

External Review of the Treasury's Fiscal Policy Advice

New Zealand

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Executive Summary

This Executive Summary outlines the main findings and recommendations of a report prepared by Teresa Ter-Minassian, in response to a request by the New Zealand Treasury for an external review of the fiscal policy advice it has been providing to the Government.

The main objective of the review was to assess whether the fiscal policy framework set out initially by the Fiscal Responsibility Act of 1994, its subsequent modifications, and the fiscal policy advice provided by the Treasury within this framework, remain appropriate to the characteristics of the New Zealand economy, and consistent with best international practice.

The report covers the main aspects of both the Treasury's macro-fiscal advice (the fiscal policy framework, tools of analysis, stabilisation, and medium- to long-term sustainability), and its role and advice in public financial management, focusing in particular on its efforts to improve the prioritization, efficiency, and effectiveness of public expenditures, and to strengthen the management of the Crown's balance sheet. It reflects the information available to its author as of end-April 2014.

In a nutshell, the review found that the Treasury's advice has been consistent with sound principles and practices of responsible fiscal management, and appropriately mindful of fiscal policy's equity, effectiveness, and efficiency objectives. It has also generally been effective in influencing the Government's fiscal policies. The Treasury has become more inclusive in recent years, seeking more systematically inputs from a broad range of stakeholders.

The main areas for improvement relate to the modelling and empirical estimation of the macro-economic and distributional effects of fiscal policies; the analysis and management of fiscal risks; and the information base needed to further strengthen the assessment and management of performance of spending programmes and of the Crown's assets. The report includes a number of recommendations in these areas, which are summarized below.

I Main findings

1 The fiscal policy framework

New Zealand's approach to framing fiscal policies has traditionally focused on ensuring a sustainable public debt and a robust and resilient Crown's balance sheet, and on developing a broad constituency for fiscal responsibility through strict transparency and reporting requirements.

The 2013 amendment of the Public Finance Act expanded the framework to incorporate into the principles of responsible fiscal management considerations relating to the interaction of fiscal policy with monetary policy, intergenerational equity, the efficiency and fairness of the tax system, and effectiveness and efficiency in the management of the Crown's resources.

This framework has served New Zealand well in many respects. It has promoted a responsible conduct of fiscal policies under different governments, resulting in levels of the net public debt that look modest in international comparisons; and it has provided flexibility to accommodate the adverse fiscal consequences of the global financial crisis and the heavy fiscal cost of rebuilding Christchurch, following two devastating earthquakes in 2010 and 2011. The strong culture of transparency and official accountability, promoted by the Public Finance Act, is widely regarded as an example of international best practice.

Nevertheless, it is worth addressing the question whether New Zealand's fiscal policies and institutions could be further strengthened through the adoption of innovations, such as numerical fiscal rules and/or independent Fiscal Councils, which have become increasingly popular internationally in recent years.

A decision on whether to incorporate into New Zealand's fiscal policy framework more permanent constraints on governments' discretion through the adoption of legislated numerical rules would involve delicate (and varying over time) trade-offs. While such rules could help strengthen inter-temporal consistency in the conduct of fiscal policies, they would limit the scope for countercyclical fiscal measures, and could even hinder the operation of the automatic fiscal stabilizers during severe recessions.

They might also weaken governments' ownership of the fiscal targets, and create incentives for governments to comply with the rules through policies that would weaken other parts of the Crown's balance sheet. These trade-offs could be moderated, but not eliminated, through an appropriate design of the rules, in particular the inclusion of escape and revision clauses. The trade-offs would be lesser for a debt-based rule than for a budget balance-based rule, or for an expenditure-based one.

A possible pragmatic approach would be for the Treasury to recommend to the next Government to adopt a time-limited legislation, setting binding ceilings on the net public debt along a declining path over the next several years, when the risks of a recession appear small. The experience with a debt rule could then be reviewed at the end of this period, to determine its suitability over the longer term.

As regards the possible creation of a Fiscal Council, if it were established, it should probably have a more limited role in New Zealand than in most other countries that have created similar institutions. A more limited remit for the Council would be justified by the degree of operational independence of the Treasury in forecasting and policy analysis, its well-established non-partisan reputation, its sound record of relatively accurate and unbiased macroeconomic and fiscal forecasts, and the already strict fiscal accounting and transparency requirements mandated by the Public Finance Act.

The main purpose of the Council would be to offer an independent expert perspective and commentary on the advice provided by the Treasury to the Government on fiscal policy issues, and on the decisions taken by the Government and the Parliament on those issues. Such a Council would not need to operate on a full-time basis, and therefore would not be very costly.

If the Council was constituted by a small number of well-respected national, and possibly international, figures, with substantial fiscal expertise, previous policy experience, and strong communication skills, its commentaries at key points in the budget cycle, and on such important documents as the Long-Term Fiscal Statement and the Investment Statement, could help increase the resonance of fiscal policy options and choices with the media and the public opinion, and build social consensus on needed reforms.

2 The Treasury's analytical tools

The Treasury has developed in recent decades a number of empirical tools for fiscal forecasting and policy analysis, and continues to refine them, to reflect advances in the relevant international literature. The report discusses the main such tools that are publicly available, and provides suggestions for possible improvements. The following main points stand out:

- The main behavioural model used by the Treasury (the NZTM) performs relatively well as a short-term macro-economic forecasting tool, but is not well suited for the analysis of fiscal reforms, since it includes only a few aggregate fiscal variables.
- The models currently used for the medium and long-term forecasting of fiscal variables, and for micro-simulations of the budgetary impact of changes in taxes and welfare benefits, are also not suitable for analysing the macro-economic effects of such changes, since they do not incorporate feedback mechanisms to the macro-economic variables.
- There is therefore a need to develop better tools (such as a dynamic general equilibrium model) to simulate the effects of a range of fiscal policies.
- It would also be useful to estimate econometrically the impact of main cost-drivers on the major categories of expenditure (e.g. welfare benefits and spending on health, long-term care, and education), to complement the current “bottom up” approach to such projections, which are based on inputs from the relevant line ministries and other Crown agencies.
- Given New Zealand's exposure to strong exogenous shocks, sensitivity analyses for the economic and fiscal forecasts should include more extreme (tail-risk type) scenarios. Stress test-type scenarios should also be constructed to highlight the fiscal implications of the simultaneous materialization of non-tail risks that are likely to be positively correlated.
- The inclusion of such illustrative stress-test scenarios in the Economic and Fiscal Updates could help sensitize policy-makers, and society at large, to macro-economic and fiscal vulnerabilities, and build consensus about a need to rebuild and maintain “fiscal buffers” stronger than currently targeted, in particular a continued decline of the net debt over the medium-term, to significantly below 20 percent of GDP.

3 The Treasury's advice on fiscal stabilisation

The Treasury's advice to the government in recent years on the use of fiscal policy for macro-economic stabilisation has focused in particular on two objectives: avoiding fiscal pro-cyclicality¹, and increasing national savings. The low rate of national savings, reflected in significant and protracted current account deficits in the balance of payments, and in a relatively high net external debt, is widely regarded as New Zealand's main macro-economic vulnerability.

The achievement in the first half of the 2000s of relatively low levels of the public debt, and the related absence of financing constraints, has allowed New Zealand to avoid pro-cyclical fiscal contractions during downturns through most of the last decade. Avoiding pro-cyclicality during upturns has proven, however, significantly more challenging: according to the Treasury's fiscal impulse indicator, fiscal policy was pro-cyclical (expansionary) during half of the years of boom between 1998 and 2012, and neutral or only mildly restrictive during the other half. The international literature highlights the deleterious effects that fiscal pro-cyclicality during booms can have on the exchange rate and the current account balance, and ultimately on sustainable growth, especially in small open economies like New Zealand.

Avoiding a pro-cyclical fiscal stance is acquiring renewed importance at the present time, as the economic recovery is gathering momentum. The Treasury should consider advising the incoming Government to commit to saving any favourable revenue surprises, compared with the 2014 Budget forecast baseline. Such savings would be best used to accelerate the reduction of the net public debt, given the importance attached to this indicator by rating agencies and financial markets. If political economy factors constrain this course of action, they could be used to strengthen other parts of the Crown's balance sheet, e.g. by restarting earlier the (currently suspended) statutory contributions to the New Zealand Superannuation Fund (NZSF), or by replenishing the Natural Disaster Fund, which has been depleted by the cost of the recent earthquakes.

The Treasury's analysis of fiscal policy options to increase and improve the allocation of private savings, is theoretically sound, and in line with the international literature in this area. It suggests that there is significant scope for structural-type reforms to reduce the disincentives to save inherent in the current tax and social benefits systems, and especially to improve the allocation of savings between investments in financial and real assets (housing and farm properties).

4 Long-term sustainability

In preparing and transparently disseminating long-term fiscal projections, New Zealand is fully in line with best international practices, as recommended by international organizations, and by standard setters for public accounting. The 2013 Long-Term Fiscal Statement (LTFS) and the related background papers together represent an impressive analytical effort by the Treasury to highlight the long-term fiscal challenges facing New Zealand, as a result of the ageing of its population and of other factors likely to boost the demand for some key public services, especially health care. The Statement also includes a discussion (developed further in the background papers) of a range of revenue and expenditure policy options to bridge the gap between the baseline ("resume historic cost growth") projections and scenarios in which the net public debt is stabilized at, or below, 20 percent of GDP.

¹ Fiscal policy is considered pro-cyclical when discretionary fiscal measures offset in part or wholly the operation of the automatic stabilizers. Thus, an expansionary fiscal impulse during cyclical booms and a contractionary one during recessions are defined as pro-cyclical.

These policy options are evaluated (mostly in qualitative terms) against the five criteria contained in the Treasury's "Living Standards Framework", namely their effects on: economic growth; macro-economic vulnerabilities; equity; social capital; and sustainability for the future. The Treasury should be commended for having developed a fairly comprehensive, but still operational, tool for assessing the effects of corrective policy options on other dimensions of welfare, besides fiscal sustainability. In so doing, it has aligned New Zealand with a growing group of countries and international institutions that are focusing on the quality, inclusiveness, and sustainability of economic growth, not just its speed.

The report includes a number of technical observations and suggestions on the methodology and assumptions of the LTFS projections, and its analysis of corrective policy options. It should be emphasized here, however, that the policy analysis in the LTFS is very useful in highlighting the, sometimes difficult, trade-offs that New Zealand's policy makers will face in trying to maintain a sustainable fiscal position in the medium to long term.

The Treasury has avoided recommending in the LTFS any specific corrective policy, or package of policies, appropriately regarding such a choice as the Government's responsibility. However, it could have more explicitly recognised that, given the growing size of the gap between the "resume historic cost growth" projections and a prudent debt scenario, it would be increasingly difficult over time to bridge such gap through only a protracted compression of the expenditures controlled through operating and capital allowances. Accordingly, future Treasury advice should highlight the need for a balanced package of efficiency-friendly and equity-sensitive corrective policies, including as well revenue-raising reforms, reforms of the Superannuation system, and actions to contain the demand for ageing-related public services. An early adoption of such reforms would allow them to be implemented in a gradual and more socially acceptable manner.

Reforms of the Superannuation system would have to be both adequately effective in curbing the projected growth of pension spending, and socially acceptable. International experience with pension reforms suggests that there is no one-size-fits-all prescription in this area, as some countries have relied on parametric reforms (such as raising the pensionable age, reducing replacement rates, or modifying indexation mechanisms), others have enacted more fundamental reforms (such as shifts from defined-benefits to defined-contributions regimes, or from PAYGO to SAYGO ones), and yet others have combined elements of the two approaches. These choices have reflected differences in initial conditions, such as the characteristics of the existing pension system, and the overall state of the public finances; in demographic trends; and in social preferences.

The Treasury's analysis provides a comprehensive discussion of the trade-offs to be confronted in pension reforms in New Zealand's circumstances. In the light of this analysis, a combination of gradual increases in the pensionable age, and the introduction of a compulsory saving scheme would seem less likely to face strong social opposition than changes in the indexation mechanism, which could lead to an increase over time in relative poverty levels.

The Treasury's analysis also points to significant scope for efficiency gains in the provision of important public services, especially health care, and for moderating the demand for some of them (e.g. through means-tested co-payments or reduced subsidy rates) in an equity-friendly manner. Steps in these directions have been taken by a number of other countries in recent years, and recent research suggests that they have been (to different degrees) effective in containing the growth of spending on such services.

5 The Treasury's role in performance-oriented financial management

New Zealand has a long tradition of performance-oriented public financial management (PFM), underpinned by: a well-defined accountability framework for all public officials; use of accrual accounting and budgeting under Generally Accepted Accounting Practice (GAAP); appropriation of budgetary resources by outputs, rather than inputs; costing of outputs; and the use of capital charges. These features are widely recognised in the international literature as key building blocks of an effective performance-oriented PFM.

In this literature, New Zealand is generally characterized as a first-class example, especially in terms of transparency, breadth of coverage of the financial management system, probity in the use of public resources, and commitment to fiscal responsibility. Nevertheless – as recognised in various official documents, including reports by the Controller and Auditor General, the State Services Commission, and the Treasury – there is scope for improvement, especially as concerns strengthening the efficiency and effectiveness of government spending and asset management.

In a context of a largely expenditure-based programme of fiscal consolidation in recent years, the Government has placed increased emphasis on better articulating budgetary priorities, and reallocating resources to them; and on improving the value New Zealanders receive for their tax money, through an integrated, medium-term oriented, and recipient-focused approach to the analysis and reform of expenditure programmes and the management of public assets (the “investment approach” first used in the recent welfare reform).

The main initiatives in this area (discussed in some detail in the report on the review) include:

- The Government’s Better Public Services programme
- The preparation of rolling Four-year Plans
- The publication of the first comprehensive report by the National Infrastructure Unit (NIU) of the Treasury on the 10-year capital intentions of Crown agencies and local governments
- The creation of an “Analytics and Insights” team to spearhead efforts to better exploit existing New Zealand Statistics’ data on the impact of government programmes on target recipients’ groups; and
- The implementation by the State Services Commission of a “Performance Improvement Framework” for Crown agencies.

With these efforts, New Zealand remains in the forefront of sound international practice in performance-oriented PFM. As the main adviser to the Government in this area, the Treasury has been leading the technical design and the implementation of most of the initiatives listed above.

The Treasury recognises, however, that, to further enhance its capacity to deliver on its responsibility as the Chief Financial Officer of the Crown, it needs to strengthen its information base concerning the sustainability, efficiency and effectiveness of spending programmes and of the Crown’s assets.

To “lift its game” in this area, the Treasury has begun to prepare, in cooperation with spending ministries, an enhanced monitoring framework (EMF), articulated in four tiers, seeking to gather indicators of, respectively:

- The implementation of agencies’ budgets; and the stability and resilience to shocks of their balance sheets (the control and monitoring tier)
- Longer-term agency-specific cost pressures on current and capital spending (the outlook and sustainability tier)
- The technical and cost-efficiency of different agencies and spending programmes (the efficiency tier); and
- How effective are agencies’ outputs in improving the provision of the related services (outcomes); and the opportunity cost of the capital invested by them (the effectiveness tier).

While, at this early stage of the process, it is not possible to comment in detail on the likelihood of success of the EMF, a few lessons from the international experiences and literature discussed in the report are worth mentioning here:

- First, it must be recognised that the gathering of performance information, and especially a careful analysis of it, takes considerable time. Therefore, it would be unrealistic to expect the Treasury's efforts to yield very quick gains in terms of budget savings and productivity improvements
- Second, when it comes to performance information, more is not always better. An overload of indicators may obscure, rather than clarify, key performance issues and trends. The Treasury's already substantial knowledge of budgetary issues should be fully utilised in designing reporting requirements from spending agencies that are as cost-effective as possible
- Third, genuine collaboration by the spending agencies will be very important for the success of the initiative. This requires not only strong top-down guidance from the highest level of government, but also the creation of appropriate incentives for the agencies to provide the information. They should see the enhanced information base as a tool to help them, as well as the Treasury, to "lift their game"; and expect rewards in the form of additional budgetary resources for well-performing programmes, not just cutbacks for poorly-performing ones.

It is also important that this information be effectively utilised to carry out more systematic, both strategic and efficiency-focused, spending reviews than has been the case so far. As suggested by the experiences of a number of other countries, multi- or single-sector spending reviews can be a useful tool to inform governments' decisions about expenditure reallocations, as well as about the scope for improving the performance of spending programmes.

A strengthened programme of spending reviews could usefully include:

- An annual programme of mainly efficiency-focused reviews of a number of spending programmes, selected on a rotating basis; and
- More in-depth strategic reviews (of the types conducted in recent years for defence and social welfare programmes) for major spending areas, on a rotating multi-annual basis.

Consideration should also be given to the possibility of conducting occasional (e.g. at the outset of a new Government) more comprehensive strategic spending reviews, to reassess the balance of budget priorities for the five years covered by the Fiscal Strategy Reports.

It would be important that the reviews (especially the strategic ones) focus on both policy and management choices, and that they include not only those categories of expenditures that are controlled through the operating and capital allowances, but also social transfers programmes, notably the Superannuation system.

6 The Treasury's role in the management of the Crown's balance sheet

New Zealand pioneered the compilation of a complete audited balance sheet for the public sector, and remains one of few countries worldwide that do so systematically. The analysis of developments in the balance sheet allows a richer understanding and narrative of the evolution of the public finances than an exclusive focus on the public debt, since it provides information regarding:

- A range of indicators of fiscal sustainability
- The ability of the Crown to absorb exogenous shocks, mainly through borrowing and sales of financial assets; and also
- The public sector's capacity to deliver public goods and services over time, mainly through its social and commercial portfolios.

These functions are echoed in the principles of fiscal responsibility that require governments to achieve and maintain levels of the Crown's net worth adequate to ensure the balance sheet's resiliency to shocks, manage prudently the risks of such shocks, and ensure effectiveness and efficiency in the management of the Crown's resources. At the same time, however, the principles highlight the key role of the public debt as a fiscal policy anchor, by requiring the maintenance over time of prudent levels of the debt.

