New Zealand Treasury

Enterprise and Productivity: Harnessing Competitive Forces

New Zealand Treasury
Productivity Paper 08/04

April 2008

THE TREASURY
Kaitohutohu Kaupapa Rawa

New Zealand Government

NZ TREASURY PRODUCTIVITY PAPER 08/04	Enterprise and Productivity: Harnessing Competitive Forces
MONTH/YEAR	April 2008
ACKNOWLEDGEMENTS	This paper was prepared by Neil Kidd. Comments were provided by staff in the Treasury. Thanks in particular go to Nic Blakeley, Norman Gemmell, Ben Naylor and Sian Roguski.
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Summary

New Zealand faces a big challenge to overcome its long-standing productivity shortfall

One of the biggest challenges facing New Zealand is its productivity shortfall relative to other OECD countries: New Zealand is currently ranked 22nd out of the 30 OECD countries in the productivity league table and an hour worked in New Zealand typically generates 30 per cent less output than an hour worked in Australia. Low productivity is not a new phenomenon: productivity has been an issue in New Zealand since at least the 1970s.

A focus on productivity is desirable not only so that New Zealand becomes more internationally competitive, but also because, in the long run, growth in incomes is fundamentally linked to output per worker. Growth in GDP per person rests on either encouraging a greater proportion of the population into work, or by improving the productivity with which each worker produces output. New Zealand has performed well in encouraging increased numbers of people into the labour market, but there is a limit to how much increased participation in the workforce can drive further growth. Productivity improvements must be at the heart of New Zealand's future economic growth.

This is one of a series of Treasury papers on productivity performance

This paper is part of the *Productivity Performance and Policy* series of papers that discuss New Zealand's long-term productivity performance and the factors that may be inhibiting New Zealand from reaching its potential. *Putting Productivity First* is the overview paper which sets out the productivity challenge facing New Zealand and highlights key issues across five drivers of productivity: enterprise, skills, innovation, investment, and natural resources. The next two papers, *New Zealand's Productivity Performance* and *Does Quality Matter in Labour Input? The Changing Pattern of Labour Composition in New Zealand*, discuss past and more recent productivity performance and the impact that improving labour quality has had on labour productivity respectively. The final four papers address the enterprise, innovation, investment and skills drivers in turn, building on the analysis in the preceding papers by reviewing and interpreting available evidence to draw conclusions for the underlying factors affecting productivity.

A number of factors are important for lifting productivity and there are no quick fixes. For some measures the impact may not be seen for decades. Enterprise and the policies that underpin it are one important element in lifting productivity performance.

Enterprise in New Zealand: summary messages

- Enterprise is broader than start-up activity. It includes any individual or firm that seeks to take advantage of an economic opportunity. This ranges from one person start-ups using a new idea to managers in large multinational companies identifying and implementing new techniques.

- New Zealand has a strong enterprise culture: high levels of business start-up activity and robust rates of firm turnover underpin New Zealand's productivity growth.

- However, there is some evidence to suggest large firms may be underperforming, as measured by value added, compared with other developed nations. In addition, relatively few New Zealand firms internationalise, as measured by exporting activity. These observations, combined with the overall productivity challenge facing New Zealand, suggest possible underlying weaknesses in the business environment.

- Although still emerging, the literature suggests management capability (skills and talents) and management practices (business processes and structures) matter for productivity performance. Management performance depends on a wide range of factors, such as competition for management positions, skills and training and the aspirations of the manager. The most important institutional factor that drives better performance is the level of domestic and international competition.

- The four other drivers of productivity: capital, skills, innovation and natural resources, matter for the fifth, enterprise. Robust investment, a broad skills base, a strong innovation system and sound management of natural resources provide the ideas and the resources which entrepreneurs can take advantage. Given New Zealand's location and domestic market size, providing the conditions to access international as well as domestic sources of people and ideas are particularly important.

- Competition drives innovation and firm performance. New Zealand has low barriers to product market competition and is open to competition for corporate control. However, the small domestic market tends to mean that relatively small numbers of firms supply a large share of the market, which may be inhibiting product market competition for some firms or sectors. In addition, some large firms are sheltered from the incentives to improve performance provided by the financial markets. Maintaining a high level of competition is fundamental to improving New Zealand's firm performance.

- The stock and the flow of regulation should be continually reviewed in order to make sure that the system remains fit for purpose, with specific consideration given to areas where regulation may be inhibiting growth. Regulation should be used to achieve a genuine benefit for society, exceeding the costs of regulation, and when other measures to achieve the specific objective have been ruled out.

- The tax system affects the quality of the business environment by altering the incentives for firms to invest in physical capital and research and development, and for individuals to acquire skills. Understanding the impact of the tax system on the drivers of productivity is important when formulating tax policy.

- New Zealand's domestic market size implies that firms have to internationalise at a younger stage in their life cycle than similar firms in larger countries. Focussing the activities of New Zealand Trade and Enterprise on the most effective programmes both to increase productivity and to overcome specific barriers to internationalisation will allow more firms to export and increase their market size.

Overall, New Zealand has some positive entrepreneurial attributes, including high levels of start-up activity. Improving productivity performance requires a focus on the areas where New Zealand performs less well, such as maintaining high levels of competition and setting in place a system to ensure ongoing improvements in regulation. The rest of this paper assesses New Zealand's entrepreneurial environment and sets out a framework, with policy considerations, for each of the elements within it.

The entrepreneur as a driver of productivity growth

Economic growth is a dynamic process of creation and destruction; the creation of new firms, new investments and new methods of production drive growth and destroy the old, less productive firms and methods of the past. The individuals that ultimately drive this process are the entrepreneurs. Whilst it is important to have a skilled labour force, efficient capital markets and a sound innovation system, without the entrepreneur to bring these factors together, to utilise and deploy them efficiently and to seek out new ways of conducting business and undertaking new investments, the economic churn that drives productivity growth would not take place. Entrepreneurs create new businesses and new investments. These investments create new jobs, intensify competition and can increase productivity by introducing new technologies or working practices.

The entrepreneur is the innovator who implements change…

Joseph Schumpeter highlights the relationship between the entrepreneur and the innovator. "The entrepreneur is the innovator who implements change within markets through the carrying out of new combinations. The introduction of a new good, the introduction of a new method of production, the opening of a new market, the conquest of a new source of supply of new materials or parts or the carrying out of the new organization of any industry" (Schumpeter, 1934). The definition of an entrepreneur adopted in this paper is anyone who identifies a market opportunity and moves to take advantage of it, whether they are starting up a new firm or innovating and creating new products in a large established firm.

There are two ways in which the average productivity of firms in the economy can increase. Productivity levels of individual firms grow as they improve their production methods, for example by introducing more capital, skilled labour or new innovative ideas. However, even if individual firms' productivity levels do not increase, the process of economic churn pushes up the average level of productivity in the economy: poorer-performing firms experience decreasing market share or exit the market and more productive firms increase their market share or enter the market. A report for the OECD suggests that up to 50 per cent of a country's growth is derived solely from this firm-level churn, wherein the process of entry, exit and changing market shares improves economic growth (Ahn, 2001). Entrepreneurial actions, to start up a new business or to improve an existing one, lie at the heart of both of these productivity enhancing mechanisms.

Entrepreneurial activity: how does New Zealand perform?

