout a

⁷⁰ The trend towards an increasing proportion of young students pre-dated a 2010 government policy change intended to achieve such an increase within a capped funding environment (MoE, 2010a). Earlier policy documents contained a similarly worded priority (“more [young New Zealanders] achieving qualifications at level four and above by age 25”) within a growing funding environment (MoE, 2007, p. 30).

career is important and should be given more prominence, together with the critical success factors that realise this important objective. (sub. DR154, p. 4)

Recommendations to enhance the tertiary education system's ability to support lifelong learning are presented in Part III of this report.

F8.9

The New Zealand tertiary education system is not well suited to lifelong learning.

The interests of providers and students do sometimes align

The incentives acting on providers do sometimes align with students' interests. In particular, providers and faculties that are not experiencing excess demand (and so cannot readily replace an enrolled student to fill their quota) have incentives to keep students satisfied, because a satisfied student is more likely to re-enrol and to speak well of the provider to other potential students.

At the level of individual staff, satisfied students provide positive feedback that contributes to good "student evaluations" and sometimes, where relevant, to academic promotion (Box 8.4).

Box 8.4 Student evaluations

Student evaluations or feedback forms – completed by students during or at the end of a course – are a common tool used to assess student satisfaction with the quality of course content and delivery.

However, as discussed in Chapter 2, students co-produce, rather than passively consume, their tertiary education. This means that tertiary teachers and tertiary managers need to treat student evaluations with care.

To use a personal trainer analogy: If someone purchases the services of a personal trainer, and then holds the trainer accountable for how enjoyable the training session is, rather than for the results it delivers over time, then the trainer will be strongly incentivised to ensure their client has a nice time and is not unduly challenged in the gym. In contrast, if the trainer is held accountable for how fit the client becomes, then the trainer has very good incentives to ensure the client works hard – especially if the gain in fitness is measured by a third party.

In tertiary education, if student evaluations act to hold teachers to account for how enjoyable the learning experience is, and this is not balanced by external objective assessment of their learning, there is a risk that the teacher will prioritise experiential enjoyment (and pass marks) over education.

A separate problem is that students, having just invested time and money in an educational experience, want to feel that they were wise and justified in making that investment, and that their money was well spent. They will therefore have a bias toward viewing their educational experience favourably to prevent cognitive dissonance.

This does not mean that student evaluations are valueless – in particular, if students report that a teacher is failing to teach them anything, they are probably right – but that such evaluations should be used with care, and not in isolation.

Submitters commented along these lines:

The student-as-consumer model means that anything too new or challenging, or something that does not work out as expected, could lead to negative student evaluations that might endanger a teacher's reputation or career. There is little incentive to change. (Kennedy, sub. 23, p. 1)

Staff are reluctant to try new teaching ideas as these may receive poor student evaluations, instead favouring approaches to research and teaching which are safe. (TEU, sub. 83, p. 25)

By and large, higher education institutions in New Zealand claim to greatly value the quality of teaching, and by and large they evaluate this quality primarily based on student feedback (or

'evaluations' as it is often incorrectly referred to). ... By and large, higher education teachers who wish to be promoted within these systems not only have to teach well, they have to teach in ways that students approve of. And there are consequences to this. In particular teachers who are innovative, in my experience, tend to struggle... When it comes to student ratings, innovation is the first thing to go; it is simply too risky. Next to go are challenging elements within a curriculum. ... Innovative teachers who incorporate quantitative elements in their courses (such as mathematics and statistics) are particularly challenged in our higher education system. It is far easier to survive within New Zealand's higher education system if you keep the challenge out of the teaching. (Shephard, sub. 16, p. 6)

Students whom the TEC does not subsidise

The discussion above is about domestic students in the TEC-funded market for EFTS. Providers supplying the non-TEC-funded market have strong incentives to respond to the needs and preferences of any student who might be persuaded to pay for their services, or any third party buying on the student's behalf (eg, an employer, or the parents of international students). They also face fewer constraints in the nature of the products they provide (so long as they are not offering a course that leads to a qualification on the NZQF), how much they provide, and the fees they charge. As noted in Chapter 2, there is a thriving market for, and high rates of participation in, non-formal education in New Zealand.

In theory, providers also have a strong incentive to respond to student demand for non-TEC funded programmes of learning that do lead to qualifications on the NZQF. While there are some programmes in this category aimed at international students, there is little non-TEC funded provision leading to a formal qualification aimed at domestic students. A major reason is that students are unable to access student support that would enable them to pay non-subsidised fees for such programmes. This is discussed further in Chapter 15.

Providers seeking to enrol international students have incentives to attend to aspects of quality that matter to their international reputation, including NZQA Category status (for ITPs and PTEs) and international rankings (for universities).

8.3 Implications for employers

Employer engagement carries costs, and its benefits in terms of TEC funding allocations are uncertain (Chapter 4). Universities New Zealand stated:

Work experience [for students] is likely to yield a payback to New Zealand in terms of employment rates, more graduates working in degree-relevant jobs, higher lifetime earnings, greater productivity, higher employee satisfaction and better job retention rates. Few of these benefits accrue directly to universities. The payback to universities comes from their ability to secure SAC funding, to promote the employability of their graduates and to influence recruitment. (sub. 17, p. 33)

Providers supplying both the TEC-funded and non-TEC-funded markets have weak incentives to respond to employers' needs, except in cases where:

- the employer is paying for education and training, and has the option of taking their business elsewhere;
- the relationship with the employer carries other benefits (eg, the promise of consultancy work or research funding); or
- a lack of connection with employers would impair the provider's reputation with government or students.

Reputational effects are weak because currently little data are available (either publicly or to TEC) on the labour-market relevance of providers' delivery. This may improve in 2017 with the publication of provider-level graduate outcome data (Chapter 5), and the implementation of Rate My Qualification (Chapter 4).

8.4 Implications for system efficiency

The one-size-fits-all approach to funding and quality assurance has implications for system efficiency. It means some students will be getting more or less education than they need. Switching costs also impair good matching of students to education. Further, the system has poor incentives to look for and implement cost-saving measures.

Providers have weak incentives to control costs

Organisations with market power can divert resources into activities that benefit their managers rather than their customers (Leibenstein, 1966). Such activities have many labels, including “gold-plating”, “management slack”, “rent-seeking” and “x-inefficiency”. Such organisations under-invest in finding cost-saving innovations, and may inefficiently delay their adoption.

These activities plausibly occur in tertiary education, making it more expensive than it could otherwise be. It is not uncommon for tertiary providers to assume what they spent on education provision (ie, expenditure) was the minimum that could have been spent to provide that education (ie, cost). For example, Universities New Zealand (2016b) equates its “best estimate of the actual increase in university expenditure on a per-capita basis” with university subsector “per capita operating costs” (p. 5).

Chapter 10 shows that government subsidies for providers and student fees have risen faster than inflation over the last 10 years. Because cost is not a reliable guide to value added in the market for EFTS,⁷¹ there is no reason to think that higher production costs will necessarily directly benefit students.

F8.10

The market power of providers gives them weak incentives to control costs. Higher production costs do not necessarily result in better outcomes for students.

The highest-cost public provider effectively sets EFTS prices

Financial failure of a TEI presents a high financial and political risk to government (Chapter 7). To manage that risk, government needs to ensure that every TEI makes a surplus – which means setting the price at a level that will sustain high-cost providers.⁷²

Over time, the highest-cost public provider (that does not have other substantial sources of revenue) will effectively set EFTS prices.

F8.11

To manage its financial and political risks, government requires every public provider to make a financial surplus. Government sets EFTS prices at a level that enables this. This means that, over time, the highest-cost public provider (that does not have other substantial sources of revenue) can effectively set EFTS prices.

An EFTS price set by these criteria would mean that the highest-cost provider received just enough revenue to make it fiscally sustainable (ie, its revenue just covers its unavoidable costs over time). By implication, revenue exceeds unavoidable costs for all other providers; that is, they make a surplus. As tertiary providers are autonomous, they can devote this surplus to fulfilling their mission.

The exception is where a TEI’s enrolments fall so dramatically that it is politically easier for government to merge it with another TEI than it would be to raise the EFTS price to enable the failing TEI to remain in business.

⁷¹ Cost is only a reliable guide to value produced in competitive markets. The market for EFTS does not meet many of the relevant conditions for such a market. For example, consumers lack information on quality, providers cannot enter or exit freely, and price and quantity do not respond directly to changes in demand.

⁷² Not every provider need make a financial surplus every year. Providers with financial reserves (or spare or under-utilised assets) may be able to sustain a one or more deficits. However, a public perception of fiscal unsustainability of a provider can create a political problem for government, which may choose to act to avoid fiscal risks before they become imminent.

Is tertiary provision in New Zealand inexpensive by international standards?

Some submitters reported that New Zealand tertiary providers, by international standards, delivered provision at lower cost for a comparable level of quality. For example, the Ministry of Education and the Ministry of Business, Innovation and Employment (sub. DR162) stated that “[c]ompared internationally, the New Zealand tertiary system is both high quality and cost-effective” (p. 2), noting that

New Zealand sits in the top six countries in terms of total public tertiary education expenditure (on households and institutions) as a percent of Gross Domestic Product. Institutional expenditure per student remains just below the OECD average, and tertiary institutions received 52% of their funding from public sources compared with the 70% OECD average. The split between public and private funding puts New Zealand in line with other Anglophone countries that support higher private tuition costs through well-developed government subsidised financial support. (sub. DR162, p. 4)

This claim appears to rely on an OECD analysis.⁷³ However, as suggested by the final sentence of the quotation, the OECD analysis considers only direct institutional funding, not government subsidies directed to students.⁷⁴ It therefore does not allow reliable comparisons between countries that take different approaches to subsidising tertiary education.

The fact that New Zealand’s public expenditure on tertiary education as a proportion of GDP is already relatively high means that any significant expansion of tertiary education – in quality or quantity – is likely to require a parallel improvement in cost-effectiveness. One way to examine whether a large improvement in cost-effectiveness is feasible is to examine the relative productivity of New Zealand institutions.

Reallocation is important for productivity growth

Research has identified reallocation of market share (and associated business inputs) as the single largest contributor to productivity growth (Box 8.5).

Box 8.5 Productivity growth occurs through reallocation

Three mechanisms reallocate market share (and associated business inputs) between existing firms and between existing and new firms:

- firms that increase their productivity expanding at the expense of firms that do not;
- lower-productivity firms exiting the market; and
- new firms entering the market and growing their employment and productivity.

Studies using US data suggest that these reallocation mechanisms contribute as much as 70–80% of productivity growth. One study estimated that market entry and exit by firms was responsible for about one third of this productivity growth. Reallocation between existing firms was responsible for the other two thirds. The 20–30% of productivity growth that is not due to reallocation came from increases in productivity within firms. The threat of reallocation – losing market share – drives the innovation and greater efficiency behind this growth too.

A wide dispersion in productivity performance between firms within an industry can indicate that there are low levels of reallocation occurring. This can negatively affect industry productivity overall.

Sources: NZPC, 2014b; Acemoglu et al., 2013; Lentz & Mortensen, 2010; Bartelsman, Haltiwanger & Scarpetta, 2013.

⁷³ Presumably of the 2013 data as reported in Crossan and Scott (2016).

⁷⁴ The Commission analysed 2013 financial accounts of New Zealand TEIs taking into account government subsidy of student fees, and yielded a public contribution of 66%. Nine percentage points of the fourteen percentage point difference between the Commission’s figures and the OECD figures for New Zealand can be explained by the fact that the OECD figures consider only direct institutional funding, not public subsidy of student support. The Commission’s analysis accounted for the significant public subsidy in the Student Loan Scheme by assuming that government contributes 46% of domestic student fees and levies. The Commission is unable to assess how this approach would affect the data of other OECD countries and, therefore, how New Zealand compares internationally on this measure.

The entry barriers, exit disincentives and quota mechanisms in the tertiary education system mean minimal reallocation, greatly reducing opportunities for improved system-level productivity.

Productivity growth creates excess resources available for quality improvement, so a system lacking productivity growth is also constrained in its ability to improve quality.

F8.12

Quota mechanisms, and barriers to entry and exit, in the tertiary education system mean minimal reallocation of EFTS. This reduces opportunities for improved system-level productivity and quality.

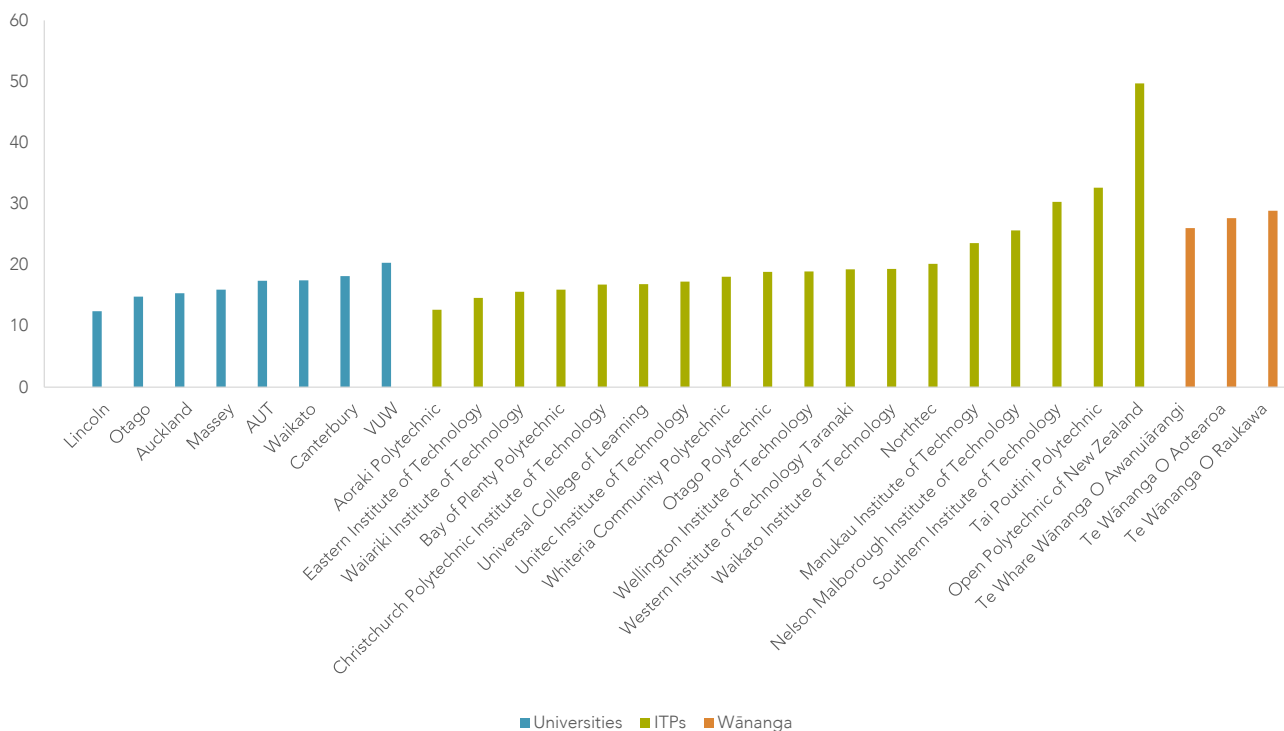
Productivity dispersion in New Zealand TEIs

A large dispersion in the productivity performance of the worst and best performing institutions would indicate, all other factors being equal, weak pressure to improve and, on the other hand, significant improvement opportunities for the worst-performing institutions.

Figure 8.2 above shows a measure of capital productivity: teaching assets per EFTS. Producing one EFTS of teaching at the least productive TEI (the tallest column) requires approximately 13 times the capital assets than at the most productive TEI (the shortest column).

Figure 8.3 shows a measure of labour productivity: EFTS per teaching full-time equivalent (FTE). One teaching FTE at the most productive TEI (the tallest column) produces four times the EFTS than at the least productive TEI (the shortest column). The Open Polytechnic is a clear outlier, with a different business model and serving a different student population. When this institution is removed from the analysis, the dispersion in labour productivity between TEIs is smaller, but still significant.

Figure 8.3 Labour productivity: EFTS per teaching FTE, by TEI, 2015



Source: TEC; Productivity Commission.

Notes:

1. The most productive TEI has the tallest column in this graph.
2. The measure is EFTS divided by the full-time equivalent number of academic and tutorial staff at the TEI.

F8.13

There is significant dispersion in labour productivity across TEIs, and even larger dispersion in capital productivity. Such dispersions generally indicate weak pressure to improve and, on the other hand, significant improvement opportunities for the worst-performing institutions.

Cross-subsidisation has risks and benefits

In the New Zealand tertiary education system, providers cross-subsidise extensively between:

- large undergraduate classes (especially at first year) and small upper-undergraduate or postgraduate classes;
- cheap-to-teach students and expensive-to-teach students;
- low-cost and high-cost modes of delivery; and
- high-margin fields of study (ie, those where the provider's revenue – tuition subsidy plus fees – is significantly higher than its cost per student) and low-margin fields of study.

Providers also cross-subsidise between teaching and research, and sometimes other activities such as research commercialisation or student accommodation.

Some degree of cross-subsidisation is normal, and probably optimal, for any multi-product organisation. In the case of Investment Plan-based tertiary education funding, it allows providers to accommodate inaccuracies in the cost-plus pricing model, which is necessary to the smooth operation of the system. Where it is transparent and well-understood, cross-subsidisation is a useful tool.

However, cross-subsidisation in tertiary education can be problematic, especially where providers and government lack good information about its nature and extent, and so cannot make considered decisions about when and where to use it. The Commission understands that this is often the case in New Zealand. Examples of problems arising from cross-subsidisation are as follows.

- Substantial cross-subsidisation by tertiary providers can undermine the intent of funders and weaken allocative efficiency. For example, government might allocate \$2 billion to teaching and \$1 billion to research, on the basis that taxpayers relatively value these two activities in that ratio. However, providers might value the two activities equally and, if they can freely cross-subsidise, they will spend \$1.5 billion on each, failing to reflect the intention of the funding allocation.⁷⁵
- Cross-subsidisation can result in unfair competition, when some providers in a market can limit themselves to engaging in high-margin activities, while others are obliged (eg, by statutory characterisation) to undertake specific activities that are low-margin or loss-making.
- Government-set tuition subsidy rates assume some level of cross-subsidisation within providers (Chapter 7). Where these assumptions fail to hold, then government may be paying either more or less than it needs to, given providers' costs and the nature of the market.

The last two problems interact. An example may be SAC levels 1–2 competitive funding, where the Commission has heard that PTEs have out-competed ITPs for high-margin areas of foundational delivery, leaving the low-margin or loss-making delivery with ITPs (Chapter 7). One way of looking at this is that, historically, government had been paying more than it needed to for the high-margin delivery, but less than it needed to for low-margin or loss-making delivery. ITPs resolved this gap via internal cross-subsidisation. Government's shift to a partially tendered procurement process has addressed the first problem, but – because ITPs cannot successfully bid for higher prices for higher-cost provision – it has exacerbated the second problem. DairyNZ submitted that “[a]s TEC has pulled back from funding low-level courses,

⁷⁵ This cross-subsidisation may be justified if it results in greater overall efficiency; for example, because taxpayers' preferences about allocations did not consider relevant complements-in-production that are known to providers.

providers have lost the ability to cross-subsidise higher-level, but more expensive, courses” (sub. DR149, p. 3).

Limits on providers’ ability to cross-subsidise may contribute to homogenous provision. Victoria University of Wellington (VUW) submitted:

In particular, the higher fees for postgraduate programmes (whether paid by student or employer) will allow universities to develop the bespoke, small-class size, vocational programmes required by New Zealand’s small-to-medium sized businesses. Currently such small, specialised postgraduate programmes have to be cross-subsidised by revenue derived from higher-margin large undergraduate classes. (sub. DR166, pp. 6–7)

However, a senior lecturer in the VUW school of management submitted that

The EFTS funding, which enables large universities to cross-subsidise programmes for the organisational market, has largely driven out of business once important employer-supported initiatives such as the Institute of Management and College of Management. When funding is based on student numbers and three-year degrees, the business logic is to provide these, not short courses well integrated with employer needs. (Norman, sub. DR141, p. 4)

Technological change could affect provision that relies on cross-subsidisation. Bachelor’s-level students might wish to complete their 100-level papers online at low cost and then seek to enrol at a campus-based provider for higher levels of study. Universities might not be able afford to deliver 200- and 300-level specialist classes at the current funding rate and scale, as they rely on cross-subsidisation from large 100-level classes.

Importantly, the presence of cross-subsidisation can signal opportunities for disruptive innovation and new business models, where they are able to compete.

F8.14

Cross-subsidisation can be problematic where it undermines funders’ intentions, is absent where government’s funding approach assumes it is present, or puts competitors on an uneven playing field.

8.5 Implications for innovation

Chapter 11 discusses where innovation does and does not happen in the tertiary education system. It is obvious to state that it happens only where there is a real prospect of reward through improved revenue, reputation or fulfilment of mission; and where there is enough certainty to justify the costs of change. It is notable how seldom this is the case, however, especially at scale (as opposed to within a single course or faculty, where individual academics might be very innovative in ways that do not spread).

TEC funding constrains innovation, and regulatory settings provide little room for it to occur

A provider will have little confidence that it can attract additional EFTS, or a higher price, via an innovative approach to delivery under current system settings. Any investment in a new approach can feel like a gamble. TEIs have an added incentive not to pursue innovations that could significantly and visibly lower costs, in case doing so leads to a perception that they are over-funded.

Providers are very responsive to signals from government, and government says that it wants providers to innovate (see the inquiry’s terms of reference). However, the incentives in the funding and regulatory environment are to maintain the status quo (with shifts in emphasis between different groups or fields of delivery), with some “sustaining innovation” – that is, continuous improvement activities that incrementally enhance the existing business model. In the words of Independent Tertiary Institutions,

[t]he current tertiary system works best when it is “steady as she goes – same as last year with a few changes at the margin.” It can cope well with that scenario. (sub. 81, p. 21)

Ensuring quality is a necessary part of government's role in tertiary education. However, current mechanisms for ensuring quality can be cumbersome, and can limit or delay innovations in course offerings (Chapter 5). No mechanism is available for experimentation and "fail fast" in trying new courses.

[W]e need a quality assurance process that enables us to prototype and test programmes in the market before final accreditation. (College of Creative Arts, Massey University, sub. 33, p. 7)

In addition, an EFTS bundles together the awarding of credentials, assessment, pastoral care and teaching. This inhibits the adoption of business models that could efficiently unbundle them.

CUAP and NZQA processes provide competitors with early information about planned innovations. This potentially shortens the time in which the innovator could gain a competitive advantage from being first to market, reducing the expected returns from such innovations (noting that, in a fixed quota system, such return might be in reputational goods, or international enrolments, rather than additional domestic enrolments). A reduction in potential returns discourages innovation, other things being equal.

The system limits the entry of innovative new providers

Changing technology and relative prices create opportunities to do things differently and better for customers. The internet, for example, led to the rise of Trade Me and Amazon, and the corresponding demise of classified advertising and the bricks-and-mortar bookshop. No single way of organising production remains best over time.

Limits on the entry of new tertiary providers can limit "disruptive innovation" (Chapter 11). Christensen et al. (2011) argue that disruptive innovation is more likely to come from new firms, while existing firms will innovate only in ways that sustain their existing business model.

Innovation, where it occurs, is more often top-down than bottom-up

Many individual teachers in tertiary education innovate every day in their professional practice. However, these bottom-up innovations rarely spread and scale up, even within providers. When it comes to new models at the system level, government appears to design "innovative" programmes and then procure them directly from providers, often with complex new top-down contractual arrangements. Examples include Māori and Pasifika Trades Training, Engineering E2E, and ICT Graduate Schools.

This approach limits the source of ideas for innovation. It also applies a strong filter: acceptable innovations need to be both politically saleable and contractually procurable.

Contestable procurement offers a limited form of competition. However, this is competition to implement, not competition between innovations. In addition, the procurement process inevitably locks in aspects of the design, limiting providers' and government's ability learn through implementation (NZPC, 2015a). The flow of information from implementation back to the next round of programme design can be slow and unreliable. Further, there is a strong tendency to lock in both good and bad experiments – poor programmes are perpetuated, while good ones fail to spread.

F8.15

Features of the tertiary education system combine to limit innovation and reduce responsiveness to student demand. Competition – where it exists in the system – is not on the dimensions of education-enhancing, cost-reducing innovation or responsiveness to student demand.

8.6 How did the system get to be like this?

Students, employers and providers are autonomous, and make decisions in the pursuit of their own interests and missions. Government seeks to manage its own risks and costs, and to modify the private decisions of these autonomous actors to match its view of the wider public interest (Chapter 5). Government is a very powerful actor in this system and its decisions create powerful incentives on the behaviour of other actors. However, government is not a perfect predictor of provider or student behaviour (Box 8.6).

Box 8.6 Government is not a perfect predictor of provider or student behaviour

Government uncapped the funding system in the late 1990s at a time when government quality assurance of tertiary providers was relatively weak. It was apparently caught by surprise at the entrepreneurial activity of some PTEs, ITPs and wānanga, who swiftly expanded subdegree provision (some of it of low value to students or New Zealand) in response to commercial incentives and a desire to grow.

Government may have anticipated that academic cultural norms would act to moderate these incentives, but this was not uniformly the case. Government may also not have been aware of the latent demand for tertiary education from large numbers of New Zealanders not previously participating in the system (an example of “silent harm” – see Chapter 11).

The costs to government of the uncapped system rose sharply in the early 2000s. The system was recapped for PTEs in 2003 and for all providers in 2006.

The recapped system, with fixed EFTS quotas at national and provider level, removed the risk of runaway growth. However, it required government to make very granular predictions about student demand and labour market need, without access to reliable information about either (Chapter 7).

Source: Crawford, 2016.

Autonomous entities – in particular, TEIs and students – are central to the tertiary education system. The term *complex adaptive system* describes systems with many interacting autonomous entities. Ecological or evolutionary concepts can sometimes provide better explanations of system changes over time than mechanistic ones. System behaviour is difficult to predict, as each entity pursues its own goals and makes its own assessments of the likely responses of other entities, possibly modifying its own actions based on those assessments.

Decisions taken by one entity – with good intentions or for political expediency – can become locked in by the responses of other entities. Historic policy settings constrain the present choices available to government, providers and students. For example, as discussed in Chapter 1, the last two decades in New Zealand have seen a see-saw of policies to balance the competing goals of expanding tertiary education, while controlling costs to taxpayers. As long as the share of private financing could grow, so could participation in tertiary education. The introduction of interest-free student loans in 2006 created an uncontrollable fiscal risk that necessitated a permanently rationed system. Since student places were recapped a decade ago, New Zealand has seen overall declining participation in tertiary education. In this way, a student finance mechanism that was originally designed to expand access to tertiary education now requires government to limit that participation.

The tertiary education system, as configured, has high political and financial risks for government. Arguably, the success of TEIs and students in transferring some of their costs and risks onto government has increased government's risk aversion. This has resulted in increasing prescription (including prescription by Cabinet of matters of operational detail, as discussed in Chapter 5), reduced trust, and less autonomy. These features in turn have reduced diversity, flexibility and innovation in the sector.

Government's regulation of tertiary education has evolved over time in response to external changes and, often, to address unexpected effects of earlier regulation. The resultant arrangements are complex, interdependent, confusing and confused. For example, quality assurance responsibilities are spread across the Ministry of Education, TEC and NZQA. The Ministry of Education, TEC and Treasury all have TEI Crown ownership monitoring responsibilities of different kinds. At least five agencies are responsible for providing information to students about provider performance and the outcomes of tertiary study.

Inertia is an emergent property of the system, not a characteristic of providers

The terms of reference for the inquiry identified “considerable inertia” in the New Zealand tertiary education system:

[T]ertiary providers appear reluctant to be “first movers” or “early adopters” shifting away from traditional models. (p. 1)

However, the Commission believes that this inertia is an *emergent property* of the system, rather than a characteristic specific to tertiary providers. An emergent property is a characteristic of a system that arises organically from the complex interaction of autonomous participants, rather than from planning or the design of any single participant.

F8.16

There is “considerable inertia” in the New Zealand tertiary education system. This inertia is an emergent property of the system, rather than a characteristic specific to providers.

Whether or not this inertia is a problem for New Zealand depends on how well the tertiary education system is performing now, and whether it will be able to respond to future trends and shocks. These questions are integral to this inquiry’s terms of reference, and are examined in Part II of this report.

Part II: Outcomes and trends

9 Outcomes of the system

Key points

- Government publishes a variety of information about the outcomes of New Zealand's tertiary education system. However, this information does not always shed light on the system's performance in achieving desired outcomes.
- The outcome measures most often used by government – course and qualification completion rates, and graduate salaries and employment rates – are not reliably good indicators of provider or system performance, because they are not adjusted for differences in the student intake.
- New research into ethnic disparities in Bachelor's level study found course pass rates explained a large amount of the lower retention and completion rates of Māori and Pasifika students' Bachelor's study. However, variables analysed in the research could not explain the whole retention gap for Māori, or completion gap for Māori and Pasifika students.
- The tertiary education system serves some students well. While there has been improvement in course completion rates for Māori and Pasifika students, overall these groups experience worse tertiary education outcomes than other students. The differences are smaller in workplace-based industry training than in provider-based delivery.
- In provider-based education, women complete courses and qualifications at higher rates than men at most levels of study. The reverse is true among apprentices. Gender attainment is roughly equal for non-apprentice industry training.

9.1 Introduction

The overarching conclusion of Part I of this report is that the tertiary education system is tightly controlled and inflexible, with few incentives for providers to respond to the needs of students or employers. Is the system nevertheless delivering good results for students? This chapter examines that question, looking at outcomes for students overall, for Māori and Pasifika, and by gender, as well as broad outcomes for New Zealand. Other aspects of system performance are discussed elsewhere in the report: in Chapter 2 (participation); Chapter 4 (outcomes for employers); and Chapter 10 (outcomes from technology enabled modes of delivery).

This chapter's main finding is that it is hard to make meaningful judgements about system performance in delivering good outcomes for students or New Zealand, because of the nature of the information collected and reported. In particular, the use of raw measures rather than value-added achievement measures makes it difficult to tell what difference tertiary education actually makes for different groups of students. Without knowing this, it is not possible to draw reliable or nuanced conclusions about system performance.

That said, evidence clearly shows that the tertiary education system, while it serves some students well, underperforms overall for Māori and Pasifika students. These groups experience persistently worse tertiary education outcomes than other students.

Taking this in combination with the findings of earlier chapters,⁷⁶ there is a *prima facie* case for change. New Zealand can and should be ambitious for its tertiary education system, and need not settle for a tertiary education system in which a substantial proportion of participants experience inequitable outcomes. This is important for instrumental as well as moral reasons: Māori and Pasifika young people make up an increasing

⁷⁶Including F8.7, "funding and quality assurance systems do not reflect stated government commitments to improving educational outcomes for disadvantaged student groups, including Māori and Pasifika".

proportion of New Zealand's youth population and labour market, and their educational success is critical to the country's future prosperity.

The next chapter explores further aspects of the case for change. Chapter 10 discusses changes in technology and modes of educational management and delivery that present exciting opportunities for improving outcomes from the system.

Part III of this report makes recommendations that would make the system more innovative and open to new models of tertiary education.

Submitters' views on performance

People's views differ on the relative value of tertiary education's different purposes. They therefore also differ on what makes for a high-performing tertiary education system, and how well the current system is performing. Box 9.1 presents a selection of submitters' views.

Box 9.1 Submitters' views on performance

Submitters expressed a variety of views on how to measure tertiary education system performance:

The most appropriate measure of the effectiveness of the tertiary education system is "the proportion of adult citizens who are able to sustain satisfying, productive and prosperous livelihoods, who achieve their potential, and who extend their connecting links with the family and wider world". (ACE Aotearoa, sub. 32, p. 6)

[R]ather than weigh in on tertiary education's purpose from a system perspective, we have instead found it helpful to think of things in the context of a learner's intention. We could endlessly debate the societal and economic purposes of tertiary education and which functions are more important. What learners want out of tertiary education – how they see it serving them – is a personal, individual matter. It is not for Government or its agencies; the system or its institutions; or indeed organisations like ours to dictate a learner's reason-why. It's theirs. (Ed. Collective, sub. 89, p. 9)

The ACE sector's strength is the knowledge of how to progress learners, generally from a very low base of skill, to become contributing and productive members of society. An innovative measure of the funding spend could be a learner's level of progression. (ACE Strategic Alliance, sub. 34, p. 3)

[G]raduate salaries and employment rates are entirely appropriate measures, especially when benchmarked across the sector; while some of these results may be reputational rather than instrumental (in the sense that a graduate from University X may not actually be much better at a job than a graduate from University Y, but University Y may have the reputation of producing better graduates) this is still an acceptable measure of performance. (Alach, sub. DR111, pp. 5–6)

Submitters also expressed a variety of views on how well the current system is performing:

Although the New Zealand university system is not perfect, it is extremely strong by international standards and is stellar when compared with other parts of the New Zealand tertiary education system. (UNZ, sub. 17, p. 10)

We recognise that these [sector performance] figures are not uniform – particularly in regard to outcomes for Māori and Pacific people – but overall they indicate a sector that is having considerable success in meeting its objectives. (TEU, sub. 83, p. 11)

Those who have been away from the system for a long time tend to have a perspective that teaching quality within our tertiary institutions is poor. It is certainly the case that tertiary teachers are employed on other bases than their teaching ability ... However, it is not the case that this means tertiary teaching quality is poor. (New Zealand Union of Students' Associations, sub. 19, p. 2)

The ITP sector is successful in responding to the needs and priorities of both employers and learners... (NZITP & Metro Group, sub. 42, p. 1)

The reality is this: the current system is failing students as it is. We know this. Approximately 33% of students do not complete their degrees within 8 years... [For providers, it] seems to be perfectly

fine to fail at the same rate, as long as you don't change anything and everyone else is failing with you. (Ed. Collective, sub. 89, pp. 51–52)

The Tertiary system has not changed for centuries and has only made continuous improvements to an outdated education model in order to keep pace with technology and student needs. It is slow and unresponsive due to the process for adopting changes to qualifications and isn't customer centric. (Creative HQ, sub. 75, p. 1)

Apprenticeship completion and retention rates in New Zealand compare very badly to a number of OECD countries (OECD 2014). For example, Germany, Switzerland and Sweden enjoy apprenticeship completion rates above 80%, while New Zealand completion rates are around 50%. (Quality Public Education Coalition, sub. 48, p. 9)

[O]ur tertiary system is failing to meaningfully improve the situations from minority demographics and no amount of fiddling with statistics will change that. (Victoria University of Wellington Students' Association, sub. 80, p. 11)

The inability or unwillingness of higher education to engage in an evidence-based research-exploration of graduateness leads many to assume that it is scared to look under this particular carpet. And the problem is I think more severe in New Zealand than elsewhere. (Shephard, sub. 16, p. 4)

9.2 Government's changing performance focus

New Zealand governments have thought about tertiary education system performance in different ways over time, with the focus of policy and quality assurance shifting gradually from participation (inputs), to outputs, to outcomes.⁷⁷

In the 1990s, performance improvement focused on participation and access while maintaining basic quality

Government significantly reformed the tertiary education system in the late 1980s and early 1990s to make it more responsive to the economy's needs. The reforms aimed to raise the overall skill levels of the population by expanding access to tertiary education (including removing volume caps on the system in 1999), and making it easier for students to move between different parts of the system. To help control its costs, government enabled tertiary providers to introduce higher tuition fees. It also introduced student loans and targeted student allowances to enable access by students from low-income families.

The New Zealand Vice-Chancellors Committee (now Universities New Zealand) was responsible for ensuring the quality of educational delivery at universities, and the New Zealand Qualifications Authority (NZQA) was responsible for the rest of the system. The quality assurance system sought to ensure that providers complied with minimum standards of pedagogical robustness and organisational capability.

During this period, government mainly collected and published data about participation in tertiary education. There was (and is) less information available about access, that is, who is not participating but could benefit if they did (Chapter 2). While government collected some data about tertiary outputs, this was not routinely analysed or reported at provider level.

In the early 2000s, government's focus expanded to include completions

Participation in tertiary education expanded during the 1990s and early 2000s, and fiscal costs increased. Government (and consequently providers) faced growing pressure to make better use of resources and, in particular, to ensure that participation resulted in qualification completion. Government made funding entirely demand-driven in 1999, but capped it again in 2006, in response to a blowout of enrolments in fees-free subdegree courses of questionable value to students or the economy.

⁷⁷ Much of the historical information given here about policy reforms is drawn from Crawford (2016).

In 2009, government began to publish data on each provider's performance against four output-focused Educational Performance Indicators (EPIs): course completion, qualification completion, retention, and progression. These four measures also formed the basis of the Performance-Linked Funding policy, and of some funding decisions by the Tertiary Education Commission (TEC).

NZQA's quality assurance focus on providers shifted away from maintaining minimum standards, toward encouraging continuous improvement through self-assessment. From 2009, NZQA implemented an ongoing programme of external evaluation and review, in which all non-university tertiary education organisations were periodically and independently assessed for their educational performance and their capability in self-assessment. This included consideration of the relevance of the education to the labour market, as well as its pedagogical quality. Teaching quality was assessed by examining providers' systems, processes and outputs (including via EPI data), rather than direct methods such as in-class observation.

Government's focus now is on improving post-study outcomes and relevance

Since the mid-2000s, and especially over the last five years, government has increasingly talked about the need to improve the "relevance" (to the economy in particular) of tertiary education, and the post-study outcomes of its graduates. The *Tertiary Education Strategy 2014–2019* (MoE & MBIE, 2014) identifies economic outcomes as of particular importance – in terms of graduate employment, and in terms of the wider economic impact of tertiary education (including research and knowledge transfer).

9.3 What is known – and not known – about performance

A lot is known

A lot of data are available about selected aspects of tertiary education system performance. For example:

- the Ministry of Education's "Profile and Trends" publications (MoE, 2016f) give performance information for the system as a whole, and by ethnicity, gender and subsector, for a range of participation and (non-value-added) achievement and attainment measures;
- TEC's "Tertiary Education Performance Report" (TEC, 2015g) gives performance information (including EPI data and contextual information) on each individual tertiary education institution (TEI); and
- The Ministry of Education has published national-level information about graduates' labour market outcomes since 2009 as part of its Employment Outcomes of Tertiary Education (EOTE) project, and will be publishing provider-level information from 2017.

The Commission has drawn the performance information in sections 9.4–9.7 chiefly from these sources.

But there are gaps in information about some student groups

The Commission has not found good information on how well the system is performing for some groups of students.

- **Students from low-income families.** Information is sometimes available by school decile, but this is not a good proxy for the socioeconomic status (SES) of individual students. New research discussed in this chapter (section 9.5) looks at Bachelor's study by socioeconomic deprivation, as measured at the meshblock level.
- **Students with disabilities.** The Ministry of Education's *Profile & Trends 2009* publication (MoE, 2010b) includes a short article on students with disabilities. It looks only at participation, and does not provide enough information to enable an assessment of system performance.
- **Students who cannot access campus-based learning.** Research is available about online education (eg, Guiney, 2016, discussed in Chapter 10), but does not distinguish between students actively choosing online delivery versus those for whom it is the only available option. The two groups may experience different outcomes, especially in blended delivery, due to their different abilities to attend block courses or face-to-face sessions as a complement to online delivery.

In addition, while published performance data are often disaggregated by students' ethnicity, the data are rarely adjusted for other factors known to influence students' tertiary participation and achievement, such as SES and prior achievement. This makes it hard to disentangle ethnicity effects from other effects.

A paucity of value-added measures

The Commission has not found performance data (eg, course and qualification completions) adjusted for student characteristics that almost certainly affect (or proxy for other effects on) students' educational co-production and consequent learning outcomes. This includes things like students' prior achievement or their parents' qualifications. Current published measures of course and qualification completions, including the EPIs used in Performance-Linked Funding, do not adjust for these things but instead are "raw" measures.⁷⁸

The advantages of using raw measures to track system or provider performance are that they are simpler to produce, and (when collected and reported at provider level) they give providers strong incentives to invest the extra it may take to help every student to "get across the line" to pass a course or qualification.⁷⁹

The downside of using raw measures is they do not distinguish between the difference that providers make to students, and pre-existing differences in the students that they enrol. This matters because tertiary education outcomes depend on both students and providers (Chapter 2). Any form of measurement that fails to account for differences in students' starting positions will tend to punish providers that enrol students who require more support to succeed, and reward or shield those that enrol students who require less support to achieve. Such measures cannot reliably give meaningful information about the performance of providers or, in the aggregate, the system as a whole.

For example, Table 9.1 compares course completion rates among universities. Massey University has the lowest completion rates – but Massey also has a long tradition of distance education for which completion rates tend to be lower. By contrast, the University of Auckland scores more highly but does not stand out from the other universities, despite the fact that it has higher entry requirements than the others. A better system of measuring outcomes would take account of these sorts of differences to make fairer comparisons of provider value-add.

Table 9.1 Course completion rates at New Zealand universities, degree and postgraduate, 2015

University	Course completion rate
Auckland University of Technology	89%
University of Otago	88%
Victoria University of Wellington	88%
University of Canterbury	87%
University of Auckland	86%
Lincoln University	84%
University of Waikato	84%
Massey University	82%

Source: TEC, n.d.

Notes:

1. For postgraduate study, only levels 7 and 8 are included.

⁷⁸ In the case of Performance-Linked Funding, the data are weighted for students' part-time status but not for other characteristics. The Performance-Based Research Fund measures research outputs, and tries to take account of the quality of research. But the Research Degree Completion metric that allocates 25% of PBRF funding is a raw measure of output quantity.

⁷⁹ Raw measures are sometimes also described as "more transparent" or "easier to understand". However, to the extent that they mislead about system performance, they are actually less transparent to a lay audience than value-added measures.

Government's use of raw measures in Performance-Linked Funding and in published information also gives providers an incentive to cherry-pick the best students, and weakens their incentives to help students to become high achievers (rather than just pass courses).

Submitters had a range of views on the Commission's recommendation that government adopt value-add measures to assess provider performance.

Box 9.2 Submitters' views on value-add measures

Some submitters strongly supported recommendations that the Ministry of Education and TEC prioritise the value-add of tertiary education.

We [Quality Tertiary Institutions (QTI)] note with approval that the draft report recommended that the Ministry of Education and TEC should prioritise analysis of the value-add of tertiary education (with comparisons between TEOs/types of study) and publish the data. QTI has discussed this issue before and is strongly supportive. (QTI, sub. DR156, p. 3)

We strongly support Recommendation 12.4's focus on information relating to the value-add element of tertiary education, and particularly welcome the Commission specifying that this should relate to different groups of students. We discussed deficiencies in current approaches to performance measurement and argued for such a value-added approach in our submission on the Issues Paper, and welcome the Commission's conclusions in this area. (Ako Aotearoa, sub. DR157, p. 10)

TEC supports this recommendation and believes it would help to incentivise TEOs to focus on quality teaching and student support, and to reach out to all learners. This would also allow us to recognise the different roles that various parts of the system serve in helping learners who have different needs and aspirations. Value-add analysis could be difficult to undertake, but we believe the effort would be worthwhile. (TEC, sub. DR167, p. 2)

It is very easy for others to cherry pick the top performing students who are less challenging to teach. How do you reward the institutions for taking people that may have poor records from prior study and experiences? One argument is that as of right every student has 13 – 14 years of free formal education. When they disengage (as many Māori do) before they consume that 13-14 years then they re-engage back into tertiary education, they start being charged. In essence they have to pay for education they should have received as of right in the tertiary system. The whole tertiary system is built on the assumption that you have successfully completed the pre-tertiary part – a lot of our students have not. If it were not for the wānanga there would be a large sector of society who offer limited skills and training for employment. This 'value add' component should be recognised. (Te Taihū o Ngā Wānanga, sub. DR173, pp. 4–5)

Others were supportive in principle, but wanted more detail about how "value add" would be measured or contextualised.

The introduction and reporting of value-add measures for providers (R12.4) is good in principle, but if these measures are unsophisticated or too narrowly set by the Ministry of Education and the Tertiary Education Commission they would inevitably have a distorting influence on what universities do and how they behave. This goes against the language of autonomy that is pervasive in the report. For example, if society conceptualizes universities as sites for equipping individuals with a broad, critical liberal education for the broader benefit of society (i.e. rather than solely as sites for preparing individuals for immediate employment and addressing industry skill shortages), then it would be difficult to quantify the "value-add" measures for universities in any meaningful way at an institutional level and without full scale social science research. A better approach would be to provide opportunities for universities to show that they are delivering on their graduate profiles. (University of Auckland, sub. DR118, pp. 4–5)

The recommendations provide insufficient detail of what is required and how the things that are wished for will be created. I urge commissioners to either provide the details, or suggest that the details need to be provided by encouraging higher education to research the practices of tertiary education... (Shephard, sub. DR125, p. 6)

The TEU is broadly supportive of this recommendation, however our concern is that if not properly contextualised, such an approach could lead to emphasis on a narrow range of education and

training that has a direct link to specific occupations. When publishing this information, it should be clearly set in a context that recognises and values the public good benefits of the breadth of tertiary education, not just those study areas that lead to a defined job. (TEU, sub. DR132, pp. 15–16)

A few submitters did not support the recommendation.

“In the end, the student’s achieving of the promise of higher education has to depend essentially on his or her efforts”; a failure to “add value” to a student may have nothing to do with the institution’s “performance” and everything to do with the student’s failure... (Alach, sub. DR111, p. 5)

I do not support this recommendation. As pointed out by the Commission’s own work, graduate outcomes are dependent on the location of the employment of the graduating students, whether or not employment is in a city/region where there are appropriate employment opportunities for the qualifications obtained. The locale of employment or the economic prosperity of that locale cannot be controlled by the provider... (Hodder, sub. DR142, p. 1)

F9.1

Course and qualification completion rates as currently published by government are not a reliably good indicator of a provider’s performance in educating students, because they are not adjusted for differences in the student intake.

Developing value-added measures of tertiary performance

The Ministry of Education has work planned using the Integrated Data Infrastructure (IDI) to track how tertiary outcomes (particularly graduates’ earnings) are influenced by students’ background characteristics and prior achievement, including NCEA achievement, subject choice, and a range of demographic factors. This will build on Engler’s research (Box 9.3) about the determinants of students’ Bachelor’s-level enrolment and first-year success. The Ministry of Education does not yet know when this analysis will be completed.

Research such as that by Meehan, Pacheco and Pushon (2017) can shed light on the results of different combinations of groups of students, providers, and types of study, to isolate the differences that matter to outcomes and identify the most valuable combinations for each student group. This kind of analysis has the potential to enable decision-makers in the system (students, providers and government) to make better choices about their tertiary enrolments and investments. Within current system settings, these choices are constrained by limits on price and volume (Chapter 7). Different settings would enable re-orientation of the system toward better outcomes for students.

Chapter 12 explores this idea further, and recommends that government prioritises analysis of the value-add of tertiary education, including at provider level. It recommends that government identifies what kinds of study, and at what providers, result in the best outcomes for different groups of students, and publish this information for use by students, parents and providers.

Box 9.3 **What is already known about what influences students’ enrolment and success in tertiary study**

Engler (2010a) looked at what made school leavers with University Entrance less or more likely to start studying for a Bachelor’s degree between 2005 and 2008, and what affected their success in the first year of studying for their Bachelor’s (2010b). Engler found that enrolment and success at Bachelor’s level were both strongly determined by school achievement, with some additional effects relating to ethnic group and school decile.

Findings about students’ likelihood of enrolling in Bachelor’s level study are noted below.

- The higher a student achieved at school (as measured by National Certificate of Educational Achievement (or NCEA) achievement score), the more likely they were to study at Bachelor's level.
- School decile strongly affected the propensity of students to study at Bachelor's level. Students from low-decile schools were less likely to go on to Bachelor's study than students with similar NCEA achievement scores from mid-decile schools; and students from mid-decile schools were less likely to go on to Bachelor's study than students with similar NCEA achievement scores from high-decile schools.⁸⁰ However, this did not apply to students with the lowest NCEA achievement scores, whose propensity to go on to Bachelor's study was not affected by their school decile.
- School decile interacted with ethnicity for Māori and Pasifika students. For students defined as ever-Māori, sole-Māori, or sole-Pasifika,⁸¹ and who gained University Entrance and went straight into tertiary education, those from lower-decile schools with mid to higher achievement scores were significantly less likely to study at Bachelor's level than similar students from higher-decile schools. There was no such effect for European or Asian school leavers.

Findings about Bachelor's students' success in their first year are noted below.

- School achievement was the strongest predictor of performance in the first year of a Bachelor's degree. However, "not all higher-achieving school students performed equally well at university, and some who had lower school achievement out-performed students with higher school achievement" (2010b, p. 1). Students who were high-achievers at school but not at university included those who studied part-time or part-year, those from the sole-Pasifika ethnic group, or those from low-decile schools and not of sole-European ethnicity.
- Students who were not high-achievers at school but who did well at university included those who took a year off between school and university – especially for students from low-decile schools. There was no beneficial "gap year" effect for European or sole-Pasifika students.
- Lower-achieving students from low-decile schools did better in their first year of Bachelor's study than similar students from high-decile schools. "This suggests that among lower achieving students, NCEA underestimates the ability of those from lower decile schools. And conversely, NCEA overestimates the ability of those from higher decile schools" (2010b, p. 1).

Qualifications are an imperfect proxy for skills, but learning can be assessed directly

Direct measurement of skills shows that qualifications are an imperfect proxy for skills.

- Research commissioned by TEC in 2014 found that approximately 50% of school and tertiary students with NCEA level 1, and approximately 40% with NCEA level 2, did not meet a widely accepted minimum benchmark for adult literacy and numeracy. This was despite the fact they had acquired all the requisite credits in literacy and numeracy either at school or in the course of their tertiary study (Thomas et al., 2014a; 2014b).
- The OECD's Programme for the International Assessment of Adult Competencies (PIAAC) directly measures skills for the general adult population. PIAAC data for New Zealand, as for other participating nations, shows a strong correlation overall between qualification and skill level. However, it also shows plenty of variation in individuals' skills at a given level of qualification, and of individuals' qualifications at a given level of skill. Box 9.4 summarises New Zealand's PIAAC results.

⁸⁰ The differences were large: "Higher-decile school students with an achievement score of 55 have a 95 per cent likelihood of studying at Bachelor's level. Lower-decile school students, on the other hand, have an achievement score of 85 for the same likelihood" (Engler, 2010a, p. 22).

⁸¹ See the discussion in Chapter 3 about definitions in tertiary education ethnicity data.

Aside from PIAAC, the skills of graduates in New Zealand are not systematically measured directly. The OECD tried in recent years to initiate a cross-country programme of direct measurement of learning for higher education graduates (the “Assessment of Higher Education Learning Outcomes” or AHELO), but the programme floundered in cross-country disputes about methodology. A similar project specific to Europe, Comparing Achievements of Learning Outcomes in Higher Education in Europe (CALOHEE), seems to be making progress (EURASHE, 2016) but is only open to European participants.

New Zealand does undertake direct assessment of some tertiary participants’ literacy and numeracy skills, via TEC’s Adult Literacy and Numeracy Assessment Tool. TEC requires that tertiary providers use this online tool to assess students funded by SAC level 1–2 and Youth Guarantee at the start and end of each enrolment (TEC, 2016j). TEC has set a target that, by 2019, 25% of students will achieve a statistically significant gain in literacy and numeracy skills during their enrolment (2015j). This proportion was 19% in 2011.

TEC is planning to use data from the Literacy and Numeracy Assessment Tool not just to assess learning gain but also, by controlling for relevant student characteristics, to analyse the value-add (in terms of developing students’ literacy and numeracy skills) of different courses, providers, or delivery approaches. This will be valuable analysis and should be prioritised, in line with recommendation 12.4.

The rest of this chapter mostly uses data on course and qualification completions as the best available proxy for the system’s success in developing students’ knowledge and skills.

Box 9.4 **New Zealand’s PIAAC data**

PIAAC assesses adults’ skill levels directly across multiple countries. New Zealand participated in the second round in 2014, and results were released in mid-2016. PIAAC builds on two earlier OECD surveys in which New Zealand also participated: the International Assessment of Literacy Survey (IALS) in 1996, and the Adult Literacy and Life Skills Survey (ALLS) of 2006.

Early findings from the New Zealand PIAAC data

- New Zealand continues to rank higher than the OECD average overall in literacy, numeracy, and problem solving, but a relatively large proportion of the population has low skill levels.
- Higher qualifications are correlated with higher skill levels, but there is significant variability between individuals at a given qualification or skill level. Educational attainment has less influence on literacy scores in New Zealand than on average across the OECD.
- The difference in literacy skills between the most and least educated groups in New Zealand has increased since 1996. In terms of numeracy skills, the difference has decreased slightly over time but remains larger overall.
- Among those with a Bachelor’s degree or higher qualifications, New Zealand Europeans have higher literacy, numeracy and problem-solving skills than any other ethnic group.
- Literacy and numeracy skills increase from the 16–24 age group to the 35–44 age group, then decline for older age groups. Problem-solving skills peak in the 25–34 age group. This is a broadly similar pattern to that seen in other countries.
- Literacy scores among younger age groups have increased since 2006, but New Zealand’s performance has declined relative to the OECD average.

PIAAC data shows that overall New Zealand has a highly qualified, highly skilled population by OECD standards, but with a significant proportion of low performers. It also shows that, while raw scores for the youngest age group have increased, their relative position across the OECD has declined.

Comparison to PISA

The same patterns apply to New Zealand’s results in the Programme of International Student Assessment (PISA), which assesses the skills of 15-year-olds. New Zealand’s 2009 and 2012 PISA results

showed that, while New Zealand's average scores were high, the difference between high- and low-achievers was the largest (for reading) or second-largest (for mathematics) in the OECD. Also, while raw PISA scores increased between 2009 and 2012, New Zealand's relative position in the OECD slipped from 7th in reading, 7th in science and 13th in maths to 13th, 18th and 23rd respectively.

The similarity in patterns between PISA results and young adults' PIAAC results suggest that whatever happens educationally between age 15 and young adulthood in New Zealand does not reduce variation in skill levels across the population, or improve the skills ranking of younger New Zealanders compared to other OECD countries.

Source: MoE & MBIE (2016a; 2016b; 2016c) and OECD (2016e) for PIAAC data; May et al. (2013) and Telford (2010) for PISA data.

F9.2

International assessments show that New Zealand 15-year-olds have high average skills in literacy and numeracy, but with a lot of variation between 15-year-olds, and a long tail of low-skilled teenagers. The same pattern applies to New Zealand adults in their 20s. The tertiary education system does not appear to influence these patterns in skill variation.

Grade inflation

The proportion of graduates receiving higher rather than lower grades appears to be increasing over time in some countries (Rojstaczer & Healy, 2012). Four of the possible explanations for an increase in average grades over time are higher-ability students, better teaching, changes in the mix of provision delivered, and falling assessment standards.

The term "grade inflation" is used in this report to refer to the phenomenon where progressively higher grades are awarded for assignments or examinations than would have been awarded in the past for comparable performance – when, for example, today's C is last decade's D, or today's A- is last decade's B+.

Is grade inflation occurring in New Zealand?

Inquiry participants report strong incentives or pressures to inflate the grades of borderline students to prevent them from failing to complete a course:

The funding mechanisms also encourage (or even require) grade inflation to meet constantly increasing measurements. There is no way that student cohorts and/or teaching gets better year on year relentlessly... (ITI, sub. 81, p. 11)

...systematic and gradual grade inflation aimed at easing of standards to be more inclusive of a larger number of students and/or a broader range of student backgrounds (in terms of prerequisites) and thereby increasing the flow of EFTS into a programme... (Sainudiin, sub. 74, p. 7)

The focus on Educational Performance Indicators (EPIs) by the government, and its associated use in league tables, has the potential to pit the economic interests of the organization against maintaining high academic standards. Three out of four EPIs for universities (successful completion of courses; completion of qualifications; student progression to higher level study; students retained in study) can in theory be mitigated by grade inflation. Though there is no evidence of this actually occurring, members have reported increased pressure to pass students. (Higher Education Research and Development Society of Australasia (HERDSA), New Zealand branch, sub. 72, p. 6)

The continued funding of our courses requires a set percentage of students to pass the course and so there is pressure to drop standards in some courses in order to maintain the required pass rates. While we resist these pressures, they are real. (Unitec Department of Civil Engineering, sub. 76, p. 9)

A 2016 Tertiary Education Union (TEU) survey of its members found that tertiary staff perceive they are under increasing pressure to pass students (Table 9.2).

Table 9.2 Changes in “pressure to pass a higher percentage of students”, staff perceptions

Much better	Better	Somewhat better	About the same	Somewhat worse	Worse	Much worse
0.1%	0.7%	1.4%	23.6%	14.9%	12.3%	16.8%
Overall better: 2.2%			Overall worse: 44.0%			

Source: TEU, 2016.

Notes:

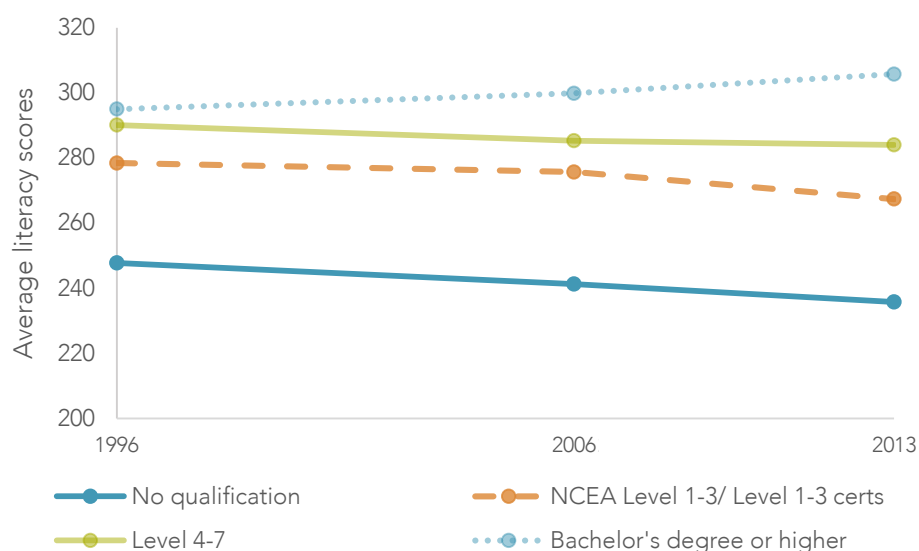
1. TEU members were asked how the “pressure to pass a higher percentage of students” had changed over the past decade.

New Zealand’s quality assurance system uses no direct or indirect measures of students’ learning outcomes. It therefore relies on each provider’s robust processes, and on each academic’s professional integrity, to resist any incentives and pressures to pass students who ought to receive a failing grade.

The Commission has been unable to access time-series information on the average grades for undergraduates in New Zealand. However, the Commission did analyse Honours and Master’s level data published on the websites of four New Zealand universities. The analysis found evidence of statistically significant higher grades being awarded over time, at both Honours and Master’s level, at three of the four universities. It is not possible to tell from this data whether these changes result from grade inflation or from another cause, such as higher entry standards or better teaching.

Analysis of OECD literacy survey data

The Commission also looked at OECD literacy survey data for 25–34 year olds in New Zealand to see whether the correlation between qualification level and literacy skill for recent graduates had changed over time. A finding that individuals at a given age with the same level of qualification were, over time, less skilled may suggest that standards for qualification attainment were falling. However, the data do not show this. Literacy scores for 25–34 year olds with a Bachelor’s degree or higher actually increased slightly between the three surveys (Figure 9.1).

Figure 9.1 Mean literacy scores for ages 25–34, by grouped qualification level, 1996, 2006 and 2013

Source: Productivity Commission.

Notes:

1. Data are from the IALS (1996), ALLS (2006), and PIAAC (2016).
2. Y-axis starts at 200.

Scores for all other qualification groups (level 4–7 non-degree, level 1–3, and no qualifications) declined, though differences were small. These declines are likely to be a selection effect, arising from large increases

over the last two decades in attainment at senior secondary and tertiary level (including growth in degree-level study). These increases mean that, over time, fewer people – plausibly, the least skilled of each group – remain in the no-qualifications or low-qualifications groups.

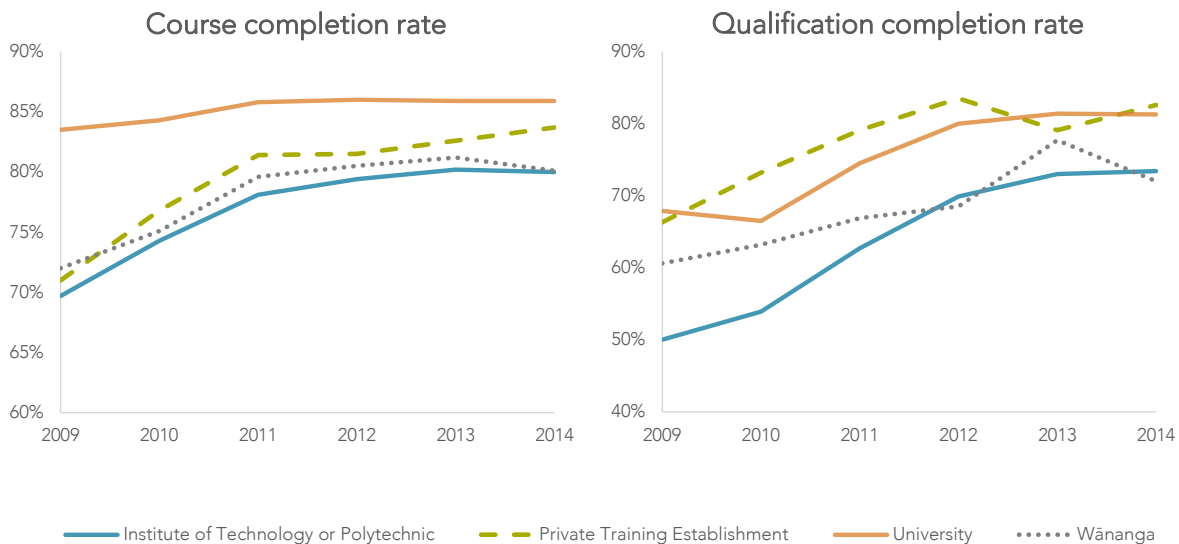
The same selection effect would anticipate a reduction in skill levels at Bachelor’s level, as entry to these degrees has become less selective. However, the data show the reverse effect. More detailed analysis shows that, across all three surveys, the top quartile of the level 4–7 group is more skilled than the lowest quartile of the Bachelor’s group. To the extent that increases in degree-level participation over time have drawn from the most skilled members of the population that would previously have studied at levels 4–7, this selection effect would also explain the increase in skills at Bachelor’s level.

9.4 Overall outcomes for students

Achievement outcomes

In New Zealand, raw course and qualification completion rates have increased in each subsector since 2009 (Figure 9.2). The largest increase for course completions (the more informative measure – see notes to the Figure) occurred between 2009, when completion data was first published and the Performance-Linked Funding policy was announced, and 2011.

Figure 9.2 Completion rates by subsector, 2009–14



Source: Tertiary Education Commission; Productivity Commission.

Notes:

1. The qualification completion rate in this data are measured against an artificially constructed cohort and is affected by changes in student volumes. For example, in 2014, 26 tertiary providers had apparent qualification completion rates of over 100%. TEC introduced a more meaningful indicator for qualification completions in 2016.
2. Y-axis does not start at 0.

The six-year qualification completion rate for full-time Bachelor’s degree students in New Zealand is 81%, among the highest in the OECD. These results are in spite of the fact New Zealand has a comparatively high share of part-time students – a factor that is often associated with lower completion rates (Crossan & Scott, 2016).

Some 30% of adult New Zealanders have a degree or above, compared to an OECD average of 29%. New Zealand has a relatively high proportion of adults with level 4 qualifications (Figure 9.3). The qualification levels of immigrants and emigrants also influence these data; in New Zealand, immigration is a larger contributor to labour market supply than is domestic tertiary supply, and most immigrants are skilled (Chapter 3).

Figure 9.3 Share of the adult population holding different qualifications, OECD countries, 2015

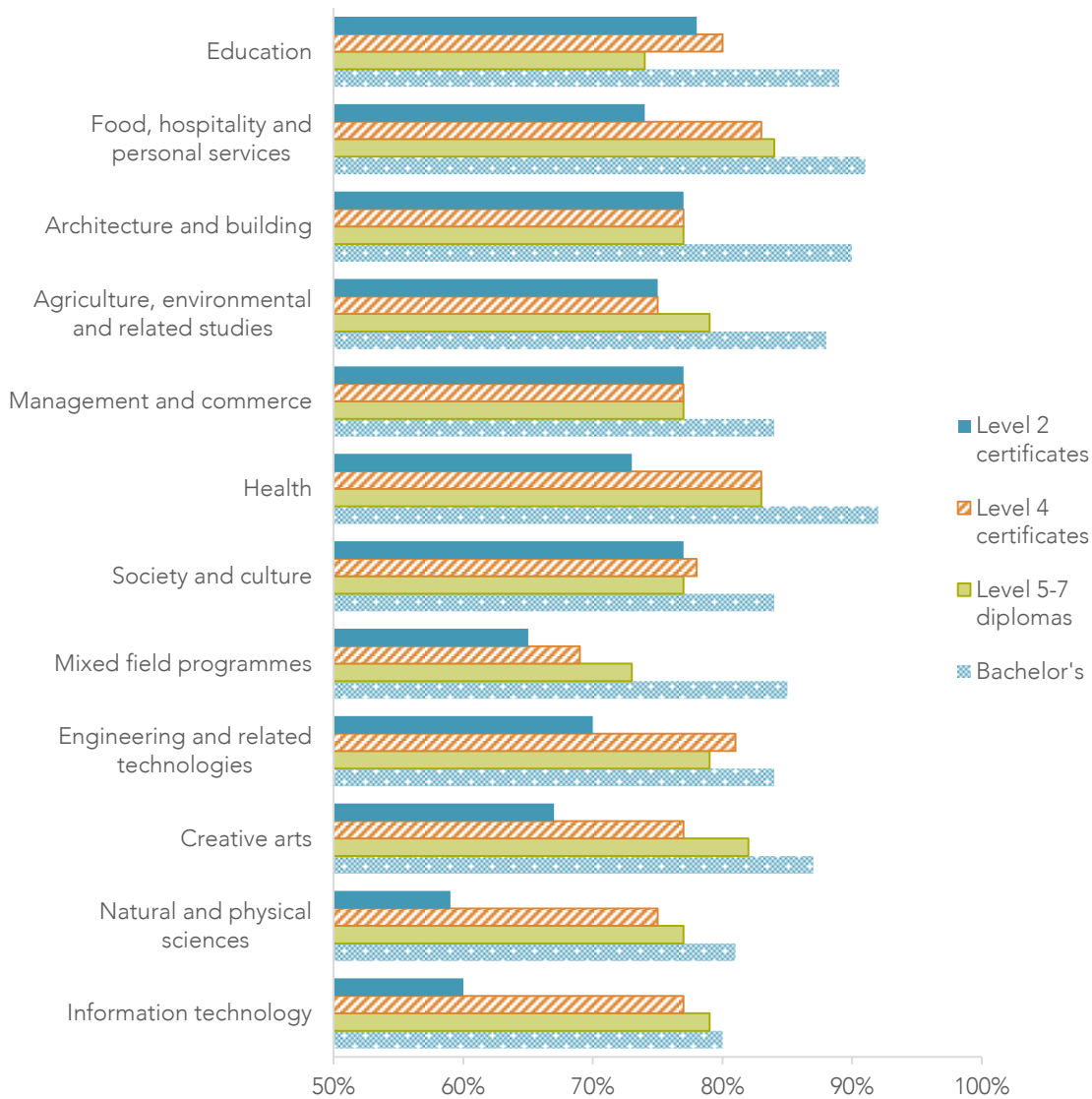
Source: Crossan & Scott, 2016.

Notes:

1. Adult population is defined as people aged 25 to 64.

Achievement by field of study

Figure 9.4 shows course completion rates by broad field of study in 2015 for selected levels of study. It shows that higher-level courses tend to have higher completion rates across all fields, and that some fields have consistently higher rates than others – though the differences are mostly small.

Figure 9.4 Course completion rates by broad field of study and selected levels, 2015

Source: MoE, 2016a.

Notes:

1. Fields of study are sorted here by course completion rates for level 2 certificates, in descending order.
3. Not all levels of study are shown in this figure.
4. See the Technical Notes sheet in the original source for more information on data and technical definitions.
5. Field of study is determined at the course level.
6. X-axis starts at 50%.

Smart (2016) looked at patterns in the field of study of graduates at different levels of the New Zealand Qualifications Framework (NZQF) over time, and found that:

- the distribution of graduates at Level 1 and 2 certificates by field of study showed relative volatility over time, with an increase in graduates in the Mixed field programme field. Changes in the content and provision of this level of qualification, such as an increased focus on foundation-level learning, are likely factors in this pattern
- graduates with Level 3 to 7 certificates/diplomas showed less variation in the field of study over time, with Society and culture and Management and commerce remaining the largest fields of study at this level

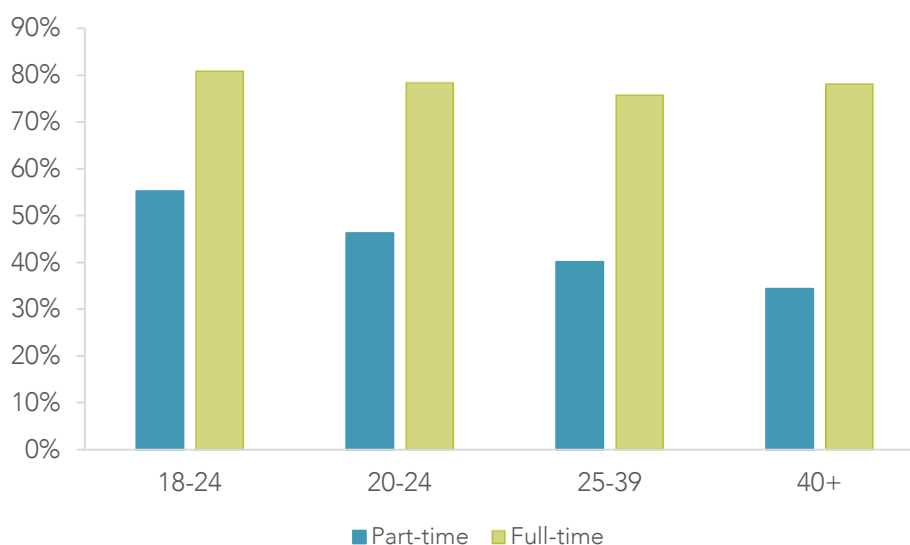
- at the Bachelor's or higher level, there was an increase in the proportion of graduates in STEM-related subjects, a trend shared by Australia, but with a faster pace of change in New Zealand. (p. 2)

Smart also found women were more likely to study and graduate in fields such as nursing and teaching, while men dominated the graduates in areas such as engineering and information and communications technology (ICT). Māori and Pasifika were relatively less likely to graduate in fields related to science, technology, engineering, and mathematics (STEM) at Bachelor's or higher level.

Achievement by age

Qualification completion rates for full-time students do not differ much by age, but rates for part-time students decline with age (Figure 9.5).

Figure 9.5 Eight-year qualification completion rates, by age at time of completion, 2015



Source: MoE, 2016a.

Notes:

1. Data relates to students in formal qualifications at a tertiary education provider who began study in 2007. It excludes on-job industry training.
2. The completion rate is defined as the percentage of students who have successfully completed a qualification at the same level as or higher than the one they started.
3. Students who studied a qualification at more than one level have been counted in each level. Consequently, the sum of the students in each level may not add to the total.
4. Full-time means full-time, full-year (or for the length of the qualification if less than a year) and continuously every year until leaving or completing.

Intergenerational patterns of educational attainment

In New Zealand, as in other OECD countries, a person's educational attainment is influenced in part by the level of education of their parents. Where a person attains a higher level of education than either of their parents did, the OECD's *Education at a Glance* publication calls this "upward mobility".

Upward mobility is more common in New Zealand than most other OECD countries, though this is in part due to migration policies that favour skilled migrants. Skilled migrants make up a relatively large share of New Zealand's population, and they are very likely to be more educated than their parents.

Eighty-six percent of people have at least an upper-secondary education, compared with 70% of their parents. Fifty-six percent of 25 to 44 year-olds have attained a tertiary qualification compared with 44% of their parents. Some 288,000 adults or 16% attained a higher education than their parents. This was above the average increase of 12 percentage points across the OECD....

The mobility change in part reflects imported change as well as domestic system change. New Zealand...has immigration policies that favour immigrants with relevant qualifications and skills. (Crossan & Scott, 2016, p. 35)

Where a person attains a lower level of education than either of their parents, this is “downward mobility”. Levels of downward mobility in New Zealand are similar to the OECD average (ibid).

The effect of parental education levels on Bachelor’s study by a cohort of young New Zealanders is discussed further below.

Labour market outcomes

The labour market outcomes of individual graduates have multiple causes, and it is hard to know what should be attributed to their tertiary education, and what to other influences.

- Students bring widely different personal characteristics to tertiary education, in terms of prior work or study experiences, family resources and networks, and personal skills or traits such as study habits, perseverance, or resilience. These personal characteristics are likely to influence both how effectively a student engages in the co-production of their tertiary education, and how well they do in the labour market and other aspects of life after graduation. The personal characteristics, however, are often hard to measure, and therefore hard to control for when trying to determine the “value-add” of tertiary education.
- Tertiary providers with established reputations endow graduates with prestige as well as a qualification. To give a US example, a graduate from an Ivy League university is likely to do better in the labour market than a graduate from a little-known university, even if the graduates have similar personal characteristics and skill levels. It is hard to separate this effect in the labour market from effects arising from the person’s actual learning experience. Reputation and brands have their strongest effects where information about the quality of delivery is poor.
- Most providers in New Zealand have a mainly regional, rather than national, catchment of students. While some graduates will move away after graduating, others will stay close to family and friends. This means that regional differences in labour markets, wage pressures, housing markets, and health and social services may drive regional differences in a graduate’s work and life outcomes, regardless of the value-add of their tertiary education.
- The labour market outcomes of new domestic graduates who stay in New Zealand will vary from year to year, according to the level of competition across the cohort and from skilled new migrants to New Zealand. The last few years have seen significant increases in migration, with a substantial proportion of migrants being skilled (Chapter 4).

The institute of technology and polytechnic (ITP) subsector is clear that its main purpose is to prepare students for work – but those within the university subsector disagree about whether or not employment outcomes should be a key measure of its success. However, employability is clearly a major concern for students (Chapter 3), and likewise for government as reflected in the Tertiary Education Strategy. Government has a multi-year project underway to measure and publish information about graduates’ labour market outcomes: the EOTE project.

The Employment Outcomes of Tertiary Education project

The Ministry of Education’s EOTE project has published selected national-level data about the employment outcomes of graduates since 2013, comparing outcomes by level of study and by field of study. From 2017, the data will also compare outcomes by individual provider. TEC intends to use EOTE data to shift its spending between providers, or within a provider’s mix of delivery.

The EOTE project focuses on young graduates (rather than older adult students) to reduce the impact on the data of prior work experience. However, EOTE does not take into account differences in the student intake across levels, fields, providers, faculties or modes of delivery, even though such data are available within the dataset.

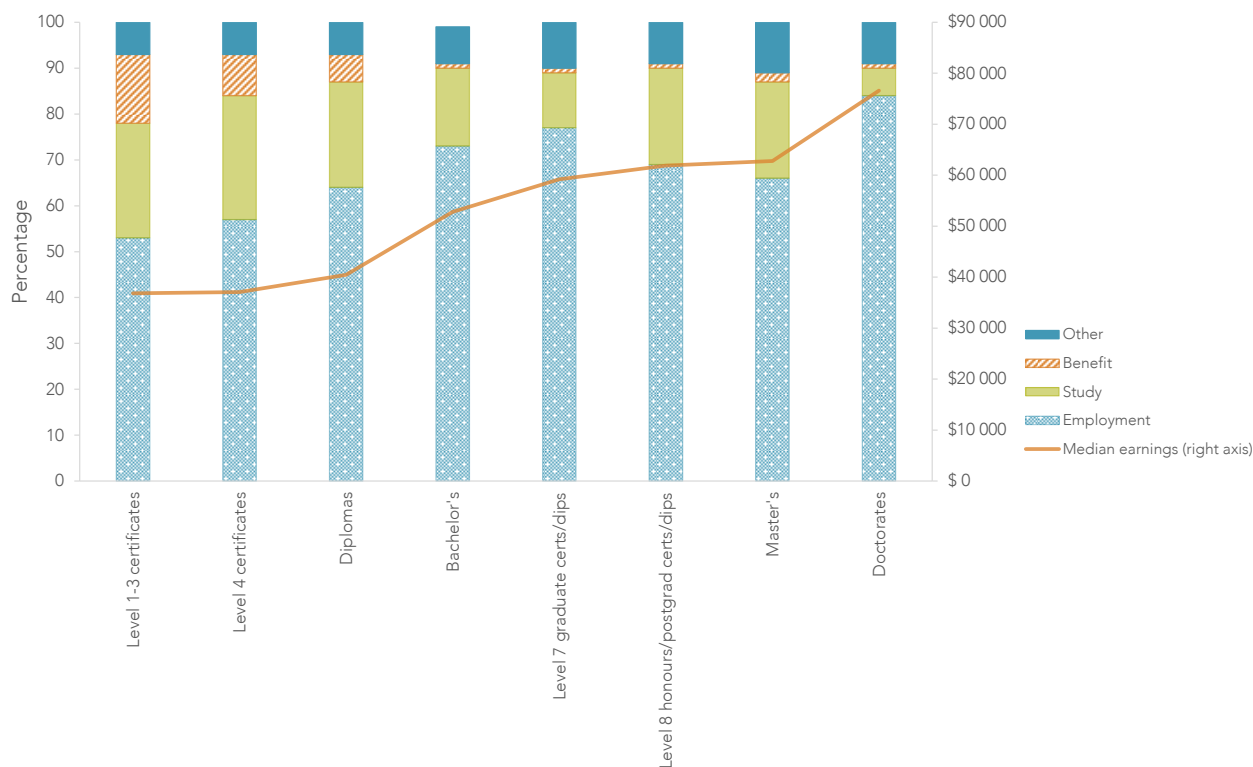
In this way, EOTE will miss an opportunity to provide a value-added measure with more meaningful information about the relative performance of the tertiary education systems’ different parts. The University of Otago expressed concern that EOTE “doesn’t control for regional and gender differences, or provide

information about graduate outcomes at the level of detailed subject area” (sub. DR130, p. 13), and said that similar limitations would also make measuring value-add inherently challenging.

EOTE findings to date

The EOTE project so far has found the main determinant of post-study outcomes is the level that the graduate has studied to, rather than their field of study or the type of provider in which they enrolled. Figure 9.6 shows graduates’ median earnings and destinations by level of qualification.

Figure 9.6 Destination and median earnings, five years post-graduation, of young domestic graduates who stay in New Zealand, 2014



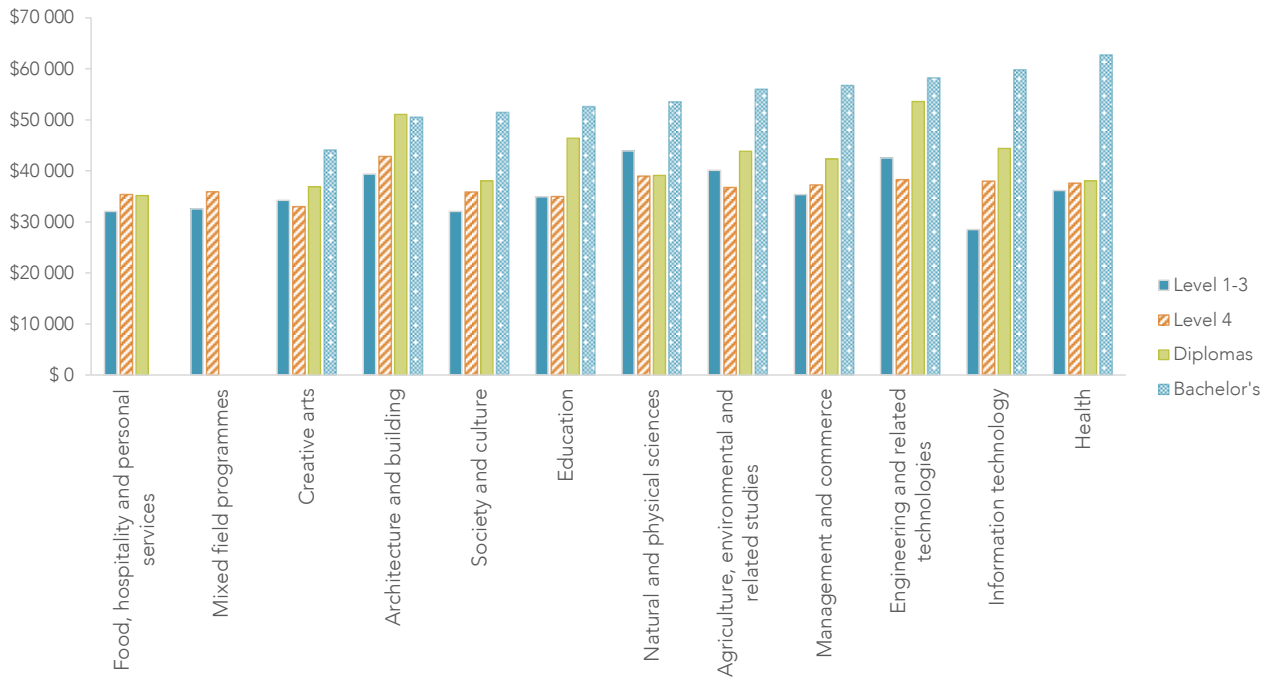
Source: MoE, 2016a.

Notes:

1. Destination categories are exclusive, and “Study” includes all graduates in any further study (at any level, part-time or full-time). This includes some graduates who are also employed.
2. Earnings are the median income of employed young domestic graduates and are not adjusted for hours worked.
3. The age definition of “young graduate” differs by level of study. See original source for further technical notes and definitions.

The data also revealed large differences in post-study earnings by field of study (Figure 9.7).

Figure 9.7 Median income of employed young domestic graduates, by field of study, 2014



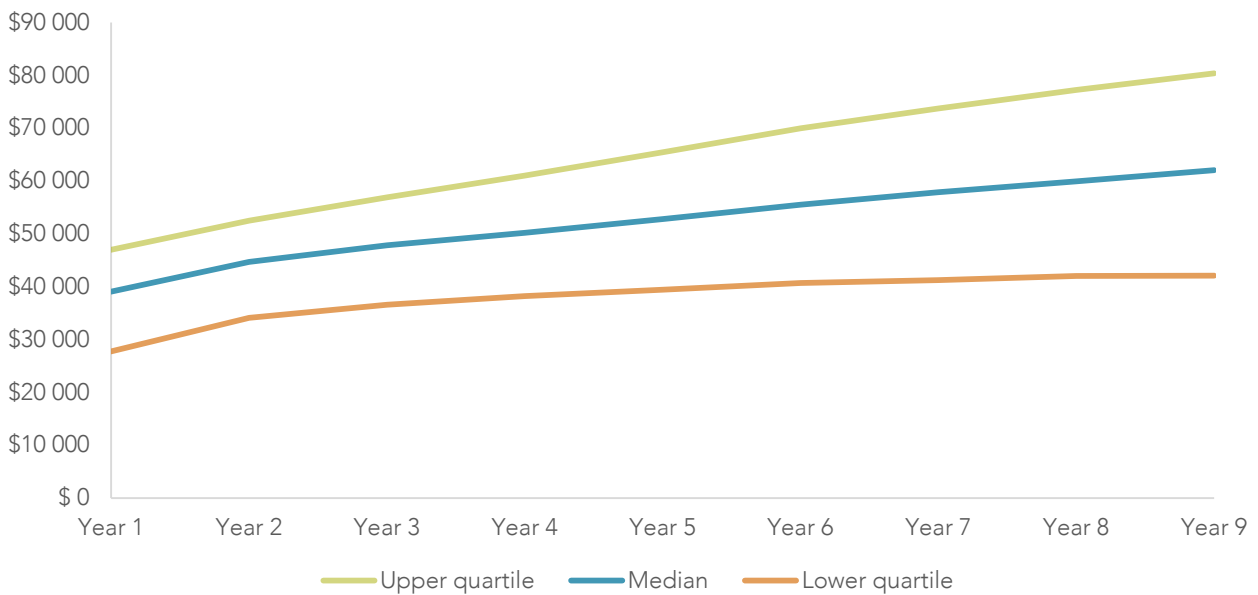
Source: MoE, 2016a.