Translating these broad principles into practice involves a range of complex judgments about, among other things:

- The extent to which long-term spending pressures should be met by pre-funding (i.e. building earmarked assets, such as the NZSF) and/or by reducing the net public debt
- The range and size of risks to which the Crown's balance sheet is exposed, and appropriate mitigation strategies
- The efficiency and effectiveness of the social portfolio, and its alignment with evolving population needs and Government policy priorities.

The 2014 Investment Statement represents an important first attempt to systematize and make public the Treasury's advice on these complex issues. It contains valuable insights into many of them, building on prior work in the relevant areas. However, it also leaves unanswered, or provides only a broad qualitative analysis of some of them, highlighting the need for further analysis and reflection on the issues in the years ahead.

In particular, the Statement does not clarify whether, in the Treasury's view, the Government's current net debt target of no more than 20 percent of GDP would remain appropriate beyond the end of this decade, or whether further reductions should be targeted in subsequent years, to strengthen the general buffer for long-term spending pressures and potential future shocks to the public finances.

The management of the Crown's large and diversified balance sheet is obviously complex, and is mostly conducted in a decentralized manner on the assets side, while borrowing authority and the management of the core Crown's debt are concentrated in the NZDMO. The decentralization of asset management is justified by the wide-ranging nature of the Crown's assets, and by considerations of incentives and accountability of agencies, but it also creates a need for high-level oversight, to ensure that:

- The overall public investment level is consistent with stabilisation and long-term sustainability objectives
- New capital allocations are aligned with the Government's evolving priorities
- Existing assets remain fit for purpose over time, through appropriate maintenance, depreciation, replacement and/or disposal policies

- Risks (including implicit contingent liabilities) are identified in a timely manner, and adequately mitigated; and
- The management of liabilities is appropriately coordinated with that of the assets.

The Treasury has a key role in advising the Government on all aspects of such oversight. To further enhance its capacity to fulfil effectively this role, the Treasury needs to strengthen not only its information base, as discussed in the previous section, but also its analysis of the general and specific fiscal risks (especially implicit contingent liabilities) affecting the balance sheet.

As regards general fiscal risks, in particular those stemming from macro-economic developments, there is a need for more systematic analyses of their impact on the major components of the balance sheet, and of the correlations of such risks within and among the portfolios. A sound understanding of these correlations is crucial to ensure that the overall risk exposure of the Crown's portfolio is consistent with the Government's risk appetite, and that opportunities are exploited for overall risk mitigation through appropriate risk pooling, offsetting, and diversification strategies across the whole balance sheet. Risk analyses should also include stress tests to assess the impact of tail risks on the balance sheet.

New Zealand meets international standards as regards the disclosure of explicit contingent liabilities in both the EFUs and the audited annual Financial Statements of the Government. However, it would be important to strengthen the assessment, and approaches to mitigation, of some large implicit contingent liabilities. Specifically,

- 1 Those related to the financial sector have been to some extent mitigated by the measures already implemented, or in course of implementation, by the RBNZ to strengthen prudential regulations and supervision. However, the absence of a limited deposit insurance mechanism, and the degree of concentration of the banking system, still give cause for concern about the fiscal costs of a potential failure of one or more large banks
- 2 More analysis is also needed of the magnitude and possible mitigation strategies of endemic risks to the farm sector
- 3 Finally, increased attention seems warranted to the risks posed by the high and growing debt of some local authorities. Although local gross liabilities are still small in relation to GDP, they are relatively large (nearly 170 percent on average) in relation to the localities' own-revenues. Moreover, some municipalities (including several large ones) have significantly higher debt-to-revenues ratios than the average. Although this debt is not legally guaranteed by the Crown, financial distress of one or more municipalities, especially large ones, could create difficult-to-resist pressures for bailouts, with attendant fiscal costs.

II Main recommendations for the Treasury

Drawing on the findings of the review summarized in the preceding section, this section lists some recommendations for the Treasury's consideration. Given the wide-ranging nature of the topics covered by the review, the recommendations are grouped by broad areas, rather than ordered according to implicit priorities.

1 Fiscal framework, stabilisation and sustainability

- 1 Consider whether to advise the new Government to propose time-limited legislation mandating a reduction of the net public debt along a stipulated path through at least the end of this decade. Any such legislation should include appropriate escape clauses and a review clause at the end of the period.
- 2 Recommend to the Government the creation of a small independent Fiscal Council along the lines discussed in sect. I above.
- 3 Make explicit in the next Briefing to the Incoming Minister of Finance the Treasury's views on the appropriate fiscal-monetary policy mix in the current phase of the cycle.
- 4 Advise the incoming Government to save favourable revenue surprises and to preferably use them to accelerate the reduction of the net public debt.
- 5 Clarify the Treasury's views on a desirable path for the net debt once the current target of 20 percent of GDP is achieved, taking into account the range of potential shocks to the public finances to which New Zealand is exposed.

2 Tools for fiscal and risk analysis

- 6 Consider investing in the development of a dynamic general equilibrium model, with a sufficiently disaggregated fiscal sector to allow simulations of the macro-economic (as well as the fiscal) effects of main tax and expenditure policy reform options.
- 7 If necessary, seek specialized external experts' advice on integrating the existing fiscal forecasting and micro-simulation models with such a model, once developed.
- 8 In the meantime, refine the existing spreadsheet-based fiscal forecasting models through econometric estimations of the main parameters and elasticities in the models. Better document, and make public as soon as feasible, the structure of the existing micro-simulation models (TaxWell and TaxMod-B) to allow feedback from the relevant expert community.
- 9 Continue refining existing analytical tools (estimates of the cyclically adjusted balance and of fiscal multipliers through SVAR-type models) along the lines discussed in the report.
- 10 Systematically include in budget documents more extreme (tail risk-type) illustrative scenarios for the economic and fiscal forecasts and medium-term projections.
- 11 In future versions of the LTFS, include scenarios with different dynamic paths for the main macro-economic assumptions, to allow for plausible feedbacks from different paths of the public debt.

3 Structural fiscal policies

- 12 Revisit the analysis of policy options to increase national savings, and use it to inform the Treasury's advice to the incoming Government in this area. To the extent possible, this analysis should also cover the impact of these options on horizontal and vertical equity.
- 13 Continue refining the Treasury's analysis of options for reforms of the Superannuation system, with a view to elucidating their impact not only on longer-term fiscal sustainability, but also on work incentives, and inter- and intra-generational equity.
- 14 Utilise the information gathered through the EMF, as well as analytical approaches suggested by the relevant international literature, to continue exploring the scope for policy and management measures (including regulatory measures) to moderate cost pressures and contain demand (in an equity-conscious way) for public health and long-term care services; and to inform future Treasury advice to the Government in those areas.

4 Performance-oriented expenditure and balance-sheet management

- 15 Continue engaging with other departments and agencies in a collaborative effort to "lift the collective game" in improving the sustainability, efficiency, and effectiveness of operating and capital spending and of the Crown's assets.
- 16 Ensure that the reporting requirements under the EMF are cost-effective, by continuously reviewing the fitness-for-purpose of the performance information being gathered.
- 17 Begin preparing at least annual reports to the Cabinet on the findings of analyses of the information gathered through the EMF.
- 18 Ensure that departments and agencies can expect budgetary rewards for well-performing programmes, not just cuts for badly performing ones.
- 19 Use the enhanced information base being gathered through the EMF and by the National Infrastructure Unit to inform the Treasury's advice to the Government in the preparation of the 2015 National Infrastructure Plan.
- 20 Recommend to the Government the adoption of an enhanced programme of efficiency-focused and strategic spending reviews.
- 21 Conduct more systematic analyses of the impact of general fiscal risks (including tail risks) on the major components of the Crown's balance sheet, taking into account the correlations of such risks within and among different types of assets and liabilities.
- 22 Consider requesting an assessment by the International Monetary Fund under the revised Fiscal Transparency Code, which focuses significantly more than the earlier version on the analysis, management and disclosure of a range of fiscal risks.
- 23 Strengthen the assessment, and approaches to mitigation, of some large implicit contingent liabilities. In particular:
 - I In consultation with the RBNZ, revisit the Treasury's advice to the Government on the adoption of a limited bank deposit insurance scheme.

- II Analyse the pros and cons of possible approaches to converting other large implicit contingent liabilities (e.g. in the farm sector) into more limited explicit ones, through the creation of premium-funded insurance mechanisms.
- III Analyse the extent of fiscal risks posed by the growing debt of local authorities, and the advisability of recommending to the Government the introduction of caps on the ratio of local debt to the localities' own revenues. Limits on sub-national debt are very common in advanced and emerging markets, as they are widely recognised as an effective preventive measure against sub-national financial distress and related bailout pressures.

I Introduction

This report has been prepared in response to a request by the New Zealand Treasury for an external review of the fiscal policy advice it has provided to the Government over the last decade or so. The main objective of the review was to assess whether the fiscal policy framework set out initially by the Fiscal Responsibility Act of 1994, its subsequent modifications, and the fiscal policy advice provided by the Treasury within this framework² remain appropriate to the characteristics of the New Zealand economy, and consistent with best international practice.

The Terms of Reference (TORs) for the review call for it to consider:

- 1 The information, frameworks and tools of analysis used by the Treasury in its fiscal policy advice
- 2 The coordination of fiscal with other economic policies
- 3 The Treasury's advice on the evolving fiscal policy framework
- 4 The Treasury's understanding of, and role in evaluating the drivers of Government expenditures; and more generally
- 5 The overall quality of Treasury's advice.

To carry out this review, I visited New Zealand in December 2013 and again in March 2014 and met with the Minister of Finance, the Hon. Bill English; the Secretary of the Treasury, Mr. Gabriel Makhlouf; the Chairman of the Finance and Expenditure Committee of the Parliament, Mr. Paul Goldsmith; the former Minister of Finance, Hon. Dr Sir Michael Cullen; a broad range of current and former senior officials from the Treasury, the Reserve Bank of New Zealand (RBNZ), the ministries of Education and Health, the opposition Labour Party, the Council of Trade Unions; and a number of academics and private sector representatives. I wish to express my sincere appreciation to all my interlocutors for the time and very valuable insights provided to me.

The report is structured as follows. Chapters II-V focus on the Treasury's macro-fiscal advice, covering: a) the overall fiscal policy framework; b) the Treasury's main tools of analysis; c) the stabilisation function of fiscal policy and its interactions with other macro-economic policies; d) issues of medium- to long-term fiscal sustainability in the context of an ageing population; and revenue and expenditure policy options to promote such sustainability; and e) equity and social sustainability dimensions of fiscal policies. Chapter VI discusses the Treasury's role in performance-oriented financial management, focusing in particular on the ongoing efforts to better prioritize public spending and improve the efficiency and effectiveness of major spending programmes. Chapter VII focuses on the management of the Crown's balance sheet.

Each chapter includes a brief overview of the existing situation, and a commentary and suggestions, also reflecting relevant international experiences. The main findings and recommendations of the review are outlined in a separate Executive Summary. The report is based on the information available to me up to the end of April 2014.

² The Treasury advice is interpreted here in a broad sense, encompassing not only official documents (such as Budget documents, the Long-term Fiscal Statement, the Investment Statement, and other unpublished reports to the Minister of Finance) under the responsibility of the Treasury's Secretary, but also analytical and policy papers prepared by Treasury staff.

II The fiscal policy framework

1 Overview

For more than two decades, fiscal policy has been conducted in New Zealand within a framework that emphasizes transparency as a key to ensuring fiscal responsibility and sustainability. The principles of responsible fiscal management, incorporated since 2004 in the Public Finance Act (henceforth PFA) of 1989, require governments to:

- Ensure the achievement and subsequent maintenance of “prudent levels” of public debt, by running operating balances that, on average over time, are non-negative and consistent with the desired trajectory of the debt
- Achieve and maintain levels of the Crown’s net worth that provide an adequate buffer against potential future events adversely impacting the Crown’s balance sheet
- Manage prudently the fiscal risks facing the Government; and
- Pursue policies consistent with reasonable stability and predictability of tax rates.

These principles were amended in 2013, to incorporate considerations relating to:

- The interaction between fiscal and monetary policies
- The likely impact of any fiscal strategy on present and future generations
- Efficiency and fairness of the tax system; and
- Effectiveness and efficiency in management of the Crown’s resources³.

The PFA does not specify what constitutes a prudent level of public debt⁴, leaving to each Government to define such a level, and to justify its choice in its annual fiscal strategy report. The other principles are similarly only defined in broad qualitative terms, leaving significant room for interpretation by the Government of the time.

This approach puts substantial premium on the quality, comprehensiveness, reliability and timeliness of the budget documentation, to facilitate adequate scrutiny by the Parliament, and by society at large, of the consistency of the Government’s fiscal strategy with the above-listed principles. Accordingly, New Zealand has pioneered, and refined over the years, comprehensive fiscal reporting requirements, intended to ensure transparency, and to promote time consistency and a broad debate of the fiscal policy choices of successive Governments.

³ See the PFA Amendment Act 2013 (Public Act 2013 No. 67).

⁴ The Act does not specify either whether the target debt level should be defined in gross or net terms. The Governments’ focus on one or the other concept has shifted over time. In recent years, the target has been formulated in net terms, excluding the New Zealand Superannuation Fund and advances, e.g. student loans, from the financial assets netted out against the public debt.

The most salient such requirements include:

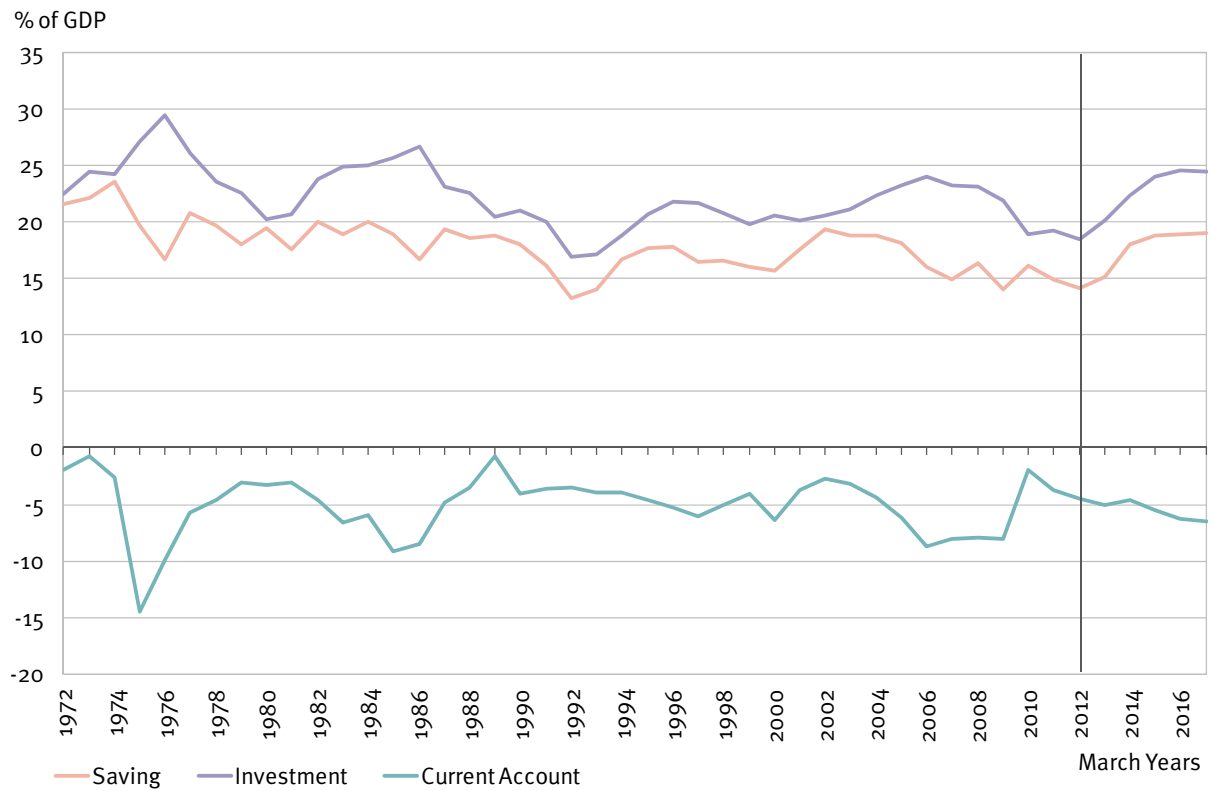
- The setting out in the Government’s Fiscal Strategy Report (FSR) of medium-term (at least ten years) objectives for key fiscal aggregates; and of shorter-term (at least three years) policy intentions for the same; and an explanation of their consistency with the principles of responsible fiscal management, as well as of any changes from the objectives and intentions specified in the most recent FSR
- The issuance by the Government of a pre-budget report (the Budget Policy Statement, BPS), setting out the broad strategic priorities for the next budget, and explaining any changes from the objectives and intentions included in the latest FSR
- The publication by the Treasury of economic and fiscal updates, in conjunction with the tabling of the budget (BEFU) and half-way through the fiscal year (HYEFU), including detailed economic and fiscal forecasts, an explanation of the main underlying assumptions, as well as statements of tax policy changes, tax expenditures, and macro-economic and fiscal risks
- The preparation at least every four years, also by the Treasury, of a Long-term Fiscal Statement (LTFS) including fiscal projections for at least 40 years ahead, with disclosure of the main underlying assumptions
- The preparation, also at least every four years by the Treasury, of an Investment Statement, detailing and explaining recent and prospective changes in the Crown’s balance sheet
- The publication of annual audited financial statements and balance sheets for the whole of Government; and
- The requirement that all budgeting and reporting be done on accrual basis, following generally accepted accounting practice (GAAP).

2 Commentary

As indicated above, New Zealand’s approach to framing fiscal policies has traditionally focused on ensuring a sustainable public debt and a positive and resilient public net worth, and on developing a broad constituency for fiscal responsibility through relatively demanding transparency and reporting requirements. Such focus on sustainability has clear historical roots in a protracted history of lax fiscal policies and substantial public debt levels in the 1970s and ‘80s.