A number of factors are important for the attractiveness of the business environment and the health of New Zealand's firms. A climate that fosters a culture of entrepreneurship and risk-taking is an important base to produce the individuals who seek out new market opportunities. This needs to be supported with access to capital, a skilled workforce and a fertile public research base that can provide resources and ideas to enable individuals to identify and take advantage of new opportunities. Finally, this activity takes place within the context set by the policy framework, in particular the competition, regulatory and tax systems.

Given the broad definition of enterprise adopted, it is difficult to accurately measure entrepreneurial performance and there are a number of criteria on which New Zealand could be assessed and classified. Unfortunately, perfect measures are not available for many of these criteria. This paper therefore attempts to look at those areas where New Zealand can be assessed and where it also judges these to be important for New Zealand's enterprise performance.

International benchmarks

New Zealand scores well in international benchmarks…

A variety of studies purport to measure the attractiveness of New Zealand's competitiveness as a country or the quality of its business environment. These studies can focus on a broad or a narrow set of measures. The World Economic Forum's Global Competitiveness Report ranks New Zealand 24th out of 131 countries, based upon a range of metrics from basic economic measures such as macroeconomic stability and the quality of infrastructure through to more specific efficiency enhancers such as higher education, financial market sophistication and innovation performance. New Zealand ranks highly for health outcomes, the quality of primary education, financial market sophistication, labour market efficiency, institutions and goods market efficiency. Other studies are more specific in nature, such as the World Bank's Ease of Doing Business report, which focuses on regulatory obstacles to economic activity. In 2008, New Zealand ranked second in the world for the overall ease of doing business and third for the regulatory ease of starting a business. From the report, it can also be seen that there are a number of economies quickly catching up in this area.

However, these metrics only scratch the surface of New Zealand's performance, and do not consider all factors that are necessary for the promotion of an entrepreneurial environment. To get a fuller picture of New Zealand's climate for enterprise, the paper now looks at firm dynamics in New Zealand, the level of firm internationalisation and possible barriers to growth.

Firm dynamics: start-up, growth and large firm performance

…and provides the foundations for a high level of start up activity…

The enterprise culture is alive and well in New Zealand; almost one in seven adults in New Zealand are classified as entrepreneurs, one of the highest levels in the world (Frederick, 2004).[1] McMillan (2004) argues that the proportion of multi-millionaires that are self made rather than inheriting their wealth is higher in New Zealand than in Australia, Britain or the United States. Whilst this is also important for social mobility, McMillan uses this statistic to infer that the business environment is receptive to enterprising individuals.

The level of turnover: entry and exit, in New Zealand is high, but not significantly out of line with other countries. Roughly 24 per cent of firms will either enter or exit the market in any given year (Mills and Timmins, 2004). Law and McLellan (2005) find that between 1995 and 2003, the existence of exiting firms added to labour productivity growth. In other words, exiting firms had below average labour productivity growth, and by exiting the average productivity of the firms remaining increased. Ideally, entering firms would have above average productivity; however entering firms drag the average level of labour productivity down. This is also true of the United States and it does not necessarily imply a negative impact from entering firms in the long run. The statistic only looks at firms' labour productivity in the first year of entry and, as such, may miss any growth that subsequently occurs. Alternatively, it may be caused by low barriers to firms' entry in both New Zealand and the United States that gives rise to a culture of experimentation. That is, some new firms will not be based upon good ideas but by having a large quantity of new entrants, some will succeed.

New Zealand has a slightly higher number of small firms than the average OECD country but is not a significant outlier: 90.7 per cent of firms have less than 20 employees and account for nearly 30 per cent of all people employed, roughly consistent with other countries (Mills and Timmins, 2004). If the number of small firms is an indication of the business start-up culture in New Zealand, then New Zealand performs well. Therefore, whilst further improvements are likely to be possible, the evidence leads us to conclude that there is no significant barrier to starting-up a business in New Zealand as compared to other countries.

…with no strong evidence that firms face significant barriers to growth

While New Zealand has a high level of start-ups and a good base of small firms, it has been suggested that New Zealand has a higher than average number of small firms with low levels of employment in each (Simmons, 2004). This could indicate that there are significant barriers to growth facing small firms following start-up that prevent them from growing into medium or large sized firms. New Zealand's high level of firm turnover has been used to give greater support to this conclusion, arguing that barriers to growth lead to higher levels of exit for small firms.

More recent evidence is refuting the strength of this conclusion. As shown above, the number of small firms in New Zealand is broadly comparable internationally, and whilst the number of employees per firm, especially in the manufacturing sector, is low, New Zealand is not a significant outlier. At 13.7 employees per firm, the average firm size is smaller than many

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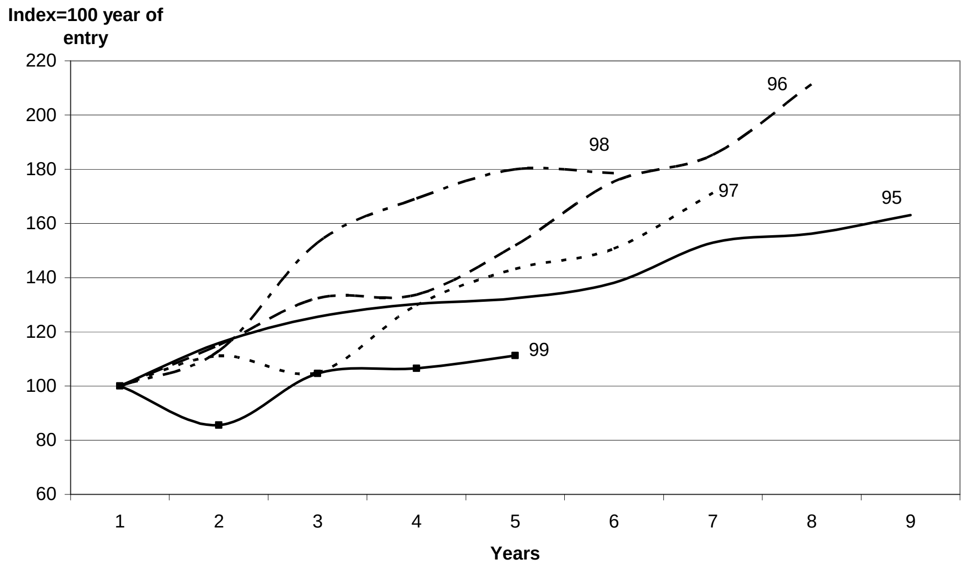
1 Entrepreneurial activity is defined as involvement in early stage business start-up activity.

countries, such as the USA with 25.6 employees per firm and Germany with 17.7 employees, but it is certainly not an outlier, as both Finland and Italy have smaller average firm sizes (Mills and Timmins, 2004).

Firm turnover in New Zealand is relatively strong. However, while creative destruction is a productivity enhancing force that reallocates labour and capital to more productive uses, it is also necessary to consider whether there are barriers to growth that lead to New Zealand's higher levels of turnover and potentially restrict growth for small firms. If barriers to growth were creating this then it should be apparent in the growth and survival rates for New Zealand firms.

McMillan (2004) concludes that growth rates for small firms in New Zealand, whilst behind the United States, are comparable to those in the United Kingdom and other OECD countries. Although there is some evidence that employment growth in surviving firms is low after two years, this picks up after four and seven years (Mills and Timmins, 2004). Law and McLellan (2005) show that conditional on survival, the firms who entered in the years 1995 to 1999 had average labour productivity growth of between three per cent and 12 per cent depending on the year of entry. Figure 1 below shows the growth of cohorts of entering firms in the years 1995 to 1999 conditional on the firm having survived to 2003.