Notes:

1. Field of study defined by broad New Zealand Standard Classification of Education (NZSCED).
2. The age definition of “young graduate” differs by level of study. See original source for further technical notes and definitions.

The EOTE project also found that graduates’ incomes fall within a narrow range in their first year of work, but start to spread in following years (Figure 9.8). This suggests employers employ graduates at a fairly standard initial salary. Over time, employers learn more about their workers’ actual performance in the workplace, and adjust salaries accordingly.

Figure 9.8 Earnings of Bachelor’s graduates in the first nine years post-graduation



Source: MoE, 2016a.

Notes:

1. Incomes are of employed young domestic graduates. See original source for further technical notes and definitions.

Other sources of labour market outcome data

Tumen et al. (2015) examined the labour market outcomes of students who left school without NCEA 2, and then enrolled in a tertiary qualification while aged 16–19. Of these tertiary students, 44% completed their qualifications. The study found small positive impacts on employment rates for these completers, but not on earnings once employed. It also found no positive impacts for those students who did not complete the qualifications in which they enrolled. Benefits varied by ethnic group, gender, provider type and field of study, and were generally larger for level 4 certificates than level 1–3 certificates.

International comparisons

The difference in New Zealand in employment rates between the most educated (ie, those with a diploma or higher qualification) and the least educated (ie, those with less than an upper secondary school qualification) is smaller than in most OECD countries (Crossan & Scott, 2016). This is mostly attributable to the higher employment rate for the least educated group than is found in most other OECD countries.

Tertiary graduates in New Zealand earn significantly more than their unqualified peers, but the income premia are lower than in most OECD countries. Zuccollo et al. (2013) suggested that this is partly a measurement effect, partly a result of New Zealand's mix of tertiary qualifications (with a comparatively high proportion of subdegree qualifications), and partly a result of factors generally considered to influence New Zealand's economic performance – including low rates of innovation and productivity growth, low capital intensity, and distance to markets.

Analysis of the PIAAC survey, which provides information about educational qualifications, actual skill levels, and matching of both to occupation, may offer further insights. For example, the OECD has noted that literacy proficiency is stronger predictor of higher wages in New Zealand than in most other OECD countries (Quintini, 2016). Several government agencies (including the Ministry of Education and the Ministry of Business, Innovation and Employment (MBIE)) are analysing the new PIAAC data to better understand the links between skills, qualifications, labour market outcomes and productivity.

Student satisfaction with study

As described in Chapter 2, the Graduate Longitudinal Study of New Zealand (Tustin et al., 2016) is a comprehensive survey of 8 000 graduates who completed qualifications at New Zealand universities in 2011. The study suggests high levels of satisfaction among graduates overall, though with dissatisfaction among a sizeable minority (around 7–9%). It does not provide data on the satisfaction of those students who do not complete their course of study.

The survey found that, on a five-point scale from “definitely no” to “definitely yes”, only 42% of graduates indicated their study programme was “definitely” worth the time and effort, but a further 37% indicated that it “probably” was (Table 9.3). Just under 30% of graduates indicated their university experience “definitely” met their expectations, with a further 44% indicating that it “probably/mostly” did.

Table 9.3 Graduates' response to questions about satisfaction with university study

Score	“Overall, was your study programme worth the time, cost and effort?”	“Did your overall experience at university meet your expectations?”
1 (Definitely no)	1.5%	1.8%
2	5.1%	7.0%
3	14.2%	18.0%
4	37.0%	43.8%
5 (Definitely yes)	42.0%	29.5%

Source: Tustin et al., 2016, p. 85.

The study also asked students about the relevance of their study to their working lives (Table 9.4).

Table 9.4 Relevance of study to current work, graduate responses

Score	Proportion of graduates
1 (Not at all)	4.3%
2	8.7%
3	16.5%
4	31.0%
5 (To a very high extent)	39.5%

Source: Tustin et al., 2016, p. 111.

Notes:

1. Graduates were asked "To what extent are your knowledge and skills utilised in your current work?"

A 2016 Law Foundation of New Zealand survey of recent law graduates found that, while graduates expressed high levels of satisfaction with the analytical and theoretical knowledge they gained through their study, an overwhelming majority considered their tertiary education should have done more to prepare them for the realities of working life as a lawyer:

The vast majority of respondents (92.7%) agreed that law school had given them a good grounding in theory and analytical skills. ... [However] only slightly more than a third of respondents (35.7%) agreed that law school had given them a good grounding in legal practical skills, with a majority (52.4%) expressing their disagreement with that proposition. Almost seven out of every eight respondents (86.7%) agreed that their training at law school ought to have been more practical. (Pemberton, 2016, p. 14)

International student satisfaction

New Zealand participates in regular "i-Graduate" international student barometer surveys. Recent surveys have found that international students are very satisfied overall with their New Zealand study, though there is considerable variation between providers (ENZ, 2016).

A 2011 survey of university and ITP international students found that 88% of university students and 90% of ITP students were satisfied or very satisfied with their New Zealand education overall (Generosa et al., 2013). The biggest predictor of overall satisfaction was "satisfaction with the quality of learning", where the satisfaction ratings were 85% for universities and 89% for ITPs (p. 61).

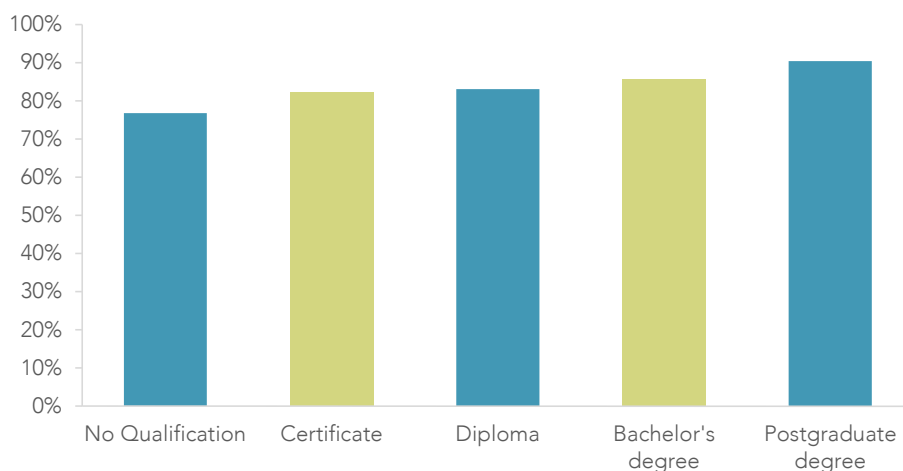
Impact on students' wellbeing

International research has found that a variety of elements of individual and social wellbeing increase with increasing education, including good health, longevity, life satisfaction, and law-abidingness (eg, Department for Business, Innovation and Skills, 2013b).

However, except in large longitudinal studies such the Dunedin Multidisciplinary Health and Development Study, it is very difficult to isolate the contribution of tertiary education to these outcomes, separate to its impact on employment and earnings. As far as the Commission is aware, none of the published research from the Dunedin study focuses on the impact of tertiary education on participants' wellbeing.

The Graduate Longitudinal Survey of New Zealand asks a range of questions about graduates' wellbeing but, as it only surveys university graduates, it does not enable comparison with the general population on these same measures, or with graduates of other provider types.

The New Zealand General Social Survey found that life satisfaction increases with qualification level (Figure 9.9), though the data are not adjusted for labour market effects.

Figure 9.9 Proportion of people who indicated high life satisfaction, by highest qualification, 2014

Source: Statistics New Zealand, n.d.

Notes:

1. High overall life satisfaction is defined here as having scored 7 or higher on a 10-point scale.

PIAAC data found that educational attainment correlates with good health, but again, the data are not adjusted for labour market effects. PIAAC also showed the effect of education on self-reported health was smaller in New Zealand than across the OECD. This appears to be because the least educated group in New Zealand reported comparatively good health:

In New Zealand [in PIAAC data] the difference in self-reported health between those with the highest levels of education and literacy levels and those with the lowest level of education and literacy skill was small at 22 percentage points. The average difference across the OECD was 33 percentage points.

Relative to the least educated and least skilled in other countries, New Zealand reported comparatively good health, with 73% reporting that they were in good health, the third highest in the OECD and higher than the 59% OECD average. (Crossan & Scott, 2016, p. 54)

9.5 Outcomes for Māori and Pasifika students⁸²

The Tertiary Education Strategy 2014–19 identifies Māori and Pasifika as priority groups in the tertiary education system. Many submitters commented on the need to improve outcomes for these students:

The system needs to do more to attract and support Māori and Pasifika learners to succeed on par with other learners. (TEC, sub. 2, p. 4)

In New Zealand there have been persistent ethnic disparities in academic success at tertiary level. ... *There is no excuse for tolerating continuing tertiary disparities when promising solutions and tools for evaluating success exist.* (Te Rōpū Āwhina Whānau, sub. 12, p. 1, emphasis in original)

Tertiary education providers need to find more suitable ways to accommodate to Pasifika students' needs. ... Many Pasifika students in tertiary education are the first in family to study at this level and so support, and information needs to be provided not just to the student, but to their whānau in a way that is aligned to their culture, not that of the institutions. (Ed. Collective, sub. 89, p. 46)

Despite the strategies and frameworks developed over time, participation and achievement rates for Māori in mainstream tertiary education organisations remain lower than anticipated... There are a myriad of structures and processes that can and do serve to impede Māori innovation and participation at all levels and in all contexts... (Te Mata o te Tau, the Academy for Māori Research and Scholarship at Massey University, sub. 99, pp. 2–3)

However, current tertiary funding and quality assurance systems do not reflect stated government commitments to improving educational outcomes for disadvantaged student groups, including Māori and Pasifika (Chapter 8). The effect of this is visible in achievement outcome data for provider-based study.

⁸² This section should be read in the context of the caveats about tertiary education ethnicity data presented in Chapter 2.

Universities New Zealand (sub. 17) stated unequivocally and repeatedly that New Zealand universities cannot meaningfully improve outcomes for Māori and Pasifika within current levels of funding:

There is insufficient funding to advance important government policy objectives in areas such as lifting Māori and Pasifika participation and achievement... (p. 6)

Significant additional progress is unlikely in areas that are priorities for Government (lifting Maori and Pasifika participation, growing STEM numbers and improving graduate work-readiness) within current funding settings. (p. 11)

Where Government believes particular policy objectives are not being met (for example, lifting Maori and Pasifika participation, growing STEM numbers and improving graduate work-readiness) they must consider ways to lifting funding levels to allow universities the opportunity to continue to advance successful initiatives in these areas. (p. 13)

Government should consider supplementing SAC [Student Achievement Component] funding where it wants to see more differentiation or innovation – for example... where particular programmes to support Maori students have been shown to be effective. (p. 14)

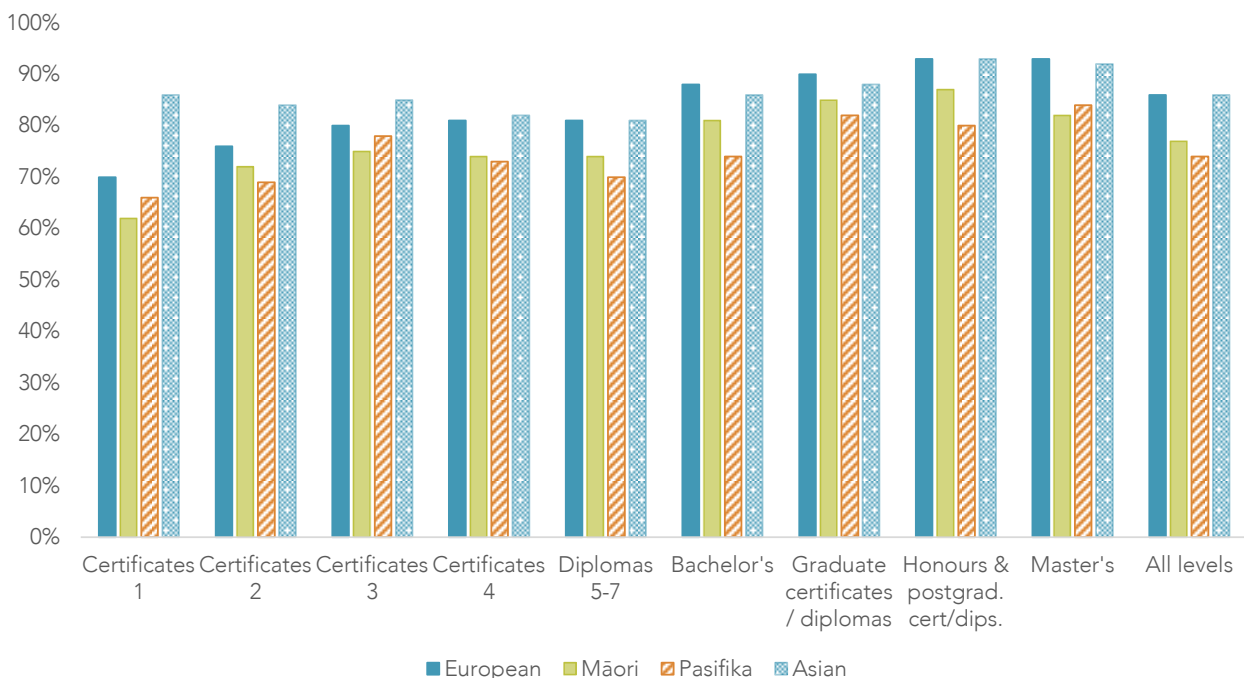
The best way to increase participation and completion rates would be to increase Equity Funding for the specific purpose of lifting Māori and Pasifika participation and achievement... (p. 19)

If existing New Zealand universities are unable to do much more to improve outcomes for Māori and Pasifika students without additional funding, it is worth considering whether universities not currently operating in New Zealand (or operating here, but not as universities) could do so. Part III of this report explores this possibility.

Achievement outcomes for Māori and Pasifika

Course completion rates are lower across all levels of study for Māori and Pasifika students than for European or Asian students, particularly at higher levels of study (Figure 9.10).

Figure 9.10 Course completion rates by ethnicity and level of study, 2015



Source: MoE, 2016a.

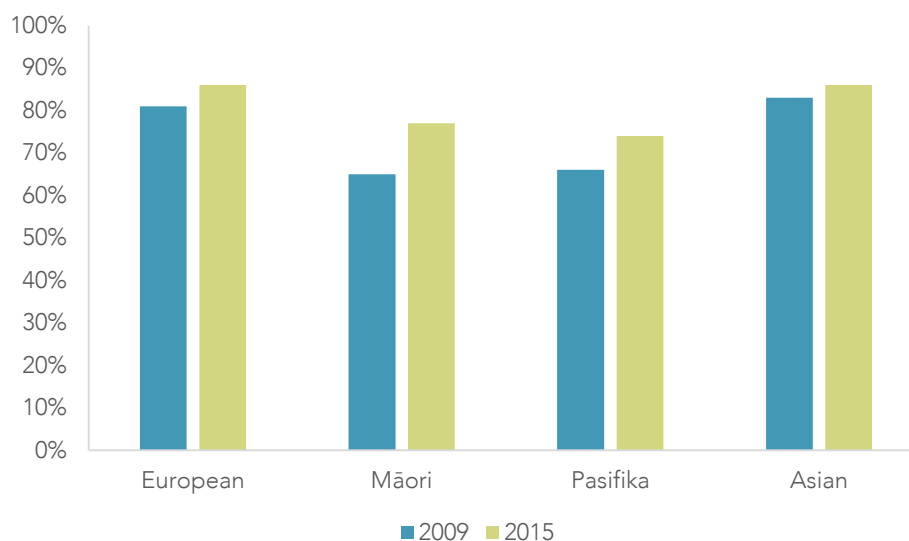
Notes:

1. Ethnicity data are multiple-response, so some individuals' results will be included in multiple categories.
2. These data exclude students whose ethnicity is recorded as "Other" or is unknown.

Course completion rates for Māori and Pasifika have risen over the last six years (Figure 9.11), though mostly in the first half of that period. Since 2009, course completion rates increased most at ITPs and private

training establishments (PTEs) for the student population as a whole, as well as for Māori and Pasifika students (Table 9.5).

Figure 9.11 Course completion rates by ethnicity, 2009 and 2015



Source: MoE, 2016g.

Notes:

1. Ethnicity data are multiple-response, so some individuals' results will be included in multiple categories.
2. These data exclude students whose ethnicity is recorded as "Other" or is unknown.

Table 9.5 Course completion rates by ethnicity and subsector, 2009–15

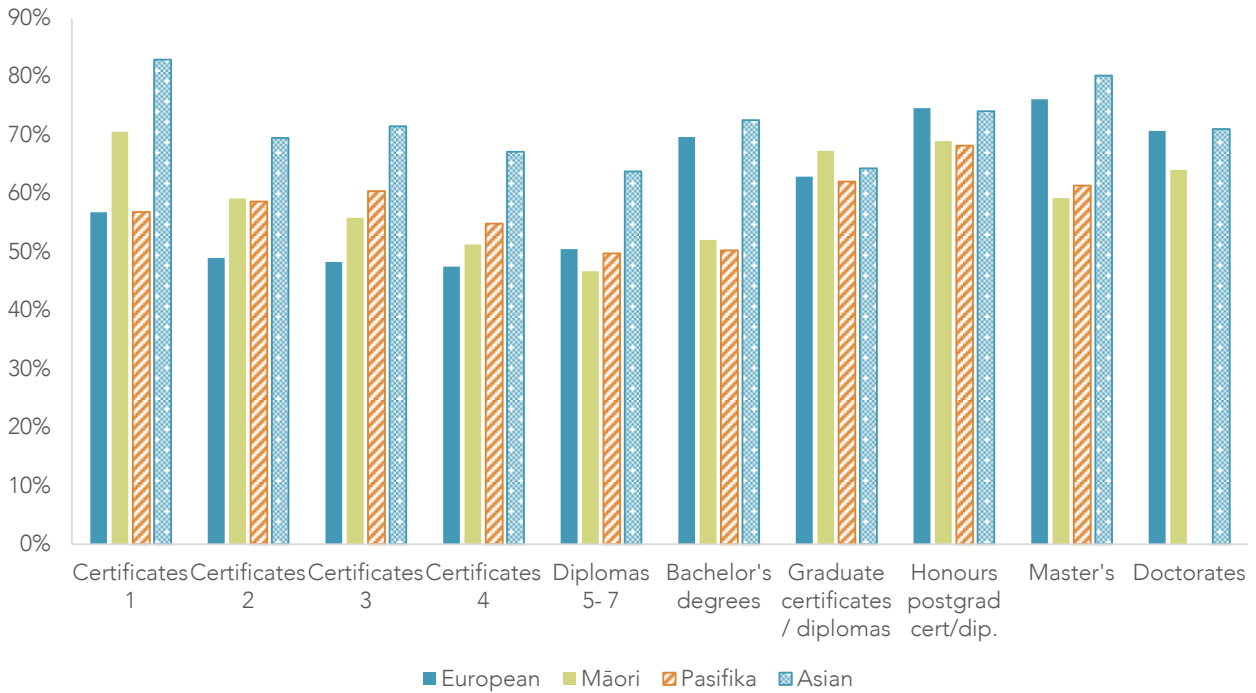
Subsector	Māori		Pasifika		All students	
	2009	2015	2009	2015	2009	2015
Universities	76%	80%	66%	71%	83%	86%
ITPs	60%	74%	60%	73%	70%	80%
Wānanga	68%	76%	72%	77%	72%	79%
PTEs	61%	75%	64%	76%	71%	81%

Source: MoE, 2016g.

Notes:

1. These rates are weighted to take account of the different course study loads.

When it comes to qualification completions, Māori and Pasifika students complete at a higher rate than European students at lower levels, but at a lower rate at higher levels (Figure 9.12). Asian students complete at the highest rates at all levels of study.

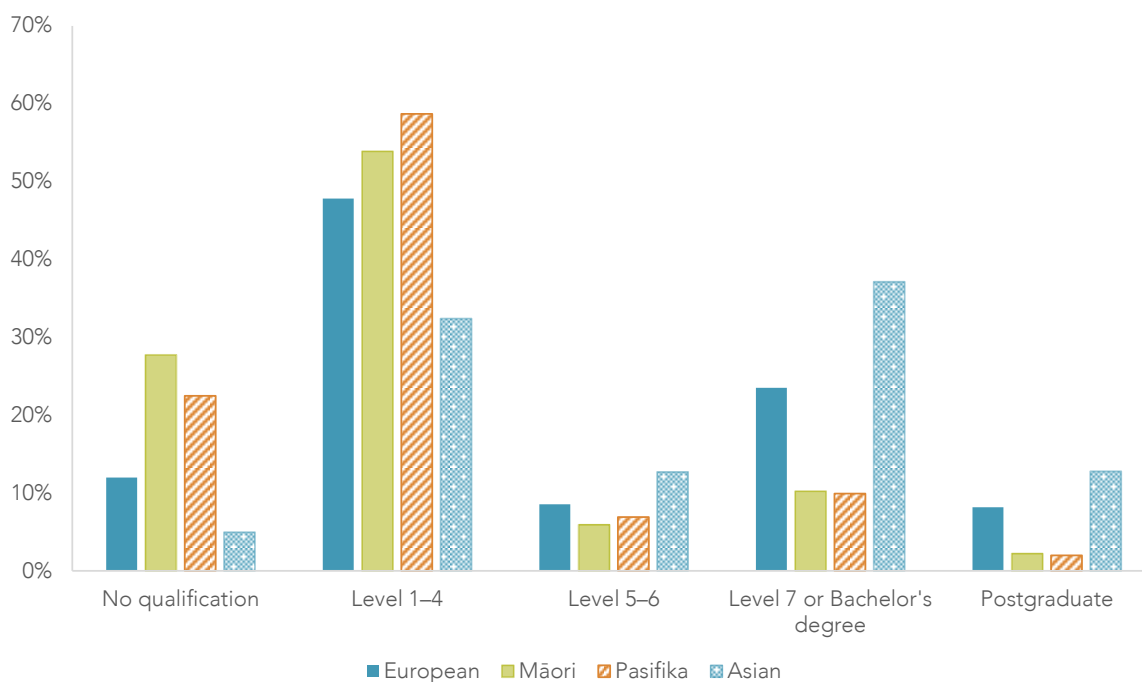
Figure 9.12 Eight-year qualification completion rates by ethnicity and level of study, 2015

Source: MoE, 2016a.

Notes:

1. Completion is based on the cohort of students who started a qualification in 2008.
2. Ethnicity data are multiple-response, so some individual's results will be included in multiple categories.
3. These data exclude students whose ethnicity is recorded as "Other" or is unknown.
4. Small numbers mean that no data are available for Pasifika graduates of Doctorate degrees.

Figure 9.13 shows the share of 25–29 year olds in New Zealand with a diploma, Bachelor's degree or postgraduate qualification as their highest qualification. The share of Māori and Pasifika in this age group that hold a Bachelor's degree or postgraduate qualification is significantly lower than that for the European group. This gap in attainment is partly attributable to differences in tertiary education participation (Chapter 3), and partly to differences in tertiary achievement. Both may, in turn, be explained by differences in secondary school achievement.

Figure 9.13 Highest qualifications of 25–29 year olds in New Zealand, by ethnicity, 2013

Source: Statistics New Zealand, 2013.

Notes:

1. This figure describes attainment levels in the New Zealand population, including migrants.
2. Some people identify with multiple ethnicities, so totals may sum to more than 100%.
3. These data exclude students whose ethnicity is recorded as "Other" or is unknown.

In the case of Māori participation and achievement at Bachelor's degree level, Earle (2007a) found that achievement at secondary school has a significant bearing:

In order to make a step change in the number of Māori attaining degrees, the most important change would be to increase the number of Māori secondary school students achieving university entrance or better. This remains the major constraint on success. It limits the number of younger Māori who can enter degree studies. It is also an important factor for success where Māori students have entered degree studies later in life. (p. 3)

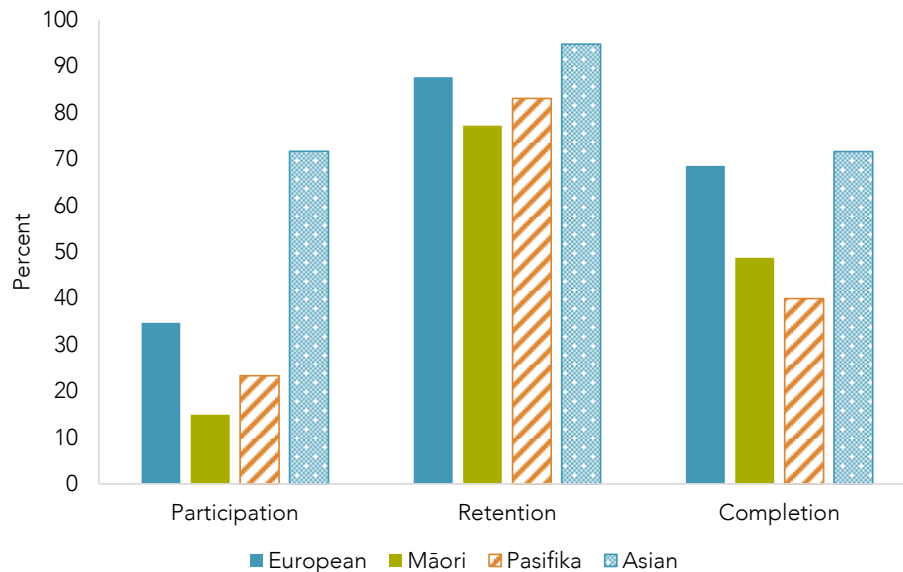
Earle also noted that many variables influence the success of Māori students:

[S]uccess during the first year of study is only partially explained by the kinds of variables captured in enrolment data – that is, demographics, school background and area of enrolment. This reinforces a general theme throughout the international literature that there is a complex set of factors, institutional, personal and external, which influence student success. These include readiness for degree study, goal commitment, ability of the student to fit into the institution and ability of the institution to adapt to the student. (p. 3)

New research into ethnic disparities in bachelor's level study

The Productivity Commission and Auckland University of Technology undertook research using newly linked administrative data into how degree-level participation, retention and completion rates vary by ethnicity in New Zealand. The study followed a cohort of young New Zealanders born between 1990 and 1994, and who were enrolled in a New Zealand secondary school during their 15th and 16th year.

Specifically, Meehan, Pacheco and Pushon (2017) looked at how degree-level participation, retention and completion rates differed by ethnicity in New Zealand, to what extent controlling for individual, school, household and parental characteristics closed the ethnic gaps, and whether the adjustment was similar for both Māori and Pasifika, in terms of their gap with Europeans.

Figure 9.14 Participation, retention and completion of Bachelor's degrees (1991–94 cohort)

Source: Meehan et al., 2017.

Notes:

1. Ethnicity is defined by the prioritised method. The order of priority is Māori, Pasifika, Asian, Other, European.
2. Data are based on "Model B" of the paper.
3. Retention is based on the 1991–93 cohorts and completion on the 1991 cohort.
4. Completion refers to three-year degrees only (completed within five years).

As shown in Figure 9.14, participation, retention and completion in Bachelor's study is lowest for the Māori sub-group. Māori and Pasifika young people in the cohorts studied were significantly less likely than European or Asian young people to enter Bachelor's study, stay for a second year of study, or to complete their qualification. These results are consistent with other New Zealand literature (eg Earle, 2007a), which also show that Māori and Pasifika are under-represented at degree-level study.

Earle (2007a) examined retention (beyond first year) and completion for Māori versus non-Māori. He found that passing at least 75% of first-year courses is a major determinant of both outcomes, explaining between two-thirds and three-quarters of the variation. Mirroring the results of Earle (2007a), a key finding of Meehan et al. (2017) was that first-year course pass rates were the most important factor in explaining retention and completion for all ethnicities.

Relative to a pass rate of 100%, a pass rate of less than 50% decreases the likelihood of retention by 38.1 percentage points for Europeans. The comparable figures are a little lower for Pasifika (at 31.1 percentage points), a little higher for Māori (44.3 percentage points), and a lot lower for Asians (14.6 percentage points). Regardless of ethnicity, there is a much larger impact of the pass rate on completion – a first-year pass rate of less than 50% decreases the likelihood of completion by 66.6 [Māori] and 73.6 [Pasifika] percentage points relative to a 100% pass rate. (p. 26)

The authors also compared the role of parents' educational attainment in retention and completion outcomes. They found that the higher the level of parental education, the greater the likelihood of retention for Māori. Parental education did not appear to matter for Pasifika retention and completion rates, or for Māori completion rates.

To look at how much of the ethnic gap can be explained by differences in observed characteristics – such as, individual demographics, SES (according to the NZ Deprivation Index), first-year course completion and area of enrolment – the authors decomposed the ethnic-gap (relative to European) to determine the contribution each observed characteristic made to the overall "explained" retention/completion gap.⁸³ Differences in the

⁸³ The decomposition allowed the authors to explore two questions. First, if they gave Māori or Pasifika the same observed characteristics as Europeans, to what extent would the ethnic gap in retention or completion close? Second, which of the factors in the model contribute the most to this explained gap?

distribution of characteristics across the ethnic-sub-groups reflect the explained proportion of the ethnic gap.

Differences in retention and completion between Māori and European students

Meehan et al. found that all individual, household, school and other characteristics collectively explain about 78% of the Māori-European retention gap, and about 73% of the completion gap.

Figure 9.15 Māori-European retention gap

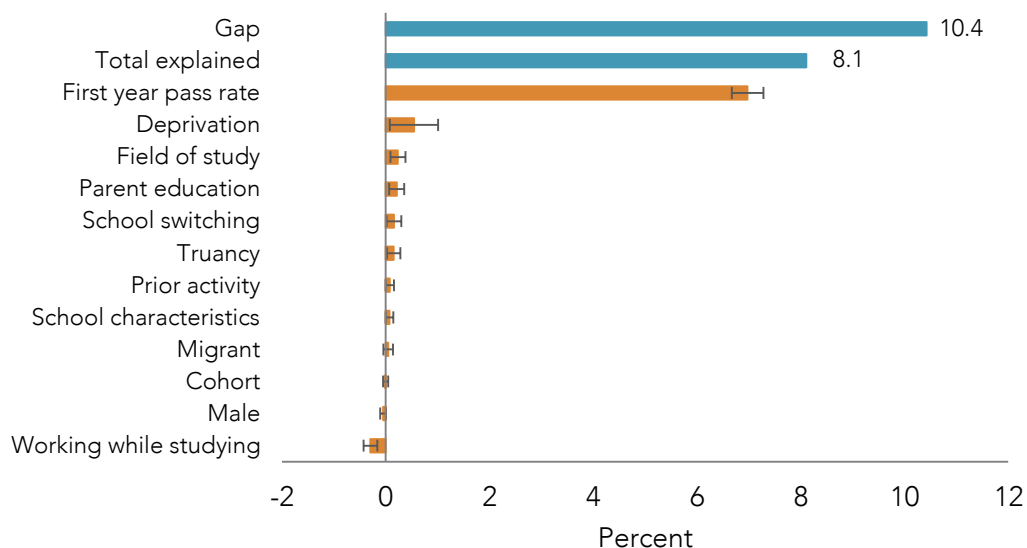
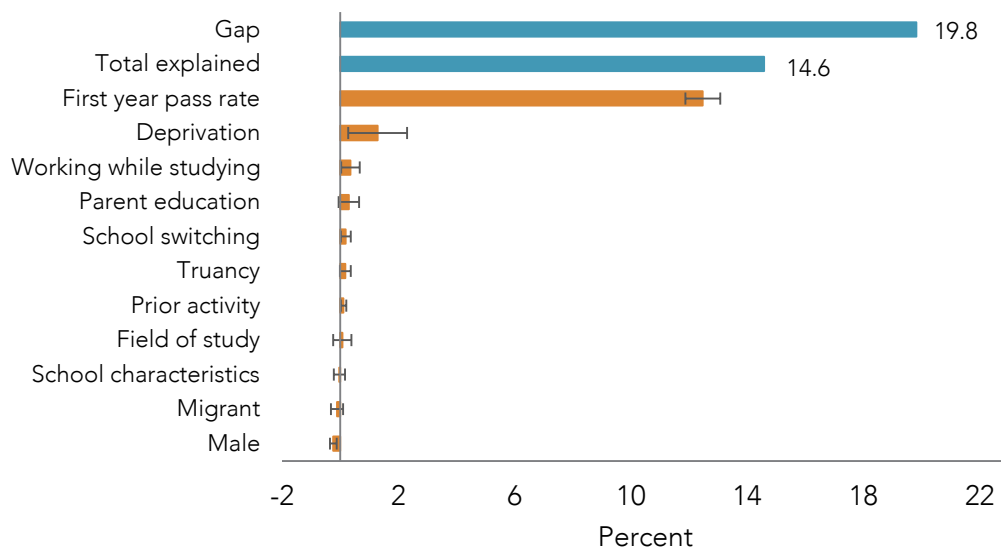


Figure 9.16 Māori-European completion gap



Source: Meehan et al., 2017.

Notes:

1. Ethnicity is defined by the prioritised method. The order of priority is Māori, Pasifika, Asian, Other, European.
2. Data are based on "Model B" of the paper.
3. Retention is based on the 1991–93 cohorts and completion on the 1991 cohort.
4. Completion refers to three-year degrees only (completed within five years).

As Figure 9.15 and Figure 9.16 above illustrate, the largest contributor to the explained portion of the retention and completion gap was "first year pass rate", which is an equivalent full-time student (EFTS) weighted variable to reflect an individual's pass rate in the first year. The study used this measure instead of school performance, because it is the most relevant measure for retention and, for that matter, completion,

once in tertiary study. The second largest contributor to explaining the gap in retention and completion was deprivation.

However, the results showed that if Māori in this cohort had the same characteristics as their European counterparts, there would still be a gap. This unexplained portion could arise from cultural-specific factors, or any other factor not measured in the study.

Differences in retention and completion between Pasifika and European students

The story for Pasifika was somewhat different. The authors found that the observed characteristics over-explain the Pasifika-European gap in retention. That is, if Pasifika had the same characteristics of the European population, this would raise their retention rate to a level above their European counterparts (Figure 9.17). However, the lower completion rates among Pasifika relative to Europeans cannot entirely be explained by the observed characteristics – with the model explaining about 78% of the gap.

Figure 9.17 Pasifika-European retention gap

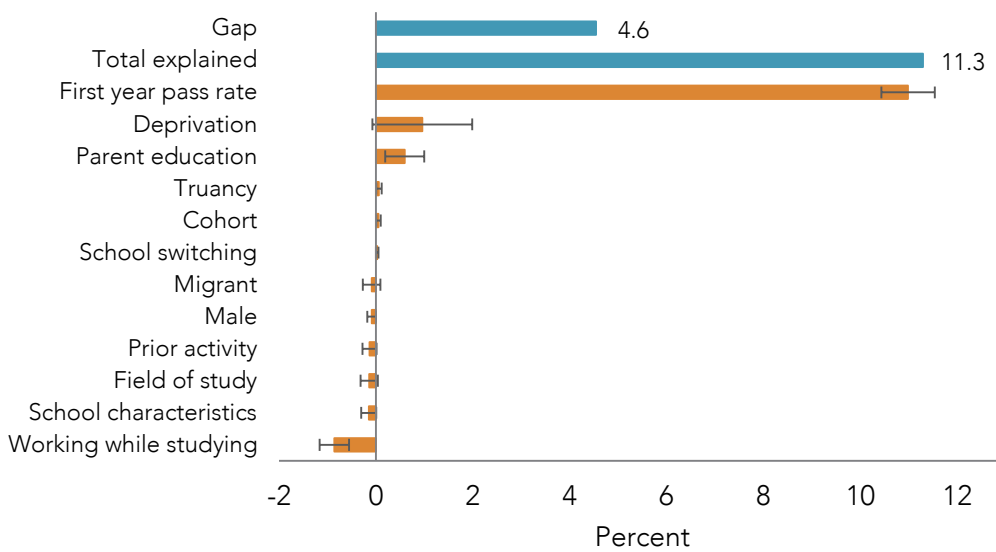
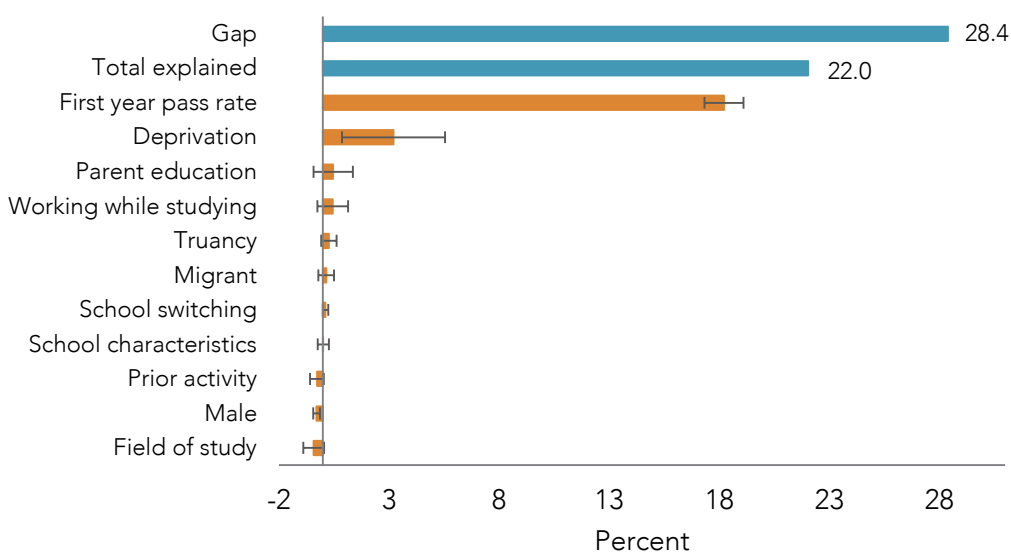


Figure 9.18 Pasifika-European completion gap



Source: Meehan et al., 2017.

Notes:

1. Ethnicity is defined by the prioritised method. The order of priority is Māori, Pasifika, Asian, Other, European.
2. Data are based on "Model B" of the paper.
3. Retention is based on the 1991–93 cohorts and completion on the 1991 cohort.
4. Completion refers to three-year degrees only (completed within five years).

Similar to the results for Māori, the largest contributor to the explained portion of both gaps was the "first year pass rate", with this contributing to more than three-quarters of the total explained portion.

Implications of the research

The decompositions highlight the critical importance of doing well in the first set of assessments at Bachelor's level. The vast majority of the explained ethnic gaps were due to differences in first year course completion, with SES and parental education also playing important, but much smaller, roles.

The size of the unexplained portion of the gap for Māori retention, and Māori and Pasifika completion, is significant. Even adjusting for deprivation, first-year pass rates, parental education levels, and all the other variables in the research, a substantial gap remains.

The authors' findings on participation are discussed in Chapter 3. They highlight that for young Māori, just achieving NCEA level 1 had a far smaller marginal effect on later participation in Bachelor's study than for other ethnic groups. Compared to other ethnic groups, young Māori were more likely to require a Merit or Excellence endorsement at NCEA level 1 to meaningfully increase the likelihood of their participation in Bachelor's study. That makes these findings on retention and completion all the more concerning: young Māori have to clear a higher academic hurdle to improve their chances of Bachelor's study compared to other ethnic groups. Having done so, they are still less likely to progress or complete their qualification, all things being equal.

Another New Zealand study that investigates the likelihood of retention in conjunction with achievement outcomes in Bachelor's qualifications is that by Cao and Maloney (2017). The authors use enrolment records from one New Zealand university from the years 2012–15 to examine university grade point average (GPA) and course completion behaviour. They find substantial differences across ethnicities in both outcomes. Cao and Maloney also decompose the ethnic-gap (relative to European) to determine the contribution each observed characteristic makes to the overall "explained" course completion and GPA gaps. They found, for both Māori and Pasifika, NCEA performance to be the largest contributor to the explained portion of the course completion and GPA, and concluded:

Eliminating differences between high school backgrounds of Maori and Pasifika minorities relative to their European counterparts (reflected in school deciles, high school achievement results, and university entrance types) would significantly close the ethnic gaps in first-year performance at university. (p. 23)

However, the authors also noted that:

Eliminating ethnic differences in all measurable factors could explain no more than one-quarter of the observed gap in course completion rates and letter grades between Maori and Pasifika students and European students. (p. 23)

Together, these findings should challenge the view expressed strongly by Universities New Zealand (sub. 17) that there is nothing more the university subsector can do to improve outcomes for Māori and Pasifika without greater resources (notwithstanding universities' own ability to redirect resources towards supporting such outcomes).

We also disagree with Universities New Zealand's submission that universities cannot do more to meaningfully improve outcomes for Māori and Pasifika within current levels of funding... this is not what we are seeing and hearing from Māori and Pasifika youth trying to achieve positive outcomes in universities. This illustrates what many young people know; positive outcomes for Māori and Pasifika are not a key objective of New Zealand universities.

In contrast, we would argue that providers have a great deal of freedom and this freedom may in reality be over-promising and under-delivering on a significant scale. (McGuinness Institute, sub. DR170, p. 8)

F9.3

Lower course pass rates are the major driver of lower retention and completion of Māori and Pasifika students in Bachelor's level study. But Māori students had lower retention rates, and Māori and Pasifika lower completion rates, even after taking account of differences in pass rates, socioeconomic status and other measured variables.

F9.4

The tertiary education system underperforms for Māori and Pasifika students. These groups experience persistently worse tertiary education outcomes than other students.

Labour market outcomes for Māori and Pasifika

Mahoney (2014a; 2014b⁸⁴) examined the destinations for young Māori and Pasifika tertiary graduates one year after completing a qualification (employment, further study, overseas, benefit, or other). In most situations, the destinations were similar between the two groups. The main exceptions were:

- young Pasifika who graduated with Diploma levels 5–7 and Certificate levels 1 to 3 were less likely to be in employment than non-Pasifika, and were more likely to be in further study, on a benefit, or out of the labour market; and
- Māori who graduated with levels 1–4 certificates were less likely to be in employment than non-Māori, and over twice as likely to be on a benefit as non-Māori.

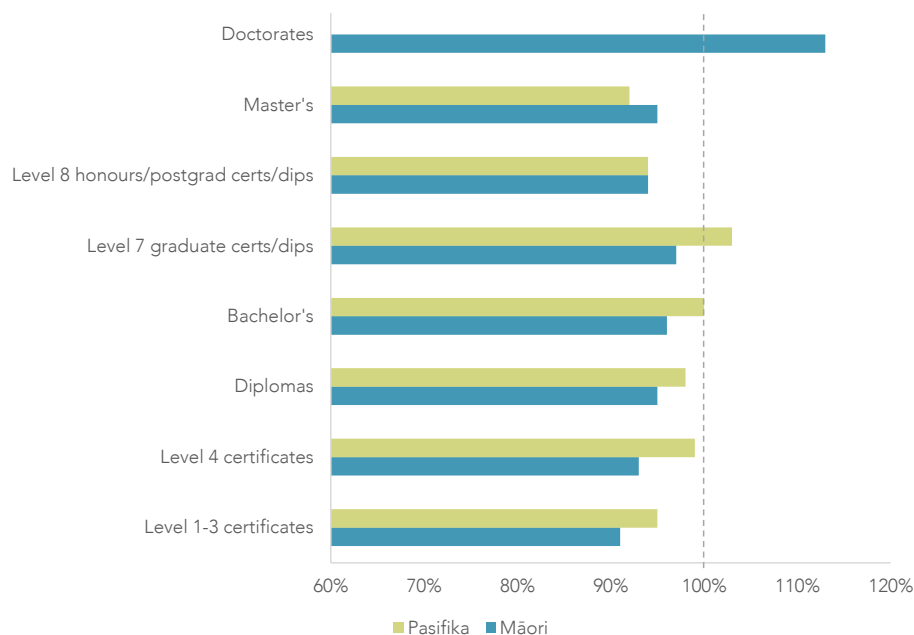
Mahoney also examined the earnings of young Māori and Pasifika graduates five years after completing a qualification (Figure 9.19). Across most qualification levels, Māori and Pasifika earned around 95% of non-Māori and non-Pasifika earnings. The exceptions are:

- Pasifika holding a Bachelor's degree earn the same amount as non-Pasifika;
- Pasifika with a level 7 graduate certificate or diploma earn 103% of non-Pasifika earnings; and
- earnings for Māori with a doctorate are 113% of non-Māori earnings.

These earnings data were not adjusted for hours worked, so differences in labour market participation (eg, more part-time and less full-time work due to higher levels of parenting among young female graduates) will affect the findings.

⁸⁴ Both reports include, in their ethnicity category of interest, all students who indicate their ethnicity (possibly alongside other ethnicities) on at least one enrolment. Data from students whose enrolment records include both Māori and Pasifika identifications (whether simultaneously or not) are included in both reports.

Figure 9.19 Earnings of Māori and Pasifika five years after graduation as a percentage of non-Māori and non-Pasifika earnings



Source: Mahoney, 2014a; 2014b.

Notes:

1. Data were not available for earnings of Pasifika with doctorates.
2. Based on median earnings.
3. Data are for “young graduates” (as defined in Mahoney 2014a), but are not further adjusted for age and gender within each type of qualification.
4. X-axis starts at 60%.

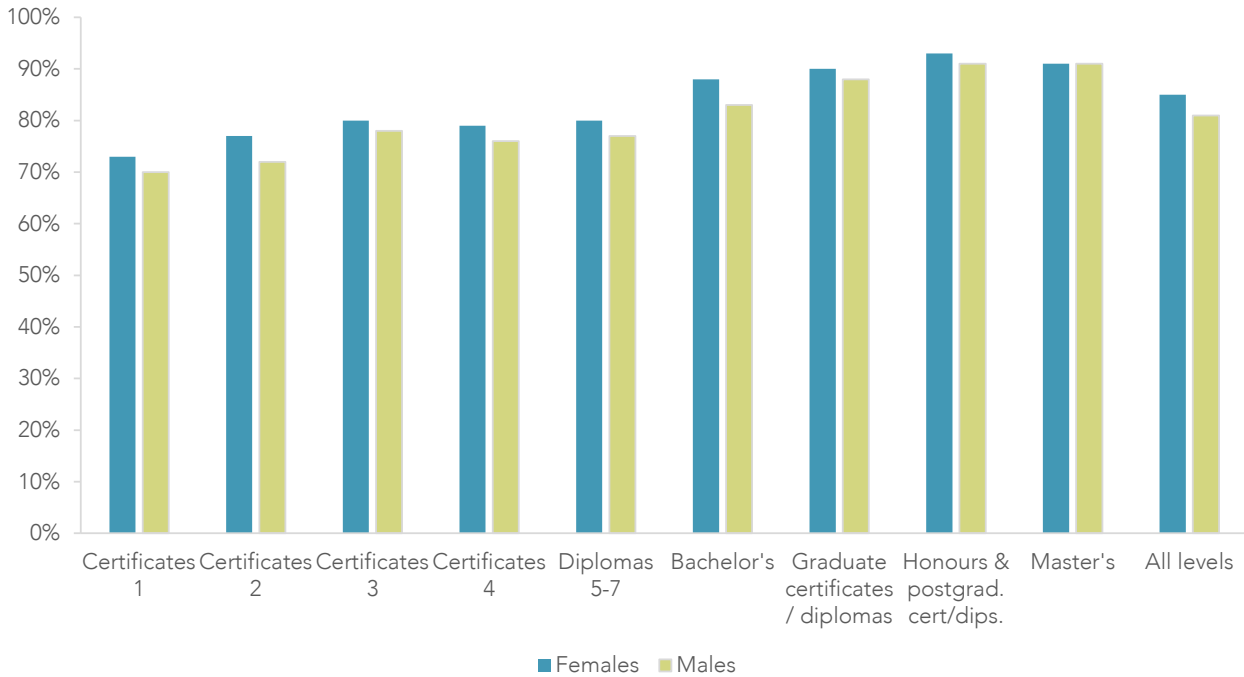
9.6 Outcomes for men and women

Chapter 3 discusses participation by men and women. This section considers the outcomes of that participation.

The overall picture is that women participate in tertiary education at a higher rate than men overall (though concentrated in different fields of study) and, at most levels, women are more likely to complete qualifications. However, female tertiary graduates earn less than their male peers graduating at the same level and field of study.

Achievement outcomes by gender

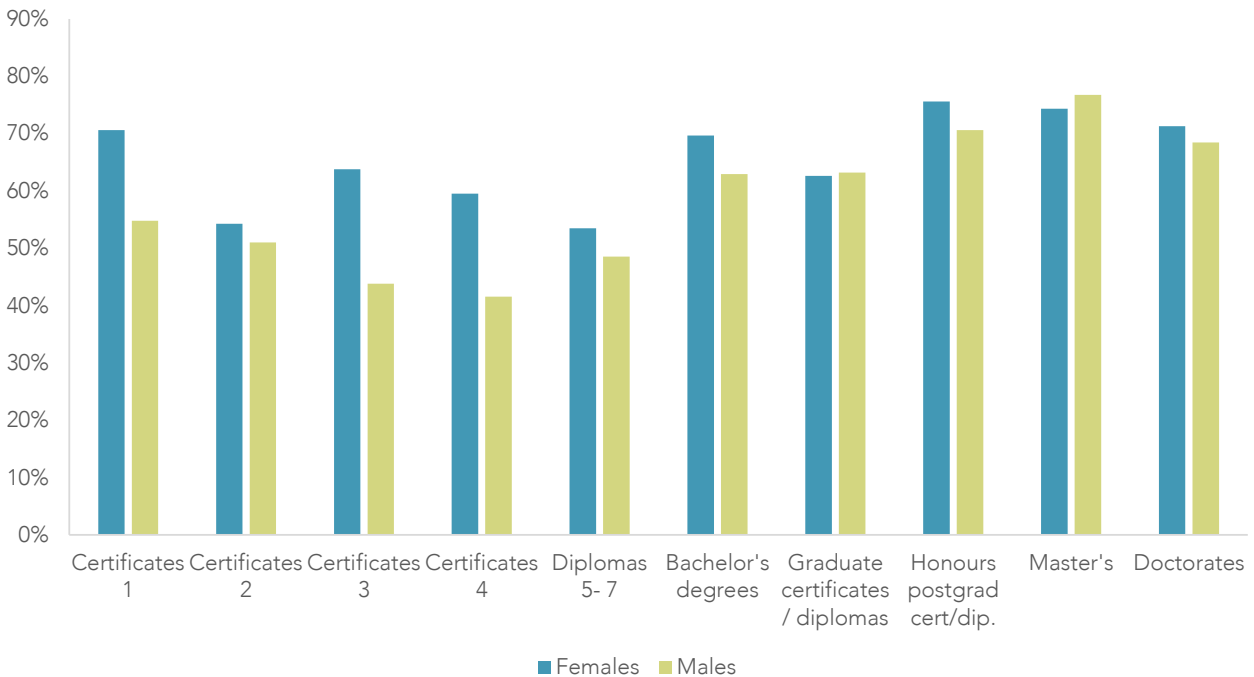
Women complete courses at a slightly higher rate than men at all levels of study, except Master's (Figure 9.20). A very similar pattern holds in qualification completions, though the gaps are larger (Figure 9.21).

Figure 9.20 Course completion rates by level and gender, 2015

Source: MoE, 2016a.

Notes:

1. See the Technical Notes sheet in the original source for more information on data and technical definitions.

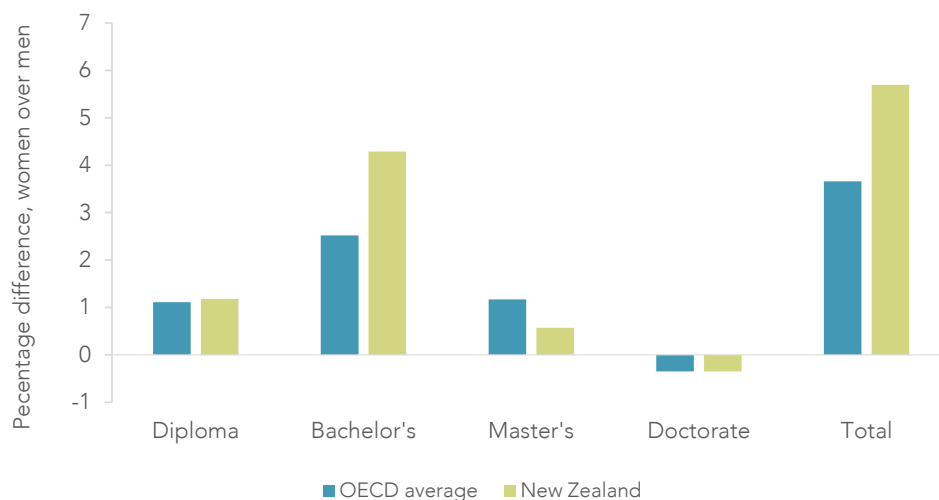
Figure 9.21 Eight-year qualification completion rates by gender, 2015

Source: MoE, 2016a.

Notes:

1. Data relate to students in formal qualifications at a tertiary education provider who entered study in 2008. These data exclude on-job industry training.
2. The completion rate is defined as the percentage of students who have successfully completed a qualification at the same level as or higher than the qualification they started.
3. Students who studied a qualification at more than one level have been counted in each level. Consequently, the sum of the students in each level may not add to the total.

Women attain qualifications at a higher rate than men in most OECD countries, but the difference in New Zealand is larger than the OECD average at most qualification levels (Figure 9.22).

Figure 9.22 Differences in gender tertiary attainment, by level and age group, 2014

Source: Crossan, 2016.

Labour market outcomes by gender

Mahoney (2011) compared the post-study outcomes of young male and female graduates. He found that, when controlling for labour market participation, men earn more than women after their tertiary education, and women's wages grow more slowly than men's wages. This finding is consistent with other research on the "gender pay gap" (eg, Statistics New Zealand, 2014c).

Mahoney's findings are limited by the fact that the dataset used does not measure hours worked, so cannot adjust for part-time work, which is more common among women. The findings are also influenced by gender differences arising from different choices about field of study and subsequent occupation. (The earnings data was not adjusted for field of study, and occupation is not recorded in the dataset.) That is not to suggest that such choices are gender-neutral, but they are a separate phenomenon to gender differences in the labour market outcomes of men and women with the same qualification or in the same occupation.

Mahoney noted that men and women with tertiary qualifications earn a similar premium compared to their unqualified peers of the same gender. However, women with higher qualifications are more likely to be working than women with lower qualifications, suggesting that one benefit of higher education for women is increasing access to work.

9.7 Outcomes for industry trainees and apprentices

Outcomes for industry trainees and apprentices⁸⁵ overall have improved over the last decade, and in particular since an operational review of industry training in 2010, which made improvements to monitoring and reporting (Chapter 4).

Credit achievement rates

Credit achievement in industry training refers to the number of credits achieved for each standard unit of delivery. It is calculated by dividing the sum of credits achieved by the sum of Standard Training Measures (STMs) consumed, multiplied by 120 (as each STM nominally represents 120 credits' worth of delivery).

Credit achievement rates for apprentices have been consistently higher than those for non-apprentice industry trainees. The gap has closed in recent years, though, as achievement rates for trainees have risen steadily, while rates for apprentices fell slightly after a peak in 2011 (Figure 9.23).

⁸⁵ "Apprentices" are industry trainees who are enrolled via an Industry Training Organisation in a TEC-approved New Zealand Apprenticeship programme. "Trainees" are all non-apprentice participants in industry training. Chapter 4 describes the industry training system in more detail.

Figure 9.23 Credit achievement rates for trainees and apprentices, 2003–15



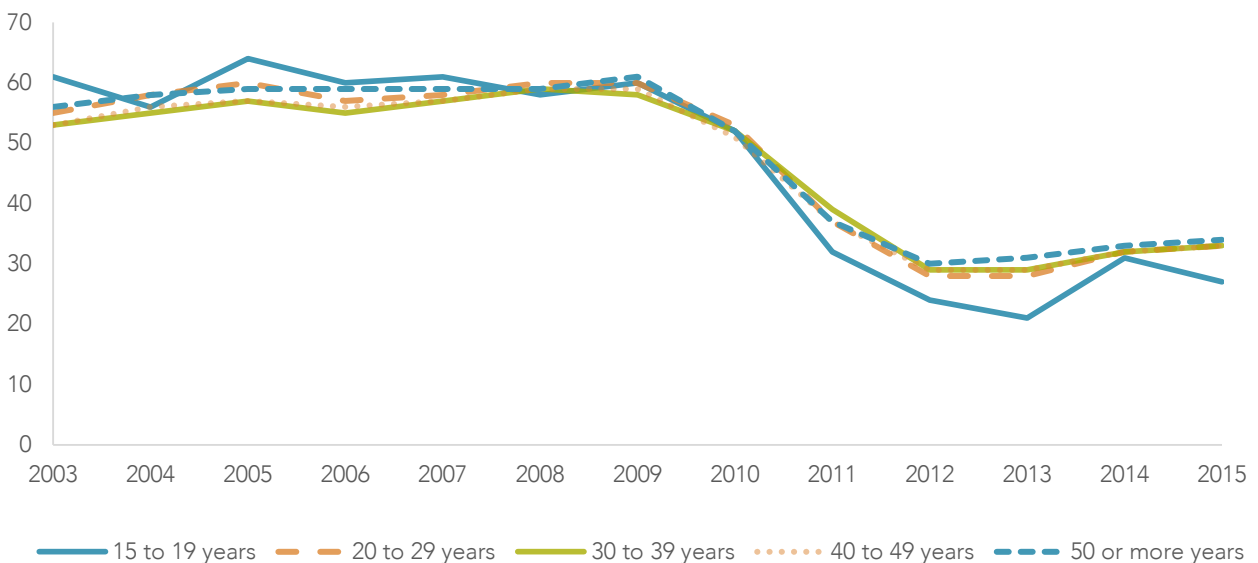
Source: MoE, 2016a.

Notes:

1. Apprentices are defined as Modern Apprentices, New Zealand Apprentices, and industry trainees whose programme meets or exceeds the New Zealand Apprenticeships criteria.
2. Credit achievement rate is calculated by dividing the sum of credits by the sum of consumed STMs, multiplied by 120.
3. STMs measure the amount of training delivered. Each STM represents the amount of training required for the equivalent of 120 credits to be attained.
4. Credit achievement rates can exceed 100% as the numerator (STMs consumed) and the denominator (credits achieved) are only indirectly linked.

The proportion of trainees considered “inactive” (ie, who gained no credits in a given year) has declined significantly over the last half-decade (Figure 9.24) as a result of changes made following the operational review (see Chapter 3). Propensity to be inactive increases slightly with the trainee’s age.

Figure 9.24 Proportion of trainees who are inactive, by age, 2003–15



Source: MoE, 2016a.

Notes:

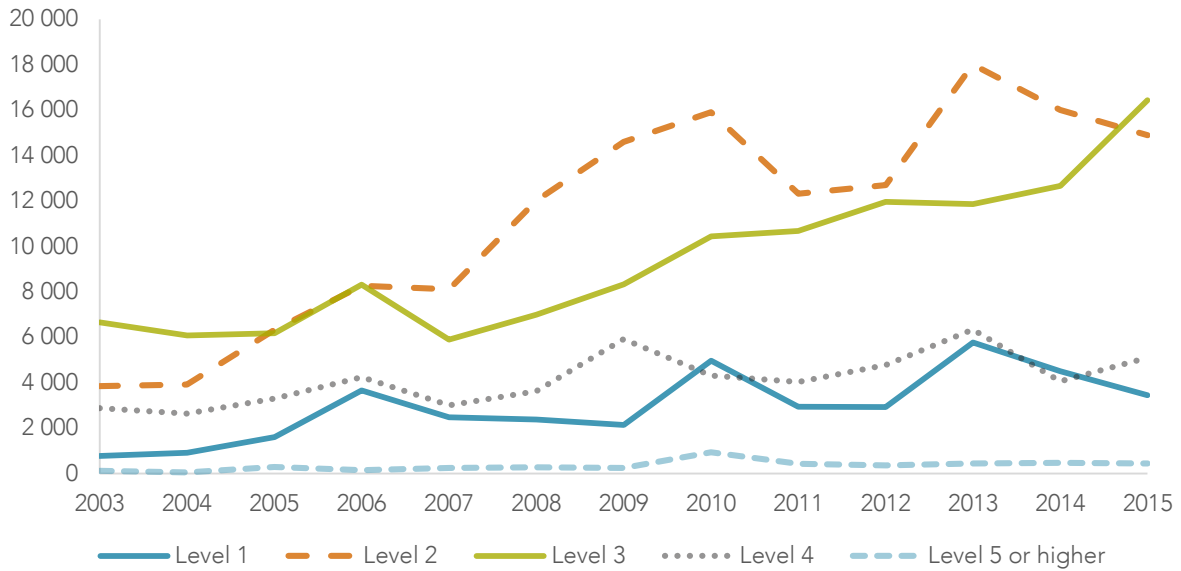
1. See Figure 9.23 in this section for notes on the data.

The age effects are much larger among apprentices, with the oldest apprentices much more likely to be inactive than the youngest. The overall decline in inactivity for apprentices is less dramatic than that for trainees.

Qualifications achieved

Growth in qualification achievement for trainees over the last decade was marked, especially for levels 2 and 3 (Figure 9.25).

Figure 9.25 Qualifications gained by trainees, by NZQF level, 2003–15



Source: MoE, 2016a.

Notes:

1. See Figure 9.23 in this section for notes on the data.

The pattern is different for apprentices, where the data show a large, but temporary, growth in the number of apprentices attaining level 4 qualifications around 2010 (Figure 9.26).

Figure 9.26 Qualifications gained by apprentices, by level, 2003–15



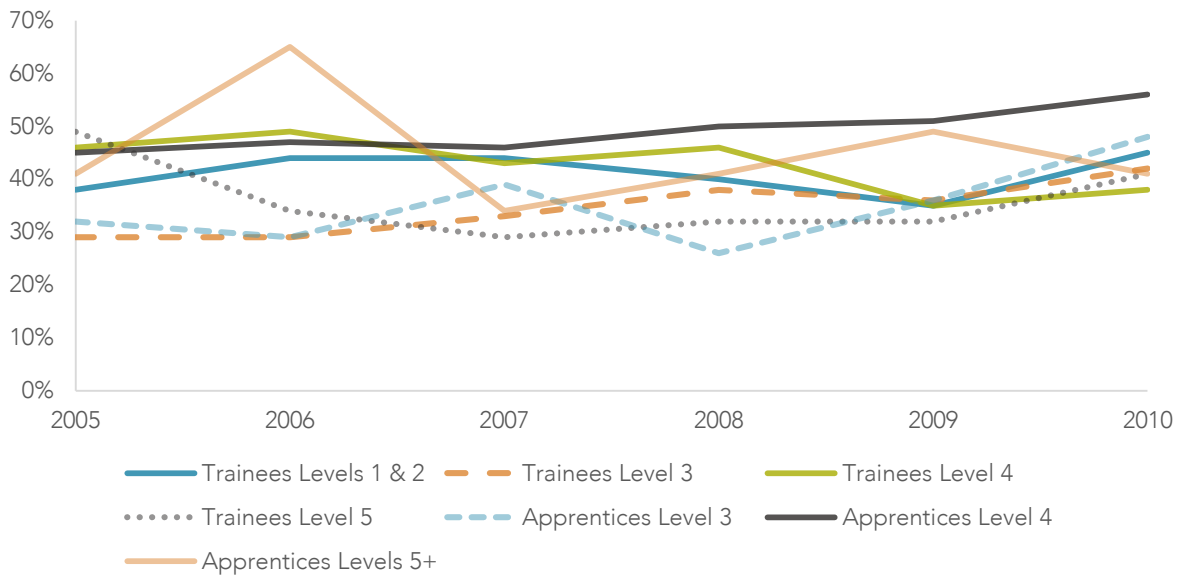
Source: MoE, 2016a.

Notes:

1. See Figure 9.23 in this section for notes on the data.

The qualification completion rates of trainees or apprentices shows no discernible pattern over time (Figure 9.27).

Figure 9.27 Six-year qualification completion rates for trainees, by level, 2005–10



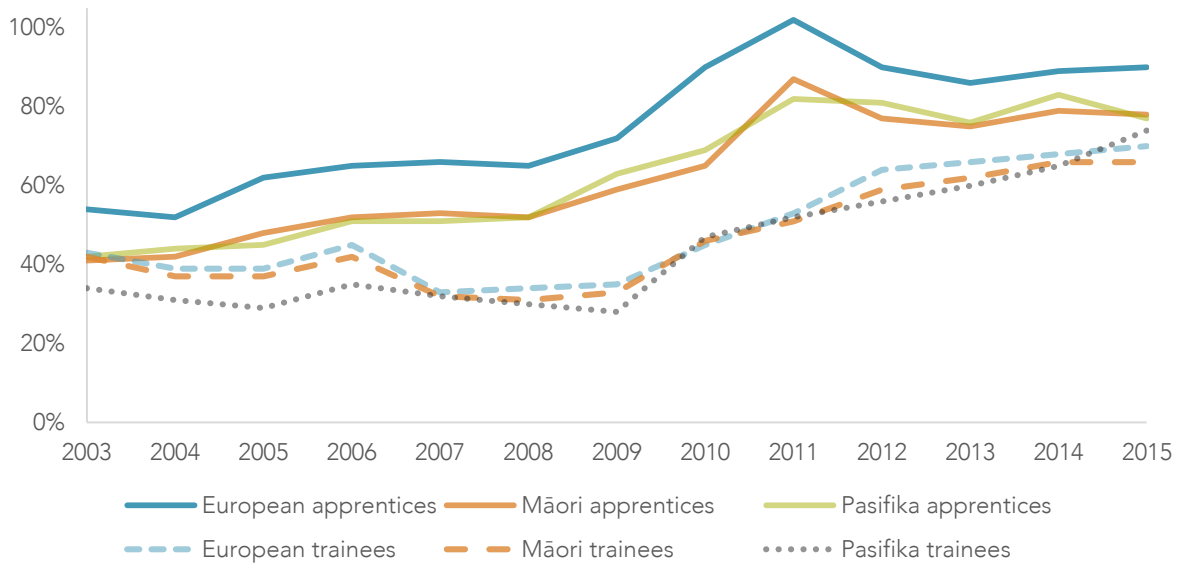
Source: MoE, 2016a.

Notes:

1. Industry trainees are defined as non-apprentice industry training learners. They are industry trainees whose programme does not meet the New Zealand Apprenticeship criteria.
2. A cohort begins when a trainee enters industry training for the first time. Grouping variables coincide with this first entry.
3. NZQF level is the highest level the trainee was enrolled in the cohort entry year.
4. Data shows the proportion of the cohort awarded their intended qualification within a period.
5. The intended qualification is at the programme NZQF level, or a higher NZQF level than the programme the trainee was enrolled in when it is awarded. The year awarded is defined as the earliest date a trainee was awarded their intended qualification.
6. Qualifications awarded at lower levels than the NZQF level of the programme are not counted.
7. Cohort entry is not limited to national certificate programmes, and can include Limited Credit Programmes and Supplementary Credit Programmes.

Differences by ethnicity

The differences between ethnicities in credit achievement rates in industry training are overall smaller than in provider-based training. Credit achievement rates for trainees of different ethnicities were nearly identical in 2010. Since then, European trainees have achieved credits at a slightly higher rate than Māori or Pasifika trainees. Apprentices show more variation of ethnicity, with European apprentices having had a consistently higher credit achievement rate than Māori or Pasifika apprentices since 2005 – though the gap has narrowed over the last few years (Figure 9.28).

Figure 9.28 Credit achievement rate for trainees and apprentices, by ethnicity, 2003–15

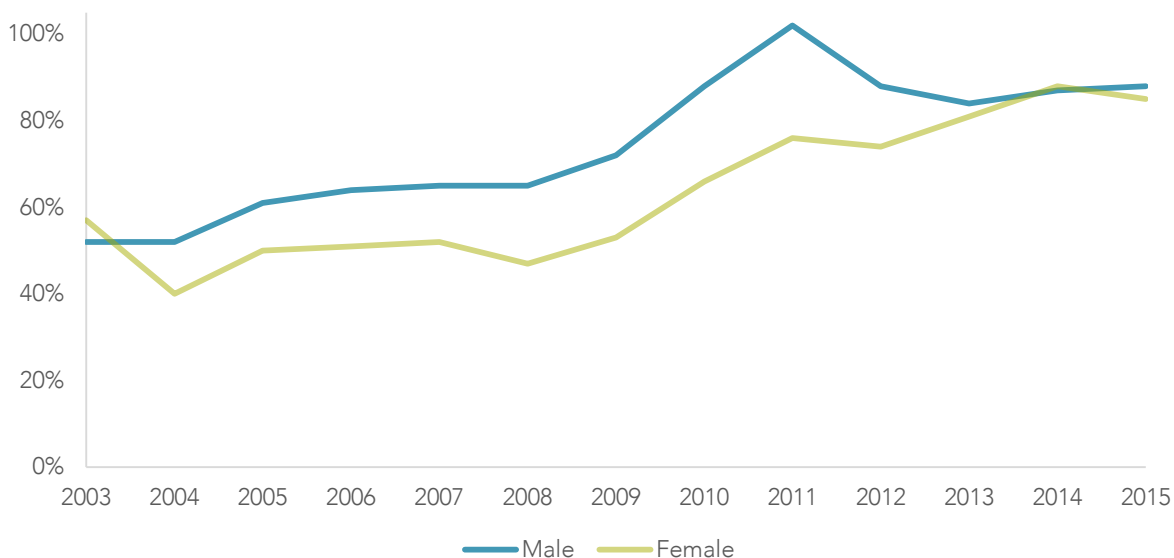
Source: MoE, 2016a.

Notes:

1. See Figure 9.23 in this section for notes on the data.

Differences by gender

Male and female trainees have achieved in industry training at similar rates over the last decade, with no clear pattern differentiating the genders. For apprentices, males have historically achieved credits at a higher rate than females, but the gap has closed since 2011 (Figure 9.29).

Figure 9.29 Credit achievement rates for apprentices, by gender, 2003–15

Source: MoE, 2016a.

Notes:

1. See Figure 9.23 in this section for notes on the data.

Labour market outcomes

Employment rates are not a meaningful performance measure for industry trainees and apprentices, as they are, by definition, already employed. However, analysis of longitudinal data can reveal whether employees who participate in industry training earn a wage premium compared to those who do not.

Crichton (2009) examined this question for trainees who left industry training between 2003 and 2005, and made a number of conclusions.

- Gaining a qualification at level 4 or higher improved participants' earnings by about 7% on average, but with large variations by age and gender. Young males aged 15–24 earned premia of 11%, compared to about 1–4% for older males, and 2% for females.
- Gaining a qualification at level 3 improved the average earnings of males (by about 2%), but not females.
- Gaining a qualification at level 1 or 2, completing a limited credit programme, or gaining no qualification did not improve average earnings during the 48 months after training started.
- In terms of comparisons between industries, most differences between Industry Training Organisations (ITOs) reflected the different demographic profile of students associated with the various ITOs.

9.8 Outcomes for society and New Zealand

Supporting a well-functioning, democratic and fair society

Tertiary education is valued in part because many believe it generates an active and informed citizenry, supporting a democratic and socially just society. For example, the Quality Public Education Coalition's submission refers to

a 1995 UNESCO document on "the proactive university," which amongst other features encompasses a community fully engaged in the search, creation and dissemination of knowledge, "in the pursuit of truth, defence and promotion of human rights, democracy, social justice and tolerance".... Part of the social role of higher education, in this formulation then, is the betterment of society. (sub. 48, p. 7)

Assessing how well the New Zealand tertiary education system contributes to this end is difficult, because of the complicated nature of causation and difficulty in identifying suitable proxies. For example, the New Zealand General Social Survey found that people's propensity to volunteer and do unpaid work increases with their level of education (Table 9.6). However, the finding may be a selection effect, or the result of higher incomes, rather than an effect of being tertiary-educated. Moreover, while indicators of certain types of prosocial behaviour exist, they may not be good proxies for civic engagement. The same survey found no clear correlation between highest qualification and propensity to vote in general elections (Table 9.7).

Table 9.6 Volunteering in the previous four weeks, by highest qualification, 2008

Highest qualification	Undertook voluntary work	Undertook unpaid work
No qualification	25.9%	54.1%
Level 1–4 certificate	29.8%	67.7%
Level 5–6 diploma	37.7%	69.9%
Level 7 Bachelor's degree and above	41.8%	69.4%

Source: Statistics New Zealand, n.d.

Table 9.7 Non-voters in general elections, by highest qualification, 2008 and 2011

Highest qualification	2008	2011
No qualification	19.4%	21.6%
Level 1–4 certificate	19.9%	21.2%
Level 5–6 diploma	15.3%	16.9%
Level 7 Bachelor's degree and above	18.1%	16.2%

Source: Statistics New Zealand, n.d.

Notes:

1. People in the 2010 and 2012 New Zealand General Social Survey who were aged 18 years or over, and said they did not vote in the general elections.
2. Statistics New Zealand provides the following caveat about the table from which this data are taken: "Relative sampling error is 30–49.9%, and should be viewed with caution." It is not clear whether this applies to these specific statistics.

The McGuinness Institute submitted that civics education needs to happen at school if it is to be effective (sub. 90, p. 5)

A survey by Zepke et al. (2010; cited in Zepke, 2012) of 376 tertiary teachers found they were more likely to prioritise the application of knowledge in their teaching than wider social goals:

Results show that 10% of teachers thought that teaching students to effect change in the community and society was a top priority; 41% thought it a priority. Moreover, only 11% of respondents prioritised enabling students to challenge and question their teaching. In contrast, 33% thought it a top priority to teach students to apply subject knowledge in practice, and 56% thought it was a priority. (p. 159)

Critic and conscience, and academic freedom

It is also difficult to draw conclusions on how well universities are fulfilling the expectation of s 162 of the Education Act 1989 that they should "accept a role as critic and conscience of society". The Academic Quality Agency (then the New Zealand Universities Academic Audit Unit) noted that the "critic and conscience" role

suggests that universities are to provide an environment within which academic staff can state and publish ideas and conclusions without fear of retribution or persecution, either within or beyond the walls of the universities. (Jones et al., 2000, p. 5)

In other words, it is about academic freedom. The unit identified the questions that academic auditors would ask of institutions to determine how effectively they were protecting academic freedom. However, it did not present findings.

Jones et al., along with Bridgman (2007), noted some potential threats to academic freedom at New Zealand universities, including:

- managerialism and an "enterprise culture" within universities that prioritises demonstrable, auditable short-term usefulness, rather than intellectual rigour and the advancement of knowledge for its own sake;
- stifling political correctness, which prevents academics from speaking freely for fear of offending sensibilities or "inducing trauma in the underprivileged" (Swinnerton-Dyer, 1995; cited in Jones et al., p. 21); and
- anti-intellectualism in the general public, and some people's resistance or even antagonism to evidence that is contrary to their personal experience or inclinations.

The third of these originates from outside the university, but the first two originate from inside it (though possibly in response to external pressures). Jones et al. argue, with Zepke (2010), that the internal threats to academic freedom are at least as concerning as the external threats.

Hendy (2016) recently argued that science academics at universities and Crown Research Institutes in New Zealand face considerable pressure (internal and external) not to talk freely to media, or to present scientifically supported findings that challenge government policy or mainstream thinking. When academics do these things, and attract criticism in the press, Hendy argued they often face poor support from their institutions.

TEU submitted along similar lines that

[t]ertiary education institutions require autonomy from the political, social, and economic elite of the nation in order to serve the interests of all New Zealanders. This enables academic freedom, but the current system restricts its full expression. (sub. 83, p. 32)

Grey and Sedgwick (2016), in a research note prepared for TEU, further argued that academic freedom is fundamental to innovation in tertiary education:

Real innovation and creativity can only occur if those working in the tertiary education sector are able to act as the critic and conscience of society and to test received wisdoms through the exercise of academic freedom. (p. 8)

The role of wānanga in protecting and preserving Māori culture

The Education Act 1989 (s 162) states that a wānanga (among other things) “assists the application of knowledge regarding ahuatanga Māori (Māori tradition) according to tikanga Māori (Māori custom)”.

A 2003 report by the New Zealand Institute of Economic Research on the contribution of Te Wānanga o Aotearoa found that

[a] prominent feature of the wānanga is the creation of a consciously Māori-driven educational institution with a distinctive style; this is built around a deliberate, culturally aware, yet modern, Māori format. While not unique, its homemade success projects to the students as a sort of metaphor. It has the virtue of making concrete the idea that unusual and innovative approaches are worthwhile, and can be made to work even by the disadvantaged who are starting from a low base, as long as approached the right way, in today's world.

Moreover, the confidence building and rekindling of interest (and pride) in things Māori among many students has had a positive effect in its own right. Aside from the benefits that may accrue personally to those actually on the courses, it appears that the training is sufficiently well designed to produce graduates of a calibre to be able to be comfortable in wider Māori circles. This has already added to the flow of Māori with respectable standing in their own culture, and, in the longer term adds significantly to the sustainable flow of educated and confident Māori in the New Zealand community. (Lattimore et al., p. 91, p. 94)

The Te Kupenga survey (Statistics New Zealand, 2014a) found that Māori who had studied at a wānanga were more likely to know and to visit their ancestral marae, and more likely to speak te reo Māori than other Māori.

This correlation could be the result of selection effects – that is, students with more interest or competence in things Māori may be more likely to enrol at wānanga. However, Earle (2007b) reported that wānanga have made a significant contribution to te reo Māori learning, in particular through substantially lifting the number of people with a basic understanding of te reo Māori. In 2005, 85% of all students enrolled in te reo Māori programmes were at wānanga (and 75% of all students enrolled in te reo Māori programmes were enrolled in Te Wānanga o Aotearoa's entry-level Te Ara Reo Māori programme).

Adult and Community Education's role in promoting social inclusion and wellbeing

Adult and Community Education (ACE) aims to transform communities and whānau through adult and community education. The purpose of the ACE Fund is “to provide community-based education, foundation skills, and pathways into other learning opportunities that meet community learning needs” (TEC, 2016k). The Funding Conditions state that, except in the case of delivery of English for Speakers of Other Languages, New Zealand Sign Language, or te reo Māori, TEC must use ACE funding only to purchase:

[a] programme of study or training that is designed to:

1. target learners whose previous learning was not successful; and
2. raise foundation skills; and
3. strengthen social cohesion, enhancing a learner's ability to participate in society and economic life.

An ACE programme must meet all three of these criteria to attract funding. (TEC, 2016k)

This is a more restrictive set of requirements than those applying before 2009. Before then, ACE funding was available to support social cohesion and an adult's lifelong learning (including, until 2013, at universities), regardless of the adult's prior learning. This meant that ACE funding subsidised a large number of general-interest courses. As discussed in Chapter 7, ACE providers have variously responded to the funding changes by:

- restricting provision to what is fundable;
- reducing costs; and
- seeking other revenue sources, including user fees, and local government or community funding.

The Commission cannot find any information on the impact of funding changes on ACE's effectiveness in achieving its goals (eg, research into the effect of reduced government funding on participation in ACE by different kinds of learners). However, recent surveys by ACE Aotearoa provide data on what ACE learners gain from their participation (ACE Aotearoa, 2015; 2016). These surveys found that:

- about three-quarters of ACE participants in 2014 and 2015 achieved "all" or "most" of the learning goals they set for themselves at the start of their course;
- overall, learners who achieved more learning goals also had more positive beliefs about their chances of finding work; more intention to continue to higher levels of education; and more hope for the future; and
- the median level of self-reported confidence among learners was higher at the end of the ACE course than at the start.

10 Trends

Key points

- The economy of New Zealand has changed significantly in the past and the tertiary education system has changed with it. Increased labour specialisation, the development of the service economy, and skills-biased technological change have meant an increasing number of New Zealanders are tertiary qualified in an increasing range of fields.
- Some tertiary education providers consider that real revenue per student is falling. But at the aggregate level, government tuition subsidies per equivalent full-time student (EFTS) have increased faster than the rate of inflation over the last decade.
- Since 2000, university tuition fee revenue per EFTS has increased by 24% in real terms, while fee revenue at wānanga and ITPs has fallen. Changes in fee and Student Achievement Component (SAC) funding revenue are affected by both changes in the proportion of enrolments into different subject areas as well as changes to SAC funding rates and the fees charged to individual students.
- The fees international students pay are an important supplement to tertiary providers' other revenue sources. Revenue from international students has fluctuated markedly over the past 20 years and, in 2015, accounted for around 11% of tertiary education institutions' (TEIs') total income.
- The composition of New Zealand's population continues to change. The share of the population that identifies as European has decreased in recent years, and the population is becoming older and more urbanised. An implication of this demographic change is that New Zealand's tertiary education system will need to perform for a more diverse group of future students.
- Overall demand for tertiary education is predicted to fall – however, these forecasts are based on forecast numbers of school leavers and employment conditions within the current policy settings. It is difficult to determine what level of latent demand exists.
- Many submitters to this inquiry considered that ongoing, rapid technological change will require people to upskill and re-train with greater frequency in the future. Many also consider transferable skills that can be applied in a range of contexts will become increasingly important.
- Many tertiary providers do not consider that technology will significantly change their core operating models in the future. However, others consider that exponential growth in technological capability will result in more traditional models of tertiary education being fundamentally disrupted. Recent experience shows that predicting how such disruption might play out is very difficult.
- Past predictions about the future of tertiary education have frequently proven to be incorrect. The implication of this uncertainty is that the tertiary education system should be responsive and flexible. However, the system is tightly constrained by government policy and funding settings. Under current settings, the future success of the tertiary education system largely relies on government accurately predicting future trends, so that its rigid settings can be adjusted for changing times.
- Freeing providers to pursue different strategies and allowing a more diverse range of models to flourish could better equip the system to respond to exogenous change.

10.1 Introduction

The tertiary education system is subject to ongoing change. Several inquiry participants noted that tertiary education providers have endured through centuries of change:

Universities are among the longest-lived organisations in the western world. That they have survived and prospered over the centuries is evidence of their ability to thoughtfully innovate and adapt to change. (UNZ, sub. 17, p. 87)

Tertiary institutions are some of the most resilient organisations in the world. They are often older than nation-states, they have lasted much longer than most private companies, and they have endured centuries of technological revolution. (Alach, sub. DR111, p. 8)

One of the tasks of this inquiry is to identify and examine key trends that are likely to underpin challenges and opportunities for New Zealand's tertiary education system, and that may drive changes in the business and delivery models of tertiary providers. In particular, the Commission was asked to examine changes in:

- student and employer demand;
- demographics;
- tuition costs;
- technology; and
- internationalisation.

These trends are the primary focus of this chapter. Section 10.2 considers how these trends have affected the tertiary education system over the past 20 or so years. Section 10.3 considers how various trends might influence the tertiary education system in the next 20 years. Section 10.4 sets out some of the problems associated with different projections. The chapter concludes by discussing planning for an uncertain future.