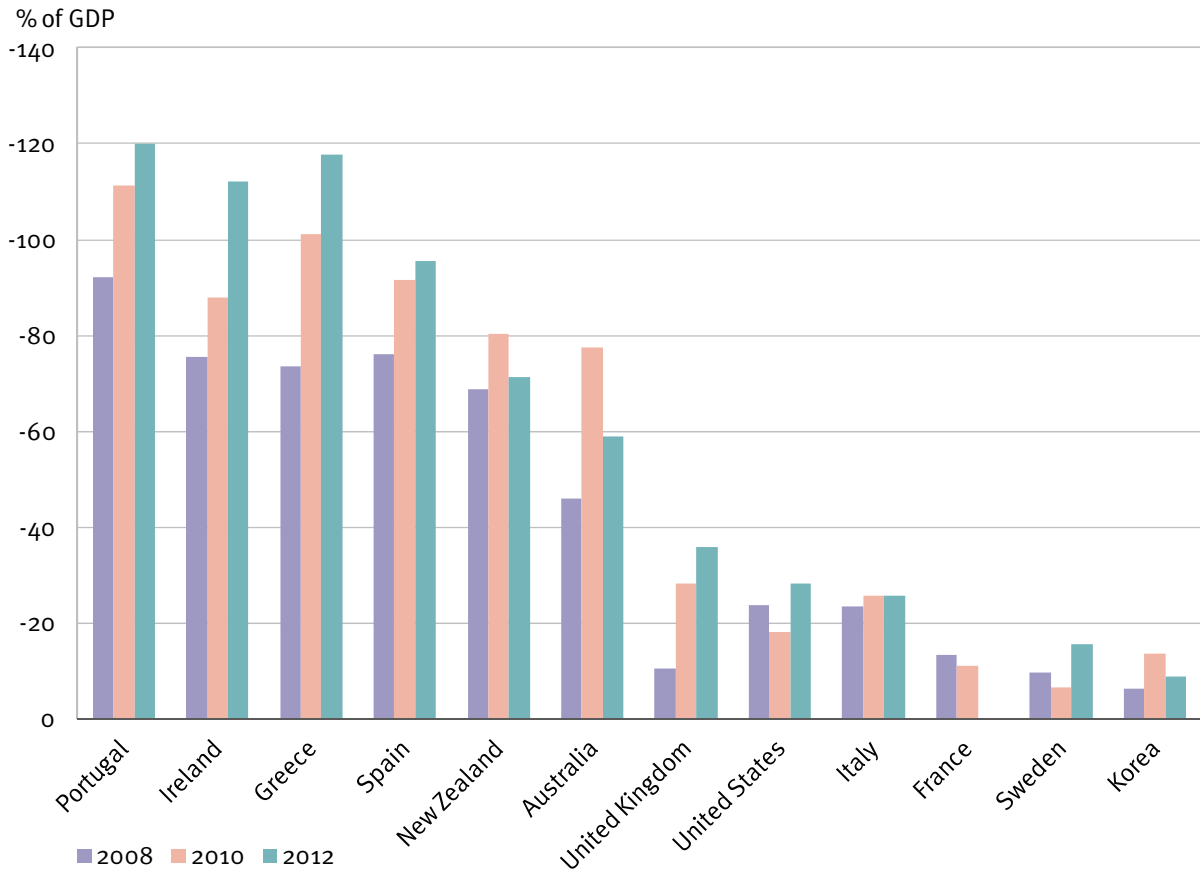
The acceptance of the need for “prudent” levels of the public debt by a large share of society and of the political spectrum (although views are likely to differ about the precise definition of what constitutes a prudent level of the debt) has also been motivated by widespread recognition of the country’s relatively weak external position (significant current account deficits (Fig. 1), vulnerability to volatile terms of trade, and a relatively high net external indebtedness (Fig. 2), reflecting net dissaving by the private sector. A broad social consensus on fiscal responsibility is an essential prerequisite for time-consistency in fiscal policies, and is supported by the strong transparency requirements in New Zealand.

Figure 1 – New Zealand: National Savings and Investment and the Current Account



Source: Brook, 2013b

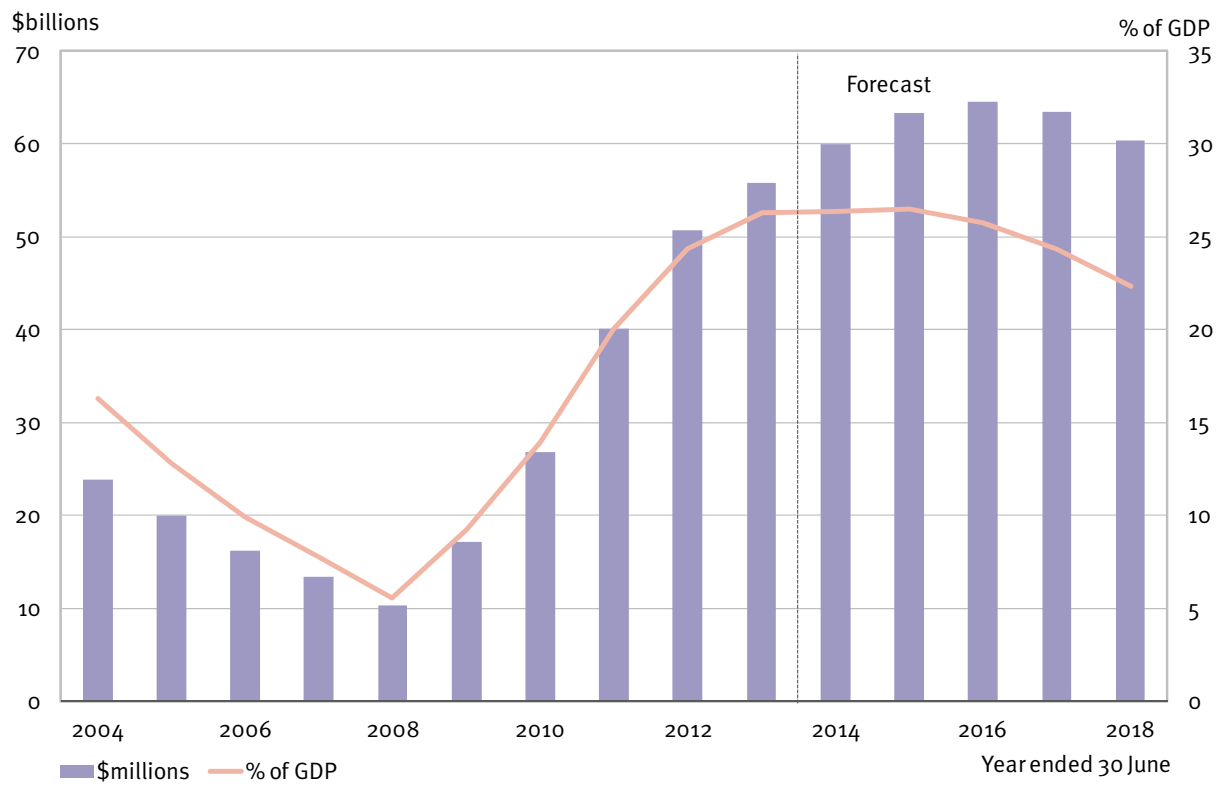
Figure 2 – Net International Investment Positions, New Zealand and Selected Other Countries



Source: Brook, 2013b

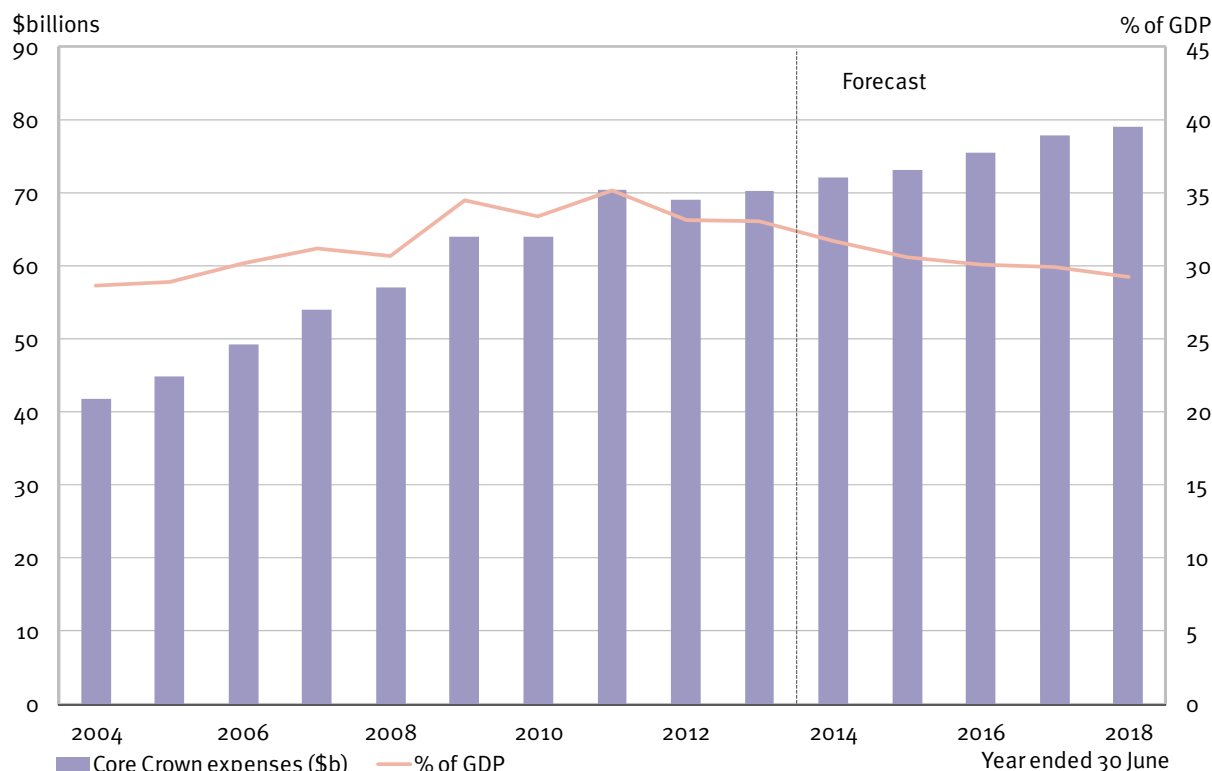
Given the initially low level (around 6% of GDP) of the Crown’s net debt in 2008 (Fig. 3), the fiscal policy framework provided the Government flexibility to accommodate the adverse shock of the global financial crisis on revenue and cyclically sensitive expenditures, implement significant income tax cuts in 2009 and 2010, and face the heavy fiscal cost of two successive strong earthquakes in 2010 and 2011. Moreover, in the more recent years, in line with the Treasury’s advice, the Government has adhered to a steady, expenditure-based programme of fiscal consolidation, aimed at reducing the net Core Crown debt back to no higher than 20% of GDP by 2020 (Fig.4).

Figure 3 – New Zealand: Net Crown Debt



Source: NZ Treasury, HYEPU, 2013

Figure 4 – New Zealand: Core Crown Expenditures



Source: NZ Treasury, HYEPU, 2013

While these efforts are commendable and in line with the principles of responsible fiscal management outlined above, the question can be raised whether the pace of fiscal adjustment recommended by the Treasury is sufficiently rapid from both a stabilisation perspective, as discussed further in Chapter IV below, and from a fiscal sustainability viewpoint, given the vulnerability of New Zealand’s public finances to exogenous shocks and to long-term expenditure trends (discussed in Chapter V below). More generally, it is worth discussing whether time-consistency in fiscal policies could be further strengthened by the adoption of institutions, such as numerical fiscal rules and/or independent fiscal councils, which have become increasingly popular internationally in recent years.

a A role for legislated numerical fiscal rules?

The number of countries adopting numerical fiscal rules has grown rapidly over the last two decades, from five at the beginning of the 1990s to 76 in 2012, according to a dataset compiled by the IMF.⁵ This trend reflects growing appreciation worldwide for the following considerations:

- Economic policy makers are often prone to time-inconsistency in their budgetary policy decisions, e.g. by boosting spending or cutting taxes for electoral gain purposes, or under pressures of specific constituencies. Moreover, discretionary countercyclical fiscal expansions during recessions are often not matched by equivalent tightening during cyclical upturns⁶. Constraining policy makers’ discretion through permanent rules for key budget aggregates can help avoid stop-go policies, and strengthen longer-term fiscal sustainability

⁵ See Schaechter and others, 2012.

⁶ This cyclical asymmetry in discretionary fiscal policies is well documented in the literature. See e.g. Balassone and Kumar, 2007

- At the same time, the adoption of sound fiscal rules can help policy makers who are committed to fiscal responsibility, strengthen the institutional basis of their commitment, and signal it to economic agents both domestically and internationally, thus reaping benefits from increased policy credibility.

Numerical fiscal rules involve the adoption of specific targets (which may be fixed or varying over time according to pre-specified criteria) for one or more fiscal aggregates (typically the public debt; one or other concept of the budget balance; the whole or a subset of public expenditures; and public revenues)⁷. Different targets serve different objectives, the public debt one focusing primarily on medium-term sustainability; the fiscal balance ones, on stabilisation or public savings objectives; limits on total public expenditures, or on revenues, on the size of Government; and limits on a subset of public expenditures on the composition of spending. This explains why different countries have tended to adopt different mixes of such rules, and the mix may have changed over time, reflecting changes in the focus of fiscal policy on one or other objective.

The growing literature on numerical fiscal rules⁸ points to a number of demanding preconditions for their effectiveness, including: strong political and social support for their adoption; the inclusion of appropriate escape clauses, to deal with large unforeseeable shocks; robust monitoring mechanisms, underpinned by sound public financial management systems; and appropriate and credible sanctions, as well as pre-specified correction mechanisms⁹, for non-compliance.

The rationale for adopting legislated numerical fiscal rules is clearly weaker in a country like New Zealand that has a well-established record of responsible fiscal policies under Governments of different political ideologies. The question is how the potential benefits of a more specific definition, and a strengthened legal basis, for fiscal policy targets compare with their potential costs. Considerations relevant to this question vary depending on the nature of potential numerical targets (the basis of the rule).

A debt-based rule (essentially enshrining in law a target ceiling, or band, for the public debt) would have both pros and cons. On the positive side, such a rule would provide specificity and inter-temporal consistency to the definition of the “prudent level” of the public debt. Also, by highlighting the unsustainability of long-term trends in health and social spending in the absence of corrective policies, it might prompt earlier action in those areas. It would also be easy to monitor, and, given the broad consensus in the country on the importance of debt sustainability, reputational sanctions for non-complying Governments would likely be effective.

Against these advantages, however, stand a number of disadvantages:

- A legislated debt ceiling could limit the scope for countercyclical fiscal measures, and even hinder the operation of the automatic fiscal stabilizers, during severe economic downturns
- It might also weaken the Government’s “ownership” of the debt target, and its preparedness to save revenue windfalls, if doing so involved reducing the debt below the ceiling
- It might create incentives for governments to comply with the rule through policies that would weaken other parts of the balance sheet, e.g. asset sales, or non-replenishment of the National Disaster Fund, which are considered alongside the debt target under current policy advice and fiscal strategy formulation (as discussed in Chapter VII below).

⁷ The legal foundation for fiscal rules may be ordinary legislation, higher-order laws, the Constitution, or international treaties (e.g. in a monetary union). Rules based in higher-level legislation have the advantage of greater institutional stability, but by the same token may prove too inflexible in the face of changing economic or other circumstances. Therefore, the stronger the legal basis for a rule, the more important it is that the legislation include appropriate escape and revision clauses.

⁸ See Ter-Minassian, 2010, and Schaechter and others, 2012 for overviews of main findings from such literature.

⁹ An example of such correction mechanisms is provided by the “debt brake” mechanism used by Germany and Switzerland.

In New Zealand's context of relatively high vulnerability to exogenous shocks (such as natural disasters or large unexpected changes in the terms of trade), a legislated debt limit would need to be accompanied by (difficult to pre-specify appropriately) escape clauses, as well as by ambitious, but realistic, requirements for the correction of excesses over the limit. Since the current level of the net debt (around 27% of GDP at the end of February 2014) is widely regarded as too high, a debt rule stipulating an appropriately lower ceiling would need to include transition provisions specifying a time path for convergence to the limit.

In light of the resort by various countries to accounting stratagems to comply formally with numerical rules¹⁰, concerns could also be raised that such rules might create incentives for similar actions in New Zealand as well. However, the country's well-established tradition of strict public accounting standards suggests that such concerns are less relevant in New Zealand's case. In any event, a debt rule would be less susceptible to accounting manipulations than a balance or expenditure rule.

As mentioned above, the PFA already mandates that the operating balance (OBEGAL) be in surplus or equilibrium over time, as needed to ensure the achievement and maintenance of prudent levels of the public debt. A more specific numerical balance-based rule would not seem appropriate in New Zealand's case for the following main reasons:

- Balance-based rules are typically recommended for countries experiencing actual or significant potential financing difficulties, which is not New-Zealand's case
- Such rules can lead to pro-cyclical fiscal policies, by preventing in the case of recessions, or not requiring in the case of booms, the accommodation of the automatic fiscal stabilizers, or the use of countercyclical discretionary measures. The alternative of targeting cyclically-adjusted or structural balances also has problems, given the difficulties inherent in the estimation of such balances, as discussed in Chapter III below; and
- Balance-based rules can also provide incentive to resort to below-the-line operations that do not affect the fiscal balance, but increase the public debt.

An expenditure-based rule¹¹ would also have advantages and disadvantages in New Zealand's circumstances. On the positive side, it would provide a stronger institutional foundation for the ongoing efforts to rationalize and better prioritize public spending. It would also help avoid pro-cyclicality during booms, by preventing the spending of all or part of additional cyclical revenues. On the negative side, a permanent ceiling on total expenditures (or one on total revenues) would involve a judgment on the desirable size of the public sector that, because of its mainly political nature¹², should be expected to reflect instead the preferences of the incumbent government. Also, expenditure-based rules can create incentives for a proliferation of tax expenditures, and would need to be accompanied by ceilings on the latter, requiring more detailed, quantified, and reasonably robust estimates of such expenditures than are currently available in New Zealand¹³.