Figure 1: Growth of entering firms, conditional on survival in 2003



Source: Law and McLellan (2005)

The empirical data do not provide robust support for the theory that small firms face significant barriers to growth, as compared to other countries. A more likely explanation for the high level of turnover in New Zealand is the ease of starting and closing a business. Low regulatory barriers, compared to other countries, may partly explain the higher level of start-up activity, some of which will inevitably fail. This supports the theory that this churn is productivity enhancing: individuals should be given every chance of starting a new business, but if it turns out to be a poor performer, policy should not prevent its demise.

Some questions over the performance of large firms…

There is some evidence to suggest that the performance of large firms is poor by international comparison and that New Zealand lacks the very large firms that can be found in a number of other OECD countries. Simmons (2004) argues that, as measured by returns on assets or value added, large firms have been performing poorly in New Zealand. The strength of this conclusion is still unclear and there are no certain explanations for why this might be. Possible explanations are a low level of competition for some types of large firm and a lack of managerial talent, both of which are discussed further below.

In addition, New Zealand lacks the very large firms seen in a number of other OECD countries. There is no discernible barrier that prevents firms from getting to 100 employees; among firms with 50 to 99 employees in 1995, 22 per cent had grown to over 100 by 2002 (McMillan, 2004). However, the size of very large firms appears to be constrained within New Zealand; the average size of a firm with greater than 500 employees in New Zealand is 1594, compared to 2532 in the UK and 3321 in the USA (Mills and Timmins, 2004). This suggests that there may be barriers for large firms reaching an efficient scale, perhaps due to New Zealand's domestic market size combined with difficulties faced by firms seeking to export.

With the exceptions of some question marks over the performance of New Zealand's largest firms, the business environment looks strong and firm dynamics in New Zealand are similar to other OECD economies. Frederick (2004) notes that New Zealand has both a high level of individuals engaged in creating their own business and a high number of existing firms that are introducing new innovative products and services to the market. Combined, these firms produce roughly half of all the jobs created per year.

The paper now turns to the number of firms that successfully internationalise as a potential indicator of underlying problems with New Zealand's business environment.

What does the level of internationalisation say about New Zealand's business environment?

Export growth has been weak, few firms export and they tend to be concentrated in agricultural sectors

While the distribution of firms broadly matches a number of OECD countries, there are a low number of firms that internationalise by exporting. In 2006, New Zealand's export-to-GDP ratio was 28.9 per cent. While this is similar to the United Kingdom and greater than the USA and Australia, it is low given the size of New Zealand's economy. The smaller European countries have export to GDP ratios of two to five times greater than New Zealand (OECD, 2008b). However, many countries achieve a high absolute quantity of exports by importing goods to which they add comparatively less value before exporting them. Evidence suggests that exports in New Zealand have a higher value added component. In other words, while New Zealand exports less, the income generated from a unit of exports is higher (Claus and Li, 2003).

OECD countries have been rapidly expanding the extent to which they export goods and services, but the growth rate of exports-to-GDP in New Zealand has been weak. The majority of growth in exports comes from firms that are established exporters, exporting existing products, with new or intermittent exporters contributing less to the growth rate. A small number of firms account for the majority of exports and they are concentrated in the agricultural sector; 90 per cent of export value is generated by 20 per cent of exporters. There has been a recent increase in the number of firms exporting but they export only a small amount and do not export in every year. Broadly, the export data suggest that New Zealand has experienced slow growth in exports, with small numbers of firms exporting consistently and a high level of concentration of exports in the agricultural sector.[2]

New Zealand's size and distance are important…

Market size and geographical distance are important. Companies in the European Union have access to over 400 million consumers and companies in the USA have access to over 250 million. New Zealand has a domestic market of 4 million (although it also has access to Australia under the Closer Economic Relations Agreement). A small market means that firms are more reliant on international connections to provide new sources of information or technological breakthroughs, as a source of inputs such as labour and capital, as a market for finished goods and services and to provide the competitive threats that help to drive improved performance and innovation. A key barrier for firms is in finding and accessing new overseas markets for their goods and services and in finding the entrepreneurial and managerial talent to overcome these hurdles.

A small domestic market suggests that many firms will have to export in order to grow. Firms need to internationalise and export at an earlier time than they would in other countries. This is not a problem if firms can access foreign markets with the ease in which they can access local markets, however there are a number of barriers that firms need to overcome in order to internationalise. To access a foreign market, firms need new market information including demand, tastes, local suppliers and distribution networks. They need to overcome language and cultural barriers. They may need to engage in new networks in order to assess shifts in demand patterns or new opportunities.

…and may exacerbate weaknesses in management skills, competition and access to resources

Low levels of internationalisation could also be symptomatic of underlying weaknesses in management skills; poor levels of competition; or poor access to the global stock of new ideas, technologies, people and capital, as well as difficulties in accessing export markets. New Zealand's market size and distance from international markets can exacerbate these factors: firms need to internationalise earlier in their lifecycle suggesting additional pressures for managers, and New Zealand's geographical position may diminish levels of competition or access to resources such as skills and ideas.

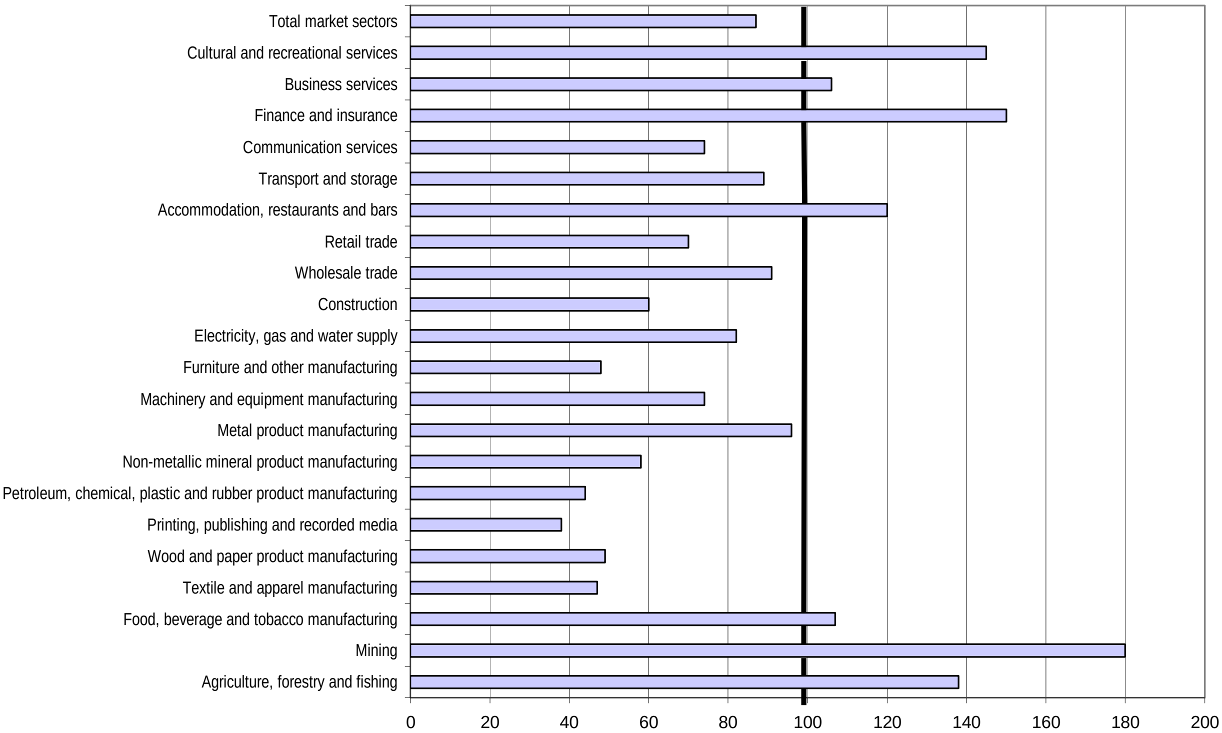
2 Ministry of Economic Development analysis of the Longitudinal Business Database, Statistics New Zealand.