10.2 Past trends in tertiary education

Student and employer demand for tertiary education

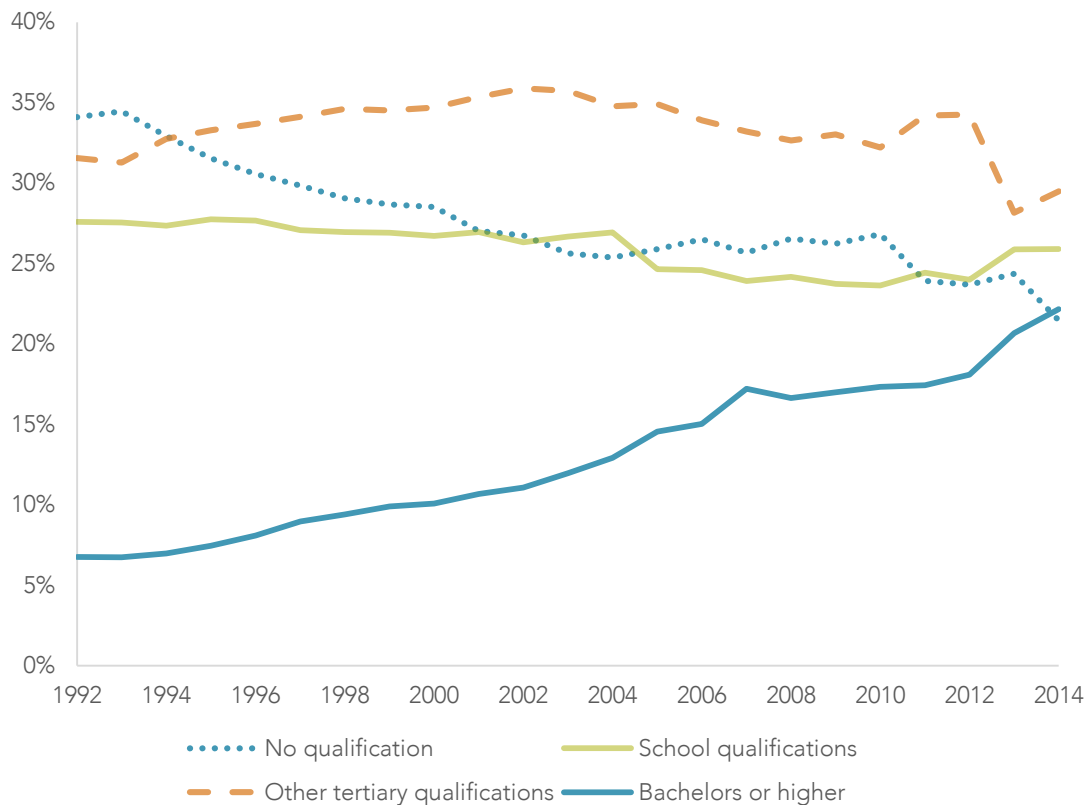
The last 200 years have seen big shifts in the nature of advanced economies worldwide (Acemoglu, 2009). The skills required and rewarded by employers have changed accordingly.

The Industrial Revolution, rapid urbanisation, and changes in roles and expectations of women shifted ideas of what constituted a "suitable education for the masses" in modern Western economies. This has changed from "next to nothing" at the beginning of the 19th century, to basic literacy and numeracy, to primary school, to secondary school, and now to some form of tertiary education (Chapter 1).

More New Zealanders are tertiary educated

Total enrolments in tertiary education increased from 51 600 in 1965 (1.9% of the total population) to 197 100 in 1993 (5.5% of the population) (MoE, 2016a). Enrolments reached their highest number in 2005 with 452 000 enrolments (10.9% of the population), before declining to 358 000 in 2015 (7.7% of the population).

The share of adults with a Bachelor's degree or higher has risen significantly since the early 1990s. Likewise, the share of the population over 15 years of age with no qualification has fallen (Figure 10.1). Chapter 3 provides a more detailed description of recent trends in tertiary education participation and student characteristics.

Figure 10.1 Percentage of New Zealanders aged 15 and over by highest qualification, 1992–2014

Source: MoE, 2016a.

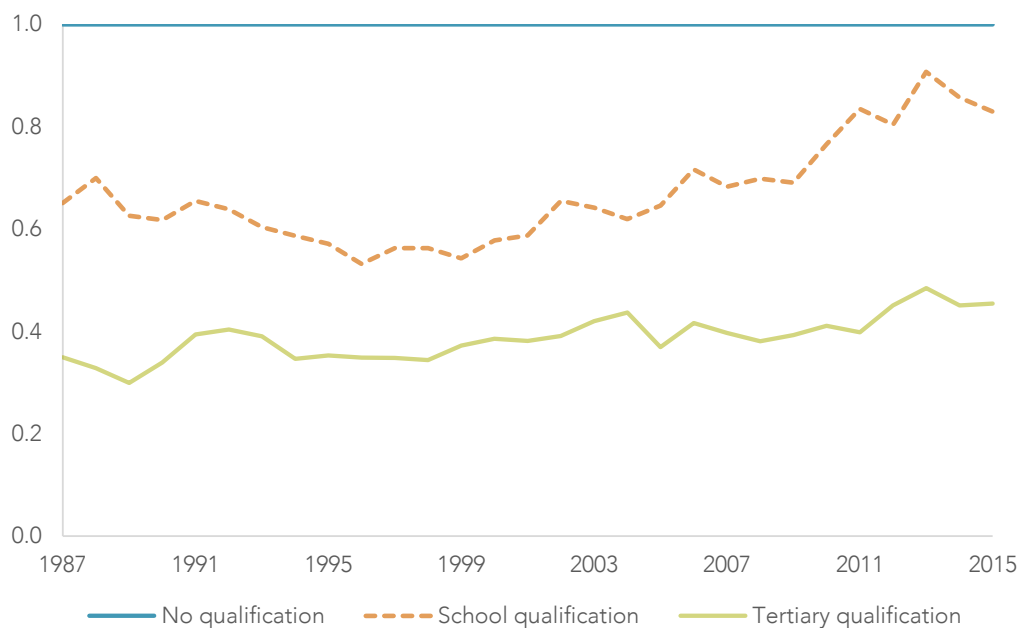
Figure 10.1 shows that, in 1992, someone with a Bachelor's degree was in the top 7% of most qualified adult New Zealanders. By 2014, Bachelor's degree holders were in the top 22%.

The trend toward greater levels of participation and at higher levels is driven by a “ratcheting up” cycle of supply and demand. As more people have acquired tertiary qualifications, the value of these qualifications as a signal to employers in a competitive labour market has decreased. Several submitters noted that individuals wanting to show prospective employers they have particularly high skills have needed ever-higher qualifications in order to stand out from the crowd.

Today, the value of a degree has been eroded by the massification of education and consequential high levels of degree attainment in our population. (Flexible Learning Association of New Zealand, sub. 98, p. 7)

When only a small proportion of the workforce of any country possessed degrees they were useful information for potential employers... The problem is that as degree attainment becomes more common it loses this ability to signal worth as strongly. Employers are forced to become more discerning, to focus their attention on higher degrees, or more specialist degrees... Attempting to differentiate themselves, students seek more specialist qualifications, higher degrees, and combinations of degrees. (Marshall, sub. 73, p. 16)

By the beginning of the 21st century, Goldin and Katz (2007) found that, in the United States, high school graduates were no better off in the job market than high school dropouts, as tertiary qualifications displaced school qualifications as the ticket to employment. A similar pattern is evident in New Zealand. Figure 10.2 shows the narrowing gap in the unemployment rate between those with no qualifications and those with just a school qualification. Those with tertiary qualifications are much less likely to be unemployed than those with school qualifications or no qualifications.

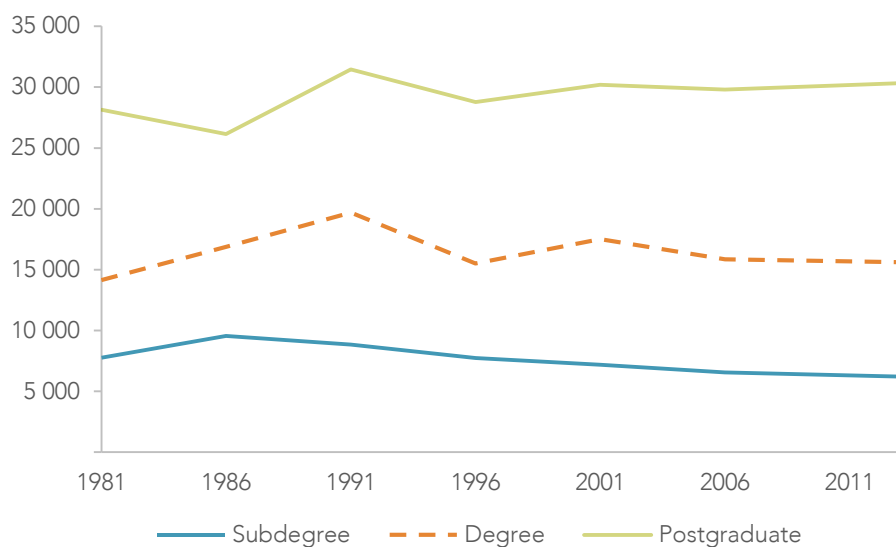
Figure 10.2 Relative unemployment rates by qualification level, New Zealand, 1987–2015

Source: Statistics New Zealand, 2016a.

Notes:

1. The graph shows unemployment rates for those with school and tertiary qualifications relative to the rate for those with no qualifications.
2. "School qualification" refers to those with a school qualification, but no post-school qualification.
3. "Tertiary qualification" refers to those with both a school and a post-school qualification.
4. The graph does not show those with a post-school qualification, but no school qualification.

Figure 10.3 shows the wage premia over time for qualifications (subdegree, degree and postgraduate) over those with NCEA level 1 or less in the New Zealand labour market. It shows that premia for postgraduate tertiary qualifications have risen slightly over the period of massification, those at degree level have been fairly stable, and those at subdegree level have gradually fallen. This is consistent with the pattern of higher-level qualifications being increasingly required to access higher-paying jobs.

Figure 10.3 New Zealand qualification wage premia, 1981–2013

Source: Statistics New Zealand census data.

Notes:

1. Amounts are averages in constant 2013 dollars.
2. The data covers New Zealand residents aged 15 to 64 who are in employment (excluding self-employed people).
3. Premia are the additional annual gross income when compared to those with NCEA level 1 or less.

The cycle of “more supply of tertiary qualifications equalling more demand for tertiary qualifications” has also meant that people are increasingly acquiring tertiary qualifications to demonstrate skills that were once learned on the job. This outcome of massification has significantly changed the nature of skills acquisition, and the expectations of both employers and employees about whose responsibility it is to train people for work. Keep (2015) notes that in the United Kingdom, employers have – in part as a result of signalling from policymakers – shifted from being an integral part of the skills supply system to (often dissatisfied) consumers of its end-products. Chapter 4 discusses employers’ role in tertiary education in more detail.

Higher and vocational education increasingly overlap

In the early to mid-20th century, the distinction between two types of tertiary education (higher education, and vocational or “technical” education and training) remained sharp.

- Higher education, which took place at university, was for the academically oriented and gifted minority. It was generally not focused on preparing students for a career, other than academia or a limited (but growing) number of professions (such as medicine or law).
- Vocational or “technical” education and training took place at high schools, technical colleges (later Institutes of Technology and Polytechnics (ITPs)), teacher’s colleges, and via apprenticeships. Vocational education focused on supplying the labour market with appropriately skilled workers, and on providing students with training that would start them on a career.

This distinction became increasingly fragile during the second half of the 20th century as the skill needs of employers, and consequently of the workforce, continued to increase. The list of professions for which it was possible or necessary to get a university degree, rather than a vocational qualification, expanded to include many previously considered straightforwardly vocational (such as accountancy, teaching or nursing). Tertiary qualifications increasingly became a common entry requirement for industries previously accessible to those with only a school qualification (such as journalism or banking).

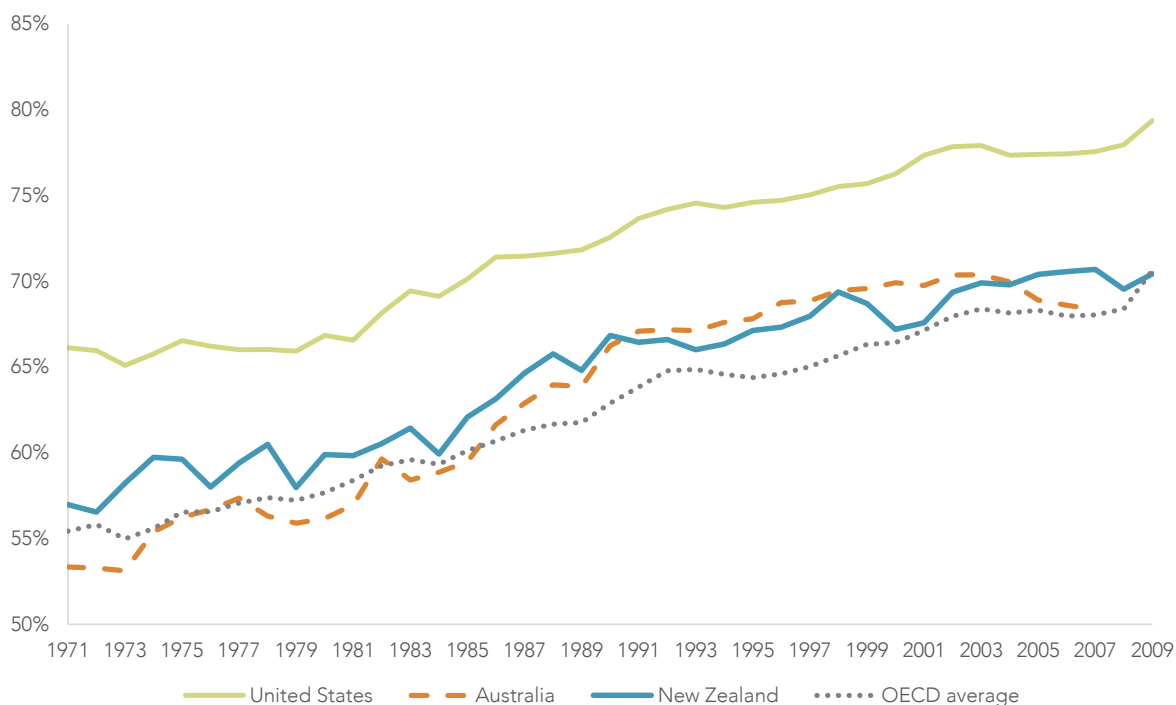
Increasing specialisation

Alongside an increase in the quantity of tertiary education was an explosion in the variety of courses offered. Increasing educational specialisation reflects the high (and increasing) returns to specialisation across the national (and global) economy. While labour specialisation has its benefits, it can also be risky for workers (if they cannot find a suitable job) and for employers (if they cannot find a suitable employee). A rational response for both is to locate themselves in larger population centres. Indeed, this response is a major driver behind increased urbanisation (Bertaud, 2014).

Skills are increasingly important as New Zealand becomes a service economy

New Zealand’s economy has a growing services sector while, in relative terms, the goods-producing and primary sectors are shrinking. This follows the pattern of similarly advanced economies worldwide (Figure 10.4). Relatively weak productivity performance in the services sector has contributed significantly to New Zealand’s lack of progress towards closing its aggregate productivity gap with Australia and other leading OECD countries (NZPC, 2014b).

New Zealand’s growing services sector increases the importance of skills development, their availability in the labour market, and their effective use by employers. This is because performance improvement in the services sector relies on the acquisition, manipulation and application of information – and this is strongly influenced by worker skills (Uppenberg & Strauss, 2010). By contrast, in the primary and goods-producing industries, while skills matter, performance can also be lifted by improving the quality or availability of other inputs.

Figure 10.4 Services sector share of GDP compared internationally, 1971–2009

Source: NZPC, 2014b.

Notes:

1. OECD data are only available to 2009. Since 2009, the services share of New Zealand's GDP has risen from 70.9% to 72.4%.

Demographic trends

Since 1996, New Zealand's total population growth has fluctuated between 0.6% and 2% each year. Growth has consisted of reasonably stable natural population growth (averaging around 31 000 a year) and variable levels of net migration (which have fluctuated between a net outflow of 11 300 and an increase of 64 900).

The composition of New Zealand's population has changed – over the past three census periods, it has become more diverse, older and more urbanised. Table 10.1 shows the share of the population that identifies as European has decreased markedly between 1996 and 2013. These trends are particularly apparent among younger age cohorts.

The population is also ageing, meaning that, over the same time period, the share of the population aged 50 years and over has increased from 25% to 33%. Slightly higher shares of the population were living in urban areas in 2013 than in the two prior censuses.

Table 10.1 Share of total population by ethnicity, 1996 and 2013 census

	All ages		15–24 year olds	
	1996	2013	1996	2013
European	82.4%	74.6%	77.6%	68.1%
Māori	15.4%	15.6%	20.0%	20.4%
Pasifika	6.1%	7.8%	7.9%	10.6%
Asian	5.2%	12.2%	7.5%	15.5%
Middle Eastern/Latin American/African	0.5%	1.2%	0.6%	1.5%

Source: Statistics New Zealand, 2015a.

Notes:

1. Totals sum to more than 100% because individuals may associate with more than one ethnic group.
2. European group includes "other" ethnicities.

Trends in fees and costs

The arrangements for funding tertiary education are relatively complex and include student support, tuition fees paid by students, and tuition subsidies (Chapter 5). Particular trends vary across different types of fees and costs, as discussed below; but the overall pattern is one of increasing (and interrelated) cost pressures for government and students.

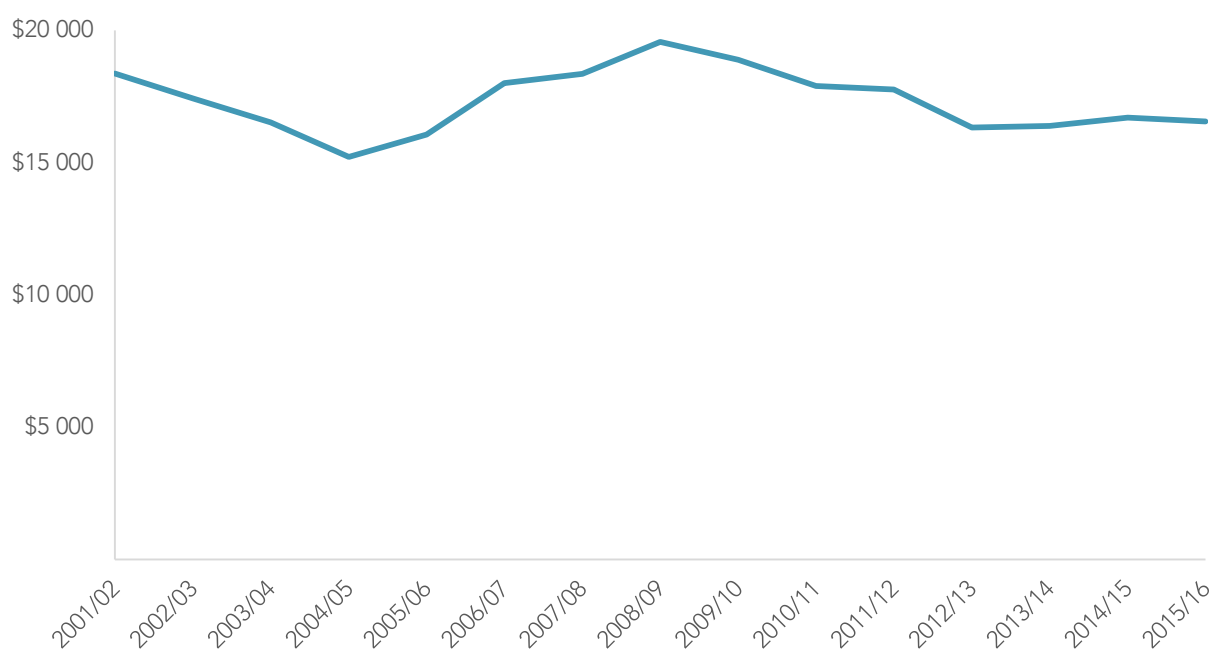
Costs faced by one party may be revenue to another. Further, government regulates both prices and quantities of tertiary education for domestic students. Consequently, observable trends are not a true reflection of the interaction of supply and demand.

Total government expenditure

In 2015/16, government's total expenditure on tertiary education was \$4.05 billion. This includes tuition funding, research funding, student allowances, system administration costs, and lending under the student loan system (less repayments received).

On a per EFTS basis, the total spend on tertiary education has remained relatively constant since 2001/02 (Figure 10.5).

Figure 10.5 Total government expenditure on tertiary education per EFTS, 2001/02–2015/16



Source: MoE, 2016a.

Notes:

1. Industry trainees and funding for industry training are both excluded.
2. Adjusted using the Consumer Price Index (CPI) to show constant 2015 dollars.
3. EFTS data are for the calendar year (starting in 2001).

Costs to students

Students pay fees to receive tertiary education. The average tuition fees for each EFTS enrolled at a TEI in 2015 were:

- ITP: \$4 052
- Wānanga: \$504
- University: \$6 647

These averages do not take account of the implicit government subsidy that is created by the Student Loan Scheme. As described in Chapter 5, contingent repayment and a zero nominal interest rate mean students

face a negative real interest rate and strong incentives to repay loans as slowly as possible. In addition, loans are written off when a borrower dies or becomes bankrupt, and a large proportion of overseas-based borrowers do not meet their repayment obligations. The combination of these features means the Inland Revenue Department writes off a significant share of the total amount loaned each year.

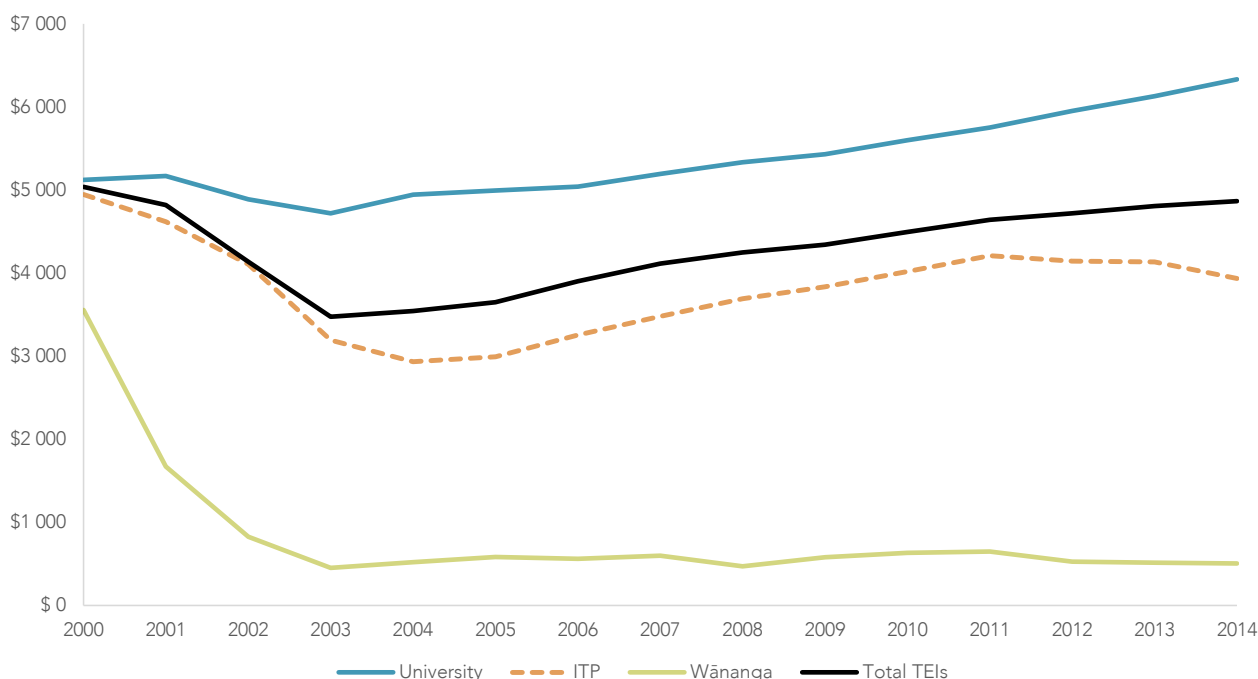
The average fees listed above also hide significant variability in terms of the fees charged for different programmes – particularly in the ITP and wānanga subsectors. For example, the fees for programmes offered at Te Whare Wānanga o Awanuiārangī range from zero (fee-free programmes) to more than \$6 000 for a Bachelor of Health Sciences Māori (Nursing).

Government policy settings have significantly influenced recent trends in tuition fees. In 2001, government introduced a “fee stabilisation” policy – where it provided extra funding to tertiary education providers in exchange for an undertaking to hold fees constant (Crawford, 2016). From 2004, fee increases of up to 5% were permitted, provided fees remained below an absolute limit (the fee and course cost maxima policy). From 2010, absolute limits were removed, and an Annual Maximum Fee Movement policy was introduced. Initially, annual fee increases were capped at 4%, before being lowered to 3% in 2016, and 2% in 2017.

Figure 10.6 shows the average fee per EFTS in the ITP, wānanga and university subsectors, in constant 2014 dollars over a 15-year period (data are not available for the PTE subsector). During this time period, the average tuition fee for each EFTS at universities has increased in real terms by 24%. Average fees in the ITP subsector dropped significantly between 2000 and 2004, climbed between 2004 and 2011, and then levelled off. Average fee revenue at wānanga dropped significantly between 2000 and 2003, reflecting the introduction of large numbers of fee-free programmes.

The average fee is calculated by dividing total domestic fees revenue by the total number of domestic EFTS. This means the average fee can be influenced by a change in the proportion of enrolments into higher or lower cost courses, as well as changes in the actual fee charged to individual students.

Figure 10.6 Real average tuition fees per EFTS by subsector, 2000–14



Source: MoE, 2016a.

Notes:

1. Adjusted using CPI to show constant 2014 dollars.

Universities New Zealand keeps a record of the indicative fees charged by universities by subject. Figure 10.7 shows the steady climb in Bachelor of Arts tuition fees (adjusted for inflation) after the removal of fees stabilisation in 2004. In real terms, tuition fees increased by between 16% and 30%. Tuition fees also converged. In 2001, the most expensive tuition fees for a Bachelor of Arts were 22% higher than the lowest.

In 2016, this gap had dropped to 10%. The effect of the introduction of the Annual Maximum Fee Movement in 2010 is clearly visible.

Figure 10.7 Real tuition fees for a Bachelor of Arts at New Zealand universities, 2001–16



Source: UNZ, 2017.

Notes:

1. Tuition fee data for Lincoln University was not available in a comparable format. Data for University of Auckland is not available in a comparable format for the years 2015 and 2016.
2. All figures are adjusted using the CPI to show constant 2016 dollars.
3. The source notes that: "This is not an official statement of fees. Indicative only."
4. In some cases, students are charged additional levies and course costs.

F10.1

University tuition fees have increased significantly in real terms over the past 10 years. Average tuition fees in the institute of technology and polytechnic and wānanga subsectors have fallen.

Trends in government funding for tertiary providers

Several inquiry participants suggested that the government contribution to tertiary education has fallen in real terms.

[T]he tertiary education budget has flat-lined, while the costs of running our institutions have increased at an average of six percent each year since 1994. (TEU, sub. 83, p. 27)

There has been no increase to SAC funding for a few years therefore providers are having to make cuts in essential services and raise student fees by the maximum allowed to ensure they can remain financially viable. (OMEP Aotearoa New Zealand, sub. 24, p. 12)

Neil Quigley, University of Waikato Vice-Chancellor, suggested that

for many of the disciplines taught at the university [of Waikato], the real income per student provided by government has fallen every year for 15 years. (Quigley; cited in Cann, 2016)

The University of Auckland (sub. 85, p. 8) suggests that “real income per student is falling” – without specifying whether this is a result of falling tuition fees or falling contributions from government.

For many universities, this is a longstanding complaint. The following extracts from university Annual Reports are years apart, but both report strong performance in spite of reported insufficient funds:

I am concerned that there is insufficient focus on the major issue which the whole tertiary education system faces, that of inadequate funding... this University cannot possibly sustain its activities at the present level of quality unless substantially increased funding is put into the sector... However, I am pleased to report that despite funding difficulties and some political uncertainties, this was a year of achievement and progress for the University of Otago. (University of Otago, 2000, p. 8)

Thus, while we can celebrate the many achievements of the University of Auckland there is also a sense of “lost opportunity”. This will not be resolved until there is a willingness to address the highly constrained funding environment within which we are forced to operate.

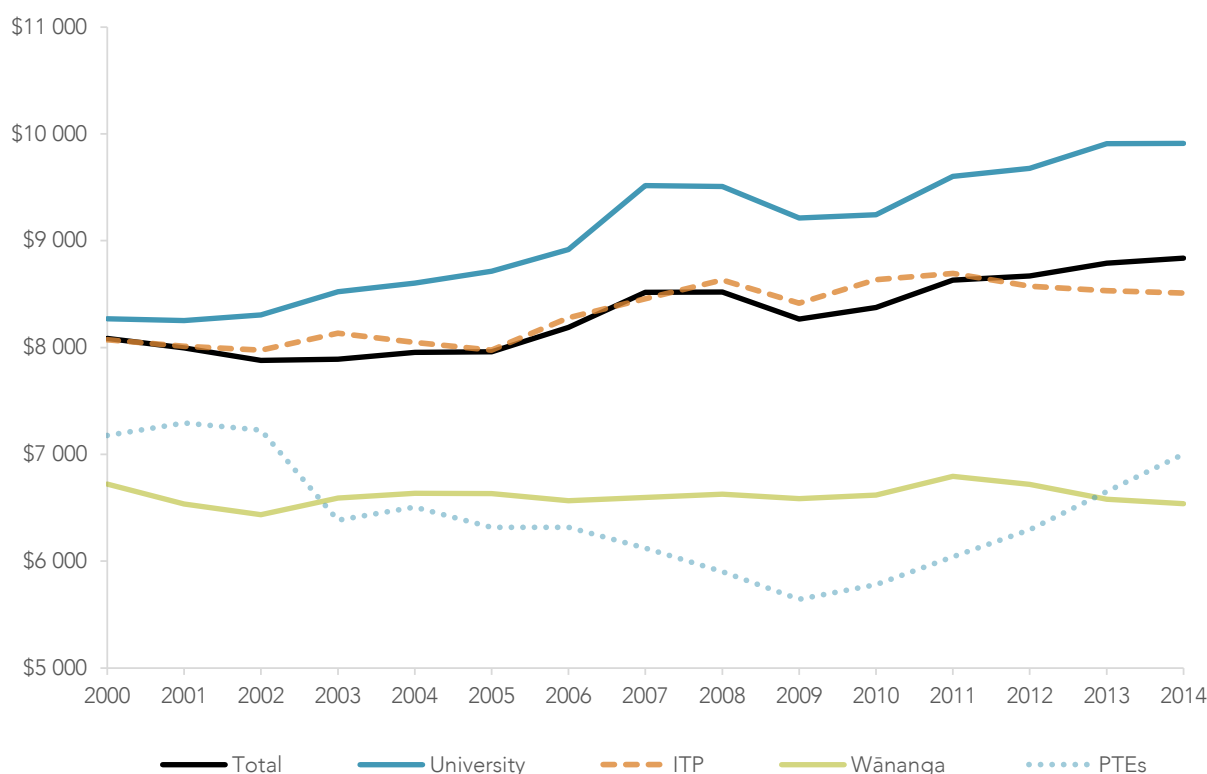
I do however want to acknowledge, on behalf of Council, the many staff, students and supporters of the University who have contributed to another year of outstanding achievements and helped make this such a prestigious university. (University of Auckland, 2014, p. 5)

However, the available data for the SAC fund (which accounted for 84% of total tuition funding in 2015) shows average government funding per delivered EFTS across the tertiary sector as a whole has increased in real terms by 9% since 2000 (Figure 10.8).

The increase in the overall SAC funding rate is driven primarily by increases in SAC funding in the university and ITP subsectors. The average SAC funding per EFTS at wānanga has fluctuated slightly but, in real terms, is largely unchanged over the past 15 years. Average SAC funding for PTEs declined in real terms between 2001 and 2009, and has subsequently risen.

Funding rates for industry training have also increased. Between 2004 and 2013, the amount of funding per delivered standard training measure (the industry training equivalent of an EFTS) increased by 5% in real terms (MoE, 2015d).

Figure 10.8 Student Achievement Component funding per EFTS, 2000–14 (2014 dollars)



Source: MoE, 2016a.

Notes:

1. Adjusted using CPI to show constant 2014 dollars.
2. PTEs includes Other Tertiary Education Providers.

F10.2

At the aggregate level, government tuition subsidies per EFTS have increased faster than the rate of inflation over the past 15 years. This increase is driven primarily by increases in the Student Achievement Component funding rate for universities and institutes of technology and polytechnics. Funding rates for wānanga are largely unchanged, while rates for Private Training Establishments declined between 2001 and 2009, before rising again.

Other inquiry participants, particularly from the university subsector, acknowledged government funding and student fees have increased, but suggested that these increases are failing to keep pace with rising operational costs. For example, Massey University noted that “Universities are facing increasing financial pressures as costs continue to outgrow revenue” (sub. 82, p. 23).

Comparing 2005 with 2014, Universities New Zealand (sub. 17) suggests that

university sector operating costs have increased by just over 50% on a per-student basis – mostly driven by rising salary costs, compliance costs, building maintenance costs, rising utilities costs, the cost of purchasing ICT equipment and licences from overseas and increasing costs of libraries as a consequence of subscriptions to online electronic resources.

CPI has risen by 25.5% over the same period, but none of the operating costs listed above are included in CPI. (pp. 16–17)

Quality Tertiary Institutions (QTI) also agreed that operating costs are increasing in real terms for most providers. Along with many of the drivers noted by Universities New Zealand, QTI also suggested that the costs associated with renting premises are driving up the cost of provision:

- The private education sector (only) is being hammered by increasing rents, particularly in Auckland. There is no funding consideration given to this. Public providers tend to own their buildings.
- The private education sector (only) is being hammered by increasing rates, particularly in Auckland. There is no funding consideration given to this. Public providers do not pay rates. (QTI, sub. DR156, pp. 2–3)

The New Zealand Union of Students’ Associations (NZUSA) questioned whether real operating costs are increasing:

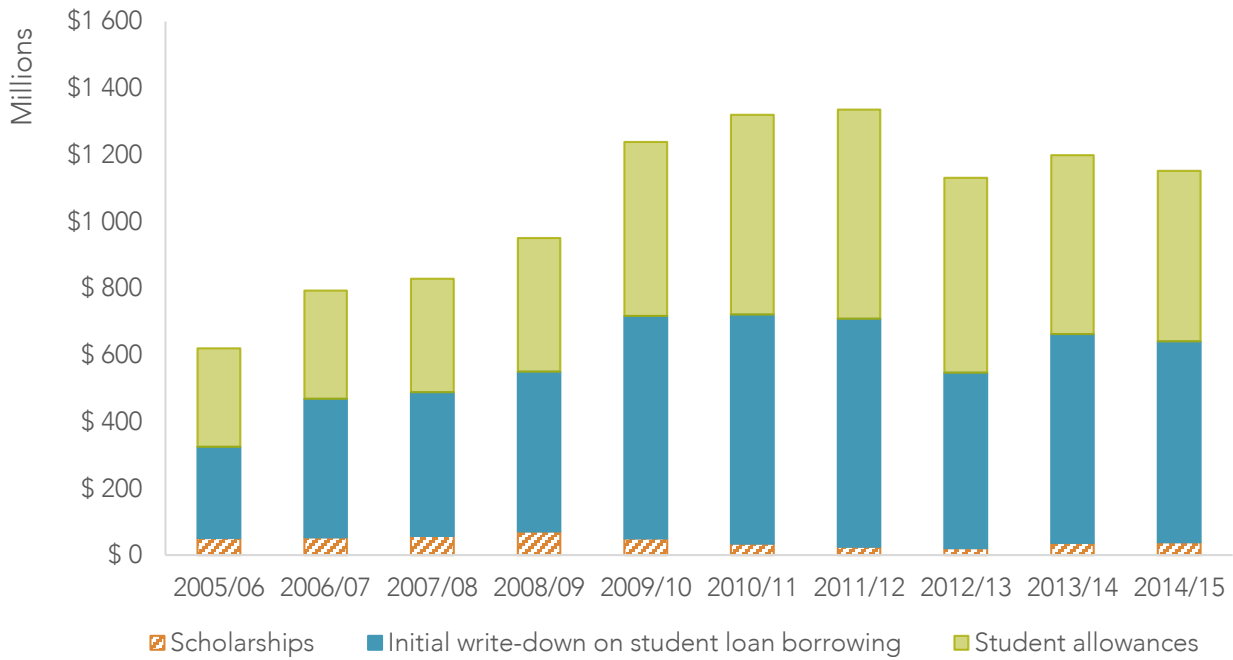
We are not convinced that the operating costs of tertiary provision is increasing in real terms, or needs to be, although we are particularly aware that the costs to students have been. One feature is that government funding has been targeted into specific disciplines, encouraging providers to spend more on those disciplines, but to raise costs across all students. None have followed the additional investment in programmes that the government says it wants more students with a reduction in the costs of doing those courses. Another feature of the current tertiary education landscape is increasing compliance costs, and spending on areas of dubious benefit (advertising, gaming ranking exercises, spectacular facilities...). (NZUSA, sub. DR139, p. 14)

Trends in government funding for student support

Along with tuition subsidies paid to tertiary providers, government also contributes to the student support system. That contribution is comprised primarily of the Student Loan Scheme (the Scheme), student allowances and scholarships (the student support system is described in Chapter 5).

Figure 10.9 shows the trends in the real costs of the student support system over the past 10 years, based on spending on allowances and scholarships, and the costs of the Scheme (the amount of lending written off each year due to the interest-free nature of loans, and anticipated non-repayments). Expenditure increased sharply between 2005/06 and 2009/11, before falling to around \$1 150 million from 2012/13.

Figure 10.9 Government expenditure on student support, 2005/06–2014/15 (2014/15 dollars)



Source: MoE, 2016a.

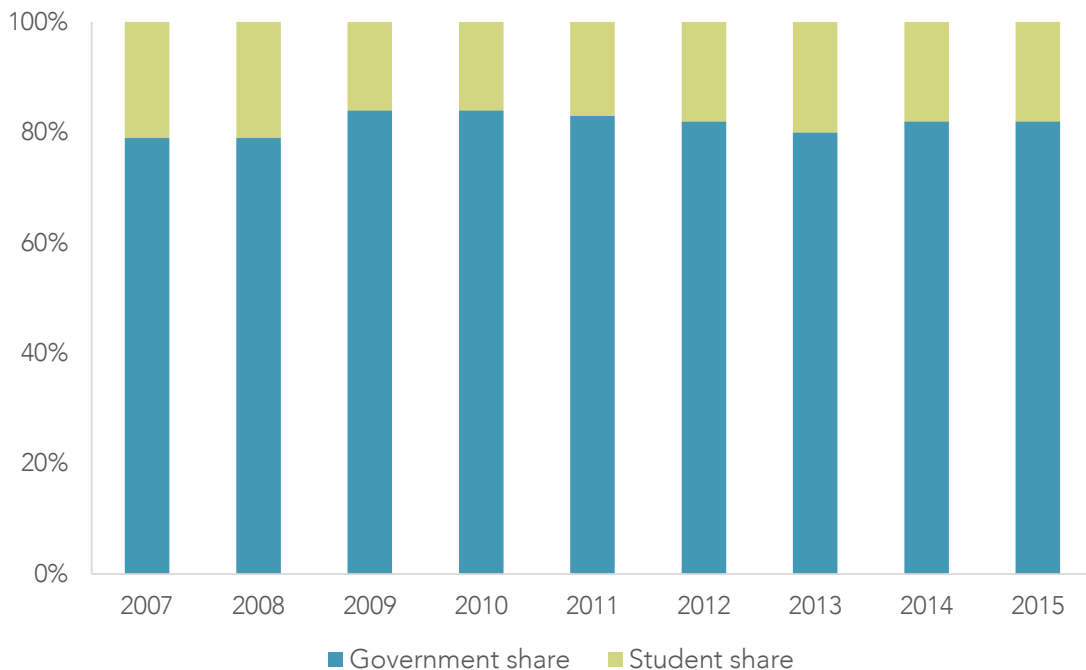
Notes:

- Adjusted using CPI to show constant 2014/15 dollars.

Trends in relative contributions of government and students

Figure 10.10 shows the trend in how costs are shared between students and government over the past nine years. The student share comprises tuition fees, less the implicit subsidy that results from the interest-free Scheme. The government share comprises tuition subsidies (such as SAC and Youth Guarantee), the Performance Based Research Fund, plus the costs associated with interest-free student loans. The student share has held relatively constant at around 18% of total costs over this period.

Figure 10.10 Share of tertiary education costs at TEIs, 2007–15



Source: MoE, Student Loan Scheme Annual Reports, 2008 – 2016.

Trends in technology

Recent decades have seen the emergence of new technologies that have made existing skills obsolete. This is a continuation of a long-running trend. Examples include low-skilled roles such as lift operators, to highly skilled roles associated with industries that no longer exist at scale, such as developers or colourists of camera film. More recently, sectors including publishing, music, media, and travel industries have all been disrupted by digital technologies. This has resulted in a complete overhaul of their products and services (European Commission, 2014).

The Flexible Learning Association of New Zealand suggests that the pace of change has accelerated and, in response, industries are seeking workers that can adapt:

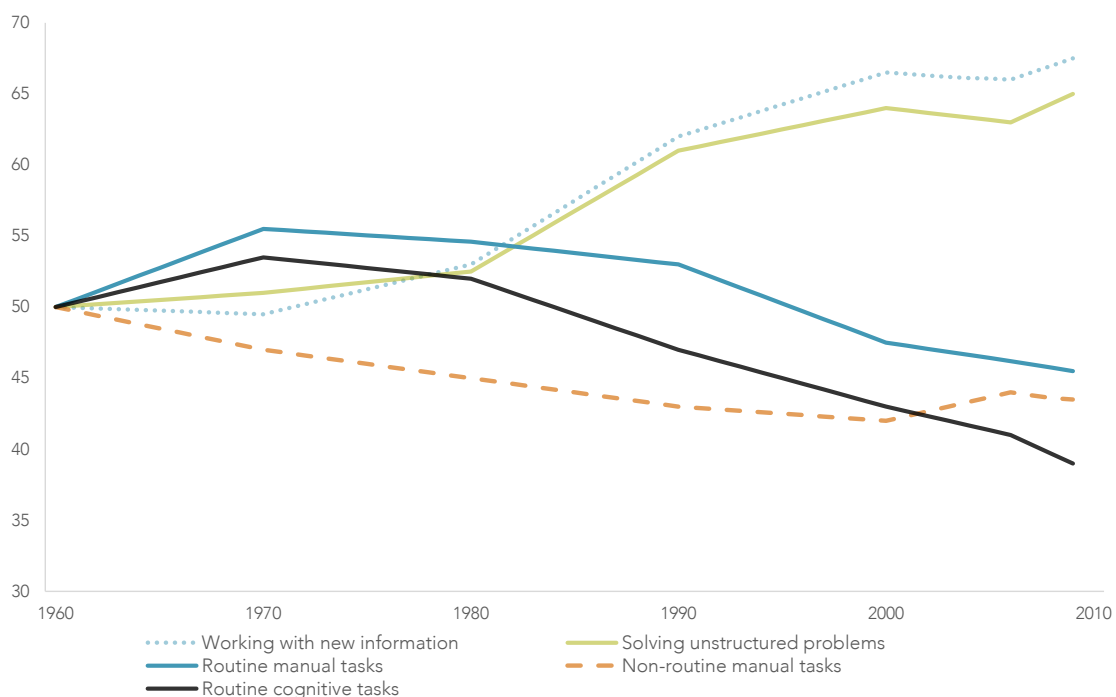
Workplace requirements have changed over the last decade. Accountability and compliance requirements have increased. The rate of change in required skills has increased. The importance of digital literacy and communication skills has increased. We live in an increasingly changeable and connected world. In response, industry is seeking workers that the workplace can develop over time. (sub. 98, p. 5)

The tendency of technology to influence the relative demand for skilled versus unskilled labour in favour of skilled labour is known as “skills-biased technological change”.

Figure 10.11 shows routine jobs (which tend to be low-wage and low-skilled, and which a machine can more readily undertake) declining – compared to non-routine or interpersonal roles that require the kind of contextual judgement and emotional input currently beyond the ability of computers. For example, occupational categories such as Machine Operators and Office and Administrative have both declined as a share of total employment in the United States since 1979. By contrast, the employment share of Technicians and Professional and Managerial Occupations has increased. These occupations typically “involve abstract, unstructured cognitive work that is hard to computerize” (Levy & Murnane, 2013, p. 14).

Recent employment patterns in New Zealand reveal a similar trend. For example, the share of the total workforce employed as machine operators and drivers or clerical and administrative workers declined from 20% in 2003 to 18% at the start of 2016. By contrast, the share of employed people working in more highly skilled occupations (managers or professionals) increased from 35% in 2003 to over 40% at the start of 2016 (Statistics New Zealand, 2016a).

Figure 10.11 Index of changing work tasks in the United States, 1960–2009



Source: Levy & Murnane, 2013.

Trends in internationalisation





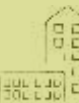

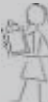
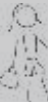
Staff, students, teaching materials, qualifications and research can all move across borders, and these factors have become more mobile over time. Between 1990 and 2011, the global number of students enrolled in a tertiary education provider outside their country of citizenship increased from 1.3 million to nearly 4.3 million (OECD, 2013).

In 2011, international students from Asia represented 53% of the global international student population, with the largest numbers coming from China, India and Korea. The largest recipient of international students is the United States, with 17% of all foreign students worldwide, followed by the United Kingdom (13%), Australia (6%), Germany (6%), and France (6%) (OECD, 2013).

Trade in tertiary education services

The General Agreement on Trade in Services classifies international services trade into four different modes. These apply to both the import and export of educational services, creating eight combinations (Table 10.2/ Table 10.1).

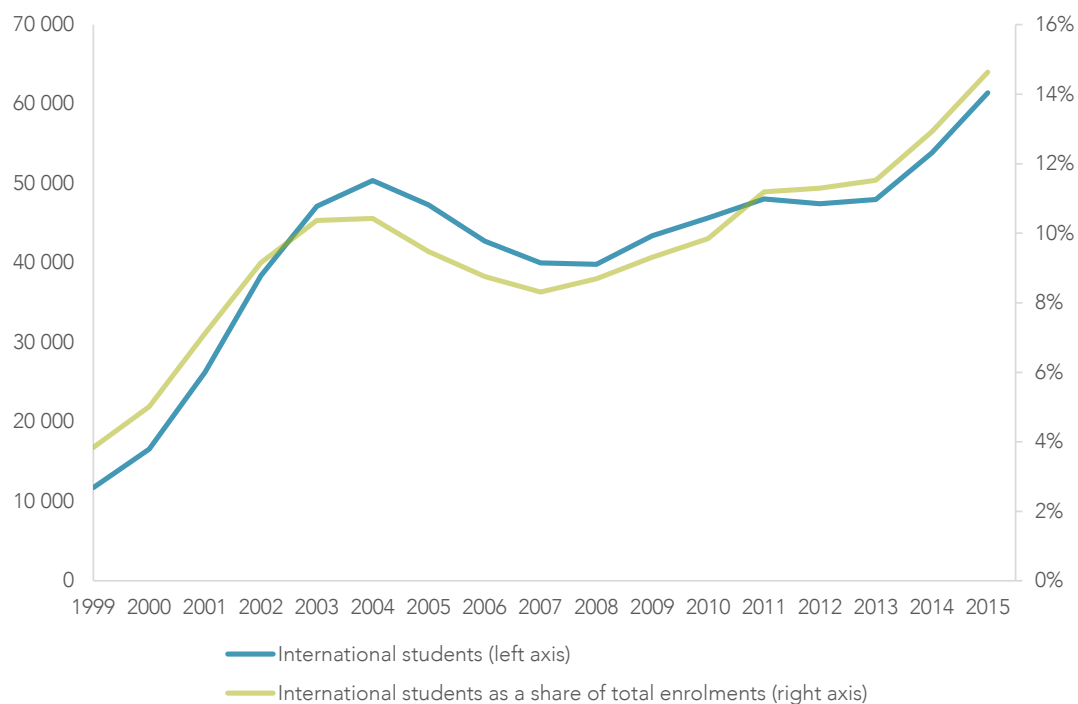
Table 10.2 Cross-border trade in education

Mode		Import example		Export example
1: Direct trade		A New Zealand student accesses a US-based MOOC		A New Zealand provider sells course materials to an overseas educational institution
2: Consumer travel		A New Zealander travels to study at an Australian university		An Indian student travels to study at a New Zealand polytechnic
3: Commercial presence		A foreign provider opens a campus in New Zealand		A New Zealand provider opens a campus in Vietnam
4: Supplier travel		A British consultant travels to New Zealand to assess a provider's performance		A New Zealander travels to Hong Kong to deliver a paid lecture

Mode 2, where international students travel to New Zealand for study, is a significant industry for New Zealand. This mode receives the majority of public and policy attention. However, all combinations are potentially influential in shaping the tertiary education system. The sections that follow discuss this and some other specific combinations.

Inbound international students

The number of international students enrolled in New Zealand tertiary providers has fluctuated over the past 16 years; however, growth in the number of international students has been strong since 2008 (Figure 10.12). In 2015, more than 61 500 international students were enrolled at tertiary providers, representing just under 15% of total enrolments.

Figure 10.12 International student numbers and international students as a share of total students

Source: MoE, 2016a.

Inquiry participants emphasised that international students bring a wide range of benefits.

The fact that 11% of students at New Zealand universities are international ... allows domestic students to mingle and work with students from other cultures. (UNZ, sub. 17, p. 76)

...our driver is about the diversification of experience for our learners, the sharing of cultures and perspectives, and ensuring our programmes are globally relevant and so therefore are our graduates. (WelTec & Whitireia, sub. 59, p. 13)

The system benefits from having international students present through increased revenue, diversity, international perspective and competitiveness, and greater domestic student outlook and experience. (ENZ, sub. DR175, p. 2)

Members of the Victoria University of Wellington Students' Association (sub. 80) were supportive of an increasingly diverse student population. But the association also voiced concerns that international students may divert focus away from under-represented groups of domestic students, and that universities viewed international students "as an easy target for raising extra revenue rather than as actual students" (pp. 7–8).

The fees paid by international students are an important supplement to tertiary providers' core funding. Education New Zealand (ENZ) notes this revenue allows providers to:

- provide resources that they may not otherwise be able to afford;
- offer programmes that may not otherwise be financially viable;
- provide staff and other students with the opportunity to develop cross-cultural competencies through working alongside an international cohort of peers;
- offer exchange programmes and joint research projects that increase knowledge and learning. (sub. 52, p. 5)

Since 2000, revenue from international students has more than doubled at universities and ITPs (Table 10.3). Further data about international students studying in New Zealand are included in Chapter 3.

Table 10.3 International students in New Zealand TEIs

Subsector	Number of international students 2014	Revenue from international students 2014	Average revenue per international student 2014	International student revenue as a share of total operating revenue 2000	International student revenue as a share of total operating revenue 2014
Universities	24 956	\$343.4m	\$13 760	4.6%	9.8%
ITPs	14 151	\$117.8m	\$8 325	5.3%	10.9%
PTEs	15 364	\$124.1m	\$8 077	Data not available	Data not available

Source: MoE, n.d. a; n.d. b; n.d. c.

Notes:

1. Revenues are per student. The average revenue per EFTS would be larger.

Outbound domestic students

A trend of increasing student mobility also affects domestic students. As discussed in Chapter 3, around 2% of New Zealand tertiary students study abroad. Studying offshore has long been a feature of postgraduate education in New Zealand, and anecdotal evidence suggests that it may be increasing at the undergraduate level.

Export of educational services and products

ENZ (n.d.) reported that the 2012/13 export value of education services and products was \$103.9 million. It defines “education services and products” as “any activity that derives export revenue from educational services and products consumed outside New Zealand, including publications, consulting, software and distance education”.

Offshore course delivery by New Zealand providers

Many New Zealand tertiary providers sell tertiary education products and services overseas, with about 3% of international students studying offshore (ENZ, 2015). Such delivery is presently a small part of New Zealand’s educational exports. But concerns about the future demand for onshore international education has caused providers to increasingly focus on the potential expansion of offshore delivery.

The offshore delivery of education can be by any of Mode 1 (distance education), Mode 3 (through the establishment of a commercial presence in another country), and Mode 4 (through New Zealand staff delivering the education service in the foreign country). In recent years, trade agreements have expanded the access of New Zealand institutions to overseas education markets.

Data on programmes offered by New Zealand institutions offshore are sketchy, and there appears to be considerable “churn” in ventures. The year 2014 saw 1 843 offshore enrolments in the ITP subsector (up from 924 in 2005), and 1 222 enrolments in the university subsector (up from 203 in 2005) (MoE, n.d. a; MoE, n.d. c). That year also saw a small, yet growing, number of offshore enrolments in PTEs. Compared with Australia and the United Kingdom, the volume of offshore delivery by New Zealand providers is very small.

- In 2014, 85 873 students were enrolled at offshore campuses of Australian higher education providers, and a further 25 531 offshore students were enrolled in distance education programmes (Australian Government Department of Education and Training, 2015).
- In 2014/15, 99 of 134 United Kingdom higher education institutions provided offshore education to a total of 665 995 students. Of this offshore education, 40% was delivered in cooperation with a local partner, 52% via distance education, and 8% through the provider having a physical presence (UK Higher Education International Unit, 2016).

10.3 Future trends in tertiary education

The following section sets out the views of submitters, and other commentators, on how trends in tertiary education might play out in the coming years. Section 10.4 discusses the extent to which predictions of future trends can be relied on.

Future trends in student and employer demand

A large number of inquiry participants put forward ideas about what student and employer demand for skills might look like in the future. Several inquiry participants suggested that skills-biased change will result in growing demand for higher-level skills:

Disruptive technologies will mean that the fabric of the workforce as we currently see it will shift away from repetitive low skill roles. The factories and workshops of our future will evolve to highly digitised, mechanised, robotics focused environments. The foundation requirements in this future will include high numeracy and literacy, strong fundamentals in maths and science, problem solving and communication capabilities. The number of roles requiring learning to Level 2 will diminish, while demand for jobs requiring training at Level 5 and 6 will soar. (Competenz, sub. DR159, p. 8)

Automation of a range of more routine tasks will mean the best earning and employment prospects will remain with educated workers providing complex hard-to-automate services. The number of entry-level jobs requiring a degree-level qualification will continue to grow as employers demand ever-more productive, flexible and innovative employees. (UNZ, sub. DR119, p. 7)

NZUSA noted that some higher-skilled jobs are also susceptible to automation:

We know that technology is changing the world and that it is not just low skill jobs on the block. Professions such as accountants are slated to become less relevant as software becomes more automated and while people may feel uncomfortable about a robot doctor, this is not a radical thought. (NZUSA, sub. DR139, p. 14)

Two main responses to changing skill requirements were put forward. Some submitters pointed toward a growing need for tertiary education to deliver new types of skills – particularly transferable skills that can be applied in a range of contexts.

Preparing students so that they can anticipate and navigate a rapidly changing labour market is critical. Core skills and competencies such as critical thinking, resilience, and agility are more necessary as students graduating today are likely to have many jobs and more than one career throughout their working life. These skills are vital for change and transition. (Massey University, sub. 82, p. 13)

The mastery of 'soft skills', including those identified by UNESCO and others not yet imagined, will be increasingly valued in employment just as they will be in personal relationships. (WelTec & Whitireia, sub. DR134, p. 9)

Others suggested that new technologies, and the need to develop new skills, will result in students interacting with the tertiary education system in different ways, including a significant increase in the number of students seeking tertiary education for mid-career retraining or upskilling.

We have an aging population with a growing proportion of people staying in the workforce for longer. This will likely place new demands on our education and training products and services as people seek out upskilling and retooling opportunities multiple times across their lifetimes. (BusinessNZ, sub. 77, p. 3)

Training will need to be delivered in bite sized chunks to be consumed regularly throughout a career. We can no longer rely on a single base qualification being the only formalised learning that we undertake in our working lifetime... Productive employees will need to maintain a constant cycle of training and retraining to keep pace with new innovations and shifting paradigms of how we do business. (Competenz, sub. DR159, p. 31)

... the needs of the modern economy which will see employees increasingly required to re-train and develop new skill sets throughout their careers. (New Zealand ITP subsector, sub. DR127, p. 2)

These submitters are essentially endorsing the concept of lifelong learning – a concept that has been influential in New Zealand's tertiary education policy settings for many years (Chapter 1 and Box 10.1).

Box 10.1 Lifelong learning

Lifelong learning refers to formal and informal learning that is pursued throughout a person's life, to foster the continuous development of their knowledge, skills, competencies and interests. It is in contrast to a conception of education as something a person does only in childhood and early adulthood. Lifelong learning was a key driver of major reforms of tertiary education launched in New Zealand in the late 1980s (Crawford, 2016). The Hawke review noted in 1988 that it expected the tertiary education system to have

... an increasing role in "lifelong education" whereby members of trades and professions maintain their skill level, acquire new skills to modernise methods and practices in line with technological and social change, and retrain to permit movement into more specialised areas of a current profession or trade or to move into an allied trade or profession. (Hawke, 1988, p. 16)

More recently, lifelong learning featured prominently in the two Tertiary Education Strategy (TES) documents that covered the years 2002 to 2010. The 2007 TES lists "success for all New Zealanders through lifelong learning" as one of three contributions expected from the tertiary education system (MoE, 2007, p. 20).

The term "lifelong learning" has not featured in the two most recent TES documents and is no longer a priority. Several inquiry participants suggested that, in terms of government priorities, lifelong learning has been replaced by a focus on school leavers. Massey University (sub. DR143) was particularly critical of this shift:

In recent years it has been government policy enacted through the TEC to refocus tertiary education on school-leaving cohorts in an effort to curb youth unemployment and to ensure young people are better prepared for the changing employment context characterised by increasing technology and a loss of low skilled jobs. This change in policy has required that Massey University along with all other NZ university change its recruitment focus to target school-leavers, or risk rating poorly on TEC issued EPs. This did represent a core shift for the University and to some extent undermined our pedigree in extramural/distance delivery. As a policy, it is extremely short-sighted as it did not take into account the needs of the wider population to improve their employment outcomes and contribution to the economy through the development of skills, knowledge, and professional expertise... The policy also meant that the University had to shift some of our focus on providing part-time and distance study opportunities for an 'in-work' student body toward fulltime study for school leavers, which reduces the ability to provide for an agile, re-skilling, and responsive workforce to maximise New Zealand economic success. (p. 20)

BusinessNZ (sub. DR165, p. 4) submitted that "it is not enough to focus on the needs of young people. Being able to upskill and learn throughout a career is important and should be given more prominence". QTI (sub. DR156) noted that "lifelong learning seems to have gone out of fashion" (p. 11).

Future demographic trends

Modelling by the Ministry of Education has found the two biggest drivers of short-term student demand for tertiary education are the number of people aged 18 to 25, and the unemployment rate (MoE, 2015e).

Student demand in the last half-decade has been strong, due in part to a "baby blip" around 1990, and in part to the global financial crisis of 2008, which caused an increase in unemployment that disproportionately affected young people and encouraged them into further study. Now that the baby blip has moved through the system and the economy is growing, the Ministry of Education's forecast predicts that student enrolments for provider-based training at levels 3 and above will fall by around 7 800 full-time student places (3.65%) between 2014 and 2018, before starting to rise again from 2019 (Table 10.4). This forecast measures the number of students likely to enrol given currently policy settings, rather than an assessment of demand.

The decline to 2018 is predicted to have the biggest impact on universities (a loss of about 5 000 EFTS) and ITPs (a loss of around 3 750 EFTS).

Table 10.4 Forecast EFTS at level 3 and above, by subsector

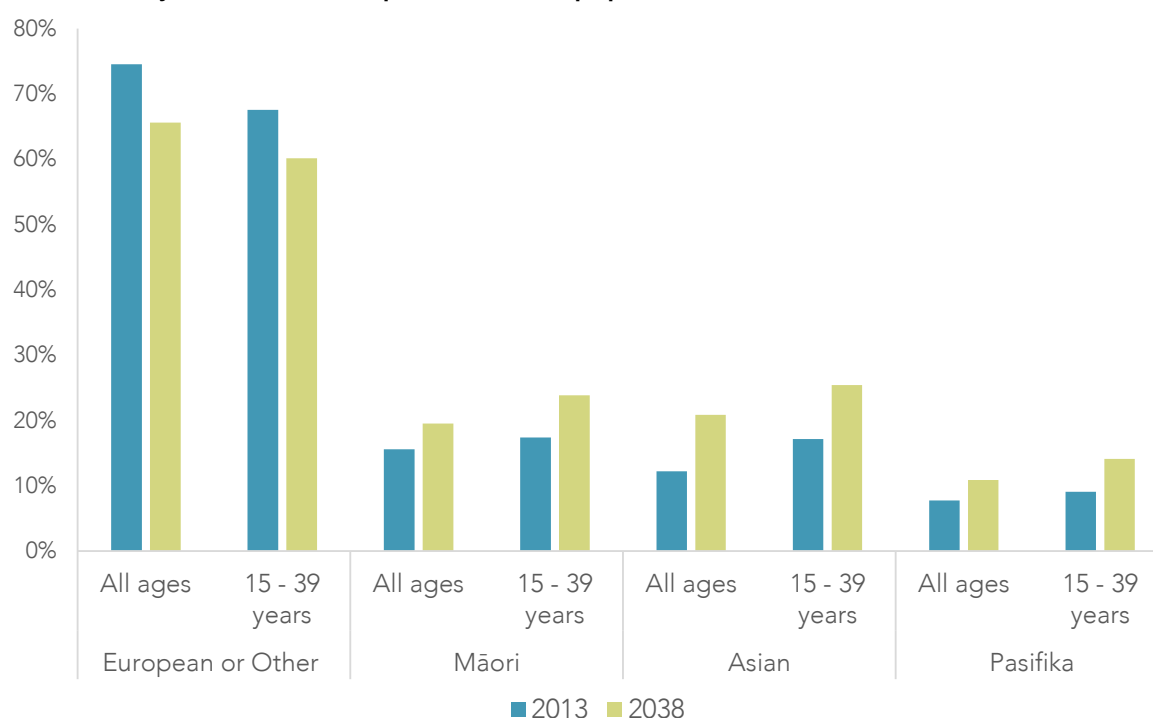
Subsector	2014	2015	2016	2017	2018	2019
Universities	115 587	116 230	113 780	111 580	110 620	111 380
ITPs	54 749	54 610	52 980	51 720	51 000	51 430
Wānanga	18 280	18 370	19 170	19 670	19 880	19 760
PTEs	24 993	23 380	23 440	24 050	24 300	24 150
Total	213 609	212 590	209 370	207 020	205 800	206 720

Source: MoE, 2015e.

The forecast enrolments for tertiary study in Table 10.4 were calculated at the aggregate level, and so may hide important changes in the composition and distribution of demand. For example, despite the reduction in the overall population aged 18 to 25, the Māori and Pasifika populations have a younger age structure overall, and their youth populations are forecast to grow slightly to 2019. Possibly reflecting this, in contrast to the overall trend, wānanga – whose student population contains a much higher proportion of Māori students than other subsectors – are forecast to be allowed to grow between 2014 and 2018 by around 1 600 EFTS. Inquiry participants anticipated changes in the composition of the student body:

There will be a higher proportion of young people and of students who are Maori, Pasifika and Asian... Also older adults will make up an increasing proportion of the population and will be working longer, and will need to have first-time access to tertiary education. (University of Auckland Society, sub. 38, p. 21)

The next 20 years will likely see a continuation of the demographic trends experienced over the past two decades. Statistics New Zealand projections suggest the share of the population that identifies as European will continue to decline, while the share of the population that identifies as Māori, Pasifika or Asian will grow. This trend is forecast to be particularly apparent among age cohorts that currently account for a large share of tertiary students (Figure 10.13).

Figure 10.13 Projected ethnic composition of the population, 2013–38

Source: Statistics New Zealand, 2015b

Notes:

1. Totals sum to more than 100% because individuals may associate with more than one ethnic group.
2. European group includes "other" ethnicities.

Similarly, trends in the demand for tertiary education are unlikely to be uniform across the country. Between 2013 and 2018, the number of young people aged 15 to 24 is forecast to grow by 5.8% and 4% in Auckland and Canterbury respectively. In contrast, the number of young people in Marlborough and the West Coast is projected to decline by between 8.4% and 9% (Statistics New Zealand, 2015b). BusinessNZ notes that the demographic trend of increasing urbanisation may affect the viability of tertiary providers in some regions, and that new models of “tertiary education design and delivery have a role to play in geographical regions where there are too few tertiary organisations to provide genuine competition, or too little demand for tertiary education to make tertiary organisations profitable” (sub. 77, p. 4).

The available demographic projections all point toward the tertiary education system needing to perform for a more diverse group of students:

The system will need to cater to the needs of an increasingly diverse group of learners: Because tertiary education is becoming an entry requirement for larger parts of the labour market; and because New Zealand is becoming more diverse. (TEC, sub. 2, p. 1)

Future trends in costs

Few inquiry participants offered suggestions about likely future trends in costs. Universities New Zealand (sub. 17) noted “costs are likely to increase faster than funding from government and tuition fees” (p 82) and

unless the current government funding environment changes radically, the already extreme tension between a need to cut costs while maintaining curriculum quality will hit a crisis point in at least a part of the sector. (p. 97)

Independent Tertiary Institutions noted that funding is tied to student numbers, and voiced concern about the potential for funding decisions to become unduly politicised:

The fundamental challenge is declining student numbers which means, on the current model, declining funding. On the predictions, PTEs hold up relatively well but the main challenge for us is probably going to be political. Public institutions and teacher unions, facing declining rolls, will pressure the Government of the Day to divert money from “for-profit private companies” to “struggling under-funded public providers.” (sub. 81, p. 14)

Future technological change

Universities New Zealand noted the importance of technology in all aspects of university operations, but did not see technology as a replacement for campus-based learning in the near future:

Technology ... that helps maintain quality while reducing cost will be prioritised for adoption. Similarly, universities will continue adopting and extending technology where it enhances and enriches teaching and research. Technology is likely to add new channels and options for teaching and research, but is unlikely to significantly supplant any existing ones in the coming decade. (UNZ, sub. 17, p. 83)

The view that technology will complement more traditional forms of tertiary education is also found in the international literature. A recent report to the European Commission on new models of learning and teaching in higher education projected a 15-fold increase in e-learning, but suggested that conventional aspects of tertiary education will remain:

While the conventional setting of the lecture hall will continue to form the bedrock of higher education systems, it will be enhanced by the integration of new tools and pedagogies, and it will be complemented by many more online learning opportunities and a greater variety of providers in higher education. (European Commission, 2014, p. 10)

Other commentators suggest technological advancements will play a more disruptive role, but not to the extent that campus-based universities disappear (Box 10.2).

Box 10.2 Forecast technological disruption in Australian universities

Digital technologies and innovation have disrupted all manner of established industries — media, retail, entertainment and many others. While online education has been around since the 1990s, it has been in the last 2–3 years where the pace and disruptiveness of change has really accelerated.

Digital technologies will not cause the disappearance of the campus-based university. Campuses will still exist as places of teaching and learning, research, community engagement, and varied forms of student experience — assuming universities can deliver a rich, on-campus experience. But digital technologies will transform the way education is delivered and supported, for example through applications that enable real-time student feedback, and the way education is accessed in remote and regional areas — both in the developed and developing world.

Digital technologies will also fundamentally transform the way value is created within higher education and related industries. For example, new technologies will enable public and private providers to specialise in parts of the value chain — content generation, content aggregation, mass distribution, certification, commercialisation and so on.

New technologies will enable media companies to enter the university sector, either in partnership with incumbents, or potentially in their own right. The so-called Massive Open Online Courses (MOOCs) are an early stage example of the search for new models. Some of these models will decline and fail, others will create very substantial economic value. Winners are likely to be a mix of new, pure play online businesses and traditional businesses with powerful online models and capability.

Source: Ernst & Young, 2012, p. 9.

The *2016 NMC Technology Outlook for Australian Tertiary Education* identifies 12 developments in educational technology anticipated to be very important for Australian tertiary education over the next 1–5 years. These were generated by a large panel of New Zealand and Australian experts (Marshall, sub. 73). A selection of the findings from this report are set out in Table 10.5.

Table 10.5 Predicted developments in educational technology

Time to adoption: One year or less

- **Bring Your Own Device** – the practice of people bringing their own laptops, tablets, smartphones, or other portable devices with them to the learning environment.
- **Flipped Classroom** – a learning model where class time is devoted to higher cognitive, more active, project-based learning. Other learning, such as readings and video lectures, is undertaken by students outside class time.
- **Learning Analytics** – using data about students' learning to build better pedagogies, empower students to take an active part in their learning, target at-risk students, and address factors affecting completion and success.

Time to adoption: Two to three years

- **Adaptive Learning Technologies** – software and online platforms that adjust to an individual student's needs as they learn.
- **Location Intelligence** – using resources such as Geographic Information Systems to understand how people are interacting with various services. For example, this information can be used to provide content that is customised according to the user's location.
- **Makerspaces** – Makerspaces are physical learning environments that are equipped with the tools and resources needed to help people carry out their ideas. Proponents of makerspaces for education highlight the benefit of engaging learners in creative, higher-order problem solving through hands-on design, construction, and iteration.

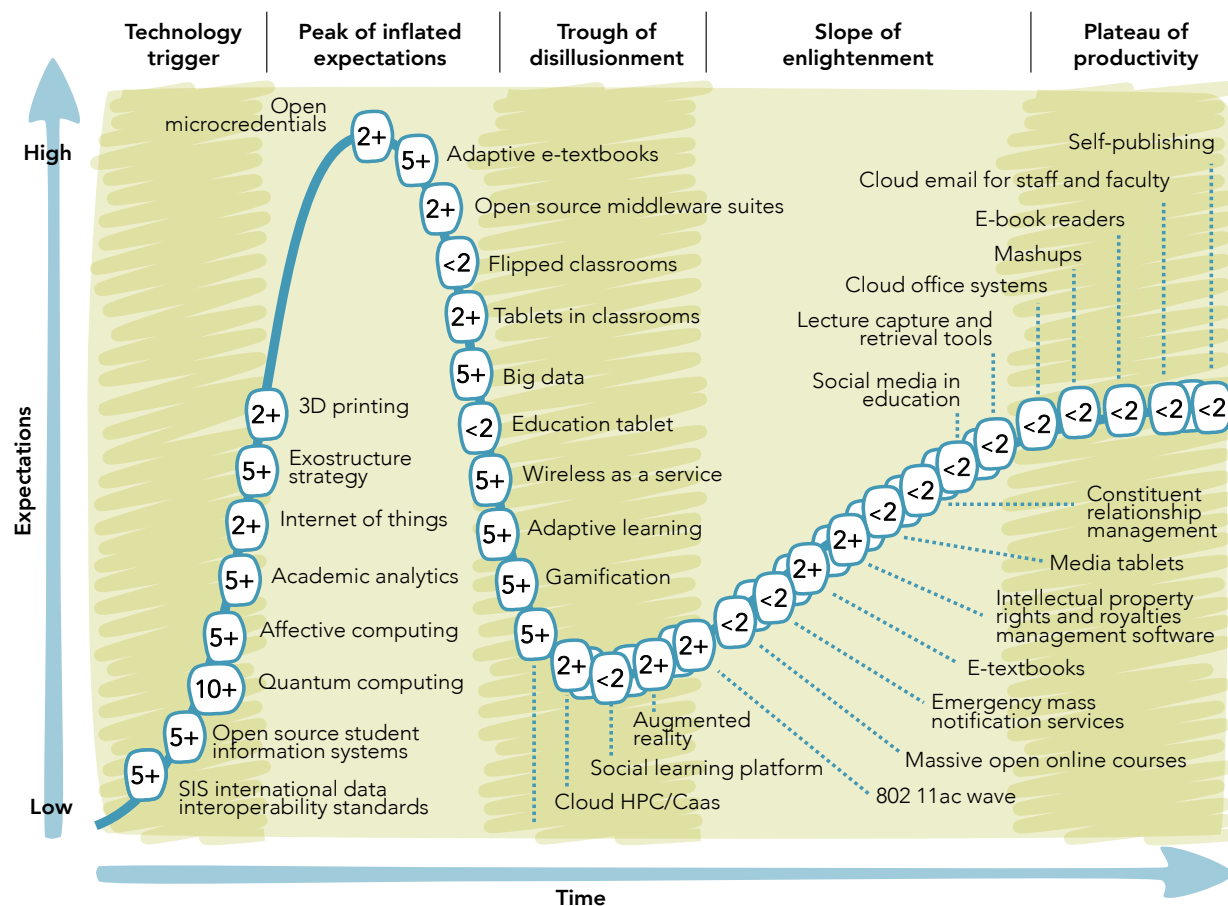
Time to adoption: Four to five years

- **Affective Computing** – the programming of machines to recognise, interpret, process and simulate the range of human emotions – for example a computerised tutor reacts to students' facial cues.
- **Augmented Reality** – a view of a physical, real-world environment whose elements are augmented by computer-generated sensory input such as sound, video, graphics or GPS data. Augmented Reality provides for contextual, in situ learning experiences that foster exploration of real-world data in virtual surroundings and simulations.
- **Machine Learning** – computers that are able to act and react without being explicitly programmed to do so.

Source: Adams Becker et al., 2016.

The University of Minnesota's *Hype Cycle for Education* is another projection of the educational technologies that may become influential in the near future (Figure 10.14). The projection is based on the Gartner Group's "hype cycle" that describes how new technologies move through five phases.

Figure 10.14 The hype cycle for educational technologies



Source: Adapted from University of Minnesota, 2016.

Notes:

1. The numbers (eg, "5+") are an estimate of the number of years before the technology is widely adopted.

Inquiry participants agreed with the hype cycle in that new technologies are often subject to considerable hype early in their development. Dodgson noted that not all technologies reach the plateau of productivity: "some things go into the 'trough of disillusionment' and do not come out of it" (sub. 28, p. 7). Several inquiry participants suggested that MOOCs were one example of an educational technology that would be unlikely to become productive and sustainable:

MOOCs are a distraction – a *really annoying* distraction – from the true opportunities online education provides. (Nichols, sub. 6, pp. 10–11)

MOOCs are at best irrelevant, at worst they represent a substantial wastage of cost and loss of educational capital to international interests. (Marshall, sub. 73, p. 13)

The experience with international MOOC completion rates of 2-10% is evidence that courses delivered principally on line will not advance New Zealand graduate learning. (University of Auckland Society, sub. DR151, p. 4)

Other submitters noted that some New Zealand providers were applying the MOOC model in situations where they see it being most beneficial for learners:

[MOOCs] have been over-hyped. But in some cases MOOCs are appropriate and New Zealand Universities are constructing their own MOOCs. (Nola, sub. DR123, p. 2)

The University of Auckland, like other universities, is actively pursuing the opportunities presented by online education but it is doing so strategically and where there are clear benefits for distinctive constituencies of learners and the University. For example, the University has expanded its Massive

Open Online Course (MOOCs) offerings to provide global access to University of Auckland staff expertise in popular curricula areas (e.g. introductory data analysis, academic integrity, and logical and critical thinking). (University of Auckland, sub. DR118, p. 9)

MOOCs and other recent approaches to online learning are discussed in Chapter 11.

Future trends in internationalisation

ENZ noted the global number of international students is forecast to grow rapidly:

ENZ is seeing an increased global mobility of students, with more (and younger) students studying offshore. The number of *mobile* tertiary students is forecast to grow from 5 million students now, to about 8 million by 2025. (sub. 52, p. 5)

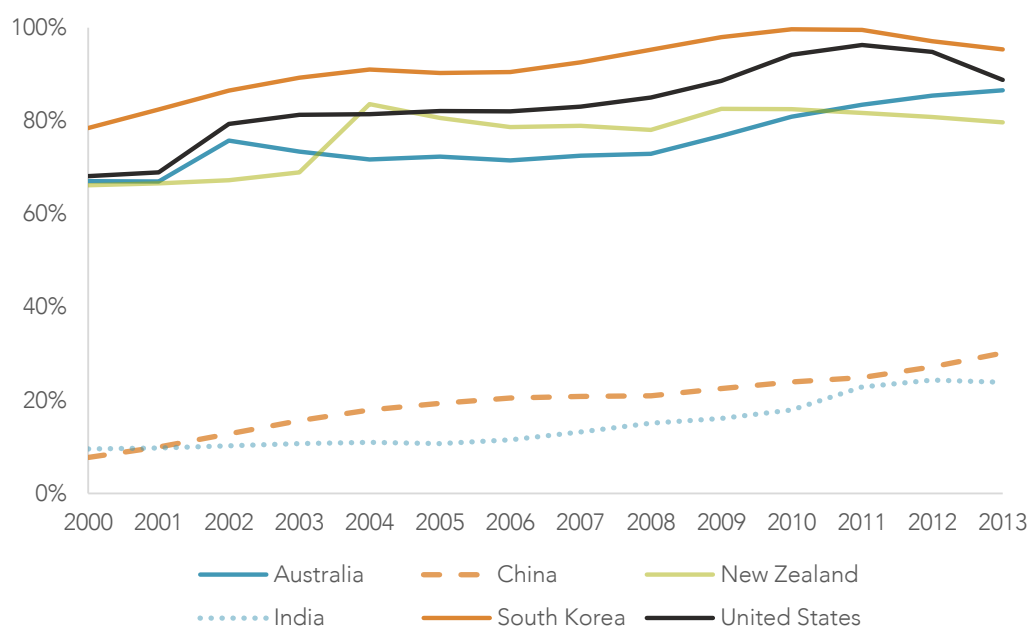
Inquiry participants also noted that there was significant potential for growth in offshore international education (Mode 1). The New Zealand Qualifications Authority (NZQA) submitted that countries such as England and Australia have a strong presence offshore, but “New Zealand has had only modest growth in offshore delivery” (NZQA, sub. DR161, p. 5).

Government’s 2011 *Leadership Statement for International Education* sets ambitious objectives for the international education sector including:

- doubling the annual economic value of international education to \$5 billion over the next 15 years;
- increasing annual revenues from providing education services offshore to at least \$0.5 billion;
- increasing the number of international students enrolled in providers offshore, from 3 000 to 10 000; and
- doubling the number of international postgraduate students (New Zealand Government, 2011, p. 7).

However, commentators have identified a number of risks that New Zealand providers face in serving the international student market. For example, the rapid rise in the availability and quality of education in the home countries of international students could make domestic study more attractive. Figure 10.15 shows that, although tertiary participation rates in China and India remain well below those in New Zealand and other developed countries, they have increased dramatically in the space of just 13 years.

Figure 10.15 Tertiary education participation rates, 2000–13



Source: UNESCO Institute for Statistics.

Notes:

1. Gross enrolment measures the total enrolment in tertiary education (at the equivalent of level 5 or above on the NZQF), regardless of age, expressed as a percentage of the total population of the five-year age group following on from secondary school leaving.

Other risks to the New Zealand international student market include:

- The size of younger age cohorts across East Asia is declining. China's college-aged cohort will decline from 137 million in 2010 to 109 million in 2020. However, the size of this age cohort will continue to grow in South Asia (Sharma, 2012).
- There is a risk of decline in the international ranking of New Zealand universities. A Ministry of Education (2014c) report analysing trends in international university rankings found a mixed picture, concluding that "the rise in rankings of universities from Asia appears to be having a displacement effect on the Australasian universities" (p. 37).
- Competition from providers in other countries could erode the market share of New Zealand providers. As discussed in Chapter 5, other English-speaking countries with developed international education systems (including Australia, Canada and the United Kingdom) also aspire to increase their numbers of incoming international students.

Reflecting these risks, several inquiry participants noted that future revenue from the international student market is far from assured, and raised concerns about how New Zealand providers would respond to a significant decline in international students:

Clearly the New Zealand government sees international revenue as an important component in the funding of universities but there is no evidence they have considered how to respond to the risks that arise from using this revenue to sustain the system. There are several examples of this market declining rapidly in the face of unpredictable events such as the NZ experience with China and the Australian with Indian students. New Zealand universities losing 20% of their revenue from such events will struggle to cope with the budgetary consequences, potentially disrupting the education of domestic students. (Marshall, sub. 73, p. 9)

The international student market is mobile and quite volatile. New Zealand, with its high level of exposure to natural hazards, is particularly at risk of international student flight in case of an event (as evidenced after the Christchurch earthquake). Given that international student fees are now an integral and critical part of a university budget (rather than an extra) this is a substantial financial risk. (Higher Education Research and Development Society of Australasia (HERDSA), New Zealand branch, sub. 72, p. 5)

Others anticipated growing international competition for both academic staff and students:

We expect the leading New Zealand universities to continue to recruit staff internationally, as the top academics required in strong research-led universities are in demand on the world stage. If anything, staff recruitment will become more rather than less competitive internationally due to factors such as the aging academic workforce in many established universities, and emerging Asian universities seeking to build their reputations through staff recruitment. (University of Otago, sub. 37, p. 35)

New Zealand's key international student markets are all moving from being exporters of students to being importers. They are increasingly looking for relationships built upon the principle of reciprocity. This means two way student-flows, research collaborations and matched-research funding, and institutional partnerships that help both countries play the international rankings game. New Zealand does not currently have a clear system-wide strategy around how to respond to this trend. (UNZ, sub. 17, p. 76)

Altbach, Reisberg and Rumbley (2009, p. 171) suggested that, in response to ongoing globalisation, tertiary education providers will need to "prepare an increasingly diverse cohort of students with skills and knowledge that will support their insertion into an increasingly borderless economy". Several submissions from tertiary providers also identified this trend and noted that they are changing the content of their programmes in response to a growing demand for graduates with an understanding of other cultures, and an awareness of international issues.

There is little doubt that over the coming decades, universities will continue to engage in fostering greater global awareness and internationalisation of the student community. UC [University of Canterbury] now makes the commitment that by 2018, our graduating students will leave university with a greater global awareness, as part of the suite of attributes that underpin the UC graduate profile. UC makes the commitment to graduates that they "will comprehend the influence of global conditions on

their discipline and will be competent in engaging with global and multicultural contexts". Alongside this we have further committed to developing biculturally confident citizens that are able to function effectively in a multicultural world. (Sampson et al., sub. 14, p. 3)

The impacts of a global economy, coupled with exciting advances in technology, are leading to fundamental changes in the way many businesses and organisations are run, and the very nature and shape of businesses in the future. This has profound implications for the priorities in training and education, and ITPs are very well placed to respond to these drivers. (Waikato Institute of Technology, sub. 46, p. 2)

10.4 Prediction is very difficult, especially about the future

The previous two sections discussed some trends that were apparent over the past two decades, and set out the views of inquiry participants and other commentators as to what trends might emerge in the future.

However, as noted in several submissions, it is risky to make predictions based on trends. Victoria University of Wellington notes that "while the disruptive aspects of the current period are now clear, the new modes of organisation, infrastructure and delivery that will become dominant in universities are not" (sub. 71, p. 1).

Predictions about the future are often wrong

The Tertiary Education Union (TEU) suggested that predictions are difficult and have frequently proven incorrect:

The difficulty for any government and the public is predicting the future direction needed in a policy realm. It is worth noting that future trends (other than perhaps demographic change), whether these pertain to tertiary education, the labour market or other sectors are notoriously difficult to predict. Coats (n.d:2) notes, "A healthy degree of scepticism is needed when considering the future of work. Many predictions in the past have proven to be wrong." In New Zealand there are countless examples of the failure of such attempts in the tertiary education sector. (sub. 83, p. 33)

Even making predictions in the short term can be difficult. Table 10.6 shows the Ministry of Education's forecast EFTS demand for 2014 and 2015 at level 3 and above, alongside actual delivery. At the aggregate level, the projections are reasonably accurate. However, in the ITP and PTE subsectors the actual EFTS delivery exceeded projections by at least 6.4% in both years.