¹⁰ See Irwin, 2012 a and b.

¹¹ See Ljungman, 2008 for a comprehensive discussion of expenditure-based rules, and Deroose and others, 2006 for an analysis of the effectiveness of national spending rules in EU countries.

¹² Empirical evidence on the economic effects of the size of Government is quite mixed (as highlighted by, among others, a paper by the Treasury (New Zealand Treasury, 2011a). The composition and quality of public expenditures are generally recognised to matter more, for both growth and equity, than the overall level of spending (Ter-Minassian, 2014). That said, it should be recognised that large and sustained increases in total public spending are often accompanied by deterioration in its quality.

¹³ A 2009 Treasury policy paper set out specific objectives for reporting of tax expenditures in accordance with best international practice. It was instrumental in prompting a resumption of publication of Tax Expenditures Statements from 2010 on. However, the latest available such Statement, while providing a comprehensive list of such expenditures, only includes estimates of the fiscal cost for a few of them.

In summary, a decision on whether to incorporate into New Zealand's fiscal policy framework more permanent constraints on Governments' discretion through the adoption of legislated numerical fiscal rules would involve delicate (and varying over time) trade-offs between ensuring inter-temporal consistency in the conduct of fiscal policy, on the one hand, and safeguarding Government ownership of the fiscal targets, as well as an appropriate degree of flexibility in fiscal management, on the other hand. These trade-offs could be moderated, but not eliminated, through an appropriate design of the rules, in particular the inclusion of escape and revision clauses. The trade-offs would be lesser for a debt-based rule than for other types of rules.

A possible pragmatic approach would be for the Treasury to recommend to the next Government to propose a time-bound legislation setting binding limits on the net public debt along a (preferably somewhat more ambitious than currently envisaged) declining path over the next several years, at the end of which the experience with a debt rule could be reviewed to determine its suitability over the longer term.

b A role for a Fiscal Council?

An institutional innovation to promote improved fiscal policy-making that has been gaining increasing popularity worldwide in recent years is the creation of independent fiscal councils. The number of countries that have set up such councils, or are in the process of doing so, has jumped from seven in the mid-1990s to 29 in 2013. About two thirds of these countries are in Europe, where their creation is mandated by the recent Fiscal Compact, but a growing number of them can also be found in Asia, Africa, and among the OECD countries in the Western Hemisphere.

The remits of such councils vary significantly across countries¹⁴. Most of them are mandated to provide independent assessments of the Government's fiscal policies, with regard to stabilisation and sustainability criteria, and in some countries, to the quality of structural fiscal measures and reforms. Several are also responsible for providing independent forecasts of key fiscal aggregates, or inputs into budgetary forecasts. Fewer (e.g. the US CBO and the Australian Parliamentary Budget Office) are also responsible for assessing the budgetary cost of new spending proposals and policy initiatives. In countries that have adopted numerical fiscal rules, fiscal councils are generally mandated to monitor and report on the Government's compliance with the rules. This latter function is especially important in countries that do not have very strict accounting and budgetary transparency requirements, to help prevent resort to the above mentioned accounting stratagems.

Fiscal councils may be set up as stand-alone institutions, with no organic links with policy-makers, and with appointment procedures and accountability requirements clearly set out in laws or equivalent statutes; or as reporting to Parliament or to the Government; or they may be associated with other institutions, such as the Central Bank or a Supreme Audit Institution. The degree of independence of the council is likely to be higher in the first or third model, but there are examples of councils reporting to Parliament or the Government that have established a strong reputation for non-partisanship and operational independence, e.g. the US CBO and the Dutch Planning Bureau.

¹⁴ A comprehensive review of the main features of existing fiscal councils, along with a statistical analysis of the importance of various features for the effectiveness of such councils can be found in IMF, 2013. See also Hemming, 2013 and Hemming and Joyce, 2013.

A rigorous empirical analysis of the effectiveness of fiscal councils in strengthening countries' fiscal performances is hindered not only by the still limited historical experience with such institutions, but also by endogeneity concerns (countries that set up fiscal councils are likely to be inclined to fiscal discipline), and by the difficulty of taking into account other significant factors affecting the fiscal performance in different countries. Nevertheless, initial statistical and case-study analyses of the effectiveness of such councils suggest that it is positively and significantly correlated with the degree of independence of the councils, with the breadth of their remit (in particular their roles in monitoring rules and assessing official forecasts), and with their impact on the media.

In New Zealand, given the operational independence of the Treasury in the preparation of the forecasts and other documents of its responsibility, its well-established non-partisan reputation, its increased openness to outside inputs, and its strong record of relatively (compared to other national forecasters) accurate and unbiased macroeconomic and fiscal forecasts (discussed further in Chapter III below); and given the already strict accounting and fiscal transparency requirements, a Fiscal Council, if it were established, should probably have a more limited role than in most other countries. Its main purpose should be one of providing an independent expert perspective and commentary on both the advice provided by the Treasury to the Government on fiscal policy issues, and on the decisions taken by the Government and the Parliament on those issues.

If the Council was constituted by a small number of well-respected national, and possibly international, figures, with substantial fiscal expertise, previous policy experience, and strong communication skills, its commentaries at key points in the budget cycle, and on such important documents as the Long-Term Fiscal Statement and the Investment Statement, could help increase the – currently limited – resonance of fiscal policy options and choices with the media, and thus with the public opinion. Occasionally, the opinions of the Council may diverge from either the Treasury's advice or the Government's decisions, but their public expression and justification would help stimulate the well-informed debate in society about policy issues of importance to the country that is the hallmark of a vibrant democracy.

To maximize the effectiveness of such a Council, it would be important that the legislation establishing the Council provide it with adequate budgetary resources¹⁵, and with the power to obtain any information necessary for the exercise of its functions. The legislation should also include a requirement that the Council be heard by the relevant Parliamentary committees in their consideration of the above-mentioned budgetary documents and of other important fiscal issues.

¹⁵ The resource requirements of a Council of the type described above would be relatively small, given its limited mandate. In particular most or all of its members could be recruited on a part-time basis, and it would require very few full-time staff (e.g. along the lines of the Swedish Fiscal Policy Council).

III The Treasury's main forecasting and analysis tools

1 Overview

a Economic and fiscal forecasting tools

An important responsibility of the Treasury is the preparation of two full economic and fiscal forecasts each year, one for the Budget Update (BEFU) half way through the calendar year, and the other for the December Half Year Update (HYEFU). The forecasts cover a period of five years ahead. In their preparation, Treasury staff utilise a range of inputs from national and international sources and from in-house models.

Economic forecasts for 2-3 quarters ahead are mainly based on single-equation indicator models that exploit current macro-economic data and other relevant information, e.g. from consumer or business sentiment surveys. These short-term forecasts are treated as exogenous inputs into the main forecasting model, the New Zealand Treasury model (NZTM), along with other exogenous inputs relating to: international prices; domestic demographic, labour market, and productivity trends; and the desired levels of household and foreign debt. Government consumption, investment and employment are also treated as exogenous inputs into the NZTM, and are set to reflect current policy intentions.

Economic forecasts beyond the first 2-3 quarters are based on the NTZM, a four-sector (households, firms, Government, and the rest of the world) general equilibrium model with a two-tiered structure, including a steady-state and a dynamic sub-model¹⁶. The steady-state model includes a production and a demand block. In equilibrium, the unemployment rate is at its non-accelerating-inflation (NAIRU) level; supply equals demand in the domestic goods market; New Zealand's net external indebtedness is at a given level in relation to GDP; and the real exchange rate (i.e. the relative price of tradable and non-tradable goods) is at the level consistent with internal and external balance. The dynamic sub-model specifies the adjustment mechanisms for economic variables to converge to their steady-state values in the presence of various frictions (e.g. sticky prices and imperfect information). The model is mainly calibrated; only its production block is empirically estimated.

The model is used to generate quarterly forecasts for most macro-economic variables¹⁷. Judgment is used in certain circumstances to adjust the forecasts, including to smooth the path of convergence of the exogenous short-term forecasts to the medium-term ones generated by the model. There is little evidence of statistical bias in the Treasury's economic forecasts, and their predictive accuracy has exceeded that of most other national forecasters, with respect to both GDP growth and inflation, on average during the last ten years.

The economic forecasts feed into the fiscal forecasts. Specifically, projections for wages, profits, consumption and savings, which constitute the bases of the main categories of taxes, are used by the Treasury to project tax revenues, on the basis of current legislation, and of any proposed changes in it. These forecasts are compared with those produced by the Inland Revenue Department (IRD), and significant discrepancies are discussed between the respective staff. Any remaining differences (generally small) are reflected in separate forecasts published by the two institutions. The economic forecasts are also used as an input into the projection by the

¹⁶ A comprehensive discussion of the NZTM can be found in Ryan and Szeto, 2009.

¹⁷ Only annual forecasts are generated for the household savings and balance sheet and for the income measure of GDP.

Treasury (in consultation with the relevant spending Ministries) of some expenditure categories, in particular transfers to households.

The accuracy of the Treasury tax forecasts compares well with the corresponding records in some peer countries, e.g. Australia and Canada. Not surprisingly, it declines with the length of the forecast period. There is some evidence of serial correlation in tax forecasts more than six months ahead. They have tended to under-predict revenues during boom years, and over-predict them during downturns.

The Treasury also utilises the NZTM and other (micro-simulation) models to analyse various effects of tax and benefit policies¹⁸. Published documentation on the latter models (some of which are work-in-progress) is more limited than for the NZTM. One such model (TaxWell) uses tax and household expenditure data to calculate the distribution of the personal income tax and of major benefits, or of changes thereof, across income brackets and different groups of the population. The model is static, i.e. it does not include behavioural responses by households to tax or benefit changes. The Treasury is also developing another micro-simulation (TaxMod-B) to simulate the effects of proposed tax or benefits changes, allowing for responses of labour supply to the changes.

b Medium and long-term fiscal projections tools

The Treasury utilises two non-behavioural, spreadsheet-based models for medium- to long-term projections: the Fiscal Strategy Model (FSM) and the Long-Term Fiscal Model (LTFM). The FSM is used to project revenues, expenditures and the Government's financial position for the 10 years following the last year of the EFU forecasts. These projections are intended to highlight the medium-term fiscal implications of the current Government's policy intentions, under a scenario of economic growth along a balanced path.

The FSM's fiscal projections reflect assumed paths for key economic variables¹⁹, taking into account demographic projections by Statistics New Zealand (SNZ). These paths are adjusted, if needed, to ensure an appropriate transition from the last forecast values to the medium-term ones. The projections also reflect a number of assumptions relating to the fiscal variables, specifically: a "fiscal drag" elasticity of 1.35 for income taxes withheld from wages; a gradual convergence of other taxes to steady-state ratios to GDP; the linking of pension expenditures to wages and to the projected growth of beneficiaries, and of other welfare spending to inflation, and to the projected change in number of beneficiaries; and the growth of other expenditures constrained by announced Government intentions with respect to operating and capital allowances. The FSM is updated with each EFU, and is published on the Treasury website, with an adjuster option which allows interested parties to simulate the model using alternative assumptions about economic or fiscal parameters.

The LTFM is used for the economic and fiscal projections presented in the Long-Term Fiscal Statements (LTFS). The projections for the 2013 LTFS cover the period from June 2017 to June 2060, building on the economic and fiscal forecasts included in the 2013 BEFU. In contrast to the projections based on the FSM, the LTFM's projections are not intended to assess the implications of current Government intentions. They are constructed to highlight the implications for the Government finances (in particular the net debt) of the projected long-term ageing of the population, assuming a resumption of historical trends in the cost drivers of public expenditures as from 2015 (the so-called "Resume historical cost growth" scenario).

¹⁸ See for example the Treasury's technical note on the effects of the 2010 tax package on growth, using the NZTM, supplemented by information drawn from other studies (e.g. a paper by Kalb and Scutella, 2003 on labour supply).

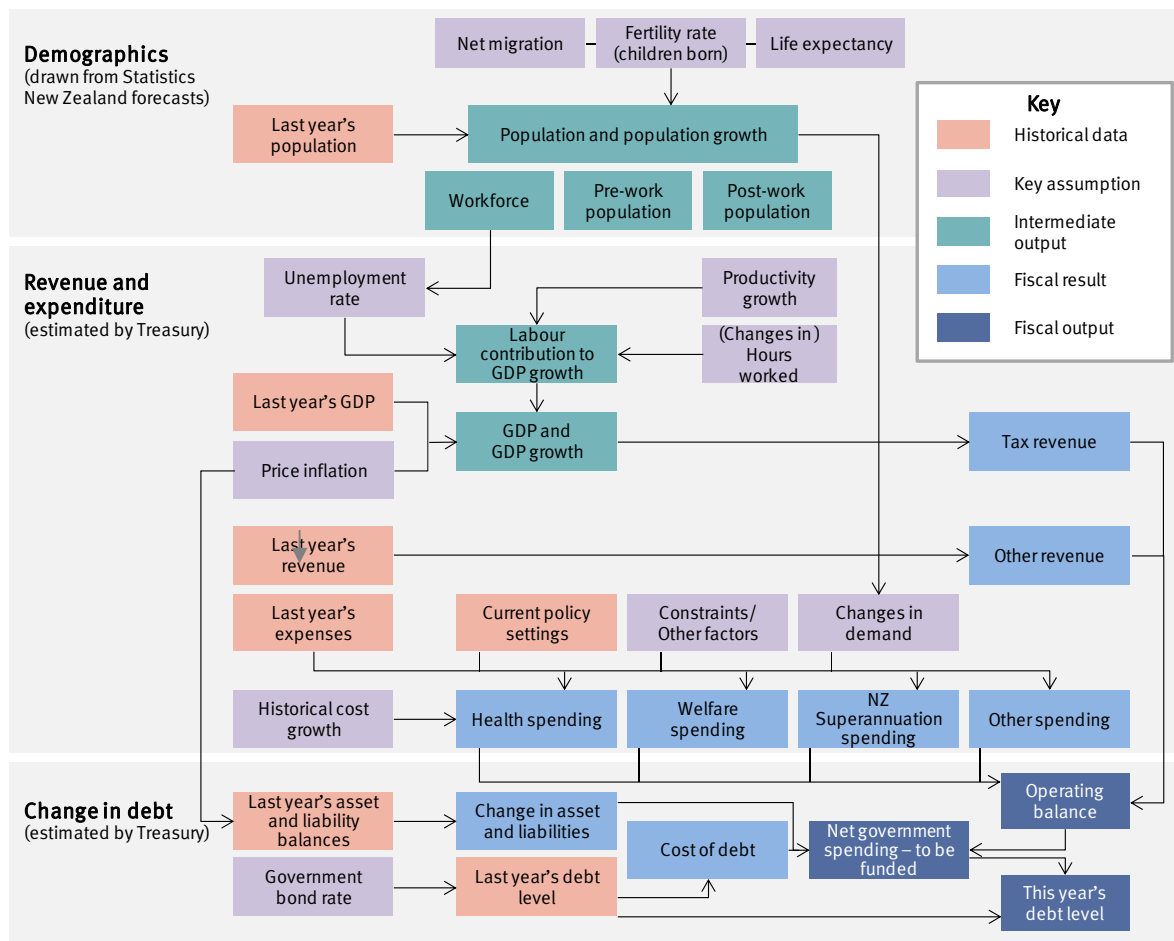
¹⁹ Real GDP growth, labour force, employment and unemployment, labour productivity, average wages, CPI inflation and the Government 5-year bond rate.

Since the debt, under such a scenario, would escalate well above the prudent levels mandated by the PFA, the model is also used to assess the constraints that, in the absence of corrective policies or of increases in the tax burden, the growth of ageing-sensitive expenditures would put on other categories of spending, if the net debt were to be maintained around 20% of GDP²⁰.

The LTFM utilises a number of demographic (fertility, mortality and migration rates) assumptions provided by SNZ, as well as economic assumptions prepared by the Treasury²¹. Tax revenues are assumed to rise gradually through 2020, and to stabilize thereafter at around 29% of GDP (the average level of the tax burden during 2001-2012). The modelling of different categories of spending varies according to the type of expenditure, and is discussed further in Chapter V below.

A useful schematic representation of the structure of the LTFM is included in the Commentary to the LTFM prepared by the Controller and Auditor-General²² and is reproduced below (Fig. 5)

Figure 5 – The Structure of the LTFM



Source: Controller and Auditor General, 2013

²⁰ See the New Zealand Treasury's background paper to the LTFM, 2013a.

²¹ These cover the same economic variables as the FSM.

²² Controller and Auditor General, 2013.

c Scenario and sensitivity analysis

Advising the Government on an effective management of fiscal risks is an important responsibility of the Treasury, which utilises a number of analytical tools in discharging such responsibility²³. General economic and fiscal risks are analysed in the Economic and Fiscal Updates using some (generally two) alternative scenarios, designed to highlight the effects of upside and downside risks surrounding the main assumptions underlying the central forecasts. Such scenarios are illustrative and are not intended to represent upper or lower bounds for the forecasts.

In addition, the Treasury publishes some ready-reckoner, *ceteris paribus*, estimates of the sensitivity of tax revenues to small changes in the rate of growth of nominal GDP, wages and incomes; and of the sensitivity of interest income and expenditures, and of the operating balance, to small changes in interest rates. Finally, the EFU documents include charts showing confidence intervals around the central tax revenue forecasts, based on the historical record of errors in such forecasts. These “fan charts” highlight the growing range of uncertainty surrounding the forecasts as their time horizon lengthens. The charts also allow an assessment of where in the confidence interval lie the revenue forecasts included in the two alternative scenarios mentioned above.