Sectoral variations in productivity

Not all sectors are equal

Sectoral variations in productivity performance abound. On aggregate, New Zealand sectors compare unfavourably with the UK on multifactor productivity.[3] However some sectors fare better than others: agriculture, forestry and fishing; mining; food, drink and tobacco manufacturing; accommodation, restaurants and bars; finance and insurance; business services; and cultural and recreational services outperform the UK in terms of multifactor productivity. Broadly, the manufacturing, retail, wholesale, construction and utility sectors underperform relative to the UK (Mason and Osborne, 2007). A wide variety of factors can help to explain these disparities, such as sectoral variations in the size and scale of markets, the level of competition and the degree of exporting or sector specific factors such as the UK's reduction of low value added manufacturing over recent years (helping to drive up average productivity). The exact manner in which sectoral variations in productivity can be explained by the factors considered in this paper is still unknown and forms an interesting area for further work.

Figure 2: Multifactor productivity levels compared with the UK (UK=100), 2002



Source: Mason and Osborne (2007)

3 Multifactor productivity measures the efficiency with which inputs, of both capital and labour, are turned into output. It is the increase in output that cannot be attributed to increases in the quantity or quality of the labour or capital inputs. For example, it would include more efficient deployment of resources.

A framework for considering entrepreneurship

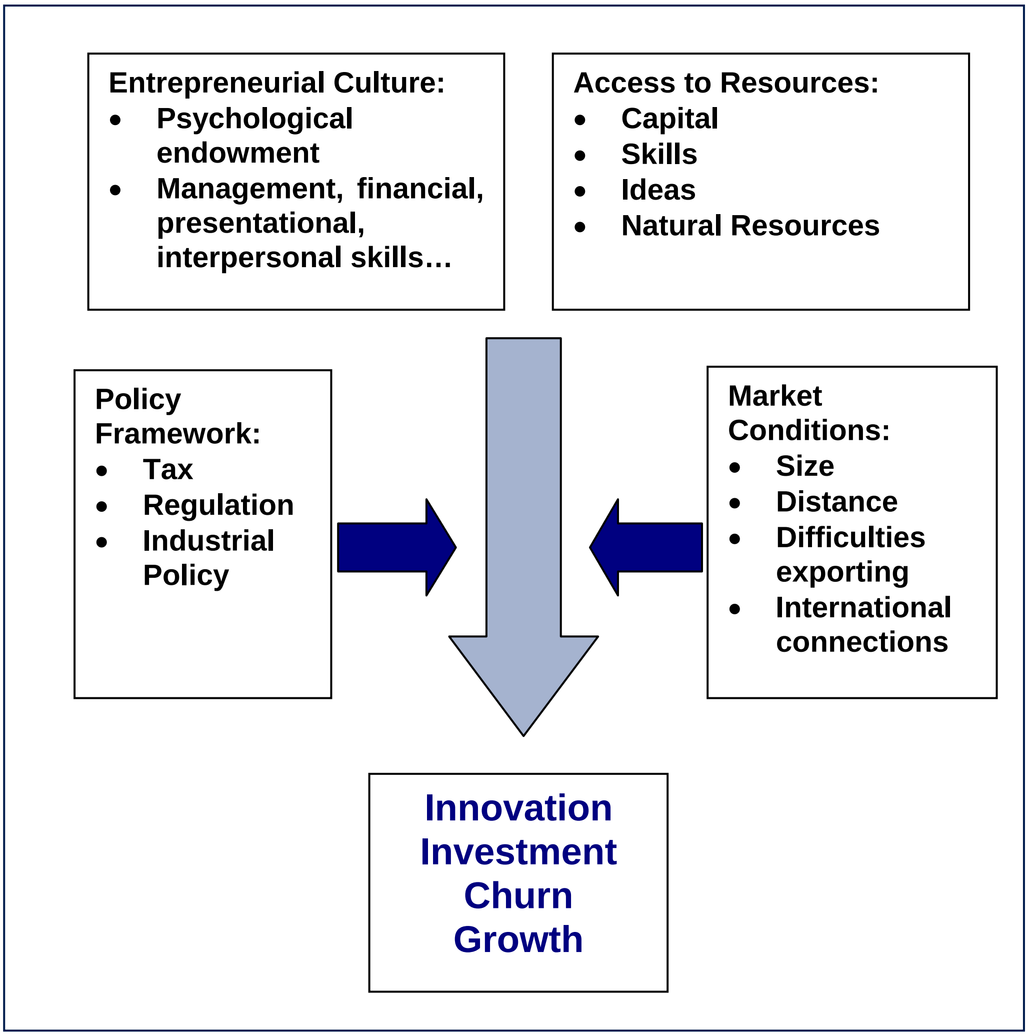
Observing firm dynamics and internationalisation provides some indications that New Zealand's business environment is not performing perfectly. Combined with consideration of New Zealand's overall productivity challenge, this makes a strong case that some aspects of the business environment are underperforming and holding New Zealand back from its potential productivity performance. However, this diagnosis cannot point to a specific cause of a problem in the business environment. Therefore, this section provides a framework for considering factors that are important for entrepreneurship in order to shed light on New Zealand's performance.

Entrepreneurial skills, access to resources and a sound policy framework are fundamental for entrepreneurship

An entrepreneur is someone who has the personal skill set and vision to identify potential market opportunities and the willingness to bear risk. They require a personal skill set including some or all of the management, financial, business and communication skills to identify opportunities and succeed, depending on whether they are a one-person start up or part of a larger firm. They need access to the necessary resources to take advantage of that opportunity: access to capital, skilled labour, research resources and information. The entrepreneur chooses the mix of these factors of production to best suit the opportunity. These actions occur within a framework that can impose or help mitigate barriers to activity and provide incentives or disincentives for entrepreneurial actions. Finally, these conditions are true of entrepreneurship in all countries: however, New Zealand has a set of specific characteristics that may further affect the business environment that supports entrepreneurial activity such as domestic market size and New Zealand's distance from large markets.

These elements of entrepreneurship are summarised in Figure 3 below. The remainder of this paper covers each of these in turn and draws out some policy considerations for each.

Figure 3: Elements of entrepreneurship



New Zealand's enterprise culture: a dearth of management skills?

As Schumpeter identified, it is individuals that drive productivity growth through the identification of new opportunities. This requires quite a unique skill set that not everyone will possess. The entrepreneur needs a range of skills to be successful: the vision to identify potential opportunities and the ability to analyse the likelihood of success or failure, the communication skills to sell that idea to managers (if the individual is in a large organisation) or potential investors (if the venture is a start-up) and the managerial talent to access and control the resources required to make it work.