Table 10.6 Predicted and actual EFTS delivery at level 3 and above, 2014 and 2015

Provider type	2014	2015	2014	2015	2014	2015
	Projected delivery		Actual delivery		% difference	
Universities	115 587	116 230	112 790	111 985	-2.4%	-3.7%
ITPs	54 749	54 610	58 705	58 105	7.2%	6.4%
Wānanga	18 280	18 370	18 335	17 315	0.3%	-5.7%
PTEs	24 993	23 380	27 330	25 300	9.4%	8.2%
Total	213 609	212 590	217 170	212 700	1.7%	0.1%

Source: MoE, 2015e; 2016a.

Predictions about future enrolment trends in tertiary education in other jurisdictions have also proven inaccurate (Box 10.3).

Box 10.3 Predictions about the higher education sector in the United States and Australia

In the United States in the 1970s and early 1980s "the standard prediction was an enrolment decline of 20–25%, paralleling the decline in the number of young people of college-going age. Some estimates went as high as 40%" (Kerr, 1997, p. 346). In reality, enrolments in degree-granting post-secondary

institutions increased steadily from around 9 million in the early 1970s to around 14 million in the early 1990s (National Center for Education Statistics, 2016).

Howard Bowen (1974) was one of a few scholars who went against the popular opinion that enrolments would decline, instead suggesting higher education was a growth industry. His ability to accurately predict the continued growth of higher education led Kerr (1997) to suggest that Bowen had the best record when it came to thinking about the future of higher education. However, in his book *American Professors: A National Resource Imperiled* (Bowen & Schuster, 1986), Bowen anticipated a major exodus of academics from the profession – which Kerr noted in 1997 had not yet materialised.

Predictions about student demand in Australia also have a mixed history. In the late 1980s, it was suggested that the annual output of graduates might increase from around 88 000 at that time to about 125 000 by the end of the century. As it turned out, that figure was attained by 1994, and the actual number of domestic students completing in 2000 was more than 10% higher, rising to over 150 000 by 2002. Much of this growth was driven by more students staying on until the end of secondary schooling, which added to a demographic spike in school leavers. Demand was also fuelled by continuing economic problems and the evident financial returns achieved by university graduates compared to those with lower-level qualifications (Coaldrake & Stedman, 2013).

Predicting labour force needs

Accurately predicting the types of skills needed in the workforce is also very difficult:

It is extremely difficult, in both theory and practice, to forecast how the demand for labour is going to evolve—beyond a few years into the future. Economies are complex and dynamic and are affected by many forces that cannot be predicted with any confidence. (Richardson & Tan, 2007, p. 9)

Chapter 15 recommends caution in intervening in students' tertiary decision-making through TEC funding levers on the basis of anticipated labour market demand for specific skills.

The pace of technological change makes predictions particularly difficult

Changes in technology are also difficult to accurately predict. Brynjolfsson and McAfee (2014) noted the work of respected researchers in 2004 that concluded driving in traffic would remain a human task for the foreseeable future. However

[s]elf-driving cars went from being the stuff of science fiction to on-the-road reality in a few short years. Cutting-edge research explaining why they were not coming anytime soon was outpaced by cutting-edge science and engineering that brought them into existence, again in the space of a few short years. (Brynjolfsson & McAfee, 2014, p. 14)

Independent Tertiary Institutions (sub. 81) noted that the pace of change in educational technology is also rapid, and that specific technologies

will probably be getting out of date by the time the final report is released... For example, in the year it will take this inquiry we may see the continued drop of Facebook, the near death of Twitter, the continued rise of Instagram and the explosion of something that has not even been thought of yet. MOOCs are currently sexy but they could well be the next MySpace (remember that?). (p. 16)

Indeed, past attempts to predict how technology will impact on tertiary education have had mixed results. Each year the New Media Consortium and the EDUCAUSE Learning Initiative produce a *Horizon Report* that identifies six emerging technologies likely to have a large impact on teaching, learning, or creative expression within higher education over the next one to five years. Table 10.7 shows the emerging technologies in the past ten editions of the *Horizon Report*.

Table 10.7 Past predictions of emerging educational technology

	One year or less		Two to three years		Four to five years	
2007	User-created content	Social networking	Mobile phones	Virtual worlds	New scholarship & emerging forms of publication	Massively multiplayer educational gaming
2008	Grassroots video	Collaboration webs	Mobile broadband	Data mashups	Collective intelligence	Social operating systems
2009	Mobile devices	Cloud computing	Geo-everything	The personal web	Semantic-aware applications	Smart objects
2010	Mobile computing	Open content	Electronic books	Simple augmented reality	Gesture-based computing	Visual data analysis
2011	Electronic books	Mobiles	Augmented reality	Game-based learning	Gesture-based computing	Learning analytics
2012	Mobile apps	Tablet computing	Game-based learning	Learning analytics	Gesture-based computing	Internet of things
2013	MOOCs	Tablet computing	Games and gamification	Learning analytics	3D printing	Wearable technology
2014	Flipped classroom	Learning analytics	3D printing	Games and gamification	Quantified self	Virtual assistants
2015	Bring your own device	Flipped classroom	Makerspaces	Wearable technology	Adaptive learning	Internet of things
2016	Bring your own device	Learning analytics & adaptive learning	Augmented virtual reality	Makerspaces	Affective computing	Robotics

Source: New Media Consortium & EDUCAUSE Learning Initiative, 2007; 2008; 2009; 2010; 2011; 2012; 2013; 2014; 2015; 2016.

The patterns visible in Table 10.7 suggest that it is difficult to anticipate how technology will affect education. For example, of the six technologies in the one year or less category between 2012 and 2016, only “learning analytics” was predicted in earlier years. This suggests that the development of influential educational technologies is often not well signposted in advance.

Similarly, many of the technologies shown in the four to five years category between 2007 and 2011 do not progress into the shorter timeframes in later years. For example, “gesture-based computing” appears in the four to five years category in 2010, 2011 and 2012, and is not seen in any category in later years. This indicates that some technologies do not develop in the way that observers anticipate – or that educators were unable to find a meaningful application for the technologies. Another explanation for this pattern is that some technologies may have an impact much more rapidly than expected – jumping from the four to five year horizon to widespread adoption within a single year.

Trends and their impacts are affected by government policy settings

A further complication in seeking to anticipate trends about the future of New Zealand’s tertiary education system is the pervasive role that government funding and policy settings play in shaping the system. For example, the cost of tertiary education faced by students (tuition fees) is regulated by the Minister for Tertiary Education, Skills and Employment (this process is described in Chapter 5).

The importance of government settings in shaping the future direction of tertiary education is noted by Universities New Zealand. Its submission sets out likely future trends, but notes that three of these trends are dependent on government funding rates and regulatory settings:

The following trends are likely in future:

- further creation of new courses and qualifications where there is an opportunity to attract students and *where courses and qualifications can be offered on a sustainable basis given government tuition subsidies and permitted domestic student tuition fee limits*
- further growth of pathway and bridging programmes at sub-degree levels to assist people into university who would otherwise lack the necessary academic skills
- innovation in qualification design and programme delivery around adult education as more people seek re-skilling or up-skilling mid-career. *The degree of innovation and the extent to which new delivery channels are developed to support this will be subject to funding settings*
- more pressure to offer smaller programmes targeted and customised to particular segments of the student population (e.g., Agri-business for Iwi) but *the degree of customisation and ability to serve more specialist market segments will also be constrained by government funding settings and the ability to at least cover costs*
- further collaboration with overseas jurisdictions and qualification frameworks on recognition of New Zealand qualifications, increasing student mobility and the international standing of New Zealand university qualifications. (UNZ, sub. 17, p. 92, emphasis added)

10.5 Planning for an uncertain future

While it is difficult to predict the future trends that will affect the tertiary education system with any precision, many anticipate that the following broad trends are likely to persist in the coming years:

- a more diverse student population;
- increasing demand for mid-career upskilling or retraining, and for qualifications that can be applied in a range of settings;
- increasing competition for international students and staff, and the growing importance of internationally relevant course content; and
- continuing advances in technology.

Views differ about how disruptive these trends will be. But even taking a view that trends will be incremental in nature, they present numerous challenges for the system. For example, many of the students for whom the system underperforms belong to demographic groups forecast to grow as a share of the population in coming decades. Without improving the performance of the system for Māori and Pasifika students, the overall performance of the system could decline simply as a result of the changing composition of the student population.

Similarly, the system is not well-placed to cater for a rapid growth in learners seeking to upskill or retrain. These learners are likely to be looking for specific skills rather than full qualifications. They are also more likely to want to have their existing skills and learning recognised. Current funding rules mean that neither of these options are presently well-developed (Chapter 5). More generally, the system has, in response to government policy and funding settings, become geared toward school leavers studying full-time on-campus. Those seeking to retrain clearly do not fit this mould. These students will tend to be older, and more likely to have to fit their study around other work or family commitments – making part-time and extramural options more appealing.

Technology will continue to evolve, creating the need for new types of skills and the potential for diverse new models of tertiary education. The uncertainty around what the next development will be, and how it might affect education, makes system settings that allow flexibility and adaptability particularly important. To the extent that technology develops at an exponential pace, new jobs may develop more quickly than in the past. This puts a premium on the ability to develop qualifications and other education and training packages at pace:

The effectiveness of a tertiary education system may be measured by its ability to meet and resolve rapidly, and constantly changing, economic and demographic drivers. This requires a system that is agile and responsive, and high professional standards and ethical dispositions from those operating within it. (WelTec & Whitireia, sub. 59, p. 2)

But at the moment the system is tightly constrained by government and funding settings. As such, under current settings, it falls to government to accurately predict trends so that it can adjust its purchasing correctly, and ensure its rigid regulatory controls are appropriate for changing times. It is unlikely to be able to do so.

The Commission previously found that top-down control is attractive to government as a means of managing political risk (NZPC, 2014a). Top-down control can also enable government, up to a point, to mitigate the impact of trends that might endanger existing models of delivery. However, tightly prescribed systems are less able to cope and adapt well to changing circumstances. An alternative approach would be to free up the system and to allow providers to pursue a more diverse range of models. In addition to improving the diversity of offerings available to students, this approach would make the tertiary education system more flexible, responsive and resilient in the face of exogenous change.

11 Innovative activity

Key points

- Much of the innovation in New Zealand tertiary education providers is “sustaining innovation” – innovation to improve the existing approaches to delivering teaching and learning.
- People in established, successful organisations tend to internalise their established ways of doing things as defining quality in their field. The regulation and funding of tertiary education in New Zealand reinforces these biases towards existing ways of doing things. The existence of university ranking systems means the university subsector is particularly susceptible to institutional isomorphism.
- Technology, including online learning, offers a significant potential to improve the personalisation of learning and assessment, and to reduce barriers to access. Better use of data and learning analytics offers great potential to improve the way learning and pastoral support is targeted to students.
- Disruptive innovations that combine technology with new ways of delivering value are more likely to come from new entrants than established organisations. These organisations often begin by radically expanding the market for a product or service. However, they are often subject to criticism as offering an inferior product.
- New models, including online education, offer the potential to expand access to tertiary education. The wānanga model itself was an important innovation in the tertiary education system, which radically expanded access to education for groups who were not previously participating in it.
- Regulatory settings do not easily allow innovative new models of delivering tertiary education to emerge from existing government-funded providers. There are also few rewards in terms of ability to grow market share. New models either arise outside of the government-funded system (eg, the Dev Academy), or are only enabled to operate or scale through government support (eg, wānanga or secondary-tertiary partnerships).
- There are many individual educators adopting technology to aid their teaching in New Zealand providers. However, providers generally lack the institutional capability to systematically trial and evaluate new approaches, and cultural resistance to doing things differently is a significant barrier to innovation.

11.1 What does the Commission mean by innovation?

This chapter canvasses some innovations in tertiary education in New Zealand and elsewhere, and discusses different types of innovation and their application to the delivery of tertiary education.

In its Issues Paper, the Commission defined innovation as “the process of translating an idea or invention into a good or service that has value” (2016, p. xi). That process can occur rapidly, or incrementally over decades (Tarling, sub. DR107).

Some submitters to this inquiry chose to interpret “value” narrowly as meaning economic or financial value. One research note produced by the Tertiary Education Union (TEU) inaccurately added the word “commercial” to the quoted definition (McGovern, 2016). The Commission has a broad conception of value. In its Issues Paper, the Commission quoted Christensen et al., who stated “the goal of policy should be to unleash innovation by setting the conditions for good actors that improve access, quality, and value – be they for-profit, non-profit, or public – to succeed” (2011, p. 50). For example, innovations that improve

access to education; lift the quality of teaching and learning; improve research; better meet the needs of students, society or the economy; reduce costs to students or government; or improve students' and staff satisfaction and engagement are all valuable. Value is an improvement in wellbeing above and beyond the costs of that improvement.

11.2 Innovation in tertiary education in New Zealand

Chapter 8 found, in line with the inquiry's terms of reference, there is "considerable inertia" in tertiary education and, specifically, that this was an emergent property of the tertiary education system as a whole. There are also barriers within tertiary providers, including issues of culture and capability.

Some submitters considered tertiary providers or staff were very innovative:

The level of adaption and change [at universities] over the past 10 years and currently underway is extraordinary. ...The New Zealand university system has innovated and adapted extensively over the past decade in response to opportunities, signals and challenges. (UNZ, sub. 17, p. 12, p. 16)

TEU members provided countless examples of the innovative and creative ways in which they adapted their teaching practices daily. ...Staff in the sector continually innovate in order to meet the ever-changing demands of industry, government, students, funding and resource constraints, and much more. (TEU, sub. 83, p. 14, p. 22)

However, other submitters considered there was a lack of innovation in the sector:

The current system has taught [providers] to be risk averse and relatively conservative. (ITI, sub. 81, p. 21)

The Tertiary system has not changed for centuries and has only made continuous improvements to an outdated education model in order to keep pace with technology and student needs. It is slow and unresponsive. (Creative HQ, sub. 75, p. 1)

One of the barriers to innovation [in tertiary education] lies in the tremendous pressure to avoid public failure – whether real or perceived. ...This creates an environment that is extremely risk-averse and really only supports incremental change. (Ed. Collective, sub. 89, p. 52)

Overall the auditing culture leads institutions to avoid risk. This means staff are reluctant to try new teaching ideas as these may receive poor student evaluations, instead favouring approaches to research and teaching which are safe. (TEU, sub. 83, p. 25)

Senior staff and divisional heads actively clamp down on staff initiative, and do not let us lower creatures do anything without checking with them a million times. (Bentley, McLeod & Teo 2014:14; quoted in TEU, sub. 83, p. 26).

Over the course of the inquiry, the Commission saw numerous innovations and new models of delivery in the tertiary education sector. Many are impressive. This section of the report describes a small number of the innovations of which the Commission is aware. It cannot be comprehensive, so the following are presented as some noteworthy examples.

MIT Tertiary High School and Secondary Tertiary Partnerships

Tertiary High School (or the School of Secondary Tertiary Studies) at the Manukau Institute of Technology (MIT) was established in 2010 to provide a vocationally focused pathway for students who struggle in mainstream secondary school environments. At the Tertiary High School, students study towards NCEA while collecting tertiary credits that provide a pathway to further education – as an alternative to their likely disengagement from the education system altogether.

Students are enrolled in Tertiary High School from Year 11. In the first year, there is an emphasis on delivering essential skills for tertiary learning, and providing taster courses in a variety of vocational fields. The aim is, at the end of four years, for students to have NCEA level 2 and a diploma level vocational qualification. There is a strong emphasis on pastoral care and supporting students' individual learning needs. A critical success factor is good relationships with participating schools.

Tertiary High School, driven by Dr Stuart Middleton of MIT, required legislative changes to overcome a range of legal impediments, such as allowing for dual enrolments and clarifying pastoral care

responsibilities. The Education (Polytechnics) Amendment Act 2009 had a section headed “Enabling school students to attend tertiary high school at Manukau Institute of Technology”.

Early results are promising. One evaluation found the Tertiary High School students outperformed their counterparts in a control group during the first two years (Young, 2013).

Since the establishment of Tertiary High School, a range of similar programmes have been established around New Zealand as Secondary Tertiary Partnerships (STPs) or Trades Academies. An Education Review Office (ERO) review of STPs found that:

...the curriculum of the STPs was relevant to most students and its delivery engaged and motivated them. This was instrumental in changing their attitudes to learning and enabled them to see themselves as capable learners. Students developed key skills and competencies in the programmes offered by the STPs and gained an appreciation of the expectations relating to tertiary study and the requirements of a workplace. They understood the value of the theory behind their practical work and that qualifications provided them with opportunities for the future. Students were well supported by teachers at school and the tutors at the tertiary organisations. ...

ERO is confident that STPs will continue to meet the educational needs of a significant number of young people who are at risk of disengaging from education or not achieving NCEA Level 2. (ERO, 2015b, pp. 2–3)

Wānanga

The establishment, recognition and growth of wānanga as a subsector represents an indigenous innovation in tertiary education. Chapter 3 describes the characteristics of students at wānanga, which vary markedly from the average student in other subsectors. Chapter 6 elaborates on the mission of wānanga in more detail.

All three wānanga are models of innovation that came about when there was nothing suitable for Māori. The model emerged not because someone had a novel idea but out of a desperate need because the system was not addressing the issues our people had. Māori could not see their language, culture, literature, history within the education context or content that was being delivered. Māori were being educated to not be Māori. Wānanga is not another variation on the education theme – it has a much deeper purpose. Our whole core of existence is about returning maoriness to Māori. Interestingly, three models emerged and are all quite different but with a common purpose. This speaks to innovation and the determination to respond to our peoples’ needs. (Te Taihira o Ngā Wānanga, sub. DR173, p. 3)

Te Wānanga o Raukawa was established in Ōtaki in 1981, by the iwi Te Āti Awa, Ngāti Raukawa and Ngāti Toarangatira. The Waipā Kōkiri Arts Centre (later Te Wānanga o Aotearoa) was established in Te Awamutu in 1984 by Te Awamutu College board member Rongo Wetere and Māori Studies teacher Iwi Kohuru (Boy) Mangu. Lastly, Te Whare Wānanga o Awanuiārangi was established in Whakatane in 1992 by Ngāti Awa. Spurred by Dr Buck Nin and Rongo Wetere, statutory recognition of wānanga as a class came in 1990. In turn, each of the wānanga was statutorily “established” in 1993 or 1997.

Wānanga are the result of Māori initiative and, in different ways, use Kaupapa Māori to maintain and advance Mātauranga Māori and help learners to, in the words of Sir Mason Durie (2001), “live as Māori; actively participate as citizens of the world; and enjoy a high standard of living and good health”.

...the task of a wānanga is to teach by Māori methods and in a Māori way all those who wish to learn by those methods and in that way. Rather than defining a closed – or any – set of subjects, or a closed – or any – set of targeted learners, āhuatanga Māori describes a Māori method of teaching that facilitates a community to give expression to its values and principles. (Waitangi Tribunal, 2005, p. 18)

As such, the delivery of tertiary education by Māori methods was a “new model”, at least within the formal education system. The explosive growth of wānanga enrolments, particularly in the early 2000s, shows there was a significant under-served market for this model of tertiary education. Some wānanga used technologies like CD-ROMs to deliver education to a wide group of learners in novel ways. By 2003, there were almost 50 students per academic staff member at wānanga, more than double the ratio of universities or Institutes of Technology and Polytechnics (ITPs). In the mid-2000s, problems with governance, management and processes surrounding the expenditure of public money were revealed at Te Wānanga o Aotearoa, which resulted in the imposition of Crown managers for a period.

Wānanga continue to innovate. Examples of innovation include offering considerable flexibility around the time and location of study, including during evenings and weekends to better meet the needs of learners; blended models of online, Marae-based and campus-based delivery; and the centralised curriculum arrangements discussed in Chapter 6.

University of Otago's Māori Health Workforce Development Unit

The University of Otago's Māori Health Workforce Development Unit (the Unit) aims to increase Māori recruitment, retention and achievement in Health Sciences study, and thereby increase the number of Māori in the health workforce. The Unit coordinates a number of programmes:

- Te Ara Hauora is an outreach programme to increase the engagement of Māori secondary school students in science study, and encourage recruitment into Health Science study. This programme involves residential visits by Māori students in Years 10–13 to the University's Marine Studies Centre, its research vessel *RV Polaris II*, or the Dunedin campus including to attend lectures and meet students. Of the 105 Year 13 students who visited the University through Te Ara Hauora between 2012 and 2015, 72% enrolled at the University of Otago. Of those students, 85% enrolled in Health Sciences. Te Ara Hauora costs about \$70 000 annually.
- Tū Kahika Scholarships provide Māori students access to a foundation programme that prepares them for their first year of tertiary study and a future career in health. It is a two-semester programme. Students receive guaranteed accommodation at a residential college, and financial assistance towards tuition fees and accommodation costs. Approximately 18 Māori students participate each year, with 97% completing the foundation programme and 81% progressing into tertiary education in the following year. Of those who progress, 95% enrol in Health Sciences. The programme costs around \$280 000 annually, and attracts Student Achievement Component (SAC) funding from the Tertiary Education Commission (TEC).
- Te Whakapuāwai is a programme to provide academic and peer support for Māori students enrolled in the HSFY programmes (Health Sciences First Year – a foundation programme providing access to dentistry, medical lab science, medicine, pharmacy and physiotherapy degrees). The University reports significant increases in the number of Māori students progressing from HSFY to professional programmes. However, outcomes vary markedly depending on the school decile of the Māori student in HSFY, with fewer than half of students from decile 1 – 5 schools passing four HSFY courses in the first semester.

Since the establishment of the Unit in 2010, the number of Māori in health professional programmes at the University of Otago has more than doubled to 310 in 2016, with increased passing rates and average grades for Māori students, and increased number of Māori graduates in Health Sciences.

The Unit receives funding of \$450 000 per year by the Ministry of Health to run these programmes. The University pays for accommodation overheads for the Unit, as well as between \$50 000 and \$75 000 of additional funding each year (University of Otago, pers. comms., 13 & 15 June 2016).

Other universities run similar programmes, such as Te Rau Puawai at Massey University for various health studies and social work courses.

Engineering E2E

In 2010, a group representing tertiary providers offering engineering qualifications, industry training organisations (ITOs), the Institute of Professional Engineers, and employers developed a National Engineering Education Plan. The goal of the plan was to increase the number of engineering graduates at all levels of the profession. In response, government provided additional funding to engineering education and, in 2014, launched the Engineering Education-to-Employment (E2E) programme.

E2E is a collection of initiatives about the engineering education pipeline, overseen by a steering group made up of tertiary education organisations (TEOs), the engineering profession, employers, and government. E2E has undertaken research on pathways to engineering study, with a particular focus on study at levels 6 and 7. Research undertaken by E2E indicates that a shortage of engineering graduates

extends back to low numbers of students studying maths and physics in secondary school and, in turn, to poor quality of science and maths teaching in primary schools.

Other E2E initiatives underway include:

- a secondary-tertiary pathways project where schools and TEOs deliver programmes to prepare students – particularly women, Māori and Pasifika – for tertiary engineering study;
- work to improve graduate profiles for engineering programmes;
- a public relations campaign to promote engineering study; and
- funding research on, and getting government to fund a pilot of an engineering degree apprenticeship (also known as a Sponsored Degree) (E2E, 2016).

E2E commissioned a report on degree apprenticeships in engineering, which recommended the Bachelor of Engineering Technology be delivered exclusively via an apprenticeship model, and that government fund these apprenticeships by giving money directly to employers (Goodyer & Frater, 2015). Degree apprenticeships are further discussed below.

The E2E steering group told the Commission there are still barriers to overcome, including changing public perceptions of engineering, developing clearer pathways from diploma to degree study, and better operation of credit transfer by tertiary providers. The E2E steering group receives \$400 000 in funding annually to operate, in addition to money made available by government to fund additional engineering places.

The Dev Academy

BusinessNZ submitted that:

The Dev Academy is a New Zealand example of disruptive innovation in education (app development) and financing student learning (via micro financing). Learning is project-based and hands on under the guidance of a mentor and expert teacher, coaches, and experts from industry. By the time students graduate they have a body of work (or portfolio of evidence) to show to potential employers, together with the skills and experience to do the job. Dev Academy graduates can demonstrate that they have acquired a custom-focused set of competencies and capabilities as an alternative to a traditional credential. (sub. 77, p. 12)

The Dev Academy is not registered with the New Zealand Qualifications Authority (NZQA), and does not receive SAC funding from TEC – so students are not eligible for student loans. It is highly focused on providing technical and employability skills that can lead students into a career in coding. It offers an 18-week intensive “immersive boot camp” programme, which students enter in cohorts every three to six weeks. The Dev Academy reviews the curriculum after each cohort, and can rapidly adjust it in response to employer demand for particular technical skills.

Ed. Collective spoke to a number of employers in preparing their submission to the inquiry, and said

a number of technology companies have remarked that university computer science graduates are not really employable as computer programmers because they have been taught using obsolete technology. One put it bluntly, “we would hire someone out of Enspiral’s Dev Academy before we took a uni grad”. Enspiral’s Dev Academy is a course that runs for 18 weeks and costs the learner around \$10,000. Internationally, companies have also been able to take people from ‘zero’ to employable computer programmers in 6 months. Why, then, do we send the message that aspirant computer programmers need to spend a full 3 years getting a computer science degree? Worse still, we are now encouraging them to spend even longer and take on even more debt studying in graduate ICT schools. One reason is that the system is set up in such a way that institutions are incentivised to make the learning last as long as possible. The justification is that the longer they study, the more prepared they are for work. Is that really true? (sub. 89, pp. 25–26)

Unitec

Unitec is New Zealand's largest institute of technology, with more than 20 000 students. It has two Auckland campuses at Mt Albert and Henderson, having recently closed a third campus at Albany. Unitec is currently undergoing a strategic transformation.

The rationale for Unitec's transformation is its recognition that the tertiary education sector is ripe for disruption. Unitec is expecting the appearance of "new players", many of whom will fail or morph rapidly, and the shrinkage of established players. It recognises that incumbent providers are privileged, but only if they possess real competitive advantages. An important step in Unitec's transformation is recognising that its current model is no longer fit for purpose (Box 11.1).

Box 11.1 A model more suited to the past than to the future

Unitec today has a business model, learning model, property, technology and staffing structure designed to be successful in an environment that existed in the past and is challenged to afford the investments that the looming future requires.

- Education models and practices are outdated, reducing programme and qualification relevance;
- Staff capability and organisation culture relevant to past needs and expectations prevents Unitec from responding effectively to the changing environment;
- Technology, systems, and processes do not meet future business needs, reducing the ability to drive performance improvement;
- The physical asset-base is inefficient and poorly aligned with future requirements, compromising financial viability and the ability to meet learning needs.

Source: Unitec, n.d., p. 5.

Unitec believes a whole-of-organisation shift is necessary to be "a leader in the new reality" (Unitec Investment Plan 2015-2016, p. 5). Its programme includes reviewing learner pathways, delivery structures and curriculum design, progressing e-learning and work-integrated pedagogies, and developing new teaching capability integrated with industry and outsourcing its student services.

Unitec is fortunate in that its Mt Albert campus is one of the most significant brownfields sites (suitable for redevelopment) in Auckland and can financially support Unitec's transformation. Nevertheless, change is challenging. Unitec's Investment Plan 2015-2016 noted that:

External analysis has identified the need to reduce the fixed costs of staff and is now working to ascertain staff costs and revenue. Capability modelling has been conducted to assess what staff require in the future state. Considerable gaps have been identified, such as up-skilling staff in digital literacy, work-based learning, research and enterprise, and cultural responsiveness. Work is underway to establish contact and non-contact hours attributable to courses and programmes. (Unitec, n.d., p. 6)

Job loss and job respecification is extremely difficult for organisations and staff. A report on staff morale at Unitec has found that only 10% of staff would recommend working there, and many employees were worn out by change they say feels constant, chaotic and stressful. The report found a lack of trust between regular staff and managers, and some staff said the reputation of New Zealand's biggest polytechnic had suffered (Radio New Zealand, 30 August 2016). The University of Otago's submission (sub. DR130) also pointed to TEU estimates that problems with a new outsourced enrolment system had cost Unitec up to \$15 million in lost enrolments.

In a November 2016 external evaluation and review report, NZQA rated Unitec as "confident" in educational performance (downgraded from "highly confident") and maintained a "confident" rating of Unitec's self-assessment. In the report, NZQA recommended that "[g]overnance and management continue to work towards strengthening effectiveness of the communication around transformational change with staff, students and external stakeholders" (NZQA, 2016c, p. 59).

The Mind Lab by Unitec

The Mind Lab by Unitec is a joint venture between the Mind Lab, a “specialist education lab” business founded by New Zealand “education futurist” Frances Valintine, and Unitec. From six locations around New Zealand, the Mind Lab provides professional development for teachers in digital capability and collaborative teaching methods. Mind Labs are built to allow students and teachers to explore and learn about a range of technologies, including robotics, coding and animation, in open learning environments.

The Postgraduate Certificate in Applied Practice (Digital & Collaborative Learning) is delivered over 32 weeks through a blended programme in the Mind Labs and via online study. By September 2016, 40 000 students had experienced the Mind Lab, and 2 000 teachers had studied through the Mind Lab (Spark, 2016).

Otago Polytechnic’s Capable NZ

Capable NZ is an Otago Polytechnic subsidiary that concentrates on assessment of prior learning (APL) and work-based learning (WBL). APL and WBL can suit people who might have years of skill, knowledge and experience but not always the qualification, or whose learning needs are quite specific or focused on their own practice. Both APL and WBL are assessed orally in front of a panel, and the candidate is required to produce a portfolio of evidence to demonstrate they have the skills and knowledge that meet the requirements of the qualification.

Otago Polytechnic, through Capable NZ, offers a Master of Professional Practice and a Graduate Diploma of Professional Practice. Degrees in professional practice are becoming common overseas. They offer the opportunity to attain academic recognition for skills, knowledge and experience developed in the workplace. These degrees typically focus on a specific area of practice relevant to the student’s work, build on their work experience, and offer a qualification to enhance their career progression. Students are mentored to explore their profession further, and consider the professional challenges associated within their specific area of practice. A student’s reflection on their expertise and experience with a mentor or learning facilitator is an act of learning itself. Some programmes are designed to help the student critically analyse current debates relevant to the professional context in which they are working.

The Master and Diploma of Professional Practice at Otago Polytechnic are based on the Middlesex University model in London. Capable NZ screens applicants, identifies those whose experience represents at least two years’ worth of a degree, assists them to consciously recognise their existing knowledge, and then delivers additional learning as required to complete the degree.

Open Polytechnic’s iQualify platform

iQualify is a proprietary learning management system developed in-house by the Open Polytechnic, and launched in 2015. The Open Polytechnic was the first tertiary provider to use Moodle (an open source learning management system) in 2004. A decade later, however, the Polytechnic could not find a product that met its needs. Its Chief Technology Officer then began coding iQualify “after hours as a skunkworks project” (Muskovitz, 2015).

iQualify was intended to allow “courseware designers to author compelling online interactive content with author-centric tools designed with usability in mind, and deliver personalised learning experiences that are tailored to specific user needs” (Muskovitz, 2015). It was designed to be accessible on phones, tablets and computers; to integrate multimedia content; and have inbuilt interactive quizzes and assessment tools. Instructors have a Facilitator Dashboard that can track the activity and progress of students.

iQualify has the potential to change the Open Polytechnic to a more student-centred experience, allowing students to enrol and be assessed at a time of their choosing, rather than enrolling in cohorts of students. The Open Polytechnic is also selling iQualify as a Software as a Service⁸⁶ platform for other businesses or education providers to deliver their own branded content.

⁸⁶ Software as a Service is a model of distributing software where the product is centrally hosted. Users generally subscribe to access the software.

Extracurricular and co-curricular activities

Many providers offer extracurricular and co-curricular programmes as part of their tertiary experience. These activities are valued by students both as recreation and as ways to develop and, to an extent, certify “transferable” or “soft” skills. Two examples are presented from Victoria University of Wellington (Box 11.2) and the University of Auckland (Box 11.3).

Box 11.2 The Victoria International Leadership Programme (VILP)

VILP is a free, self-paced extracurricular programme aimed at making participants more globally aware. It is designed to develop the leadership potential of students, and encourage them to think critically about leadership challenges in world affairs. It also creates opportunities for international experiences and global connections. Upon completion of VILP, the student’s participation is noted on their academic transcript alongside their formal qualifications, and a final certificate is awarded.

To complete a VILP, students are required to attend 12 seminars and five speaker events, submit reflective feedback for each, and undertake a range of “experiential activities” that are international in nature.

Source: Victoria University of Wellington, n.d.

Box 11.3 Make a Difference with Economics (MADE)

MADE is a club at the University of Auckland, enabling students to gain experience in taking theoretical economics knowledge learned in the classroom, and applying it to practical real world situations. MADE offers competitions and events designed to interest and engage students and develop their skills. The “Real World Economics” competition has students working in teams to solve a problem or issue in New Zealand using their economics training.

The Commission was asked to provide a topic for one MADE event. It asked the competing teams to provide advice about the bundling of research and teaching at universities in New Zealand, looking at the advantages and disadvantages. The Commission judged the four entries based on whether the teams could provide a good explanation of the economics of the issue.

Source: NZPC, 2016.

The University of Auckland’s Business School (the Business School) places a large emphasis on co-curricular activities. Students undertake these non-compulsory, non-assessed activities via a well-established and well-maintained network of Business School-endorsed student clubs. The co-curricular activities were described to the Commission as “professional development for students”, and included business case assessment competitions, industry problem-solving activities, and “*Dragon’s Den*”-style investment opportunities. These activities reinforce the Business School’s core curriculum, as well as providing socially and professionally rewarding experiences. Some clubs are very influential in the Business School student body and have great reach. For example, 1 400 out of a total of 1 700 students participated in some way in the Management Consulting Club’s business case competition.

The Business School supports the clubs by investing in high-quality student leadership and governance training, to ensure the clubs’ continuity and sustainability. The Business School also has protocols for clubs’ direct engagement with industry, and standards that clubs must meet regarding their management and governance practices in order to maintain “registration” as formal Business School clubs. Clubs still seem to have a lot of autonomy in how they run themselves and what they do.

This co-curricular programme is funded almost wholly via industry sponsorship and philanthropy. These external sources also fund some staff at the school. External sources of revenue provide the Business School

with a relative degree of independence from the university, such as allowing it to maintain its own careers centre.

ĀKAU

ACE Aotearoa (sub. DR114) submitted that ĀKAU in Kaikohe was an example of an innovative new model of Adult and Community Education (ACE). ĀKAU is a “social enterprise” – a professional architectural and interior design studio allowing young people to learn skills using a hands-on approach to design real projects.

In 2015 and 2016, ĀKAU ran six-month programmes that provided a small number of learners the opportunity to gain a level 2 foundational qualification through Northtec. Writing of ĀKAU's 2015 learners, co-founder Ruby Watson said:

“We recruited most of our first students by just going up to young people about the town and asking them whether they’d like to come to the studio and have a look around and see whether they were interested in being part of the programme. At the beginning we had seven, but in the end four graduated: one had big behavioural issues that we weren’t able to deal with, one went back to school (and we saw that as a great result), and one had big things happening in their family life. All of them were Māori and all had left school at fifteen or sixteen.

“Every student has their education action plan, and we look at that every two weeks. They come to realise what they are really passionate about, what they’re good at and what they want, and so their goals change. We don’t use a work book. We look at the unit standards and work out how we can teach these with a bit of theory (and a handout), but mostly by doing. Our students prefer oral information and practical learning, so that’s the way we teach. (Ace Aotearoa, sub. DR114, p. 3)

Dropout rates were higher than expected, but ĀKAU told the Commission that all those who completed the course have progressed to higher level study or employment. The programme is funded from architectural and design fees for private clients, as well as public funding: a council grant to cover rent costs, a wage subsidy and project costs from Northtec, and a grant of \$51 000 from the Ministry of Youth Development in 2015.

ĀKAU will receive funding from a local community trust, Foundation North, to support its activity over five years from 2017 (Foundation North, n.d.). This will allow it to run community workshops and engage with almost 3000 young people who are not in employment, education or training (NEET), or are at risk of becoming NEET. ĀKAU is no longer collaborating with Northtec to provide a foundation qualification; instead it will trial different workshop lengths and styles in the community and in schools. ĀKAU says that giving young people the opportunity to meaningfully participate in real projects in their community can provide them with a sense of confidence and success, help them break out of normal patterns, and impart skills allowing them to take the next steps towards realising their goals (Ruby Watson, pers. comm., 19 January 2017).

[A]s a social enterprise, ĀKAU studio challenges the status quo of what it means to run a business. Positive impact is our main objective and everything we do drives towards that objective. (pers. comm., 19 January 2017)

11.3 Innovation in tertiary education around the world

This section discusses some noteworthy innovations in tertiary education in other countries.

Georgia State University

Georgia State University (GSU) in Atlanta, Georgia, is a public research university with 40 000 students, including 32 000 undergraduates. Anderson (2015) described it as “a perpetual laboratory for new ideas on using ‘big data’ to improve public education”. GSU serves a high proportion of ethnic minorities who are underrepresented in higher education, and a majority of its students receive Pell Grants (ie, receive federal assistance to pay for education because of their socioeconomic situation).

GSU has a database of 2.5 million student grades that it uses to provide individualised advice about which course or major a student is most likely to succeed in, given their past academic performance. It also tracks 800 different risk factors for each student on a daily basis:

When a problem is detected, the university deploys proactive advising and timely interventions to provide the support that students need. At times the interventions are as simple—and essential—as ensuring the student has registered for the right courses; at other times, the system uses predictive analytics to make sure that the student's performance in a prerequisite course makes success likely at the next level. Since the GPS Advising initiative began in 2013, there have been nearly 100,000 proactive interventions with Georgia State students based on the analytics-based alerts coming from the system. (Executive Office of the President, GSU, 2016)

For example, the data revealed the stark difference between completing a course and being on track to succeed. For example, 12.5% of students who received a C grade in their introductory music class ended up graduating, compared to 55.5% of students who received a B. For political science, 25% of students who received a C grade, and 73.9% of students who received a B grade ended up graduating. Students who receive a C are now contacted by a student advisor (Tim Renick, pers. comm., 11 December 2015).

GSU has a commitment to experimenting with initiatives to improve retention and graduation rates, measuring results, and scaling up those who succeed. For example, analysis of the university's data revealed that students who lost a state scholarship because of academic underperformance graduated at half the rate of students who never received the scholarship at all. In response, GSU trialled offering a \$500 grant to students who lost the scholarship, providing they attend academic skills workshops and individual advising sessions. These students now graduate at twice the rates of other students (Bill and Melinda Gates Foundation, 2015).

Between 2003 and 2014, GSU increased its six-year graduation rate from 32% to 54%, and more than doubled graduation rates for African American and Hispanic students. In 2016, first-generation students, African American students, Latino students, and students receiving Pell Grants all graduated at higher rates than the overall student body.

Swinburne Online

Swinburne Online is a joint venture launched in 2012 between Swinburne University in Melbourne and a private firm, Seek. The online university now has more than 7 000 students enrolled in one of 12 Bachelor's degrees across five disciplines: business, communication, design, education and social science. Swinburne Online was deliberately set up at a distance from the main university, physically and administratively.

The Commission was told that Swinburne Online's students are predominantly women aged 25–40, who find it difficult to access a campus for work or family reasons. Swinburne University would not have tried to reach out to this unserved market until Australia moved to an uncapped, demand-driven higher education funding system in 2009:

Swinburne could not have created Swinburne Online under the old system of Commonwealth-supported places allocated by government. They would have needed to go through a slow political process to get new places, with no recent precedent for such a large number of new students at a single institution. Bureaucrats and politicians would have agonised over a joint venture with a for-profit company. Redistributing large numbers of places from within Swinburne's pre-2012 allocation would also have been politically difficult. Staff and student constituencies would (understandably) have resisted undermining viable courses for a venture that may not succeed. As it has turned out, Swinburne Online offers an innovative form of online education for which there is strong market demand. (Norton, 2013a, p. 20)

Swinburne Online is able to generate large amounts of data on how students use it. Gamification approaches are used to drive engagement – with students collecting points, badges and ladders as they progress through lessons. Nudge approaches are used, such as: "You use the site an average of 7.2 hours this week. Did you know that the average student who gets a distinction uses it for 8.7 hours a week?"

Using the data on engagement, students who become disengaged receive proactive support through emails, calls or texts: Do they need help with citations? Do they need help accessing the library? Do they

need some counselling? This service is provided by a third party company, and is also available for students at the main university. Where the data shows that students are at higher risk of dropping out (eg, students who are from a regional centre, those who live more than 30km away from campus, or women studying in IT), these students are automatically engaged in this programme.

Swinburne Online is a direct challenge to the traditional academic balance between teaching, research and service to the community. In designing courses, the traditional teaching role is disaggregated into separate roles for curriculum design, learning design, and student support.

Nottingham Trent University's Student Dashboard

Nottingham Trent University, in the United Kingdom, is a leader in the use of learning analytics to drive student engagement and retention. Partnering with a private company, Nottingham Trent developed a student dashboard that used four measures the university identified as being crucial to student success:

- attendance on campus, measured through swipe card data on building access;
- library usage;
- attendance at tutorials; and
- use of the university's virtual learning environment.

The system aggregates these four factors to provide each student with an overall engagement score. If an individual student has no engagement for a period of a consecutive two weeks, their tutor receives an alert. Once the tutor is alerted to a disengaged student, they can check in with that student, and then add notes of their own to the system – for example, providing details of any emails, phone calls or meetings held with the student. Students also can monitor their own engagement (and progress over the year) through the dashboard, but do not receive alerts themselves. This was a deliberate focus as the University wanted to help build up the relationship between tutors and students.

The dashboard was created with a simple interface, so it would be quick and easy for both tutors and students to learn to use. Students and tutors are able to access the same interface, with the only difference between the two being that tutors can add comments into their dashboard detailing any discussions with the student.

The dashboard is focused on student-tutor interaction, in that, beyond spurring the tutor to send an email or make a phone call to the student, the data is not used in any other way and there are no adverse consequences for the student. For example, if the system generates a 'false alarm' (i.e. if the student has just been ill or away) then the tutor can note this in their comments and the student will not be penalised in any way.

Following the success of the pilot, which received overwhelmingly positive feedback from tutors and students, the dashboard was rolled out across the whole University in 2014/15, in all nine schools and for both undergraduates and postgraduates. Analysis of data from 2013-14 shows a strong correlation between high engagement and both high retention and high academic attainment. (Higher Education Commission, 2016, p. 29)

Western Governors University

Western Governors University (WGU) is a private, non-profit online university based in Salt Lake City, Utah. The governors of 19 US states founded WGU in 1997. It offers competency-based programmes that allow students to demonstrate they have gained skills required for particular Bachelor's or Master's degrees or certificates. WGU only offers four subjects: teaching, nursing, business and information technology.

At the beginning of a course, students take an assessment, and then discuss with an advisor which concepts in the course they already grasp, and which they still need to learn. A programme of learning materials is then built for the student to help fill skill gaps.

Students pay a flat rate for tuition at WGU in a six-month period, regardless of the number of courses taken or credits achieved – an "all you can eat" model. The cost is around two-thirds that of public four-year colleges, and less than half that of for-profit colleges. It has 60 000 students from across the United States.

WGU does not develop its own courses, but licenses modules from commercial curriculum providers. Four regional accreditation boards and the national accreditation boards for teaching, nursing and health information management accredit its programmes.

Students are assessed through essays, and through closed-book exams that are taken online and monitored via webcam. WGU does not offer grades, only passes or fails; it says its pass is calibrated at a level equivalent to B-grade at other providers. Like other online universities, it predominantly serves non-traditional students with other commitments. It has low completion rates: around 40% of students complete their degree within six years, around two-thirds the rate of regular four-year colleges in the United States (Cook, 2015).

Degree Apprenticeships

In a number of countries, full-time employees can work toward a degree through a mix of academic study and workplace learning. In 2015, the UK Government announced the degree apprenticeship model would be extended to 13 fields of study – from public relations to aerospace engineering. In practice, an employee works for about 30 hours a week, studying part-time, and is paid for both. The cost of the education component is shared between government and employer. Co-design of the apprenticeship by providers and employers/industry is a key feature of the model. A report from Universities UK (2016) has found the following.

- Degree apprenticeships can be particularly attractive to non-traditional students, thus providing an opportunity for degree apprenticeships to support widening student participation goals.
- They offer a way for tertiary providers to diversify their offer and develop alternatives to traditional full-time, on campus-study (such as online, distance, weekend and blended learning).
- Degree apprentices are likely to be highly employable, with the student having benefitted from studying a course tailored to industry sector needs, and having several years of workplace experience.
- Degree apprenticeships can help develop employer relationships by offering an opportunity for providers to establish new and long-lasting relationships with employers.

In May 2016, the Government of Singapore announced a degree apprenticeship model would be trialled, with the Acting Minister for Education, Ong Ye Kung, saying it would be a “different kind of university programme suited to this century, where businesses do not just offer internships, but step into the university to shape the curriculum” (Davie, 2016).

University of Waterloo

The University of Waterloo is a university of 36 000 students in Ontario, Canada. It is particularly renowned for its mathematics, computer science and engineering studies. Since 1956, it has developed what it calls a “co-op programme”, a plan originally opposed by the Canadian engineers' professional body, and other Canadian universities. Students in the co-op programme study towards a five-year degree, which involves about 24 months of work experience broken into four-month blocks. All undergraduates in the Faculty of Engineering, and many at the Faculties of Arts and Mathematics, require co-op placements, with around 19 000 students enrolled in co-op programmes.

Waterloo is a small city, but many high-tech firms have grown around the university. Because of the university, other foreign high-tech firms have chosen to locate research and development centres in Waterloo, including Google, Oracle, Intel, EA, and Blackberry. Scientific and mathematics think-tanks have also developed around the university. Many of these firms provide placements for the co-op students, although students can work in firms around the world as part of the co-op programme.

In a report into Waterloo’s co-operative model and other local examples of work-integrated learning, the Higher Education Quality Council of Ontario identifies a range of benefits to participants.

- Students benefit from:
 - career exploration, and improved employment prospects;

- the opportunity to apply theory to practice in real workplace and community settings;
- work experience and the development of marketable workplace skills;
- increased self-confidence, personal growth and civic engagement; and
- financial compensation.
- Employers benefit from:
 - improved productivity and enhancements to service delivery;
 - streamlined recruitment and screening processes, and reduced training costs for new staff;
 - better connections between employers and education providers; and
 - enhanced staff capacity and improved employee morale.
- Providers benefit from:
 - stronger partnerships with employers and the community;
 - positive impacts on student recruitment, alumni relations, and reputation; and
 - the opportunity to use employer feedback to make programme enhancements (Sattler, 2011).

Other universities that offer substantial co-op education programmes include Drexel University in Philadelphia and Purdue University in Indiana, United States.

Southern New Hampshire University

Southern New Hampshire University (SNHU) is a private, non-profit university in the United States. In 2009, it had 2 000 students and was struggling with declining rolls and rising fees. The university made a strategic decision to focus on non-traditional learners and invest in online provision. Today, there are 4 000 students on campus, and 60 000 students enrolled in online degrees.

SNHU has a predictive analytics programme that alerts instructors when a student has not logged on recently, or has spent too much time on a module. Online students communicate via discussion boards and email. Programme instructors can be based anywhere.

SNHU recently launched “College for America”, an online competency-based associate degree programme. Like WGU, it is a subscription model: students pay to enrol for six months, and get as many credits assessed as they wish in that time. There are no courses, no credit hours, no grades, and no traditional faculty. Students develop an Academic Plan that outlines the key competencies they will master. Students provide evidence of competence by completing projects assessed by reviewers using analytic rubrics. Once competencies are mastered, students can have their LinkedIn profiles automatically updated. (EDUCAUSE, 2015).

College for America is aimed at non-traditional learners, including adults who missed out on tertiary education. SNHU President Paul LeBlanc contrasts competency-based models, where students provide evidence that they have mastered competencies, with what he describes as a “faith-based” model of traditional education:

If you think about higher education as being a faith-based initiative for the last 600 years... the notion was that if you had enough volumes in your library, and enough PhDs on your faculty, and enough students with high SAT scores, what came out of the other end was going to be fine. It's going to be great, actually. What happens if we could reverse that? What if we were really clear about the claims we make for our learning and how we know? Those are the two fundamental questions at the heart of competency-based education. (Corcoran & McNeal, 2016)

Arizona State University

Arizona State University (ASU) is a public university in Phoenix, which had a dubious reputation at the turn of the century as America's top "party school". However, in 2016, *U.S. News & World Report* (the preeminent ranking of American universities) designated it the "most innovative school" in the United States, ahead of Stanford and Massachusetts Institute of Technology.

The catalyst for the turnaround of ASU was a combination of factors, including a new President in 2002, Dr Michael Crow – who had a mixed track record of experimentation in online education in his previous role at Columbia University – and state budget cuts that halved Arizona state government funding per FTE between 2008 and 2016.

ASU established a "charter", which all staff are expected to sign up to, described as "a promise to the citizens of Arizona":

ASU is a comprehensive public research university, measured not by whom it excludes, but by whom it includes and how they succeed; advancing research and discovery of public value; and assuming fundamental responsibility for the economic, social, cultural and overall health of the communities it serves. (ASU, n.d.)

Dr Crow describes ASU as a model for "the New American University". In recent years, ASU has introduced a range of innovations and reforms that were highly controversial at the time.

- ASU now has 25 000 fully online learners, able to choose from around 800 courses. It employs learning designers, videographers, and web accessibility specialists to create its online content. It has around 150 third party tools as part of its courseware, and is constantly reviewing the products it uses.
- Around 6 000 of those online students are employees at Starbucks, studying for free under a partnership between ASU and the firm. Starbucks says that, over the next 10 years, it plans to spend at least \$250 million to help 25 000 employees graduate.
- In partnership with edX, ASU offers students the opportunity to complete their first year online through massive open online courses (MOOCs), without going through an application process. Students enrolled in ASU's Global Freshman Academy do not have to pay for the credit until they know they have passed. The programme began in 2015 with 3 MOOCs and, in line with other MOOCs, completion rates were low. Fewer than 1% of students were eligible to receive credit in the first year, although a larger number had gone on to enrol at ASU either online or on campus.
- ASU has started using web-based software to gauge which mathematics concepts individual students struggle to understand, and suggest additional study materials. This product began in ASU's online programme, but is now in use for on-campus courses as well.
- ASU has also developed an eAdvisor system that monitors progress toward graduation and intervenes when students get off track, similar to that of GSU's, discussed above. For example, if a student does not perform well in statistics courses for two semesters in a row, the student may trade their major for something else. The eAdvisor will then show them which of the courses they have taken will match the new degree requirements.
- ASU has streamlined the traditional four-year Bachelor's degree, so ambitious students can graduate and enter the job market in as little as two and a half years. The university continually monitors the job landscape, anticipating market needs and creating new majors. It was among the first in the United States to launch a Master's of Science in Business Analytics, which teaches students how to harness the power of "big data". In its first two years, the programme has tripled in size.
- In partnership with a local government, the university has opened a *TechShop* makerspace, which any ASU student can use for free.
- ASU has reorganised its schools and departments to promote interdisciplinary work, and a focus on research and projects to benefit the community. For example, in the College of Public Service and Community Solutions (which combines the schools of criminal justice, social work, public administration

and community development), all students complete their study with a project that applies their knowledge to real world problems.

Between 2004/05 and 2014/15, four-year graduation rates increased from 28% to 49% (the US average in 2012/13 was 39%). Six-year graduation rates increased from 55% to 63% (the US average in 2012/13 was 59%).

Olin College of Engineering

The Franklin W Olin College of Engineering (Olin College) is a small (around 350 students) private, non-profit college in Massachusetts. It was founded from an endowment by the F.W. Olin Foundation, because the Foundation had become dissatisfied with the nature of engineering education in the United States. In particular, the Foundation saw existing providers conceiving of engineering education as teaching a body of knowledge rather than a process, and thought most engineering schools prioritised research over teaching, and produced academics rather than practical engineers. Olin College admits students without regard for their grades, based on a weekend project-based “audition”. The first students were admitted in 2001. There are no academic departments and no tenured faculty members.

Olin College's approach to engineering education is based on an interdisciplinary curriculum, and on project-based, hands-on learning. Students who enrol in Olin College also enrol in the nearby Babson College, Wellesley College and Brandeis University, where they take papers in business and liberal arts. The aim is for graduates to have robust technical skills, design experience, and the ability to apply engineering concepts to real problems in an interdisciplinary way.

The curriculum's focus on experiential learning requires students to work on projects where they apply mathematics, science and engineering principles to real problems, rather than learn via lectures. Students are engaged in hands-on design work from the start of their programmes and, in their final year, teams of five to seven students carry out a project to solve a real world problem for a corporate sponsor. Olin College believes that engineering evolves so rapidly that the specific content that future engineers will need to know is impossible to predict.

Instead of exams, students are evaluated during a week-long, institution-wide assessment called “gates” at the end of each year.

Assessments include written examinations, oral examinations, and team exercises, and are aimed at assessing each student's mastery of institutionally defined learning objectives as opposed to the objectives of each individual course. It is thought that gates force students to synthesise material among classes and across terms. A student's performance on his/her gate is used to identify areas in which he/she requires additional strengthening. (Brennan et al., 2014, p. 149)

U.S. News & World Report ranked Olin College as the third best undergraduate engineering programme in the United States among institutions that do not offer doctorates.

UK's Open University

The Open University, based in Milton Keynes, England, has embraced learning analytics – matching student data and background information with performance. Learning analytics helps a tertiary institution understand how its students interact with the institution's resources, given students' different student learning styles, their likely performance, and how likely they are to complete their studies.

The Open University has piloted a dashboard of indicators to highlight “at-risk” students and overall class engagement. With this information, lecturers can focus on students who are struggling and amend course material that has proven ineffective. This can be done in real-time, without the delay associated with student feedback and outcomes. A preliminary evaluation of the pilot has shown retention rates at the Open University increased by 2.1% on average compared with the previous year. While students have a natural interest in course completion, it is also important for universities as retaining a student takes significantly fewer resources than recruiting a new one. The higher retention rates generated an estimated £1.8 million in additional income for the Open University (Sundorph & Mosseri-Marlio, 2016).

Ecole 42

Ecole 42⁸⁷ is a private, free, non-profit computer programming school. It was created and funded by French billionaire Xavier Niel, and opened in Paris in 2013. The school has no professors, and does not issue any qualifications. There are no minimum entry requirements, but there is a rigorous selection process that involves online memory and logic tests, and then a three-week intensive *piscine* (as in, students will sink or swim). Through this process, around 1 000 students are chosen from 70 000 applicants. Some successful applicants have prestigious university degrees, but 40% did not complete high school (Tweney, 2014).

There are no classes, curriculum, or required reading. Instead, students learn through collaborative projects:

The basic idea of École 42 is to throw all the students — 800 to 1,000 per year — into a single building in the heart of Paris, give them Macs with big Cinema displays, and throw increasingly difficult programming challenges at them. The students are given little direction about how to solve the problems, so they have to turn to each other — and to the Internet — to figure out the solutions. (Tweney, 2014)

The school is open 24 hours a day, and students attend whenever they wish. Students should take about three years to graduate, but there is no formal schedule. The driving idea behind 42 is similar to that of Dev Academy and other coding bootcamps – that formal institutions cannot keep pace with rapidly changing demands of industry. A second Ecole 42 opened in California in 2016.

There is, as of yet, no good information about outcomes for Ecole 42 graduates.

Universities New Zealand's view of these models

In its submission, Universities New Zealand (sub. DR119) offered an explanation for why the overseas models discussed above did not exist in New Zealand. In most cases, the explanation offered was insufficient funding (for programmes offered by Waterloo, Olin College and Southern New Hampshire University, or for Degree Apprenticeships). Tight regulation of course revenue inhibits the development of new models in New Zealand, and this is discussed in Chapter 15.

11.4 What enables innovation?

Disruptive and sustaining innovations

Bower and Christensen (1995) coined the terms “disruptive innovation” and “sustaining innovation” to explain the different ways institutions or firms innovate, depending on their position in the market.

Established institutions with market share tend to innovate in order to enhance the products or services they offer. They can hold on to their existing sophisticated and high-value market by continuing to improve the value of the products or services – described as “sustaining innovation”.

In doing so, institutions can leave room for disruptive innovations at the bottom of the market, to offer often simpler versions of the product or service to new, previously unserved markets using radically different business models, often leveraging technological innovation. Early product versions may be low-quality and considered little threat to an established firm but, as they develop and improve their offering, they can upturn existing markets.

For example, *Encyclopædia Britannica* came to dominate its market in the early 20th century with its reputation for quality, and through the introduction of direct marketing and door-to-door sales. By the mid-20th century, it had the ambition of systematising all human knowledge. In the early digital age, digital editions of the encyclopaedia were published on CD-ROM to compete with new entrants like Microsoft's Encarta product. However, both encyclopaedias were disrupted by Wikipedia, a product far cheaper to produce and use, despite early scepticism about the latter's quality and reliability. Christensen offers other examples:

⁸⁷ The name is a reference to the Answer to the Ultimate Question of Life, the Universe and Everything, from Douglas Adams' *The Hitchhiker's Guide to the Galaxy* – which is “42”.

Disruption is the process by which Toyota overtook General Motors, Cisco felled Lucent and Nortel, WalMart and Target toppled the department stores, and Apple seized music distribution⁸⁸. Disruption is how Charles Schwab and online brokers unseated Merrill Lynch, and how Google pre-empted newspaper advertising. (Christensen et al., 2011, p. 18)

Once disruptive firms succeed, they frequently consolidate their victory by moving to a model of sustaining innovation, in time putting them at risk of being disrupted. Examples of firms able to continue to produce disruptive innovation are rare; they have a tendency to become sustaining innovators. For example, Netflix sought to challenge video rental stores in 1998 by distributing DVDs by mail, and without return times, on a subscription basis. Netflix offered to purchase Blockbuster Video for \$50 million in 2000, but was turned down. By 2007, Netflix had distributed one billion DVDs. It then introduced a further disruptive innovation – online video-on-demand. Netflix now has more than 75 million subscribers, and Blockbuster filed for bankruptcy in 2010. From 2011, Netflix became a major producer of new shows or digital content, such as a US remake of *House of Cards*. This is arguably a sustaining innovation – adding value to its core product in order to maintain or grow its established market.

Armstrong (2014) argued that many of the most widely discussed disruptive changes proposed in higher education involve significant changes to which functions are performed – often to focus on the learning function by doing away with other functions, like research. He also finds that, in general, “people in very successful organizations often internalize key aspects of their business model as defining quality in their field; changes in these key aspects consequently imply lower quality” (2014, p. 1), and that, specifically in the case of educational providers, the culture, internal management and important role of faculty means that

bringing disruptive change to an existing educational institution will be even more difficult than bringing such change to a typical corporation – where it is almost impossible. (p. 7)

The idea that successful organisations internalise their existing ways of doing things into their definitions of quality is evident in the submission from Quality Public Education Coalition, which emphasises stability, continuity, respect for long service and institutional knowledge in its definition of a “healthy” tertiary provider:

In healthy tertiary institutions, there are internal cultures of collegiality and trust, demonstrating a sharing of resources, specialisation and knowledge. Institutional practices and structures exhibit recourse to peers, colleagues and professional organisations, including in decision-making and committees. Such institutions make long-term academic staff appointments, honouring tenure, thereby maintaining and strengthening institutional knowledge and continuity, and creating stable conditions for the growth of scholarship. (sub. 48, p. 13)

Frances Valintine, founder of the Mind Lab, has spoken of cultural barriers to new models of education, saying, “when you raise your head above standard practice, everybody has a point of view, and many will argue purely on the basis of tradition and legacy” (Spark, 2016).

The existing quality assurances mechanisms of New Zealand universities and NZQA (discussed in Chapter 5) provide opportunity for these ideas of quality to be defined by existing ways of doing things. Armstrong (2014) writes of the US system that

...accreditation as currently carried out by its members is structured reasonably effectively to encourage and manage sustaining innovations, and to exclude disruptive innovations. Real disruptive change in higher education will probably have to wait for an alternative system of accreditation, one that is focused on evaluating new models using standards of quality that appropriately reflect the different value propositions they offer. (p. 9)

Accreditation is a form of “self-governance” whereby institutions are subject to periodic review by their peers. Because the accreditation process is run by higher education institutions themselves, *accreditation rewards congruence with the traditional model*. Institutions are judged by a panel of faculty and administrators from similar institutions through a process that emphasizes inputs and processes in accord with conventional norms. (Kelly & Hess, 2013, pp. 25–26, emphasis in original)

These forces also operate in New Zealand, through Committee on University Academic Programmes (CUAP) and NZQA processes. These processes provide mechanisms for peers to reinforce conventional norms. The

⁸⁸ In turn, models of music distribution like Spotify, where users stream rather than own music, are challenging Apple.

rewards for innovation are also dulled because the processes can deny first-mover advantage to innovators, particularly where proposals are subject to the approval of competitors. As well as operating directly, these factors can also deter innovations from being proposed.

Similarly, regulations that control the inputs of tertiary education will tend to constrain innovations that seek to achieve the same outputs or outcomes through a different mix of inputs. For example, the funding of education based on learning hours is a barrier to innovations in delivery that allow individuals to move at their own pace (Chapter 8). Despite the fact different students learn at different paces, regulation of learning hours measures exposure to learning, rather than mastery of it.

Together, these forces drive institutional isomorphism in the tertiary education sector (Box 11.4).

Box 11.4 **Institutional isomorphism**

Isomorphism is a “constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions” (Hawley, 1968). DiMaggio and Powell (1983) described how institutions are subject to isomorphism through three mechanisms.

- Coercive isomorphic change is where institutions converge because of external pressures, including regulatory controls: “[o]rganizations are increasingly homogeneous within given domains and increasingly organized around rituals of conformity to wider institutions” (DiMaggio & Powell, 1983, p. 150).
- Mimetic isomorphism is where institutions seek to mimic the performance of highly regarded institutions in the field.
- Normative isomorphism is where professional conceptions of quality and professionalism drive institutional convergence.

The Commission sees examples of these mechanisms in the New Zealand tertiary education sector. Indeed, these mechanisms reinforce each other where the professional beliefs and values that drive normative isomorphism feed into the regulatory controls that drive coercive isomorphism.

The university subsector is more prone to isomorphism for several reasons. First, because the professional conceptions of quality more directly drive the regulations underpinning coercive isomorphism. Second, because the existence of global ranking systems provide exemplars of what a “good” university is, and many universities aspire to emulate this. Third, because the long tradition of universities, and their perceived relative prestige within society, has driven a strong tradition of “the academy” that drives normative isomorphism. As Massey University submitted:

Currently, the measures of what is a ‘good’ university are stacked in favour of a particular type of institution. So, in order to compete in the ranks of ‘goodness’, universities conform to certain behaviour. Until there is a range of ways of understanding and articulating quality, using different variables and different lenses, we will be stuck with the status quo and the homogeneity we currently have. We need to challenge ranking systems and change the story. (sub. DR143, p. 19)

Because the forces of isomorphism are particularly strong in the university subsector, the Commission disagrees with various submitters who argued that there should be clearer delineation between university and non-university providers, particularly with respect to degree-level education. Rather, allowing non-university providers to continue offering degree-level study is an important safety valve to allow scope for differentiation at this level of study.

Incumbents often disparage disruptive innovations as being inferior products – and frequently they are, at least at first. However, these innovations can also dramatically increase access to a product that people want, but cannot access. Disruptive models of education can do the same thing. Online providers, competency-based assessment, teaching-only universities, and wānanga have all had their critics, but have

also shown the potential to expand access to education, catering to those who would not otherwise access tertiary education, or who would prefer a different type or mode of education.

Disrupting innovators are more likely to be new entrants

One feature of disruptive innovation is that it is more likely to be pursued by new entrants, or smaller, less prestigious firms serving a “lower value” part of the market. Writing of innovation in higher education, Kelly and Hess said:

Game-changing innovation is likely to come not from well-intentioned chancellors at prestigious institutions, who are hampered by routine and beset by competing constituencies, but from challengers free to build new models and cost structures from the ground up. (2013, p. 2)

Marcus (2011) shows that many now-traditional elements of higher education in the United States were actually resisted by established providers focused on classics and philosophy. The expansion of higher education to modern languages or the natural sciences occurred when “reformers, frustrated by the slow pace of change at existing universities, opened new ones” (cited in Kelly & Hess, 2013, p. 9).

The Commission has observed this in higher education as well. In Australia, while all universities are innovative to a degree, some of the most innovative providers come from outside the group of prestigious Group of Eight universities. Deakin, Curtin, Torrens and Swinburne Universities, for example, have been among the most ambitious in embracing online education models. Charles Sturt University in New South Wales has gone further than other universities in integrating with vocational education providers and recognising prior learning of students.

Many of the innovations from New Zealand universities outlined above might fairly be described as sustaining innovations. Auckland University of Technology (AUT) is New Zealand's youngest university and, apart from Lincoln University, the lowest ranked. However, AUT also struck the Commission as the most ambitious in terms of thinking about how technology could fundamentally reshape higher education. In its submission to this inquiry, AUT also expressed frustration at policy and regulatory settings that inhibit its ability to innovate:

AUT sees itself – is seen – as a vanguard of innovation and believes the concerns raised in the Issues Paper are unfounded.

However, this is in spite of changes to the policy and funding settings that appear to have been designed to prioritise government control over spending and to generate a greater return on investment, thereby supporting the existing and proven at the expense of innovative educational delivery models. This has resulted in an increase in central prescription with a commensurate reduction in organisational autonomy. The result, perhaps unintended, has been increasing levels of conformity to what government stipulates it wants and this, in the end, will dampen the innovative spirit that currently exists in New Zealand's universities. (sub. 64, p. 7)

The regulatory environment AUT operates in (where its core operations are subject to the approval of its peer universities through CUAP processes), and the forces of institutional isomorphism more generally will compel AUT to operate in a manner similar to other New Zealand universities, rather than striking out on a different path.

The Dev Academy model could not operate within an existing university or ITP. Its key innovations mean it has to operate outside of the current regulatory government framework for tertiary education.

Some successful examples of innovation are where a quasi-autonomous unit is established operating outside of the typical rules and constraints of the parent organisation. These internal incubators are sometimes called “skunk works”, named after Lockheed Martin's pioneering R&D Lab.

Because established providers find disruptive innovation difficult, they can often spark innovation by establishing an incubator for new ideas at arms' length from the parent organisation. This was the model adopted by Swinburne Online. In New Zealand, ventures such as Capable NZ and Tech Futures Lab were established along similar lines.

Technology is an enabler of innovation

Technology is an important enabler of innovation, but the application of technology is not inherently innovative. Kelly and Hess (2013) describe applying new technology to traditional models of delivery as “faux innovation”:

[I]n both K-12 [schooling] and higher education, the preferred course has been to add technology atop existing arrangements. Rather than use technology to reengineer core functions and business models, institutions tend to graft modestly pleasing new capabilities onto their established operation, which allows them to make their familiar offerings somewhat more accessible. Hence the explosion in specialized online certificate programmes, course and content management systems like Blackboard, and technology-enhanced marketing and enrolment management. (p. 11)

The authors argue this tendency to faux innovation is particularly prevalent where, as in New Zealand, providers are largely publicly subsidised and cannot grow their student base.

Most established institutions are publicly operated or are non-profits that draw heavily on public funds. Consequently, they are focused less on expanding market share and satisfying customers and more on satisfying policymakers and their own employees. (p. 11)

In markets where new entry is controlled and incumbent institutions are subsidized, there is a temptation to simply graft technology onto existing routines while leaving cost structures intact. Such retrofitting may be better than nothing – and it may look like transformation to optimistic observers, story-seeking journalists, and fretful academics – but it often amounts to little more than repackaging a largely familiar product at a familiar price. (p. 3)

The College of Humanities and Social Sciences at Massey University submitted that when the university first adopted WebCT as a Learning Management System in 1997, “many humanities and social sciences staff were quick to see the opportunities for using tools such as discussion boards and chat rooms as a way of both developing peer-to-peer and student-teacher relationships, and for delivering real-time tutorial opportunities for distance students” (sub. 27, p. 7). Yet its submission also recorded that, as recently as 2011, half of all distance courses still only used online technologies for distributing administration material (such as the Paper Guide), with core study resources supplied directly to students. In addition, 5% of courses had no online components; 45% of courses were partially taught online; and no courses were fully taught online. Only from 2012 did a majority of distance courses use online technology for more than distributing administrative material. The College is now designing (rather than adapting) courses specifically for online delivery in innovative ways. Massey University “is challenging existing models and methods of teaching” (Massey University, sub. DR143, p. 7), but, for a long time, online technology seemed predominantly for routine tasks like distributing course guides.

In some respects, teachers in the compulsory education sector appear to use technology to plan their teaching more effectively than in the tertiary sector (Box 11.5).

Box 11.5 Formative assessment

“Assessment for learning”, or formative assessment, is a core feature of education in New Zealand schools. The goal of formative assessment is to identify learning needs and plan future learning activities. This contrasts with summative assessment, where the goal is to evaluate and measure learning that has already occurred.

Through formative assessment, students can learn about their strengths and weaknesses, and teachers can work out which students are mastering the material and which are struggling. Formative assessments take place through everyday student-teacher interactions, but also through more formal tests. In New Zealand, e-asTTle is a leading technology that assesses students’ achievement and progress in reading, maths and writing, and in pānui, pāngarau and tuhituhi, and provides rich information about this to the teacher. Formative assessment allows better, more personalised teaching and learning.

Even though ideas of formative assessment are fundamental to school education, they are not prominent in tertiary education. One 2008 benchmarking of ITP performance found little evidence of the use of structured assessment tasks to build student capability progressively, little evidence of capability around assessment, and that ITPs do not appear to evaluate the impact of particular assessment strategies on student learning (Neal & Marshall, 2008).

The Khan Academy, a well-known provider of short online video lectures, began as a few YouTube videos designed to assist a single student. Now, there are 9 000 videos that software recommends to learners based on their past activity. Learners solve computer-generated problems tailored specifically for them based on their earlier responses.

The Open Polytechnic's iQualify online platform provides for engaging, interactive features, like quizzes, to assess whether students have mastered certain concepts. However, it is not genuinely adaptive software – the outcomes of these quizzes do not influence what information is subsequently presented to the student. If a student's online experience were shaped by their past interaction with the software, this would offer the opportunity to challenge and accelerate students who were learning fast, and give extra support to those who are struggling.

Technology offers enormous potential for the better integration of formative assessment and personalised learning experiences. However, there are few reasons for New Zealand tertiary providers to pursue these innovations while contact hours are the only things measured and rewarded. Prima facie, the use of learning hours in the funding and regulation of tertiary education is a barrier to any model that delivers learning faster than previously, because a shorter programme of learning would either not be allowed or commensurately less funded based on contact hours. Marshall (2012) links caps on student numbers to tertiary providers' slow adoption of technology:

The government caps on student numbers, imposed essentially to minimise the public cost of tertiary education, are also acting as a negative incentive to the adoption of technology. One of the clearest benefits of e-learning is the ability to increase the scale of education, increasing access by more students including those with other commitments such as employment or families. However, the Government has prevented institutional growth. (p. 53)

Recommendations to address this are presented in Chapter 15.

Online education

Online education offers significant potential to reduce barriers to access, and improve the personalisation of learning experiences. A research note produced for TEU concluded:

ICT and online learning provide innumerable opportunities to enhance both learning and teaching and improve the accessibility of education. Using integrated curriculums, informed and purposeful instructional technologies, and by fostering innovation in the use of ICTs; tertiary education providers can create the knowledge and skills needed to prepare learners to work in future markets. Meaningful integration of new technologies and ICTs, however, requires the careful and informed selection of quality educational tools, which take into account best-researched instructional practice, the course and discipline in question, and the heterogeneity of students. The utility of innovative teaching and learning practices is therefore best realised through a combination of new technologies and traditional modes of delivery. (Neilson, 2016, p. 6)

The research note argued that sustaining technologies, which enhance established models of teaching and learning, rather than disruptive technologies, hold the greatest promise in addressing the diverse needs of students into the future. Such sustaining innovations are good at servicing and improving the value received by an existing customer base. On the other hand, disruptive innovations are good at delivering a service to a new, currently unserved customer base.

Some providers the Commission spoke to emphasised that online learning was not inevitably a cheaper mode of delivery than face-to-face learning. These providers mention, in particular, high start-up costs and

key skills shortages, such as shortages of instructional designers. Neilson (2016) cautions against pursuing disruptive technologies in the aim of cost-saving. However, there are other advantages to these technologies.

There are a small number of promising experiments with other forms of online delivery, as well as blended approaches and flipped classroom models in New Zealand and in other countries. A 2016 report finds evidence of increasing use of different types of e-learning, and improvements in the performance of these models.

Box 11.6 Participation and performance in distance learning and e-learning

A 2016 Ministry of Education report on e-learning in tertiary education found e-learning was becoming more widespread. The report divided delivery into four categories.

- No Access / No ICT, where no part of the course is accessible online.
- Web-Supported, where a course provides students with limited access to online materials and resources.
- Web-Enhanced, where a course expects students to access online materials and resources.
- Web-Based, where a course requires students to access the accompanying online materials and resources.

The analysis compared e-learning delivery in these four categories across two five-year periods (2005–09, and 2010–14) and found:

[O]verall, the proportion of equivalent full-time students (EFTS) in courses delivered by No ICT dropped from 53 percent to 43 percent between the 2005-2009 period and the 2010-2014 time period.

At non-degree level, the majority of EFTS were still in courses delivered without internet access during the 2010 to 2014 time period. However, compared with the 2005-2009 time period, a larger proportion of non-degree EFTS were in courses delivered by blended methods. At higher levels, the majority of EFTS had been in courses that had had an e-learning element in the 2005-2009 period; the proportion with e-learning increased further over the 2010-2014 period. (Guiney, 2016, p. 2)

The report also found the “performance gap” between e-learning and other forms of delivery was closing:

Disparities in course completion rates between e-learning courses and courses without e-learning have reduced markedly. In the 2005-2009 time period, completion rates for some student groups, providers and fields of study enrolled in Web-Based courses (and to a lesser extent, Web-Supported or Web-Enhanced courses) were lower than the corresponding rates in courses delivered with No ICT. However, by the 2010-2014 time period, this had changed; there was either no discernible difference in the completion rates of courses delivered by e-learning and others or else, the gap between them had been significantly reduced. (Ibid)

International trends in online and distance education

Universities New Zealand submitted that:

An increasing proportion of courses aimed at developing or refreshing skills and knowledge (rather than degrees focussed on developing competencies and capability) will be offered primarily or fully on-line. However, the proportion of students completing degrees at a distance in 10 years will not be significantly different to the proportion now. (sub. DR119, p. 8)

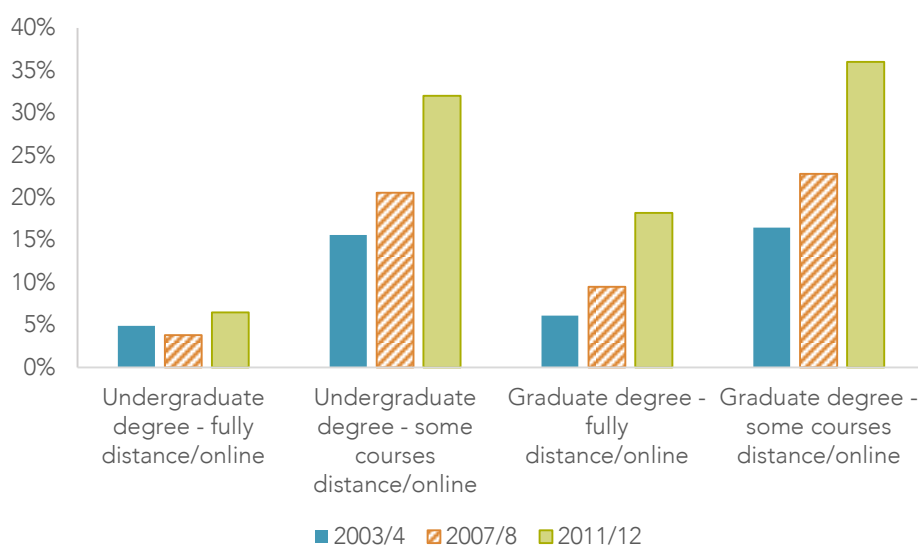
Although outcomes in online education are improving, outcomes remain clearly better through on-campus modes. Yet this sort of comparison between traditional on-campus, lecture-based delivery and online approaches to learning is a false dichotomy. The University of Auckland submitted that:

There is no evidence to support the claims that leading international universities are moving away from campus-based teaching models, or that those who aspire to attend them would regard off-campus degree-legal studies as an acceptable alternative for which they would pay high fees. (sub. DR118, p. 9)

However, there is evidence that leading international universities are moving towards offering online programmes and degrees. Some 60% of America's 1 844 non-profit colleges and universities offered an online degree in 2014 (an increase of 13 percentage points in two years). Among the top 100 colleges⁸⁹ in the United States, 75% offered at least one online degree programme in 2014. Some 48 of these top 100 colleges increased the number of online courses offered between 2012 and 2014 (led by North Carolina State, which added 34 online courses; Harvard University and the University of Florida each added 28 courses), while 14 colleges reduced their number of online courses (Center for Online Education, n.d.).

In the United States, some 7% of undergraduate degrees in 2011/12 were taught fully online, as well as 18% of graduate degrees. A third of all undergraduate and graduate degrees involve some online courses.

Figure 11.1 Growth in online degrees in the United States, 2003/4 to 2011/12



Source: National Center for Educational Statistics, 2015.

Notes:

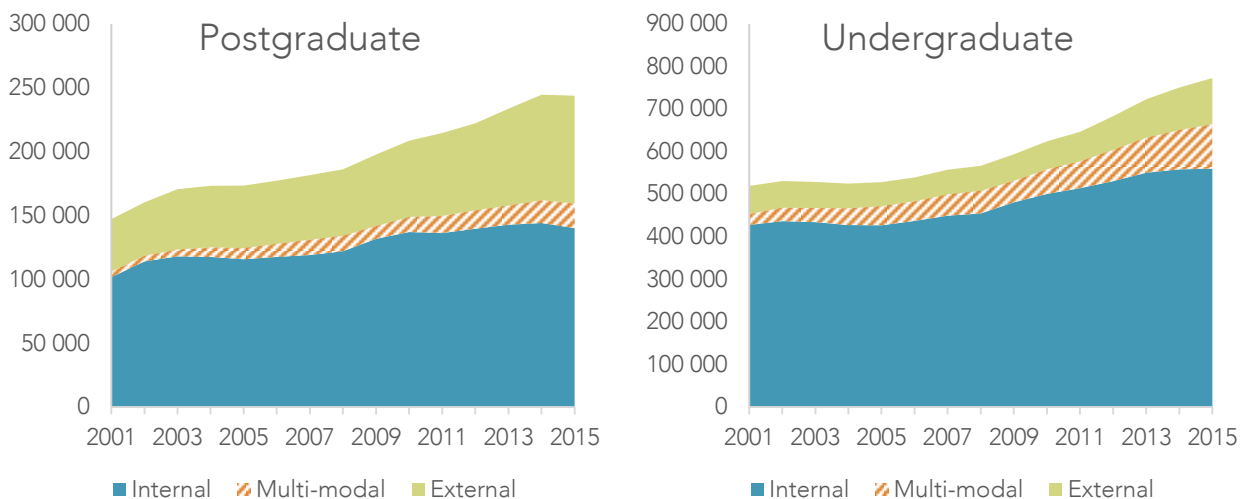
1. For school years 2003/04 and 2007/08, distance education classes include live, interactive audio or videoconferencing; pre-recorded instructional videos; webcasts; CD-ROMs or DVDs; or computer-based systems accessed over the Internet. Distance education does not include correspondence courses. For the 2011/12 school year, distance education is defined as any online class or degree program conducted entirely online.

Distance education in the United States is not the preserve of private, for-profit providers. Between 2012 and 2014, not-for-profit colleges increased online enrolments by 26%, and public colleges by 9%. However, for-profit colleges' online enrolment declined by 10%. In total, 73% of distance undergraduate students were enrolled in public colleges (Allen et al., 2016). One driving force behind the decline in for-profit enrolments was a crackdown by the Consumer Financial Protection Bureau on for-profits that marketed student loans directly to their own students in predatory or illegal ways, such as Corinthian Colleges⁹⁰ (Kamenetz, 2015).

Australian universities have also experienced growth in "external" enrolments – the equivalent of extramural study (Figure 11.2). Kemp and Norton say "most external students are now online" (2014, p. 47). As in the United States, growth is more pronounced at postgraduate level.

⁸⁹ As ranked by *U.S. News & World Report*, the most well-known American ranking system.

⁹⁰ Corinthian Colleges was investigated in Canada, by federal authorities in the United States, and by several states attorneys general for deceptive advertising and other fraudulent acts. In April 2015 it was fined \$30 million by the US Department for Education, and it closed shortly thereafter.

Figure 11.2 Australian universities' domestic enrolment by mode of attendance, 2001–15

Source: Australian Government Department of Education and Training, n.d.

Notes:

1. Data excludes Open Universities Australia.

There is no reliable data about online delivery of tertiary education in Canada. In the United Kingdom, the share of distance education has been dropping, as more students study their first degrees full-time, and on campus (Universities UK, 2014) – a similar pattern to New Zealand (see Chapter 3).

A recent working paper (Deming, Lovenheim & Patterson, 2016) examines how US campus-based providers respond to competition from online providers of degree education. Changes to federal regulations in 2006 dramatically reduced barriers to entry into online education, by allowing students to access federal aid for such programmes. Between 2006 and 2013, for example, the cost of online degrees fell by 34%. Examining local counties (or metropolitan statistical areas), the authors compare the effect of the regulatory change on areas where there is a high degree of market power (as shown by enrolments concentrated in a small number of local institutions) with areas where there is already more competition (where enrolments are distributed among many providers).

The authors found no evidence that existing providers responded by lowering prices. Colleges located in areas with low competition were more likely to experience a decline in enrolment – but only for less-selective private colleges. Public institutions responded by increasing their “instructional spending” – competing on quality.

On-campus and online education – substitutes or complements

Many submissions from the university subsector expressed concern that access to online learning is a poor substitute for on-campus education. For example:

We note that engagement and completion rates are lower for students who attempt distance education. The benefits of widening access will need to be carefully balanced with the potential to dissuade some students who would otherwise be fully capable of completing university successfully. (UNZ, sub. DR119, p. 12)

Other submitters considered that the Commission’s draft report (2016) presented an “uncritical and partially-informed rejection of what it takes to be ‘traditional’ models for delivering higher education”, and supported “a significant move away from face-to-face learning” in favour of “a move to online provision” (University of Auckland, sub. DR118, p. 2). Only in New Zealand’s quota-driven system for allocating public tertiary education subsidies would an expansion of online programmes by a provider also require a commensurate “moving away” from on-campus models.

These submissions raise questions about whether an increase in online education cannibalises on-campus study for providers, or whether online education complements traditional modes of delivery.

For some learners, there are advantages to on-campus, traditional modes of education. Some students prefer this form of study. Many submitters to this inquiry have emphasised the advantages and desirability of campus-based learning, but others have noted the advantages of distance learning in terms of its accessibility and convenience for particular groups of students. The Open Polytechnic submitted:

Open Polytechnic of New Zealand plays a distinctive role within the tertiary education system as the specialist national provider of vocational open and distance learning (ODL). Most of Open Polytechnic's 30,000 learners fall into a distinctive constituency of learners: Adults (aged 25 years and over) mainly in work and studying part-time to upskill themselves and upscale credentials to further job and career progression. (sub. DR174, p. 1)

Not all learners do best in traditional campus-based settings. One Ministry of Education review of study modes found:

In nearly all cases, extramural completion rates were lower than intramural. However, there were some exceptions. Students in the 40+ age group, those from non-working backgrounds, and wānanga had a higher extramural completion rate than intramural in traditional delivery courses [ie not e-learning]. Agriculture, Environmental and Related Studies had a higher extramural completion rate than intramural in e-learning courses, and Mixed Field Programmes had a higher extramural completion rate than intramural, regardless of delivery mode [ie regardless of whether the extramural study was based on e-learning or not]. (MoE, 2014, p. 37)

The same review found people aged over 40 had a higher completion rate through extramural study than those aged under 25. The house-person/retired group had the highest completion rate in traditional delivery (non e-learning) courses.