The risks affecting short- to medium-term budgetary expenditure projections, which primarily, but not exclusively, relate to transfer payments sensitive to macro-economic (notably unemployment and inflation) and demographic developments are only briefly and qualitatively discussed in the EFU documents.

The background papers for the LTFS include sensitivity analyses for the long-term fiscal projections that simulate the effects of changes in the main demographic, economic and fiscal assumptions in the LTFM on revenue, expenditures, the primary balance, and the net debt over the period 2025-2060.

d Measuring the stance and impact of fiscal policy

The Treasury uses several indicators of the fiscal policy stance. Since the 1980s, it has published estimates of cyclically-adjusted budget balances (CAB), and in more recent years it has refined such estimates, to adjust fiscal outcomes for other non-structural factors, such as changes in the terms of trade, and in asset prices. The traditional CAB indicator adjusts the Crown’s operating balance before gains and losses (OBEGAL) for the effects of the output gap on tax revenues and unemployment benefits.

Traditionally, the Treasury’s measure of the output gap was derived from a potential output series estimated using a multivariate (MV) filter over the historical period, and the production function used in the NZTM over the forecast period²⁴. More recently, the output gap has been calculated using a small macro-model²⁵. The estimates of potential output based on this model are higher for the period following the global financial crisis than those generated by the MV filter. The tax revenue elasticities utilised in the construction of the CAB indicator are the same as those estimated by the OECD²⁶; those for most non-tax revenues are assumed to be 1, and the elasticity of unemployment benefits 0.5.

²³ The tools for the management of risks to the balance sheet are discussed in Chapter VII below.

²⁴ A detailed description of the methodology can be found in Parkyn, 2010. The author notes that the potential output series estimated using the MV filter displays a more pronounced cyclical pattern than an alternative that utilises a Kalman filter. The latter might be preferable during boom times, to avoid considering as structural revenues that are in fact cyclical.

²⁵ Described in Szeto, 2013

²⁶ Girouard and Andre, 2005

More recent refinements of the CAB methodology include:

- The calculation of a terms-of-trade-adjusted balance, which purges the actual balance of the effects of the estimated real income (rather than real output) gap²⁷. This adjustment reduces the estimated structural surplus in the boom years of 2004-08, and increases the structural deficit during 2009-10, by about 1% of GDP on average
- An assessment of the impact of transitory movements in asset prices on the structural balance, by testing whether deviations of asset prices from a statistically estimated trend contribute significantly to explaining revenue forecast errors. The analysis shows little empirical evidence of such effects, which is not surprising since New Zealand does not currently have taxes related to asset prices; and
- The calculation of confidence intervals for the CAB, using historical errors and revisions to real-time estimates and forecasts for the variables and parameters used in the estimation of the CAB. Calculations based on 2010 data suggest that the 80% confidence interval for the one-year-ahead estimate of the CAB was equivalent to +/- 2% of GDP, a fact that underscores the risks – mentioned in Chapter II above – that would be incurred by relying on estimates of the CAB as a target for a numerical balance-based rule.

The Treasury has also calculated and published for more than a decade a summary indicator of the fiscal stance, the fiscal impulse²⁸, defined as the year-to-year change in the cyclically adjusted primary balance. This indicator is intended to signal the expansionary or contractionary character of discretionary (i.e. abstracting from the operation of the automatic stabilizers) fiscal policies. In contrast to the CAB indicator, which refers to the operating balance calculated on an accrual basis, the fiscal impulse indicator is calculated on a cash basis. It excludes the operations of Crown entities and SOEs, the core Crown's investment income and interest costs, and it includes most capital expenditures, except: those on defence, which are mostly imported; purchases and sales of state-owned entities; and contributions to the New Zealand Superannuation Fund, all of which are expected to have a limited impact on domestic demand.

Summary fiscal impulse indicators have well-known limitations as measures of the impact of discretionary fiscal policies on the economy: they do not allow for different effects (the multipliers) of different revenue and expenditure items; only measure first-round effects, and therefore do not permit tracing the dynamic impact of revenue and spending beyond the first period; also, they do not take into account factors such as the responses of interest rates and exchange rates to the fiscal impulse.

In view of these limitations, more recent analytical efforts by Treasury staff in investigating the macro-economic effects of fiscal policy in New Zealand have focused on the estimation of structural vector auto-regression (SVAR) models that are designed to overcome some of the limitations²⁹. SVAR models use institutional information (essentially independent estimates of tax and transfers elasticities) to separate the endogenous (automatic stabilizers) and discretionary components of revenue and expenditure changes, and trace the dynamic response of GDP to the latter. Depending on the number of variables included in the auto-regression vector, SVAR models allow the estimation of different multipliers for different types of discretionary revenue and expenditure measures. They also allow estimating the responses of other non-fiscal variables besides GDP (e.g. interest rates and inflation) to fiscal shocks.

²⁷ The real income gap is defined as the output gap adjusted for the divergence of the terms of trade in each year from their "equilibrium" level, measured in New Zealand as their 50-year historical average.

²⁸ See Philip and Janssen, 2002 for a detailed description of the methodology used in the calculation of the fiscal impulse indicator.

²⁹ The first such model was developed by Claus and others in 2006. This study applied to New Zealand the SVAR methodology used in a seminal paper by Blanchard and Perotti, 2002 to estimate the impact of discretionary fiscal policy shocks in the US.

The most recent contribution by Treasury staff in this area is a SVAR model incorporating the inter-temporal budget constraint, thereby allowing for a feedback of the public debt to taxes, spending and interest rates³⁰. The results of the Treasury studies are consistent with the finding of other similar cross-country studies that the fiscal multipliers tend to be lower in small open economies with flexible exchange rates, as is the case of New Zealand, and that they are also smaller when a debt feedback mechanism is included in the model.

2 Commentary

As should be clear from the overview above, the Treasury has developed in recent decades a number of empirical tools for economic and fiscal forecasting, and for policy analysis, and continues to refine them, to reflect advances in the relevant international literature. This commentary focuses on some areas that could benefit from further improvements.

A detailed analysis of the economic forecasting (NZTM) model lies beyond the scope of this review that focuses on the Treasury's fiscal policy analysis and advice. A general observation is that the model, at least in its published 2009 version, does not appear very suitable for analysing the effects of fiscal policy changes on the economy, as the fiscal variables included in it are relatively few and aggregate. The medium-term (FSM) fiscal projection model is not integrated with the NZTM.

The published information on the micro-simulation models (TaxWell and TaxMod-B) is too scanty to allow an assessment of their quality. The Treasury is encouraged to better document, and make public as soon as feasible, the structure of these models, to allow feedbacks from the relevant expert community.

The non-behavioural, spreadsheet-based nature of the Treasury's current fiscal forecasting and projection tools makes it all the more important to conduct extensive sensitivity analysis on the assumptions underlying the central scenarios generated by the models. The Treasury is to be commended for not only preparing and publishing some alternative scenarios, but also making available on its website a tool for interested parties to conduct additional simulations by changing assumptions on the parameters of the models.

Desirable improvements in this area would involve:

- Econometric estimation of the main parameters and elasticities in the models. There are many examples in the literature of empirically estimated functions explaining the determinants of main categories of revenues and expenditures, using time series, or multi-country panel data
- A more systematic use of stochastic analysis to estimate probability distributions for the key forecasted variables; and
- The use of more extreme (tail-risk type) scenarios for the economic and fiscal forecasts and projections. Tail events (to which New Zealand is relatively vulnerable, given its geography, high dependence on volatile commodity prices, trade and financial openness, and high overall external indebtedness) could lead to a strong and sustained deterioration in the public finances. Stress-test scenarios should also be constructed to highlight the fiscal implications of the simultaneous materialization of non-tail risks that are likely to be positively correlated³¹. The inclusion of illustrative stress-test scenarios in the EFU documents could help sensitize policy-makers, and society at large, to these vulnerabilities, and build consensus about the need to rebuild and maintain stronger "fiscal buffers" than currently targeted.

³⁰ Parkyn and Vehbi, 2013; the paper uses a 5-variable SVAR, including the interest and inflation rates, and, following an earlier paper by Favero and Giavazzi, 2007 explicitly incorporates the inter-temporal budget identity into the model.

³¹ For example, scenarios combining significant cyclical declines in revenues and increases in cyclically sensitive spending with increased cost and reduced maturities for government funding.

As regards the CAB indicator, the above-mentioned Working Paper by Parkyn identifies some directions for further improvements, in particular analysing the sensitivity of the CAB estimates to different estimation techniques for the output gap; regularly calculating a complementary structural balance indicator incorporating the impact of cyclical fluctuations in the terms of trade; and computing confidence intervals for the indicator, based on historical forecast errors for the variables entering its calculation. Other possible improvements include revisiting the revenue elasticity estimates, in particular to test whether there is evidence that they change over the cycle³²; and calculating an output- and absorption-adjusted CAB (CAAB). The latter indicator reflects the consideration that a sizeable share of tax revenues (most indirect taxes) is linked more closely to domestic demand than to output, and therefore a cyclical adjustment should strip out of the budget balance the revenue impact of deviations of domestic absorption from its long run equilibrium level. The latter level can be computed by reference to a current account balance in line with long-term fundamentals³³, or, in a simplified manner, through a time filter of the types mentioned in the previous sub-section. Calculations by the EC of CAABs for some EU countries suggest that their movements can diverge significantly from those of the CAB when the current account deficits are relatively large and volatile³⁴, as is the case in New Zealand.

The recent Treasury work on estimating fiscal policy multipliers has privileged the SVAR approach. This technique is especially suitable to modelling the impact of specific and temporary fiscal shocks. The growing literature using variations of this technique³⁵ shows a wide range of estimated multipliers, mostly for the US and EU countries. Some of the studies³⁶ suggest that fiscal multipliers tend to vary with the state of the economy, being larger during recessions (probably in reflection of the increase in the share of liquidity-constrained consumers, and the generally more accommodating stance of monetary policy during such periods). It would be worth testing the validity of this finding in New Zealand. Further possible refinements of the ongoing SVAR work by the Treasury would include expanding the model to incorporate the external sector and exchange rate responses to changes in interest rates, and also testing the sensitivity of results to different measures of the discretionary component of revenue changes³⁷.

An alternative approach to measuring the short- to medium-term economic effects of fiscal policies is the estimation of dynamic stochastic general equilibrium (DSGE) models. These tools of fiscal analysis are clearly more resource-intensive than SVAR ones, but have also distinct advantages in as far as they allow the modelling of permanent fiscal shocks. Also, they facilitate the incorporation of important influences on the size of the multipliers, including: a finer disaggregation of the fiscal measures³⁸; structural features of the economy, such as the share of liquidity-constrained consumers, and nominal or real rigidities; the degree of openness of the economy; the size of the public debt stock; the stance of monetary policy; and the exchange rate regime. DSGE models can also be combined with micro-simulation models to allow an exploration of the distributional, as well as the macroeconomic, effects of fiscal policy measures³⁹. The construction of a DSGE model, specifically designed to estimate the effects of fiscal policy options, would represent a valuable addition to the Treasury's analytical toolkit over the medium term.

³² The European Commission has found evidence of a cyclical behaviour of tax elasticities for some EU countries. See EC, 2010.

³³ See e.g. Chinn and Prasad, 2000, and Lee and others, 2008.

³⁴ See EC, 2010.

³⁵ A good review of this literature can be found in EC, 2012.

³⁶ E.g. Auerbach and Gorodnichenko, 2010; Caprioli and Momigliano, 2012; Afonso and others, 2011; and Baum and Koester, 2012

³⁷ Parkyn and Vehbi, 2013.

³⁸ Distinguishing, for example, changes in different types of taxes or categories of spending; and anticipated vs. unexpected fiscal shocks.

³⁹ A brief overview of the literature in this area can be found in Ter-Minassian, 2014.

IV The Treasury's advice on stabilisation issues

1 Overview

Treasury's advice to the Government in recent years on the use of fiscal policy for macro-economic stabilisation has focused in particular on two objectives: avoiding fiscal pro-cyclicality⁴⁰, and increasing national savings to reduce macro-economic vulnerabilities. The advice in both areas is briefly reviewed in what follows.

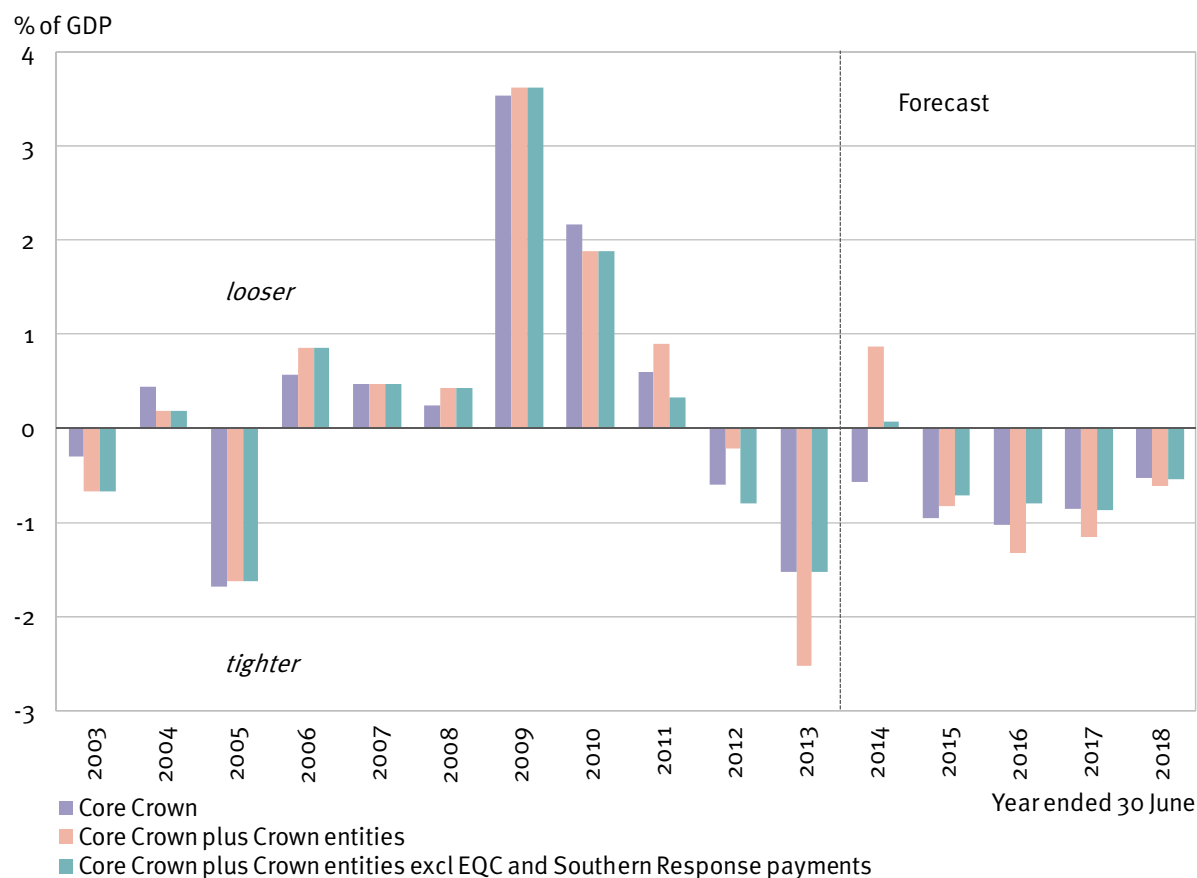
a Avoiding fiscal pro-cyclicality

The maintenance since the early 2000s of relatively low levels of the public debt, and the related absence of financing constraints, have facilitated the avoidance by New Zealand of pro-cyclical fiscal contractions during downturns through most of that period. Moreover, fiscal policy turned moderately counter-cyclical (i.e. expansionary) in the aftermath of the global financial crisis, at least according to the traditional Treasury fiscal impulse indicator⁴¹ (Fig. 6).

⁴⁰ Fiscal policy is considered pro-cyclical when discretionary fiscal measures offset in part or wholly the operation of the automatic stabilizers. Thus, an expansionary fiscal impulse during cyclical booms and a contractionary one during recessions are defined as pro-cyclical.

⁴¹ The SVAR study by Claus and others, updated in 2011, finds a (small) counter-cyclical impulse only in 2009.

Figure 6 – New Zealand: Treasury estimates of the fiscal impulse



Source: NZ Treasury, 2013 HYEPU

Avoiding pro-cyclicality during upturns has proved significantly more challenging: according to the fiscal impulse indicator, fiscal policy was pro-cyclical (expansionary) during half of the years of boom between 1998 and 2012, and neutral or only mildly restrictive during the other half⁴².

Avoiding pro-cyclicality in good times is a common challenge for advanced as well as developing countries worldwide⁴³, and is mainly related to political economy factors (difficulty of resisting pressures to increase spending or cut taxes, in the absence of financing constraints), although it may also at times reflect misjudgements by economic policy makers about the size or even the sign of the output gap⁴⁴, or about the durability of revenue gains induced by developments in the terms of trade or in asset prices.

Fiscal pro-cyclicality during boom periods is especially deleterious in small open economies with flexible exchange rates and an inflation targeting monetary policy regime, as in New Zealand. In conditions of excess demand, a fiscal expansion tends to boost imports, thereby increasing the current account deficit, and also to put upward pressures on domestic inflation, prompting the Central Bank to raise interest rates, leading to an appreciation of the exchange rate, and thereby aggravating the deterioration of the current account. This nexus

⁴² These results are broadly confirmed by the SVAR study, although the estimated size of the impulses is smaller in the latter (Brook, 2013a).

⁴³ See Balassone and Kumar, 2007 for a comprehensive discussion of international evidence on fiscal pro-cyclicality and its causes.

⁴⁴ Significant errors in forecasting the output gap have been found to contribute to fiscal policy errors in a number of countries (Frankel, 2011).

between fiscal, monetary and exchange rate policies is well documented in the international literature, as well as in studies for New Zealand⁴⁵. It is also embodied in the structure of the NZTM.