New Zealand's specific characteristics present extra challenges for managers

Some of New Zealand's market characteristics are likely to impact on the required entrepreneurial skill set, such as the small size of the domestic market, and therefore the relatively higher importance of exporting to achieve economies of scale. The skills required for building an outward-focussed business are likely to be different to those for an inward-focussed business. The relative absence of very large firms, as compared with other countries, implies there may be less opportunity for managers to acquire experience by moving through different levels of management within a firm.

These skills are difficult to define and even harder to measure. While not wholly sufficient for entrepreneurial activity, management and leadership capability (the skills and talents of the manager) and management practices (the business processes and structures) impact substantially on organisational performance. Skilled managers can create an environment where innovation and skill development can flourish.

Better management practices make better firms…

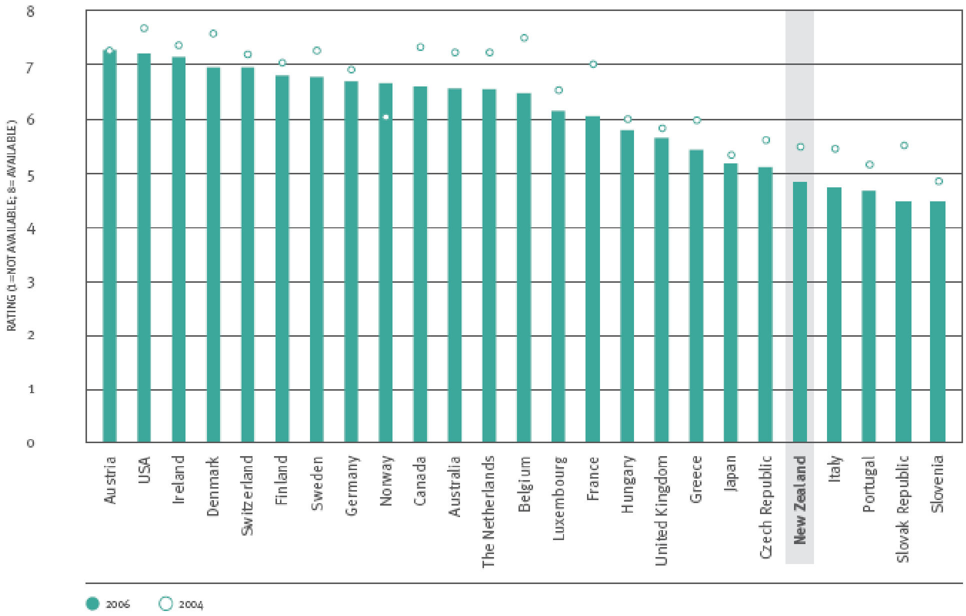
Strictly speaking, it is better management practices that drive improvements in firm performance. There is a big difference between the skills of managers and the management practices of the firm and evidence shows a much stronger link between management practices and firm performance than it does management skills and firm performance. Management practices are embedded in the organisational capital of the firm and evolve over time; good management practices may not solely be the result of good management skills in the current set of managers. A number of recent studies confirm the link between management quality and productivity. Bloom and Reenen (2006) find that management practices are linked to productivity, profitability and investment rates in the US, UK, France and Germany. Knuckey and Johnston (2002) find that in New Zealand, firms that implement better management practices are more likely to report increasing market share, productivity and profitability.

Objective internationally-comparable data on management skills and practices are not currently available, making measurement intrinsically difficult. The International Institute for Management Development (IMD) World Competitiveness Yearbook asks business executives to rate management quality in their countries. This approach is not entirely satisfactory, as perceptions may be biased, but it may provide some insight. The IMD ranks perceived management skill levels in New Zealand lower than Australia, the UK and many OECD countries. Massey et al (2005) conclude that a management capability problem exists and that the general consensus amongst experienced providers is that New Zealand lacks skilled managers. In a survey of international perceptions of New Zealand business cultures and values, New Zealand Trade and Enterprise (NZTE) concluded that businesses are perceived as lacking the hunger to be part of an international community and that they lack the preparation and research into a foreign country's culture and specific market characteristics.

…but New Zealand may not have enough high quality managers

The evidence on New Zealand's performance is small and largely subjective, but the general conclusions support the hypothesis that, on average, New Zealand suffers a dearth of high quality managers and entrepreneurs. This lack of managerial talent could be affecting both a firm's ability to internationalise and also the average firm's ability to identify new opportunities and grow.

Figure 4: Perceived availability of competent senior managers, 2004 and 2006



Source: IMD World Competitiveness Yearbook 2006

The level of management skills is affected by both 'pull' and 'push' factors. The supply of management skills depends on factors such as the pool of potential managers, the level of management-related education and training, both on the job and in formal education, and less tangible concepts such as attitudes or aspirations. The demand for management skills depends on factors such as the level of market competition, ownership and corporate governance, and other less tangible concepts such as attitudes to dilution of ownership or perceptions of acceptable executive remuneration.

Above all else, competition drives performance, including managerial performance

Perhaps above all other factors, competition drives better management practices. The threat of entry or takeover focuses managerial efforts on improving firm performance and a key aspect of this is implementing better management structures and systems. Improvements in New Zealand's management skills and practices can be driven by continued assessment of the competition regime to make sure that firms are open to international and domestic competition.

Policy institutions can influence the adoption of good management practices, and not solely through the provision of training programmes. Many of the factors that appear to encourage better management practices are amenable to policy. The promotion of competition, the provision of information on best practice management techniques, specific programmes focussed on those firms that would benefit most from improved management and measures to attract and create skilled managerial talent should all be considered as ways to improve New Zealand's performance.

Entrepreneurs' access to resources...

The four drivers of productivity: capital, skills, innovation and natural resources, matter for the fifth, enterprise. Enterprise is not possible without access to these inputs. They provide the resources which entrepreneurs need to make their ideas a success, no matter at what point in the production chain or what size their firm. They create the business environment that attracts firms to locate in New Zealand. However, without the entrepreneur to identify new investments and solutions and bring these resources together and combine them, there would be no new ventures that drive the productive churn in the economy.

To the extent that government policies affect the other four drivers of productivity, they will affect the level of entrepreneurial activity in the economy. Given New Zealand's small domestic market size, international as well as domestic sources of finance, people and ideas are important in creating an attractive business environment. Consideration to international flows of these resources should be a central part of a broad range of policy settings.

Shallow capital markets may inhibit access to capital for some firms

Firms in New Zealand use less capital per employee than other OECD countries. This is partly due to a higher than average cost of capital, but even given high interest rates, some potentially profitable opportunities may not be undertaken. Possible reasons for this include uncertainty in the macroeconomic or regulatory environment, the incentives and disincentives provided by the tax system, access to finance or an aversion to high levels of risk.

New Zealand has open capital markets, but the financial system has some unusual features compared to other countries. New Zealand has a small and immature venture capital market, which often acts as a source of capital for small, high growth potential firms, and the stock market and domestic corporate bond market are relatively small and illiquid. The result is that financing is largely intermediated by banks. This structure means that firms are unlikely to be able to access a comprehensive menu of financial services through all stages of development, and to the extent that banks cannot assess the value of a potential investment, even if profitable, firms may not be able to access finance at all.

While access to finance is generally not an issue for an established firm with a proven credit history and valuable assets for use as collateral, younger firms with limited cash flow, firms that have intellectual property rather than physical assets and highly geared companies may find limited access to capital prevents investment.