New research provides evidence to help answer the question of whether online tertiary education can deliver on its promise of expanding access (Box 11.7).

Box 11.7 **Georgia Tech's online Master of Science in Computer Studies**

Goodman, Melkers and Pallais (2016) examined student applications to the Georgia Institute of Technology's (Georgia Tech's) highly regarded Master of Science (MS) in Computer Science, which is delivered online (OMSCS) for \$7 000 or on campus for \$45 000.

The degrees earned are the same; there is no "online" designation. Indeed, Georgia Tech blindly graded exams for the online and on-campus students, and the online students did slightly better than their on-campus counterparts (Goel & Joyner, 2016).

Goodman, Melkers and Pallais found

nearly no overlap between the applicant pools to these two programs, with few individuals applying to both. The average in-person applicant is a 24-year old non-American recently out of college, whereas the average online applicant is a 34-year old mid-career American. (2016, p. 2).

In the course of reviewing applications for the first year of the online MS, Georgia Tech arbitrarily set a grade point average at 3.26, in order to yield 500 students. This created a natural experiment, where students just below and just above the cut-off could be compared. Using a national database of student enrolment, Georgia Tech could look at where students who just missed out on acceptance enrolled instead – overwhelmingly, the answer was nowhere.

Importantly, we show that very few applicants to OMSCS enrol in other, non-OMSCS programs. Those just below the admission threshold are no more likely to enrol elsewhere than those just above it, implying that access to the online program does not substitute for other educational options. Such access thus substantially increases the number of students enrolling at all. The higher education market appears to have been failing to meet demand for this online option. (p. 3)

The demographic evidence that distance or online education serves different population groups is strong, both in New Zealand and elsewhere. Both Massey University and the Open Polytechnic emphasised this in

their submissions. The research on Georgia Tech's OMSCS shows that quality providers can use online provision to improve access to groups who would not otherwise access education, without compromising quality or on-campus enrolments.

Some students do not want, and will not do better in a campus-based environment. Chapter 7 discusses how the current tertiary education system does a poor job of measuring unmet demand for education. Given declining rates of tertiary participation by older people and the declining share of part-time study, there are clear opportunities for online learning to expand access to tertiary education to serve this latent demand. Online learning can supplement rather than supplant traditional modes of delivery.

F11.1

Students who choose distance and online study differ from on-campus students, particularly in terms of age and employment status. Online delivery models have the potential to expand access to tertiary education for older people, those in employment, and those with difficulty accessing traditional campus-based education.

Students as co-producers

The importance of student participation in effective learning is grounded in constructivist theories of education – that people form knowledge by interpreting and reflecting on their own experiences, rather than by receipt of information.

Brennan et al. (2014) find, as a major outcome of their review of innovation in higher education, that “new technologies support a major shift in higher education that is now increasingly salient around the world, ie, the transition towards a more student-centred vision of education” (p. 88). The authors highlight the opportunity of new technology to improve students’ learning experience, provide greater choice and flexibility to students, and improve the way in which student experiences and feedback influence course design.

Hattie’s synthesis of 800 meta-analyses about what works in education emphasised interactivity and co-production in summarising the evidence on what works:

Visible teaching and learning occurs when learning is the explicit goal, when it is appropriately challenging, when the teacher and student both (in their various ways) seek to ascertain whether and to what degree the challenging goal is attained, when there is deliberate practice aimed at attaining mastery of the goal, when there is feedback given and sought, and when there are active, passionate, and engaging people (teacher, students, peers and so on) participating in the act of learning. (2009, p. 22)

Formative assessment, discussed earlier, is a critical component of this. Innovative approaches to education go further, allowing students to be involved in the design of learning experiences:

The case of the Olin College of Engineering shows how new ways of teaching and learning that move away from the traditional role of students as ‘recipients’ of knowledge into pro-active contributors to curriculum design and the learning process appear to have been beneficial in meeting employers’ needs in a specific field – engineering – where graduates’ lack of central skills was a recurrent problem. (Brennan et al., 2014, p. 80)

Innovation theory has traditionally struggled to deal with services where the consumer is so essential to the production of the good. Economist and political scientist Joseph Schumpeter, who focused on commercial value, characterised innovation as entrepreneurs combining factors of production in novel ways, with little room for consumers. However, Hawkins and Davis (2012) describe how, in the case of experience goods, “innovators can use the human capacity to have, evaluate and learn from experiences as a resource – a factor of production – which can be combined with other factors and transformed into new and/or improved goods” (p. 267).

Hawkins and Davis’ analysis suggests that some of the most promising areas for innovation in tertiary education are likely to be student-centred approaches that change the way students, teachers and providers interact in designing and delivering learning and assessment.

11.5 Creating an internal environment that supports innovation

Innovation entails risk-taking, with rewards for those who succeed. There is too little scope for trying new things in the New Zealand tertiary education system, and few rewards for providers who do. Equally, those who do not adopt successful innovations should not be protected where there are other models that would better serve their students.

There are impressive innovators in the tertiary education sector – but too many innovations in the New Zealand tertiary education system do not scale. Too many educators most open to change are innovating in isolated pockets. Providers need to get better at trialling, recognising and scaling successful innovations. One survey of New Zealand and Australian university managers provided information on innovation in those organisations (Box 11.8).

Box 11.8 Management and service innovations in Australian and New Zealand universities

Researchers surveyed all senior and departmental managers, except for members of the senior management team and Vice-Chancellors, in 39 Australian universities and six New Zealand universities. The response rate was 37.8%. The questionnaire asked about new or improved services, processes for providing services, organisational methods, marketing methods, and systems innovations over the previous two years. The questions focused on innovations in the supporting operations of university management, rather than innovation in teaching and research.

A high percentage of respondents, 91%, reported at least one of seven types of innovation in the previous two years. Respondents from “First Tier” universities⁹¹ were:

- less likely to report that their “senior executive is willing to take risks to innovate”;
- less likely to use methods reported to develop innovations;
- less likely to collaborate on innovation with sources outside the university (including with other universities), invest less in innovation; and
- more likely to give a “high” importance to “resistance by academic staff” as an obstacle to innovation.

Some 46% of respondents agreed that competition with other universities increased the need to innovate, while 26% disagreed.

When asked about the purpose of their university’s most important innovation, 72% said it was to “replace or improve a previous service, process or product”, rather than “provide an entirely new service, process or product”. This indicated, said the authors, “that most of these innovations are likely to be incremental improvements” (p. 25).

Source: Arundel et al., 2016.

This study provides some support for the ideas that New Zealand’s universities are more likely to engage in sustaining innovation, and that a culture of innovation is less prevalent in more established providers.

Cultures and capabilities that support innovation

Business schools are among the most innovative parts of New Zealand’s universities. The University of Auckland Business School emphasises providing co-curricular opportunities that allow students to develop and, to an extent, certify some of the “soft” or employability skills that are often of concern to employers (see Chapter 4). The Business School also hosts initiatives such as Velocity (an entrepreneurship

⁹¹ Those ranked above 301 in 2015 Shanghai Academic Ranking of World Universities, including the University of Auckland and the University of Otago.

development programme run by students and supported by the school). Business School staff reported their faculty had a more entrepreneurial and risk-taking culture, in comparison to the rest of the university.⁹²

Brennan et al., when reviewing innovation in higher education around the world, identified “resistance to change and lack of institutional support” (2014, p. 89) as the major blockage for innovation at the institutional level. They also found that:

...as innovation diffuses within the higher education system and touches every element of a higher education institution, the transition to an innovative system needs to be better managed. Many universities have strong business schools that teach these methodologies, but university management is not trained for this: in most cases university managers are promoted academics (2014, p. 87)

In New Zealand, a number of participants at a 2016 TEU symposium (“Voices from Tertiary Education”) expressed concern at a growing number of professional managers replacing academics in tertiary education institution (TEI) management roles (Chapter 6).

Many submitters considered there are cultural barriers to risk-taking, innovation and the successful diffusion of innovations in TEIs:

The ability to sustain improvements once made is largely dependent on the nature of an organisation’s culture and receptivity to change. (Feeney, sub. 4, attachment 2, p. 17)

There is no doubt that staff in the sector want organisational cultures that develop and maintain diverse teaching spaces, styles, programmes, and staff, thus ensuring that they can meet diverse learner needs. ... Overall the auditing culture leads institutions to avoid risk. (TEU, sub. 83, p. 17)

Changing the culture of universities may be difficult but it is possible, as Āwhina, UMBC [University of Maryland, Baltimore County], and others have shown. The fundamental issues are (i) leadership, both of the initiative and university, and (ii) robust evidence. Get both right, and everything else follows. (Te Rōpū Āwhina Whānau, sub. 12, p. 4)

An insular culture with a limited range of communication means few opportunities for serendipitous encounters that lead to new ways of thinking and potential innovations. (Kennedy, sub. 23, p. 7)

One of the goals of Waikato [University] is to “Embed a culture of innovation, entrepreneurship and leadership across the university”. (cited in Academic Quality Agency, sub. 29, attachment 8, p. 3)

Marshall submitted to the inquiry that a cultural resistance to change fed risk-averse approaches from leaders, and precluded them encouraging smaller risk-taking within an institution-wide innovation framework:

The problem with innovation language, including the other words commonly used with it (transformation, disruption, even excellence) is that they establish an expectation for dramatic change that can discourage attempts to create a culture within educational organizations that is open to exploration of new ideas and encouraging to staff attempting to build their understanding of the implications of new ideas or tools. A particular issue is that this leads to a culture of rewards and incentives only being used with substantial successes, rather than recognising the systematic leadership needed to encourage smaller changes and to be supportive of those prepared to try and fail in interesting ways. (sub. 73, p. 21)

Shugart (2013) noted that cultural change in tertiary education is slow and hard, but necessary:

[C]ulture trumps strategy, every time... The culture of the organization will determine the limits and possibilities of our strategies. (p. 8)

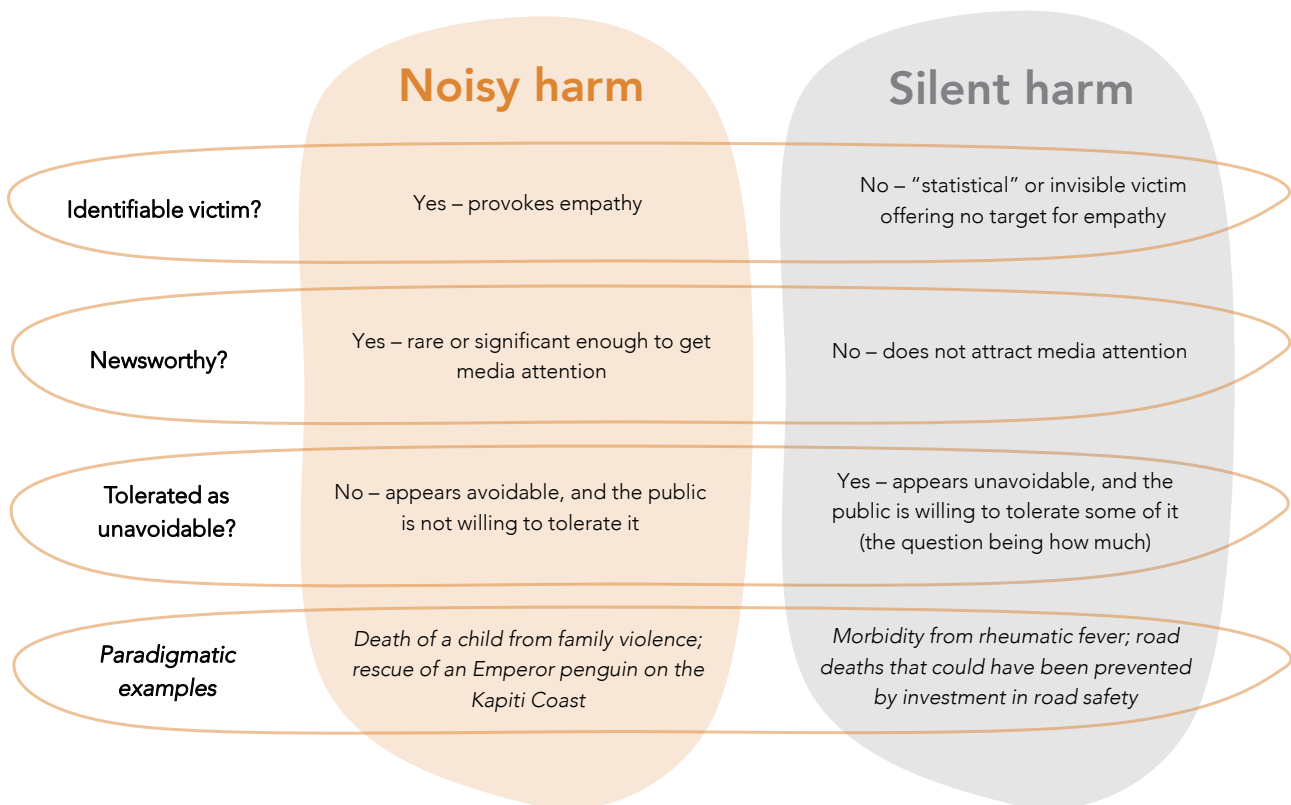
Noisy versus silent harm

Tertiary providers’ internal cultural resistance increases the likelihood that tertiary leaders will encounter loud complaints from staff (and sometimes students) when they propose change – an example of “noisy harm”.

Unless the change is needed to prevent an even noisier harm, leaders have strong disincentives to act.

Figure 11.3 illustrates the concepts of noisy and silent harm.

⁹² The Academic Quality Agency for New Zealand Universities (AQA) wrote of the University of Auckland that: “While the Panel heard of staff learning from peer example, it also heard of instances where a particular culture within a department or school effectively discouraged new staff from using or experimenting with new developments or using alternative technologies, such as Twitter.” (AQA, sub. 29, attachment 5, p. 11)

Figure 11.3 Noisy harm and silent harm

Source: Productivity Commission.

People commonly value the prevention of noisy harm more than the prevention of silent harm (and more willing to tolerate silent than noisy harm). As Schelling (1968) explained, people value the “identified lives” of individuals much more highly than the “statistical lives” of unidentifiable people. Frank (2006) noted that Schelling:

...observed the apparent paradox that communities often spend millions of dollars to save the life of a known victim – someone trapped in a mine, for example – yet are often unwilling to spend even \$200,000 on a highway guardrail that would save an average of one life each year.

These differences are important for tertiary leaders managing change within their organisations; for example, changes to business models or internal resource allocations. Changes that generate costs to identifiable people (such as existing individual students and staff) in order to deliver benefits for unidentifiable people (such as prospective future students or staff) are likely to be “noisy”. The noise is likely to be especially loud if:

- the costs of the change fall on a small number of people, who each lose a lot, while the benefits are spread over a large number, who each gain a little;
- the costs are felt immediately, while the benefits are felt in the future – or dispersed in time so they are hardly felt at all except when consciously comparing the present to the past; or
- the costs are borne by people who have political power or a public “voice” or platform from which to speak, and the benefits accrue to people who do not.

Changes in tertiary education organisations that might have one or more of these features include (for example) disestablishment of teaching positions in low-demand subjects to increase funding levels for scholarships, or sale of a physical asset to fund investment in improved ICT.

Tertiary leaders (and indeed leaders of any kind) have strong incentives not to ignore noisy harm. It can, especially where it gains media attention, cause significant damage to an organisation’s reputation and staff morale, and consequently its performance and success. In contrast, leaders often have incentives to ignore

silent harm – as long as it is likely to stay silent. Silent harm is, by definition, quite well tolerated, and there are usually costs – often *noisy costs* – involved in reducing it. As Ed. Collective submitted:

One of the barriers to innovation lies in the tremendous pressure to avoid public failure – whether real or perceived. The irony is that it seems to be perfectly fine to fail at the same rate, as long as you don't change anything and everyone else is failing with you. (sub. 89, p. 52)

Similarly, the OECD describes a “negativity bias” whereby people punish failure more than they reward success. It describes how the bias affects elected politicians:

[P]olitically elected decision-makers have clear disincentives to avoid being blamed for risk and failure. This contributes to risk-avoidant decisions (e.g. choosing to remain with a minimally disruptive status quo if the results are not too dire rather than seek to improve, which would require some risk and thus potential failure). This is an extremely strong pressure: scholars in social psychology and political science have focused on the “negativity bias”, in which individuals have a preference for or bias to remember negative effects and results over positive ones (see, for example, Kanouse and Hanson, 1972; Lau, 1985; Weaver, 1988). ... Weaver (1986/8), for example, has argued that American politicians are motivated more by the desire to avoid blame for negative outcomes than by the desire to claim credit for positive ones. This is clearly not just an American phenomenon, and in today's non-stop mediated climate, seeking to avoid blame is likely to be an essential political strategy (OECD, 2016f, p. 210).

The same effect plausibly influences the choices of leaders of tertiary organisations, adding to their incentives not to act to reduce the silent harm of (for example) those who are missing out on, or are not well served by, the tertiary education system. System-wide levers to address this silent harm are a focus of Chapters 12–16.

Tertiary leaders may be able to increase the acceptance of changes that create noisy harm, and address silent harm, by:

- being explicit about who is benefiting and who is losing – acknowledging the losses as well as the gains;
- appealing to the organisation's moral purpose and the importance of not continuing to tolerate silent harm; and
- sharing stories about identifiable individuals who will benefit or have benefitted from the changes, to raise the profile of silent beneficiaries.

The need for institutional support of change

Data and learning analytics offers significant potential to tertiary providers to monitor their students' performance at a fine-grained level. By comparing information about students to historical data, providers can gauge who is at risk of failing or dropping out. In online settings, data about the frequency and timing of log-ins can predict with a high degree of accuracy which students may be unsuccessful. GSU, Swinburne University and the UK Open University, discussed above, are examples of how learning analytics can be applied in both campus-based and online settings.

However, in their review of innovation in higher education, Brennan et al. say the benefits

...will not be achieved simply by investing in the appropriate technology, rather a strong institutional commitment to implement processes and systems that will enable the institution to provide appropriate and effective support based on learning analytic insights is required. (2014, p. 61)

The authors say the introduction of a learning analytics system in the various case studies they examined was often driven by an early adopter among the faculty, who managed to get buy-in from the university's internal institutional structures. In practice, it involved:

...major restructuring at all levels of the university, implying that:

- Teachers need to allow others to intervene in 'their' course design;
- IT departments need to convince staff and institutional policy officials to cooperate to build a comprehensive data system;

- Student administrations need to make student data accessible, though with privacy safeguards. (Brennan et al., 2014, p. 69)

Writing of the US system, Thille (2012) highlighted the haphazard approach to trialling and evaluating innovations, and pointed to a need for a systematic approach:

Our institutions of higher education spend few resources on providing students and faculty data that would tell them whether the new technologies or the traditional individual and collective processes for learning and teaching are effective. ... In lieu of data we depend on faculty intuitions about what works and what doesn't. While those institutions are certainly sometimes right, it is unlikely that intuition alone is sufficient as a means to improve instruction. This approach is thoroughly unscientific and incapable of producing the persistence, spread of adoption and iterative improvement that is required to bring about transformative change. (p. 4)

Recommendations that would provide greater scope for trialling innovations are discussed in Part III.

Physician, heal thyself

Writing of the Commission's finding that tertiary providers in New Zealand appear to adapt new technologies to existing ways of doing things, Massey University submitted:

The finding seems to imply that even more could be done to improve the value of the delivery of education. If this is in fact the suggestion, consideration could be taken with regard to initiatives to further support research into innovative delivery in higher education in the New Zealand context. (sub. DR143, p. 25)

Box 8.3 discusses what research activity into tertiary education teaching exists in New Zealand. The lack of self-reflection was a key theme in two submissions by one professor:

I end with a comment that does not address the draft report's findings, recommendations or questions, but perhaps rather addresses an omission. The commissioners identify in several places within the report (for example, on page 141) that relatively little research occurs in New Zealand on tertiary pedagogy and on the quality of tertiary teaching; emphasising that this is a missed opportunity for internally-informed improvement (and presumably therefore legitimising the need for externally-informed improvement, of which this draft report provides one element). Unless it is the intention of the Productivity Commission to retain New Zealand's tertiary education system in a state of internal helplessness, it would be useful if the recommendations included at least some that could rectify this situation. It seems perverse for the report to provide detailed advice on so much, but fail to make the key recommendation that it is tertiary education's responsibility to ensure that its practices are robust, reliable and innovative, and demonstrably so, using appropriate and internationally acceptable procedures. The analysis in this draft report does provide a strong message that the sector as a whole has been reluctant to research its own practices; whether these are of its own making, or imposed by regulation. It should be noted that at least some of the draft report's recommendations could only be achieved by funding someone to research our practices. Tertiary education in New Zealand has a long history of not researching its own practices, or indeed appreciating the need to (with some notable exceptions, one of which I personally benefit from). (Shephard, sub. DR125, p. 9)

Universities have emphasised the centrality of research and creation of new knowledge to their *raison d'être*. Providers have good reasons, both intrinsic and extrinsic, to dedicate resources to researching their policy and practice.⁹³ The development of frameworks of standards for tertiary teaching (discussed in Chapter 14), the creation of space in the regulatory system for limited experimentation (discussed in Chapter 15), and other recommendations in this report will strengthen these incentives.

The Commission is very sympathetic to the suggestion that the tertiary sector can and should do a better job of studying its own practice. There is existing centrally funded capability, such as Ako Aotearoa, to do this. Beyond that, it should be the responsibility of providers to undertake research and development on their own activities, and they have a unique capability to be able to do so.

⁹³ For example, NZQA's external evaluation and review process purports to judge a provider's capability in self-assessment, and how effectively the provider uses self-assessment information to understand performance and bring about improvement.

F11.2

There is considerable scope for tertiary providers to do more to research their own policy and practice.

Capability gaps

Yet there is evidence of capability barriers in New Zealand providers. Marshall (2010) and Neal and Marshall (2008) find that management systems, self-awareness and agility are lacking in both universities and ITPs. Using a quality improvement framework that assesses and benchmarks providers' capability to sustainably develop, deploy and support e-learning (the e-Learning Maturity Model), the authors find

...very little evidence of a culture of critical self-reflection within the organizational assessments, and this is shown in the almost complete absence of capability in the Optimization dimension of most institutions. This is possibly linked to the weak Evaluation process and Management dimension capability... but also probably reflects the lack of attention by university leaders to these areas. (Neal & Marshall, 2010, p. 29)

In its submission, the Tertiary e-Learning Reference Group (sub. 101) notes that awareness of e-learning has increased senior managers' awareness of related issues, and that it may be timely to repeat the above benchmarking exercise. Yet the concern about management capability is consistent with the findings of the Academic Quality Agency for New Zealand Universities (AQA) Cycle 4 review of universities, which made the most recommendations in the areas of management and governance, and teaching and learning:

This updated analysis confirmed that incorporating and responding to student feedback remained the highest recurring theme of recommendations in the area of teaching and learning. While plans for improvement in this area emerged during Cycle 4 and were affirmed by audit panels, recommendations for further improvement were received by many universities.

However, looking across all themes, and now incorporating the remaining Cycle 4 audits conducted in 2011 and 2012, institutional quality assurance policies, processes and systems received the single most recommendations in Cycle 4. A number of universities received recommendations that they ensure that they have a coherent quality assurance framework with elements that can promote planning, monitoring, review and improvement for the benefit of high quality teaching and learning. Risk management also emerged as an area in which audit panels suggested improvements could be made.

While the strategic planning of universities received many commendations in Cycle 4 (above), this area also received recommendations in particular for how strategies for teaching and learning are established, communicated and monitored. (AQA, sub. 29, attachment 3, p. 13)

AQA also noted that "commitment to Māori students and staff" was an area with room for improvement, and was a "major area of recommendations" (sub. 29, attachment 3, p. 13).

Chapter 8 found that inertia in tertiary education is an emergent property of the system, rather than a characteristic of providers. In turn, however, the culture and capability of providers is shaped by an environment where innovation is inhibited by regulation and is not rewarded. The Commission detected little sense that most New Zealand TELs had an organisation-wide strategy to innovate significantly in delivering tertiary education. Some providers and officials may also struggle to think about the system operating in a significantly different way.

F11.3

The internal culture and management capability of a tertiary education provider is a major influence on its ability and wish to innovate. This culture and capability is also shaped by a system that does not reward innovation.

11.6 Conclusion

This inquiry's terms of reference invite the Commission to consider how trends in technology, tuition costs, skills demand, demography and internationalisation will influence new models of delivering tertiary education, identify barriers to innovation, and consider what success factors are associated with innovation.

This inquiry has identified external (funding and regulatory) and internal (culture and capability) barriers to innovation in tertiary education. The Deputy Vice-Chancellor of the Australian National University cites both in describing how real tertiary education innovations arise outside the mainstream, but then are incorporated by providers into their existing ways of doing things, rather than changing the providers' business models.

The combination of regulation and custom slows us down, but it also means that our voyages into what are called brand extensions—new categories of product—are almost unheard of. Our most recent examples globally—which you can count on one hand—are badges, micromasters, MOOCs and fully online courses. Most of these have launched from subsidiaries or spinoffs, and we are now in the predictable phase of framing them within the mainstream, not framing the mainstream around these disruptions. Our assimilation of the small suite of radical innovations throws any of our complaints about companies like Microsoft being eldertech assimilators in the shade. (Hughes-Warrington, 2016)

Both external and internal barriers are also evident in one study about perceived barriers to innovation in American universities (Box 11.9).

Box 11.9 **Perceived barriers to innovation in the United States**

In a 2000 study, 47 college presidents and chief academic officers at American universities were interviewed on perceived barriers to innovation in higher education.

Four-fifths cited “tradition, institutional culture, or institutional inertia” as a significant barrier to innovation, with one respondent saying, “inertia is a villain in the marketplace but is worshipped in higher education because we relish tradition.” A majority of providers working under faculty governance believed tighter management would promote innovation. One-quarter cited state government oversight as a barrier to innovation; a quarter identified costs, funding or other resource issues as barriers; and one-fifth said internal processes and bureaucracy were a barrier.

Public providers were more likely to perceive institutional decision-making processes as a barrier to innovation, with one saying, “systems never foster distinctiveness – they always homogenize.”

External accreditation bodies were also cited as a barrier to innovation, with one interviewee saying, “specialized accreditation is used by the disciplines to block innovation. The faculty say we can't do something because it doesn't meet our accreditation restrictions. Often that isn't true but it is used to block innovation.”

When asked about what institutionalised beliefs they would change to foster more innovation, two-fifths talked about faculty beliefs about their roles: “We need to change the attitude of traditional faculty that the only way to learn is direct student-to-faculty interaction in a classroom”.

Source: Palmer Noone, 2000.

Significant innovations are not created by providers within the prevailing policy settings

Chapter 8 notes that many initiatives in the tertiary education system, such as Māori and Pasifika Trades Training, Engineering E2E, and the ICT Graduate Schools, are effectively created by government. The Industry Training Federation submitted that several examples of government directly enabling innovations through various funds were innovative:

There are some models within the tertiary system that we believe are innovative, improving employment prospects for graduates, increase productivity, and deliver social and community benefits. Examples of these models include the Maori and Pasifika Trades Training scheme, the programmes funded under the workplace literacy fund (particularly the employer-led portion) SWEP-linked projects like Auckland

Airport, and a number of collaborative education to employment programmes in Northland, currently supported by JVAP funding from TEC.^[94] (sub. DR160, p. 4)

Chapters 5–8 discuss how the funding and regulatory system is so locked-down with government controlling the allocation, volume, and price for EFTS. The result is that there is little scope, and few rewards, for such innovations to be generated from within the system. Other significantly new models of delivery either require special legislation to enable them within the existing government-funded system (in the case of wānanga or secondary-tertiary partnerships), or they exist outside the subsidised and regulated system (in the case of the Dev Academy).

F11.4

Providers in New Zealand tend to adopt sustaining innovations that improve the value of their existing way of delivering education. Often, this means technology is grafted on to old ways of doing things.

F11.5

Regulatory settings make it hard for innovative new models of tertiary education to emerge from existing government-funded providers. New models either arise outside of the government-funded system, or are enabled by legislative change on a case-by-case basis.

Innovation in small pockets, often led by individuals

There are scores of individual teachers in New Zealand innovating in how they integrate technology into their teaching. The Commission heard about examples of this at the TEU symposium “Voices from Tertiary Education”. In a personal submission, Dr Mark Nichols, director of Technology Enhanced Learning at the UK Open University, and a past executive at the New Zealand Open Polytechnic, said:

I consider the New Zealand system is innovative in parts; the difficulty here seems to be encouraging systematic innovation rather than in pockets of practice. In education innovations are typically limited to keen individuals, or a VC or CEO with limited tenure often facing an institution change-weary from having its inertia constantly tinkered with. Funding systems are also such that planning must take place with relatively short horizons. I’m not certain that this issue is limited to New Zealand. Inertia is driven in part by the lecture-based and resource-based distinction and limited by the cap-based approach toward business as usual-oriented funding. (sub. 6, pp. 12–13)

Particularly in universities, the horizontally dispersed decision rights and weak central control help explain why it is difficult for such innovations to scale (Chapter 6).

The use of technology to innovate in the delivery of tertiary education is mainly happening at the margins within providers.

F11.6

Some frontline educators adopt technology to aid their teaching in innovative ways, but there is little institutional capability to scale this activity.

In a paper on productivity in New Zealand, the Commission (forthcoming) identifies features hindering productivity in New Zealand. These features are also evident in the tertiary education sector (Box 11.10).

Box 11.10 The tertiary education sector: the New Zealand economy’s challenges in microcosm

In a 2016 paper, Conway identified some of the underlying drivers of New Zealand’s poor productivity performance. They include:

⁹⁴ SWEPE is the Sector Workforce Engagement Programme, established as part of the Business Growth Agenda in 2016. JVAP (Joint Ventures and Amalgamation Projects) funding can be awarded to ITOs to assist them to work together to facilitate desirable structural change and joint ventures in the ITO sector, and best practice in vocational education and training.

- poor technological diffusion (the pace at which new technology and ideas spread), exacerbated by weak international connections;
- small insular domestic markets that suffer from a lack of competitive intensity;
- relatively low levels of innovation and poor management capability, caused by weak investment in this type of knowledge-based capital; and
- a lack of first-class policy and regulatory settings.

The Commission has found evidence for each of these points in examining the tertiary education sector over the course of this inquiry:

- technological innovation by individual teachers that does not scale and diffuse within an organisation;
- the use of technology as a sustaining innovation at the provider level, with much less application of technology to significantly reshape operating models;
- policy settings that inhibit providers from gaining or losing market share and, in some cases, lock in local or regional monopolies;
- internal cultures that reinforce established ways of doing things, and a lack of management capability and commitment to provider level innovation; and
- regulatory settings that undermine attempts to deliver education in significantly different ways from the status quo.

In this way, the tertiary education system exhibits many of the characteristics that drive poor productivity performance in the broader economy.

Source: Conway, 2016.

In response to a question in the Commission's Issues Paper asking what specific technologies the inquiry should investigate, Independent Tertiary Institutions was emphatic: "Whichever ones the Commission chooses will probably be getting out of date by the time the final report is released" (sub. 81, p. 16). This is undoubtedly good advice; the system will not become more innovative through either the Commission or government more generally picking technology winners, or mandating particular models of delivery.

What is needed instead are policy, funding and regulatory settings that allow providers to try new models and reward them for success, rather than requiring or rewarding delivery through the same old approaches. Technology by itself does not drive innovation, although it can create threats and opportunities for institutions to innovate where they have the culture, capability and flexibility to respond. Incentives on providers to better meet the needs of both current and prospective students will also spur innovation.

All the technology in the world will not drive innovation if the political economy of the sector discourages it. If regulatory policies impede the emergence of new models of service provision, incumbents will feel little pressure to change. Even dynamic leaders with ideas for unbundling their product will be forced to conform to the prevailing regulatory framework. And if consumers have no way to measure quality among providers of very different stripes, they may feel even greater cause to stick with familiar models. (Kelly & Hess, 2013, p. 22)

It will be difficult for providers to overcome the internal barriers to innovation in a policy environment that has as many external barriers as has been identified in this inquiry. The next chapters discuss options to improve the New Zealand tertiary education system's ability to innovate.

Part III: A system that supports new models

12 Taking stock and looking ahead

Part I of this report describes New Zealand's tertiary education system, and Part II examines its outcomes and prospects. Part III makes recommendations to increase the system's flexibility to innovate and try new models.

- This chapter summarises why New Zealand needs a tertiary education system that supports new models, and notes the challenges of intervening in a complex system.
- Chapter 13 recommends changes to how information is used in the tertiary education system.
- Chapter 14 recommends changes to regulatory arrangements.
- Chapter 15 recommends changes to purchasing arrangements.
- Chapter 16 recommends changes to tertiary education agency roles. It concludes with a discussion of the collective implications of all the Commission's recommended changes.

12.1 New models are important to manage risk and increase access

Governments, seeking to increase access to tertiary education for the productivity of their economies and for the wellbeing of their citizens, have faced trade-offs between maximising access, maintaining quality, and controlling costs (Chapter 1). In New Zealand over the last two decades, successive governments have grown and then rationed participation in tertiary education, in an attempt to balance access goals against rising fiscal costs.

Innovation – both of the sustaining and disruptive kind – in the delivery of tertiary education has the potential to enable increased access, quality and affordability of tertiary education, all at the same time. The Commission has seen examples in other countries of innovations that have significantly reshaped how providers deliver education to students (Chapter 11).

New delivery approaches, educational methods and learning environments could allow the tertiary education system to meet the needs of a wider diversity of students, including students who need to upskill or retrain in a dynamic labour market, and those who would like to participate but who are not currently catered for. New models also present an opportunity to improve outcomes for Māori and Pasifika, who are presently under-served by the system and who comprise a growing share of New Zealand's population.

A failure of the tertiary education system to adapt and embrace new models could present a significant risk to New Zealand. Not only would New Zealand fail to capitalise on the opportunities afforded by new models to expand access to good quality education to meet the needs of a diverse range of learners, it may find itself unable to "roll with the punches" of a changing and dynamic environment. New Zealanders live in a world in which:

- the skills, knowledge, and outcomes that individuals hope to obtain through a tertiary education continue to evolve;
- competition for international students, and potentially offshore competition for New Zealand's domestic students, is likely to intensify; and
- many believe that the rate of change in the labour market and society will accelerate, driven by exponential technological progress.

However, it is also a world in which no one can accurately predict how and when changes will occur. This places a premium on system settings that allow flexibility and adaptability so that providers and students can respond to their changing circumstances.

Yet the inquiry finds that New Zealand's system is tightly constrained, and is not well placed to take advantage of the opportunities afforded by new models of tertiary education. Instead it has found that the

inertia referred to in the inquiry's terms of reference is an emergent property of the system (Chapter 8).⁹⁵ As a result, the system is vulnerable to threats presented by external changes and trends that could, if the system were more adaptive, represent opportunities for New Zealand.

12.2 A tertiary education system that needs to change

Tight government control constrains innovation

Chapters 5, 6, 7 and 8 describe a tightly controlled tertiary education system with both desirable and undesirable properties. Some properties are particularly undesirable from the perspective of innovation and differentiation:

- Government controls quality by licensing providers; this confers market power on incumbents. Government also controls the quality of courses through the New Zealand Qualifications Authority and gives statutory power to the Committee on University Academic Programmes (CUAP) for the approval of university programmes. The Commission has heard that these processes can make it difficult to introduce new programmes or delivery approaches. Incumbents define “quality” in a way that reinforces their position in the tertiary education system.
- Government subsidises the cost of tertiary education, providing most of the subsidy to the provider rather than the student. A subsidy, by its nature, increases demand. If demand exceeds what government can afford to pay, then government rations supply. For most funds it does so by rationing in the market for EFTS, prioritising the protection of existing allocations to incumbent providers, creating barriers to new entry. This has the effect of reinforcing the status quo (in terms of product quality, product form and market structure).
- The Student Loan Scheme (the Scheme) conflates access to finance (which could be fiscally neutral to government) with a subsidy arising from its interest-free nature. Because of the subsidy inherent in the interest write-off, any increase in the number of EFTS increases the total cost of the Scheme to government. This adds to government's need to ration supply (in a way that a fiscally neutral scheme, focused solely on ensuring access to finance, would not).
- Government is fiscally and politically liable for poor tertiary education institution (TEI) performance. It designs its subsidies in ways that protect its interests – quotas and market entry restrictions. Government also has a political interest in maintaining existing levels of regional provision, regardless of demand. It faces incentives to use its control over EFTS allocations to reduce the political and fiscal risks of TEI failure, rather than to allow supply to match student demand. Government's interest in the viability of providers can conflict with its role as a subsidiser of education and its quality assurance role.

Chapter 11 shows sufficient examples of innovative projects to give the impression of a flexible system open to new models. However, this impression is misleading.

- Providers are very responsive to incentives from government, but most incentives are to maintain the status quo (with only small shifts in emphasis between different groups of students, or fields of study).
- Innovation happens chiefly where there is a meaningful prospect of a net reward through improved revenue or reputation. The current system provides few such prospects.
- Much of what is occurring is “sustaining innovation” – that is, improvements to providers' existing business models. The current system works against differentiation of business models. Disruptive innovation is more likely to come from new entrants; but the system has high entry barriers.
- Existing providers – especially TEIs – have relative certainty over their revenue streams and quota allocations. This reduces the imperative to innovate and the rewards on offer from successful innovation.
- Rather than enabling successful bottom-up innovations to spread through the system, government designs “innovative” programmes and then procures them directly from providers, typically through

⁹⁵ An *emergent property* is a characteristic of a system that arises from the interaction of participants rather than from planning or design.

complex and prescriptive contracts. Such contracts lock in the programme design, rather than allowing adaptation in the light of experience or reflecting providers' different circumstances. The flow of information from implementation into the next round of programme design is slow and unreliable.

- Provider-generated proposals for substantially new models of tertiary education require multiple government approvals. These can involve statutory instruments (eg, funding mechanisms under s 159L of the Education Act 1989), amendments to legislation (eg, for the Manukau Institute of Technology Tertiary High School) and revised government purchasing decisions.

The system does not allocate resources equitably

It is common for governments to describe tertiary education as a means of combating income inequality and promoting social mobility. New Zealand's *Tertiary Education Strategy 2014–2019* states that tertiary education has a role in supporting "all New Zealanders from all backgrounds to live in a prosperous, safe, and equal society" (Ministry of Education & Ministry of Business, Innovation and Employment, 2014, p. 7). However, various features of the New Zealand system mean that overall the system exacerbates rather than ameliorates initial inequalities.

- The system rations access to tertiary education. Providers have incentives to select those who start out with more financial and other resources (including prior educational achievement) over those who do not (Chapter 8).
- Through tuition subsidies and subsidised student loans, government spends more on those students who stay longer in the system (eg, those studying to postgraduate level, or undertaking long courses such as medicine). These same students, once graduated, generally receive higher incomes. Overall, government spends most on those who gain the most from tertiary education (Chapter 3).
- Full-year full-time study delivered on campus to school leavers increasingly dominates delivery at higher levels of study; and the pathways from lower to higher levels of study are seldom clear (Chapter 3). This serves those already advantaged.

Student allowances and equity funding are features of the New Zealand system that attempt to ameliorate inequality. However, government spending on these is small by comparison with Student Achievement Component (SAC) funding (which is per student, per year of study) or the subsidy implicit in the Student Loan Scheme.

Government targets additional subsidies at particular groups via specific programmes. Examples include the University of Otago's Māori Health Workforce Development Unit, and Māori and Pasifika Trades Training programmes (Chapter 11). Students in these programmes receive additional support. But such programmes are the exception, not the rule.

Data on system performance is lacking; but the system clearly does not perform strongly for everyone

On the evidence available, the tertiary education system serves many students well. However, as Chapter 9 explains, to make meaningful judgements about whether the system delivers good outcomes for students and for New Zealand, the right information needs to be collected and reported – and at present it is not.

- Current output and outcome measures most often used by government – course and qualification completion rates, graduate salaries and employment rates – are not reliably good indicators of provider or system performance, because they are not adjusted to take into account differences in student intake.
- The Commission has not found good information about how the system is performing for students from low-income families, students with disabilities, and students who cannot access campus-based learning.

It is however clear that, despite valuable improvements in recent years, the tertiary education system still underperforms for Māori and Pasifika students (Chapter 9).

12.3 What should government do?

The tertiary education system is inherently complex

The tertiary education system involves very large numbers of autonomous and semi-autonomous agents making iterative and interactive decisions, often independently of one another. This complexity represents a challenge for government interventions. As biologist Lewis Thomas observed:

You cannot meddle with one part of a complex system from the outside without the almost certain risk of setting off disastrous events that you hadn't counted on in other, remote parts. If you want to fix something you are first obliged to understand the whole system. (Thomas 1974; cited in Mansell, 2006, p. 78).

One consequence of this complexity is that government, by making changes to solve problems in one area of the tertiary education system, has sometimes created problems in other areas, inviting or requiring further changes (Chapter 1; Chapter 8). Even well-intentioned and well-designed changes can give rise to unpredictable side effects.

[T]he history of the New Zealand university sector shows that any significant change to role requirements, policy drivers, or funding incentives will drive significant changes to university outputs over time, but nearly always with unintended consequences and trade-offs. (UNZ, sub. 17, p. 21)

Moreover, any loosening of particular constraints within a complex set of arrangements is likely to be transient. Previous experience leads providers and government agencies to believe that government will act quickly to re-tighten them once side effects become apparent. Furthermore, minor changes at the margins are likely to be overwhelmed by the inertia of the system (OECD, 2016f).

Despite the challenges of system change, the Commission believes that change is essential to respond to the diverse and evolving needs of New Zealanders, and national and international trends in tertiary education and the wider environment.

The Commission's recommendations

The Commission's recommendations in the following four chapters are designed to move to a system that will support new models to emerge and deliver the maximum benefit – for individual students and for New Zealand as a whole.

It would be possible for government to implement some recommendations and not others. However the recommendations are best implemented as a package. This is because there is a need to intervene in multiple ways at multiple points in a complex system to avoid the system reverting to its previous centre.

Some of the Commission's recommendations propose that new approaches be trialled or piloted, in an experimental spirit, to test their feasibility and impact. This is in recognition that it is impossible to predict how a complex system will respond to new interventions and opportunities. The recommendations – in line with the inquiry's terms of reference – propose that government explore new models of policy, funding and regulation, just as government is asking providers to explore new models of delivery.

13 Information to support new models

Key points

- Government agencies produce a range of information to inform decision-making of government, tertiary education providers, and prospective students.
- Information aimed at prospective students is fragmented and difficult to navigate. While government has increased the range of information available, more attention needs to be paid to its accessibility. Prospective students are not equipped with skills and competencies to find and use information to make good decisions. The schooling system should do a better job at developing these competencies from an early age.
- University Entrance performs no useful function, and the name confers a market advantage on one type of provider. It should be abolished. Providers should set their own entry standards, which should be communicated transparently and consistently.
- Raw measures of student achievement in the tertiary education system can mislead, because they do not take into account the level of learning students begin with. This can create perverse incentives for providers to cherry-pick students, and means the tertiary education system as a whole can underserve already disadvantaged learners. There is no simple, comprehensive measure of “value add” that can be implemented immediately. Government can, however, do more to take account of students’ prior achievement, both in monitoring the performance of tertiary providers and industry training organisations (ITOs) via Educational Performance Indicators (EPIs), and in publishing information about what types of provider or provision serve different students best.
- Providers can do much more to collect and use data to trigger academic and pastoral support, using predictive analysis.
- Employers influence student demand through wages. For an employer, however, the education pipeline to produce a trained employee is a long one. Government should publish more information about study choices in school and tertiary education, to allow providers and industry to understand the skills pipeline and adjust their signals accordingly.
- Mechanisms to facilitate student mobility – especially credit recognition and transfer arrangements – are important, as they allow students to change their course of study as their aspiration or situation changes. To support better credit recognition and transfer:
 - the New Zealand Qualifications Authority (NZQA) should strengthen its guidance on the quality and accessibility of credit transfer policies;
 - the Tertiary Education Commission (TEC) should change the way it measures provider performance to reduce existing disincentives to credit transfer;
 - TEC should selectively fund providers to enter articulation agreements to improve the clarity of popular pathways, so more students know in advance how they can transition to higher-level study; and
 - Government should establish something akin to a “student ombudsman” to advocate for students who lack bargaining power in negotiating with providers about credit transfer.

13.1 The role of quality information in the tertiary system

Tertiary education is a significant investment for students, their families and government – and not just in financial terms. Employers often contribute to the costs of upskilling their workers. Good quality information is important to help these groups make choices about their investment in education, and understand the likely outcomes from study.

Well-informed students are fundamental to a high-performing system

Students' decisions on what, when, and where to study are an important driver of the tertiary education system (and the Commission's recommendations in Chapter 15 are designed to help increase their decision-making power). This makes it increasingly critical that students are supported to make good decisions. This requires:

- equipping students from their middle schooling years with career management skills and competencies to help them understand their options, and to form intentions about future life, study and employment goals (section 13.2);
- providing meaningful, granular and tailored information about provider performance and post-study outcomes (section 13.3);
- strong wage signals from the labour market about employer demand for skills and qualifications (section 13.4); and
- low barriers to student mobility and to the portability of skills, knowledge and credits that students have already acquired (section 13.5).

This chapter sets out the Commission's recommendations on how better information would improve system performance in each of these four areas. While primarily focused on the information needs of students, this chapter also considers what information government, providers and employers need to drive their own decisions about tertiary education investments of different kinds.

Current information sources

Chapters 3 and 5 outline a range of information sources and services available to students and other decision-makers, including government agencies and providers. Government-produced sources include:

- career advice, information, guidance and education provided in schools;
- information and advice services provided by Careers New Zealand (Careers NZ) direct to the public;
- *Occupation Outlook* reports on future job prospects in key occupations, published by the Ministry of Business, Innovation and Employment (MBIE);
- Employment Outcomes of Tertiary Education data about graduates' post-study outcomes, prepared by the Ministry of Education and published (in different forms) by the Ministry of Education, Careers NZ, TEC and some private information providers;
- EPIs about providers' and ITOs' performance, published by TEC;
- the Key Information Set, designed to help students compare qualification information across tertiary providers, prepared by TEC and published on providers' websites;
- MyQ (Rate My Qualification) feedback from students about qualifications they have completed, published by TEC (launched in December 2016); and
- External Evaluation and Review reports about providers' capability in educational delivery and self-assessment, published by NZQA (which incorporate EPIs).

In addition to government sources, tertiary providers generally offer enrolment advice to prospective students, and career advice or job-search support for graduating students.

13.2 Improving pre-enrolment information and careers advice for students

Good information only becomes valuable when accessed and used well. Provision of information to prospective tertiary students is fragmented, poorly coordinated, poorly targeted and often poorly delivered (Chapter 3). The inquiry's draft report recommended that government consolidate and improve the array of official information sources about study and career options aimed at prospective (and current) tertiary students. Government has since indicated it intends to consolidate tertiary-focused information sources and publications (though not school-based career advice) in TEC, into which Careers NZ is merging in 2017, "with the ultimate aim of providing a single authoritative source of careers information for end users" (MBIE & MoE, sub. DR162, p. 12). TEC indicated that improving information is a priority, and that it is making "a fundamental shift in our information use toward a more learner-centred system" (sub. 2, p. 1).

The challenge of improving the accuracy and use of information should not be underestimated. Government has aspired to furnish tertiary students with better information about their study choices and likely outcomes for at least 15 years. For example, the 2002 edition of the *Tertiary Education Strategy 2002–2007* (MoE, 2002) stated:

Career Services will have continued to build its capability to provide improved information and guidance to learners, to parents and to other professional 'influencers' such as teachers or caseworkers. Better information about skill requirements, skills matching, personal returns to tertiary study and the relative performance of providers against system indicators will be disseminated. (p. 21)

Comprehensive information on Māori participation, achievement and completion across all parts of the tertiary system will be readily accessible to Maori communities. This information will facilitate informed discussion between Māori communities, institutions, providers and tertiary organisations, and the TEC around the performance of the tertiary education system to align with Māori expectations through the charters and profiles process. (p. 31)

By 2007, all learners through schools, providers, Career Services and the TEC can expect a higher quality and greater range of information to be available. This will include information about skills in demand in the labour market, the employment outcomes of programmes of study, the personal rates of return on tuition and student completion rates. Information and advice about the employment opportunities and experiences of specific groups, such as disabled people, will be readily available. (p. 46)

There has been improvement since then in the quantity and type of information available. Government efforts underway to expand the range of granular information about outcomes are also welcome. However, making more progress in the accessibility and usefulness of information is particularly important now.

R13.1

Government should consolidate and improve the array of official information sources about study and career options aimed at prospective (and current) tertiary students.

Chapter 3 finds careers education and guidance in schools is highly variable, frequently delivered far too late and, at its worst, appears not to reach some students. Schools tend to provide information to students, rather than ensuring students develop the skills to manage their own career pathways. There is a large body of evidence described in Chapter 3 on what a better system for careers advice in schools would look like.

R13.2

The Ministry of Education should reform its approach to school-based career education so that school students, from an early age, develop the skills and knowledge to make effective decisions about their study options and career pathways.

Te Wānanga o Aotearoa supported work to improve careers education and information to prospective students, and said:

[A] strong feature of this should be on demystifying higher education and exposure to role models. This is vitally important for a large proportion of Māori and Pasifika taura who still do not have a parent or family member who have studied at tertiary level. (sub. DR120, p. 2)

A number of submitters emphasised that career education and guidance needed to be available beyond school:

The need to refocus our system back to its earlier lifelong learning goals also means this guidance must be available throughout adulthood. (TEU, sub. DR132, p. 4)

Career management and competency development must continue beyond school. It is clear from the Commission's Figure 3.5, pg 32 that well over half of the tertiary student population do not come directly from school. Career education must continue into the tertiary sector itself. (NZCER, sub. DR135, p. 1)

The Commission did not study the nature or quality of career education in tertiary settings, and makes no recommendations on this topic.

Abolish University Entrance

The Education Act 1989 requires NZQA, in consultation with universities and the New Zealand Vice-Chancellors Committee, to establish criteria that a student must meet to gain entrance to a university if under the age of 20 (s 247). This sets the standard known as University Entrance. It currently comprises a package of credits at National Certificate of Educational Achievement (NCEA) level 3, including a minimum number of credits in literacy, numeracy and various "approved subjects".

The Tertiary Education Union (TEU) submitted abolishing University Entrance would likely result in a "two-tiered, elitist system" (sub. DR132, p. 14) and would create complexity. The New Zealand Union of Students' Associations (NZUSA) submitted that there was value in a clear standard that all students, regardless of location, could work to achieve (sub. DR139).

The New Zealand Medical Association (sub. DR117) submitted that University Entrance should become a standard for entry into tertiary study, and that it should be based on written and oral exams. Other submitters suggested there should be equivalence between university and non-university providers of degree-level education, with provider-neutral nomenclature and standards (subs. DR156, DR161).

Ako Aotearoa recommended that University Entrance be abolished:

We also agree with the Commission's position that University Entrance serves little purpose in the current era, and symbolically undermines the principle of an integrated tertiary education system (by privileging university pathways). We strongly support ... that it be abolished. (sub. DR157, pp. 13–14)

Other submitters (eg, subs. DR142, DR160, DR172) pointed to the need for clear communication of entrance requirements to learners.

The Commission considers University Entrance performs no useful function, and the name confers a market advantage on one type of provider (Chapter 3). Given the underperformance of the schooling system for Māori and Pasifika learners, an arbitrary entrance standard for access to university is likely to particularly disadvantage these groups. Government should abolish it, leaving universities free to set their own entry requirements. This in itself will have little effect on actual requirements for entry to university, given that universities already set the bar higher or lower for particular courses as they see fit. However, it is important that entrance requirements for providers and schools be transparent and communicated consistently.

R13.3

Government should abolish University Entrance, leaving all universities free to set their own entry requirements. All providers' entry requirements should be transparent and communicated consistently, including in the consolidated information source referred to in Recommendation 13.1.

13.3 Improving measures of provider performance

Provider performance information is useful in helping decision-makers – whether students, employers, or government agencies – decide whether and where to invest in tertiary education. Performance information generates reputational rewards and penalties for providers, as well as acting as a public accountability mechanism for providers that receive TEC funding.

Measuring performance in adding value to students

Good value-added information about student outcomes is critical to properly understanding provider and system performance, and to avoid penalising providers for enrolling less-prepared students (Chapter 9). Without such information, government agencies cannot really know how well providers are performing, and comparisons between providers will often be misleading. Further, government and providers may pursue targets that are tangential to, or even undermine, value-add. Providers have an incentive to cherry-pick the best students, and this will tend to particularly undermine access for Māori and Pasifika learners.

Many of government's current information products, including TEC's EPIs, do not adjust their output or outcome measures to take account of students' starting points. This critical weakness should be addressed as a matter of priority. This is increasingly important if output and outcome data become significant inputs into NZQA and TEC's ex post monitoring of provider performance, as proposed in Chapters 14 and 15.

To measure a provider's performance in adding value to students, it is necessary to adjust process and output data (eg, the rate, number, and efficiency⁹⁶ of the provider's course and qualifications completions, plus measures of retention and progression) and post-study outcome data (eg, employment and income, and other welfare outcome measures as they become available) for the "quality" of the input.

It is widely accepted that process and output measures – that is, things that occur within a student's tertiary study and over which the tertiary provider has significant control – are meaningful measures of provider performance where they are appropriately adjusted for student intake. Box 13.1 sets out how process and output measures, such as progression, retention, course and qualification completion rates, could be adjusted to take account of students' prior achievement.

Box 13.1 Adjusting progression, retention and completion rates for prior achievement

The quality of the input could be proxied by the student's prior achievement (the best known predictor of student outcomes⁹⁷). It could be further adjusted for other factors (eg, socioeconomic status (SES) or ethnicity) where there was good evidence that these other factors have a non-trivial effect on student outcomes, even after adjusting for prior achievement.

Government faces many iterative choices about its measurement approach, including how to make adjustments and for what, which metrics are important for different types of provision or student, how metrics should be weighted, and how much aggregation is possible before the result becomes unacceptably inaccurate. Any development approach needs to involve testing and exploration, ideally in collaboration with tertiary providers, to understand how different choices affect the results. One option would be to run a large number of different "plausible design" scenarios to see where they tend to cluster, and then to choose a relatively simple methodology that delivers results in or near the centre of the cluster for each measure.

Government should be transparent about the strengths and weaknesses of any particular methodology, and expect to improve its measurement approach over time, in consultation with tertiary providers. It should also expect to use several different measures to capture different aspects of performance rather than "one measure to rule them all" (Cunha & Miller, 2012).

⁹⁶ "Efficiency" here refers to the Equivalent Full Time Students (EFTS) or Standard Training Measures (STMs) consumed to produce the completion.

⁹⁷ Multiple examinations of New Zealand longitudinal data have confirmed that prior achievement is the single biggest predictor of student success in tertiary education, and for most provision it is the best available proxy for a student's starting position. An exception is targeted Literacy and Numeracy funding, where use of TEC's Literacy and Numeracy Assessment Tool at entry and exit allows direct measurement of learning gain.

There is much more debate about whether it is reasonable to assess providers' performance by looking at the post-study outcomes of their graduates, or useful to design a system that sets consequences for better or worse performance in this regard (Cunha & Miller, 2012). Some of these challenges are discussed in Box 13.2.

Box 13.2 **Measuring providers' performance at improving post-study student outcomes**

There are many challenges associated with measuring provider performance with regard to employment and other post-study outcomes.

- The labour market outcomes of individual graduates have multiple causes, and it is hard to know what outcomes should be attributed to their tertiary education, and what to other influences (Chapter 9). If government proposes to use information about labour market outcomes to assess provider performance, then it needs to be confident that it is can separate the difference that providers make from other influences.
- Not all students undertake tertiary study for employment-related reasons. In some cases, for example students studying while in prison, graduates' labour market outcomes are not a meaningful measure of provider performance, at least over the short term.
- Government cannot measure the outcomes for graduates who emigrate.
- The technical measurement challenges are significant. New Zealand is fortunate in having an unusually large and detailed longitudinal dataset in the Integrated Data Infrastructure (IDI), but this has some key weaknesses (eg, it records data about income but not about hours worked) and long production timeframes. Also, the IDI does not capture information about some important private benefits of tertiary education, such as intellectual or cultural enrichment. These things can be captured by survey data, but this is expensive and time-consuming, and subject to response biases.
- There is a choice to be made about how to weight measures of early-career success (eg, employment rates or income 6–12 months post-graduation) compared to measures of outcomes a few years after graduation. The latter is a better prediction of graduates' long-term employment outcomes, but less informative about the impact of their tertiary education compared to on-job learning and work experience. Also, the longer it takes to produce a metric, the less chance there is that a student entering study now will experience the same result.⁹⁸

One approach to resolving some of these challenges is to interrogate the data to identify reliable early (during-study or first-year-post-graduation) predictors of graduates' long-term outcomes, and attach performance incentives to those predictors – as well as or instead of attaching them directly to long-term outcomes.

As discussed elsewhere in this section, the fact available measures are imperfect is not an excuse to do nothing. The relevant question is whether these measures are a sufficient improvement on the status quo to bear the weight of the consequences of their proposed use, and to justify the costs of change.

R13.4

Government's monitoring and reporting of provider and Industry Training Organisation performance, including the Tertiary Education Commission's Education Performance Indicators, should include measures that are adjusted for students' prior achievement.

⁹⁸ For example, if a student is considering a four-year law degree, informed by data on outcomes for graduates two years post-graduation, then the graduates to whom that data relates entered their own study six years previously. By the time the new student enters the labour market, the data will be a decade old. A provider's delivery environment can change a lot in six years; and the labour market can change a lot in 10 years. Also, providers are unlikely to be willing to invest substantially in performance improvements that will take many years to appear in their performance data.

Use adjusted performance information to support student decisions

As well as monitoring the performance of individual providers and ITOs, government should also identify what kinds of study, at what types of providers, result in the best outcomes for different groups of students – including comparisons between provider-based and ITO-arranged training. This should include analysis of performance for government’s priority groups. Government should publish this information for use by students, parents, providers, ITOs and purchasing agencies.

Government should also use longitudinal information from the IDI to explore the outcomes of people who currently choose not to access tertiary education. This will enable a better understanding of the difference that tertiary education makes for people in varying groups and circumstances.

R13.5

Government should identify what kinds of study, at what providers, result in the best outcomes (broadly conceived) for different groups of students. This should include comparisons between provider-based and Industry Training Organisation arranged training. It should also include comparisons between the outcomes of students and the outcomes of otherwise similar people who do not participate in tertiary education, to improve understanding of the difference that tertiary education makes to people’s lives.

Government should publish this information for providers, Industry Training Organisations and purchasing agencies. It should also be published in the consolidated information source referred to in Recommendation 13.1.

All such analysis of students’ outcomes and benefits need not be limited to a narrowly fiscal view of tertiary outcomes. The IDI will increasingly contain information about individuals’ non-financial wellbeing, and this can and should be considered alongside economic outcomes when assessing the impact of tertiary education on individuals. Analysis also need not only consider impacts on individuals in isolation. Intergenerational and family effects are also, at least in principle, measurable via the IDI.

The Commission notes, in this regard, TEC’s work on understanding return on investment:

At the heart of [TEC’s work on its Investment Approach] is the development of a return on investment methodology (ROI) that will enable us to make smarter investment decisions. We are developing an ROI so we can:

- Measure the difference we make through our investment in the tertiary education system; and
- Decide where and what to invest in to get improved outcomes; to
- Ensure that different types of learners get the most value possible out of their tertiary education, in terms of economic, social, and cultural outcomes. (TEC, sub. 2, p. 1)

TEC currently has a limited ability to respond via its purchasing levers to information revealed through this work. Chapter 15 proposes changes to TEC’s purchasing approach that would enable it to respond more meaningfully.

By itself, better information about provider performance and outcomes for the diverse population of tertiary students will not spur providers to innovate. For that, the tertiary education system needs to be more flexible and offer increased potential rewards to innovators. However, it is even more important to measure and reward the right things in a flexible system to avoid “innovations” becoming more about gaming the system than improving value-add for students.

Measurement of completions should recognise successful student transfer and collaborative delivery arrangements

In Chapter 14, the Commission recommends removing the requirement that providers only enrol students who they believe intend to complete a qualification (R14.10). This opens the door to students enrolling in only one or two courses if that is what they want – but providers will be unwilling to allow this if it shows up badly in their Qualification Completion Rate performance metric. This is true whether the effect is purely

reputational, via published EPIs, or whether it has direct funding consequences via a performance-based pricing mechanism such as that proposed in Chapter 15 (R15.10).

Moreover, it is undesirable for the system to penalise providers whose students are (for example):

- hired by employers mid-qualification because the provider is doing a good job at anticipating labour market need; or
- staircasing to a higher-level qualification at another provider because the original provider has succeeded in preparing them for more advanced study.

R13.6

The Tertiary Education Commission should change the way it measures completions so that provider performance is not penalised if a student transfers to continue learning at a different provider or moves into work.

TEC has since indicated that it intends to start work on this in 2017 (sub. DR167). This work will be an important step in improving the meaningfulness of EPIs.

Imperfect information should not delay action

The Commission recommends that government collect and develop increasingly reliable and relevant performance data, including measures of value add. However, it should not delay action due to minor imperfections in the available data or performance measures. Measures of teaching quality, student outcomes and provider performance will always be imperfect. Any feasible measure will be imprecise, incomplete and potentially misleading.

These conditions suit those who favour the status quo. They can argue to delay the release of new information (“it is unreliable and could mislead”), to delay action until better information is available, and to remove or blunt financial incentives (“they will create unexpected consequences”). All such arguments are familiar to those in the tertiary education system and other areas of public policy.

Information is crucial to drive and coordinate any large, complex system, but its imperfections create three challenges.

- **Measurement approaches need continuous improvement.** Information collection, management and assessment tools are improving all the time. There is plenty of knowledge about the shortcomings of existing measures, which can feed into the next round of improvements. The Commission notes TEC’s work in 2016 to improve the quality of its Qualification Completion Rate and Retention Rate performance indicators (Chapter 5), and its proposed work in 2017 to further improve the Qualification Completion Rate indicator, discussed above.
- **Information should be cross-checked rather than used in isolation.** Decision-making should not be overly reliant on any one measure. Broad consistency across a range of measures offers a more reliable basis for decision-making. Similarly, linking financial incentives to a basket of measures, rather than just one or two measures, reduces the chance of perverse incentives.
- **The imperfections of current measures are not a valid reason to delay change.** It can seem risky and potentially costly to make changes based on imperfect information, and it is often tempting to wait for a future time when information will be better. However, the information on which the current system is based is also imperfect, and maintaining the status quo is neither risk-free nor costless. The relevant question in determining whether to act is not “will better information be available later?”, but “is acting now better than maintaining the status quo?”

Providers should collect and make greater use of administrative data

It is not only government that can make smarter use of the data it collects to gauge progress and inform action – providers can do this as well. The use of data analytics to trigger academic and pastoral interventions, and to drive predictive analysis about when support is needed, seems a particularly promising

innovation. Data analytics can facilitate personalised learning and support for students, whether on a campus or studying online. As described in Chapter 11, Nottingham Trent and Swinburne Universities and the UK Open University all demonstrate the potential of this technology to improve student engagement and outcomes. Georgia State University shows that these approaches can be particularly effective in helping low income, black, Hispanic and first-in-family students.

Learner analytics provide an innovative way to put learners at the centre of the system once they are already engaged in tertiary education. The report itself highlights the emerging use of learner analytics in some overseas institutions, with compelling stories about improved outcomes. There is great promise for learner analytics to help New Zealand's TEOs better tailor their provision to their students. The TEC suggests that the Productivity Commission consider what it might take to nudge TEOs to take up learner analytics. While it would be possible for Government to require their usage, this may not achieve the best result. (TEC, sub. DR167, p. 3)

The emergence of big data systems that can make sense of the huge volumes of intelligence, much of which was previously inaccessible, can be used to mine information about the dimensions, competencies, and aspirations of future learning cohorts, as well as about the changing economic and social contexts. There will be no reason why providers cannot be ready with tailored responses to what each individual will need even before they enrol. (WelTec & Whitireia, sub. DR134, p. 13)

The *Blueprint for Education System Stewardship* (SSC, Treasury & DPMC, 2016) says:

Information and data analytics: the same technology that will automate many work activities and disrupt traditional educational models can be used to improve our understanding of the needs of individual learners and what will work best to meet those needs, whether digitally provided or not. It will also enhance our ability to inform and engage learners and their parents and whānau in their education; to better predict the likely outcomes of different interventions aimed at improving educational achievement and the outcomes that are expected to flow from that achievement; to better target and tailor assistance and provide that sooner when early intervention is most effective to address the underlying risk factors that frustrate educational achievement; and to assess the value that different providers add along the learner's journey. Delivering these benefits will require investment in information capture, analysis and communication. (p. 19)

New Zealand would be well placed to do more in this area of data analytics, because of its relatively sophisticated data collection and integration systems, and because providers in New Zealand appear to be ahead of some international counterparts in terms of data collection and student management systems. This is one response to the problem of Māori and Pasifika students' lower levels of progression and completion (see Chapter 9). There are, however, significant issues around privacy and security of data to be considered. There is also a need to progress with caution, to ensure students respond positively rather than negatively to information about their own performance (Sundorph & Mosseri-Marlio, 2016).

Ako Aotearoa is funding a research project that will, amongst other objectives:

- identify the learning analytics data currently available through common learning management systems and other sources;
- design frameworks, resources and models for integrating learning analytics data into learning design;
- develop workshops for tertiary teachers and learning designers on extracting and using learning analytics data; and
- develop policy recommendations to promote the use of learning analytics data in teaching and learning design (Ako Aotearoa, n.d.).

Tertiary providers should be collecting their own data on how effective their teaching is, both in the short term (ie, how effective their teaching is in enabling students to successfully complete courses) and in the long term (ie, how well they are preparing students for life after study). Some of this information is likely to be best collected by providers themselves – other information may rely on external sources such as data collected by the Inland Revenue Department or Statistics New Zealand. Providers should be exploring data and learning analytics now. Other recommendations in this report, such as the introduction of performance-based pricing (Chapter 15), will incentivise providers to explore data and learning analytics.

NZQA is reviewing the indicators that it uses to assess providers' self-assessment capability. NZQA should take this opportunity to consider how providers' use of their own data to inform teaching and learning support could be encouraged.

R13.7

The New Zealand Qualifications Authority (NZQA) is reviewing the indicators that it uses to assess providers' self-assessment capability within the External Evaluation and Review process. As part of this review, NZQA should introduce measures (as is appropriate for a provider's context) that encourage providers to expand their use of data and learning analytics to better inform their teaching and student support.

13.4 Improving labour market signalling

Predicting labour force needs

Accurately predicting the types of skills needed in the future workforce is very difficult. For example, Richardson and Tan (2007) found the projections of the most widely used model for skills forecasting in Australia diverged substantially from the actual outcomes for a number of occupations over a nine-year period.

Norton (2009) gives an example of how the Australian government got it wrong for a workforce for which it should be relatively easy to forecast supply and demand (Box 13.3).

Box 13.3 Predicting the needs of the medical workforce in Australia

In the 1990s, the Australian government decreased the number of Commonwealth-funded places for medical students, because it (wrongly) believed that it was funding more places than were required to meet the population's medical needs.

Australian graduations from medical schools went into a slump from which they only recovered in the mid-2000s, after government officials realised around the turn of the century that a major error had been made. If it had not been for significant migration of doctors to Australia, the decision to reduce medical student numbers could have had catastrophic consequences for the health of many Australians. (Norton, 2009, p. 23)

This situation emerged despite the fact that drivers of demand for medical skills are relatively well understood.

It is worth noting too that predicting the medical workforce needs is relatively—and that 'relatively' should be stressed—easy. Demand for medical services is not highly sensitive to fluctuating local business conditions. Demographic factors known to affect demand for medical services, such as population ageing, are known well in advance. Most people with medical qualifications work as medical practitioners. Yet the Commonwealth's attempt to manage this workforce went spectacularly wrong. (Norton, 2009, p. 23)

Chapter 15 explains that, even when a skill shortage can be accurately predicted, it does not follow that a tertiary education response is warranted. Government needs to be cautious about intervening in students' tertiary decision making based on forecasts of future labour market demand. It also needs to be mindful of how its interventions (including informational interventions) could distort labour market signals to prospective students.

Labour market signalling

Salary levels for different occupations reflect supply and demand for particular sets of skills. To the extent that these levels (or their relative positions) are stable over time, they inform students about the likely financial returns to different courses of study, and help to adjust the supply of skills to meet demand. While

individuals study for diverse reasons, Chapter 3 found that many students were acutely concerned with whether their study would lead to well-remunerated employment.

Signals from the labour market are diluted or distorted in various ways. For example, family and friends can offer students well-intentioned but misleading advice based on their own career experiences. Government and providers can also distort the signals, such as promoting education in “sciences, technology, engineering, and mathematics” (STEM) as if they were a single field, without clearly signalling the very different demand for – and returns to – the different sub-disciplines.⁹⁹

Employers complain about a lack of skilled graduates in particular fields (Chapter 3). However, students may well be making rational decisions if wages are persistently low or conditions poor in these fields. Wage pressure comes with useful incentives for firms to improve productivity through innovation.

Chapter 15 discusses what kinds of signals government should – and should not – respond to in seeking to match tertiary supply to labour market demand. In addition, government should publish information about student study choices (including NCEA subject choices) to help providers and industry understand the “skills pipeline”, and adjust their signals to prospective students accordingly.

R13.8

To help providers and industry understand and respond to the likely future supply of skills, government should publish information about students’ study choices (including at school).

13.5 Protecting the interests of students

Improved staircasing and articulation

Some students will make choices that, over time, turn out less than ideal for them. Students can find themselves in a course not well matched to their abilities or preferences – either because their more preferred courses were unavailable; or because they have learnt more about the subject area, the suitability of their provider, or about themselves during their study. They may also need to move location because of a change in their personal circumstances.

For these reasons, students may want to leave or transfer away from their current course or provider. The current system makes it hard for students to do this. Students bear high costs from making initial mistakes or from changing their mind.

The Open Polytechnic of New Zealand submitted that:

A truly learner-centred tertiary education system should easily enable learners to move and transfer credit between providers and sectors and, should it best meet their needs, access courses from multiple providers to achieve a final qualification. Neither learners nor providers should face barriers or penalties in this process...

Free movement of students and credit transfer is an immediate step towards a more integrated, networked tertiary system. (sub. DR174, p. 6)

Clearly signposted pathways for students to study across providers would create more options for students. For example, a student studying a Diploma of Engineering at an institute of technology and polytechnic (ITP) might want to switch after two years to a Bachelor of Engineering (Hons) at a university. It would be ideal if they could do so knowing (and having known from first enrolling at the ITP) how much of their study would be credited towards a university degree.

Such pathways require two or more providers to enter into an articulation (or staircasing) agreement, to and publicise the agreement. Articulation agreements are a standard mechanism to provide transparency to

⁹⁹ Careers NZ’s “Compare Study Options” tool shows that, two years after graduation, an employed graduate with a computer science degree is likely to earn about \$9 000 a year more than an employed graduate with a biological sciences degree. The respective employment rates are 75% and 37%. Differences can be large even within the sciences: an employed graduate with an earth sciences degree can expect to earn \$10 000 a year more, two years post-study, than an employed graduate with a degree in physics and astronomy (Careers NZ, n.d.).

students about how providers accept transfers and recognise each other's credits. The agreements help to make a provider-centred system that students find easier to navigate and that delivers lower "switching costs" (Chapter 8). Few such agreements are in place in New Zealand, and the Commission understands they are becoming increasingly rare.

There is a range of barriers to the development of articulation agreements that would support such a system.

- *Epistemological barriers.* Skills and knowledge taught in different institutions may be qualitatively different in a way that would make it inappropriate to transfer credit (UNZ, sub. DR119). Furthermore, if tertiary education institutions (TEOs) are expected to develop more diverse offerings for students, it may become more difficult to identify common requirements of qualifications and decrease opportunities for credit transfer (ie, there is a tension between the goal of promoting horizontal differentiation between tertiary providers, and of improving credit transfer arrangements).
- *Funding barriers.* TEOs have several financial incentives to resist articulation. Articulation agreements themselves are typically time-consuming to negotiate. Students who transfer in require more support, both in the short term (due to the more complex admissions process) and in the long term (due to different and possibly greater needs of students moving from other institutions) (Howieson & Raffe, 2013). Students who transfer out cause institutions to be penalised due to TEC funding calculations. Institutions therefore have little incentive to spend time and money negotiating agreements that are likely only to increase their costs – particularly if they are able to fill their equivalent full-time student (EFTS) quota without attracting transferring students.
- *Political barriers.* Epistemological and other barriers may be exaggerated by TEOs in order to defend particular institutional interests. This can easily stymie effective articulation agreements – as even in systems with national frameworks (such as in Scotland, discussed below), most decision-making is made by providers, frequently in an opaque manner. As a result, successful articulation systems are highly reliant on institutions' support. Participants in the Scottish model of articulation agreements have commented that its limited success has been due to "the support of powerful stakeholders" (Raffe, 2011, p. 16).
- *Structural barriers.* TEOs may design articulation agreements in order to allow students to transfer along well-designed pathways in a continuous, seamless process – such as transferring from an ITP to university in the same field of study. This does not cater to students who transfer to different programmes at the same level, or change to a lower level of study (Harris, Rainey & Sumner, 2006).
- *Student barriers.* Systems with excellent articulation opportunities can only function well if students are able to use them easily, preferably with the ability to estimate or guarantee credit transfer in advance. Information may be presented in overly bureaucratic and technical formats (such as calendars) that students struggle to access, or that only provide general policy statements without realistic assessments of what credit will transfer. In New Zealand, the small number of existing articulation agreements are sparsely promoted and clear information on credit transfer is uncommon (Kirkwood, 2016).

Submitters made a number of suggestions to facilitate articulation agreements between providers.

National credit transfer frameworks

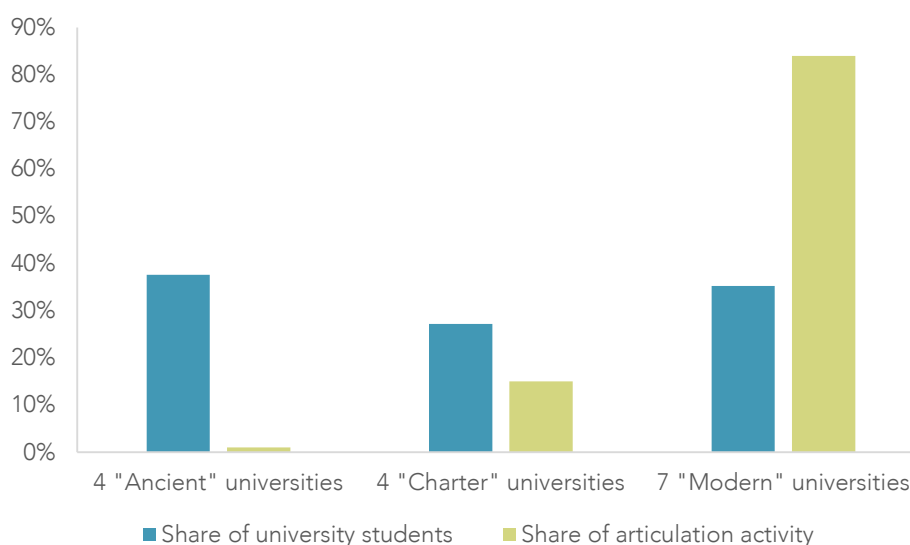
Several submitters advocated for the introduction of a national framework of credit transfer, influenced by overseas models such as the UK's credit accumulation and transfer scheme (CATS) (Shephard, sub. DR125, p. 2), and Scotland's model of articulation hubs (NZUSA, sub. DR139 p. 12). However, the results of most of these policies have been disappointing. Centrally coordinated transfer schemes rarely work as well for learners as they do on paper, and are readily undermined where providers, for a range of reasons, lack incentives to make them work.

Scotland's system of articulation hubs and credit transfer has been identified as world leading (Howieson & Raffe, 2013). Over time, the number of articulating and transferring students has increased (Scottish Funding Council, 2016). However, there are reasons for caution. The design of articulation "hubs" means articulation

has improved mostly in expected pathways (eg, ITP to university transfer in the same region), rather than providing flexibility to deal with the myriad personal and academic reasons why individuals may wish to switch providers or programmes of study.

Furthermore, the system does not seem to provide articulation to Scotland's more established universities. The oldest and most prestigious universities have around 38% of all university students, but only 1% of students who articulate do so to these universities (Figure 13.1).

Figure 13.1 Share of articulation activity in Scottish universities, by age of institution



Source: Scottish Funding Council, 2016

Notes:

1. Universities in Scotland are commonly classified into the four "ancient" universities established in the 15th and 16th centuries (St Andrews, Glasgow, Aberdeen and Edinburgh), four "charter" universities established between 1796 and 1967 (Strathclyde, Heriot-Watt, Dundee and Stirling), and seven "modern" universities established from 1992.
2. Scottish students enrolled in the UK-wide Open University are excluded from the analysis.

Raffe (2011) said of the Scottish credit transfer framework (the SCQF):

Far from seeking to shift power from supply to demand and to end the 'provider capture' of learning, the SCQF was led by education providers, or at least the most powerful ones, and it was designed not to challenge existing power relationships. (p. 6)

In the United Kingdom (other than Scotland), the CATS framework has generated lower transfer rates than expected and "students generally remain locked into the institution they first chose" (Department for Business, Innovation and Skills, 2016, p. 5). The UK Department for Business, Innovation and Skills is doing more research to understand this.

A majority of American states have statewide articulation agreements that establish a common set of core courses for qualifications, such as a BA or BSci, in order to facilitate transfer between community colleges and four-year universities. Again, many of these programmes have had mediocre results. Research commissioned by the College Board (2012) found students who lived in states with statewide articulation agreements were slightly *less* likely to transfer. Transfer staff and student advisors interviewed described these agreements as unwieldy and confusing, and preferred institution-specific articulation agreements.

F13.1

By itself, a national framework for credit transfer is unlikely to lead to widespread good practice in credit transfer. The incentives faced by individual providers are still the dominant considerations.

Incentivise articulation via funding changes

Specific funding incentives are a common feature of overseas jurisdictions with higher transfer rates. In addition to encouraging TEOs to participate in agreements they may be resistant to for various reasons, funding incentives may help defray the real costs of transferring students. TEC (sub. DR167) suggested that funding and regulation might need to more actively encourage providers to support credit transfer, and that “explicit incentives on TEOs may be needed to bring about sustained change” (p. 2). A number of possible options for TEC to incentivise articulation are available.

- **Funding TEOs to engage in specific articulation agreements that TEC wants to encourage.** This is a policy TEC is currently exploring (TEC, sub. DR167).
- **Measuring participation in transfer agreements or transfer rates as part of a performance-based funding regime.** This is a relatively common incentive used in the United States, particularly for community colleges but sometimes for universities as well (National Council of State Legislatures, 2015). Institutions may be required to certify to the funding body they have participated in five articulation agreements in order to achieve high performance. This is functionally similar to TEC specifically purchasing articulation agreements, but the institutions themselves choose the participants and nature of the agreements, rather than TEC.
- **Funding additional EFTS specifically for articulating students to encourage institutions to compete for these students.** This policy exists in Scotland, which funds 1 118 EFTS for transferring students (or 0.96% of all students). Ideally, this policy would encourage institutions to compete for transferring students, but it would require TEC to determine the desired number of transfers in advance.

Increase provision of information to students

In order for students to make use of credit transfer schemes, it is essential they are able to find information about what credit will transfer. For example, Ontario students may use ontransfer.ca to develop a list of pathway options based upon their course of study. New Zealand providers have poor information and tools to help students understand opportunities for credit transfer compared to overseas markets. Kirkwood (2016) found:

Overall, with some pockets of exception, students’ ease of access to university credit recognition information and guidance varies significantly and could be seen to sit poorly alongside the government’s *Information for Learners* priorities. (pp. 8–9)

Clearer subsector division of labour?

Several universities (University of Auckland, sub. DR118; Victoria University of Wellington (VUW), sub. DR166) advocated for a clearer division of TEOs (universities, ITPs, ITOs, wānanga and private training establishments (PTEs)) into tiers of education. VUW submitted greater stratification would reduce competition for students and make articulation agreements more attractive, and that “the New Zealand system requires stronger, more distinct relationships between different types of providers to enable clearer pathways and the staircasing of qualifications” (sub. DR166, p. 1). Indeed, this was a strong theme in communication from many in the university subsector. For the reasons discussed in Chapter 11 about the strength of institutional isomorphism in the university subsector, the Commission does not support this approach.

Conclusion – improving credit transfer arrangements

Given the inherent incentives on providers to restrict credit transfer, the lack of transparency around policies and processes, and the information and power imbalances between students and providers, policy actions to improve credit transfer should be based upon:

- setting expectations on the quality and accessibility of TEO transfer policies;
- incentivising TEOs to create articulation agreements with each other, and publicising these pathways; and
- addressing the information and power imbalance that exists between students and providers.

NZQA submitted that improvements to credit transfer required the cooperation of providers, as well as changes to redress the student-provider power imbalance.

NZQA acknowledges that sector support and TEO ownership is needed to increase the uptake of CRT [credit recognition and transfer] and RPL [recognition of prior learning] but considers that some agency led initiatives may be needed to support more significant change. Such interventions could include funding incentive mechanisms or providing students with recourse to an appeal mechanism for decisions made by TEOs. (sub. DR161, p. 3)

Existing NZQA guidance about credit transfer is old and weak – and it has a work programme to improve the guidance that provides an opportunity for improvement. The existing guidance requires providers to have policies to enable credit transfer and recognition of prior learning, yet NZQA has found having policies does not mean those policies are followed. Even where providers have good policies, individual schools within a provider may be less accommodating.

Kirkwood (2016), while reviewing credit transfer in New Zealand (with a particular focus on universities), notes that information is the foundation for an effective transfer system, and makes recommendations at institution, sector and national levels:

Institution level (individual universities)

1. The provision of clearer and more consistent information for students, with applications for credit and RPL proactively sought in a timely fashion as a coherent part of online admissions processes.
2. Greater numbers of articulation agreements between universities and ITPs, between universities and PTEs, and between universities and Wānanga detailing clear staircasing paths for students.
3. Access to credit decision evidence at an institutional level (rather than being retained within departments and schools) and in standardised categories to support annual and longitudinal data analysis including tracking of incoming/transfer student outcomes. [Links to 4]

Sector level (universities, collectively)

4. Consistency around outcomes-focused data definition, collection and dissemination to provide greater capacity for data analysis as a sector and to support credit recognition decision-making for individuals. [Links to 3]
5. Consultation about whether a national web presence, perhaps facilitated through UNZ/CUAP, would be beneficial to provide students with a university sector-wide view of credit policies, opportunities and outcomes.

National level (with government and other providers)

6. A goal-driven national pathways policy which outlines the adoption of common nomenclature and minimum standards for both formal and informal credit application to different qualification levels, allowing for individual negotiations that vary from this standard, with a necessary focus on ensuring the integrity of qualifications.
7. Discussions about how incentives for credit recognition, including recognition of the costs of transitional support, might feature in a revised funding model.
8. Discussions about whether a national body to promote and support credit recognition across tertiary education would be beneficial. (p. 23)

The Commission considers this provides a good foundation for improving credit transfer arrangements in New Zealand. When NZQA revises its guidance, it should seek to make progress in these areas.