Concern with the recurrence of pro-cyclicality spells in fiscal policy has led the Treasury in recent years to examine the scope for institutional reforms to reduce such pro-cyclicality. A 2010 Treasury Working Paper⁴⁶ discusses the option, recommended by the Treasury in 2008 to the incoming Government, of introducing a three-year mandatory cap on operating Core Crown primary expenditures, excluding unemployment benefits, with the last year set on a rolling basis. The paper notes that such a cap, which would cover a much larger subset of spending than the operating allowances, would significantly strengthen the budget discipline entailed by the allowances, by preventing upward revisions in spending during the year and in successive budgets, when revenues exceeded the budget forecast. This option was actively considered by the Government for the 2010 budget, but ultimately rejected.

Subsequent Treasury efforts to curb fiscal pro-cyclicality have concentrated on strengthening the focus of the PFA on fiscal stabilisation. As mentioned in Chapter II above, the amended PFA requires the Government to shape budgetary policies having regard to their interaction with monetary policy.

b Increasing national savings

It is a generally recognised fact that the main source of macro-vulnerability in New Zealand is the persistence of significant external imbalances (substantial current account deficits, exchange rate overvaluation, and a relatively high level of net external indebtedness)⁴⁷. External imbalances are the counterpart of significant negative gaps between national savings and investment. As investment rates are not especially high in an international comparison, and may well increase in the short to medium term – reflecting in particular the rebuilding of housing and infrastructures affected by the 2010-11 earthquakes – raising national savings is key to ensuring sustainable growth in the years ahead.

An additional issue is the fact that households have tended to direct a large proportion of their savings to residential investment. This trend reflects, in addition to the tax considerations detailed below, a strong demand for housing from immigrants, and regulatory constraints on housing supply. It has been accompanied by rapid increases in household indebtedness and in house prices, especially in the major urban areas, raising inter alia macro-prudential concerns, and prompting the RBNZ to tighten regulations on mortgage lending, and to suggest considering the introduction of a counter-cyclical mortgage levy.

In recent years, the Treasury has devoted considerable efforts to analysing policy options to increase savings, and improve their allocation. While in a 2003 report it had taken a relatively benign view of the low rate of private savings, in 2005 it expressed concerns about the impact of the latter on the external position and ultimately on growth, and recommended a number of measures to boost savings, including reforms of the Kiwi Saver scheme and steps to make residential investment less attractive⁴⁸.

In 2010, in a background paper prepared for the newly constituted independent Working Group on Savings, the Treasury analysed available evidence on possible determinants of the low national saving rate, and its implications for interest rates, the exchange rate, the external accounts and the development of domestic capital markets. It also outlined a menu of policy options (several of which were subsequently taken up by the

⁴⁵ See, for example, Claus and others, 2006; Mabin, 2010; and Schule, 2010. The latter study uses the IMF's GIMF model to simulate the impact of a permanent reduction in Government consumption on real GDP via a reduction in inflation, easing of monetary policy, decline in interest rates and exchange rate depreciation.

⁴⁶ Mears and others, 2010

⁴⁷ External imbalances are regularly referred to as New Zealand's main vulnerability by international institutions, such as the IMF and the OECD, and by the major rating agencies.

⁴⁸ The 2005 report can be found at: <http://www.treasury.govt.nz/publications/informationreleases/saving/synopsis>

Working Group) to boost savings, including accelerating the pace of fiscal consolidation, to restore positive public savings; and removing tax distortions that may affect adversely the savings rate or the attractiveness for households of investing in financial assets vs. residential or farm properties. The report also discussed the possible disincentive effects of some social expenditure programmes (such as NZS benefits and interest-free student loans) on private savings.

More recently, a joint report by the Treasury and the Inland Revenue analysed in greater detail possible reforms of the corporate and personal income taxes to promote private savings. It concluded that the reform with the largest foreseeable impact on savings would be a reduction of the PIT rate only for capital incomes of New Zealand residents, but the one with largest positive impact on GDP growth and welfare would be a general cut in the PIT. The latter would also be preferable on equity grounds. Corporate tax cuts would have a more limited impact on savings, presumably since they would benefit households only indirectly.⁴⁹ Another option that has been considered by the Treasury to address the current bias of the tax system in favour of investment in housing⁵⁰ is the introduction of a general tax on capital gains. The Government has, however, not been receptive to such a measure so far.

2 Commentary

a Avoiding fiscal pro-cyclicality

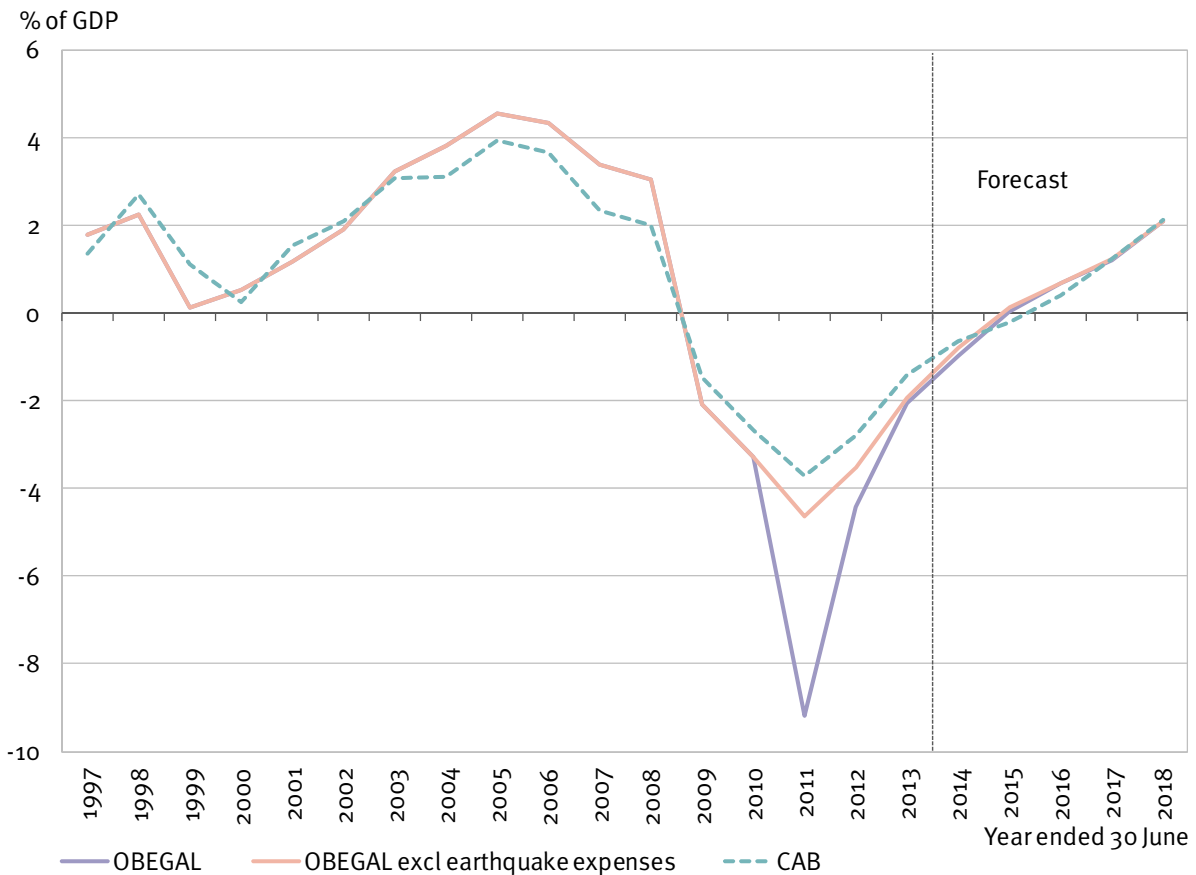
As highlighted in the December 2013 HYEPU, New Zealand is in the midst of a significant cyclical upturn that is forecast to continue through at least 2016, with rates of growth of output, and especially domestic demand, above historical averages, propelled by the reconstruction of housing and infrastructure damaged by the Canterbury earthquakes and by a strong expected improvement of the terms of trade. As a result of these developments, the output gap is estimated by the Treasury to narrow substantially (by $2/3^{\text{rds}}$), and by the RBNZ and the IMF to turn positive. At the same time, the current account deficit is projected to narrow only marginally in 2014, and to increase again in subsequent years, to a relatively high 6.5 percent of GDP.

Against this background, it is important to ensure that fiscal policy does not end up being pro-cyclical, as in past booms. The Treasury forecasts the CAB to show a deficit equivalent to 0.6 percent of GDP in fiscal year ending June 2014 (FY2014), and not to turn into a modest surplus until FY2016 (Fig. 7). Estimates of the CAB using the output gaps projected by the RBNZ and the IMF show even larger deficits in FY2014. Moreover, an estimate of the CAB adjusted for the deviation of the terms of trade from their 30-year average suggests that the CAB would show a deficit of nearly 3 percent of GDP in FY2014, and not return to balance until FY2018.

⁴⁹ The report also considered, but did not recommend, the introduction of an allowance for corporate equity (because of its fiscal cost and complexity of administration), and indexing the base of income taxes for inflation. The Working Group on Savings had recommended the latter option, as well as an extension of the Portfolio Investment Entity (PIE) tax regime.

⁵⁰ Calculations by the Working Group on Savings show that, under the current tax system, imputed income from owner-occupied dwellings is not taxed, and real income from investment in rental properties is taxed at a lower effective rate than incomes from financial assets (Brook, 2013b).

Figure 7 – New Zealand: Actual and cyclically adjusted operating balances



Source: NZ Treasury, HYEPU, 2013

Calculations by the Treasury of the fiscal impulse indicator give mixed signals about the fiscal stance in 2014, depending on the coverage of the indicator, ranging from expansionary, if the payouts relating to earthquake-related claims are included, to nearly neutral if they are excluded, and to slightly contractionary if the coverage is limited to the Core Crown (Fig. 6 above). A case can be made that the broadest indicator is more representative of the overall impact of Government operations on domestic demand, while the narrower ones provide better signals of the stance of discretionary fiscal policies.

On balance, the above-mentioned estimates suggest that a somewhat tighter budgetary stance might be desirable on cyclical considerations grounds, if the upcoming boom is confirmed, and especially if it proves stronger than currently forecast. The Treasury should consider advising the incoming Government to commit to saving any future favourable revenue surprises.. This approach seems preferable to the adoption of a 3-year rolling overall spending cap, as it would prevent using revenue windfalls not only to increase spending but also for uncompensated tax cuts or tax expenditures, which would be inappropriate in the current cyclical conditions.

Faster progress towards restoring cyclically-adjusted budget equilibrium (including capital spending that adds to demand pressures) and the achievement of significant cyclically- adjusted surpluses beyond 2014 would allow the RBNZ to maintain a relatively accommodating monetary policy (in conjunction with any needed further macro-prudential measures) without jeopardizing its inflation targeting credibility. A better mix of fiscal and monetary policies would in turn help prevent, or at least moderate, further exchange rate appreciation, with beneficial effects for the current account and a sustainable GDP growth. In view of the above-mentioned

requirement in the amended PFA that the Government take into account the interactions between monetary and fiscal policies in deciding its fiscal strategy, the Treasury should make explicit, in the next briefing to the incoming Minister of Finance, its advice on the fiscal-monetary policy mix.

As regards the use of savings from revenue surprises, there are several possible options

- Faster reductions of the gross debt (through reduced new borrowing or advance repayments of outstanding debt)
- Accumulation of additional liquid assets
- Restarting sooner the contributions to the New Zealand Superannuation Fund (NZSF), currently suspended until the 20 percent of GDP target for the net debt is achieved
- Increasing contributions to the Natural Disaster Fund (NDF), depleted by the Canterbury earthquakes, or to the Government Superannuation Fund (GSF), which is in actuarial deficit; and
- Setting up a new fund (a stabilization fund) specifically committed to macro-economic stabilization purposes, and therefore designed to be accumulated during booms and drawn down during downturns.

The importance attached to public debt indicators by rating agencies and international financial markets more generally argues for privileging the use of the windfalls to reduce the net debt. The Treasury should advise the Minister of Finance on an appropriate mix of gross debt reduction and increase in liquid assets, in the light of the NZDMO's overall asset-liability management (ALM) strategy, taking into account evolving market conditions. It would be important for the Treasury to address possible political economy obstacles to a more rapid and sustained reduction of the net debt by emphasizing in its reports and other public statements the short- and longer-term benefits of a more rapid rebuilding of fiscal buffers at the present time.

To the extent that political economy factors limit the use of revenue surprises to reduce the net debt, the remaining windfall could be used to strengthen other parts of the Crown's balance sheet, by restarting earlier, and subsequently increasing, the contributions to the NZSF, or by replenishing the NDF, options that would probably receive greater political and social support.

The alternative of creating a permanent stabilisation fund appears more questionable. Such funds have been used so far mainly by countries that are large recipients of volatile revenues from non-renewable natural resources, to smooth the impact of such volatility on Government expenditures. The rules for adding to, or drawing from, these funds mainly relate to deviations of one or a few natural resource prices from a long-term trend (variously defined in different countries).

In New Zealand's case, these rules would need to be specified with respect to a benchmark definition of the cyclical component of the budget balance (possibly adjusted for movements in the terms of trade). This would be tantamount to adopting a CAB target and stipulating that positive (negative) deviations from it would be used to increase (reduce) the stabilisation fund⁵¹. This would imply giving an operational (as opposed to the current signalling) purpose to the CAB. The above-mentioned uncertainties still surrounding current estimates of the CAB indicator would seem to caution against this option at the present time. The option discussed in some Treasury staff papers of giving to an independent panel the responsibility for recommending inflows into, or drawdowns from, a stabilisation fund could allay concerns about political influences on such recommendations, but would not diminish the technical difficulties surrounding the estimates of the CAB.

⁵¹ A possible alternative would be to use as a basis for the accumulation and draw-down rules a variant of the CAB, namely the growth-based balance (GBB), which excludes from budgetary revenues and expenditures those components that reflect the difference between the actual and the trend growth rate of the economy. While a GBB is easier to estimate than a CAB, it can give misleading signals, e.g. during the early phase of a recovery, when actual GDP may be growing at a rate faster than trend, but still remain below potential.

b Promoting national savings

The Treasury's analysis of fiscal policy options to increase national savings and to improve the allocation of private savings is theoretically sound, and in line with the international literature in this area. However, to better gauge the scope for reducing macro-economic vulnerabilities by increasing public savings, it would be desirable to further explore empirically how Ricardian are economic agents in New Zealand. While a simple plotting of net public and private savings shows that they tend to move in opposite directions, pointing to a degree of Ricardian offset, other evidence⁵², suggests that such offset is far from complete, and that an increase in public savings would raise national savings as well, thereby improving the external position. This reinforces the case made above for the Treasury to recommend to the Government an acceleration of the pace of fiscal consolidation in the years ahead.

The Treasury's analyses mentioned in the previous section suggest that there is significant scope for more structural-type reforms to reduce the disincentives to save inherent in the current tax and social benefits systems⁵³, and especially to improve the allocation of savings between investments in financial and real assets. In principle, it should be possible to design a package of tax reforms that would meet these objectives on a revenue-neutral (or revenue-enhancing) basis, and without significant adverse effects on vertical equity. By levelling the playing field among different types of investments of private savings, such a package would also improve efficiency and horizontal equity.

The reforms could include a reduction of the PIT for capital income of residents, compensated by base-broadening measures, such as the introduction of a land tax and/or a capital gains tax⁵⁴. The introduction of a land tax would respond to macro-prudential objectives, as well as efficiency (since it would be levied on an immobile factor of production) and revenue-raising ones. Borrowing, including from foreign sources intermediated by domestic banks, to finance investments in farm properties has increased rapidly in recent years. A land tax would reduce net returns from this type of investment, thereby helping moderate the demand for it, and the related macro-prudential risks.

It would have, however, a significant transitional cost in terms of horizontal equity, since it would cause a loss of value for current property owners⁵⁵.

A capital gains tax would have benefits in terms of efficiency (if levied on gains from all assets) and vertical equity (since asset ownership tends to be skewed towards upper income groups), and significant – albeit more volatile than for most other taxes – revenue-raising potential. However, as demonstrated by international experience, the design of such a tax would need to address complex issues, relating to the appropriate rate, the treatment of losses, the inclusion of a threshold, etc.

More generally, any proposed tax package would need to be carefully designed and calibrated, to ensure its consistency with the above-mentioned objectives. In the design of the package, consideration would also need to be given to potential difficulties in its practical implementation, in particular additional administration and compliance costs. Such difficulties could be mitigated by avoiding design features that are too complex (e.g. indexation of tax bases for inflation) and by allowing adequate time for preparing the Inland Revenue's systems, and the taxpayers, for the changes.

⁵² See IMF SIP, 2011 and Schule, 2012.

⁵³ The scope to improve savings through changes in social spending programmes is discussed in the next section.

⁵⁴ Going further in the direction of the 2010 tax reform, by compensating cuts in income taxes with increases in consumption taxes, notably in the GST, would shift the burden of taxation onto lower-income groups, thus running counter to vertical equity objectives.

⁵⁵ See Treasury background paper to the LTFS, 2013b.

V The Treasury's advice on long-term fiscal and social sustainability

1 Overview

a The assessment of long-term fiscal sustainability under alternative policy settings

At least every four years since 2006, in accordance with the requirements of the PFA, the Treasury has prepared LTFs projecting long-term trends in the Crown's finances, and highlighting the challenges posed by current and foreseeable demographic and economic trends for long-term fiscal sustainability. The latest LTFs, published in July 2013, represents a quantum improvement, compared with the previous two, in a number of respects:

- It benefited from extensive inputs from the academic, business, and policy communities, reflecting a more open and inclusive preparation process than in the past⁵⁶
- Its analysis is supported by a substantial number of background analytical documents⁵⁷
- It includes, in addition to the traditional projections based on a continuation of historical cost pressures, a "sustainable debt scenario", highlighting the extent of fiscal adjustment required to maintain a "prudent level" of the net public debt through 2060; and
- It also includes a discussion (developed further in the background papers) of a range of revenue and expenditure policy options to bridge the gap between the "resume historic cost growth" projections and the sustainable debt scenario. These policy options are evaluated (mostly in qualitative terms) against the five criteria contained in the Treasury's new "Living Standards Framework" discussed in subsection b. below.