Overall, a lack of development in certain parts of New Zealand's financial system could be imposing a moderate constraint on the growth and performance of New Zealand firms. The promotion of domestic saving and measures to increase the level of venture capital are important for granting a greater level of access to capital for many firms. For a more in-depth discussion see the paper, *Investment, Productivity and the Cost of Capital: Understanding New Zealand's "capital shallowness"*.

Increases in the flow of skilled workers will boost productivity in the long run

A broad skill base, including both basic and advanced skills, is important for creating a business environment conducive to investment and growth. The individual entrepreneur starting out on a new enterprise and the large multi-national corporation demand skilled employees of all varieties.

Whilst New Zealand performs well on a number of metrics of educational achievement, there are a number of issues that may be limiting access to skills for firms. Approximately 40% of students leave school without gaining a Level 2 qualification or better (OECD, 2007b). In addition, of the many people who do achieve a higher level of skills, emigration to foreign markets becomes an attractive proposition leading to further reductions in the available skills base for firms.

Shortages of skilled labour are apparent from discussions with business. Respondents to the World Economic Forum's Competitiveness Survey ranked an inadequately educated labour force as the fifth most problematic factor in doing business in New Zealand. The Treasury November 2007 Monthly Economic Indicators Report states that the labour market continues to be very tight with considerable wage pressure for experienced and skilled staff and that there is extreme difficulty in finding new staff.

Improvements over the long term will come from improving the quality of early education, and from targeting support to disadvantaged and at-risk children. This needs to be followed up by ongoing engagement in quality education and training both in school and after young people enter the workforce. New Zealand also has an opportunity to access pools of international talent, and a challenge in order to retain domestically educated individuals. A range of factors are likely to be important including access to housing, cultural factors and wages in attracting the best internationally educated individuals. For a greater discussion of the mechanisms through which New Zealand's skills base can be improved see *Working Smarter: the Contribution of Skills to Productivity Growth*.

Access to domestic and international sources of innovations will spur the adoption of new ideas

New ideas are the driving force behind enterprise. An innovative environment, within firms and public institutions, is important for both creating new ideas and adopting ideas that create the basis for new investments. Firms need to be able to access new ideas, from scientific and applied research in the research institutions to new ideas already being applied in other firms. Access to a large pool of ideas may be inhibited by the small size of the domestic economy.

As New Zealand is responsible for only 0.16 per cent of OECD research and innovation (OECD, 2005a), it is important that firms have the capabilities to access international innovations that can be adapted and exploited in New Zealand. A firm's capability in this area is often a product of how engaged in research that firm is itself. Firms engaged in research and development are often more aware of new ideas that are generated elsewhere and have the capabilities and understanding to utilise those ideas in their own areas of work. Managerial capability in networking to access overseas sources of ideas is important to make sure that New Zealand firms move towards the technology frontier.

It's also important that firms are given the opportunity to leverage off the public sector; research funded by government or higher education institutes is roughly 57 per cent of total research in New Zealand (MoRST, 2006). For firms to maximise the benefit, these new ideas need to be business facing, so that they can be brought to commercialisation. For a greater discussion of the manner in which firms can interact with the innovation system, both domestic and international, see *Innovation and productivity: using bright ideas to work smarter*.

Capital, skills and ideas build agglomerations

Access to skills, ideas and capital determine where businesses locate. Evidence on economic geography suggests that businesses choose to locate close to the input markets they use, in particular skilled labour, specialist suppliers and similar firms that can provide tacit knowledge transfer. Even successful clusters such as Silicon Valley, containing a number of firms that have access to the latest communication technologies and could conduct their business activities from anywhere in the world, choose to locate within close vicinity to each other. This is to benefit from input markets, most notably labour supply and knowledge transfer, that help to reinforce the location decision, making it even less likely the firm will relocate and more likely that other firms will start up there. Successful agglomerations create spin-offs, as new ideas create new firms, and attract complementary activities: Silicon Valley is notable for its concentration of venture capitalists, helping to provide financing for new start-ups.

To create economies of agglomeration, the market needs to be of sufficient size. It is possible that no market in New Zealand is large enough to create large agglomeration benefits. Auckland is the most likely location to attract international business due to its access to labour and suppliers. Successful agglomerations are built on the five drivers of productivity. A large pool of skilled labour, transport infrastructure, universities and ideas, sources of capital and a range of factors that attract labour such as access to housing and cultural and environmental amenities are important in creating agglomeration benefits. For Auckland especially, it may be important to focus on the five drivers of productivity if this helps to create an agglomeration that attracts business to set up and locate there.

The policy framework: still room to improve?

The base of a healthy business environment is the macroeconomic stability that provides certainty for investment. A period of continuous growth and low, stable inflation gives the certainty that the expected returns of an investment will not be eroded by falling demand or high inflation.

Competitive forces demand continued improvements in firm performance

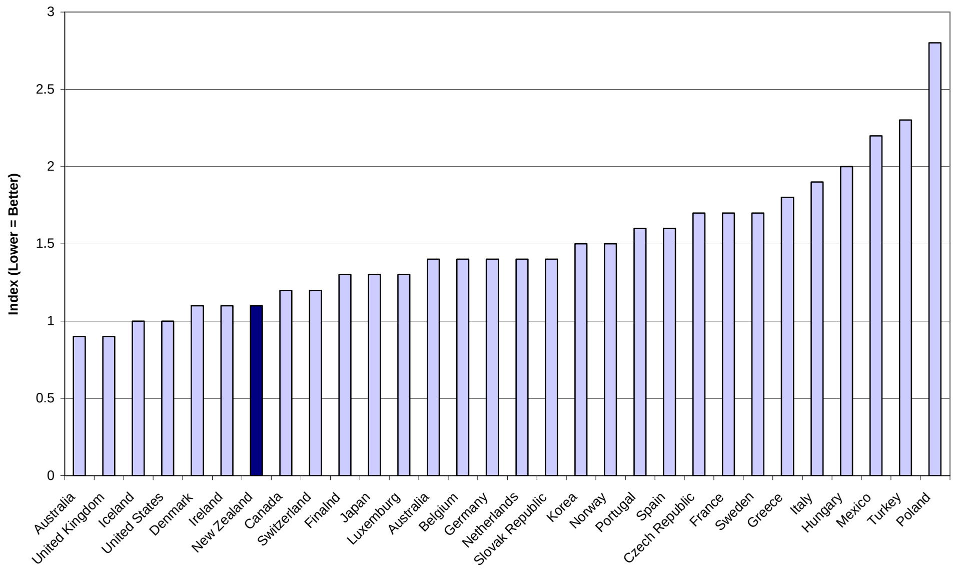
Beyond this, a competitive environment creates the incentives for entrepreneurial action by introducing the rigour of the market. The potential for new entrants into the product market encourages producers to supply what consumers demand at the lowest prices so that labour and capital resources are allocated to their most efficient uses. It encourages high productivity new entrants to a market and displaces low productivity firms that are unable to compete. It acts as a spur to innovation as firms seek greater market share and profits.

Product market and capital market competition create the incentives to improve performance…

Both product market competition and competition for corporate control are important in delivering greater firm performance. The threat of foreign or domestic takeover bids and the need to access capital markets for sources of funds impose constraints on managerial discretion and focus efforts on activities that create the greatest returns. Bloom et al (2007) find that firms with a widely held ownership structure have superior management practices than firms with narrow ownership such as family owned firms.