A number of submitters noted a tension between the goals of promoting provider differentiation and promoting credit transfer. This reinforces the importance of providers entering into articulation agreements voluntarily, of clear and accessible information for students, and the need for providers' policies to be fairly applied and clear.

R13.9

New Zealand Qualifications Authority is revising its guidance on credit transfer. New guidance should set expectations that providers:

- have credit transfer policies and practices, at both the institutional level and (where appropriate) sub-institutional levels, that support student mobility and minimise repeated learning;
- integrate enrolment and credit transfer application processes;
- make available information to students about transfer processes in an accessible, clear and consistent way; and
- use terms consistently and collect data about transfer applications and outcomes of students who have transferred to support data analysis at a provider and system level.

Decisions to enter into articulation agreements are taken by providers, and individual credit recognition decisions are taken inside providers. Improving transfer arrangements will be most effective where there is buy-in and commitment from providers. Other recommendations in this report (such as better measuring student progress, and changes to Performance-Linked Funding) will remove some penalties to providers where students transfer. However, these are unlikely to be sufficient to generate agreed pathways for students between providers.

To overcome the systematic pressures against credit transfer, TEC should fund providers to develop articulation agreements along standard and expected pathways, and publicise those routes through an online credit transfer database/guide.

R13.10

The Tertiary Education Commission should selectively fund providers to enter into specific articulation agreements where it wishes to promote articulation, or where there is evidence of student or employer demand for articulation.

R13.11

Government should create an online register of articulation agreements and transfer opportunities on a course-by-course basis. Government should integrate this into the consolidated information source referred to in Recommendation 13.1.

Not all student transfers will align with articulation agreements. Students wishing to transfer between providers are stuck with whatever credits the destination provider is willing to offer for courses completed at the source provider, if indeed the destination provider accepts their enrolment. Such offers are non-transparent and, the Commission understands, often ungenerous.

Students know little about credit transfer, and may not apply where they have prior learning that could receive credit and thereby not repeat learning. Should they apply, they have little, if any, recourse if they receive a poor offer. To address the power and information imbalances between providers and students, and improve the bargaining power of students in such situations, the Commission recommends establishing a dispute resolution mechanism to resolve disputes about transfer offers. This mechanism should also have a function promoting credit transfer and articulation agreements, and reviewing providers' policies and practices against revised NZQA guidance. This service should not be costly for students and would be binding on providers. In its draft report, the Commission referred to this as a "student ombudsman".

There is a Government Centre for Dispute Resolution (GCDR) within MBIE that has expertise in designing dispute resolution mechanisms. Officials from the Ministry of Education and NZQA should work with the GCDR to develop a mechanism to achieve those goals, and should also consider opportunities to consolidate other dispute resolution mechanisms in the tertiary education sector (as in the case of the Office of the Independent Adjudicator in the United Kingdom).

R13.12

The Ministry of Education and the New Zealand Qualifications Authority should work with the Government Centre for Dispute Resolution to develop a dispute resolution mechanism for:

- resolving disputes between students and providers about credit transfer and recognition;
- raising awareness of articulation agreements, transfer pathways and credit recognition; and
- reviewing or auditing providers' credit transfer policies and practices.

In doing so, officials should consider opportunities to consolidate other dispute resolution mechanisms in the tertiary education sector.

Recognition of credits can be a problem not only when students transfer between providers, but also between faculties at a single provider. Even where providers have appropriate organisation-wide statements about credit transfer, individual schools may have less accommodating policies. Students should also have recourse to support in these situations.

Market regulation

Customers run the risk of being over-charged and under-served when transacting in any market. These risks are higher when customers are less well-informed than suppliers. Customers can also be under-served when suppliers have a degree of market power – they are able to be choosy about which customers they deal with and how they treat them. Students face these risks in New Zealand's tertiary education market (Chapter 3; Chapter 8). Failing to recognise credits from other institutions is another example of the exercise of market power (Box 13.4).

Market power can arise from many sources, such as exclusive rights to intellectual property, or the ability to capture economies of scale. It can also arise from government regulations. For example, licensing regulations designed to protect consumers from poor quality suppliers confer a degree of market power on suppliers who do have licences.

While having market power is not illegal, it can harm competition and may be used for anti-competitive purposes. This can result in higher prices, poorer quality products, less choice, and not as much innovation as would otherwise occur.

Some businesses have substantial market power. This in itself is not illegal. But, when a business has a substantial degree of market power and takes advantage of that power for an anti-competitive purpose, competition can be harmed. Competition delivers lower prices, better quality, more choice and greater innovation to New Zealand consumers. (Commerce Commission, n.d.)

Government, therefore, has an important role in regulating markets. The amount and type of market regulation varies with the characteristics of the market and the consequent risks for consumers (NZPC, 2014b). Regulation can include measures to inform and protect consumers, controls to limit the accumulation of market power, controls over-pricing and other market behaviour, and sanctions for anti-competitive behaviour.

Tertiary education regulation does the opposite of what it does in other parts of the economy

In New Zealand's tertiary education system, providers' market power derives mainly from government's regulatory and funding policy settings. Extensive licensing controls confer market power on incumbent providers. Government allocates the majority of public funding to public providers. Government also effectively controls entry into the tertiary education market through its regulatory decisions and funding allocations.

A cartel involves arrangements that reduce the competition between competitors, offering them increased market power. Examples include price fixing, the restriction of outputs, the allocation of customers, suppliers or territories, and bid rigging. Such arrangements are generally unlawful in New Zealand, unless authorised under the Commerce Act 1986 or other legislation.

For example, the Education Act 1989 gives protected status to universities and polytechnics, effectively gives cartel-like powers to the New Zealand Vice-Chancellors Committee, and protects ITPs from competition from their neighbours.

F13.2

Market regulation typically includes measures to inform and protect consumers, limit the accumulation of market power, control over-pricing, and sanction the abuse of market power. Yet in tertiary education, government regulations grant local monopolies and create cartel-like structures.

Additionally, the Commission has observed cartel-like activity that appears to go beyond that specifically exempted in the Education Act 1989. (Box 13.4).

Box 13.4 Limiting credit transfer for law students

The University of Auckland (UoA) submitted that universities' decisions about credit transfer were "based entirely on academic rather than financial grounds" (sub. DR118, p. 12).

In 2017, a larger than usual number of students at UoA law school wished to take courses from another provider.

It is understood there has been significant interest from Auckland law students looking to cross-credit part of their studies to AUT [Auckland University of Technology].

"No one has ever done that before because no one has ever wanted to go to AUT over Auckland to do a law paper," an Auckland University staff member says. (Walls, 2017).

The Commission heard that the UoA law school had ceased cross-crediting courses from AUT law school. At least some of UoA's students were aggrieved at this change. The Commission sought clarification from UoA, which replied that policy had recently changed:

The conditions under which approval for credit transfer will be given was discussed at a meeting of the New Zealand law deans on 3 November 2016 with a view to all six law schools facilitating credit transfer by applying the same criteria. Notwithstanding the fact that each law school offers a cohesive programme of study, the deans agreed that credit transfer would be given

1. if the host law school was satisfied this would assist a student's course of study (e.g. if no course in this area was offered by the student's law school); or
2. if the law school was satisfied there were compelling personal/family reasons for the student taking a course at another law school (e.g. an ill relative in his/her home city); and
3. if there was reciprocity between the law schools involved. (UoA, pers. comm., 20 January 2017)

Students benefit if they can "mix and match", that is, take courses from other universities and credit them at their host institution. The agreement between New Zealand law deans would appear to allow students to expand their study into topics not taught at their host institution, but not to choose substitute courses taught at other institutions, and so limits course level competition.

Chapter 14 contains recommendations that, if implemented, would reduce the market power of incumbent providers.

Non-transparency

Government's regulatory and purchasing decisions determine the extent and distribution of incumbents' market power, but not always in a transparent way. Resource allocation based on non-transparent processes, operating by informal rules, tends to reward the politically powerful and those with resources to devote to lobbying. Even with good processes, however, agencies making such allocations run the risk of "regulatory capture", in which special interests that are the target of regulation succeed in influencing decisions in their own favour (Stigler, 1971). This makes the independence of regulators, and their ability to make principled decisions that reflect the wider interests of society, crucial.

Chapter 14 recommends an increased role for the Commerce Commission. Chapter 16 recommends an improved distinction of the roles of tertiary education agencies, and transferring Crown ownership monitoring of tertiary education institutions to Treasury.

Balancing quality regulation and market regulation

Licensing controls are necessary to ensure acceptable levels of quality. However, it is desirable that quality controls are balanced by other measures that limit the market power of incumbents to protect the interests of students and encourage innovation. Providers with market power have weak incentives to innovate, and any innovation that does occur is more likely to sustain existing business models. Any limits on the entry of new providers restrict the opportunities for truly disruptive innovation.

Chapter 14 recommends removing regulatory barriers to new entrant providers. This is a necessary, but not sufficient, step to supporting such entry. Chapter 15 recommends additional measures to allow a new entrant to get a "foot in the door" by offering courses that attract student loans, even if the courses are not purchased by TEC.

Improving the transparency of subsidies

The current tertiary education system hides costs from students. Most students are unaware of how much subsidy they receive, the costs their choices impose on others (Baxter, 2012) or, for that matter, the taxes they will need to pay in future to educate other students under these arrangements.

Prices, costs and who is paying would be more transparent if every student received an invoice for government-subsidised education. The invoice should explicitly show the full cost of their study, and government's contribution.

Submitters, including students, generally supported this recommendation; for example:

NZUSA supports this idea. We believe that the removal of the student from the financial transaction creates a disconnect. Currently at some institutions if a student applies for a student loan to pay for fees, they do not receive an invoice and are only able to find financial records under their student management site where grades are also stored. (NZUSA, sub. DR139, p. 21)

To increase transparency about prices, costs and who is paying, we support recommendation R12.32. (New Zealand Medical Association, sub. DR117, p. 3)

Ako Aotearoa disagreed:

We do not see any reasoned rationale for Recommendation 12.32. An invoice for learners that includes government funding will in no way encourage innovation, in no way support learner decision-making or outcomes, and in no way lead to better-quality education practices. The only basis for this recommendation appears to be an ideological view that public complaints about the cost of tertiary education are unjustified, and that learners should be discouraged from arguing for increased public funding of the system. (sub. DR157, p. 15–16)

The University of Otago uses other opportunities to make students and parents aware of government subsidies:

While we fully appreciate the sentiment behind this, there are arguably more effective ways of informing students about the taxpayer's contribution to their education. For example, our Vice-Chancellor always makes a point of stressing this when she addresses our incoming class of 3500 students every year and she makes this point in her presentations to parents during recruitment and at Orientation.

Financial matters of this sort are not always at the forefront of students' minds, especially if they are accessing the Student Loan Scheme (where StudyLink pays the institution directly), or their parents are paying for their education. (University of Otago, sub. DR130, p. 16)

TEU pointed out that it is taxpayers, not government, that subsidises education:

The TEU has some reservations about this recommendation. In showing the full cost of education and training being undertaken, students should also be provided with the context under which education is funded – that is, noting the social gains (public good) that are obtained from a well-educated society. Otherwise this recommendation reinforces the erroneous belief that education is a pure transaction (in much the same way that one might purchase an item of clothing). We also note that it is not the government's contribution to education that subsidises an individual's study, but rather society through the taxation system. (sub. DR132, p. 19)

Students should know how much society is contributing to fund their education.

R13.13

Every student should receive an invoice from their provider for government-subsidised education. This should explicitly show the full price of education, and taxpayers' contribution, alongside the fee payable.

13.6 Information is necessary, but not sufficient for a better system

Good information is foundational to other good things happening, but it is only useful insofar as it can and will be acted on. That is, information is necessary, but not sufficient for a better system. New Zealand also needs a tertiary education system that actually can and will respond to informed funders and would-be students. This is the subject of the next two chapters.

14 Regulation that permits new models

Key points

- Low quality standards or insufficient quality assurance increase the risk of students getting a raw deal. But heavy handed or overly prescriptive settings can constrain innovation and limit providers to specified models. This limits choices available to students and can serve to frustrate innovation and the development of new models of teaching and learning.
- The New Zealand Qualifications Authority (NZQA) should define acceptable standards and monitor provider performance against those standards. Providers that fail to meet acceptable standards should face meaningful consequences such as loss of their licence to operate or appointment of a Crown manager.
- All providers should be able to apply to NZQA for self-accrediting status. Self-accreditation should be restricted to providers with a track record of strong performance and robust internal quality assurance. Self-accrediting providers would be exempt from NZQA processes such as programme approval and accreditation, qualification monitoring, and External Evaluation and Review. Universities should be grandparented self-accrediting status, and the statutory provisions relating to the New Zealand Vice-Chancellors Committee in the Education Act 1989 should be repealed.
- The availability of self-accreditation for high performing providers raises the stakes associated with quality assurance. It places a premium on processes that are robust, credible and based on accurate information.
- Incentives for providers to invest in teaching quality are weak and, in universities, research performance is much more important for academic career success than teaching performance. Introducing processes to assess and reward teaching performance, relaxing statutory requirements that degrees are taught mainly by people engaged in research, and changes to the Performance-Based Research Fund would help to address this imbalance.
- Funding mechanisms (set by the Minister for Tertiary Education, Skills and Employment, and implemented by the Tertiary Education Commission) include tight specifications regarding how funding is allocated, and what can be delivered. Some of these specifications, particularly requirements that students be enrolled in a full qualification, restrictions on the delivery of short qualifications, and restrictions on higher-level industry training, should be removed or relaxed.
- New Zealand's population is increasingly diverse; however, current regulatory settings limit provider diversity. This limits the ability of students to find a tertiary provider that is well-matched to their needs.
- Government should treat financially competent tertiary education institutions (TEIs) as autonomous entities. Such TEIs would no longer need to seek approval to acquire or dispose of assets, or to borrow money. In exchange, they would lose the government guarantee of their creditors.
- Disruptive innovation is often more likely to come from new entrants than established providers. But potential new entrants to the New Zealand tertiary education market face both regulatory and funding barriers. The Ministry of Education should systematically identify and remove regulatory barriers to new entrants in the tertiary education system, subject to quality standards.
- Government should approve for New Zealand those providers and courses approved in jurisdictions with which NZQA has mutual recognition agreements, or in other jurisdictions where the New Zealand government is satisfied with the quality assurance arrangements.

This chapter sets out the Commission’s recommendations to improve the regulatory settings for the tertiary education system, so providers have greater freedom to innovate and adopt new models. Section 14.1 sets out changes to the quality assurance system to enable providers to innovate, while still providing assurance that students receive a quality education. Section 14.2 sets out recommendations to incentivise tertiary providers to dedicate greater resources toward teaching quality. Section 14.3 recommends changes to regulations contained in current funding mechanisms. The chapter concludes (section 14.4) by recommending changes to regulatory settings to facilitate more diversity among providers.

14.1 Quality assurance

It is difficult for a student to evaluate the quality of their education prior to participating in it (ie, it is an experience good), or even after the education is completed (ie, a credence good). Provider claims are easily made and difficult to verify. Education is co-produced, and so requires an investment of time and energy from the student beyond the financial price paid. This creates high risks for students. An effective quality control regime can reduce, but not eliminate, these risks.

Low quality standards or insufficient quality assurance increase the risk of students getting a raw deal. But heavy handed or overly prescriptive quality assurance settings also present problems. Such settings can create high compliance costs for providers and divert resources away from teaching and learning. Prescriptive settings may help to avoid certain types of harm, but can constrain innovation and limit providers to specified models. This limits choices available to students and can serve to frustrate innovation and the development of new models of teaching and learning.

The quality assurance regime for New Zealand tertiary education is described in Chapter 5. In summary:

- NZQA is responsible for quality assurance in the non-university subsectors. It regulates the entry of new providers (through a registration process), quality assures programmes and qualifications, and conducts a regular External Evaluation and Review (EER) of all providers.
- TEC monitors the performance and delivery of the organisations it funds. Where provider delivery or performance deviates from commitments agreed in Investment Plans, TEC can recover funding. TEC’s approach to allocating funding often seeks to direct more volume toward certain providers, and hence can be seen as a form of quality assurance. TEC also administers the Performance-Linked Funding system – where providers may be penalised up to 5% of their funding if they fall below a certain performance threshold based on their scores across four Educational Performance Indicators (EPIs).
- Universities New Zealand (the operating name for the New Zealand Vice-Chancellors Committee (NZVCC)) is responsible for quality assurance in the university subsector. The Committee on University Academic Programmes (CUAP – established by NZVCC) approves qualifications and undertakes moderation processes across universities, and the Academic Quality Agency for New Zealand Universities (AQA) undertakes regular institutional audits of universities and promotes quality enhancement processes.

The following section sets out the Commission’s recommendations regarding NZQA’s role in the system.

TEC’s role in monitoring the quality of purchased provision is considered in more detail in Chapter 15. TEC should maximise **value for money** from public investment in tertiary education by purchasing NZQA-approved educational products, and incentivising and rewarding providers’ relative performance above the benchmark of acceptability set by NZQA.

NZQA’s role in the quality assurance system

The Commission believes that the quality assurance system for the tertiary education system should perform three main functions:

- ensuring all providers meet acceptable standards;
- risk-based monitoring of providers to confirm they do not breach acceptable standards; and

- ensuring providers have in place processes to assess and improve performance for their learners.

NZQA's existing range of ex ante controls, ex post monitoring, and the self-assessment component of the EER process provide the broad framework to fulfil these requirements. However, some adjustments to these tools and their use could enable the system greater flexibility to innovate and adopt new models without generating undue risk for students.

Acceptable standards

A quality control regime must first recognise that different people can reasonably hold different views about what constitutes "high quality" tertiary education. A very good education for some students might be barely adequate for others or even damaging for some. The "match" matters to the quality of the experience and to the outcome.

This points toward a quality control regime that enforces **acceptable standards** that matter for quality regardless of participants' needs and preferences, rather than regulating aspects of delivery where quality is in the eye of the beholder or is readily detectable. One example of an acceptable standard might be delivering content consistent with the qualification's level on the New Zealand Qualifications Framework.

F14.1

Good regulation recognises that different people can reasonably hold different views about what constitutes "high quality" tertiary education. Regulation should focus on enforcing acceptable standards that matter for quality regardless of students' needs and preferences.

NZQA submitted that it has processes in place to address minimum standards, but noted there is opportunity to develop these processes further:

Minimum standards are addressed by focusing on assessing outcomes for learners in the context of learner and stakeholder needs, and the organisation's capability in self-assessment as a means of understanding and improving its performance. There is an opportunity to undertake more work on specifying minimum standards. (NZQA, sub. DR161, p. 4)

Under current arrangements, TEC also seeks to ensure acceptable standards of educational through the Performance-Linked Funding system (described in Chapter 5). Chapter 15 notes that Performance-Linked Funding provides an insufficient sanction for sub-standard performance, and recommends it be discontinued in its current form.

Instead, responsibility for communicating what constitutes an acceptable standard of educational performance should sit exclusively with NZQA. These standards, and the tools used to measure them, should be clearly communicated and providers that fail to meet acceptable standards should face meaningful consequences such as the loss or their licence to operate.

In some cases it may be impractical to revoke a provider's licence to operate – for example, where the poor performing provider was of a scale that meant its students could not be accommodated at a suitable alternative provider. In this scenario alternative consequences would be appropriate. One inquiry participant, representing a metropolitan institute of technology and polytechnic (ITP), voiced support for a higher trust environment with severe consequences for breaking that trust. The appointment of a Crown manager would be an appropriate intervention in such circumstances.

R14.1

The New Zealand Qualifications Authority should define acceptable standards and monitor provider performance against those standards. The standards should be clear and any changes publicised well in advance. Providers that fail to meet acceptable standards should face meaningful consequences such as loss of their licence to operate or appointment of a Crown manager.

Streamline some ex ante controls

Like most regulatory regimes, NZQA relies on a mix of ex ante controls and ex post monitoring to ensure that all tertiary providers meet an acceptable standard. Ex ante controls include the registration process for new providers and programme approval processes.

Ex ante controls form an important safeguard in ensuring that providers meet an acceptable standard. For example, Quality Tertiary Institutions (QTI) raised concerns about the potential for providers who have closed as a result of poor performance to re-establish after a short period of time as a nominally different organisation, with a slightly different leadership team (sub. DR156). NZQA's registration process for new private training establishments (PTEs) includes a "fit and proper persons" test designed to prevent this from occurring. The test requires governing members of a PTE to disclose any previous experience in the provision of education services, including whether the person was a governing member of a registered PTE that was closed, sold due to insolvency, or taken over.

While ex ante controls such as the fit and proper person test perform important functions, inquiry participants raised concerns about some processes. In particular, the timeframes involved in the programme approval process, requirements to seek NZQA approval for minor changes to programmes, and the composition of review panels used for degree-level programme approval.

Programme approval timeframes

Maximum timeframes for subdegree programme approvals are currently 55 working days (or 30 days for providers with a Category One rating based on their most recent EER). For degree-level programmes, the maximum timeframe is 130 working days.

Several inquiry participants raised concerns about NZQA approval processes, noting that streamlining "is vital to encourage innovation and responsiveness, in a timely and affordable manner" (QTI, sub. DR156, p. 13). It is possible that some of the concerns raised about timeliness of approval processes relate to applications that were lodged prior to recent process improvements. NZQA noted that, for most of 2016, the average timeframe for standard approvals has been much shorter than its targets.

For most of 2016, turnaround time for standard approval and accreditation applications has been an average of 3 weeks (against a commitment of 11 weeks). This is due in part to simplifying requirements in the application process and clarifying guidelines. NZQA will continue to look for opportunities to refine and improve turnaround times and to set new targets to determine the minimum baseline information required to enable the tertiary education system to be confident of quality and detect risk. (NZQA, sub. DR161, p. 4)

The Commission supports this approach and NZQA's commitment to continuous improvement.

Changes to programme delivery location

Inquiry participants also raised concerns about requirements to seek approval from NZQA for changes in the physical location of programme delivery. One participant noted that this requirement applied when changing floors within the same building. Such a requirement appears superfluous, particularly given that many education programmes now rely more heavily on digital resources than physical resources.

NZQA's existing programme approval process (Chapter 5) allows providers to make relatively minor changes that do not affect learning outcomes ("type one" changes) without having to obtain NZQA approval. It appears that NZQA treats a change to delivery site as a "type two" change, which requires NZQA approval. NZQA should update its programme approval policies to enable some changes to delivery location (such as changing floors within the same building) to be treated as a "type one" change. Changes to the delivery site that materially alter the programme from the perspective of students should remain a "type two" change.

Composition of panel reviews

NZQA normally establishes a panel with nine or 10 members to review applications for approval of degree-level programmes. By contrast, it does not establish a panel to review applications for approval of programmes below degree level. This distinction appears arbitrary. For example, a panel review would have been required to gain approval of a three-year Bachelor of Applied Management (level 7). Yet a panel review

would not have been required for the approval of a two-year Diploma in Business Studies (level 6), even though courses in this qualification can be cross-credited toward a Bachelor of Applied Management.¹⁰⁰

According to NZQA guidelines, such panels normally include “two university academics, chosen from four nominees (from New Zealand or overseas) from the area of specialisation appertaining to the application”, and “one senior academic, chosen from two nominees, from a similar institution with accreditation to award a degree in a similar subject area” (NZQA, 2014b, p. 32). NZQA informed the Commission that academic panel members are selected based on their expertise, and will not always include two academics from the university subsector. If three academics from external providers are required to conduct an effective panel review, then selection should be made without reference to subsector. NZQA should update its guidelines to clarify this.

NZQA submitted that it is currently undertaking a review of its guidelines for degree approvals

In relation to degree panels and the distinction made between degree-level programmes and those below degree, NZQA is currently undertaking a review of degree guidelines. The review will consider the timeframes, requirements for approval and ongoing monitoring of degrees and the role, purpose, and size of panels. (NZQA, sub. DR161, p. 4)

As part of this review, NZQA should clarify when and why a panel review is required. Panels should be the minimum size and skills composition necessary for quality control. The results of this review should be published and communicated to the sector.

R14.2

The New Zealand Qualifications Authority (NZQA) should continue to review programme approval processes and other ex ante controls, with a view to reducing timeframes and removing any unnecessary requirements. In particular, NZQA should:

- set a target for the median timeframe for programme approvals;
- update policies to permit providers to change the location of delivery without prior approval, where those changes do not materially alter the programme from the perspective of students; and
- clarify when and why panel reviews are required, and ensure that the specified panel composition is the minimum size and skills composition necessary for quality control.

Strengthen the EER process and other ex post monitoring

In moving to a system that seeks to encourage greater innovation, regulators should rely less on detailed input controls, as the specification of inputs stymies new models that use inputs differently. Ex post monitoring will become more important.

One of NZQA’s main ex post monitoring tools is the EER process. EERs are conducted at least once every four years, and providers are rated on a four-point scale according to their educational performance and their self-assessment capability. Providers that perform well on these metrics are reviewed less-frequently and benefit from some streamlined processes. Inadequately performing providers are subject to more regular reviews, and in some cases face specific sanctions – the most severe of which is a loss of registration.

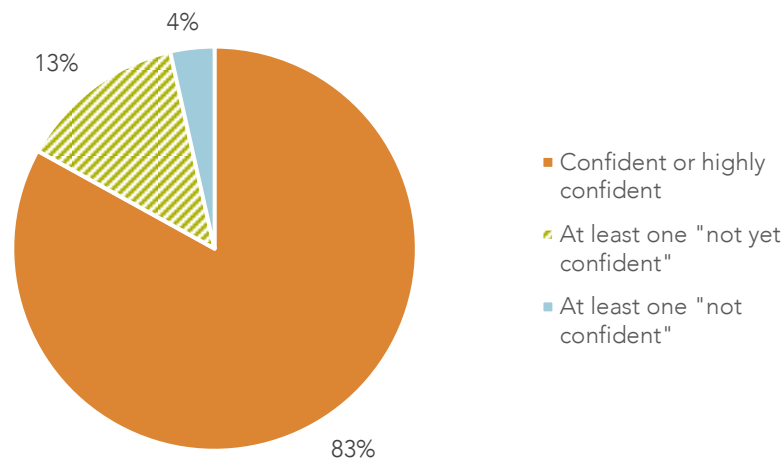
Some inquiry participants raised concerns that the EER process sometimes fails to detect and deal with poor performing providers, and the presence of these providers tarnishes the reputation of New Zealand’s tertiary education system:

[T]here are constant Government and public concerns about the PTE sector due to a small number of poor performers. These poorer institutions can stay in business through exploiting a number of loopholes in the system. NZQA does an increasingly creditable job of weeding out these poorer performers, but it is still a slow process and needs to be tightened up. (ITI, sub. 81, p. 10)

¹⁰⁰ Current course offerings at the Wellington Institute of Technology (WelTec) provided the basis for this example.

EER data supplied by NZQA show that the proportion of providers with unsatisfactory performance is small (Figure 14.1).

Figure 14.1 TEO performance in EERs, 2014–16



Source: NZQA.

Notes:

1. Some providers had multiple EERs in this period; their worst performance is shown.

Most providers who receive poor EER ratings either improve in subsequent reviews or exit the system. (Exit may occur because they wind up voluntarily, are bought out by another provider, or are deregistered by NZQA.) EER results from 2010–16 show only four providers maintained unsatisfactory status across three or more consecutive reviews. However, in one instance, a provider had five consecutive unsatisfactory reviews before being deregistered in September 2016 (NZQA, 2016d). This case is an outlier; providers that receive very critical EERs typically do not languish on low ratings more than twice.

As noted above, NZQA should be responsible for setting and monitoring compliance with acceptable standards of educational performance. Where the EER process shows that a provider has clearly failed to meet those standards, they should face meaningful consequences. However, in addition to increasing the punitive measures associated with poor EERs, there is also scope for NZQA to increase the rewards associated with consistently strong EER results.

Competent providers should self-accredit

As described in Chapter 6, there are over 500 providers in the tertiary education system, ranging from small providers delivering to a small cohort of students in a single location, to large providers offering a diverse range of programmes to students throughout the country. This presents a major challenge in ensuring that all delivery meets acceptable standards.

A common complaint from inquiry participants was that quality control effort, in most cases, does not differentiate between providers depending on their track record. As a result, providers felt that regulatory checks and balances were spread across all providers, rather than concentrated where there is the most risk or where they would have the most effect. Indeed the submission from the Ministry of Education and the Ministry of Business, Innovation and Employment noted that constraints on innovation have been layered onto the tertiary education system over time in response to various cases of poor quality or reporting:

In addressing barriers to entry for new providers and innovative models of delivery, the government needs to consider how best to ensure quality, protect the interests of students, and ensure value for money. Many of the current constraints have developed over time as the government has responded to cases where there has been rapid growth in poor quality provision, or where innovative models have focussed more on maximising government funding rather than maximising student outcomes. (sub. DR162, p. 20)

The Commission's inquiry into *Regulatory institutions and practices* identified that risk-based regulation offers a mechanism to target resources toward those areas where risks are highest. Risk-based regulation focuses on identifying and assessing the risk of harm and on channelling resources to modify or reduce harm (NZPC, 2014a).

One way that NZQA could move toward a more risk-based approach would be to allow providers from any subsector to apply for self-accrediting status. Under a self-accreditation approach, providers with a strong history of performance would be exempt from various quality assurance processes, such as programme approval and accreditation, qualification monitoring and External Evaluation and Review processes.

A robust assessment of the provider's quality controls, along with a history of strong performance as measured through the EER process, would be a suitable basis for such status. Providers would periodically re-apply for self-accrediting status – for example, every five to 10 years. This would involve the provider demonstrating that they were continuing to meet required educational standards and assessing its own performance. NZQA should have powers to revoke self-accrediting status if it determines that the provider has breached expected standards. This may require NZQA having powers to undertake "spot checks" or periodic audits of provider practices to monitor compliance.

The introduction of self-accreditation would free up NZQA resources that could be dedicated to higher-risk providers. Self-accreditation would open up opportunities for more diversity in quality assurance processes. Self-accrediting providers need not duplicate NZQA processes. Instead they could monitor their own performance using robust quality assurance processes. This could involve, for example, accreditation by international bodies or peer review. Self-accreditation would bring reputational benefits, and this, in conjunction with greater autonomy, would provide a strong incentive for providers to reach the standard necessary to gain self-accreditation.

NZQA should consider granting self-accrediting status to any ITP, wānanga or PTE with strong quality controls and a history of good performance against quality standards. As discussed below, existing New Zealand universities should gain automatically gain self-accrediting status for an initial cycle (R14.5).

Several inquiry participants supported the development of a self-accreditation process, but noted that access should be restricted to providers that have demonstrated high performance, and that accountability measures would be needed to ensure continued high performance:

The TEU supports this recommendation [that providers should be able to apply to NZQA for self-accrediting status]. However a detailed conversation needs to be held with the sector about how providers become a high-trust provider. Years of managerialism in the sector have undermined confidence and providers need to be supported to make this change. (TEU, sub. DR132, p. 11)

If there is any move towards self-accreditation, this should be tightly restricted to being a privilege that is difficult to obtain. It should always entail a robust and transparent process. (New Zealand Medical Association, sub. DR117, p. 4)

Offering self-accreditation to high-performing providers would be a positive signal of Government's confidence in their ability to self-manage and would support them to innovate. However, strong accountability tools would be needed to ensure that they continue to perform well. Changes would have to be designed to avoid a system whereby TEOs can offer qualifications that are of little or no value to learners. (TEC, sub. DR167, p. 4)

NZQA noted that the existing EER process could be extended to enable self-accreditation, and that it plans to work with the sector to identify the attributes of an effective approach:

NZQA's quality assurance framework already allows for TEOs to effectively demonstrate self-management of their own performance (through External Evaluation and Review in particular). An extension of this approach could be a stepping stone to enabling self-accrediting status for institutions. To this end NZQA proposes to work with the sector in the 2017 to further refine the attributes of effective self-assessment that would underpin higher levels of TEO autonomy. (sub. DR161, p. 2)

R14.3

All providers should be able to apply to the New Zealand Qualifications Authority for self-accrediting status. Self-accreditation should be restricted to providers with a track record of strong performance and robust internal quality assurance. Self-accrediting providers would be exempt from NZQA processes such as programme approval and accreditation, qualification monitoring, and External Evaluation and Review.

Self-accreditation puts a premium on robust assessment processes

The availability of self-accreditation for high performing providers (and the enforcement of more stringent penalties for providers that fail to meet acceptable standards) raises the stakes associated with EERs and other assessment processes. This makes it particularly important that quality assurance processes are robust, credible and based on accurate information.

F14.2

Self-accreditation for high performing providers would raise the stakes associated with quality assurance and place a premium on processes that are robust, credible and based on accurate information.

In particular, it is important that the processes underpinning self-accreditation are based on reliable data, and that NZQA has powers to intervene if it has reason to believe that standards have slipped.

Reliable and relevant provider performance data

Inquiry participants noted that EER assessments tend to rely heavily on EPIs. NZQA noted that although quality assurance focuses on a range of outcomes, “TEOs often have very limited information beyond the Tertiary Education Commission EPIs which report course completions and retentions rather than longer term individual, social or economic benefits” (sub. DR161, p. 4).

To the extent that EPIs form an important part of EER and other quality assurance processes, it is important that their flaws are addressed, so they are more informative about provider quality. Chapter 13 sets out recommendations to improve EPIs, so they

- are adjusted to account for prior student achievement;
- do not penalise providers as a consequence of students choosing to mix and match courses from different providers; and
- do not present a barrier to collaboration between different providers.

NZQA should contribute to this work to ensure that EPIs are fit for quality assurance processes, as well as for informing funding decisions.

R14.4

Because the New Zealand Qualifications Authority uses Educational Performance Indicators (EPIs) as part of their quality assurance processes, they should work with the Tertiary Education Commission to ensure that EPIs are robust and fit for use as part of the quality assurance framework.

Risk-based monitoring

Granting self-accrediting status to providers with a strong track record of performance may free up NZQA resources that could be dedicated to monitoring higher-risk providers. But, irrespective of whether a provider has been granted self-accreditation status, it is important NZQA monitors based on risk and responds to complaints or other evidence of poor behaviour.

NZQA acknowledged the need to develop more proactive management of risks, and noted that increasing availability of data analytics will help to facilitate this:

NZQA's experience is that simultaneously it must further bolster systems for identification and proactive management of risk that harms student learning. This is facilitated by the increasing availability of data analytics. The management of risk will require more frequent and robust use of assessment evidence as a window into education performance, and sophisticated data analysis and modelling to identify risk factors. To this end, a new NZQA TEO Performance Register is currently under development. (sub. DR161, p. 2)

Self-assessment is an important part of the quality assurance framework

Many inquiry participants raised concerns about the enforcement of acceptable standards. Most of these concerns stem from an interpretation that the quality assurance system should *only* be comprised of acceptable standards. Several submitters noted that quality assurance over and above some form of minimum is essential in protecting New Zealand's international education reputation:

Setting minimum standards may of course minimise the chances of the above average or extraordinary. (Tarling, sub. DR107, p. 3)

Massey University challenges the finding that regulation should focus on enforcing minimum standards for tertiary education, as minimum standards could result in minima that are too light. In a highly competitive international context, New Zealand cannot afford to focus solely on maintaining a minimum performance, but must be constantly striving for the best performance from the limited investment we have available ... New Zealand's reputation as a provider of quality higher education could be put at risk if there is a focus on minimum standards... (Massey University, sub. DR143, pp. 6–7)

A 'minimum standards' approach as suggested would inevitably open up the market to low-quality provision, and potentially inflict lasting damage on the international reputation of our tertiary sector. One only needs to look at the latest batch of PTE failures (which are said to have cost the taxpayer more than \$11 million) and the recent case of IANZ to appreciate the risks of this approach. (University of Otago, sub. DR130, p. 2)

We find minimum standards to be problematic. Our work in implementing minimum standards under the RTA this year has shown that minimum standards can be a very low bar to step over. (NZUSA, sub. DR139, p. 15)

Under NZQA's existing quality assurance system, providers are responsible for using self-assessment to understand their performance and to improve quality and the outcomes they achieve for their learners. Providers' capability in self-assessment is one of the key metrics assessed by NZQA through the EER process.

Self-assessment focuses on:

- identifying, responding to and meeting learner and stakeholder needs
- evaluating the effectiveness of organisational processes and practices
- using the understanding gained to make real, worthwhile improvements to outcomes and learner achievement. (NZQA, 2016)

Ako Aotearoa strongly supported NZQA's current model of internal self-assessment, noting that it represents

...an example of innovative, world-leading practice in its own right, but also represents an example of a process designed to balance the tensions between consistency and flexibility (sub. DR157, p. 9)

The self-assessment aspects of the quality assurance system should be retained as a mechanism to ensure providers have processes in place to evaluate their own performance and to identify improvements for learners and other stakeholders. The funding approach recommended in Chapter 15 proposes further measures to incentivise performance above acceptable standards.

F14.3

Self-assessment in External Evaluation and Review processes is an important part of the quality assurance framework. It provides a mechanism by which providers can focus on improving performance in the context in which they operate.

Quality assurance in the university subsector

Universities New Zealand is responsible for quality assurance in the university subsector. CUAP approves qualifications and undertakes moderation processes across universities, and AQA undertakes regular institutional audits of universities and promotes quality enhancement processes.

This regime is outdated and unsatisfactory on many grounds, including that:

- through the CUAP process, universities receive early notice of other providers' intentions and this reduces the potential returns to innovation;
- the audit process conducted by AQA focuses primarily on process rather than the quality of delivery or outcomes achieved;
- the collective nature of quality control increases the risk that universities will internalise their conception of good quality, equating it with their current practice (Chapter 11);
- providers could effectively exercise veto over other providers' innovations – and although approval rates are high, the risk of veto (or substantial modification) is likely to deter applications that depart from accepted practice; and
- the statutory arrangements take no advantage of external accreditation options, including international accreditation bodies (though some providers pursue these voluntarily).

Chapter 5 outlines the Commission's assessment of CUAP, along with the views of inquiry participants.

Self-accreditation

The Commission believes tertiary providers who have demonstrated a history of strong performance should be eligible to become self-accrediting (R14.3). Unless there is any compelling reason to the contrary, New Zealand's universities should be granted this status.

Some submitters suggested that replacing CUAP and AQA processes with a self-accreditation system would result in the loss of valuable efficiencies:

In suggesting that universities, and others, should become individually (rather than collectively as presently) self-accrediting, the PC appears not to acknowledge that universities would still need to undertake peer-review processes; and that the efficiencies (as well as other benefits) of the CUAP process would be lost. (AQA, sub. DR126, p. 3)

If universities were to become self-accrediting ... each institution might simply embed, and thus replicate, the processes of quality assurance currently occurring via CUAP. This would be inefficient and costly not just to each university, but to the entire sector, running the risk of introducing less not more efficiency, and arguably could make the entire system less responsive to market trends and innovation. (Massey University, sub. DR143, p. 7).

Universities pointed to the value they perceive in peer review processes:

Any system that might replace CUAP and/or AQA must recognise the centrality of discipline-based peer review to quality assurance. (VUW, sub. DR166, p.3)

If there are significant efficiencies to be gained through collective approval processes then these could be organised between universities on a voluntary basis. But legislative architecture such as CUAP is not necessary to achieve this. Universities should, can, and do use peer review panels without a legislative requirement to do so. Indeed, the University of Auckland submitted:

Significantly, the Commission has not considered the academic unit and programme reviews conducted by NZ universities. These reviews, conducted on a regular basis, provide evaluation of teaching and research by panels which include a range of senior academics from leading international universities. Recent review panels at the University have included senior professors from UCLA (2016), Princeton University (2016), University College London (2016), University of California (Berkeley) (2015, 2016), University of Essex (2015), University of Glasgow (2014), as well as staff from Go8 universities in Australia. (sub. DR118, p. 6)

Universities have defended the idea that integrated research is central to the conception of a university. Yet they seem diffident about the idea that a university should also be characterised by autonomy about what it teaches. This would be surprising to their international peers. Granting universities self-accrediting status is consistent with preserving and enhancing their academic freedom and autonomy.

R14.5

New Zealand universities should initially be grandparented self-accrediting status. After an initial cycle of the self-accreditation process (5 to 10 years) they should be required to demonstrate that they were meeting the standards of a self-accrediting provider.

The New Zealand Vice-Chancellors Committee

In order to establish a framework where competent providers have self-accrediting status, the Commission recommends repealing the statutory provisions that relate to the Vice-Chancellors Committee in the Education Act 1989. Powers of accreditation currently granted to the Vice-Chancellors Committee, and exercised by the Committee through CUAP and AQA, should be held by individual, self-accrediting universities.

For self-accrediting providers, collective quality control arrangements such as CUAP and AQA, and cross-institutional collaboration of programme development, would be voluntary and subject to the relevant provisions of the Commerce Act 1986. The exercise of veto powers would likely be unlawful.

Some submitters strongly objected to this proposal; for example:

The Commerce Act 1986 is focussed on the concept of a market and the provision of goods and services within that market, with a purpose to “promote competition in markets.” Removing the NZVCC (and therefore CUAP) would do just that, it would promote direct competition within the sector.

The proposition that the statutory provisions relating to the Vice-Chancellors Committee in the Education Act 1989 should be repealed reveals a potential ignorance or wilful negation of the vital place that an independent university sector plays within democratic societies. Reducing tertiary education to a competitive, commercially-oriented set of activities driven and oriented entirely towards meeting the needs of the market would not necessarily provide better quality education or outcomes. This could result in a lack of (or no) required cross-institution collaboration on course development, as all universities could become so concerned with their own survival against other providers. The current collegial environment could be destroyed. This applies not just at the university level but could affect collaboration of research which would be detrimental to New Zealand society.

There is no conclusive evidence that Universities New Zealand and the CUAP process are failing in what is required of them and no reason to place universities under the same umbrella as other tertiary institutions, given the unique position of universities in our society. The existing systems are always able to be amended to improve processes without adding another layer of oversight onto the existing that might simply increase compliance for little or no gain. (Massey University, sub. DR143, p. 17)

Hodder, on the other hand, agreed conditionally with the Commission’s assessment of CUAP, and with the recommendation to repealing the statutory provisions that relate to the Vice-Chancellors Committee in the context of self-accrediting universities:

I agree conditionally: [the Vice-Chancellors Committee] has failed to deliver an appropriately responsive programme approval process through CUAP, and the input-based academic audit approach used by AQA is outmoded. (Hodder, sub. DR132, p. 3)

In the Commission’s judgement, the case for self-accreditation is strong. It should be paired with the repeal the statutory provisions relating to the Vice-Chancellors Committee in the Education Act 1989.

New Zealand’s universities are already subject to the provisions of the Commerce Act 1986, except as explicitly excluded by the provisions of other Acts. This has presumably not undermined the “vital place that an independent university sector plays within democratic societies” to date. The purpose of the Commerce Act 1986 is to “promote competition in markets for the long-term benefit of consumers within New Zealand” (s 1A).

The long-term benefit of consumers (including students) within New Zealand is a worthwhile societal objective. Should the role or actions of universities conflict with that objective, it is appropriate that such conflicts are identified and resolved.

R14.6

Government should introduce legislation to repeal the statutory provisions relating to the Vice-Chancellors Committee in the Education Act 1989. Cross-institution collaboration on course development and quality control for self-accrediting providers should be voluntary and subject to the normal provisions of the Commerce Act 1986.

In addition to its quality assurance role, NZVCC has several other statutory functions that may need to transfer to another body. These include:

- **Administering scholarships.** This responsibility could transfer to NZQA, which could choose to manage the service in-house, or outsource it to a (non-statutory) university peak body if a suitable one existed. Alternatively, this role could be transferred to another organisation such as the Royal Society of New Zealand, which is already responsible for administering some scholarships and academic awards.
- **Responding to requests from universities to consider enrolment applications from foreign students.** The Commission sees no need for statutory support for this process.
- **Advising NZQA on University Entrance standards.** The Commission recommends abolishing University Entrance (R13.3). Were it retained, NZQA should be required to consult with the universities (rather than the Vice-Chancellors Committee).

The Education Act 1989 requires NZQA to consult with the Vice-Chancellors Committee on various other matters. It would be straightforward to reword the relevant sections to require NZQA to consult with the universities instead of the Vice-Chancellors Committee.

14.2 Quality of teaching

Students devote substantial energy and resources to co-producing their tertiary education. They deserve professional, competent educators. However, tertiary teachers are often not qualified as educators (Chapter 6); and incentives for providers to invest in teaching quality are weak (Chapter 8). In universities in particular, research performance is much more important for academic career success than teaching performance (Chapter 6).

The United Kingdom and Australia are both working on frameworks of standards for tertiary teaching, aiming to provide a means of assessing and rewarding performance for academics who want to pursue teaching rather than research as their primary career goal (HEA Academy, 2011; Ako Aotearoa, 2016). Ako Aotearoa and NZITP & Metro Group (2012) undertook a similar project for vocational educators. Ako Aotearoa also hosted Professor Denise Chalmers (a National Senior Teaching Fellow of the Office of Learning and Teaching, Australia) in 2016 to discuss a similar project under way in Australia in higher education (Ako Aotearoa, 2016). The Commission recommends providers develop and adopt frameworks of standards for tertiary teaching, suitable for New Zealand's tertiary education system. The development of these frameworks should incorporate evidence about effective teaching of Māori and Pasifika students in tertiary settings.

R14.7

Providers should develop and adopt frameworks of standards for tertiary teaching, suitable for New Zealand's tertiary education system, for assessing and rewarding the capability and performance of tertiary teachers.

Relax the statutory requirements for research-led teaching

In contrast to Australia, the United Kingdom and the United States, non-university providers in New Zealand are unable to offer degrees in fields of study where they do not undertake research. The Education Act 1989 requires that degrees at these providers can only be awarded where they are “taught mainly by people engaged in research” (s 253B (3)(a)).

The legislation also states that, at a university, “research and teaching are closely interdependent and most of the teaching is done by people who are active in advancing knowledge” (s 162 (4)(a)(ii)). This is a statutory characterisation that applies at the whole-of-institution level, and leaves plenty of room for a university (should it choose to do so) to offer degree-level programmes that are not taught by research-active staff – provided these programmes do not constitute a majority of the university’s provision. This is significantly more permissive than the provisions of s 253B (3)(a), which apply at the level of every individual degree programme for which a provider seeks NZQA accreditation. The Commission proposes no change to the statutory characterisation of universities.

As described in Chapter 6, quantitative studies find little evidence of strong complementarities between teaching and research, and no single set of arrangements will be best for all students. The collective view of New Zealand universities is that the bundling of teaching and research is value-creating. If this is so, then universities will choose to bundle teaching and research across all their courses; and students will continue to value and seek out degrees where teaching and research are bundled.

Relaxing the statutory requirements of s 253B (3)(a), that all degree-level teaching at non-university providers must be taught mainly by people engaged in research, would allow these providers to chart different courses – as universities already can within their broad statutory characterisation. Some providers will continue to be research intensive across all their areas of educational delivery. Others will prefer to concentrate their research efforts in particular fields of study, while still delivering a broad range of research-informed degrees. This will promote specialisation of staff and institutions, differentiation between providers, and wider choices for students.

This legislative change will also clarify that providers may (for example) offer online degree-level programmes created by different kinds of experts working together (including academic staff, learning designers and software designers), and whose delivery is supported by tutors who are up to date with literature in the discipline but not themselves research-active. This sidesteps a possible issue in interpreting, in the current legislation, what it means for a programme to be “mainly taught by” someone in a technology-enabled learning environment.

R14.8

Government should introduce legislation to remove the statutory requirements of s 253B (3)(a) in the Education Act 1989 that every degree-level programme at a non-university provider must be taught mainly by people engaged in research.

Universities (collectively, and at the level of the individual academic) face other incentives to put most of their discretionary effort into research rather than teaching. These arise partly from reputational drivers (good research generates more prestige than good teaching), and partly from the Performance-Based Research Fund (PBRF), which effectively penalises universities that do not strive to maximise their PBRF-rewarded research activity (Chapter 6). The PBRF also enhances the reputational drivers by making particular measured aspects of research performance highly visible and comparable. There is currently no such mechanism for teaching quality, though R14.7 recommends these be developed. As a result, current system settings offer universities bigger relative rewards for investing in research as opposed to teaching – with direct consequences for the (lack of) diversity of teaching models on offer in the university system.

Government should consider what changes to the PBRF, and to other funding instruments¹⁰¹, are needed to address this imbalance and encourage greater diversity of models.

R14.9

Government should conduct a review to consider what changes to the Performance-Based Research Fund, and to other funding instruments, are needed to address the imbalance in tertiary education institutions' incentives to prioritise research as opposed to teaching.

Chapter 15 recommends that government design and implement a pricing mechanism to incentivise providers to continually improve their performance in adding value to students (R15.10).

14.3 Regulations specifying what can be funded

Chapter 5 describes the role that funding mechanisms play in the allocation of funding. In summary, the Minister for Tertiary Education, Skills and Employment periodically releases funding mechanisms that identify the general form and essential components of different funds. TEC is responsible for developing the operational policy and practices needed to implement the mechanism.

The Commission has found that funding mechanisms tend to contain prescriptive specifications and, as a consequence, TEC has relatively little discretion in the way it allocates funding. Chapter 15 recommends significant changes to the way that TEC allocates funding, including having greater flexibility to use price to respond to supply mismatches. In addition to this broader change, there are some specific clauses in current funding mechanisms that unnecessarily stifle innovation.

Remove funding constraints that stifle innovation

Some of the specifications on course and qualification design and funding eligibility in the current system are difficult to justify. These include rules that prevent providers from receiving TEC funding for students who want to take a course but do not intend to pursue a qualification; and restrictions on the provision of short awards or micro-credentials (smaller packages of learning designed to meet particular learner needs).

The indirect intent behind these specifications appears to be to regulate low-quality provision. However, the specifications reflect a narrow view of what good quality provision looks like, and are at odds with a system that is intended to support lifelong learning. Their universal application reduces the ability of competent providers to adapt provision to match student and employer demand. They are not an effective way to manage quality, and government should remove them.

R14.10

Government should:

- extend funding eligibility to students who do not intend to pursue full qualifications; and
- remove specifications that limit the provision of short qualifications.

The funding mechanism for the Industry Training Fund states the purpose of the fund is to subsidise training, predominantly at levels 1 to 4 on the NZQF. TEC may allow industry training organisations to spend up to 10% of their industry training funding at level 5 and above (Chapter 4). There are no compelling reasons why provision should be restricted to levels 1 to 4. The restriction limits the ability of the industry training subsector to respond to demand for higher-level training, and inhibits the adoption of new models such as degree apprenticeships.

¹⁰¹ For example, the UK Government is developing a Teaching Excellence Framework to complement its existing Research Excellence Framework (a rough equivalent to the PBRF). Recommendation 14.7 of this report proposes that providers develop and adopt frameworks for measuring the quality of teaching; such frameworks could underpin a performance-based teaching fund in New Zealand.

R14.11

Government should remove limits on the use of industry training funding on training at levels 5 and above on the New Zealand Qualifications Framework.

14.4 Regulations that allow for more provider diversity

New Zealand students are diverse and becoming more so (Chapter 3). They are unlikely to be well-served by a system that lacks provider diversity. Current regulatory settings limit provider diversity. This section recommends regulatory changes that would allow and potentially encourage such diversity. Changes should be implemented in conjunction with the Commission's recommendations to improve quality assurance.

Reducing the market power that government has conferred on incumbent providers (Chapter 7) will help to make the system more flexible and open to new models. Below are proposals to reduce the market power conferred on incumbent TEIs.

In addition, improved arrangements for credit-recognition (Chapter 13) would reduce the market power of providers over students. Chapter 16 recommends changes to agency roles to avoid a conflict in the Ministry of Education's role as market regulator on the one hand, and manager of the Crown's ownership interest in TEIs on the other.

Financially competent TEIs should have more autonomy and responsibility

Various regulatory hurdles restrain providers from trialling or adopting new models. At minimum, providers are likely to need agreement or sign-off from quality-control (eg, NZQA, CUAP) and purchasing (eg, TEC) agencies. This report recommends relaxing these types of regulatory hurdles.

TEIs face additional hurdles. New models with significant financial implications, or that involve a change to the use or disposition of their assets, require additional approvals from TEC and the Ministry of Education (Chapter 5).

One reason government maintains tight control over TEIs is because government bears legal liability for their debts in the event of failure. TEC reinforced this observation:

With regards to **being responsible for debts**, all borrowing consent letters issued by the Secretary of Education under section 192 of the Education Act 1989 include a standard clause indicating that TEIs are responsible for the approved borrowing. Government only guarantees a TEI's debts in the event that it is disestablished. (sub. DR167, p. 6, original emphasis)

Government has reason to closely monitor the financial performance of TEIs, and, fearing the worst, keeps close control over TEIs' debts, and their use and disposal of assets. This control inhibits the kind of innovation that might radically change a TEI's business model.

Governments are unlikely to approve changes they regard as financially risky. Knowing this, TEIs may quash such proposals before they get far.

The Commission recommends that competent providers with adequate quality assurance systems become self-accrediting (R14.3). This removes a barrier to innovation by providers. NZQA would assess such competence.

Similarly, the Commission recommends that government should treat *financially* competent TEIs as autonomous entities.¹⁰² That is, they should receive increased autonomy *and* responsibility. Such TEIs would no longer need to seek approval to acquire or dispose of assets, or to borrow money. In exchange, they would lose the government guarantee of their creditors.

These changes would remove this further hurdle to innovation by TEIs – government's direct control over their assets and borrowing.

¹⁰² TEC collects sufficient information to support assessments of the financial competence of TEIs.

R14.12

To improve their ability to innovate, financially competent tertiary education institutions (TEIs) should own and control their assets, and be fully responsible for their own debts. Government should seek to amend the Education Act 1989 to:

- remove the requirement for financially competent TEIs to seek approval to acquire or dispose of assets, or to borrow money; and
- remove government's guarantee of the creditors of financially competent TEIs.

The current government responsibilities to students of a dissolved TEI should remain (as specified in the Education Act 1989). These are logically distinct from government's guarantee of a TEI's creditors.

While this recommendation would remove government's explicit guarantee of a TEI's creditors, arguably an implicit guarantee would remain. That is, government would come under pressure to rescue a TEI in trouble, for the sake of the TEI's students, staff, and potentially its regional economy and (if applicable) to maintain regional coverage. The strength of such implicit guarantees is unknown.¹⁰³ Creditors should do their own assessment of the financial viability of the TEI and the strength of implicit guarantees, and price their loans accordingly. This would improve the current situation in which creditors face no incentive to do such an assessment. Both government and TEIs gain from such independent monitoring.

Remove impediments to the efficient and innovative use of assets

TEIs have incentives to accumulate assets and to use them inefficiently (Chapter 8). This may create problems for the adoption of new models that are better suited to, for example, buildings in different locations or with different configurations.¹⁰⁴

The Commission's *Using land for housing* inquiry recommended that educational institutions pay full rates to local government (NZPC, 2015b).¹⁰⁵ Exempting TEIs from paying rates has no principled justification. It creates costs for others in the community, and offers a competitive advantage to TEIs over private education providers and other competing organisations. This inquiry's draft report repeated that recommendation.

The University of Auckland saw only costs in this proposal:

The claim that the Commission's recommendation that Tertiary Education Institutions (TEIs) contribute to their local communities by paying rates (R12.21) would encourage TEIs to use their assets (including land) more productively is unjustified. The Commission's claims about inefficient use of resources, including land are unfounded, and R12.21 would simply impose additional costs on universities without reaping the claimed benefits of increased productivity. Just about every square inch of the University of Auckland's land is utilized heavily and our teaching facilities are so heavily used that it is a challenge to undertake scheduled maintenance of teaching rooms over the summer period. (sub. 118, p. 7)

Exempting TEIs from paying rates is simply a transfer from local government to central government. The University of Otago's submission recognised this:

The University of Otago already pays rates to the Dunedin City Council – either in the form of utility rates, or full commercial rates (e.g. for our Executive Residence). Our total rates bill for 2016/2017 is \$2.1 million. We estimate that our rates bill would increase by \$4.7 million if the University had to pay full rates. We have no objection to this if Government is willing to cover the additional cost. (sub. DR130, p. 14)

Local governments, however, have no say in the matter. Their ratepayers – who bear a higher cost – may have different priorities.

The current exemption offers TEIs a competitive edge over competing organisations. A variety of organisations compete with TEIs in one market or another, including PTEs, student accommodations

¹⁰³ In the recent case of Solid Energy, the state-owned enterprise's creditors found that government did not guarantee its loans. Future TEI creditors may be wary, given this experience.

¹⁰⁴ The disposal process for Crown assets is subject to several Acts.

¹⁰⁵ TEIs do pay some local government charges; for example, they pay for water and sewerage.

providers, Crown Research Institutes, and independent research organisations. All else equal, efficient production rather than subsidies should determine which organisations survive and grow their market share.

TEIs vary widely in how productively they use their assets – the least productive TEIs use nearly 12 times the assets per EFTS delivered than the most productive.¹⁰⁶ This reflects, in part, the relative long-term profitability of TEIs – a history of financial surpluses necessarily boosts an institution’s net assets. However, the composition of an institution’s net assets reflects the relative holding costs of assets of different classes. An incentive structure that favours land and buildings over other asset classes encourages less efficient asset allocation, reducing the organisation’s overall efficiency.

Science New Zealand submitted that current financial arrangements, including the rates exemption, divert money away from better uses:

In particular, that the financial targets reward accumulation of assets, and do not favour efficient use of assets.

The inefficiencies also impact the wider economy:

- lead to higher costs to students and to other stakeholders (including the taxpayer);
- take money away from better uses in the wider economy;
- create privileged financial treatment with negative competition outcomes for other participants in the research system such as CRI or independent research organisations which pay rates, tax, generate capital and make a return on investment (as opposed to a surplus on revenue. (Science New Zealand, sub. DR176, p. 3)

R14.13

Tertiary education institutions (TEIs) should contribute directly to their local communities by paying full rates. This would remove a distortion that can contribute to inefficient use of assets and land by TEIs.

Remove the approvals process for ITPs that seek to deliver education outside their region

TEC expects ITPs to concentrate primarily on delivering education that meets the needs of students in their region. If an ITP wishes to deliver outside its own region, it must first seek TEC approval.¹⁰⁷ As part of the approval process, TEC requires the ITP to demonstrate a regional industry or community need for the proposed provision, and to engage with the incumbent ITP to determine that it does not have a similar offering.

These requirements give incumbent ITPs protection, dampen pressure to improve or increase efficiency, and restrict the spread of new models. If TEC believes there are good reasons for ensuring that certain types of tertiary provision are available in specific regions, then these expectations could be explicitly negotiated with the relevant ITP, rather than applying policies across the entire subsector. If the price for delivery in a given location is too low to cover delivery costs, then TEC should address this directly by raising the price in that location, in a way that is agnostic about provider type (Chapter 15).

R14.14

Institutes of technology and polytechnics should be able to deliver education at any location in New Zealand without pre-approval from the Tertiary Education Commission.

Lower barriers to entry by new providers – including offshore providers

While incumbent organisations may engage in disruptive innovation, it is more likely to come from new entrants (Chapter 11). Potential new entrants to the New Zealand tertiary education market face both

¹⁰⁶ This ratio is adjusted for the research-intensity of the TEI. Data for 2015. See Chapter 8.

¹⁰⁷ The Open Polytechnic can deliver online courses to students located anywhere in New Zealand.

regulatory and funding barriers (Chapter 5). This section recommends removing regulatory barriers, which is a necessary but not sufficient step towards allowing new entry. Chapter 15 explores funding barriers.

Universities New Zealand submitted that the three main threats to the New Zealand university system in the next 10 years are:

- Providers offering internationally recognised brand degrees in New Zealand (likely) – A multi-campus/multi-channel university with an internationally recognised and valued name (like Harvard or MIT) sets up a campus in New Zealand and starts offering its programmes and qualifications in New Zealand. The learning experience and graduate quality is at the same level as that of those who graduate from the parent institution...
- An aggregator sets up shop in New Zealand (possible) – The aggregation model is that currently being explored by the main MOOCs providers. Under this model, the aggregator bundles up courses offered by other typically highly respected brand name providers, and limits its role to running assessment centres and awarding qualifications...
- A successful transformation model actually emerges (possible, but not in the near future) – A model emerges that satisfies the requirements of (a) conferring education and degrees that are credible to students and employers, (b) does not require the sunk capital infrastructure of the campus environment, and (c) does not require extensive subsidising. This model does not currently exist (other than the aggregator model listed above). (sub. 17, pp. 84–85)

While these may be threats to the market share of incumbent universities, the successful introduction of these models into the New Zealand tertiary education system could be a boon for students, offering them greater choice and access to new programmes and modes of delivery.

The Commission recommends that the Ministry of Education systematically review regulatory barriers to new entry, with a view to their removal.

This should include barriers to providers or groups acting collaboratively. For example, the Tertiary Accord of New Zealand (TANZ) was established in 2000 as a collaboration between seven ITPs. TANZ submitted to the inquiry that it is difficult for providers to act collaboratively in the current system, and this may be preventing valuable new collaborations from arising. TANZ recommends government consider how to facilitate collaborative activity by providers, for example by “enabling Student Achievement Component (SAC) funding to go directly to collaborations and enabling collaborations to be directly accredited to deliver” (sub. DR116, p. 4).

Other inquiry participants also noted that the current system can make it difficult for providers to collaborate, and there would be value in more collaborative activity. For example, Ako Aotearoa (sub. DR157) indicated that more collaboration could improve the “strategic orientation” of the system (p. 7). Te Tapuae o Rehua (sub. DR146) called for mechanisms to support collaborations managed by iwi or community groups.

R14.15

The Ministry of Education should systematically identify and remove regulatory barriers to new entrants in the tertiary education system, subject to quality standards. This should include barriers to providers or groups acting collaboratively.

As part of this work, government should reduce restrictions on use of the terms “university”, “polytechnic”, “institute of technology”, and “college of education”. Under current legislation, a PTE wanting to use one of these terms must apply to the Minister for Tertiary Education, Skills and Employment for approval (see s 253C of the Education Act 1989), which is a *prima facie* barrier to new entrants.

The Education Act 1989 has no provision for a TEI that wishes to apply to use a term other than the one under which it was established (eg, an ITP or wānanga cannot apply to use the term “university”). This would likely prevent a joint venture between an ITP or wānanga and a reputable foreign university being able to apply to use the term “university”. There is no principled reason why PTEs can apply to use the terms, but other TEIs cannot.

The current policy gives significant weight to protecting the reputation of existing TEIs. Yet in other countries like Australia and the United Kingdom, where a broader range of institutions are able to use the term “university”, the status of reputable institutions is not undermined. Other sources of information about quality are available; in particular, widely recognised university ranking systems significantly reduce the potential for confusion.

There may be some risks in loosening up the “brand” associated with these terms, both by themselves and with the “New Zealand” prefix. However, these risks can be managed by a strong regulator making informed decisions in the long-term interests of consumers and New Zealand.¹⁰⁸

Ako Aotearoa (sub. DR157) took the view that “a good TEO should seek to attract learners based on the quality of its practices and outcomes for learners – including educational, cultural, and employability outcomes – not the words on its doorplate” (p.15). The Commission agrees with this view, and accordingly recommends that NZQA should grant or reject applications to use a term like “university” or “polytechnic”, “institute of technology” or “college of education”.

Section 162 (4) (b) of the Education Act 1989 includes a characterisation of different provider types. These statutory characteristics should form the basis of NZQA’s assessments, along with an assessment of whether students or the public are likely to be misled about the provider’s nature or quality. NZQA should recover the costs associated with reviewing applications.

R14.16

Any provider should be able to apply to the New Zealand Qualifications Authority (NZQA) to use the terms “university”, “polytechnic”, “institute of technology”, and “college of education”. NZQA should grant or reject such applications based on the provider’s characteristics and on whether students or the public are likely to be misled about the provider’s nature or quality. NZQA should recover the costs associated with reviewing applications.

In addition, wherever government is satisfied that other jurisdictions have good quality assurance arrangements, it should allow providers and courses approved for delivery in those jurisdictions to deliver in New Zealand. This should include all jurisdictions with which NZQA already has mutual recognition agreements.

This would enable a New Zealand provider to deliver a mining course approved in Australia. Similarly, an approved provider from a jurisdiction that satisfied NZQA criteria could establish a campus in New Zealand, or could deliver programmes in collaboration with an existing New Zealand provider.

Submitters had mixed views of this recommendation when it appeared in the inquiry’s draft report. QTI noted that international recognition between quality assurance bodies was complex (sub. DR156). Hodder submitted:

While this recommendation is superficially attractive, I have [concerns] ... that if implemented there may be inadequate safeguards against exploitation of students, and there are potentially serious implications for the reputation of the New Zealand ‘brand’ in tertiary education. I would prefer that overseas providers seeking to operate in New Zealand formed collaborative arrangements with New Zealand providers, as is already happening. (sub. DR142, p. 6)

NZQA appeared supportive of the recommendation, noting that it already has relevant work underway, but also that ongoing discussion is needed to understand opportunities and risks:

NZQA has been looking out towards other markets and countries so that New Zealand’s reputation is enhanced through the international relevance and acceptance of New Zealand’s qualifications. Our qualifications recognition work continues to reference New Zealand qualifications (and the qualifications framework) to those in other countries, enabling the migration of students and workers in an increasingly

¹⁰⁸ This is not unlike the situation that New Zealand faced with the deregulation of the banking industry in the 1980s. The potential gains from deregulation might not have been realised if quality was mis-represented to consumers through the use of the term “bank” by poor-quality providers. The term “New Zealand bank” by poor-quality providers could also have damaged the reputation of the New Zealand banking industry and its regulators.

borderless world. NZQA is actively expanding its international focus to continue to work with countries in Asia, the Middle East and the European Union.

As referencing work becomes more widespread and increasingly sophisticated, it is anticipated that the conditions for greater diversity of provision within New Zealand by overseas institutions may become stronger. NZQA encourages continued discussion across the education sector to understand the opportunities and risks of increased transnational – offshore and onshore – education opportunities. (sub. DR161, p. 5)

R14.17

The New Zealand Qualifications Authority (NZQA) should approve for New Zealand those providers and courses approved in jurisdictions with which NZQA has mutual recognition agreements, or in other jurisdictions where NZQA is satisfied with the quality assurance arrangements.

15 Purchasing to reward new models

Key points

- Under current funding settings, government prescription, rather than student demand, is the main driver of what providers offer. However fundamental reforms of the funding system such as funding students through an education account, or demand-driven funding, carry high risks.
- New Zealand's Student Loan Scheme (the Scheme) combines access to finance with a significant subsidy in the interest free component of the loan. The cost of the Scheme deters government from pursuing policies to expand access to tertiary education and creates a strong incentive for government to tightly control providers' tuition fees. The subsidy inherent in the interest free component is also highly regressive. Government should recover the costs of the Scheme through the introduction of interest on loans.
- Access to the Scheme is limited to students who are participating in quality-assured courses where TEC has agreed to fund some provision. Government should extend the Student Loan Scheme to allow students to borrow for tertiary courses that are NZQA-approved, but not subsidised by TEC. These loans should attract interest at a rate that covers the full cost to government.
- Fee regulation protects student interests but also constrains innovation. It limits the ability of providers to create new products with different price/quality trade-offs and to signal these differences to students. To encourage innovation while protecting access for low socioeconomic status (SES) students, TEIs should be permitted to set higher fees (within limits) for some of the courses they offer. Providers should be able to retain a small share of the extra revenue with the remainder split to fund lower fees for other courses and fee discounts for low-SES students.
- Funded volume needs to follow student demand so that students can exercise choice about what and where to study. TEC should move funded volume mechanistically between funded providers, in response to reliable signals about where providers have excess demand or excess supply. TEC should also move funds between provider-based and workplace-based training in response to student demand.
- There are reasons to be cautious about intervening in students' and providers' choices in an attempt to better match tertiary supply to labour market demand. Where genuinely problematic mismatches do occur, government should use price to address them, matching the pricing intervention carefully to the problem.
- Providers need incentives to deliver good outcomes for all the students they enrol, regardless of those students' starting positions and regardless of whether the provider wants to grow its enrolments. Current performance incentives, including Performance-Linked Funding, do not achieve this. Performance-Linked Funding should be discontinued, and TEC should instead implement a new performance-based pricing mechanism to reward providers for good performance in adding value to students.
- An important rationale for government's subsidy of tertiary education is to stimulate demand where it would not otherwise occur. Government should therefore reduce tuition subsidy rates over time to study with high private returns, as this activity would occur without government involvement.
- Providers should be able to use a proportion of their TEC funding each year to trial "experimental courses".

The recommendations set out in the preceding chapter go some way to freeing up the tertiary education system. But the more fundamental causes of system inertia, and the barriers to a system that is truly fit for purpose in a fast-changing society and economy, are baked into the system's architecture by the central allocation of funded places. For example, regulatory barriers to new entrants can be lowered, but a new provider's ability to operate is substantially constrained without an allocation of EFTS from government.

Government's investment in tertiary education, and the collective investment of students, do not flow to providers that are better at teaching, or more innovative, or offering what students want. Existing providers – especially TEIs – can rely with reasonable safety on being reallocated a similar volume of EFTS year after year, as long as their performance does not fall below minimum standards. Providers who can meet their quota by attracting younger, full time students to on-campus study have clear incentives to do so, because this traditional model is well-supported by the funding policy. Such providers have few incentives to innovate. Loosening the rules, and removing regulatory barriers to new products and providers, will not be enough on its own to create a system where providers are encouraged to innovate, including to meet latent demand.

Section 15.1 discusses the student educational account proposal presented in the inquiry's draft report. The Commission concludes that such a proposal has attractions for New Zealand, but the necessary preconditions are not in place.

The remainder of the chapter addresses changes to the existing system.

Section 15.2 recommends changes to the Student Loan Scheme (the Scheme) to enable the system to accommodate increased numbers of learners without incurring unacceptable costs to taxpayers.

Section 15.3 recommends extending eligibility for (interest-bearing) student loans to students on courses that do not attract TEC funding.

Section 15.4 recommends changes to government's approach to fee regulation.

The next two sections focus on SAC 3+, the single biggest fund for teaching and learning:

- section 15.5 recommends changes to the way that TEC allocates funded volume; and
- section 15.6 recommends changes to how prices are set.

Section 15.7 considers how then recommended changes to volume and price could apply to foundation funds and industry training.

Appendix B contains detailed design suggestions for each of the key changes recommended in this chapter.

15.1 The student education account proposal

The inquiry's draft report identified Government prescription, rather than student demand, as the main driver of what providers offer. The Commission identified that funding students, rather than providers, could make the system more student-centred (Box 15.1).

Box 15.1 The student education account proposal

The Commission's draft report floated the idea of a student education account as an alternative funding model for tertiary education. The approach would see a significant switch from funding tertiary providers, to funding students.

- On turning 16, every New Zealand citizen (and eligible residents) would receive an interest-bearing dollar-denominated entitlement, which they can spend on whatever (licensed) tertiary education courses they want, as long as a (licensed) provider was willing to enrol them.

- Providers would have freedom to set prices according to student demand. Students would pay fees out of their entitlement to any NZQA-licensed provider. Students could also withdraw for living costs, subject to monthly and yearly caps.
- The account would interact seamlessly with a revised Student Loan Scheme, with students able to borrow when they had exhausted their SEA balance, or reached the maximum withdrawal allowed within a given period or for a given purpose.

Following this approach, the roughly \$2.8 billion dollars that government spent on tertiary tuition and training in 2014/15 would have been sufficient to provide **\$45 000 to every resident who turned 16** that year. The major advantage of such a model is that it would firmly establish the student at the centre of the system, and allow tertiary providers to offer a much wider range of education models to meet students' diverse needs and aspirations. The model would also enable the establishment and growth of new providers who offer models that students value.

A small number of inquiry participants were enthusiastic about the proposal.

We are supportive of a SEA approach. This would enable a learner to make choices about the tertiary education that best meets their needs ... This would result in tertiary education providers being more likely to provide programmes and courses that reflect local community, industry and economic needs as opposed to offering low value, high volume courses that may not necessarily meet needs. (REAP Aotearoa New Zealand, sub. DR155, p. 4)

However the majority expressed concerns. Several submitters were critical of the SEA's tendency to place greater emphasis on individuals and argued it risked neglecting the public good aspect of tertiary education.

Such a model is individual-centred and puts the focus of education onto individuals rather than recognising that tertiary education is a public good with social and economic benefits that go beyond the individual student, and that collaboration and co-operation in tertiary education provides the best tertiary education outcomes. (NZCTU, sub. DR172, p. 6)

Other common concerns were that prospective students might struggle to make informed decisions and that the system would be susceptible to undesirable provider behaviour:

...this concept could make young students a very attractive target for unscrupulous education providers driven primarily by the profit motive... The tertiary education sector is not a successful free market model; it is unlikely that prospective tertiary students will be able to act as rational consumers with respect to their choices in this area. (New Zealand Medical Association, sub. DR117, p. 2)

More often than not, industry sees and employs students that are poorly equipped to make decisions about their future direction. ... Often they have left school and have no meaningful real world experience to inform their interests and passion to find the appropriate career. ... If an SEA is implemented, it will be increasingly important to ensure that a student's key influencers (being parents, guardians, whanau, teachers, and advisors) are well equipped to assist learners in their decision-making. (Competenz, sub. DR159, p. 9)

The SEA system is unlikely to be able to address the highly variable needs for re-education and re-training: it is very likely that many people would expend the voucher early on in their career, and so would be no better placed to re-educate / retrain later if they were made redundant or had chosen a 'sunset industry' than is currently the case. (Hodder, sub. DR142, p. 9)

Universities New Zealand (sub. DR119, pp. 4–5) noted that studies examining the use of similar approaches in other jurisdictions (referred to as learning entitlement systems) have identified the following problems:

- a. Learning entitlement systems assume it is possible to provide learners with high quality information on likely outcomes from different education and study choices and that learners are willing and able to make rational choices. Neither assumption holds true in reality.

b. The administrative burden and cost of operating learning entitlement systems is extremely high – tracking students over their entire working lives as they draw down their entitlement and in gathering and providing information to inform choices.

The Ministry of Education and Ministry of Business, Innovation and Employment submitted that “We agree with the Commission’s view, as we read it, that the first-best approach is for well-informed students to make their own judgements, supported by a robust system of quality assessment and enforcement of minimum standards” but did not believe that a student education account was a suitable means of achieving this end (sub. DR162, p. 27).

In addition to canvassing the views of inquiry participants, the Commission also reviewed the experiences of other countries that have attempted to introduce student-centred funding models. Box 15.2 sets out a selection of case studies.

Box 15.2 **Student-centred funding models in other jurisdictions**

Training Credits / Youth Credits in the United Kingdom

In 1990, the UK Government piloted a system of Training Credits, which provided 16 and 17 year olds who left full-time education with a credit to use until their 19th birthday on work-based training. The scheme was expanded in 1993 to cover more regions, and renamed Youth Credits. It operated until 1996/97. The value of the credits ranged from £500 to £5000 depending on the occupation.

Evaluations found that although students were generally satisfied with Youth Credits, they played a relatively passive role under the scheme (West & Sparkes, 2000). They generally did not adopt the role of consumers motivated by user interests, and there was little evidence that students would “shop around” or move providers where dissatisfied (Coopers & Lybrand, 1994; Youth Aid, 1995). In part design flaws appear to have undermined the intent of the scheme and the effect of the “vouchers” – young people were never directly in possession or control of the credit, and from their perspective it seemed like “just another form of funding” (Unwin, 1993, p. 215).

Individual learning accounts in the United Kingdom

The Individual Learning Accounts scheme commenced in 1999. It comprised a system of tax incentives for employers, as well as cash subsidies to learners who opened an account. Individuals who made a £25 contribution to the account would receive a £150 subsidy.

In England, Individual Learning Accounts were “a serious administrative failure and had to be wound up” (Bekhradnia & Massy, 2009, p. 4). A Parliamentary inquiry found that £97 million of total expenditure of £290 million was fraud and abuse. Providers would obtain learning account numbers and simply cash the credit, with little chance of being uncovered. In some cases, students received a second-hand computer, loaded with some “learning software”.

Colorado

In 2004, Colorado introduced voucher-based financing of public higher education through the *Colorado Opportunity Fund* (COF). An evaluation of the scheme found that the

policy’s implementation compromised its original intent. In particular, the way the stipend and fee-for-service components of the policy are used in conjunction to protect institutions’ overall funding levels stifles their ability to incentivize institutions to enrol more targeted students or meet other identified state needs. Institutions recognise they will not be rewarded for enrolling more students. ... given the many ways in which the COF legislation’s original intent has been compromised, it is not clear whether the policy’s failures lie with its philosophy or its implementation. (WICHE, 2009, pp. ii-iii)

Education vouchers in Switzerland

In 2005, a random sample of 1 422 Swiss workers were allocated an adult education voucher that had to be spent in the first six months of 2006. Schwerdt et al. (2011) report no statistically significant average effects on earnings or employment rates one year after treatment. Voucher recipients were 14.8

percentage points more likely to participate in self-financed adult education in 2006; they were also 2.8 percentage points less likely to participate in employer-financed education. Recipients were also 4 percentage points more likely to participate in adult education in 2007 (after the vouchers had expired). The authors suggested that incidence of and returns to adult education vary significantly between sub-populations; individuals with low levels of education were less likely to use the voucher.

The authors said “our findings cast doubt, however, on the effectiveness of untargeted voucher programs, as currently devised in many countries, to promote labor market outcomes through adult education ... in the case of an untargeted voucher program, the voucher will mainly affect the behaviour of educated individuals” (Schwedt et al., 2011, p. 3, 21).

These examples point toward real practical challenges associated with the design and implementation of a student-centred funding system including the need for students to be informed and active consumers and the importance of robust safeguards against provider rorting. Given concerns about current support for student decision-making (Chapter 13), and the scope for opportunistic provider behaviour, it is likely that it would be very challenging to successfully introduce a student education account model in New Zealand at this time.

F15.1

A student education account model would place students at the centre of the tertiary education system. However, the prerequisite conditions needed for such a model to be successful are not yet present in New Zealand.

A demand-driven system is attractive, but typically leads back to quantity controls

Another way to put more purchasing power in the hands of students is to have a fully demand-driven funding system, whereby all domestic students are ensured of a government subsidy wherever they choose to study. The Australian university system is demand-driven at Bachelor’s level, and New Zealand’s system was briefly demand-driven in the early 2000s.

Experience in Australia and New Zealand shows that supply can expand rapidly in a demand-driven market, with an expansion of cost to government. Typically, the new supply addresses latent demand from people previously badly served because of their location, circumstances or preferences. Such expansion of service is desirable, provided acceptable quality is maintained.

Demand-driven systems also encourage provider innovation. Experience with this has been both good and bad. In Australia, providers such as Swinburne expanded with new products designed for previously unserved populations (Chapter 11). New Zealand providers grew significantly during the demand-driven period, revealing significant latent demand for their products; but government became concerned about cost and quality in the early to mid-2000s.

Kemp and Norton (2014) and Norton (2013) argue that demand-driven systems offer better labour market matching, and improvements in quality of provision, organisational innovation, market entry and student participation and diversity. However, governments have struggled to assure the quality of new providers and products. High-profile examples of poor quality or inappropriate courses – whether localised or widespread – have led to policy backflips. In Australia, for example, the Government expanded access to vocational education and training from 2008 to 2016 but failed to adequately control quality and costs (Noonan, 2016). In late 2016 the Australian government announced a “major overhaul” of vocational training including a crackdown on “dodgy operators” (Knott, 2016a).

The other problem with demand-driven systems is the fiscal risk to government. Government cannot be sure that its costs in any one year will fall within the amount budgeted for.

In combination, these problems lead to governments clamping down on demand-driven systems (Box 15.3).

Box 15.3 Australian and New Zealand experiences with “demand driven” systems

The Australian and New Zealand governments have adopted demand-driven tertiary education policies at different times.

In 1999, New Zealand removed caps on enrolment and allowed PTEs to access subsidies on similar terms to public providers. Reviewing this period, Green (2005) concluded:

UTTA [the Universal Tertiary Tuition Allowance] is found to have been spectacularly successful in expanding learner choice and improving equality of opportunity, but less obviously successful against the goal of improving quality. The policy failed to meet the ‘affordability’ test, with the government ultimately abandoning UTTA in the face of fiscal pressure. The levels of innovation, responsiveness and competition experienced differed among institutions, suggesting that institutional management ability is a key factor in making ‘quasi-market’ policies work, and that the impacts of such policies will necessarily vary for different types of institutions. (p. 2)

Concerns about the quality of some private providers and institutions involved in subdegree provision emerged. The media reported on funding for courses considered of dubious public value (such as “twilight golf”).

Poor quality control appears to have been a significant contributing factor. Green (2005) reported that

[s]everal Ministry of Education officials and PTE managers identified insufficient oversight from quality assurance bodies as the key reasons for these breaches. Dean Carroll, a former Ministry and Tertiary Education Commission official with responsibility for monitoring publicly-funded private providers reported that the New Zealand Qualifications Authority (which is responsible for quality assuring PTEs and the wananga) appeared “actively disengaged” from funding policy reforms and was poorly prepared for its implications. (p. 79)

In the Australian state of Victoria, uncapped provision at subdegree level from 2010 saw reports of private Vocational Education and Training (VET) providers rorting the system, often using brokers to recruit students. The media reported multiple stories of students being paid to enrol, brokers door-knocking rest homes (and even palliative care wards) to enrol students, diplomas being granted for a fraction of the required hours of work, and an explosive growth in fitness training and sports coaching courses. Poor quality control appears to have contributed to these developments.

Independent Tertiary Institutions submitted that

[t]he New Zealand PTE sector is far better regulated than the “Wild West” of the Australian market. We do complain (rightly) about regulation and compliance here but it is far better – for students and providers – than the shonky Australian system. (sub. 81, p. 12)

Financial risks and quality scandals usually lead government back to re-imposing regulation, including quantity caps. Victoria’s VET system remains uncapped, but improved regulation was introduced from 2015. Caps were re-introduced in New Zealand for PTEs in 2003 and for public providers in 2006.

Caps in Australia’s higher education system were relaxed from 2009 and removed in 2012 for degree-level study at universities. Costs have increased sharply as participation has risen.

Since 2009, with the demand driven system, taxpayer funding for Commonwealth supported places in higher education has increased by 59 per cent as compared to 29 per cent growth in nominal GDP [Gross Domestic Product] over the same period. Funding of university students has grown at twice the rate of the economy. Similarly, the debt held under our income contingent student loans scheme, one of the most generous in the world, has grown to over \$40 billion, with an annual expense of \$2.6 billion. (Australian Government, 2016, p. 4)

The elite Group of Eight universities recently called for the re-introduction of per-university student caps. They were concerned about underfunding of research, falling entry standards and soaring costs (Knott, 2016b).

In short, even if a demand-driven system seemed affordable for New Zealand, it would be unlikely to withstand a high-profile quality assurance failure, or the growth in costs that would accompany expanded access. So it would likely be short lived.

Improving the existing system

The remainder of this chapter explores ways to improve the existing system – that is, a system in which TEC allocates volume centrally to a limited range of funded products at fixed prices. How can a system of this kind better incentivise providers to respond in new ways to the demands of students (including those not currently participating in the system), employers and New Zealand?

15.2 Providing access to finance for purchasing tertiary study

Justification for a student loan scheme

Students need to be able to meet the costs of their tertiary education, if the costs are not met by government subsidies or philanthropy.¹⁰⁹ Baxter and Birks (2004) outlined the economic justification for student loan schemes. Up-front payment of fees will deter tertiary participation, and the availability of loans counteracts this by shifting the burden of repayment to a period in an individual's life when they have the ability to repay it. But most students do not have collateral to borrow against, and lenders cannot distinguish good investments (ie, students who will be able to repay the loan) from bad ones. In the absence of loans, wealthy families will be able to invest in education much more than poorer families (Becker, 1964).