The "resume historic cost growth" projections, prepared using the LTFM discussed in Chapter III above, reflect a number of key demographic, economic and fiscal assumptions. Specifically:

- Demographic projections (concerning fertility rates, life expectancy and net migration) are based on the median projections for the relevant variables prepared by Statistics New Zealand⁵⁸
- Main economic assumptions relate to labour productivity growth (1.5 percent a year from 2020); the unemployment rate (4.5 percent from 2019); inflation (2 percent a year); and the 10-year bond rate (rising to 5.5 percent by 2020, and further to 6 percent from the 2030s)
- Tax revenues are assumed to recover gradually to 29 percent of GDP by 2020, and to remain at that level for the next 40 years (a base-case assumption, implying that the fiscal drag of the PIT would be periodically corrected by adjustment of the brackets)

⁵⁶ Including through the appointment of an independent expert panel that provided inputs and feedbacks during the preparation of the Statement

⁵⁷ The extensive background documentation for the LTFs is available on the Treasury's website.

⁵⁸ The fertility rate is assumed to fall to 1.9 by 2032; life expectancy to rise to 88 years for males and 90.5 for females by 2061; and net migration to average 12,000 a year from 2015. A stochastic sensitivity analysis of the effects of these assumptions on the fiscal projections can be found in Ball, 2013.

- The assumptions regarding expenditures differ for different categories:
 - Expenditures controlled by operating allowances⁵⁹, including those on health and education, are projected at the levels forecast in the 2013 BEFU through end-June, 2015, and then to grow at rates specific to each category, reflecting relevant demand and cost pressures
 - In particular, the projection of health spending is driven by three main factors: (i) the projected ageing of the population, combined with an assumption of some reduction of morbidity for the elderly (so-called healthy ageing), as longevity increases; (ii) an assumed growth of 0.3 percent a year for labour productivity in the health care sector; and (iii) an assumed 1.5 percent a year non-demographic volume growth of the demand for health care services, mainly reflecting the impact of the growing availability of technologically advanced services on such demand. Sensitivity analysis is conducted on the main assumptions⁶⁰
 - The projections for spending on the three main categories of education – early child education (ECE), compulsory schooling, and tertiary education– reflect educated guesses about long-term trends in the main drivers of such spending, namely demographic trends, participation rates, cost of teaching, and subsidy rates for ECE, tertiary education tuitions, and student loans
- Benefits from NZS are projected to grow in line with the number of individuals aged 65 and over (given by the demographic projections, and assuming no change in the composition of the group by family status), and with the growth of average wage rates, given the current indexation mechanism of these benefits
- Most other social welfare benefits are projected to grow in line with the CPI, but some in line with wages, reflecting their record of significant growth in real terms in recent years; and
- The projection for interest payments reflects the assumed path of bond rates and the accumulation of debt to fund the growing gap between revenues and total spending over the projection period.

The “resume historic cost growth” projections highlight the unsustainability of current settings over the longer term, as a result of the combined pressures of a rapidly ageing population⁶¹; growing demand for certain public services, especially health care; foreseeable cost and productivity developments; and the dynamics of the public debt. The projections show health expenditures rising by 4 percentage points (p.p.) of GDP, to 10.8 percent, and NZS benefits by over 3.5 p.p. of GDP, to 7.9 percent, by 2060. Projected declines in other categories of spending (notably on non-NZS welfare benefits and on education) would only partly offset such increases.

As a result, the operating balance (including debt financing costs) would move into a rapidly rising deficit from the mid-2020s on, and the net public debt would escalate, to close to 200 percent of GDP by 2060. Sensitivity analyses of the main demographic and economic assumptions suggest that, even under more optimistic, but still realistic, hypotheses, the debt would reach levels much higher than what could be considered minimally prudent. The thrust of the projection exercise is therefore to highlight the need for changes in the policy settings.

⁵⁹ The assumptions regarding capital expenditures are not made explicit in the LTFS and supporting background documents, but Treasury staff indicated that it was assumed that such spending would rise in line with GDP.

⁶⁰ See related background paper (Treasury, 2013a).

⁶¹ The ratio of individuals over 65 to those aged 15-64 years is projected to rise from 20 percent to 50 percent between 2006 and 2050.

The LTFS includes also an alternative scenario designed to illustrate the path of spending that would be consistent with a decline in the net debt to 20 percent of GDP by 2020 and its subsequent maintenance at that level on average over cycles⁶², assuming no changes in the demographic and economic hypotheses and in the assumption regarding tax revenues. Under this scenario, primary spending would need to be contained to around 29 percent of GDP, implying an adjustment need (compared to the baseline projections) that would grow over time, to around 6 percent of GDP by the end of the projection period (not counting the increased debt finance costs). The scenario also highlights the benefits of an early and sustained fiscal adjustment, as, under it, debt financing costs would broadly stabilize, instead of rising to nearly 12 percent of GDP by 2060, as projected in the baseline scenario.

b The assessment of corrective policy options in a multi-dimensional living standards framework

The 2013 LTFS and its background papers include extensive analyses of various revenue and expenditure policy options to ensure long-term fiscal sustainability, defined as a prudent level of the net public debt. The assessment of these options is conducted using the Treasury's Living Standards Framework (LSF), initially presented at a conceptual level in 2011⁶³, and subsequently developed into a more operational tool in 2012⁶⁴.

i The Living Standards Framework

The development of the LSF responded to the growing recognition, in the international welfare literature and, more importantly, in societies around the world, that welfare is a multi-dimensional concept, including, in addition to material elements such as income and wealth, non-material ones such as, among others, the availability and quality of jobs, education, health, security, and the quality of social institutions; and that not just the aggregate level of welfare, but also its distribution within societies, matter (Box 1).

⁶² One of the background papers to the LTFS includes simulations of the expenditure adjustment needs under alternative target levels for the net public debt (ranging from 0 to 30 percent of GDP). A 10 percent target, for example, would require expenditures to be reduced further (by about 1 percent of GDP) through 2025, and maintained below the 20 percent debt scenario by about half a percent of GDP thereafter. See Treasury, 2013a.

⁶³ See Gleisner and others, 2011.

⁶⁴ See Treasury paper, 2012.

Box 1: The OECD's Inclusive Growth Initiative

The recent "Inclusive Growth Initiative" by the OECD is a leading example of ongoing efforts by a number of international institutions (including the World Bank, the IMF⁶⁵ and the EU) to weave welfare and equity considerations into a pro-growth agenda⁶⁶.

The initiative builds on various previous strands of work by the OECD: "*Going for Growth*", which focuses on identifying macroeconomic, and especially structural, impediments to sustained growth in OECD member countries, and on developing a policy agenda to correct them; "*Divided We Stand*", an exploration of the reasons for rising inequality in many advanced and emerging countries, and of the effects of various economic and social policies on income distribution; and the "*Better Life Initiative*", which focuses on the multi-dimensionality of welfare, and presents a range of indicators of well-being in the areas of incomes and wealth; employment and earnings; education and skills; health; housing; environmental quality; personal security; work-life balance; social connections; civic engagement and governance; and subjective well-being. The extensive database gathered by the OECD in all these dimensions provides opportunities for inter-country comparisons and benchmarking⁶⁷.

The Inclusive Growth Initiative aims to combine material (disposable household income) and selected (initially, unemployment and life expectancy) non-material dimensions of welfare with an equity indicator (the Gini income inequality coefficient) into a composite indicator of living standards (ILS). This requires the use of shadow prices to calculate income equivalents of the non-material indicators⁶⁸, and the selection of a parameter of aversion to income inequality. In the current initial stage, the OECD is proposing to use a value of 1.5 for the latter parameter, which is consistent with focus on median incomes⁶⁹.

The OECD has prepared preliminary calculations of the ILS for 18 countries, including New Zealand, and of the contributions of incomes, unemployment, longevity and inequality to its growth over the period 1995-2007. These calculations indicate that the improvement in living standards in New Zealand was higher than in 70 percent of the countries in the sample, and higher than the growth of GDP per capita, reflecting improvements in life expectancy and in unemployment, and a small reduction in income inequality.

The OECD is planning to focus subsequent work under the initiative on expanding the coverage of the ILS, and especially on exploring the effects of macroeconomic and structural policies on various dimensions of living standards, with a view to identifying policy trade-offs and complementarities, and ultimately reflecting the findings in its advice to member countries. For this purpose, it is planning to conduct some initial case studies in collaboration with the respective country authorities.

Recognising the difficulties of measuring the impact of all the above-mentioned dimensions on welfare, as well as the effects of various economic policies on each dimension, the Treasury has developed a simplified analytical tool, in which alternative policy options are assessed against five criteria, relating to the projected effects of the policies on:

- Economic growth
- Reduction of macro-economic vulnerabilities such as unemployment, inflation, financial instability, and external and fiscal imbalances
- Equity, with special focus on removing barriers to individuals' opportunities and choices, and to the accumulation of human capital in different segments of society

⁶⁵ See, e.g. the recent IMF Policy Paper: "Fiscal Policy and Income Inequality" (IMF, 2014).

⁶⁶ OECD 2014

⁶⁷ See the OECD publication series "How's Life?"

⁶⁸ The shadow prices are currently mainly derived from existing studies in the relevant welfare literature, but the OECD is planning further country-specific analyses in this area.

⁶⁹ Higher values of the parameter would be consistent with focus on the lower part of the income distribution.

- Social capital⁷⁰; and
- Sustainability for the future, as regards the preservation of both natural resources and intergenerational opportunities.

The framework recognises that there are both trade-offs and potential synergies among these objectives, and that often the trade-offs can be minimized, and the synergies best exploited, by combining policies with different effects on the objectives into appropriately structured packages.

The framework can also be used to assess progress in living standards in New Zealand over time, and to compare its performance to those of other peer countries. For this purpose, the Treasury identified an initial set of statistical indicators, namely:

- Net National Income per capita as a proxy for economic growth
- The 10-year variability in real GDP, and the net international investment position, as proxies for macroeconomic vulnerabilities
- The percentage of the population below 50 percent of median per capita income, and the difference in PISA scores between the top and bottom 10 percent of students, as indicators of inequality
- The World Bank's Government effectiveness indicator and the World Values Survey social trust indicator, as proxies for social capital; and
- Gross capital formation, tons per capita GHG emissions, and the percentage of the population aged 15-24 with tertiary education, as indicators of future sustainability.

The choice of indicators above was largely shaped by the availability of data comparable over time and across countries. The choice of indicators to be used in quantitative assessment of specific policy packages would depend on the nature of the policies assessed⁷¹.

ii Assessing revenue and expenditure options

Revenue measures

On the revenue side, the LTFS and the related background paper⁷² explore the following main alternatives to help close the gap between the fiscal balance in the baseline scenario and that consistent with long-term debt sustainability:

- Allowing the fiscal drag to operate under the PIT in full, or in part, for example by adjusting tax brackets for inflation, but not for the real growth of incomes
- Raising the rates of the PIT by 2 p.p. or of the CIT by 7 p.p. or of the GST by 2.5 p.p.
- Broadening the base of the PIT by taxing capital gains under it
- Introducing a 2.5 percent uncapped tax on payroll; and
- Introducing a national land tax at the rate of 0.7 percent.

⁷⁰ Social capital is defined in the LSF to encompass effective public institutions that ensure the protection of individual rights and freedom, and provide adequate security, thereby fostering trust and collaborative attitudes among citizen. High levels of social capital reduce transaction costs, facilitate the flow of knowledge and market information, and promote effective use of public resources, among others.

⁷¹ See, e.g. Appendix 1 in Treasury paper, 2012, which applies the framework to the analysis of a possible increase in the GST rate.

⁷² Treasury paper, 2013b

All the options, the first if sustained for nine years, and the other ones as from the first year, are estimated to yield additional revenue of about 1 percent of GDP each. They would have, however, significantly different effects on the objectives included in the LSF.

Specifically, the least damaging from the efficiency standpoint would be the land tax, since it would be levied on an immobile factor of production, and the capital gains tax, because of its expected beneficial impact on the allocation of savings, as discussed in Chapter IV above. Next best in terms of efficiency would be increases in the GST, whose broad base would require a relatively modest adjustment of the rate. Increases in the PIT and the introduction of a payroll tax would significantly discourage work efforts; the former would also discourage savings. The worst alternative from the efficiency standpoint would be the large increase in the CIT rate, which would discourage domestic investment, stimulate tax avoidance, and make New Zealand significantly less attractive to FDI.

As regards distributional effects, the taxation of capital gains would enhance both horizontal and vertical equity. The impact of increases in PIT rates on progressivity would depend on how the changes affected the rate structure, but it would be difficult to generate significant revenues and increase progressivity at the same time. In contrast, not offsetting the fiscal drag would have a regressive impact, as progressively lower real incomes would be dragged into higher tax brackets.

A payroll tax would also likely be regressive, because the share of labour in total income tends to decline along the income distribution. The distributional impact of an increase in the GST would be broadly neutral on lifetime income (abstracting from bequeaths of accumulated wealth), but regressive with respect to annual income, because consumption represents a larger proportion of current income for lower- than for upper-income groups. The different options also involve different degrees of revenue volatility, and different administrative and compliance costs, which are discussed in the Treasury papers.

Expenditure measures

Health care spending

The LTFS recognises that curbing the projected long-term growth of spending on health care represents the biggest fiscal challenge ahead, and one that is sure to require a combination of different approaches and instruments. Accordingly, a background paper for the LTFS⁷³ assesses (on a qualitative basis) a number of policy options in this area, aimed at:

- Improving value-for-money in the delivery of health services, by, among other things:
 - Concentrating most of the acute care services into fewer hospitals, while fostering the development of capabilities of more cost-effective community-based health care centres to deal with the treatment of chronic conditions and of some acute care types (along the model of Auckland's Primary Options for Acute Care (POAC) service)
 - Separating to the extent possible the purchaser and provider functions of the District Health Boards (DHBs)
 - Strengthening the DHBs' oversight of the delivery of primary care services; and
 - Expanding the range of medical services that can be safely provided by physician assistants, nurses and pharmacists in lieu of (more expensive) medical doctors

⁷³ Treasury, 2013c

- Managing the demand for health care services through:
 - Increased use of preventative measures of proven effectiveness; and
 - The use of co-payments for health services currently provided for free
- Reducing the funding and coverage of publicly provided health care services through:
 - The maintenance over time of tight budgetary caps on spending (through the operating allowances); and
 - The exclusion from coverage of costly new treatments that have not met the cost-effectiveness standards of the Health Technology Assessment (HTA) tool, as is already done for medicines by the New Zealand Pharmaceutical Management Agency (PHARMAC).

The papers note that some of these options, notably the use of non-means-tested co-payments, would risk exacerbating the already significant disparities in the use of health services by lower-income individuals and by the Māori and Pasifika ethnic groups, thus running counter to equity objectives, and could over time lead to more serious diseases in these groups.

Another background paper⁷⁴ focuses in particular on long-term care (care for aged and disabled people), which is projected to grow even more rapidly than total health care. It suggests that, while some savings could be obtained through efficiency improvements, they are unlikely to be large enough (given the labour-intensive nature of long-term care services) to obviate the need for changing the coverage of these services and/or requiring increased cost-sharing by non-poor beneficiaries.

Education

Although education is not projected to be a source of significant spending pressures over the longer-term, the LTFS and a related background paper explore some options to increase its cost-effectiveness, and to reduce the significant continuing disparities in education performances across income groups and ethnicities⁷⁵. In particular, while recognising the importance of ECE for future education achievements and income earning capabilities (an importance that is underlined by the priority attached by the Government to this segment of education spending), the papers call for a reflection on the desirability of focusing all or most ECE spending on the lower income groups. While such a course of action might lead to some temporary withdrawal from the labour force of middle- to upper-income parents of young children, this could be compensated by an increased take-up of the larger subsidy by the lower income groups, and a related increase in their participation in the labour force.

The paper also discusses the scope for reducing the public contribution to the funding of tertiary education⁷⁶, by reducing the share of tuition costs reimbursed by the Government, increasing the targeting of student allowances, and/or reintroducing interest charges on student loans. The paper notes that, while it is clear that such measures would have a positive impact on the fiscal position, and might increase equity through tighter targeting, further empirical work would be desirable to assess their impact on the demand for tertiary education, and thus on human capital accumulation, and ultimately on longer-term sustainable growth.

⁷⁴ Treasury, 2013d

⁷⁵ The paper (Treasury, 2013g) focuses on ECE and tertiary education, with limited discussion of policy options for compulsory schooling.

⁷⁶ This contribution (not including student loans) amounts currently to about 70 percent of the total costs.

Welfare spending

The New Zealand Superannuation system

As highlighted by the LTFS projections, the rising cost of the retirement (NZS) system, reflecting the ageing of the population and the current system of indexation of pension benefits to average wages, creates another major challenge for New Zealand's fiscal sustainability over the medium to long term. Accordingly, the LTFS and related background papers⁷⁷ assess a number of policy options to moderate the future rise of superannuation spending. These options can be grouped into three broad headings:

- Increasing the retirement age, either to a specific higher level or to a variable level, linked to rising life expectancy⁷⁸
- Reducing the level of benefits, in particular by linking them to price, rather than wage, inflation; and
- Shifting (at least partly) from the current public pay-as-you-go (PAYGO) funding system to a save-as-you-go (SAYGO) one, based on either a private mandatory prefunding, combined with means-testing, or a public one. The first sub-option would involve the creation of a mandatory second pillar, funded by contributions by employees, employers, and the Government in the form of tax credits, to be accumulated over the working lifetime of individuals, and converted into an annuity at retirement. The amount of the annuity would be abated against the NZS benefits, ensuring the targeting of such benefits to lower-income pensioners. The second sub-option would essentially involve running larger fiscal surpluses to fund substantially higher Government contributions to the NZSF.