Overall, product markets work well and New Zealand has in place well-designed laws and institutions that provide a solid framework to underpin competition and promote efficiency. On measures of competition focused on barriers to entry, New Zealand compares very favourably. The OECD (2005b) find that relative prices are low, product market regulation is not overly burdensome and the turnover of firms suggest a strong competitive environment. New Zealand is ranked 7th out of 24 OECD countries for the quality of product market and competition regulation, however Denmark, Iceland and Ireland have improved more rapidly and overtaken New Zealand in the rankings (Conway et al, 2005).[4]

Figure 5: Product market regulation and competition index, 2003



Source: Conway et al (2005)

…but New Zealand's size and distance may be protecting some firms from competition…

New Zealand does not compare favourably with other countries on traditional measures of competition such as industrial concentration. Evans and Hughes (2003) conclude that New Zealand generally has one of the highest industry concentrations. However, a small country would not be expected to perform exceptionally well on measures of industry concentration given that minimum efficient scale requirements for firms are likely to be large compared to the total market size. The threat of entry of a new firm may be sufficient to produce competitive outcomes even if only a few firms actually supply the market. However, it could be that the small domestic market helps to shelter some firms from competition. Ongoing

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4 The index is comprised of measures of the degree of state ownership and control, barriers to entrepreneurship and barriers to trade and investment.

consideration should be given to making sure that barriers to entry remain low in order to increase levels of competition.

The competitive framework for corporate control is strong and New Zealand is open to flows of foreign investment. In 2006, New Zealand ranked 56th in terms of Foreign Direct Investment out of 141 countries, up from 83rd in 2005 (UNCTAD, 2007). While New Zealand is in the middle of the FDI performance table, it has a large stock of FDI: as a percentage of GDP, the stock of FDI in New Zealand was higher than Australia, the UK and the United States in 2004 (OECD, 2007a).

…and some firms are sheltered from capital market competition

Despite this, a number of large firms may be operating from a position that is sheltered from competition for corporate control to varying degrees due to their individual circumstances. If some large firms do not need to compete in the capital market then a source of competitive pressure and incentives for managers to perform has been removed. These protections can diminish competition and reduce the incentives for managers to improve the performance of firms.

Given a healthy macroeconomic environment, underpinned by a robust competition framework, government policies can affect the flexibility and incentives for entrepreneurship to occur. While a number of policies affect these incentives, the tax, regulatory and industry policy settings are some of the more important determinants and the paper now discusses these in turn.

The regulatory system creates benefits and costs for society

Regulation has important uses that generate economic benefits…

Regulation is typically used to internalise externalities or manage asymmetries of information or power in order to increase market access and provide the business settings that allow firms to grow. In some cases, regulation is used to reduce transaction costs. Regulation can also be a powerful lever for achieving wider economic, social and environmental objectives.

The impact of regulation on the market flows through to the decisions of firms and individuals and the way the market operates. Regulation affects the availability of business opportunities, the costs of pursuing them, and the returns from doing so. This has direct and dynamic effects on firm productivity.

The quality of institutions is considered to be a central explanation of the differences in income and growth rates between countries. New Zealand today has a comprehensive set of regulatory laws and institutions typical of a modern, developed economy and is generally regarded as having low compliance costs and low barriers to enterprise. In some areas, however (for example, telecommunications and energy markets), regulations are relatively new, and as such, their performance may be expected to develop as both regulators and industry build experience.

There is a reasonably widespread view that the quantity of regulation in New Zealand has increased over the past decade. In part, this is likely to reflect an adjustment to the relatively light-handed approach to regulation introduced through the late 1980s and early 1990s. It is difficult to find good quantitative measures of changes in the stock of regulation over time.

Pages of new legislation is sometimes cited, but this is a poor measure, failing to take account of the nature of legislation, its economic significance or the nature of any regulatory regime that the new legislation replaces.

…but growth in regulation also imposes costs on business

Therefore, the manner in which any increase in regulation affects the overall quality of the environment for business is less clear. However, it is expected that with increases in regulation, compliance costs will increase. While the compliance cost of a single piece of legislation may not be high, cumulative costs of regulation can reduce the returns to economic activity to a degree that it is no longer worthwhile undertaking the activity. Further, growth of regulation increases the administration and enforcement costs for the public sector and can take resources away from more productive uses.

The latest Business New Zealand and KPMG Compliance Cost Survey shows that environment-related compliance costs, including the Resource Management Act, local authority requirements, hazardous substances, border controls and bio security, comprised 19% of total compliance costs for business in 2007, up from 14% in 2006. Many respondents commented that recent changes to legislation and regulatory requirements had resulted in increased compliance costs. In addition to these costs, regulation also affects the choices firms make. If regulation is overly burdensome, businesses may choose not to comply or not to go ahead with a potentially profitable investment.

It is also important to consider the potential benefits of regulation. Regulation is used to pursue economic, social and environmental goals from which the community derives benefit. The challenge is to ensure that such regulation delivers the maximum net benefit to society. This will necessarily involve making trade-offs, for example a prescriptive regulation may impose greater compliance costs on businesses, but it may also provide greater certainty for both businesses and consumers, providing the necessary confidence to take advantage of market opportunities.

Gains in the quality of regulation will occur by taking a more strategic approach to regulation: ensuring that the right tools are used to achieve the desired outcomes. Good regulatory management begins with asking three critical questions:

Is there a genuine benefit to the community being generated from the imposition of regulation?

Do the benefits exceed the costs of regulating, including both direct compliance costs and indirect impacts on growth?

Is there another way of meeting the objectives of regulation that generates greater net benefits?

Improvements in the regulatory environment will come from systematically assessing the stock and flow of regulation…

Good regulatory management also requires that the regulatory environment improves over time and remains fit for purpose. This requires not only providing quality assurance on the flow of new regulation, but also systematically reviewing the existing stock of regulation. To effectively review existing regulation, the complexity of regulatory regimes needs to be understood, in particular the cumulative and lagged effects of regulation and any unintended consequences. High quality regulatory systems are of a quality that consistently generates regulation that benefits the overall economy, removes and updates regulation that fails to generate benefits and avoids regulating where it is not necessary or better options exist.

…focussing on areas of greatest economic benefit…

It is important to focus these efforts on the areas that offer the greatest benefits. There will need to be an ongoing focus on the key regulatory regimes that have a pervasive impact on the economy. In areas where institutions are underdeveloped, identifying and moving to best practice will better position the economy to take advantage of opportunities as they arise. Similarly, the best solutions for New Zealand may look different from how they look now in a world where productivity performance and growth rates are increasingly determined by the international competitiveness of our firms.

…and backed by effective implementation

Good regulatory design needs to be followed by effective implementation and review, and clear communication across government and business. In a small economy, capability is a key concern. It will take time for business and regulators to reach optimal levels of compliance and enforcement, for precedents to be set and for necessary improvements to be incorporated. A strategic approach to regulation would help identify valuable lessons for improving implementation capability.

The tax system has important links to productivity

The tax system can affect the drivers of productivity by altering the decisions that individuals and companies make. These decisions can include whether to invest in human capital (to improve skills), whether to invest in physical capital and research and development (to improve profits), or whether to engage in other productivity enhancing activities. As discussed above, all of these activities are fundamental in providing a business environment conducive to entrepreneurial activity of many varieties.