Government student loan schemes are a common mechanism for overcoming this market failure.

This is a market failure—there are good investments to be made, but private lenders cannot or are reluctant to make these loans, just as they are reluctant to make (and therefore demand higher interest rates for) other unsecured loans, such as credit cards. This market failure explains why governments play an important role in lending for education. (Dynarski, 2014, p. 4)

Such schemes can be fiscally neutral for government if the cost of the scheme, including the opportunity cost of the borrowed funds, is repaid by students.

New Zealand's Student Loan Scheme

The Ministry of Education's annual report on the Student Loan Scheme ("the Scheme") sets out an outcomes framework for what the Scheme is designed to achieve. The vision is "the Student Loan Scheme aims to enable a wide range of people to access tertiary education, gaining knowledge and skills that enhance the economic and social wellbeing of New Zealand" (2016). The two primary outcomes sought from the Scheme are enhanced human capital and labour skills; and a long-term affordable loan scheme for borrowers and taxpayers (p. 14). Despite the unpopularity of loans among borrowers, the Scheme is a major enabler of increased access to tertiary education.

New Zealand's Student Loan Scheme is unusual, compared to student loan schemes in other countries, in that the loan has a negative real interest rate (ie, no interest is charged, nor is the loan balance adjusted for inflation). As such, New Zealand's Scheme combines access to finance with a significant subsidy in the interest-free component of the loan. This policy has been in place since 2006.¹¹⁰

Combining access to finance with a subsidy has had a significant impact on the tertiary education system.¹¹¹ Any move to expand access to tertiary education by increasing subsidised places at tertiary providers results in also expanding access to student allowances and the subsidy inherent in interest free student loans. The cost of the Scheme deters government from pursuing policies to expand access to tertiary education

¹⁰⁹ Unlike the United States where philanthropy plays a significant role in financing higher education providers and access through scholarships, philanthropic giving in tertiary education in New Zealand is on a much smaller scale.

¹¹⁰ Table 4.5 outlines selected changes to the Scheme between 2010 and 2014.

¹¹¹ The inquiry's terms of reference ask the Commission, among other things, to "explore the options for changes to education funding and pricing mechanisms that may be required to facilitate new models of tertiary education. The focus will be on pricing and fee setting and not on student support (ie, student loans and allowances)". It is clear from the Commission's analysis that the Student Loan Scheme is an integral part of the current system, with direct implications for new models. Accordingly, the Commission makes recommendations about the Scheme.

(Chapter 5).¹¹² The New Zealand government rations access to tertiary education more tightly than governments in the United Kingdom, the United States or Australia.¹¹³

Any fee increases by providers can increase student borrowing, again increasing the cost of the interest-free loan scheme to government. Government therefore has a strong incentive to control providers' tuition fees.¹¹⁴ Government has operated an Annual Maximum Fee Movement policy (AMFM) since 2010 (Chapter 5).

The fiscal liability created through the interest-free Scheme acts as a brake on:

- the expansion of tertiary education to under-served groups of people, which might otherwise be possible through new models of delivery; and
- the ability of providers to set fees to reflect the demand and the costs of providing courses, which (along with the allocation of EFTS to incumbent providers) limits the extent of course differentiation.

In addition, the subsidy inherent in the interest free component is highly regressive. It is an effective transfer to students already undertaking subsidised tertiary study, and who will almost certainly do better in life as a result of receiving a tertiary education. The opportunity cost for government of an interest free student loan policy (as opposed to a fiscally neutral student loan policy) is the other priorities it could fund, including funding to ameliorate current inequities in the New Zealand education system.

The Commission's recommendation to reintroduce interest on student loans was unpopular with many submitters (eg, subs. DR106, DR109, DR115, DR117, DR139, DR145 and DR151). The National Council of Women of New Zealand (sub. DR131) opposed the recommendation particularly on grounds of gender discrimination. It pointed to a reduction in the gap between the median loan repayment time of men and women since the introduction of interest-free loans. However, differences in repayment times are not the result of Scheme settings. Differences result from changes in the amount borrowed (since 2009, females have had higher median balances than males at the time they left study) and particularly from labour market outcomes including occupational segregation, different patterns of participation (higher rates of part time work and unpaid work including caring work), as well inequities in pay. Gender discrimination in the labour market should be addressed directly.

In a press statement following the release of the draft report, the Government stated that it had "ruled out" reintroducing interest on loans. This was noted by one submitter:

The rejection of the recommendations regarding student loans by political interests is regrettable as the current system prevents sensible policy choices aimed at improving the quality of tertiary education in New Zealand. The student loans scheme as it currently operates is driving the system towards a level of mediocrity and is doing nothing to address social inequality in New Zealand. (Marshall, sub. DR122, p. 3)

It remains the Commission's first, best advice that interest should be reintroduced on new student borrowing. The Scheme should ensure that people are not excluded from tertiary education purely because of an inability to borrow against future earnings to fund their education – but it should not also be a significant subsidy to those who will reap private benefits from their education. It should feature a higher repayment threshold than is currently the case (at least at the equivalent of the full-time adult minimum wage)¹¹⁵; a progressive repayment schedule; and interest charged on new borrowing.

¹¹² As outlined in Chapter 5, the subsidy component of the student loan is very expensive for government. In 2014/15, government wrote off \$602 million. Based on lending in 2010, about 45% of this write-down was attributable to the Student Loan Scheme's interest-free nature.

¹¹³ New Zealand is unusual in having both a provider-level cap on tuition subsidy funding for domestic students *and* limits on providers' permission to enrol domestic students who do not attract tuition subsidies. In Australia, higher education providers can enrol as many domestic undergraduate students as they choose, and the provider receives a government tuition subsidy for every student. Enrolments are also unrestricted in the United Kingdom, with student tuition fees set at a level intended to cover providers' costs. Arrangements in the United States vary from state to state, but the norm is to allow unrestricted enrolment of domestic students, with some or all such enrolments attracting (federal or state) institutional funding. In New Zealand, under current settings, government needs to limit providers' unfunded enrolments to control the cost to government of student loan borrowing (Chapter 1).

¹¹⁴ Government has a legitimate interest in fee regulation where providers exert market power (section 15.4).

¹¹⁵ Under the current Scheme, borrowers must repay 12 cents in the dollar of any income they earn over \$19 084. This is a lower threshold, and higher repayment rate, than apply in most other countries. For example, in Australia, borrowers must repay at the rate of 4% of their total income once they earn at least A\$54 869. The repayment rate rises gradually to a maximum of 8% of total income for someone earning more than A\$101 900.

There are a number of considerations to be taken into account in setting an interest rate (Box 15.4).

Box 15.4 **Setting the interest rate for new student loan borrowing**

To make student loan lending fiscally neutral to taxpayers, and remove the subsidy component implicit in the current Scheme, government would need to set the interest rate at government's long-term borrowing rate, adjusted for the default risk and administration costs. This would result in an interest rate that was above the Consumer Price Index, but likely below the rate at which students could borrow for other purposes.

In private markets, the interest rate of a loan and other conditions of borrowing are varied according to the characteristics of the borrower. This is not typically the case in student loan schemes, in which all students usually face the same lending conditions.¹¹⁶ This is akin to the concept of *community rating* in health insurance, which incorporates an implicit cross subsidy between different types of borrowers so as not to discourage less participation from less healthy people.

A scheme that was strictly fiscally neutral for government, where the interest rate covered the costs to government of default risk, would mean that students who paid back their loans cross-subsidised those who did not. Whether or not this is broadly acceptable might depend on the primary causes of default. There are three main forms of default associated with student loans:

- the death or bankruptcy of a borrower leading to a write-off of the loan;¹¹⁷
- the borrower's future income remaining below the threshold for loan repayment; or
- avoidance in paying back the loan.

If government can keep rates of avoidance low, then there is a strong case for community rating. With appropriate repayment thresholds in place, this would mean that students who receive a substantial private (financial) benefit from their tertiary education, and who therefore pay off their student loans, would subsidise the borrowing of students who did not receive a sufficiently large private (financial) benefit to repay their loan.

R15.1

Government should reform the Student Loan Scheme. The Scheme should feature a higher repayment threshold than is currently the case (at least at the equivalent of the full-time adult minimum wage) and a progressive repayment schedule. New borrowing should attract interest. The Ministry of Education, in consultation with Treasury, should prepare advice to government on an appropriate rate of interest for the Student Loan Scheme at or above government's long-term cost of borrowing.

In the event that Recommendation 15.1 is not accepted, then government should take steps to mitigate the harms from interest-free loans. One way of doing this would be to move to a loan scheme with zero real interest, rather than the current negative real interest.

R15.2

If Recommendation 15.1 is not accepted, new borrowing under the Student Loan Scheme should be at a zero real interest rate. That is, balances should be adjusted for inflation based on the Consumer Price Index.

¹¹⁶ Having said that, the Scheme does and has made distinctions between students. For example, interest is currently charged to borrowers living overseas; and between 2001 and 2006, graduates no longer in study were charged interest while students still in study were not.

¹¹⁷ Student loans differ from other types of debt (eg, housing mortgages), which typically are not written off following the death of the borrower.

Further recommendations in this chapter are designed to encourage the development of new courses and programmes and promote fee differentiation, given the current constraints.

15.3 Extending eligibility for student loans

Restrictions on the Student Loan Scheme

There is a range of restrictions on the Student Loan Scheme, including on the eligibility of borrowers and the amount they can borrow.

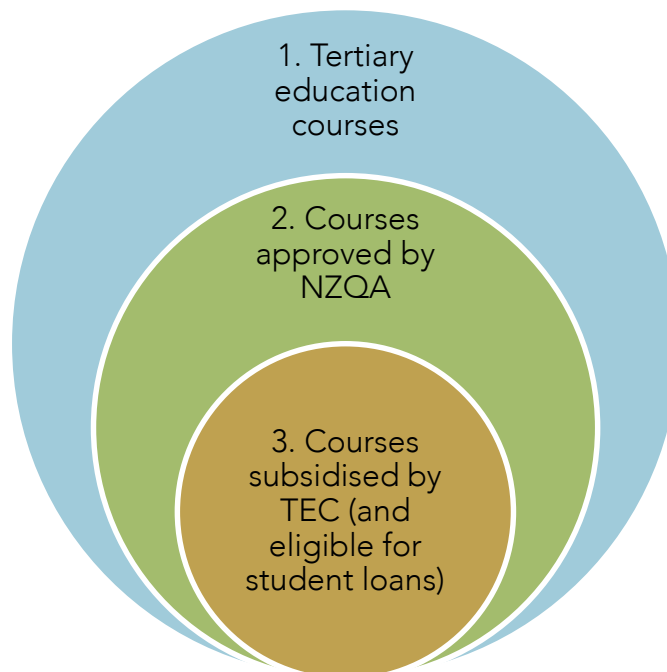
Ako Aotearoa submitted that

Our understanding of current arrangements is that organisations (including those based overseas) can offer their own training or accreditation programmes without NZQA approval. Approval is, however, required for such programmes to lead to formal New Zealand qualifications, for providers to be eligible for public funding, and to allow learners access to student loans and allowances. In our view this is entirely appropriate, as it preserves the integrity and reputation of our qualifications framework, protects the government's investment, and mitigates against students taking on significant debt for low-quality programmes. (sub. DR157, p. 11)

This is not quite accurate. It is not just NZQA approval that provides access to the Scheme; one key restriction is that loans are only available for courses that also receive SAC funding from TEC.

Figure 15.1 depicts the supply of tertiary education products in New Zealand. Only a subset of education products are regulated by NZQA; and most, but not all of these are also subsidised by TEC.

Figure 15.1 Tertiary education courses in New Zealand



This has implications for the supply of tertiary education courses for domestic students in New Zealand.

- There is a thriving domestic market for education in the blue shaded area (1), formal learning that is not regulated by NZQA and does not lead to a qualification on the New Zealand Qualification Framework, for example driver training, or Microsoft Excel training. There are comparatively few regulatory controls on companies or not-for-profits delivering education in this market; where appropriate, company law, commercial law and consumer protection law apply. Generally this allows companies to price their programmes at a level that will not deter consumption. In some cases where the cost of the course is high, a provider may arrange private access to finance, but at interest rates that reflect the lender uncertainty about risks (eg, the Dev Academy facilitates access to a private lender, Harmony, for its students).

- There is a large domestic market for tertiary education products in the orange shaded area (3), which are the focus of much of this report. There are very significant regulatory controls to ensure the quality of these courses (see Chapter 5), and consequently the costs of delivery are higher than they would be if they did not lead to a qualification. Government subsidises this cost, and provides income-contingent student loans, to facilitate student access. Importantly, providers can enrol more students in a course than the number of places subsidised by TEC, and all of those students can access student loans. In particular, for many PTEs this means that receiving some TEC funding is imperative, so that their prospective students are able to access student loans.
- But there is virtually no market targeting domestic students for tertiary education products in the green shaded area (2): courses that are approved by NZQA as being sound, and which can lead towards a qualification on the New Zealand Qualification Framework, but which are not also subsidised by TEC. The costs of delivery here are high – courses have to meet all the quality requirements outlined in Chapter 5 prescribed by NZQA or the Vice-Chancellors Committee, but there is no government subsidy and no loan scheme to mitigate these costs to allow prospective students to defer the upfront costs of study until they reap its benefits in the labour market.

Student choices, and provider innovation, are constrained by linking access to student loans to TEC subsidies

Because student loans are only available where TEC subsidises a course, and market failures prevent many students (those early in their career and without assets to borrow against) accessing private finance on affordable terms, the effective range of study choices available to students is limited to those TEC subsidises.

In turn, this means that providers can have little incentive to develop or offer courses to meet student demand, unless they believe that TEC will fund them.

Providers wishing to offer a new course or qualification within their existing EFTS allocation are likely to be able to do so, as they have a lot of scope to determine what mix of provision to deliver within their TEC funding “envelopes”. These providers can accommodate new courses as others shrink or are retired.

But providers who want to access additional funding for new courses are likely to find it very challenging. As discussed in Chapter 5, it is practically impossible for a PTE to substantially grow its funded volume without purchasing another PTE and hoping to retain the EFTS allocation. Providers with small EFTS allocations and a narrow range of courses cannot manage the mix of provision in the way that large providers can. These providers are unlikely to seek to introduce new courses unless their existing courses are proving unpopular.

Chapter 5 found that a very small share of funding allocated through the Investment Plan process shifts from year to year, resulting in a very stable funding environment with little reward for successful innovation or high performance. TEOs are locked into a predetermined pattern of delivery with limited options to adjust delivery in response to student demand. Chapter 8 concluded that the tertiary education system led providers to be very responsive to signals from government rather than student demand, and that most of those financial and regulatory signals were about maintaining the status quo.

There is no principled reason to limit loan access to courses subsidised by TEC

The Commission finds no principled reason for restricting access to income-contingent student loans to courses that TEC is also subsidising. The capital market failures described above still apply, and the equity and efficiency justification for government providing finance also hold.

The New Zealand Union of Students’ Associations provided an example of how excluding non-TEC subsidised courses from eligibility for student loans created harms.

There are currently some areas where access to the [Student Loan Scheme (SLS)] needs to be more flexible. One area we heard earlier this year from our combined NZUSA, NZEI, PPTA hui was that the process of become re-registered as a teacher following time without a permanent position was a significant cost and “frankly anti-women”. Teachers whose registration lapses are required to pay \$4,000 to undertake a course to be deemed competent. This \$4,000 is unable to be funded by the SLS as it is not a qualification. This sum of money represents a real barrier for someone whose choice to return to

teaching, and therefore their need to study, is primarily due to a worsened financial situation. (sub. DR139, p. 9)

Allowing access to student loans in this situation would also promote the outcomes of the Scheme as described by the Ministry of Education – in particular enhancing human capital and labour skills. Government’s vision for the Scheme, “to enable a wide range of people to access tertiary education, gaining knowledge and skills that enhance the economic and social wellbeing of New Zealand” is not contingent on the course receiving a subsidy from TEC.

There is a fiscal risk from extending loans to non-subsidised courses

The Scheme does not cover its costs. As discussed in Chapter 5, 44% of borrowing is written off, about half of which is due to the interest-free settings. Extending the Scheme to courses that are NZQA-approved but non-TEC subsidised would therefore entail the potential of significant fiscal cost to government.

In the course of this inquiry, education officials have told the Commission that the tertiary education sector is entering a period of declining demand (due to demographic changes), and that there is no “unmet demand” for tertiary education. If that were true, then there would be little fiscal risk involved in extending the coverage of the Scheme, interest-free, to such courses. However, for the reasons explained in Chapter 7 and elsewhere in the report, the Commission believes there is unmet demand for tertiary education.

While there is merit in expanding the Scheme to cover non-TEC funded courses, managing the fiscal risk would require that loans attract interest for non-subsidised courses (in particular since government does not regulate fees charged for non-subsidised courses).

There is no equivalent way of mitigating the cost of student allowances. As a result student allowances should remain only accessible to TEC-subsidised courses, until an evaluation of extending the Scheme is complete.

How would providers respond?

Allowing students to borrow to enrol in NZQA-approved but non-TEC-subsidised courses would allow providers the ability to offer courses to students without seeking TEC funding. Providers might choose to offer such courses because:

- It would provide a mechanism for providers to offer RPL. Government is naturally reluctant to fund RPL at equivalent rates as full courses of learning, because the costs of delivery should be much lower. This has choked the development of systems that would formally recognise the skills and knowledge individuals acquire through informal learning (with some notable exceptions, such as via Otago Polytechnic).
- Universities might choose to offer some high value Master’s programmes this way. Victoria University of Wellington (sub. DR166) submitted that professional Master’s should not be subject to fee regulation. Where a provider considers that there is high willingness to pay for such a course, they may choose not to seek TEC funding.
- Providers who can leverage significant economies of scale to reduce marginal student costs might choose to forgo TEC funding in order to enrol students in their courses. For example, organisations with expertise in online education such as Open Polytechnic of New Zealand may be in a position to forgo SAC funding and fund courses entirely from student fees, if they were able to enrol more students and leverage scale in a way that is currently difficult. Providing access to the Scheme would be necessary in order to unlock those benefits of scale.

How would it support innovation and new models?

Allowing students to borrow with interest through the Scheme to enrol in non-TEC funded courses would support innovation in a number of ways:

- As noted above, it would support delivery models that leverage economies of scale that are not possible in a system of rationed EFTS, including models that use online modalities.¹¹⁸
- It would provide an opportunity for new providers to gain some student volume. As discussed in Chapter 5, the only realistic way for a new entrant to gain funding is to buy an existing PTE and hope to retain the EFTS allocation. Getting TEC funding is currently imperative, in order to provide prospective students with access to student loans. This would allow new entrants who met NZQA standards to enrol students (who would be able to borrow with interest to cover their fees) without TEC approval.
- It would allow new and existing providers the ability to demonstrate the value of, and student demand for, new courses and new delivery models. This means in the future TEC may be more willing to subsidise models that have a demonstrated track record.
- It would allow some resources in the tertiary education system to move around in response to student demand, without TEC-control, and without additional cost to government.

In addition to creating some scope at the edges of the publicly subsidised tertiary education system for new models, this would also provide more focus on the key roles of NZQA and TEC respectively in the system. Currently providers feel that both TEC and NZQA exercise overlapping and in some cases duplicative quality assurance functions. This recommendation would sharpen NZQA's quality assurance role, and TEC's role in subsidising courses that provide public value to New Zealand. Over time, it may allow TEC to shift public resources away from courses where there is large private benefit and high willingness to pay, towards courses that provide a higher degree of public benefit (see section 15.6).

Risks and costs

There would be administrative costs in establishing systems to make student loans available for non-TEC subsidised courses, and managing its operation (including, for example, where individual students have student loans that are interest-free and loans that are interest-bearing).

In addition, there would be costs in establishing the appropriate rate of interest to charge on student loans towards non-TEC subsidised courses. This will depend a great deal on how providers respond to the enhanced opportunity to offer non-subsidised courses to students. There is a risk of adverse selection that might increase default risk and the relevant interest rate.

As in any system that seeks to provide additional choice to students, there is a risk that unscrupulous providers would seek to take advantage of less well-informed students. The continued availability of TEC-subsidised alternative courses, at more attractive fees (because of the subsidy), more attractive loan terms (if the interest-free setting was retained) and with more attractive student support (because of the availability of student allowances for eligible students), is a partial check against students being taken advantage of. Students will only be willing to bear the additional interest costs where providers offer compelling evidence that they are offering something new and significantly valuable to students. Where providers can make this case, students should be able to access student loans to support their participation, for the same efficiency and equity reasons that justify the Scheme in the first instance.

But people who are excluded from the current rationed education system are most vulnerable to exploitation, and less able to evaluate their study options. Improved NZQA monitoring of providers, and the availability and use of tougher responses to bad provider behaviour is another importance check (see Chapter 14). Improved delivery of career education and information to prospective students will also be helpful (see Chapter 13).

The response of students and providers to extending the Scheme to NZQA-approved, but non-TEC funded courses is difficult to predict. However it offers significant potential for providers to trial, and scale new models that would benefit students. For these reasons, the Commission recommends trialling extending the Scheme in the way proposed, with an evaluation to gauge its impact on students, providers, and the

¹¹⁸ Providers can enrol some students above their funding quota, but TEC aggressively manages down providers who do this in significant volumes.

emergence of new models. The possible application of student allowances to this study could be considered at this point.

R15.3

Government should extend the Student Loan Scheme to allow students to borrow for tertiary courses that are NZQA-approved, but not subsidised by the Tertiary Education Commission. These loans should attract interest at a rate that covers the full cost to government, including the default risk of the additional loans (regardless of whether government accepts Recommendations 15.1 and 15.2 to reintroduce interest on all new student borrowing).

The extension should be on a trial basis, with an evaluation to gauge its impact on students, providers and the emergence of new models.

15.4 Fee pricing flexibility

Chapter 5 describes the fee regulation in New Zealand. Each year, the Minister for Tertiary Education, Skills and Employment specifies a maximum allowed increment over the prior year's prices. The fees charged by providers for courses offered in 2017, for example, can be at most 2% above the prices those providers charged for the same courses in 2016.

Fee regulation inhibits differentiation in educational offerings, and reduces the likelihood that providers will experiment with, or adopt, new models.

Why government regulates domestic fees

Government regulates domestic fees because of the risk that providers will engage in monopoly rent-seeking behaviour by overcharging students. Such overcharging would have three consequences:

- unconstrained increases in government spending;
- reduced access to tertiary education for price-sensitive students; and
- higher average fees, without any compensating benefits for students (on average).

The latter two consequences directly affect students (and potential students). The New Zealand Union of Student's Associations (NZUSA) is similarly concerned about the potential for fee increases:

We are more inclined to believe that if some institutions had deregulated fees they would use it to pursue a better ranking internationally. We believe there is no evidence that deregulation would shift any university from its current business model of imposing the greatest possible fee it can on students.

...

We do not believe that any form of deregulation would see any institutions focus on keeping fees low to minimise student debt. Since the implementation of the fee maxima, institutions have en masse consistently increased fees by the maximum allowed. ... If given the opportunity all institutions will raise fees as much as they feel will be tolerated. (NZUSA, sub. DR139, p. 12, 18)

Box 15.5 further explores the case for fee regulation.

Box 15.5 The case for fee regulation

Tertiary education has some unusual product (Chapter 2) and market (Chapter 7) features. The combination of weakened price signals to students and provider market power threaten a spiral of fee increases, with substantial fiscal and political consequences for government.

Unconstrained increases in government spending

The Student Loan Scheme offers both access to finance and an educational subsidy. The subsidy component was 44% of costs to government in 2016 (MoE, 2016d). The vast majority of students pay their fees via the Scheme, so government's fiscal costs rise directly in proportion to fee increases.

This problem is arguably a side-effect of the design of the Scheme, and most appropriately dealt with by changes to that scheme. The Commission's recommended changes to the Scheme would alleviate this problem (section 15.2). Absent the implementation of such a change, fee regulation has the desirable side-effect of constraining the fiscal costs of the Scheme.

Reduced access to tertiary education for price-sensitive students

In most markets, higher prices reduce aggregate demand. This is not always the case for tertiary education, as in the absence of better information, students may use price as a proxy for quality.¹¹⁹ If providers – even those with genuinely lower production costs – offer lower prices, they risk being seen offering a lower quality product. Knowing this, they charge the maximum.

Not all students are attracted by higher prices. The evidence suggests that higher fees reduce overall demand, that students in non-university tertiary education and lower-income students are more price-sensitive, and that some minority groups may be more price-sensitive (Chapter 3). Students from lower-income households may also be more debt-averse, reducing the effectiveness of student loan schemes for encouraging participation.

Higher fees without compensating benefits

Governments regulate markets, knowing they will face political heat if consumers face the consequences of monopoly or cartel behaviour. These issues are pertinent, because educational quality is hard for consumers to determine, and because of the characteristics of New Zealand's tertiary education market. In particular:

- Providers with market power (eg, because they are quota-constrained) face an incentive to raise fees. They can increase prices without losing quantity (ie, get paid more for doing the same). Students face higher average fees, with no compensating benefits (eg, higher quality provision).
- The price signals faced by students are muted by the Scheme. The Scheme's inherent subsidy means that students do not face the full cost of their study; and income-contingent repayments means that repayment is for most students a future cost rather than a present one.
- Providers face little competition for some courses and in some locations. Some New Zealand regions have few tertiary providers, limiting the options of students facing travel costs. Significant barriers to entry exclude new providers who might otherwise undercut an over-charging provider (Chapter 7). These factors also offer market power to providers, allowing them to increase prices without losing students.

In some countries, policy has seesawed between relatively unregulated and highly regulated fees. This creates its own dynamic. Providers hike their fees when they get the opportunity, predicting a future price freeze. Box 15.6 outlines the responses of universities to fee regulation in the United Kingdom, Australia and the United States.

¹¹⁹ Goods and services with this characteristic are termed "Veblen goods".

Box 15.6 University responses to changes to fee regulation in other countries

In the United Kingdom in 2004, the maximum domestic tuition fee chargeable by universities (set in law) tripled, from £1 000 to £3 000 a year. It tripled again in 2013 to £9 000. Contrary to the Government's expectations, nearly all universities raised their fees to the maximum level.

David Willetts' theory of fee charging...is that, based on their performance, [universities] would organise themselves into something approaching a football league of fees, with the grey stone medieval quadrangles of Oxford and Cambridge in the premiership; the 19th century redbrick of the likes of Leeds and Sheffields in the championship; and the 1960s concrete carbuncles of the former polys in division one.

But that hasn't happened. ...

Graham Henderson, vice chancellor of Teesside University [stated that] "Our students have been checking we are not charging the bottom of the [fee] spectrum because they don't want it to be seen as second rate." In other words, the less you charge, the lower the quality of your university appears to be. (Paige, 2011)

In Australia, recent increases in the fee caps provided universities with an opportunity to compete on price, but few took it up. Providers who did not increase their fees by the maximum 25% suffered lower demand, and swiftly increased their prices by the maximum allowed, to move in line with their competitors (Chapman, 2014).

The United States does not have fee regulation at the federal level, but many states administer their own regulation. Overall, advertised tuition fees at universities have increased significantly over the last decade, especially at private providers (including non-profit providers). However, many students pay less than the advertised price. Growth in tuition fees in the United States may be starting to level off (Douglas-Gabriel, 2015). This may be in part a result of state governments making public funding conditional on capped fees (Meotti, 2016). However, average advertised fees are still increasing well above the level of inflation (Table 15.1).

Table 15.1 Increases in tuition fees at universities in the United States, 2015/16

	Advertised tuition fee for 2015/16 academic year	Inflation-adjusted increase on 2014/15
Public four-year universities	\$9 400	2.9%
Private non-profit universities	\$14 900	10.7%
Private universities	\$32 400	2.6%

Source: Douglas-Gabriel, 2015.

The country level experience in the United States mask different outcomes in different states. In Texas, for example, well-designed regulatory constraints have allowed fee flexibility while increasing access for poor students (Box 15.7).

Fee regulation compresses the range of course fees

Government currently regulates fees at the per-course, per-provider level. The AMFM sets a cap on course fee increases. These arrangements create strong incentives for providers to always charge the highest permitted fee.

Providers who are able to fill their EFTS quotas have no reason to lower prices – they simply lose revenue with no compensating increase in EFTS quantities. But the disincentive to drop prices extend to providers who cannot fill their quotas, as any provider charging a lower price gets locked into a lower-price path.

Moreover, fees for new courses must be set at the "mid-range" of comparable courses (Chapter 5). This constrains new models with different cost structures. Over time a natural turnover of courses closing and

opening will cause fees to converge; indeed, providers can close courses with fees well below the mid-range, and then open remarkably similar courses priced at the mid-range.

The effect of these arrangements is compression of course fees, across and within providers.¹²⁰ Each provider then faces roughly the same revenue per student as their competitors. In the absence of cross-subsidies, providers need to keep costs at or below revenue. So to the extent that providers' underlying cost structures are similar, course format and content will tend to converge.

Fee regulation constrains innovation

Fee regulation significantly constrains innovation. It limits the ability of providers to create new products with different price/quality trade-offs and to signal these differences to students. Universities New Zealand noted that fee regulation, in combination with EFTS pricing, limits innovation and differentiation:

[a]ll New Zealand universities receive a similar amount of funding (fee and tuition subsidies) for courses offered under particular Student Achievement Component (SAC) cost categories. This constrains the amount of differentiation and innovation that is possible in New Zealand universities. (sub. 17, p. 14)

In terms of encouraging more innovation and new models of tertiary education, it would be desirable if providers could set their own fees. This would enable them to differentiate more on the nature and quality of their offerings (Chapter 5).

Fee deregulation would encourage providers to experiment with two broad classes of new models:

- higher delivery cost, higher fee courses; and
- lower delivery cost, lower fee courses.

Higher delivery cost, higher fee courses

Such courses are potentially attractive to those with a high willingness to pay. An example might be a big data course that included time at Google's Californian campus and/or significant time on a super-computer. The current fee regulation system effectively prohibits such courses.¹²¹

Victoria University of Wellington submitted that such courses were only possible at the moment if cross-subsidised:

We would like to see a revised system of regulation around price/volume that would allow for expansion and innovation.

One option that should be considered is that universities could be given the right to set their own fees for taught post-graduate Master's degrees, with government retaining the right to regulate price at the undergraduate level. While undergraduate education is a public good and should be available in equal measure to all citizens, we note the growth of professional Master's degrees where a higher fee is charged and access to interest bearing loans is the norm. Importantly, a more differentiated fee regime such as this will incentivise New Zealand universities to expand the focus of university teaching to adult education, in addition to the school leavers who are the focus of the current Tertiary Education Strategy. In particular, the higher fees for postgraduate programmes (whether paid by student or employer) will allow universities to develop the bespoke, small-class size, vocational programmes required by New Zealand's small-to-medium sized businesses. Currently such small, specialised postgraduate programmes have to be cross-subsidised by revenue derived from higher-margin large undergraduate classes. (sub. DR166, p. 6–7)

Universities New Zealand noted that current arrangements preclude new models with higher delivery costs:

SAC funding rates have been adjusted periodically, but adjustments are done based on benchmarking of actual current costs which are driven by the prevailing business model. This creates a chicken and egg problem – universities can't, for example, mainstream practicums for arts students (per the University of

¹²⁰ The fees gap between higher- and lower-charging providers is slowly growing over time, when averaged across all courses offered (Chapter 5). This is an artefact of the AMFM – its introduction locked in fee relativities. While this partially counteracts the effects described in the main text, it neither reflects nor enables strategic or purposeful variation in pricing.

¹²¹ Under the current system, a provider could offer a base course at the regulated fee, with optional paid components. This arrangement splits students into two groups receiving different course content, but restricts assessment to the non-optional content. While feasible, this is not optimal from a teaching or learning perspective.

Waterloo model) without a general increase in SAC funding or finding a significant source of funding somewhere else (by, say, increasing domestic tuition fees where a premium non-standard product is on offer). Repeated university experience with internships and industry/project enabled work has proven how resource-intensive these programmes are to establish and to maintain – while also proving how valuable they can be to students and their eventual employers. However, there is no offset in additional revenue or reduction in existing cost structures for such value-added schemes. (UNZ, sub. DR119, p. 10)

The University of Otago advocated more flexibility with a regulated fee environment:

We do not support the full deregulation of student fees, as this is likely to have the same perverse effects seen in Australia and the United Kingdom. Instead, we would argue for a more flexible version of the current system. The Annual Maximum Fee Movement (AMFM) is adequate in terms of protecting student interests and controlling Student Loan Scheme costs, but we believe that Government should relax both (a) the conditions around exemptions to the AMFM, and (b) the requirement for institutions to set fees in the middle of the range for similar courses offered across the sector (as one submitter noted, it is impossible for providers to know what this range is). Providers that are delivering strong outcomes should be allowed to differentiate upwards in fees for quality. (University of Otago, sub. DR130, p. 12)

Such arrangements would indeed permit higher fee courses. The Commission, however, also sees value in arrangements that might lower costs for students, especially those with a lower willingness to pay for tertiary education.

Lower delivery cost, lower fee courses

Fee deregulation could also enable lower fee courses that could attract those with a relatively low willingness to pay. Courses with a significantly larger online component might fit this category. Georgia Tech’s online Master’s in computer science is one example (Chapter 11).

Such courses are not explicitly discouraged at the moment. However, they are likely financially unattractive to providers facing an EFTS quantity cap, as they would displace existing courses that attract higher fees. Existing rules also make it difficult to introduce a new course at a low fee, and financially risky to lower the price of an existing course.

“Goldilocks” incentives – neither too strong nor too weak, but just right

This analysis supports two conclusions:

- if course fees are unconstrained, then provider incentives to raise prices are overly strong; and
- if course fees are capped, then provider incentives to innovate are overly weak.

The policy challenge is to design a system with “Goldilocks” incentives – neither too strong nor too weak. Such an arrangement appears to be working successfully in Texas (Box 15.7).

Box 15.7 Flexible tuition fees did not reduce access for poor students in Texas

In Texas, tuition fees were uncapped in 2003. The cost of tuition quickly increased across all programmes and institutions. Andrews and Stange (2016) found that substantial increases in needs-based assistance reduced the net-price faced by poor students relative to non-poor students. Additional revenue enabled more spending per student and reduced class sizes, which made lucrative programmes more desirable, even as they became more expensive. The authors argued that these results underscore the importance of examining how funds generated by tuition increases are used, when assessing the effects on students. In Texas, a significant share of deregulation-induced tuition revenue was channelled back into financial aid for needy students, shielding them the consequences of price increases.

Such a system should meet the following requirements:

- allow providers to set different domestic fees for different courses;

- avoid the predicted bad consequences of unconstrained fees (ie, fiscal blowout, reduced access for low-SES students, and higher average fees);
- not require providers to obtain government agency approval for all fee movements;¹²² and
- work for providers with market power (ie, supply-limited), and also work for providers without market power (ie, demand-limited).

Given the identified risks, it is also highly desirable that system changes are piloted prior to widespread introduction, in a way that allows fine-tuning of the scheme rules and parameters.

The Commission has developed a proposal that should meet these criteria, outlined in the next subsection. The proposal was developed with TEIs in mind. Extension to PTEs could be considered if such a proposal was successfully implemented for TEIs.¹²³

Regardless of whether or not government accepts the fee flexibility proposal, the Commission recommends replacing the AMFM with a policy that specifies a regulated price for courses depending on their New Zealand Qualifications Framework level and field of study – that is, a return to the Fee and Course Costs Maxima policy that applied prior to 2011 (Chapter 5). This would address the lock-in problems with the AMFM. That is, it would enable lower-charging providers to “catch up” to higher-charging providers if they chose to; and it would enable all providers to experiment with decreases in fees without fear of being locked in to their experiment.

The policy should apply to all providers on a neutral basis.

R15.4

Government should replace the Annual Maximum Fee Movement fee price regulation with a policy that specifies a regulated price for courses depending on their New Zealand Qualifications Framework level and field of study. This policy should apply to all providers on a neutral basis.

Recommendation: fee flexibility with community service obligations

To get the incentive balance right, providers should be offered something they want in exchange for something they would not otherwise do (ie, community service obligations). Those community service obligations could, in theory, take many forms. However, it is conceptually cleaner and likely more efficient if the obligations directly target the anticipated side effects of higher fees. For this reason, community service obligations should be designed to ensure that low-SES students pay lower fees than they would otherwise. This reduces the effects of the rationing by price inherent in the current system (Chapter 7) and widens access to tertiary education.

The Commission therefore recommends that TEIs should be permitted to set higher fees (within limits) for some of the courses they offer, provided that the revenue raised is used to reduce fees, particularly for low-SES students. Appendix B outlines one possible design for such a scheme.

¹²² There are tens of thousands of provider/course combinations, so any arrangement that requires pre-approval by government agencies will likely be slow and cumbersome. Moreover, providers know more about their delivery costs and student demand than does government.

¹²³ Many PTEs offer small numbers of courses, so the proposal in this chapter to balance fee changes across a portfolio of courses may not be suitable for them. An individualised, negotiated approach may be more appropriate for such PTEs.

R15.5

To encourage product innovation while protecting access for low-socioeconomic status (low-SES) students, tertiary education institutions (TEIs) should be permitted to set higher fees (within limits) for some of the courses they offer, on the condition that the revenue raised is used to reduce fees, particularly for low-SES students.

The Ministry of Education and the Tertiary Education Commission should design and pilot a scheme of this kind and, depending on the results, extend it to all TEIs.

15.5 Funded volume that follows student demand

The draft report for this inquiry made few recommendations about government's use of price and volume levers, because it proposed a student education account model instead. However, the Commission does not recommend student education accounts at this time (section 15.1). The remainder of this chapter considers how government can improve its use of price and volume levers within existing system settings. This section looks at how TEC allocates funded volume, and section 15.6 looks at government's use of price levers, both with a focus on SAC 3+. Section 15.7 considers how the proposals below might apply to other funds.

The discussion starts from the premise that, all things being equal, there is value in well-informed students being able to study whatever and wherever they are motivated and capable to study – both out of principled respect for their self-determination and, pragmatically speaking, because their personal engagement in their tertiary education matters to their success (Chapter 2). This does not mean that government should always fund whatever students want to study; on the contrary, section 15.6 recommends that government steer its subsidies away from areas where private returns to study are very high. But it does mean that, of the things that government chooses to fund, it should purchase them from whichever quality-assured providers are preferred by students.

This section considers how to achieve this in a system in which TEC allocates volume centrally, by ensuring that TEC accesses and responds to information about where students want to study.

TEC should collect and respond to information about student demand

TEC could collect information about students' study preferences in various ways, including (for example) by establishing a central clearing-house of all tertiary study applications, or running surveys. TEC could also elicit useful information from providers, by creating a situation in which:

- the SAC 3+ fund is designed so that it costs providers to over- or under-deliver against their TEC funding allocation; and
- TEC reallocates volume mechanistically in response to over- or under-delivery by providers, so that providers have certainty about the impact of these activities.¹²⁴

Under these conditions, if a provider over- or under-delivers against its TEC funding allocation, it is sending a credible (ie, costly and consequential) signal to TEC that it is genuinely experiencing excess demand or excess supply. That is, if it under-delivers, it is signalling, at its own expense, that it is in a situation of excess supply; and if it over-delivers, it is signalling, again at its own expense, that it is experiencing excess demand. Appendix B gives more detail about how such arrangements might look.

TEC can then use this credible information about under- and over-delivery to shift funded volume mechanistically in the following Plan cycle.¹²⁵ It is important that this reallocation be mechanistic and predictable, rather than (as now) at TEC's discretion and subject to multiple unpredictable (to the provider) assessments and considerations. This is because:

¹²⁴ This process could be annual or multi-year.

¹²⁵ TEC may also choose to run surveys to better understand the nature of unmet student demand.

- providers need to be able to reliably predict the consequences of over- or under-delivery on their future allocations; and
- TEC's allocation process needs to be protected from lobbying or political interference.

On this model, TEC would continue to bulk-purchase EFTS from large providers across a range of different funding categories – so providers would continue to have flexibility to manage their mix of provision to respond to granular student demand each year. If TEC wanted to influence the mix of provision, it should not use funded volume but rather should use price – as described in section 15.6.

Sometimes a provider may face exceptional circumstances that mean a mechanistic reallocation of volume would be demonstrably unwise or unjust. TEC needs discretion to intervene in the mechanistic reallocation process in such cases. But any such intervention should be rare, and TEC should be required to give a full account, in its Annual Report, of the nature and rationale of any such interventions, so that it is a matter of public record.

R15.6

Government should redesign its Student Achievement Component 3+ funding approach such that:

- it costs providers to over- or under-deliver against their Tertiary Education Commission (TEC) funding allocation; and
- TEC reallocates funded volume mechanistically in response to over- or under-delivery.

Each provider should retain flexibility to manage enrolments across different funding categories within the broad mix of provision that TEC has agreed to fund.

TEC should have the power to intervene in the mechanistic reallocation process in exceptional circumstances. Such intervention should be rare, and its nature and rationale recorded in TEC's Annual Report.

Funded volume for new entrants

The Commission has been told that it is very difficult for new providers to access TEC funding, and that “the best way to become a TEC-funded PTE is to buy a TEC-funded PTE”. To encourage new models to emerge, it is important that new providers can get a foothold in the market, as they generally have more to gain, and less to lose, than incumbent providers in terms of experimenting with disruptive innovations (Chapter 11). These new entrants may be newly established providers, or providers who previously delivered in the fully private market (including the new market space recommended in section 15.3).

It may be that TEC can make allocations to new providers using funded volume freed-up by other providers exiting the system each year (ie, those who go from some allocated funded volume to a zero allocation – which might be for performance reasons, or because they close down, or because TEC ceases to subsidise the thing they deliver). If not, TEC would need the ability to “skim” funded volume from existing providers to free-up a small amount of funded volume to allocate to promising new entrants in each Plan round.

These new providers would then, if they experienced excess student demand, be able to grow via mechanistic reallocations over time.

R15.7

The Tertiary Education Commission's (TEC's) reallocation process outlined in recommendation 15.6 should include a mechanism that allows TEC to free-up a small amount of funded volume to allocate to new entrants in each Investment Plan round.

TEC should resist the temptation to shift volume to where apparent performance is higher

Sometimes TEC will see that Provider A is out-performing Provider B against TEC's performance metrics, but that students nevertheless continue to prefer B. In such cases, TEC might be tempted to increase A's allocation and lower that of B. However, it should resist that temptation. Students who prefer B may be uninformed about its performance compared to A, in which case an informational intervention may be appropriate. But if they are informed, but unmoved, then they are clearly valuing some quality of B that TEC's performance system does not capture – for example, that B has a better cultural fit for them, or is more accessible by public transport – and TEC should not interfere with their choices.

TEC should rely instead on information dissemination or, if necessary, price (see section 15.6) to incentivise improved performance against the things it measures, by rewarding the higher-performing provider and penalising the lower-performing one over time.

The exception is where a provider's performance fails to meet an acceptable standard of quality as defined by NZQA. In this case, the provider should lose its license to operate, which would also entail a loss of all TEC funded volume. But this assessment should rest with NZQA, not with TEC.

The EFTS funding formula constrains innovation

Controls on the inputs of tertiary education constrain innovations that seek to achieve the same outputs or outcomes through a different mix of inputs. For example, purchasing EFTS based on "learning hours" is a barrier to innovations that allow individuals to learn more quickly. Laitinen (2012) outlined several problems with a "time served" approach to calculating learning hours for funding purposes. She explained that government can change its approach to calculation in a way that retains the convenience of a standardised funding unit, but enables providers to innovate in how and what they deliver to diverse learners. While her discussion focuses on the US system, there are clear parallels to (and lessons for) New Zealand's EFTS-based funding approach. Changes are needed to open up innovations to accelerate learning. These may involve creating standardised units of learning to replace actual measures of delivery time.

Further, an EFTS implicitly funds not just delivery but also content design, assessment, credentialing and sometimes pastoral care, all in a single bundle. This approach inhibits a provider from unbundling these services – unless that provider is willing to (and receives TEC permission to) subcontract some activities to other parties. In particular it prevents providers from offering subsidised RPL to students.

A simple way to remedy this would be for TEC to use NZQA's assessment (or, for self-accrediting providers, their own assessment¹²⁶) of "credit value" as the means of determining the size of a funded course or qualification, without any additional stipulations about learning hours or teaching weeks (such as currently appear in SAC funding conditions). Appendix B gives more detail.

This approach would place a premium on courses and qualifications being accurately sized (ie, given an appropriate credit value) when they were first developed, as this would determine their price. Providers would have incentives to inflate the "size for funding purposes" of each course or qualification, and NZQA would have weak incentives to moderate them back down (and no control over the sizing decisions of self-accrediting providers). Government should implement measures to balance these risks. Appendix B outlines a possible approach.

R15.8

The Tertiary Education Commission should remove any reference to inputs in its definition of an Equivalent Full-Time Student. It should instead rely on the relevant quality assurer's assessment of "credit value" to determine the funded size of courses and qualifications. Because providers will have incentives to inflate the funded size of new courses and qualifications, government should implement measures to prevent this.

¹²⁶ Self-accrediting providers would have incentives to assess their own courses and qualifications as larger than was justified. This could be managed via third-party moderation and audit-based spot checks.

TEC should use funded volume to support providers to deliver teaching and learning, not to achieve other government objectives

The Commission has heard the view expressed that TEC needs to maintain funded volume in some TEIs in order to achieve government objectives other than educating students. For example, the New Zealand Council of Trade Unions (NZCTU) submitted:

Many public tertiary institutions (particularly ITPs) play an important regional role in social cohesion and social and economic development. Deregulating regional competition could undermine this regional function by undercutting parts of a regional institution's operations. (sub. DR172, p. 9)

A mechanistic approach to reallocation based on student demand might put such objectives at risk. Table 15.2 briefly outlines the main concerns the Commission has heard, and a possible response.

Table 15.2 Achieving government's wider objectives via TEC's allocations of funded volume to TEIs

Argument for why TEC needs to retain funded volume in some TEIs	Possible response
"TEC needs to maintain volume at universities because they are the critic and conscience of society"	Universities should use their PBRF funding to support their "critic and conscience" activities. For example, government could extract a small amount of funding from the university SAC appropriation and ring-fence it in the PBRF for access by universities only. It could then distribute this funding in proportion to universities' existing PBRF income, or, if it preferred, on the basis of universities' performance of their "critic and conscience" role (which would necessitate development of a performance framework for such activities).
"TEC needs to maintain volume at regional ITPs because these institutions are needed to provide research and knowledge transfer services to support regional economic development"	If central government wants to fund ITPs for these services, it should do so via Vote Economic Development, not through money intended to purchase teaching and learning on behalf of students.
"TEC needs to maintain volume at wānanga to protect their research capability"	Wānanga have access to a Wānanga Research Capability fund to support their research capability. If that fund is too small to achieve this policy goal then it should be enlarged.

The Commission has also heard the argument that "TEC needs to maintain enough volume at regional ITPs for these providers to be able to cross-subsidise delivery to students in small-town locations, where PTEs aren't willing to deliver". Section 15.7 explains that it is hard to identify the relationship between price and costs in the current system, so any such claims need to be tested. However, a test of the market may indeed reveal that the price for delivery in a given location is too low to cover delivery costs. If so, TEC should address this directly by raising the price in that location, in a way that is agnostic about provider type. Section 15.7 discusses how TEC can do this.

Improving the administration of subsidies

Current arrangements for the administration of subsidies give providers little time to plan for change. For example, it is not uncommon for providers to receive confirmation from TEC of their funding allocations for a coming calendar year in the last business week before Christmas. Another example is the introduction in 2016 of a new allocation method for SAC funding for provision at levels 3 and 4, which gave providers as little as two months to make any necessary changes to staffing and facilities to be ready to deliver (or to cease delivery) in 2017. Short timelines constrain innovation and new models.

R15.9

The Tertiary Education Commission should, in consultation with providers, set – and stick to – a reasonable deadline by which it will confirm funding allocations.

15.6 Pricing that rewards providers for delivering what government seeks to purchase

“Price” in the TEC-funded tertiary education system can mean any of at least three different things:

- The price for providers: The course-level revenue received by providers, which comprises tuition subsidies (plus or minus any Performance-Linked Funding adjustments or funding top-ups) plus student fees;
- The price for students: the course-level tuition fees faced by students, which is controlled by fee regulation, and muted by the Student Loan Scheme and sometimes scholarships; or
- The price for government and taxpayers: the course-level tuition subsidy, plus the cost to government of subsidised student loan lending.

This section considers all three.

Government lacks good information about prices and costs

Government intends the tuition subsidies it pays to providers to be “cost-plus” subsidies, offering the same margin for each field of study.¹²⁷ However, it is hard to assess the actual relationship between tuition subsidies and costs:

- Providers do not always know what their costs actually are, and engage in a lot of cross-subsidisation that is not always transparent or well-understood.
- Providers can access economies of scale, so for any given field/level of study combination, providers will face different costs according to how much they deliver in that field/level of study – but SAC tuition subsidy rates are constant per student, regardless of scale.
- Providers’ delivery costs might differ by geographic location, but SAC tuition subsidy rates are the same nationwide.
- Providers educating mainly well-prepared, low-needs students plausibly face lower delivery costs than those educating mainly under-prepared, high-needs students, but the SAC tuition subsidy rate is the same for every student.

The relationship becomes even murkier when student fees are taken into account. This is because providers’ fee levels do not accurately reflect their costs, but rather their market positioning when the fee relativities were (unexpectedly, as far as providers were concerned) fixed in place by government’s introduction of the Annual Maximum Fee Movement (Chapter 5).

Moreover, TEC sometimes uses volume levers to oblige providers to deliver at the prices (ie tuition subsidy plus fees) on offer, for example by setting performance targets in particular fields of study. This limits the value of market observation as a means of identifying costs.

The result is that government cannot assess how the current prices available to providers might affect supply in a less constrained system, or how providers might respond to adjustments in the price offered to them. Moreover, in a more dynamic system in which providers were able to compete and grow, their costs might plausibly reduce as they gained in scale and efficiency – but government has no way of predicting by how much, and from what base.

¹²⁷ Subsidies for each field and level of study were set via administrative exercises in the late 1990s and early 2000s, and have been adjusted at the margins since where data from the New Zealand Benchmarking Tool has suggested they are misaligned with delivery costs (MoE, 2016h).

All this means that any changes government makes to prices – including adjustments to tuition subsidy rates, fee regulation, student loan and allowance settings or scholarships – should be experimental and iterative, with close monitoring of the impacts. To test assumptions about costs and prices, government should observe the market carefully, especially where providers have good incentives to understand and reveal their costs of delivery (as in, for example, the new mechanisms recommended in sections 15.3 and 15.4). Government can draw some probabilistic conclusions from observing high-level behaviour, for example:

- If no provider is willing to enrol students with particular characteristics, or to deliver in a certain location, despite funded volume being on offer, then the price for providers is probably too low.
- If providers rush to grow online delivery and reduce in-person delivery, then the price differential between these modes is probably too high.

Government can also use competitive tendering to ascertain market prices, as it currently does with some SAC funding at levels 1–4.

Providers who can leverage economies of scale may have an appetite to trade a lower subsidy rate in exchange for increased student numbers, or to use variable pricing where government runs competitive processes to allocate provision. TEC should be open to testing these approaches.

Government should adjust prices based on provider performance

Performance-Linked Funding (described in Chapter 5) was designed to encourage providers to reach an “acceptable standard of educational performance” as determined by Educational Performance Indicator (EPI) thresholds (TEC, 2015b). It is a baseline quality control mechanism rather than one that rewards performance.

However, Performance-Linked Funding provides insufficient sanction for below-threshold performance. Providers that fail to meet an acceptable standard of performance should lose their licence to operate. This is a licensing function, and NZQA rather than TEC should implement it.

Once performance is above the minimum thresholds, Performance-Linked Funding provides no incentives for further improvement. The reputational effects of the EPIs do provide such an incentive, but Performance-Linked Funding is unnecessary for this.

In addition, as discussed in Chapter 13, the EPIs used in Performance-Linked Funding are not adjusted for student intake, so do not measure providers’ performance in adding value to students. They also penalise providers when students leave study midway through a qualification for reasons unrelated to provider performance (eg, getting a job, moving cities, or staircasing to a higher-level qualification at another provider).

For these reasons the Commission recommends that government discontinue Performance-Linked Funding in its current form.

The draft report for this inquiry did not recommend any alternative to Performance-Linked Funding, as it instead proposed a student education account model that would have rendered any such mechanism unnecessary.

In the absence of student education accounts, though, TEC needs a mechanism to incentivise provider performance *over and above* any effects of student-led volume funding as recommended in recommendation 15.6. That is, it needs a way to incentivise providers to improve performance regardless of whether or not they are seeking to grow their enrolments or face meaningful competition for students, and regardless of whether students’ enrolment decisions are strongly influenced by considerations of provider performance (as opposed to, say, advertising or scholarships).

A well-designed performance-based pricing mechanism will:

- use metrics that are adjusted for student intake (Chapter 13), to reward providers for delivering good outcomes for students proportionate to those students' starting points, and to avoid penalising them for enrolling higher-needs students (including many students from government's priority groups);¹²⁸
- redistribute money (rather than student volume) from lower- to higher-performing providers at all levels of performance (rather than just recovering from under-performers), to incentivise providers to continually improve rather than just meet a benchmark;
- avoid penalising providers when students leave study for reasons unrelated to provider performance¹²⁹; and
- affect a consequential amount of funding.

TEC is working to develop a "return on investment" measure (Chapter 13) which could, depending on its design, be a valuable ingredient of a performance-based pricing mechanism.

The mechanism itself could be a claw-back mechanism such as Performance-Linked Funding, or a ring-fenced EFTS-weighted performance-based fund (extracted from the existing SAC 3+ appropriation) similar to the PBRF. Appendix B provides more detail on the design of a good performance-based pricing mechanism.

R15.10

Government should discontinue Performance-Linked Funding. Government should design and implement a new pricing mechanism to incentivise providers to continually improve their performance in adding value to students. Such a mechanism should:

- use metrics that are adjusted for characteristics of the student intake;
- redistribute money (rather than student volume) from lower- to higher-performing providers at all levels of performance;
- avoid penalising providers when students leave study for reasons unrelated to provider performance; and
- affect a consequential amount of funding.

Government should use price – with caution – to intervene in supply–demand mismatches

Sometimes the collective preferences of students and providers will result in tertiary education delivery that fails to meet the needs of New Zealand's economy or society. In such cases, government may be justified in intervening to better match supply to demand. However, it should only do so where it is confident that:

- there is a genuinely problematic mismatch between what students and providers are choosing and what New Zealand needs;
- a tertiary education supply response is warranted; and
- government's proposed pricing intervention will target the problem.

¹²⁸ This is in keeping with government's move toward a social investment approach which uses individual-level data, rather than data about populations or cohorts identified by administrative proxies, to target its investment to improve outcomes.

¹²⁹ Chapter 13 notes that TEC intends to start work in 2017 on changes to EPLs to ensure providers are not penalised when students transfer to continue learning at another provider or move into work. This is an imperfect but, in the Commission's view, good enough proxy for students who leave study for reasons unrelated to provider performance.

Each of these criteria is discussed below. The discussion focuses on mismatch between tertiary supply labour market demand; but the same principles apply to undersupply to a particular student demographic, or undersupply in a particular region.

Chapter 13 recommended that government publish information about student study choices (including NCEA subject choices) to help providers and industry understand the “skills pipeline” and adjust their signals to prospective students accordingly.

How to identify a genuinely problematic mismatch between what students and providers choose, and what New Zealand needs

Employers are advantaged by a situation in which graduates in a given field emerge from tertiary education ready to “hit the ground running” in the workplace, and in numbers that exceed domestic demand, as these things minimise pressure on employers’ training and wage budgets. Some level of employer lobbying of government about skill supply is therefore to be expected. Hawke (2016) characterised this as “ritualistic anecdote”, and commented

Employer complaints about the skills of new graduates are merely the contemporary equivalent of the complaints of medieval masters about the behaviour of apprentices... Transferring responsibility [for skill development] to the preceding stage of learning is seldom justified. (p. 2)

Government should take employer complaints seriously only when they are accompanied by reliable signals from employers that they need something different from the tertiary education system. (This includes situations where the main employer is government, as with the teaching and health workforces.) A reliable signal is one that it is costly for employers to send – unlike lobbying, which is cheap. Costly signals from employers of undersupply might include:

- high wages and good working conditions in the area of alleged shortage;
- successful registration of the relevant skills on the Long-Term Skill Shortage List (which requires the industry to persuade Immigration NZ that there is evidence of a shortage);
- genuine attempts by employers to engage with providers and prospective students, for example offering internships or pre-graduation employment offers; or
- industry-funded research into workforce skill needs.

Costly signals of oversupply might include low wages or redundancies.

Demand for skills comes not just from employers but also from “society at large”, with needs expressed by representatives in government, local government and NGOs on behalf of the population. Examples of skills demanded by “society at large” might include Māori language or fine arts. In such cases, society can signal that it demands more or different skills by electing political representatives who make relevant commitments and who are willing to reprioritise funding from other targets.

How to decide whether a tertiary supply response is warranted

There are good reasons to be cautious about intervening in the domestic tertiary education system in order to respond to unmet labour market demand for skills. Analysis by the Ministry of Business, Innovation and Employment (MBIE) found that the link between specific qualifications and specific occupations in New Zealand is weak, meaning that producing more graduates in a given field of study can be an unreliable or inefficient way of getting more workers in a given occupation (MBIE, 2015c). In addition, the effectiveness of a tertiary supply response is vulnerable to broader labour market conditions that the tertiary education system cannot control. For example:

- Where employers can access comparatively experienced labour at a lower wage via immigration, they have weak incentives to hire new graduates from the domestic tertiary education system, or to work with tertiary providers to lift domestic skill supply. This can create a vicious circle whereby employers find domestic supply unsatisfactory but lack incentives to improve it. In these conditions, changes to domestic tertiary supply will not be effective unless employers’ ability to hire new migrants is curtailed.

- The Commission’s recently published analysis of New Zealand’s productivity found that many domestic firms face weak competitive pressure and have a mobile labour force (Conway, 2016). Employers overall therefore face a fairly low chance of capturing big rewards from engaging with a local tertiary providers to improve skill supply.
- Many skills in shortage in New Zealand (eg, engineering and IT) are also in shortage overseas. In lifting domestic supply, in the absence of other levers (eg, bonding schemes), New Zealand risks a flight of trained graduates to higher-wage economies offshore.
- Forecasting medium- to long-term labour force need is hard (Chapter 13). If a skill shortage can confidently be identified, there is a good chance that it is a pressing problem requiring a quick response – and it may be short term. The tertiary system is, in general, not able to make fast, short-term responses to skills shortages.

Government has various other options for responding to skill shortages, including immigration, information provision (including information for prospective students about future skill needs, as per MBIE’s Occupation Outlook reports), and intervention in the schooling pipeline. This latter may be especially appropriate where the problem relates to a broad cluster of knowledge and skills whose foundations are laid at school (eg, STEM) rather than a specific discipline usually begun at tertiary level. Another option for government is to “wait and see” – that is, monitor the situation and do nothing.

If government does decide to intervene, it should match a pricing intervention carefully to the problem.

Matching the pricing intervention to the problem

Government should use price, not volume, to address troublesome mismatches of tertiary skill supply and demand. This approach ensures that changes in enrolments and delivery occur in line with providers’ and students’ level of intrinsic motivation to change, reducing the heavy-handedness of the intervention as far as possible.

The type of pricing intervention should depend on whose behaviour needs to change:

- If students are not choosing the desired courses despite places being available at providers, government should use **fee regulation or scholarships** to lower the price faced by students. Similarly, if many students in a particular group are choosing not to participate in tertiary education, in a way that is of concern to government, then it should use **student allowance entitlements or scholarships** to give them additional incentives to participate.
- If providers are not offering adequate supply despite student demand, then government should use **fee regulation or tuition subsidy rates** to raise the tuition revenue received by providers. This may be a national issue or a regional one, in which latter case a regional loading may be appropriate. Or if the issue is that providers are unwilling to enrol students with particular characteristics, then government may need to raise the price it pays to providers of these students – in other words, some form of equity funding (discussed later in this subsection).

Sometimes both problems will co-exist, and both levers will need pulling at once. In all cases, government should make every attempt to understand the nature of the problem, why the system has not responded of its own accord, and why it is important (if indeed it is) for government to stimulate a response.

Government should make public the rationale for its changes to pricing. It could do this by, for example, publishing an account in the Annual Report of the Ministry of Education or TEC of all such decisions.

What if it’s a quality problem, not a quantity problem?

The above discussion has focused on a situation in which the quantity of domestic skill supply fails to meet domestic demand. Sometimes, though, the problem will not relate (or not solely relate) to quantity, but also to quality – that is, graduates are emerging from the tertiary education system with the wrong type of skills to meet demand-side needs. In such cases the same basic advice to government applies. It should look for costly signals from the demand side that it is a genuine problem; use the right lever to target either students or providers (or both) based on whose behaviour needs to change; and make its rationale public.

TEC may need to cultivate a market

TEC may encounter situations in which there is no high-performing provider (or no provider at all) in a given region, or field of study, or student demographic that government wants to serve. This would suggest that the available price is too low to attract providers.¹³⁰ In these cases, TEC should, where necessary, run a tender process to identify the price at which providers are willing to supply.

TEC may also need to agree to purchase from “preferred suppliers” for fixed periods of time to encourage them to commit to specialisations.

In all such cases:

- the rationale for the intervention should be made public;
- the process should be transparent and competitive; and
- TEC should state in advance how and when it will measure the success of the intervention.

In the case of any “preferred supplier” agreements, TEC should carefully weigh the value of encouraging providers to specialise against the disvalue of constraining students’ enrolment choices.

R15.11

Where necessary, the Tertiary Education Commission (TEC) should:

- run a tender process to identify the price at which providers are willing to supply in particular fields or regions, or for students with particular characteristics; or
- purchase from a “preferred supplier” for a fixed period of time in return for a commitment on the part of the provider to specialise.

In all such cases:

- the rationale for the intervention should be made public;
- the process should be transparent and competitive; and
- TEC should state in advance how and when it will measure the success of the intervention.

In entering into “preferred supplier” agreements, TEC should carefully weigh the value of encouraging providers to specialise against the harm of constraining students’ enrolment choices.

What about equity funding?

Government currently makes an extra payment per EFTS to SAC-funded providers for enrolments of Māori and Pasifika students enrolled at level 5 and above of the New Zealand Qualifications Framework (NZQF), and (for TEIs only) students with disabilities studying at any level. These extra payments are termed “equity funding”.

The inquiry’s draft report did not make any recommendations about equity funding. This is because the report instead proposed the idea of student education accounts, which would have radically changed the way funding was distributed to students and providers. In the absence of student education accounts, it is appropriate to consider the role of equity funding.

Recommendations elsewhere in this report will help to ensure that providers are rewarded for delivering tertiary education that better meets the needs and aspirations of a wide range of students, including Māori

¹³⁰ As noted earlier in this subsection, it is hard to anticipate if and where this will happen because government lacks good information about prices and costs.

and Pasifika students and students with disabilities, as well as students with other characteristics that may make them less attractive to providers under the current settings.¹³¹ These include recommendations that:

- measurements of provider performance should be adjusted for differences in their student intake (recommendation 13.4), so that they are not penalised in their performance statistics for enrolling students with higher learning needs;
- providers should be paid for their performance in adding value to students (recommendation 15.10), so that they receive an effective higher price per EFTS for successful delivery to a higher-needs student cohort; and
- providers constrained by their EFTS quotas should be able to grow their funded enrolments year-on-year (recommendation 15.6), allowing more students to access the provider's services and also enabling the provider to generate more economies of scale.

Over time this should mean that providers who do a better job for students – regardless of those students' characteristics – are rewarded and can grow.

It is an open question as to whether equity funding will still be required in a more diverse and flexible system in which performance is measured more accurately, and good performance rewarded more substantially. Government may find that new models of tertiary education enable a wide variety of students to participate and succeed without the need for an extra payment.

Alternatively, government may find that providers remain reluctant to enrol students with particular characteristics at the price offered, or enrol the students but do not deliver good outcomes for them. Where additional successful participation by students with particular characteristics is important to achieving government goals for tertiary education, government should raise the price it pays to providers for such students. That is, government should implement some form of equity funding.

Government could do this in several ways. For example:

- The existing approach to equity funding involves paying a per-EFTS loading on the tuition subsidy for enrolments of students with particular characteristics. This has the advantage of simplicity; and while it pays for inputs rather than for results, this might not be problematic if government had a good performance-based pricing scheme in place (recommendation 15.10).
- In the absence of effective performance-based pricing, it might be better for government to make an annual "bonus payment" to providers for achieving particular measureable outputs (eg, course or qualification completions) for students with particular characteristics. This would ensure that providers who delivered the best results for the relevant students received the most rewards.
- Where the supply problem is restricted to a group that is geographically concentrated, government could run a competitive tender process to reveal a market price for the volume of students it desires.

As with any price change, such actions should be transparent, and based on a good understanding of why government has chosen to intervene and the outcomes it expects from its intervention. Price changes should be targeted as closely as possible to the salient student characteristics.¹³²

What about high-cost courses?

Some courses have very high delivery costs, and high public and private benefits, for example medicine or dentistry. To make these affordable for itself and for students, government currently offers a high per-student tuition subsidy but limits student volumes.

¹³¹ Equity funding is currently targeted by ethnicity and disability status, presumably as proxies for students whose successful tertiary education involves higher delivery costs for providers. Other available proxies include students' prior achievement, SES, age, or fluency in English. Of these, prior achievement stands out in the data as the strongest predictor of tertiary enrolment and success (Chapter 9).

¹³² For example, if providers were enrolling and delivering good outcomes for Māori students with NCEA level 2, but not for Māori students without NCEA level 2, then any price change should apply to enrolments or completions of Māori students who lacked NCEA level 2.

A better approach would use price, not volume, to achieve the same goals. On this model, government would:

- pay a low tuition subsidy;
- allow providers to charge high fees that, in addition to the tuition subsidy, fully covered their costs of delivery;
- allocate to providers (to allocate onward to students, subject to any conditions about student eligibility¹³³) a set number of fee scholarships to maintain the desired level of access for students; and
- let additional domestic students “buy their way in” if they want to.¹³⁴

This approach enables domestic students and providers to contract for high-cost delivery where students are willing to pay for it, but allows government to ensure that it maintains participation by students with particular characteristics – for example, Māori and Pasifika students in medicine, or rural-background students in veterinary studies. Scholarships are a better fit for this kind of targeting than volume caps. Government could seek employer co-funding of scholarships (including where government is the employer, as with existing Ministry of Health scholarships for Māori and Pasifika health sciences students, described in Chapter 11). The approach would avoid the current situation where high-cost fields of study are dominated by incumbent providers with little scope for new entrants (Box 15.8).

Depending on student loan settings, and on how many students chose to self-fund their studies via government-administered student loans, this approach could be fiscally neutral, a saving, or a small additional expense.

R15.12

Government should use price, not volume, to maintain its desired level of delivery (and where relevant its desired level of participation by students with particular characteristics) in any given location or field of study, including high-cost fields of study. Price levers available to government include tuition subsidies, fee regulation and scholarships. Any changes government makes to prices should be transparent, and based on a good understanding of why government has chosen to intervene and the outcomes it expects from its intervention.

Box 15.8 The University of Waikato bid for a medical school

New Zealand currently has two medical schools, at the University of Auckland and the University of Otago. These two institutions share between them the 539 government-subsidised places for first-year medical students.

The University of Waikato, partnering with Waikato District Health Board, would like to establish a third medical school, in Hamilton, providing a new model of medical education: a community-engaged four-year programme for graduates of any three-year undergraduate degree (in contrast to six-year programmes at Auckland and Otago). The proposed new school would have a focus on community health and primary healthcare, selecting graduates who are “willing to serve high-needs communities and meet the health care needs of the population that lives outside the main centres (i.e. small cities, provincial towns and rural areas)” – an area of labour market shortage in New Zealand (University of Waikato, 2017).

Because government currently controls medical student places with a hard volume cap, and there is no practical way for students to self-fund their study, Waikato cannot establish its proposed school unless either the Minister for Tertiary Education, Skills & Employment increases the number of funded places

¹³³ For example, TEC might specify that a certain proportion of scholarships must go to students with particular characteristics, according to government’s goals for the workforce in question.

¹³⁴ This would not fall afoul of the statutory prohibition on providers enrolling full-fee-paying domestic students alongside subsidised students.

through his or her funding determination, or TEC decides to shift funded volume away from Auckland and/or Otago. Both universities are lobbying to prevent the latter from happening.

If a price lever were in place instead, then Waikato, Auckland and Otago could share TEC-funded scholarships (with the Ministry of Health having some say in what kinds of programmes and students best met their workforce needs), and students who missed out on these scholarships could self-fund their study if they so desired, borrowing from the Student Loan Scheme. Each medical school could then enrol as many willing-to-pay domestic students as it chose within its overall TEC funding allocation, in addition to its scholarship-supported students. The only costs to government would be any tuition subsidy it chose to pay for medicine (which it could reduce to zero if it so desired, raising scholarship funding commensurately), and the cost of any subsidy inherent in student loans if they remained interest-free.

Under these settings, the Otago and Auckland medical schools may still be disadvantaged compared to the status quo if they were unable to attract sufficient numbers of fee-paying students to maintain their enrolments – but they would still be better off than if they lost student places to Waikato and had no means of enrolling any additional domestic students in compensation. The Commission has not assessed Waikato’s proposal, but providing that the proposed school delivered on its commitment to train doctors willing to work in primary healthcare in regional areas, the gains to New Zealand of the new model of medical education may be significant.

Government should adjust prices over time to reduce subsidies to study with high private returns

Chapter 2 identified two rationales for government intervention in tertiary education:

- to address market failures in situations where, without government’s involvement, individuals would fail to make mutually beneficial contracts; and
- to stimulate demand to encourage people to pursue tertiary education over and above the level that they would otherwise freely choose to pursue, on the grounds that this maximises public benefits (a merit-good justification).

Both the market-failure justification and the merit-good justification for intervention are weak in cases where the private returns to tertiary education are already high. Government should therefore seek over time to reduce subsidies (or pay no subsidies) to study with high private returns. This will ensure that government’s subsidies are maximally effective at changing behaviour in a way that delivers benefits to New Zealand.

R15.13

Government should adjust its tuition subsidy rates over time to reduce subsidies (or pay no subsidies) to study with high private returns.

Of course, not all private returns to education are measurable; but government could use income and employment as proxies for private returns in the first instance. This approach errs on the side of *over-protecting* non-financial private returns to study – that is, study that delivered very high non-financial private returns, but low financial private returns, would continue to receive a high rate of subsidy.

As noted above, price adjustments should be experimental and iterative, to enable the system to respond smoothly to changing incentives. So government could begin by reducing subsidy rates slightly at the upper end of the “private returns” scale, including attaching a zero price to delivery with very high private returns where it assessed high student willingness to pay (including as revealed by activity in the new market space recommended in section 15.3). Government could then continue to make small changes at the upper ends of funded delivery iteratively until it reached a point where boundary calls became difficult or high-stakes. It

could then consider whether it required a more sophisticated data approach would allow continued adjustment, or whether the new status quo would suffice.

Encouraging new models

Section 15.3 describes a space for providers (including new providers) to experiment with new models outside the TEC-controlled purchasing system. But experimentation within the TEC-funded system – home to the vast bulk of government investment in tertiary education – is also critical. Beinhocker (2016) commented on the value to governments of

a portfolio of small-scale experiments trying a variety of solutions, see which ones work, scale-up the ones that are working, and eliminate the ones that are not. Such an evolutionary approach recognises the complexity of social-economic systems, the difficulty of predicting what solutions will work in advance and difficulties in real-world implementation. Failures then happen on a small scale and become opportunities to learn rather than hard to reverse policy disasters.

Under current funding arrangements, providers have little incentive to experiment with new types of delivery. Even if a provider receives NZQA approval to deliver a new course, and TEC funding approval to offer it, the rewards on offer for successful innovation are modest and uncertain. In contrast, the penalties for failure are predictable and can be significant. They include reputational damage as a result of published EPI data, and funding penalties as a result of Performance-Linked Funding.

The Commission recommends that TEC-funded providers be permitted to use up to a fixed proportion (say 5%) of their SAC 3+ funding allocation for “experimental courses” each year. Such courses would be clearly identified as experimental, and would be time-limited, with special provisions pertaining to evaluation and monitoring – and they would be exempted from any published Educational Performance Indicators or performance-based pricing mechanism unless it were advantageous to the provider for them to be included. Appendix B provides more detail on the suggested design.

R15.14

Government should permit providers to use a proportion of their Student Achievement Component 3+ funding allocation to run “experimental courses”. Such courses would have greater monitoring and evaluation requirements, but would be exempted from published performance data and performance-based pricing for a set period of time (unless it were to the provider’s advantage to include them).

15.7 Application to foundation funds and industry training

The previous two sections addressed SAC 3+, the single largest teaching and learning fund. This section considers how the recommended changes to volume and price levers could apply to other funds.

Foundation funds

The Commission understands that its recommended changes to SAC 3+ could be applied to the Youth Guarantee fund with only minor changes. However, in SAC levels 1–2, TEC has been running a competitive tender process since 2012 to reset tuition subsidy prices (fees-free to students). Pricing in this fund is therefore already more differentiated than in SAC 3+ or Youth Guarantee. The SAC 1–2 tender process currently allocates volume as well as prices, meaning that students’ enrolment decisions are constrained by central allocations. Mechanistic reallocations arrangements such as those recommended for SAC 3+ could enhance the tender process at SAC 1–2, limiting the tender element to price-setting rather than volume-setting. The non-competitive part of the fund could be phased out over time.

Management of pricing across all foundation funds could be enhanced by the use of performance metrics that are adjusted for student intake, as discussed in Chapter 12. Students’ learning gain in literacy and numeracy can be directly measured via entry and exit testing using the TEC-funded Literacy and Numeracy Assessment Tool. However, the Commission acknowledges that measuring other types of gain is challenging when students are making important social as well as learning gains during their tertiary education. For example, for some students in foundation education, attending a course consistently will be a significant

achievement regardless of course completion; whereas for others completion is a realistic and achievable goal. There is no administrative data that can reliably identify which students are in which category at the start of a course, so there is no easy way to adjust providers' performance expectations or make comparative assessments of performance.

This is something that the Ministry of Social Development (MSD) grapples with in its delivery of social services. It may be that, at least for high-needs students, the purchase of foundation education is best managed by MSD and its contracted social service providers on behalf of their clients, rather than by TEC. Whatever approach is taken, foundation education should be treated as a social investment, in line with government's investment approach to social welfare.

Industry training

The Commission envisages that the provisions recommended for SAC 3+ would have parallels in the Industry Training Fund, such that ITOs competed with one another within that fund in the same way as providers would within SAC 3+. Measuring private returns to study is more challenging in industry training as trainees are, by definition, already employed – but it is not an insurmountable challenge.

In addition, the Commission recommends that ITOs collectively be able to compete with providers for funded volume in vocational education and training year-on-year. To achieve this, TEC should allow some (unfunded) over-delivery in the Industry Training Fund and the SAC 3+ fund each year, and transfer money mechanistically between the two funds in response to this over-delivery. If there is no latent demand for vocational education, then the net result of this will be a shift from one fund to another, as over-delivery in one fund will be compensated for by under-delivery in another. However, if there is latent demand, then this approach will result in overall growth in funded vocational education and training. TEC could manage any consequent budget pressures via its price lever (including by exiting from the provision with the highest private returns); or government may choose to reprioritise from other areas of expenditure to fund the growth.¹³⁵

R15.15

Government should enable Industry Training Organisations and providers to compete for funded volume in vocational education and training.

The historical pattern of ITO- and provider-based delivery has been that the former expands and the latter contracts during periods of economic growth, and vice versa. If this pattern persists and so does the current period of economic growth, then over time a significant proportion of vocational students may shift from provider-based to workplace-based training. In the event that there is an economic downturn, and a large number of vocational students need to return to provider-based learning, then technology-enabled new models of tertiary education should enable the provider-based system to expand to accommodate them.

Apprenticeship subsidies should be consistent

There are two main types of apprenticeship: New Zealand Apprenticeships and Managed Apprenticeships. The key difference between these two is that the former is organised by ITOs (or businesses approved under the Direct Funding Scheme), while the latter is organised and delivered by an ITP (Mahoney, 2015).

Government subsidies for the two approaches differ markedly, with Managed Apprenticeships attracting nearly twice the subsidy of New Zealand Apprenticeships. As discussed in Chapter 4, the Commission has been able to find no satisfactory rationale for this difference.

R15.16

The Ministry of Education should equalise the funding rates applicable to New Zealand and Managed Apprenticeships.

¹³⁵ Industry training subsidy rates are lower than SAC tuition subsidy rates – about half as much on average (Chapter 4). All things being equal, a transfer of funded student volume from SAC to the Industry Training Fund would represent a saving to government.

16 System architecture to enable new models

Key points

- This inquiry presents an opportunity for government to design agency forms that provide clarity of function and reduce conflicts of role. In particular:
 - responsibility for monitoring and managing the Crown's ownership interest in tertiary education institutions (TEIs) should transfer from TEC and the Ministry of Education to Treasury; and
 - the Ministry of Education and (where relevant) the Ministry for Business, Innovation and Employment should be responsible for advising ministers on policy goals and high-level policy parameters, while the Tertiary Education Commission (TEC) and the New Zealand Qualifications Authority (NZQA) should be responsible for designing and managing their operations to give effect to ministerial policy decisions.
- The proposals in this report will improve government's ability to achieve its goals. In theory those goals are expressed in the Tertiary Education Strategy (TES), but in reality the TES is a high-level wishlist rather than a plan for achieving change.
- Government should develop a new TES, which should articulate a clear plan for how government will enable a wide range of New Zealanders to participate and succeed in tertiary education in a way that maximises the returns, broadly conceived, to government's expenditure on tertiary education. Government should develop an indicator framework to articulate the goals of the TES in more detail and state how government will measure their achievement.
- If government implements the Commission's recommendations, then New Zealand will have a tertiary education system that facilitates and encourages the emergence of new models of tertiary education, creating a diverse delivery environment. And the most valuable new models will grow and spread. As a result:
 - providers who are efficient, effective and attractive to students will earn the biggest rewards (financial, reputational and regulatory) and should be able to grow their student numbers if they want to;
 - students will have more choice about what and where they study – and a wider range of products and providers to choose from; and
 - taxpayers can have a higher level of confidence that public spending on tertiary education represents value for money.
- These changes will position New Zealand's tertiary education system to capitalise on the opportunities, and manage the risks, of an uncertain future.

Chapters 13, 14 and 15 set out the Commission's recommended changes to information, regulation, and purchasing to create a system that better supports new models of tertiary education. This final chapter considers what kind of stewardship and steering government needs to extract maximum value from a more dynamic and responsive tertiary education system.

16.1 What needs to happen with agency roles?

The Commission's draft report noted the opportunity presented by the inquiry for government to design agency forms that provide clarity of function and reduce conflicts of role. It noted that this could offer various benefits including less duplication, a reduced regulatory burden on providers, and the prospect of better quality decision making (NZPC, 2014a).

Many submitters were enthusiastic about this recommendation, including Quality Tertiary Institutions (sub. DR156), NZ Board for Engineering Diplomas (sub. DR148), CareerForce (sub. DR150) and Horticulture NZ (sub. DR152). Ako Aotearoa supported the recommendation but expressed concern that it was unclear what this recommendation would mean in practice.

We support Recommendation 12.1 in the general sense that improved clarity of function and reduced conflict between (and within) government agencies is always to be welcomed. However, we also note that this recommendation lacks detail and immediately invites debate around what it would mean in practice. (sub. DR157, p. 14)

The following sections discuss and recommend specific changes to the roles of government agencies in the system.

Quality assurance and information

Good quality assurance and good information both become more important in a tertiary education system with fewer controls on inputs, more at stake for providers, and more empowered student consumers. It is important that agency roles and responsibilities in these regards are clear.

Chapters 14 and 15 outline the Commission's recommended division of roles between NZQA and TEC in terms of quality assurance. In short:

- NZQA should ensure that all providers meet **acceptable standards**, undertake risk-based monitoring of providers to confirm that acceptable standards are not breached over time; and ensure that providers have in place processes to assess and improve their performance.
- TEC should maximise **value for money** from public investment in tertiary education by purchasing a selected range of NZQA-approved educational products; paying a lower proportion of the cost of delivery in areas where private returns are high; and incentivising and rewarding providers' relative performance above the benchmark of acceptability set by NZQA.

Chapter 13 notes the proposed consolidation of government's official tertiary education information products and services within TEC (which merges with Careers New Zealand in 2017), and the Ministry of Education's responsibility for career services in schools.

TEI monitoring and Crown ownership

Government faces conflicting objectives in regulating tertiary education (Chapter 8). It is financially liable for TEI debts, and accountable to the public for TEI performance and survival. Government will sometimes have to choose, when it makes funding allocations or regulates market power, between protecting the interests of TEIs (and therefore its own balance sheet and political reputation), or protecting the interests of students.

Government can manage this and other conflicts of interest by allocating such roles to different parts of government. However, the roles are currently co-located, with responsibility for monitoring and managing the Crown's ownership interest in TEIs shared between the purchaser (TEC) and the regulator (the Ministry of Education).¹³⁶

- The chief executive of TEC is responsible for monitoring risks to the operation and long-term viability of TEIs, and reporting to the Minister on these (s 159KBA of the Education Act 1989). The chief

¹³⁶ The function sat wholly with the Ministry of Education until 2006, when the relevant business unit was shifted to TEC – but apparently without consistent consequent amendments to legislation.

executive also makes decisions about low-level statutory interventions in TEIs (s 195B, s 222A, s 222B), while decisions about higher-level interventions sit with the Minister.

- The Secretary for Education is responsible for approving TEI asset disposals and borrowing (s 192). The Secretary also determines and publishes the criteria that government must use to assess risk to TEIs for the purpose of statutory intervention (s 195A).
- The TEC Board has functions to “provide advice to the Minister on the activities and performance of tertiary education organisations and the tertiary education sector generally” (s 159F(B)) and “monitor the performance of organisations that receive funding from the Commission including by measuring performance against specified outcomes” (s 159F(d)), though neither function relates exclusively to TEIs.

In addition, Treasury manages capital asset management and reporting requirements for the state sector as a whole, including Crown entities. TEC works with Treasury to ensure that that monitoring and reporting arrangements for TEIs meet Treasury requirements.

These arrangements mean that TEC faces inevitable incentives to use its control over funding allocations to reduce the political and fiscal risks of TEI failure; and the Ministry faces inevitable incentives to use its regulation of market power to do likewise.

Accordingly, the Commission recommends that responsibility for monitoring and managing the Crown’s ownership interest in TEIs be transferred from TEC and the Ministry of Education to Treasury, which has relevant expertise but no conflict of interest. Treasury already monitors a large number of Crown entities. This would enable the Ministry of Education to provide policy advice on regulating providers’ market power,¹³⁷ and TEC to allocate funding, without regard to the impact on TEIs.

The move would have the additional advantage that Treasury could take a holistic view not only of how TEIs were delivering on education goals (funded through TEC), but also how they were delivering on science and research goals (funded through the Ministry of Business, Innovation and Employment). This would acknowledge that government maintains TEIs in part for their science and research outputs, and that education agencies are not best-placed to assess their performance in this regard.

R16.1

Government should transfer responsibility for monitoring and managing the Crown’s ownership interest in tertiary education institutions from the Tertiary Education Commission and the Ministry of Education to Treasury.

Policy and operations

The changes to information, funding and quality assurance recommended in Chapters 13, 14 and 15 span both policy and operations. In all cases, the Commission recommends that:

- the Ministry of Education and (where relevant) the Ministry for Business, Innovation and Employment should be responsible for advising ministers on policy goals and high-level policy parameters; and
- TEC and NZQA should be responsible for designing and managing their operations to give effect to ministerial policy decisions.

Based on the Commission’s observations, this would represent a change from the status quo. At present, ministers and the Ministry appear to decide quite detailed matters of operational funding design during Cabinet and policy processes, and communicate these to TEC, for example via prescriptive funding mechanisms under s 159L of the Education Act 1989 (Chapter 14).

¹³⁷ In this model, the Ministry of Education would propose changes to market regulation to the Minister based on the Ministry’s view of how best to give effect to the goals of the TES. The Minister would, if he or she so wished, seek advice from Treasury about the impact on TEIs, and then decide how to proceed based on the relative value that government assigned to its different interests. This is properly a political decision.

TEC and the Ministry of Education will need to share responsibility for making changes to various aspects of pricing in tertiary education, due to the interaction of tuition subsidy rates, fee regulation, and Student Loan Scheme settings. It may also be necessary to involve the Ministry of Social Development (MSD), which administers student loans and allowances, and Inland Revenue, which manages student loan debt. The relevant agencies, led by the Ministry of Education, will need to agree clear decision rights and responsibilities (including responsibility for fiscal impact) regarding changes to price.

TEC will need to be responsible for iteratively testing changes to tuition subsidy rates (including via tendering mechanisms) and the design of any performance-based pricing adjustment mechanism – perhaps within broad parameters agreed by ministers. TEC will need sufficient operational control to be able to make adjustments, observe the reaction from providers and students, and respond quickly if there are problematic unforeseen consequences.

16.2 What needs to happen with the Tertiary Education Strategy?

Chapters 13, 14 and 15 of this report recommend that government use new models of information, regulation and purchasing to encourage providers and students to participate in new models of delivery – as a means of achieving government’s goals for tertiary education in New Zealand.

In theory, those goals of government are expressed in the TES. However, Chapter 5 finds that while the TES contains worthy priorities, it is not an effective tool for driving outcomes. In particular the TES contains little guidance on how trade-offs between its six priorities should be managed in order to best achieve an overarching goal or goals.¹³⁸

The trouble with the TES

The TES is, by design, a high-stakes, high-profile, slow-changing document with mandatory consultation requirements. The legislation states that the Minister must issue a TES “from time to time”, and consult with TEC and “those stakeholders in the tertiary education sector that he or she considers ought to be consulted” (s 159AA). Five-yearly TES documents have become the norm, released in draft for feedback from providers and the public before finalisation.

The statutory design of the TES was presumably intended to provide stability and transparency to stakeholders in the tertiary education system, including TEC and providers – in contrast to a policy agenda that ministers can develop without public visibility and can change at will. The statutory design may also have been intended to embody the ethos that the TES is “everyone’s document”, an expression of the collective ambitions of the system as a whole, rather than a statement of what government seeks to achieve through its regulatory and purchasing levers.

As a practical reality, though, the statutory design of the TES and its five-year time horizon are problematic:

- A high-level, multi-priority TES allows government to signal to a wide variety of stakeholders in tertiary education that it values what they value. The public consultation process tends to result in a document that has a “little bit of everything” in it, to ensure that all stakeholders feel that their voices were heard during its development and buy in to the resultant product.
- Ministers can – and generally prefer to – steer education agencies via many less public, or more easily modifiable, methods than the TES. These include in-person feedback, Letters of Expectation, feedback on Statements of Intent, and funding mechanisms issued under s 159L of the Education Act 1989.

The result has tended to be a TES document that is non-committal, high-level and broad, and that fails to provide TEC with clear guidance about government’s fundamental commitments or policy intentions. This in turn weakens TEC’s contracting with providers via Investment Plans: Providers must articulate in their proposed (ie, draft) Investment Plans how their intended delivery will contribute to the goals of the TES; but with a very high-level TES that presents multiple priorities, providers can show that just about any provision helps to give effect to at least some part of the TES. Proposed Investment Plans are therefore not as useful

¹³⁸ A notable exception is the specific guidance in the previous TES to prioritise full-time enrolments by young people aged under 25. As Chapter 3 explains, this priority was very effective in changing TEC and provider behaviour.

to TEC as they could be in differentiating between providers for funding purposes, were the TES specific about its objectives.

This is a lost opportunity because TEC's Investment Plan-based funding is government's single biggest lever for influencing providers.

A new TES

The Commission recommends that government develop and release a new TES clarifying that government's overarching goal for teaching and learning¹³⁹ in tertiary education is **to enable a wide range of New Zealanders to participate and succeed in tertiary education in a way that maximises the returns, broadly conceived,¹⁴⁰ to government's expenditure on tertiary education.** This overarching goal aligns with s 159AAA of the Education Act 1989 (Box 1.2) and the current TES, as well as the current Government's investment approach.

The TES should then clearly articulate what government will do to achieve this goal over the period of the TES, setting out the intervention logic for its proposed activities. This is to give "strategy" its true meaning – a logical long-term plan of action in pursuit of a clear and specific objective.

In line with the recommendations in Chapters 13, 14 and 15, the Commission recommends that government's strategy as expressed in the TES should direct education agencies to undertake the following activities¹⁴¹ in accordance with their respective roles and responsibilities:

- identifying the returns to study (to students and to government) for students with various characteristics studying at different types of providers and in different fields or levels of study;
- publishing resources to help students make good decisions about tertiary education;
- measuring and rewarding providers' performance in adding value to students;
- licensing providers in order to protect acceptable standards of quality, and using price to reward the relative performance of funded providers above this level;
- striving for competitive neutrality between different types of provider, including basing monitoring and compliance requirements based on risk and not subsector;
- moving volume mechanistically between funded providers (but not between fields of study within a provider – this would be for providers to manage themselves) in response to student demand;
- address problematic mismatches between supply and demand, where required, by making careful changes to pricing;
- allowing providers flexibility to set tuition fees in return for community service obligations;
- adjusting prices over time to pay lower subsidies (or no subsidies) to study with high private returns; and
- encouraging capable providers to experiment with new models, both within and outside the publicly funded system.

A new TES might also identify any long-term persistent areas of system underperformance or emerging opportunities, and ask TEC and NZQA to address such underperformance and opportunities, stating any policy view on what levers the agencies should use.

¹³⁹ Government may also have goals relating to the research activity of tertiary education providers. This is out of scope for the inquiry.

¹⁴⁰ The Education Act 1989 requires the government's long-term strategic direction for tertiary education to address economic goals, social goals, environment goals and the development aspirations of Māori and other population groups (s 159AA).

¹⁴¹ A new TES could potentially also incorporate the tertiary elements of government's strategy for international education, which is currently presented in a separate "Leadership Statement for International Education" (New Zealand Government, 2011). If so, then this would require additions to the proposed list.

If TEC retained a role purchasing foundation-level education for MSD clients, then a new TES might also express the expectation that this role be carried out in line with government's social investment approach.

R16.2

Government should develop a new Tertiary Education Strategy (TES). The new TES should articulate a clear plan for how government will achieve an overarching goal of enabling a wide range of New Zealanders to participate and succeed in tertiary education in a way that maximises the returns, broadly conceived, to government's expenditure on tertiary education.

In particular, the TES should direct education agencies to undertake the following activities in accordance with their respective roles and responsibilities:

- identifying the returns to study (to students and to government) for students with various characteristics studying at different types of providers and in different fields or levels of study;
- publishing resources to help students make good decisions about tertiary education;
- measuring and rewarding providers' performance in adding value to students;
- licensing providers in order to protect acceptable standards of quality, and using price to reward the relative performance of funded providers above this level;
- striving for competitive neutrality between different types of provider, including setting monitoring and compliance requirements based on risk and not subsector;
- moving volume mechanistically between funded providers in response to student demand;
- address problematic mismatches between supply and demand, where required, by making careful changes to pricing;
- allowing providers flexibility to set tuition fees in return for community service obligations;
- adjusting prices over time to pay lower subsidies (or no subsidies) to study with high private returns; and
- encouraging capable providers to experiment with new models, both within and outside the publicly funded system.

Monitoring the TES: an opportunity for improved stewardship of the tertiary education system

Chapter 5 notes that the monitoring of the TES is sporadic, and its performance framework patchy and unclear.

A new TES along the lines described above, in which government sets out its strategy for achieving the overarching goal for tertiary education teaching and learning, should be supported by a robust and well-designed performance framework to measure progress. The performance framework, which should be published, should disaggregate the overarching goal into a series of smaller measurable activities and results, in line with the intervention logic of the TES.

The performance framework could potentially adapt the Ministry of Health model combining top-down "System Level Measures" set by central government, with bottom-up "Contributory Measures" set by operational agencies and providers in line with their different roles and circumstances (Ministry of Health, 2017). This would allow autonomous TEIs to continue to articulate their own contributions to government

goals, and may enable the new performance framework to leverage existing outcomes frameworks TEC has agreed with universities and institutes of technology and polytechnics (ITPs) (TEC, 2016m).

The performance framework could also include any targets that government considered appropriate, including relevant targets drawn from whole-of-government frameworks such as Better Public Services and the Business Growth Agenda.

The TES and associated performance framework should populate the accountability documents of tertiary education agencies and TEIs in line with their respective roles and responsibilities.¹⁴² The performance framework should also be the source of measures used to assess the performance of relevant appropriations in Vote Tertiary Education.

This would give TEIs, education agencies, Treasury and the public a shared and concrete understanding of:

- government's overarching goal for tertiary education teaching and learning;
- how each TEI's and agency's activities contribute to that goal; and
- what good performance looks like, both for the tertiary education system in general and for each agency.

It would also enable a whole-of-government annual view, via agencies' and TEIs' Annual Reports and Budget documentation, of progress toward each TES activity or result, and, at an aggregate level, toward the overarching goal. This in turn would also surface any instances where agencies lacked the levers they needed to achieve the desired change, or were using those levers ineffectively.

R16.3

Government should develop and publish a performance framework to articulate the goals of the Tertiary Education Strategy (TES) in more detail and state how government will measure their achievement. The TES and associated performance framework should populate the accountability documents of government education agencies and tertiary education institutions in line with their respective roles and responsibilities.

16.3 Conclusion

The changes recommended in this report, implemented in sufficient number, will give providers meaningful incentives and permissions to invest in new models of tertiary education, creating a diversity of approaches. This diversity has the potential to improve access and outcomes for students, including the priority groups identified in the inquiry's terms of reference. It should also enable providers, government, students and their families to learn more about what is effective and for whom, helping to raise the value of educational investments across the system. This would help to create "a system that learns" (Box 16.1).

Box 16.1 **A system that learns**

The following is excerpted from the Commission's inquiry into more effective social services. It applies equally to the tertiary education system.

Social services deal with many problems that are complex and are not susceptible to one-off, all-time solutions. The complexity and uncertainty about solutions place a premium on a system that learns, that finds solutions to problems and finds new ways to improve the return on investment in social services.

Lifting the effectiveness of social services in New Zealand will require a system that learns over time about what works, then selects the successful approaches and amends or winds down the approaches that fail to achieve good results. ...

¹⁴² Accountability arrangements for TEIs differ slightly from those of other Crown entities, but include the same basic elements of a statement of service performance (incorporated into the TEI's Investment Plan) and an Annual Report.

A system that learns needs to have:

- clear goals around improving the return on investment in social services in terms of better outcomes both for clients and for taxpayers;
- strong incentives to find, and the flexibility to try, new ways of doing things;
- information flows that provide ongoing feedback to clients, providers and commissioning organisations and citizens about what is working;
- a willingness to tolerate trials that fail, while dealing with failure quickly;
- an ability to construct trials and experiments in a way that can be scaled up if successful; and
- the flexibility to take up and spread successful innovations.

Source: NZPC, 2015a, pp. 12–13

This concluding section explores, in brief, what a system that supports new models would mean for providers, students, and taxpayers in New Zealand.

What it would mean for providers

Under the Commission’s recommended new settings, providers who innovate successfully in ways that are efficient, effective and attractive to students will earn the biggest rewards (financial, reputational and regulatory), allowing them to maximise their mission, and also to expand their delivery and grow their student numbers if they want to. For providers who are excellent performers but who do not want to grow their student numbers, the rewards on offer will be more modest, but not negligible (and a considerable improvement on the status quo).¹⁴³

Providers will enjoy fewer restrictions on the design and delivery of their educational products. As long as performance meets acceptable standards, providers should also enjoy lower compliance costs in dealing with government agencies. Published data will be a better reflection of providers’ true performance in adding value to students. Those who want to try new things will have permission and incentives to do so, and where they succeed they will be rewarded. The most capable providers will be able to quality-assure their own delivery.

What it would mean for students

The Commission’s recommended changes will allow latent demand for tertiary education to start to express itself at the margins of the system, decreasing the number of people who miss out on tertiary education altogether, or who miss out of their first choice of course or provider. Expanded access to the system may become increasingly important if, as many commentators predict, technological change creates a growing need for mid-career retraining and upskilling by adults.

Under the recommended new settings, students will have more choice about what and where they study – and a wider range of products and providers to choose from. This will help existing students, as well as those who are not participating but could benefit if they did, to find an offering that meets their study needs, preferences and aspirations. In particular:

- Students considered “hard to teach” will be attractive to, rather than a burden on, the providers who are best-placed to help them to achieve their tertiary education goals.
- Students who are fast learners will be able to complete their studies faster – subject to providers permitting this. The Commission would expect providers to emerge to cater to this market online in New Zealand, as has occurred in the United States and Australia.

¹⁴³ These include reputational rewards via Educational Performance Indicators, a higher per-EFTS price via performance-based pricing, the ability to raise prices for in-demand TEC-subsidised courses, and the ability to deliver unsubsidised courses with unregulated fees to a fully private market, supported by government-backed student finance.

- Students wanting to get their existing skills recognised and credentialised through a Recognition of Prior Learning (RPL) process – as well as or instead of a tuition process – will be able to do this through the funded system due to the redefinition of an EFTS.
- Students wanting to study one or two courses, rather than a full qualification, will be able to do so.

All students should have access to better information about providers' performance in achieving good educational outcomes for students, and better career education from an early age, to support them to be confident and competent decision-makers about their tertiary study.

In time, students who receive the highest private benefits from their tertiary education will pay a greater share of its costs than they do at present. Students who want to study something that government does not want to subsidise will be able to access student finance to do so. Where providers choose to take advantage of fee flexibility with community service obligations, students with higher willingness to pay (who are likely to be those expecting to receive high private returns for their study) will pay higher fees, and low socioeconomic status (SES) students will receive fee discounts.

What it would mean for priority groups

The inquiry terms of reference ask the Commission in particular to investigate how new tertiary models can improve access, participation and achievement of priority groups including those with limited access to traditional campus-based provision, Māori, Pasifika, and at-risk youth.

Those with limited access to traditional campus-based provision

People with limited access to traditional campus-based provision include those for whom geographic proximity or physical accessibility is a barrier, and those in work who wish to pursue further study. The Commission's recommended changes will improve access for both groups.

Providers will have more scope to offer online learning, including flexible delivery where students can learn at their own pace. Providers will also be able to offer online degree-level courses at scale, taught by skilled teachers who are not active in research. Polytechnics will be able to deliver outside their home regions, and articulation agreements will increasingly provide pathways for those who begin study in a regional polytechnic to progress to higher levels of study at other providers if they choose. TEC will be able to tender for delivery in particular geographic regions if required.

People in work will benefit from the greater availability of online learning, flexible delivery and RPL. They will also be able to access smaller qualifications, or individual courses short of a full qualification, as well as industry training at higher levels of the New Zealand Qualifications Framework.

Māori and Pasifika learners

The Commission's recommended changes to funding and performance management will reward providers for adding value to students wherever their starting points, reducing the incentive to cherry-pick the best-prepared students. This will be of particular benefit to Māori and Pasifika students who have lower average levels of prior achievement.

Māori and Pasifika students will also particularly benefit from providers' strengthened incentives to:

- use data and analytics to understand what helps students with different characteristics to stay engaged and succeed, and what warning signs of disengagement should trigger interventions to help them get back on track; and
- develop and implement frameworks for quality tertiary teaching.

This report presents new evidence on Māori and Pasifika students' access to, and success in, Bachelor's level study. Meehan, Pacheco and Pushon (2017) find that while some ethnic gaps can be explained by prior academic achievement and SES, there are still unexplained differences. The Commission's recommended changes will reduce barriers to access for Māori and Pasifika learners. It will support providers to develop new models to improve outcomes for these students.

At risk youth

Addressing the disengagement of young people from the schooling system is outside the scope of this inquiry. But the Commission finds the schooling system is not doing a good job of developing students' career skills and aspirations at an early enough age. It also finds evidence that students with these aspirations and skills are more likely to remain engaged in education.

This report recommends that government do more to identify what kinds of study, at what providers, results in the best outcomes for students with different characteristics, as well as outcomes for those who do not engage with the education system. For at risk youth, there are clear connections between this approach to tertiary education and the government's focus on social investment.

At-risk youth will have a higher chance of finding a tertiary education course that meets their needs when they have a diverse range of courses to choose from. A tertiary education system that supports new models will also help to reduce the risk of disengagement or non-engagement by at-risk youth.

What it would mean for taxpayers

The Commission's recommended changes will reward providers for being effective and efficient in helping students to achieve their tertiary education goals – and over time will weed out those who fail to do this efficiently or well. The changes should also enable providers to be more efficient in fitting educational products to students' needs, delivering only what student requires to achieve their goals.

The recommended changes will also shift tuition subsidies, over time, away from study with high private returns. Students already have good financial incentives to enrol in this type of study, and government can generate more value for taxpayers by directing tuition subsidies away from tertiary education that would happen anyway.

As a result of these changes, taxpayers can have a much higher level of confidence that public spending on tertiary education in New Zealand represents value for money. In this context taxpayers may be willing to increase their investment in order to expand participation in the system. Having said that, with new models of tertiary education (including a redesigned Student Loan Scheme), it will likely be possible for government to expand access within current levels of taxpayer funding.

The next five years – and beyond

The recommendations in this report, if implemented, will create valuable dynamism and experimentation that is currently lacking in New Zealand's tertiary education system, without making unmanageable demands of quality assurance or funding infrastructure. They will also enable a wider variety of New Zealanders to participate and succeed in tertiary education. The recommended changes are highly desirable in the short to medium term (1–5 years) and most can be fully implemented in this timeframe.

Looking further ahead, what seems possible, sensible, and desirable for government to do in tertiary education could evolve a great deal over the next five years. New Zealand's information and quality assurance environments and the tertiary education market all have the potential to mature considerably in this time. In addition, global trends in student demand, international mobility and delivery technologies will continue to develop, and new trends are likely to emerge.

All this places a premium on having a tertiary education system that is diverse, adaptable and responsive – in other words, a system that supports new models. The government can greatly improve the ability of New Zealand's tertiary education system to seize the opportunities and manage the risks of the future by implementing the changes recommended in this report.

Findings and recommendations

The full set of findings and recommendations from the report are below.

Chapter 3 – Student characteristics and choices

Findings

F3.1

Students choose tertiary study for a range of reasons, including improving their career prospects and pursuing their personal interests. Students are acutely concerned about whether their investment in tertiary education will lead to well-paid work.

F3.2

On average people from higher socioeconomic communities study longer, and at higher levels. They also receive more government funding towards tertiary education at above foundation level.

F3.3

Māori and Pasifika have relatively high rates of participation in tertiary education, but the high participation rates are entirely at subdegree-level study.

F3.4

The tertiary education system is increasingly oriented towards full-time study, towards younger students (under 25 years) and away from extramural study.

F3.5

Decisions about entering tertiary education and the influences on prospective students are complex. The arrangement and delivery of careers services, including in schools, and government provision of information to prospective tertiary students, is fragmented and operating poorly.

F3.6

Wage levels send important signals to prospective students about what type of tertiary education will be financially rewarding to them, and of value to employers.

F3.7

Differences in prior school achievement are the major drivers of lower Māori and Pasifika participation in Bachelor's degree study. Improving school-level outcomes for Māori and Pasifika is important to improve their participation at higher levels of tertiary study. But Māori participate in Bachelor's degree study at lower rates even after taking account of prior school achievement and socioeconomic status.

Chapter 4 – Employers, industry, training and labour market

Findings

F4.1

Compared with other OECD countries, workers in New Zealand are poorly matched with their positions (based on their qualifications, field of study, and literacy). Overseas studies show that poor matching has negative consequences for individuals, employers and the wider economy. However, the extent to which these consequences play out in New Zealand is unclear given some data limitations and a shortage of New Zealand-specific evidence.

F4.2

Career guidance, information about the returns to different tertiary education programmes, opportunities to upskill and retrain, development of transferable skills, and an education system that is responsive to employer demand are all important for improving matching between graduates and employment.

F4.3

Employers can have input into the tertiary education system through a range of formal and informal avenues. The incentive for employers to engage with tertiary providers may be muted by the relative ease of access to skilled migrants. Tertiary providers lack incentives to respond to employer input as the majority of their revenue comes from government.

F4.4

Government has established numerous initiatives to improve coordination and links between tertiary education providers and employers. The need for such initiatives is symptomatic of longstanding coordination difficulties between the tertiary education system and employers.

F4.5

Tertiary education qualifications that equip graduates with transferable skills are desirable, as such skills retain their relevance in a changing job market. Several providers noted they are focusing on developing transferable skills; however, in some cases, these skills are not well integrated into assessment processes.

F4.6

Funding for industry training is predominantly restricted to provision at levels 1 to 4 on the New Zealand Qualifications Framework. This limits the ability of the industry training subsector to respond to demand for higher-level training, and inhibits the adoption of new models such as degree apprenticeships.

F4.7

The ability of different subsectors to deliver apprenticeships, and for employers to organise industry training through the direct training scheme, creates valuable competition and diversity in available training options.

F4.8

The government funding rate for apprenticeships differs markedly, depending on whether they are administered by an Industry Training Organisation or a polytechnic. The rationale for this difference is unclear.

F4.9

Barriers to mid-career retraining include current funding and regulatory settings for tertiary education that focus on younger, full-time learners completing full qualifications, the design of the student support system, and funding rules that make recognition of prior learning difficult.

Chapter 5 – Government's many roles

Findings

F5.1

In some instances, government functions are poorly assigned among government agencies.

F5.2

The priorities of the current Tertiary Education Strategy (TES) encompass a very wide range of provider activity. The TES gives no sense of relative importance of these priorities, or how the inevitable trade-offs between priorities should be managed. Nor does the TES outline government's plan for achieving the priorities. Its performance indicators are frequently vague and monitoring against the strategy is sporadic.

F5.3

Government typically recovers just 60 cents per dollar lent through the Student Loan Scheme – due in large part to the use of a zero nominal interest rate. This fiscal cost, along with the cost of other student support payments, creates a strong incentive for government to control student numbers and provider fees.

F5.4

Funding mechanisms tightly specify how funding is allocated, and what providers can deliver.

F5.5

The fiscal effect of Performance-Linked Funding is frequently overstated. Between 2013 and 2015, less than 0.2% of SAC 3+ funding was withheld under Performance-Linked Funding. However, Performance-Linked Funding does appear to strongly affect provider behaviour to the detriment of innovation and the development of new models.

F5.6

The Tertiary Education Commission's regional delivery rules restrict the ability of Institutes of Technology and Polytechnics (ITPs) to deliver outside their own region. This dampens competition between ITPs and, in conjunction with enrolment caps, limits their ability to grow. Both effects reduce ITPs' ability or incentives to introduce new models of tertiary education, increase efficiency, or improve their educational performance.

F5.7

The Tertiary Education Commission frequently delays confirmation of providers' funding allocations.

F5.8

A very small share of funding allocated through the Investment Plan process shifts between tertiary providers, resulting in a very stable funding environment with little reward for successful innovation or high performance.

F5.9

Caps on the enrolment of domestic students mean tertiary providers are allocated a certain number of Equivalent Full-Time Students for whom they must deliver a mix of programmes on the New Zealand Qualifications Framework. Tertiary providers have little ability to expand or contract delivery in response to changes in student demand.

F5.10

Current tightly specified fee regulation:

- inhibits differentiation in educational offerings within the tertiary education system;
- has locked providers into historic fee relativities; and
- works against provider experimentation with prices, as any fee decrease is immediately locked in.

F5.11

New providers must complete a multifaceted set of requirements before being eligible to deliver qualifications on the New Zealand Qualifications Framework or apply for Tertiary Education Commission funding.

F5.12

Some tertiary providers view New Zealand Qualifications Authority processes as time-consuming, costly and a barrier to innovation in the development and delivery of programmes.

F5.13

There is scope for the New Zealand Qualifications Authority to adopt a more risk-based approach to External Evaluation and Review, and for reviews to concentrate more on providers' value-add and student outcomes.

F5.14

The Committee on University Academic Programmes process is not conducive to innovation in the university subsector.

F5.15

Audits conducted by the Academic Quality Agency focus primarily on process rather than the quality of delivery or outcomes achieved. This is a missed opportunity to identify improvements that matter most for students.

F5.16

Government's comprehensive financial guarantee for creditors and council members of tertiary education institutions compels it to undertake financial monitoring. However, government is not in the best position to fulfil this role as it has neither the most current or comprehensive information, nor is it best placed to intervene when financial issues first emerge.

F5.17

Government has a multitude of initiatives to provide information about careers and tertiary education to students and employers. Responsibility for these initiatives is spread across five government agencies.

Chapter 6 – Providers of tertiary education

Findings

F6.1

Traditionally, universities are non-hierarchical collectives with horizontally dispersed decision rights and weak central control. Such organisations face particular difficulties in adapting to external change or innovating at scale.

F6.2

Universities have significant incentives to invest in research to maximise their Performance-Based Research Fund revenue, and they are responding to these. Universities have no similarly strong external incentives to improve teaching quality.

F6.3

No single arrangement of tertiary-level research and teaching will always be the most successful or the best for students. The traditional model of the “teacher as researcher” may be a good fit for some students and some academics, but is not the only good model.

F6.4

Tertiary education sector staff hold a widespread, though not universal, view that “red tape” and excessive management increase costs and reduce their ability to do good and enjoyable work, without any compensating gains in the quality of that work.

Chapter 7 – Tertiary education markets

Findings

F7.1

An EFTS is the main unit purchased by the Tertiary Education Commission and delivered by tertiary providers. It necessarily commodifies a complex, co-produced service into a quantifiable product, which is supplied and purchased in a “market for EFTS”.

F7.2

Government constrains the market for EFTS. Government purchases a limited range of products, sets quotas for each provider, and controls price. EFTS prices are not sensitive to important drivers of costs, such as economies of scale, differences in student characteristics, and differences in location and mode of delivery.

F7.3

The agencies operating the tertiary education funding system observe student demand imperfectly. The funding system observes enrolments, but is largely blind to two types of demand:

- demand partly served, where students enrol in a course or with a provider that is not their first preference; and
- unserved (or latent) demand, where students would enrol if the right opportunity at the right price were available to them.

The funding system misclassifies the former as demand satisfied, and ignores the latter. Such a funding system effectively defines student demand in terms of education delivered, so demand cannot exceed supply.

F7.4

A provider’s under- and over-delivery of EFTS has relatively little effect on its future EFTS allocations. Policy and provider-specific factors are more important.

F7.5

Tertiary education Budget allocations ultimately determine provider revenues. However, Budget allocations are not directly responsive to fluctuations in student demand. Rather they are influenced by political priorities, and competing demands on public finances.

F7.6

The balance of evidence supports the view that demand exceeds supply in the tertiary education system. The system rations education, by price, by quantity and by product.

Chapter 8 – Implications of the incentives in tertiary education system settings

Findings

F8.1

Tertiary education institutions (TEIs) perform a delicate balancing act between making calls for more funding while at the same time demonstrating efficiency and innovative activity. Observable success in reducing costs and being more efficient with their resources undermines TEIs' lobbying attempts to maintain or increase price and quantity.

F8.2

The incentives facing tertiary education institutions (TEIs) encourage them to over-invest in reputation and physical assets, and to take on more debt than might otherwise be prudent. In (partial) response, government directly regulates the amount of debt TEIs can take on.

F8.3

The funding and regulatory system does not materially distinguish between a provider who is just "satisfactory" and a provider who is "exceptional" at teaching. No robust information is currently available to help prospective students make this distinction either.

F8.4

Student choices have limited impact on provider revenue, as long as providers can fill their allocated EFTS quotas. Student choices may lead to a reallocation of revenue within (rather than between) providers.

F8.5

The EFTS quota system leads to the over-subscription of some courses and providers, while others are under-subscribed, with supply unable to readjust to demand. Instead, demand has to adjust to supply – and some students are inevitably left with their second (or lower order) preferences. This means less efficient matching of students to tertiary education.

F8.6

The funding system pushes tertiary education institutions towards homogeneity in what and how they deliver. This risks mediocrity and discriminates against some students.

F8.7

The funding and quality assurance systems do not reflect stated government commitments to improving educational outcomes for priority student groups, including Māori and Pasifika.

F8.8

Providers with market power are able to impose high switching costs on students – and have financial and reputational incentives to do so.

F8.9

The New Zealand tertiary education system is not well suited to lifelong learning.

F8.10

The market power of providers gives them weak incentives to control costs. Higher production costs do not necessarily result in better outcomes for students.

F8.11

To manage its financial and political risks, government requires every public provider to make a financial surplus. Government sets EFTS prices at a level that enables this. This means that, over time, the highest-cost public provider (that does not have other substantial sources of revenue) can effectively set EFTS prices.

F8.12

Quota mechanisms, and barriers to entry and exit, in the tertiary education system mean minimal reallocation of EFTS. This reduces opportunities for improved system-level productivity and quality.

F8.13

There is significant dispersion in labour productivity across TEIs, and even larger dispersion in capital productivity. Such dispersions generally indicate weak pressure to improve and, on the other hand, significant improvement opportunities for the worst-performing institutions.

F8.14

Cross-subsidisation can be problematic where it undermines funders' intentions, is absent where government's funding approach assumes it is present, or puts competitors on an uneven playing field.

F8.15

Features of the tertiary education system combine to limit innovation and reduce responsiveness to student demand. Competition – where it exists in the system – is not on the dimensions of education-enhancing, cost-reducing innovation or responsiveness to student demand.

F8.16

There is "considerable inertia" in the New Zealand tertiary education system. This inertia is an emergent property of the system, rather than a characteristic specific to providers.

Chapter 9 – Outcomes of the system

Findings

F9.1

Course and qualification completion rates as currently published by government are not a reliably good indicator of a provider's performance in educating students, because they are not adjusted for differences in the student intake.

F9.2

International assessments show that New Zealand 15-year-olds have high average skills in literacy and numeracy, but with a lot of variation between 15-year-olds, and a long tail of low-skilled teenagers. The same pattern applies to New Zealand adults in their 20s. The tertiary education system does not appear to influence these patterns in skill variation.

F9.3

Lower course pass rates are the major driver of lower retention and completion of Māori and Pasifika students in Bachelor's level study. But Māori students had lower retention rates, and Māori and Pasifika lower completion rates, even after taking account of differences in pass rates, socioeconomic status and other measured variables.

F9.4

The tertiary education system underperforms for Māori and Pasifika students. These groups experience persistently worse tertiary education outcomes than other students.

Chapter 10 – Trends

Findings

F10.1

University tuition fees have increased significantly in real terms over the past 10 years. Average tuition fees in the institute of technology and polytechnic and wānanga subsectors have fallen.

F10.2

At the aggregate level, government tuition subsidies per EFTS have increased faster than the rate of inflation over the past 15 years. This increase is driven primarily by increases in the Student Achievement Component funding rate for universities and institutes of technology and polytechnics. Funding rates for wānanga are largely unchanged, while rates for Private Training Establishments declined between 2001 and 2009, before rising again.

Chapter 11 – Innovative activity

Findings

F11.1

Students who choose distance and online study differ from on-campus students, particularly in terms of age and employment status. Online delivery models have the potential to expand access to tertiary education for older people, those in employment, and those with difficulty accessing traditional campus-based education.

F11.2

There is considerable scope for tertiary providers to do more to research their own policy and practice.

F11.3

The internal culture and management capability of a tertiary education provider is a major influence on its ability and wish to innovate. This culture and capability is also shaped by a system that does not reward innovation.

F11.4

Providers in New Zealand tend to adopt sustaining innovations that improve the value of their existing way of delivering education. Often, this means technology is grafted on to old ways of doing things.

F11.5

Regulatory settings make it hard for innovative new models of tertiary education to emerge from existing government-funded providers. New models either arise outside of the government-funded system, or are enabled by legislative change on a case-by-case basis.

F11.6

Some frontline educators adopt technology to aid their teaching in innovative ways, but there is little institutional capability to scale this activity.

Chapter 13 – Information to support new models

Findings

F13.1

By itself, a national framework for credit transfer is unlikely to lead to widespread good practice in credit transfer. The incentives faced by individual providers are still the dominant considerations.

F13.2

Market regulation typically includes measures to inform and protect consumers, limit the accumulation of market power, control over-pricing, and sanction the abuse of market power. Yet in tertiary education, government regulations grant local monopolies and create cartel-like structures.

Recommendations

R13.1

Government should consolidate and improve the array of official information sources about study and career options aimed at prospective (and current) tertiary students.

R13.2

The Ministry of Education should reform its approach to school-based career education so that school students, from an early age, develop the skills and knowledge to make effective decisions about their study options and career pathways.

R13.3

Government should abolish University Entrance, leaving all universities free to set their own entry requirements. All providers' entry requirements should be transparent and communicated consistently, including in the consolidated information source referred to in Recommendation 13.1.

R13.4

Government's monitoring and reporting of provider and Industry Training Organisation performance, including the Tertiary Education Commission's Education Performance Indicators, should include measures that are adjusted for students' prior achievement.

R13.5

Government should identify what kinds of study, at what providers, result in the best outcomes (broadly conceived) for different groups of students. This should include comparisons between provider-based and Industry Training Organisation arranged training. It should also include comparisons between the outcomes of students and the outcomes of otherwise similar people who do not participate in tertiary education, to improve understanding of the difference that tertiary education makes to people's lives.

Government should publish this information for providers, Industry Training Organisations and purchasing agencies. It should also be published in the consolidated information source referred to in Recommendation 13.1.

R13.6

The Tertiary Education Commission should change the way it measures completions so that provider performance is not penalised if a student transfers to continue learning at a different provider or moves into work.

R13.7

The New Zealand Qualifications Authority (NZQA) is reviewing the indicators that it uses to assess providers' self-assessment capability within the External Evaluation and Review process. As part of this review, NZQA should introduce measures (as is appropriate for a provider's context) that encourage providers to expand their use of data and learning analytics to better inform their teaching and student support.

R13.8

To help providers and industry understand and respond to the likely future supply of skills, government should publish information about students' study choices (including at school).

R13.9

New Zealand Qualifications Authority is revising its guidance on credit transfer. New guidance should set expectations that providers:

- have credit transfer policies and practices, at both the institutional level and (where appropriate) sub-institutional levels, that support student mobility and minimise repeated learning;
- integrate enrolment and credit transfer application processes;
- make available information to students about transfer processes in an accessible, clear and consistent way; and
- use terms consistently and collect data about transfer applications and outcomes of students who have transferred to support data analysis at a provider and system level.

R13.10

The Tertiary Education Commission should selectively fund providers to enter into specific articulation agreements where it wishes to promote articulation, or where there is evidence of student or employer demand for articulation.

R13.11

Government should create an online register of articulation agreements and transfer opportunities on a course-by-course basis. Government should integrate this into the consolidated information source referred to in Recommendation 13.1.

R13.12

The Ministry of Education and the New Zealand Qualifications Authority should work with the Government Centre for Dispute Resolution to develop a dispute resolution mechanism for:

- resolving disputes between students and providers about credit transfer and recognition;
- raising awareness of articulation agreements, transfer pathways and credit recognition; and
- reviewing or auditing providers' credit transfer policies and practices.

In doing so, officials should consider opportunities to consolidate other dispute resolution mechanisms in the tertiary education sector.

R13.13

Every student should receive an invoice from their provider for government-subsidised education. This should explicitly show the full price of education, and taxpayers' contribution, alongside the fee payable.

Chapter 14 – Regulation that permits new models

Findings

F14.1

Good regulation recognises that different people can reasonably hold different views about what constitutes “high quality” tertiary education. Regulation should focus on enforcing acceptable standards that matter for quality regardless of students' needs and preferences.

F14.2

Self-accreditation for high performing providers would raise the stakes associated with quality assurance and place a premium on processes that are robust, credible and based on accurate information.

F14.3

Self-assessment in External Evaluation and Review processes is an important part of the quality assurance framework. It provides a mechanism by which providers can focus on improving performance in the context in which they operate.

Recommendations

R14.1

The New Zealand Qualifications Authority should define acceptable standards and monitor provider performance against those standards. The standards should be clear and any changes publicised well in advance. Providers that fail to meet acceptable standards should face meaningful consequences such as loss of their licence to operate or appointment of a Crown manager.

R14.2

The New Zealand Qualifications Authority (NZQA) should continue to review programme approval processes and other ex ante controls, with a view to reducing timeframes and removing any unnecessary requirements. In particular, NZQA should:

- set a target for the median timeframe for programme approvals;
- update policies to permit providers to change the location of delivery without prior approval, where those changes do not materially alter the programme from the perspective of students; and
- clarify when and why panel reviews are required, and ensure that the specified panel composition is the minimum size and skills composition necessary for quality control.

R14.3

All providers should be able to apply to the New Zealand Qualifications Authority for self-accrediting status. Self-accreditation should be restricted to providers with a track record of strong performance and robust internal quality assurance. Self-accrediting providers would be exempt from NZQA processes such as programme approval and accreditation, qualification monitoring, and External Evaluation and Review.

R14.4

Because the New Zealand Qualifications Authority uses Educational Performance Indicators (EPIs) as part of their quality assurance processes, they should work with the Tertiary Education Commission to ensure that EPIs are robust and fit for use as part of the quality assurance framework.

R14.5

New Zealand universities should initially be grandparented self-accrediting status. After an initial cycle of the self-accreditation process (5 to 10 years) they should be required to demonstrate that they were meeting the standards of a self-accrediting provider.

R14.6

Government should introduce legislation to repeal the statutory provisions relating to the Vice-Chancellors Committee in the Education Act 1989. Cross-institution collaboration on course development and quality control for self-accrediting providers should be voluntary and subject to the normal provisions of the Commerce Act 1986.

R14.7

Providers should develop and adopt frameworks of standards for tertiary teaching, suitable for New Zealand's tertiary education system, for assessing and rewarding the capability and performance of tertiary teachers.

R14.8

Government should introduce legislation to remove the statutory requirements of s 253B (3)(a) in the Education Act 1989 that every degree-level programme at a non-university provider must be taught mainly by people engaged in research.

R14.9

Government should conduct a review to consider what changes to the Performance-Based Research Fund, and to other funding instruments, are needed to address the imbalance in tertiary education institutions' incentives to prioritise research as opposed to teaching.

R14.10

Government should:

- extend funding eligibility to students who do not intend to pursue full qualifications; and
- remove specifications that limit the provision of short qualifications.

R14.11

Government should remove limits on the use of industry training funding on training at levels 5 and above on the New Zealand Qualifications Framework.

R14.12

To improve their ability to innovate, financially competent tertiary education institutions (TEIs) should own and control their assets, and be fully responsible for their own debts. Government should seek to amend the Education Act 1989 to:

- remove the requirement for financially competent TEIs to seek approval to acquire or dispose of assets, or to borrow money; and
- remove government's guarantee of the creditors of financially competent TEIs.

R14.13

Tertiary education institutions (TEIs) should contribute directly to their local communities by paying full rates. This would remove a distortion that can contribute to inefficient use of assets and land by TEIs.

R14.14

Institutes of technology and polytechnics should be able to deliver education at any location in New Zealand without pre-approval from the Tertiary Education Commission.

R14.15

The Ministry of Education should systematically identify and remove regulatory barriers to new entrants in the tertiary education system, subject to quality standards. This should include barriers to providers or groups acting collaboratively.

R14.16

Any provider should be able to apply to the New Zealand Qualifications Authority (NZQA) to use the terms "university", "polytechnic", "institute of technology", and "college of education". NZQA should grant or reject such applications based on the provider's characteristics and on whether students or the public are likely to be misled about the provider's nature or quality. NZQA should recover the costs associated with reviewing applications.

R14.17

The New Zealand Qualifications Authority (NZQA) should approve for New Zealand those providers and courses approved in jurisdictions with which NZQA has mutual recognition agreements, or in other jurisdictions where NZQA is satisfied with the quality assurance arrangements.

Chapter 15 – Purchasing to reward new models

Findings

F15.1

A student education account model would place students at the centre of the tertiary education system. However, the prerequisite conditions needed for such a model to be successful are not yet present in New Zealand.

Recommendations

R15.1

Government should reform the Student Loan Scheme. The Scheme should feature a higher repayment threshold than is currently the case (at least at the equivalent of the full-time adult minimum wage) and a progressive repayment schedule. New borrowing should attract interest. The Ministry of Education, in consultation with Treasury, should prepare advice to government on an appropriate rate of interest for the Student Loan Scheme at or above government's long-term cost of borrowing.

R15.2

If Recommendation 15.1 is not accepted, new borrowing under the Student Loan Scheme should be at a zero real interest rate. That is, balances should be adjusted for inflation based on the Consumer Price Index.

R15.3

Government should extend the Student Loan Scheme to allow students to borrow for tertiary courses that are NZQA-approved, but not subsidised by the Tertiary Education Commission. These loans should attract interest at a rate that covers the full cost to government, including the default risk of the additional loans (regardless of whether government accepts Recommendations 15.1 and 15.2 to reintroduce interest on all new student borrowing).

The extension should be on a trial basis, with an evaluation to gauge its impact on students, providers and the emergence of new models.

R15.4

Government should replace the Annual Maximum Fee Movement fee price regulation with a policy that specifies a regulated price for courses depending on their New Zealand Qualifications Framework level and field of study. This policy should apply to all providers on a neutral basis.

R15.5

To encourage product innovation while protecting access for low-socioeconomic status (low-SES) students, tertiary education institutions (TEIs) should be permitted to set higher fees (within limits) for some of the courses they offer, on the condition that the revenue raised is used to reduce fees, particularly for low-SES students.

The Ministry of Education and the Tertiary Education Commission should design and pilot a scheme of this kind and, depending on the results, extend it to all TEIs.

R15.6

Government should redesign its Student Achievement Component 3+ funding approach such that:

- it costs providers to over- or under-deliver against their Tertiary Education Commission (TEC) funding allocation; and
- TEC reallocates funded volume mechanistically in response to over- or under-delivery.

Each provider should retain flexibility to manage enrolments across different funding categories within the broad mix of provision that TEC has agreed to fund.

TEC should have the power to intervene in the mechanistic reallocation process in exceptional circumstances. Such intervention should be rare, and its nature and rationale recorded in TEC's Annual Report.

R15.7

The Tertiary Education Commission's (TEC's) reallocation process outlined in recommendation 15.6 should include a mechanism that allows TEC to free-up a small amount of funded volume to allocate to new entrants in each Investment Plan round.

R15.8

The Tertiary Education Commission should remove any reference to inputs in its definition of an Equivalent Full-Time Student. It should instead rely on the relevant quality assurer's assessment of "credit value" to determine the funded size of courses and qualifications. Because providers will have incentives to inflate the funded size of new courses and qualifications, government should implement measures to prevent this.

R15.9

The Tertiary Education Commission should, in consultation with providers, set – and stick to – a reasonable deadline by which it will confirm funding allocations.

R15.10

Government should discontinue Performance-Linked Funding. Government should design and implement a new pricing mechanism to incentivise providers to continually improve their performance in adding value to students. Such a mechanism should:

- use metrics that are adjusted for characteristics of the student intake;
- redistribute money (rather than student volume) from lower- to higher-performing providers at all levels of performance;
- avoid penalising providers when students leave study for reasons unrelated to provider performance; and
- affect a consequential amount of funding.

R15.11

Where necessary, the Tertiary Education Commission (TEC) should:

- run a tender process to identify the price at which providers are willing to supply in particular fields or regions, or for students with particular characteristics; or
- purchase from a “preferred supplier” for a fixed period of time in return for a commitment on the part of the provider to specialise.

In all such cases:

- the rationale for the intervention should be made public;
- the process should be transparent and competitive; and
- TEC should state in advance how and when it will measure the success of the intervention.

In entering into “preferred supplier” agreements, TEC should carefully weigh the value of encouraging providers to specialise against the harm of constraining students’ enrolment choices.

R15.12

Government should use price, not volume, to maintain its desired level of delivery (and where relevant its desired level of participation by students with particular characteristics) in any given location or field of study, including high-cost fields of study. Price levers available to government include tuition subsidies, fee regulation and scholarships. Any changes government makes to prices should be transparent, and based on a good understanding of why government has chosen to intervene and the outcomes it expects from its intervention.

R15.13

Government should adjust its tuition subsidy rates over time to reduce subsidies (or pay no subsidies) to study with high private returns.

R15.14

Government should permit providers to use a proportion of their Student Achievement Component 3+ funding allocation to run “experimental courses”. Such courses would have greater monitoring and evaluation requirements, but would be exempted from published performance data and performance-based pricing for a set period of time (unless it were to the provider’s advantage to include them).

R15.15

Government should enable Industry Training Organisations and providers to compete for funded volume in vocational education and training.

R15.16

The Ministry of Education should equalise the funding rates applicable to New Zealand and Managed Apprenticeships.

Chapter 16 – System architecture to enable new models

Recommendations

R16.1

Government should transfer responsibility for monitoring and managing the Crown's ownership interest in tertiary education institutions from the Tertiary Education Commission and the Ministry of Education to Treasury.

R16.2

Government should develop a new Tertiary Education Strategy (TES). The new TES should articulate a clear plan for how government will achieve an overarching goal of enabling a wide range of New Zealanders to participate and succeed in tertiary education in a way that maximises the returns, broadly conceived, to government's expenditure on tertiary education.

In particular, the TES should direct education agencies to undertake the following activities in accordance with their respective roles and responsibilities:

- identifying the returns to study (to students and to government) for students with various characteristics studying at different types of providers and in different fields or levels of study;
- publishing resources to help students make good decisions about tertiary education;
- measuring and rewarding providers' performance in adding value to students;
- licensing providers in order to protect acceptable standards of quality, and using price to reward the relative performance of funded providers above this level;
- striving for competitive neutrality between different types of provider, setting monitoring and compliance requirements based on risk and not subsector;
- moving volume mechanistically between funded providers in response to student demand;
- address problematic mismatches between supply and demand, where required, by making careful changes to pricing;
- allowing providers flexibility to set tuition fees in return for community service obligations;
- adjusting prices over time to pay lower subsidies (or no subsidies) to study with high private returns; and
- encouraging capable providers to experiment with new models, both within and outside the publicly funded system.

R16.3

Government should develop and publish a performance framework to articulate the goals of the Tertiary Education Strategy (TES) in more detail and state how government will measure their achievement. The TES and associated performance framework should populate the accountability documents of government education agencies and tertiary education institutions in line with their respective roles and responsibilities.

Appendix A Public consultation

Submissions

Individual or organisation	Submission numbers
Academic Quality Agency for New Zealand Universities	29, DR126
ACE Aotearoa	32, DR114
ACE Strategic Alliance	34
ACG Tertiary and Careers Group	84
Ako Aotearoa	58, DR157
Alan Cocker	62
Alona Ben-Tal	15
Alpha Training & Development Centre	9, DR112
Auckland Construction Skills Alliance and Auckland Construction Industry Partners	86
Auckland University of Technology (AUT)	64
BusinessNZ	77, DR165
Canvas	43
Careerforce	56, DR150
Chris Bridgman, Dave Petrie and Sarah Tabak	68
Clare Feeney	4
COMET Auckland	50, DR120
Competenz	45, DR159
CORE Education Ltd	78
Creative HQ Limited	75
DairyNZ	26, DR149
Daniel Hancock	DR144
Deans of Medicine, Universities of Otago and Auckland	97
Doug Galwey	DR138
Ed. Collective	89
Education New Zealand	52, DR175
EMA	DR136
Engineering E2E Steering Group	DR147
English New Zealand	DR140
Eric Pawson and Rua Murray	40
Flexible Learning Association of New Zealand	98, DR137
Francesca Beddie	3
Grant Duncan	18
Heather McKechnie	DR113
Higher Education Research and Development Society of Australasia (HERDSA) NZ branch	72
Horticulture New Zealand and Affiliates	92, DR152
Ian Hooker	36
Ian Chaston	DR104
Independent Tertiary Institutions	81

Industry Training Federation	54, DR160
Jeffrey McNeill	13
John Davies, Vicky Mabin and Peter Hodder	100
K P Jones	DR105
K Kennedy	23
Kaylene Sampson, Eleri Nugent, Sue Holstein, Erik Brogt and Ellie Kay	14
Ken Francis	94
Kerry Shephard	16, DR125
Lawton Hakaraia and Adnan Iqbal	102
Lynette Hardie Wills	49
Mal	DR109, DR110
Manukau Institute of Technology	67
Margaret Stuart	22
Mark Nichols	6
Massey Business School	96
Massey University of New Zealand	82, DR143
Massey University College of Creative Arts	33
Massey University College of Health	70
Massey University College of Humanities and Social Sciences	27
McGuinness Institute	90, DR170
Methodist Mission Southern	5
Ministry of Business, Innovation and Employment	63
Ministry of Education and Ministry of Business, Innovation and Employment	DR162
MITO New Zealand Incorporated	53, DR158
Motor Trade Association	DR, 164
National Council of Women of New Zealand	DR131
Neil Dodgson	28
New Zealand Board for Engineering Diplomas (NZBED)	DR148
New Zealand Council for Educational Research	DR135
New Zealand Council of Trade Unions	69, DR172
New Zealand Federation of Graduate Women	47
New Zealand ITP Subsector	DR127
New Zealand Manufacturers and Exporters Association	66, DR128
New Zealand Medical Association	DR117
New Zealand Nurses Organisation	25, DR129
New Zealand Post Primary Teachers' Association (PPTA)	61
New Zealand Qualifications Authority (NZQA)	88, DR161
New Zealand Union of Students' Associations	19
Nicholas Tarling	10, DR107
NZEI Te Riu Roa	65
NZITP and Metro Group	42
OMEP Aotearoa New Zealand	24, DR133
OMEP Waikato Bay of Plenty Chapter	20, DR115
Open Polytechnic of New Zealand	44, DR174

Otago Polytechnic	91
Otago Polytechnic Professional Group and Research Committee	DR154
Paul Hansen	55
Peter Harwood	95
Peter Hodder	DR142
Quality Public Education Coalition (QPEC)	48, DR145
Quality Tertiary Institutions	DR156
Raazesh Sainudiin	74
Raymond Richards	DR108
REANZ (Research & Education Advanced Network New Zealand)	87
REAP Aotearoa New Zealand	DR155
Rhys Taylor	7
Richard Norman	21, DR141
Rob Dunn	DR106
Robert Nola	DR123
Royal Society of New Zealand	41
Rural Women New Zealand	30, DR153
Science New Zealand	79, DR176
SeniorNet Wellington	11
Service IQ	57, DR168
Stephen Marshall	73
Taratahi Agricultural Training Centre	DR171
Te Tapuae o Rēhua	DR146
Te Tauihu o Ngā Wānanga	DR173
Te Mata o te Tau, the Academy for Māori Research and scholarship at Massey University	99
Te Rōpū Āwhina Whānau (1999-2015)	12
Te Wānanga o Aotearoa	DR121
Tertiary Accord of New Zealand (TANZ)	DR116
Tertiary Education Commission (TEC)	2, DR167
Tertiary Education Union (TEU)	83, DR132
Tertiary eLearning Reference Group (TeLRG)	101
The New Zealand Union of Students' Associations	DR139
Tourism Industry Association New Zealand	51
Tourism Industry Aotearoa	DR163
Unitec Department of Civil Engineering	76
Universities New Zealand	17, DR119
University of Auckland	85, DR118
University of Auckland Society	38, DR151
University of Canterbury	DR124
University of Canterbury Faculty of Arts	35
University of Otago	37, DR130
University of Waikato	93, DR169
VET Outcomes Group	60
Victoria University of Wellington	71, DR166

Victoria University of Wellington Centre of Lifelong Learning	39
Victoria University of Wellington Faculty of Humanities and Social Sciences	31
Victoria University of Wellington Students' Association (VUWSA)	80
Waikato Institute of Technology (Wintec)	46
Wellington Institute of Technology and Whitireia Community Polytechnic (WelTec & Whitireia)	59, DR134
Zhivan Alach	8, DR111

Engagement meetings

Academic Quality Agency for New Zealand Universities
ACE Aotearoa
Adult and Community Education (ACE Aotearoa)
Ako Aotearoa
Arizona State University
Arthur Graves
Association of Pasifika Staff in Tertiary Education
Auckland Tourism, Events and Economic Development
Australian Education Union
Australia National Centre for Vocational Education Research
BusinessNZ
Bob Buckle
Careers New Zealand
Tony Hall
Chen Palmer
Creative HQ
Denise Chalmers
Department of the Prime Minister and Cabinet
Derek McCormack
Donna Matahaere-Atariki
Doug Armstrong
Ed. Collective
Education Directions Ltd
Education New Zealand
Education Review Office
English New Zealand
Ernst & Young
Flexible Learning Association of New Zealand
Gary Hawke
Geoff Witcher
Gordon Suddaby
Grant Guilford
Hawkins
Steve Maharey
Horowhenua Learning Centre
Ian Hooker
Ian Wright
Independent Tertiary Education New Zealand

Independent Tertiary Institutions
Industry Training Federation
Innovation Strategy
Isambard Limited
Jane von Dadelszen
Kelly Gay
Lew Evans
Lincoln University
Linda Sissons
Linda Tuhiwai Smith, Pro Vice-Chancellor (Māori), University of Waikato
Lise Morton
Literacy Aotearoa
Literacy Aotearoa: Te Koruru Professional Development
Liz Richardson
Winnie Laban
M I Bain & Associates
Manukau Institute of Technology
Margaret Kouvelis, Mayor, Manawatu District Council
Marnie Hughes-Warrington – Deputy Vice-Chancellor, ANU
Mark Evans
Mason Durie
Massey University
Massey University – Senior Leadership Team
Massey University – Te Mata o Te Tau Academy for Māori Research and Scholarship
Massey University Council
Maurice Wilkins Centre for Molecular Biodiscovery
McGuinness Institute
Ministry of Business, Innovation & Employment
National Centre for Vocational Education Research
New Zealand Qualifications Authority
New Zealand Union of Students Association
New Zealand University Chancellor's Committee
NZIER – Derek Gill
NZITP – ITP CEOs
NZITP – ITP Chairs
Meta Office Limited
Metro Group – Polytechnics
Mike Pratt and Murray Horn
Ministry for Pacific Peoples
Ministry of Business, Innovation & Employment
Ministry of Business, Innovation & Employment – Skilled and Safe Workplaces CEs
Ministry of Education
MITO
New Zealand Council for Educational Research

New Zealand Council of Trade Unions
New Zealand Manufacturers and Exporters Association
New Zealand Post Primary Teachers' Association (PPTA)
New Zealand Qualifications Authority
New Zealand Union of Students' Associations (NZUSA)
Office of the Auditor-General
Otago Polytechnic
Pacific Centre for Learning Teaching and Research
Peter Gluckman
Phil Ker – Otago Polytechnic
Pride and Joy
REANNZ
Rick Christie
Rob Cameron
Rob McIntosh
Rod Carr
SeniorNet
Sholeh Maani
State Services Commission
Talent Central
Te Kura
Te Mana Ākonga – National Māori Students Association
Te Puni Kōkiri
Te Tapuae O Rēhua
Te Tauihu o Ngā Wānanga
Te Wānanga o Aotearoa
Tertiary Accord of NZ (TANZ)
Tertiary Education Commission (TEC)
Tertiary Education Commission – Engineering E2E Steering Group
Tertiary Education Union (TEU)
Tertiary Education Union – Industrial and Professional Committee
Tertiary eLearning Reference Group (TeLRG)
The University of Auckland
The University of Waikato
Treasury
Unitec
Universities New Zealand
University of Canterbury
University of Otago
Victoria University Continuing Education
Victoria University of Wellington, School of Management
Victoria University of Wellington, Disability Services
Waikato Institute of Technology

Australian engagement meetings

Australian Department of Education and Training
 Australian National University
 Denise Bradley
 Department of Education and Training
 Francesca Beddie
 Grattan Institute
 Manufacturing Skills Australia
 Mitchell Institute
 Monash University
 Nous Consulting
 RMIT University
 Swinburne University of Technology
 Paul Williams and Dean Carroll
 Tertiary Education Quality and Standards Authority (TEQSA)
 The Australia and New Zealand School of Government (ANZSOG)
 The University of Melbourne
 The University of Sydney
 University of Western Sydney
 Victoria University (Melbourne)
 Victorian Skills Commissioner

Conference and forum presentations

Murray Sherwin, <i>What can a five year old Productivity Commission add to a thousand-year old institution?</i> Connect Public Lecture, University of Canterbury.	6 April 2016
Judy Kavanagh, <i>The Productivity Commission inquiry into New models of tertiary education: What are we hearing.</i> Pathways, Transitions and Working Across Boundaries. Te Ara Whakamana, Wellington.	29 June 2016
Sally Davenport, <i>New models of tertiary education: A system reluctant to innovate?</i> Metro ITP Symposium, Wellington.	6 July 2016
Sally Davenport, <i>Student information, decision-making and the costs of switching.</i> Higher Education Summit, Wellington.	7 July 2016
Murray Sherwin, <i>Under construction: New models of tertiary education.</i> Industry Training Federation Conference, Wellington.	27 July 2016
Judy Kavanagh, <i>New models of tertiary administration: Keeping students at the centre of what we do.</i> Australasian Heads of Student Administration (HoSA) Conference, Dunedin.	10 August 2016
Murray Sherwin, <i>New models of tertiary education.</i> New Zealand Vocational Education and Training Research Forum, Wellington.	18 October 2016

Conferences and forums attended

Higher Education Conference and Measuring Quality Outcomes in Higher Education Forum. Singapore	16 October 2015
---	-----------------

Industry Training Federation Organisation – Chief Executive's Forum. Wellington	10 December 2015
Professor Denise Chalmers Seminar – <i>Recognising and rewarding teaching in higher education</i> . Ako Aotearoa. Wellington	17 March 2016
DEANZ Conference. Hamilton	17–20 April 2016
Colloquium on competency based learning and assessment. Wellington	8 June 2016
TEU Symposium – <i>Voices from the sector</i> . Wellington	22–23 July 2016
Tech Futures Workshop – <i>The Future of Education</i> . Auckland.	21 October 2016
edX Global Forum. Paris.	14–16 November 2016

Appendix B Details of proposals presented in Chapter 15

This appendix gives more detail about various proposals outlined in Chapter 15. In all cases, the details are presented to give an indication of how the proposals could look, rather than to lock down the design. Further design work and piloting by those with appropriate operational expertise is desirable.

B.1 Fee regulation flexibility

Recommendation 15.5 states that tertiary education institutions (TEIs) should be permitted to set higher fees provided they use the extra revenue primarily to lower fees for low socioeconomic status (SES) students. It recommends that the Ministry of Education and the Tertiary Education Commission (TEC) design and pilot a scheme of this kind.

One possible design is outlined below.

Fee flexibility with community service obligations – design outline

1. Government publishes a regulated price on a course-by-course basis. Regulated prices are provider neutral.¹⁴⁴
2. A TEI can set a sticker price for a course below the regulated price.
3. A TEI can set a sticker price for a course up to twice the regulated price, but no higher than the international student sticker price (if there is one).¹⁴⁵
4. All extra revenue from (3) goes into a (per TEI) pool. The TEI extracts (say) 15% as an incentive to participate.¹⁴⁶
5. The TEI can use up to half its remaining pool to cross-subsidise (2) – ie, to lower the sticker price on specified courses for all students.
6. The TEI must use the remainder of its pool to offer a fee discount to all qualifying low-SES students for all courses. The discount must be specified as a fixed percentage off the regulated price for each course (or off the sticker price, if that is lower).
7. Students qualify as low SES if they meet government's criteria for student allowances.¹⁴⁷
8. A TEI that spends more than its pool balance carries forward a credit to next year.¹⁴⁸
9. A TEI that spends less than its pool balance forfeits 10% to government, and carries forward the remainder into the next year.¹⁴⁹

This proposal may substitute for some existing cross subsidies between courses, and for existing fee discounts. Government's fiscal costs may also rise as the system attracts more students with characteristics that make them eligible for student allowances. This is consistent with the aims of the tertiary education

¹⁴⁴ This proposal is equivalent to the Fee and Course Cost Maxima (FCCM) system that applied prior to the Annual Maximum Fee Movement (AMFM) system now in place. Provider-neutral pricing is not essential – indeed, the rest of the proposal would stand without it. However, the current historical-price caps are difficult to justify, and their removal would increase the attractiveness of the new scheme.

¹⁴⁵ This limit is designed as a brake on price gouging.

¹⁴⁶ The 15% is indicative. It needs to be sufficiently large to both cover a provider's transaction costs and to offer an incentive to participate.

¹⁴⁷ There are some policy risks from sharing eligibility criteria across different policy instruments (in this case, fee regulation and student allowance eligibility), as it means government's decisions about one become, by default, decisions about the other. It may therefore be desirable to foreshadow separating these in future. The main point is that it is important that the criteria identify students with a low willingness to pay, who might otherwise not participate. If providers are able to target the discounts themselves, they will have incentives to target students who may be low-SES but also comparatively easy to teach (eg, NCEA-qualified school leavers from low-decile schools).

¹⁴⁸ Providers are at some fiscal risk from over- and under-shooting in any given year. The pool carry-over mechanisms should reduce the consequences of mis-prediction.

¹⁴⁹ The 10% is indicative. It should be sufficiently high to make it unattractive to providers as a source of debt funding.

system as described in successive tertiary educational strategies, but difficult to achieve in a system with fixed fees.

Students will be the main beneficiaries from this proposal. They get access to a wider range of courses. Low-SES students will face lower sticker prices than they do currently, encouraging their increased participation. A minor downside is that students browsing for courses will see up to three, rather than two, sticker prices for each course.¹⁵⁰

B.2 A payoff structure whereby it costs providers to under- or over-deliver

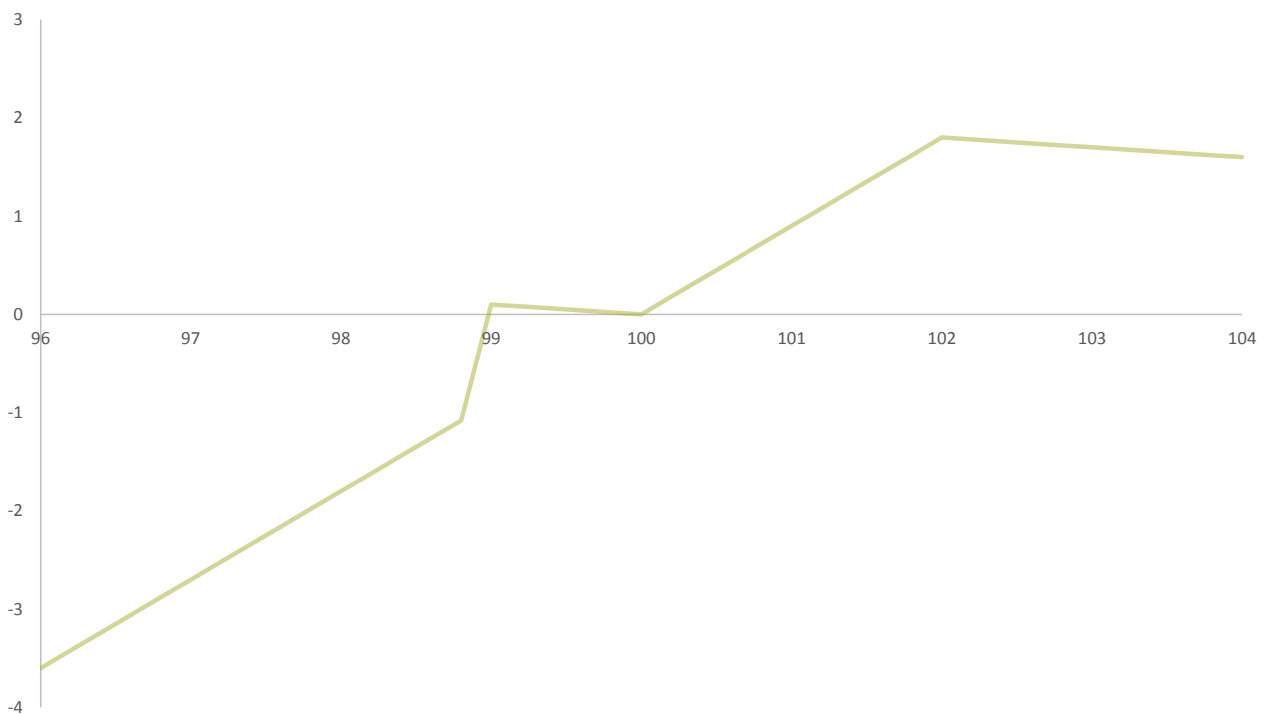
Recommendation 15.6 states that government should redesign its Student Achievement Component (SAC) funding approach (at levels 3 and above) such that it costs providers to over- or under-deliver against their Tertiary Education Commission (TEC) funding allocation.

Provider payoffs from the current SAC 3+ approach

The current rules about SAC 3+ delivery are that a provider receives 100% of its funding allocation provided its deliver at least 99% of the value of that allocation; and it receives up to 102% of its value if it delivers up to or in excess of 102% (Chapter 7). If it over-delivers in excess of 105% without TEC approval, TEC considers this a performance issue.

Providers therefore face a payoff structure that, making some plausible assumptions about costs and revenue (outlined in the notes below), results in the pattern depicted in Figure B.1.

Figure B.1 Modelled payoff structure for providers under current funding policy



Source: Productivity Commission.

Notes:

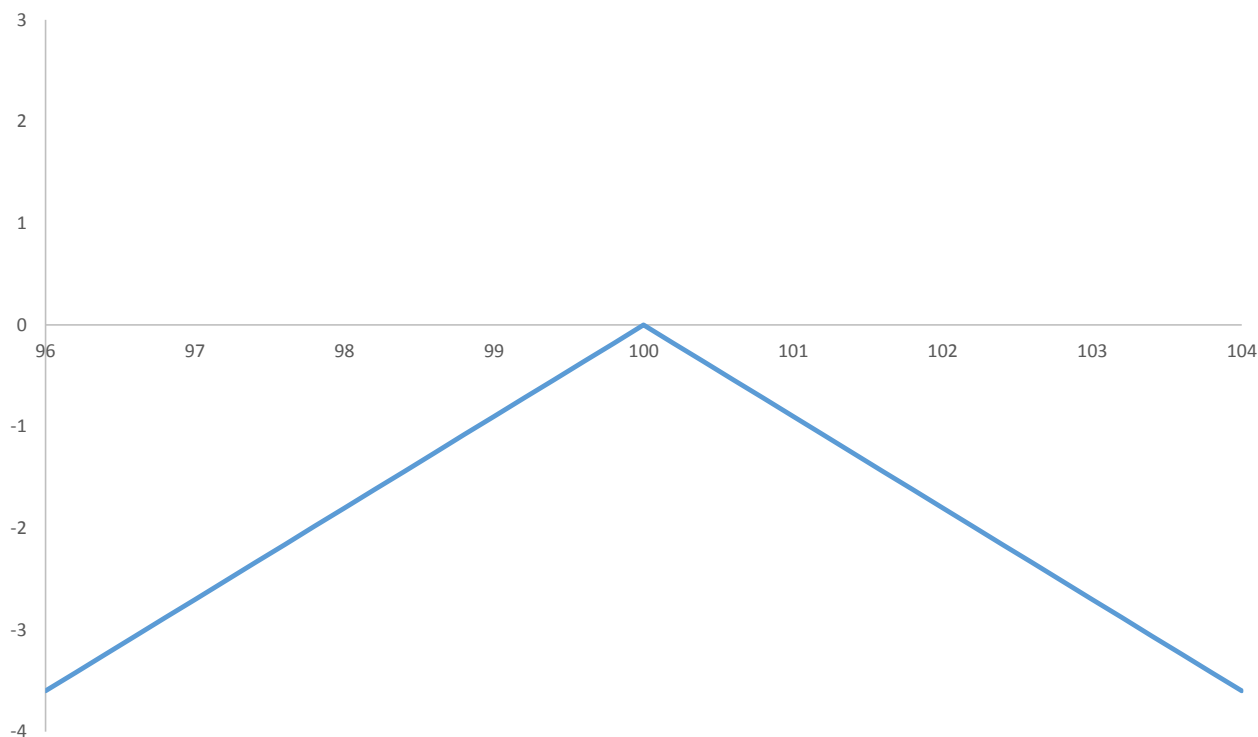
1. X axis is % of contracted value of EFTS delivered.
2. Y axis is profit relative to that achieved when delivering the contracted value of EFTS (nominally 100).
3. Profit modelled with SAC revenue of 1.0 units/EFTS, fee revenue of 0.3 units/EFTS and marginal cost of 0.4 units/EFTS.

¹⁵⁰ A low-SES price, in addition to the current domestic and international prices.

Proposed alternative payoff structure

A payoff structure of the desired kind will give providers increasing profits all the way to 100%, and decreasing profits thereafter (up to the existing hard cap of 105%), with no sharp drop-offs on either side of the 100% peak. Figure B.2 depicts an indicative payoff structure with these characteristics.

Figure B.2 Proposed payoff structure for providers



Source: Productivity Commission.

Notes:

1. X axis is % of contracted value of EFTS delivered.
2. Y axis is profit relative to that achieved when delivering the contracted value of EFTS (nominally 100).

It is not possible to ensure the payoff looks like this for every provider in the system, because TEC pays a single tuition subsidy price against a backdrop of considerable variation in providers' fees and costs. Additionally, individual providers' cost structures are likely to be "lumpy" rather than smooth. However, designing the SAC 3+ tuition subsidy component in this way would be a step in the right direction.

For some courses at some providers, marginal fee revenue will exceed marginal costs – so over-delivery in these cases will be profit-making, rather than a costly signal. Based on the Commission's analysis of historical TEI delivery patterns, this does not seem likely to be the case for TEIs at the whole-of-institution level (Chapter 7). However, it may become so if fee regulation and subsidy rates change. It will be more likely at TEIs that choose to expand online delivery, which typically has high set-up and low marginal costs. And it is certainly already the case at some PTEs, for whom TEC already negotiates limits on "approved over-delivery".

Without an additional control, any provider whose marginal fee revenue exceeded its marginal costs would grow year-on-year, limited only by student demand. This may be unproblematic (eg, if the growth was affordable, and the delivery did not obviously create a problematic mismatch of skills supply and demand). The prospect on ongoing growth would be valuable in encouraging providers to commit to new models of tertiary education that carried high set-up costs.

However, if a provider's fees were comparatively high, steady growth in its student numbers could carry significant costs to government via the subsidy inherent in the Student Loan Scheme. Steady growth in particular fields or levels of study may also contribute to a mismatch in the supply and demand of skills (Chapter 15). TEC would have several options in such a situation.

- It could seek to reduce supply via reducing the tuition subsidy rate – though it would need to consider the impact on any other providers charging lower fees for the same provision at the same subsidy rate.
- It could cease funding the delivery altogether, which may be a good response if students are showing high willingness to pay for the study and it carries high private returns. Providers could still offer the provision via the new market proposed in Chapter 15 (ie, the market with no TEC funding, but access to interest-bearing student loans for students). This may be a suitable response in the case of providers that have successfully implemented new models of tertiary education with very low operating costs.
- It could charge providers a fine for delivery over 105%, with the fine set at the fee charged. This would mean zero marginal fee revenue for providers above that delivery level. This would control costs to the Student Loan Scheme. However, it would (of itself) prevent mechanistic reallocation of significant funded volume to follow student demand.
- It could reintroduce its volume caps on “approved over-delivery” at affected PTEs.

B.3 TEC should change its definition of an EFTS

Recommendation 15.8 states that TEC should remove any reference to inputs in its definition of an Equivalent Full-Time Student (EFTS), and should instead rely on the relevant quality assurer’s assessment of “credit value” to determine the funded size of courses and qualifications.

The current process for determining EFTS funding per course

This is the current process for determining EFTS funding per course.

- The New Zealand Qualifications Authority (NZQA) assigns a “credit value” to each new qualification and its constituent “components” (courses) when it is registered on the NZQF, based on how many hours it would take a typical learner to achieve the learning outcomes for the qualification.
- When the provider seeks TEC funding for the qualification and its constituent courses, it must assign to each an “EFTS value” combining three measures (all recorded in the TEC system and assumed to be commensurate): credit value, learning hours, and teaching weeks. 1 EFTS is equal to 120 credits and 1 200 learning hours delivered over 34 teaching weeks.
- TEC holds providers to account for delivering the number of hours, over the number of weeks, associated with the qualification and course in the TEC database.

This means that a provider faces disincentives to (and, once funding is approved, is actually forbidden to) implement innovations that make the learning process more efficient for students. In theory, a provider who finds a way to teach students more quickly should go back to NZQA and ask for the relevant course or qualification to be re-sized to a smaller size, and register this change in the TEC system. But this would mean it received less TEC funding for that course or qualification; so instead providers prefer to “pad out” the course with additional (unnecessary) learning to retain its full size. This is wasteful for providers and students.

It also means that, if providers find that they have a particularly acute or well-prepared cohort of learners in a given course, they are forbidden from allowing the cohort to move through the course more quickly, as this would mean the provider had under-delivered against their contracted hours.

The input-based nature of an EFTS also means that TEC has no way to fund Recognition of Prior Learning (RPL, described in Chapter 5). A student wanting RPL either has to self-fund it (without access to the Student Loan Scheme) or, the Commission has heard, enrol in a full TEC-funded qualification and simply not attend the majority of classes.

A proposed alternative that removes controls on inputs

The Commission recommends that TEC remove any reference to inputs in its definition of an EFTS, but instead rely on NZQA’s assessment of “credit value” to determine the funded size of courses and qualifications. This would allow providers to deliver as many or as few teaching hours needed for each student, and reward providers for making the learning process more efficient.

This would also mean RPL was funded at the same rate as delivery. This may lead to an increase in RPL activity, which is overall a good thing, but could be problematic if it were “crowding out” unskilled (ie, non-RPL) students who were studying toward their first qualification. The Commission considers this risk to be manageable. First, any such increase might be temporary as providers “clear the backlog” of latent demand for RPL from adults. Second, the extent of RPL occurring in the system can be monitored by looking at the age and prior achievement profile of participating students. RPL would be characterised by adults with low or no qualifications participating at higher levels. If such activity was crowding out delivery to younger learners, TEC could change the price differential between younger and older learners (eg, via an age-based loading on tuition subsidies in the SAC 3+ fund – in other words, a type of equity funding).

Protecting against the risk of “size inflation”

The recommended approach would place a premium on courses and qualifications being accurately sized (ie, given an appropriate credit value) when they were first developed, as this would determine their price for TEC funding purposes. Providers would have incentives to inflate the “size for funding purposes” of each course or qualification, and NZQA would have weak incentives to argue them back down (and no control over the sizing decisions of self-accrediting providers).

Government should implement measures to balance these risks. For example, to protect against the risk of self-accrediting providers inflating the size for funding purposes of any new educational products they developed, such providers could be required to participate in moderation and spot-checking arrangements with third parties (which could be NZQA or another self-accrediting provider). To ensure that NZQA was sizing new products appropriately (for non-self-accrediting providers), it could be required to have a random selection of new courses or qualifications audited by an independent third party each year to confirm they were appropriately sized.

Both NZQA and self-accrediting providers could be required to make public their decisions about the size of newly approved products, so that other providers could examine the decisions and appeal them if they thought they were unreasonable. Any appeals process would need to be carefully designed and managed to avoid vexatious or opportunistic appeals. An appeal against a new product should not be able to delay delivery of the new product; but it could result, if the appeal were successful, in downsizing of the product for funding purposes in the following year.

Self-accrediting providers who repeatedly over-sized new products should stand to lose their self-accrediting status.

B.4 Adjusting prices based on provider performance

Recommendation 15.10 states that government should design and implement a pricing mechanism to incentivise providers to continually improve their performance in adding value to students. It notes that a mechanism of this kind should:

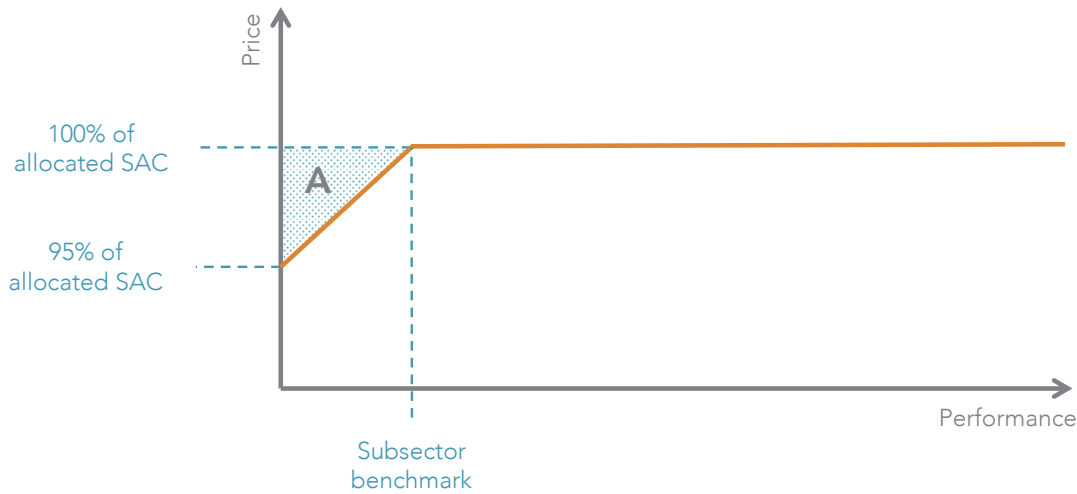
- use metrics that are adjusted for characteristics of the student intake (Chapter 13);
- redistribute money (rather than funded volume) from lower- to higher-performing providers at all levels of performance;
- avoid penalising providers when students leave study for reasons unrelated to provider performance; and
- affect a consequential amount of funding.

The current Performance-Linked Funding policy

The current Performance-Linked Funding policy puts up to 5% of a provider’s funding at risk if it fails to meet subsector benchmarks for Educational Performance Indicator (EPI) measures. There is no reward for providers who exceed these benchmarks.

The payoff faced by a provider according to its level of performance therefore looks like Figure B.3, where the X axis represents the provider's performance in terms of the EPIs, and the y axis represents the proportion of the provider's SAC funding it retains.¹⁵¹

Figure B.3 Current Performance-Linked Funding payoff



Notes:

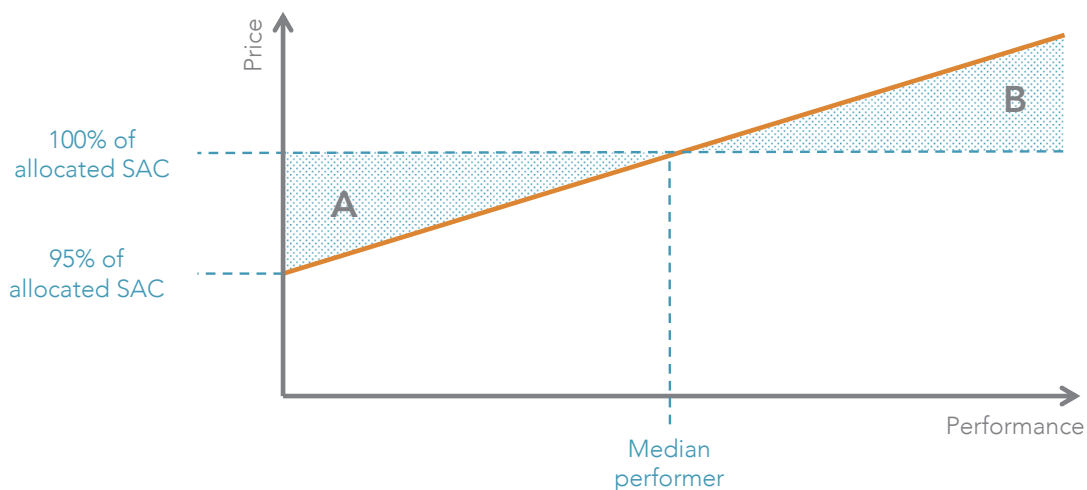
1. A = funding recovered by TEC.

A different kind of redistributive mechanism

The Commission proposes a redistributive mechanism that avoids the “threshold effect” of subsector benchmarks, but rather rewards a provider for improving their performance regardless of where they are relative to other providers. This is more in keeping with the view that NZQA’s licensing and quality assurance functions should protect acceptable standards, and TEC’s pricing approach should reward differential performance in delivering what government wants to purchase.

A mechanism of this kind would redistribute funding from lower- to higher-performing providers all the way along the x axis, with only the median-performing provider unaffected (Figure B.4).

Figure B.4 Proposed payoff for a redesigned performance-based pricing approach



Notes:

1. A = funding recovered by TEC. B = funding redistributed by TEC.
2. Area A = area B.

¹⁵¹ This figure is simplified for the purposes of exposition to show an aggregate result. In reality, the four EPIs are weighted differently for different grouped levels of study, and providers' performance is calculated separately against a subsector benchmark for each EPI at each grouped level of study.

As noted in Chapter 15, the mechanism could be a claw-back mechanism such as Performance-Linked Funding that takes back money already allocated to a provider. Or it could be a ring-fenced performance-based fund (extracted from the existing SAC 3+ appropriation) that pays a “performance bonus” to providers. Both approaches would allow TEC to pay a single tuition subsidy rate upfront, and then redistribute funding retrospectively to effectively pay a higher price to higher-performing providers. However:

- The mechanisms would likely be experienced differently by providers, as the cognitive bias of “loss aversion” means that a clawback approach may feel more consequential.
- The latter approach enables government to increase or decrease the amount it pays in “performance bonuses” without needing to adjust SAC tuition subsidy rates (unless of course it chooses to reprioritise from this source, which would amount to a net shift from input- to output-based funding).

B.5 TEC-funded “experimental courses”

Recommendation 15.14 states that providers should be permitted to use a fixed proportion of their Student Achievement Component 3+ funding allocation each year to run “experimental courses” with special conditions relating to monitoring, evaluation, published performance data and performance-based pricing. The aim would be to protect providers from the risk of failure of a worthwhile experiment.

The Commission envisages that experimental courses would:

- run for a maximum of two years (after which the course must be dropped or enter the provider’s mainstream delivery);
- be excluded from EPIs and any performance-based price adjustments *unless* it were to the provider’s benefit to be included;
- be clearly communicated to students as experimental in nature;
- have unregulated fees (which would not be allowed to set a precedent for future fees should the course become part of mainstream delivery); and
- be subject to ongoing evaluation to ensure students’ interests were adequately protected, and to stop the experimental course if early evaluation results were outside parameters specified in the evaluation setup (as with medical experiments). Self-accrediting providers could manage the evaluation process themselves; for NZQA-assured providers, one option would be to require a third party (eg, Ako Aotearoa or a self-accrediting provider) to approve the proposed evaluation approach, on a commercial in-confidence basis, before delivery starts – but then allow the provider to run the evaluation themselves.

Providers’ compliance with these requirements would be monitored in a risk-based way, and permission to offer experimental courses would be withdrawn (permanently, or for a fixed number of years) from any who failed to comply.

The proposal is similar in some ways to the US federal government’s Experimental Sites Initiative (ESI), which allows participating providers to experiment with new ways of administering student aid in order to improve outcomes for students (US Department of Education, 2017). The ESI was designed as a “learning lab” for the federal government to see what variations on current student aid regulations might get better results for students and taxpayers, and to provide an evidence base for change. The Commission’s proposed “experimental courses” initiative could serve a similar purpose for providers, NZQA, TEC and Ako Aotearoa, allowing them to observe variations on existing delivery approaches and thereby get new evidence about what works.

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