Many facets of the tax system can impact on the decisions that individuals and firms make; the headline rate of tax, the degree of progressivity, relative rates between taxes on different activities and the complexity of the tax system.[5] Tax potentially impacts on each of the five productivity drivers: enterprise, innovation, skills, investment and natural resources, as it alters the economic decisions of firms and individuals. The strength of the empirical evidence of the impact of tax varies for each. Of the five drivers, the evidence is strongest with regard to the impact of tax on investment and skills accumulation, and these warrant further investigation.

Tax alters the incentives for individuals to invest in education…

The empirical evidence on the effect of income taxes on skills accumulation has been mixed. Early studies suggested that there was a negligible effect. However, further study suggests that the marginal effect of proportional income taxation on human capital investment is negative. In other words, by reducing post-tax incomes, tax decreases the incentives to invest in education, as any increase in income that arises from the investment is diminished. Effective marginal tax rates can affect the decision to undertake higher and further education by altering the net returns from investing in

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[5] The way in which tax revenues are spent should also be included in an overall assessment of the impact of tax on productivity, as the ways tax revenue are spent can either encourage, discourage or be neutral towards productivity. A number of these expenditures will be covered in accompanying papers, such as government expenditure on infrastructure or education.

education and the progressivity of the tax system can exacerbate this effect as the benefits from skills accumulation are eroded when the individual moves into higher tax bands. Offsetting this, policies that reduce the cost of human capital formation, such as subsidised education and interest free loans, will increase the financial incentives to acquire skills.

…and for firms to invest in capital

The decision to invest, in what to invest, when to invest, the location of the investment and the reporting of the investment can all be affected by taxation. Both average and marginal tax rates may be relevant; the former is likely to affect a multinational's investment location decisions while the latter affects incremental investment decisions once a location has been chosen.

On the impact of taxes on the level and timing of investment, the evidence broadly indicates that tax systems can substantively distort or encourage investment choices. The evidence from major tax reform episodes has usually identified significant investment responses, although part of this response may reflect short-run timing changes and possible switching between types of tax-favoured and disfavoured assets. More information on the link between tax and investment can be found in the paper *Investment, Productivity and the Cost of Capital: Understanding New Zealand's Capital Shallowness*.

Broadly, the tax system affects the quality of the business environment by altering incentives to engage in economic activity of many varieties: for firms to invest in physical capital and research and development and for individuals to acquire skills. Understanding the impact of the tax system on the drivers of productivity is important when formulating tax policy.

Industry policy can help firms improve productivity

Industry policy can help firms to overcome market failures that prevent a range of activities. A well-focussed policy based upon a true market failure can improve productivity growth. But there is also the risk of government failure: poorly focussed policies can crowd out the private sector, create inefficient incentives and spend valuable public resources with little benefit.

Barriers to exporting could be reducing productivity

The paper so far has discussed a lack of internationalisation as a symptom of underlying factors that can affect all firms. However, specific barriers to internationalisation are important in their own right. Countries export primarily from those sectors in which they have a comparative advantage. Within New Zealand, the firms that export are more productive. If barriers to exporting curtail the extent to which firms export or stop some firms from exporting at all, then it will be the more productive firms that suffer, pulling down New Zealand's average level of productivity. In addition, there is some evidence to suggest that firms can learn from the experience of exporting goods and services to other countries and in the process increase their productivity. Finally, there may also be a productivity boost from accessing a larger market as the firm moves towards a more efficient scale. However, international evidence is mixed on this latter factor and there is little support for this in New Zealand.

High productivity firms make good exporters. In order to export, firms have to overcome the fixed costs of acquiring new information and setting up new processes. The firms that can most easily overcome these barriers are the most productive firms. Therefore, a central focus of policy should be raising the average level of productivity in the economy by providing an optimal business environment.

These barriers imply there is a role for government assistance…

Beyond this, market failures in exporting may imply a role for government assistance. In undertaking a new activity, such as exporting, firms face informational barriers in identifying market opportunities and setting up the networks to take advantage of them. By exporting to a new market or a new product, firms can lead the way for other domestic firms to learn from their actions and the benefits can spill-over to other parts of the economy. Policy should be focussed on creating the greatest level of additionality. Policies that target firms that do not have the ability to internationalise by themselves and firms that would create the largest economic benefit, either internally or for the wider economy, will have the largest impact on productivity.

…but programmes should be assessed and monitored to maintain their effectiveness

New Zealand Trade and Enterprise (NZTE) helps firms to internationalise by providing the assistance they require in identifying markets and taking the steps to becoming an exporter. There is a trade-off in its activities between the freedom of overseas offices to seek out and identify new opportunities and the careful focussing on high value activities implied by a more principled approach. Even following clear principles, creating an actual impact is going to involve trial and error in terms of meeting the needs of firms. Evaluation of these policies is absolutely critical. The Ministry of Economic Development and NZTE have evaluated many of the export assistance programmes and have closed or changed programmes when programmes are not effective. A new firm-level database provides New Zealand with unprecedented opportunities to determine the effectiveness of programmes. This provides the best opportunities for Government to ensure its future support for exporters is best supporting them to achieve their export goals.

Industry policy that supports exporting, like all industry policy, will have an element of trial and error. Some programmes will produce the intended effects and help to overcome market failures, while others will be a case of government failure. Constant assessment of programmes will allow the correct focussing and the removal of those schemes that do not add value.

Implications for policy

By encouraging the acquisition of skills and capital, promoting increased innovation and encouraging the sustainable management of natural resources, New Zealand can provide high quality inputs into the production process. But it is the entrepreneur that takes these inputs and uses them to achieve new investments and new ventures that drive productivity growth. The entrepreneur creates new methods of production and products that replace the old ways of doing things and produce what Joseph Schumpeter termed creative destruction, which ultimately drives growth.

New Zealand's productivity is 22nd out of 30 OECD countries. This observation, combined with evidence that suggests poor performance of large firms and difficulties internationalising, suggest there may be issues in the business environment inhibiting firm productivity, such as the scale of the domestic market. The paper has looked at the role that management skills, access to resources and a range of government policies have in enabling entrepreneurial activity.

Subjectively, management skills appear poor compared with other countries and may be limiting firm productivity. The evidence of a link to productivity is much stronger, however, for management practices: a firm's processes, practices, and structures. Above all else, the strongest driver of improved management practices appears to be competition, which stimulates the need for better organisational practices and focuses management attention on improving firm performance. Beyond that, the provision of best practice information and measures to attract and create skilled managers should be considered.

Access to resources: capital, skills and ideas, may be limited. In each case, factors in the domestic market are creating hurdles for firms. Underdeveloped capital markets, tight labour markets and difficulties accessing foreign sources of ideas impinge on the quality of the business environment. Three papers published alongside this paper, provide more detailed discussions on investment, skills and innovation respectively.

The policy framework can create the incentives that reward entrepreneurship. The benefits of competition are critically important for enterprise and productivity. Barriers to both product market and capital market competition should be minimised so that managers and firms have the incentives to focus on improved performance. Beyond this, the tax and regulatory settings can impact on the incentives to engage in a range of economic activities. In particular, regulation needs to be continually assessed and reviewed in order to maintain a regulatory environment that is fit for purpose.

By removing barriers to entrepreneurship, allowing the competitive market to spur firm performance, encouraging skill acquisition, investment and the adoption of new ideas, and putting in place a framework that rewards entrepreneurship, New Zealand can create a business environment in which entrepreneurial activity thrives.

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