The assessment of these different options against the criteria of the Treasury's LSF is a complex endeavour, which illustrates clearly the trade-offs and value judgments inevitably involved in a reform that would significantly affect over time the entire population.

When assessed against the fiscal sustainability criterion, all the above mentioned reform options would result in sizable expenditure savings over the longer run, although the extent and timing of the savings would vary. The Treasury estimates that the largest fiscal savings over the LTFS projection period (to 2060) would be realized under option 2 (even if modified to index pensions to the average of wage and price inflation), closely followed by the mandatory private SAYGO option. In both cases, the fiscal savings would continue to rise beyond the horizon of the projections. Increasing the pensionable age to 67 would yield fiscal savings initially rising and then stabilizing around less than 1 percent of GDP. This would argue for linking the eligibility age to life expectancy instead.

Options 1 and 2 are assessed as likely to have a favourable impact on labour force participation, as well as on private savings. A move to SAYGO is also estimated to raise private savings and labour participation, at least in the long run. On balance therefore, all the three reform options are considered likely to boost growth over the longer term.

The assessment of distributional effects of the reform options is complicated by the fact that, in this area, equity has many dimensions: inter-generational equity, intra-generational progressivity, actuarial fairness, and the welfare of current and future pensioners. The Treasury's analysis suggests that the different options would have different, and sometime conflicting, impacts on each of these dimensions. In particular, all the options would improve inter-generational fairness, but all, except increases in public pre-funding, would likely affect adversely intra-generation equity. The shift in indexation from wages to prices (or a combination of prices and wages) would impact most negatively current and future pensioners.

⁷⁷ Treasury, 2013d; see also Hurnard, 2012, and Law, 2013.

⁷⁸ For an analysis of the effects of linking retirement age and pension benefits to longevity in EU countries, see Schwan and Sail, 2013.

Ultimately, therefore – the Treasury argues – the choice of a package of pension reforms would have to be informed by a number of, intrinsically political and social, judgments about the relative weights of the objectives of ensuring fiscal sustainability, promoting savings and growth, avoiding relative poverty in old age, and eschewing compulsion in private savings and financial investment decisions.

Other welfare benefits

New Zealand's welfare system is in a process of change, as a comprehensive welfare reform, effective as from mid-July 2013, is being implemented (Box 2).

Box 2. The recent reform of the non-pension welfare system in New Zealand

The welfare reform, adopted by the Government in 2011 and fully in force since July 2013, was primarily motivated by concerns that the complex system of existing social assistance benefits did not provide adequate incentives for recipients able to work to do so, thereby promoting avoidable long-term welfare dependence.

The main benefits before the reform covered sickness and disability (17 percent of total in 2011/12); specific family conditions (the so-called domestic purpose benefits) (15 percent); unemployment (7 percent); special-purpose supplementary payments (21 percent); and tax credits for low-income families (21 percent). More than 12 percent of the working age population received one or more of those benefits.

With a view to understanding how to more effectively target welfare benefits, the Government commissioned in 2012 an actuarial analysis of the future liability for the budget implied by the existing benefits. This analysis revealed that recipients of unemployment benefits accounted for a much smaller share of the liability than recipients of disability and domestic purpose benefits, but received the lion's share of budgetary programmes aimed at getting them back to work. In practice, the system accommodated passively the demands for the costlier benefits, reserving active support for the (less costly) recipients of unemployment benefits. The actuarial analysis also revealed that individuals entering the welfare system at an early age were more likely to stay in it, with higher lifetime costs for the budget. These findings helped shape the design of the welfare reform.

The philosophy underlying the reform is that welfare benefits should be targeted to those individuals temporarily or permanently unable to support themselves through work, because of ill-health; severe disability; specific family conditions, such as responsibility for the care of very young children or of disabled adults; or other factors outside their control, such as loss of job.

Specifically, the reform replaced the main benefits (excluding special-purpose payments and tax credits) with three new benefits (Jobseeker Support; Sole Parent Support; and Supported Living Payment), with different requirements for recipients to seek gainful employment enabling them to exit the welfare system.

Under the new "investment" approach to welfare, the Government is seeking to assist welfare recipients who can work to identify opportunities and remove obstacles to gainful employment, e.g. through the Youth Services and by strengthening job training programmes, and employment capabilities assessments and services for sick and disabled individuals.

Periodic actuarial valuations of future welfare liabilities under the reformed system, in comparison with the previous one, are expected to shed light on the extent to which the reform is achieving the objective of reducing welfare dependency for individuals able to work; and to identify needs for new policy initiatives to increase employment opportunities for them.

Historically, the growth of welfare benefits has been driven by policy changes that have expanded the number or coverage of existing benefits, including tax credits for working families, and by price inflation, since most such benefits are linked to inflation. The trend in real benefits has flattened out in recent decades, declining in relation to average wages; fluctuations around the trend have largely reflected cyclical fluctuations in economic activity.

The LTFS and the related background paper⁷⁹ project that, even if a part of the benefits were to move in line with wages, total non-NZS welfare spending would decline relative to GDP over the next 40 years or so. The papers note that this is likely to result in an increase in relative poverty among non-pension welfare recipients, calling into question the political realism of a continuation of the indexation of most such benefits to inflation only. Given the need for time to assess the impact of the recent welfare reform, the papers do not discuss further reform options in this area.

2 Commentary

In preparing and transparently disseminating long-term fiscal projections, New Zealand is fully in line with best international practices, as recommended by international organizations and standard setters for public accounting. Long-term fiscal projections are regularly prepared by the OECD, the European Commission for EU countries, the IMF (for selected expenditure categories, such as for health care), and by various OECD countries, including Australia, Canada and the US. Box 3 below outlines some of the methodologies utilised by international institutions for long-term projections of age-related public expenditures.

Box 3: Selected international methodologies for long-term fiscal projections

A number of advanced countries and international organizations prepare long-term fiscal projections. This box briefly reviews selected examples of their methodologies, to facilitate a comparison with that utilised in the New Zealand Treasury's LTFS.

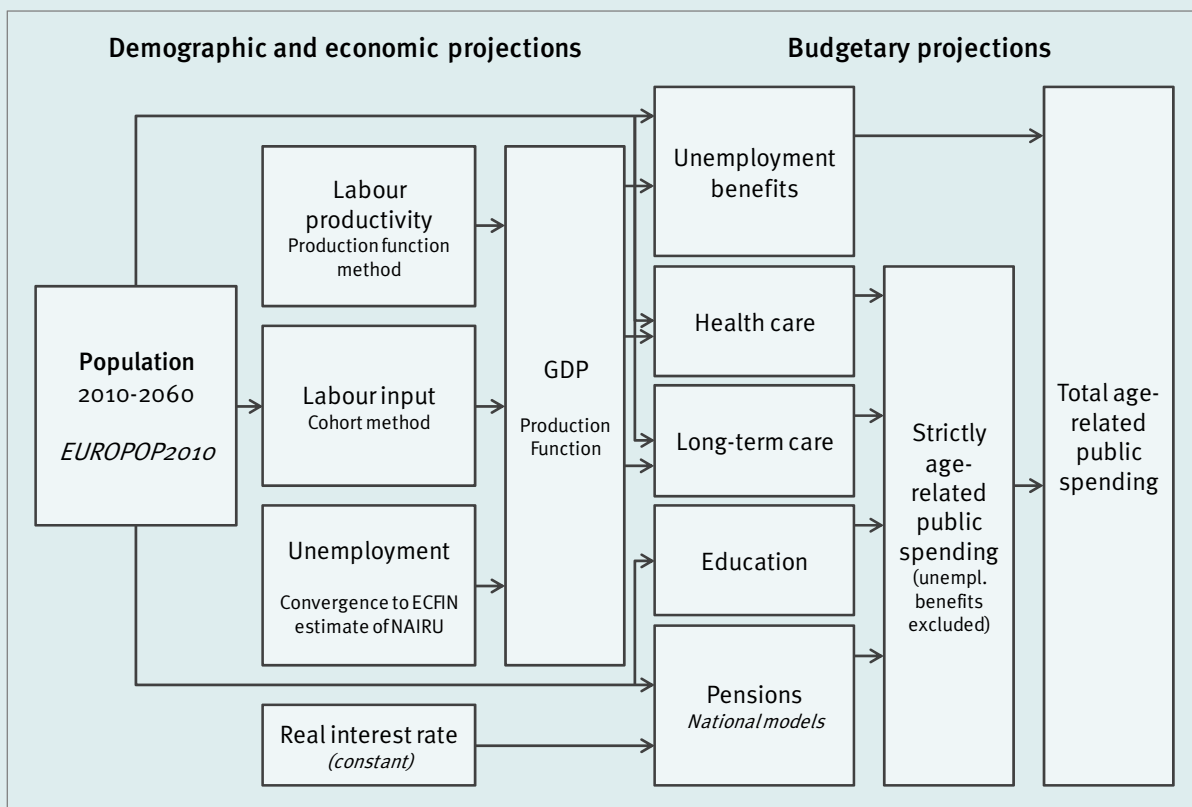
Since 2001, the European Commission (EC), in cooperation with the EU member states, has been preparing long-term projections for budgetary expenditures affected by ageing population. The latest such projections were published in 2012⁸⁰, and highlight the partly offsetting effects of the global financial crisis and of recent reforms of pension systems, enacted by some EU members, on age-sensitive social spending in the region. Specifically, a comparison with similar pre-crisis projections shows that, for all member countries, spending on pensions and health care as a ratio to GDP rose during the crisis, but its rate of increase over the medium to long term is projected to be significantly reduced in those countries (in particular in the EU "periphery") that have implemented reforms in the aftermath of the crisis.

⁷⁹ Treasury, 2013e

⁸⁰ See EC, 2012 for details.

The 2012 projections cover the period to 2060, and are based on agreed methodologies and assumptions for all member countries. An overview of the methodology is provided in the graph below.

Overview of the 2012 long-term budgetary projections



Source: Commission services, EPC

The population projections prepared by EUROSTAT reflect assumptions of a gradual convergence of fertility rates and life expectancies in EU members. The area-wide total fertility rate is assumed to rise slightly from 1.59 in 2010 to 1.71 by 2060. Life expectancy is projected to rise significantly, both at birth and at age 65, at differential rates for males and females. Net migration into the EU is assumed to rise until 2020, and to decline thereafter, totalling nearly 61 million people from 2010 to 2060. As a result, total EU population is projected to rise by almost 5 percent until 2040, but to decline by 2 percent in subsequent years until 2060. The age structure of the population would change dramatically over the period, with a 14 percent decline in the share of people aged 15-64 and a near doubling of the share of those aged 65 and above. The dependency ratio would double on average, but with significant variation across countries.

Participation rates are projected using a cohort simulation method⁸¹ with different assumptions about entry and exit into the labour market for different age groups and gender, resulting in a significant (over 3 percentage points) increase for the EU as a whole. Nevertheless, because of the above-mentioned population trends, the labour force is projected to decline. Unemployment rates are assumed to decline in the next few years from their high post-crisis levels to lower structural levels (a probably optimistic assumption). Even so, employment is expected to rise only slightly through 2021, and to decline gradually thereafter, reflecting the demographic trends. Thus, the modest annual potential GDP growth (around 1.5 percent) is expected to be driven entirely by the growth of labour productivity. The latter reflects assumptions of a 1 percent growth of total factor productivity and a 0.5 percent contribution of capital deepening.

⁸¹ Described in Carone, 2005

The projections for pension expenditures are based on country-specific models, to allow for the significant differences in pension systems across EU members. The projections point to a significant (1.5 percent of GDP) increase in total pension spending in the EU, but with a wide variance across countries, ranging from a 3.8 percent of GDP projected decline in Latvia, ranging from a 9.4 percent of GDP increase in Luxembourg. Countries that have enacted pension reforms in recent years are expected to fare relatively well compared to laggard ones.

Baseline projections for health care spending assume that half of the increase in life expectancy is spent in good health, and that the elasticity of health spending with respect to income declines gradually to 1 (from 1.1 in 2010). Under these assumptions, health spending is projected to rise, on average, by 1.2 percent of GDP (with a range of 0.4 to 2.9 percentage points). Under a more pessimistic scenario (slower convergence of the income elasticity to 1 from an initial value equal to 1.3), the average increase would be 1.7 percent of GDP. In addition, public spending on long-term care would nearly double on average in relation to GDP (again with significant variance across countries).

The OECD utilises the EC long-term projections for pension spending of the EU members and Norway. For other countries, it mainly relies on national projections (e.g. on the CBO projections for the US). For health and long-term care spending, on the other hand, it has recently published a new set of projections⁸², covering both its members and the BRIICS countries.

The determinants of health care expenditures are decomposed into demographic factors (the age structure of the populations, and assumptions about health by age); income; and a residual (encompassing various factors, related to technology, relative prices, and health policies and institutions). Demographic factors are modelled on the basis of a healthy ageing assumption; the income elasticity is assumed to be 0.8; and the residual growth rate is projected at a uniform 1.7 percent for all countries in a cost pressures scenario. In an alternative (cost-containment) scenario, the residual is assumed to decline steadily, converging to zero by 2060, reflecting a range of policy interventions. Sensitivity analyses are conducted on the various assumptions.

Long-term care is also explained by demographic factors, mainly but not solely, related to the age structure of the population; and by non-demographic ones, namely income, below-average productivity of workers in the sector (a “Baumol effect”), and the share of informal in total long-term care (proxied by the rate of female participation in the labour force). The assumptions on these factors are informed by econometric estimates of the relevant parameters; and sensitivity analyses are conducted on the projections.

The OECD projections suggest that, on average for the organization’s members, the growth in total health and long-term care spending would be significantly larger than projected by the EC for the EU members. This reflects mainly the differences in assumptions related to non-demographic developments. The OECD considers the risks to its baseline projections to be skewed to the upside, citing in particular those related to pre-death costs, the impact of technological progress on the demand for high-cost medical services, and the rising health costs associated with a growing incidence of obesity and dementia.

In a recent book⁸³, the IMF has presented 20 year projections for public health spending in advanced economies, based on an econometric model that explains the growth of real per-capita spending as a function of the growth of real per capita income, demographic factors and country-specific effects. The model provides individual country estimates of the annual excess growth of health spending. The estimated average for all the countries in the sample is around 1 percent, with significant variation across countries.

⁸² de la Maisonneuve and Oliveira Martins, 2013 a and b

⁸³ Clements, Coady and Gupta, 2013

The 2013 LTFS and the related background papers together constitute an impressive analytical effort by the Treasury to highlight the long-term fiscal challenges facing New Zealand, as a result of the ageing of its population and of other factors likely to boost the demand for public services. This effort is important, as it makes a compelling case for an early reconsideration of the current characteristics of the broadly-defined (i.e. including major social services like education and health care) welfare system of the country.

That said, there are several aspects of the exercise that could be improved in future LTFSs, and the Treasury should continue to refine its analytical tools to do so. First, as mentioned in Chapter III above, the non-behavioural, spreadsheet-based, nature of the LTFM implies that the projections do not allow for feedbacks from the fiscal developments to the macro-economy. This in turn means that the key macro-economic assumptions (about the determinants of GDP growth, inflation, and real interest rates) do not change as the public debt escalates in the “Resume historic cost growth” scenario. Moreover, the same assumptions are kept in the alternative “Keep the net public debt under 20 percent of GDP”. This conflicts with significant evidence in the international literature, and in country experiences worldwide, that large increases in public debt tend to be accompanied by rising (and increasingly volatile) real interest rates and, beyond certain levels, by slower real growth, higher inflation rates, and increased vulnerability to financial and balance of payments crises⁸⁴.

In the absence of a general equilibrium model that would include such feedbacks, it would be desirable to present, in future versions of the LTFS, scenarios with different dynamic paths of the key macroeconomic assumptions, to allow for plausible feedbacks from the growth of the debt. Such scenarios would show a more rapid deterioration of the debt position, reflecting growing gaps between the real interest rate and the growth rate than under the current baseline scenario, bringing into sharper relief the importance of early adjustment.

Sensitivity analysis could also be usefully expanded to allow for the impact on the public debt of exogenous shocks (such as a natural disaster, or an international financial crisis) or of a large Government bailout. A scenario incorporating one or more of such shocks would help the Treasury highlight the desirability of a medium-term fiscal buffer larger than that implied by a net public debt equivalent to 20 percent of GDP. Future LTFS could also usefully explore how the asset side of the balance sheet would evolve under the alternative scenarios, and make explicit the implications of the assumed path of capital expenditures for the social portfolio component of the balance sheet.

The fiscal assumptions underlying the baseline expenditure projections appear generally appropriate, and broadly in line with those in the international literature (See Box 2 above)⁸⁵. The recently stepped-up efforts by the Treasury to improve the information base on the cost drivers of main spending programmes (discussed further in Chapter VI below) should have a significant payoff in, among other things, increasing the realism of the on-present-policies long-term expenditure projections. An expanded information base would also be important for the additional work needed to quantify feasible savings in expenditures controlled by operating allowances, and the likely time profile of such savings.

The Treasury should be commended for extending its analysis of corrective policy options beyond their impact on fiscal sustainability, and for developing a fairly comprehensive, but still operational, tool for assessing their effects on other dimensions of welfare. In so doing, it has aligned New Zealand with a growing group of countries and international institutions that are focusing on the inclusiveness and sustainability of economic growth, not just its speed.

⁸⁴ See for example Kumar and Woo, 2010; and Baldacci and Kumar, 2010. The OECD long-term fiscal projections assume that the risk premium, and consequently the cost of the public debt, rises with the size of the debt (Merola and Sutherland, 2012).

⁸⁵ It should be noted, however, that the recent OECD and IMF estimates of the excess in the growth of health spending per capita over the growth of GDP per capita for New Zealand are somewhat higher than those implicit in the LTFS, suggesting that the latter may be, if anything, on the optimistic side.

The analysis of policy options within this expanded framework in the 2013 LTFS is still largely qualitative, except for the assessment of the fiscal impact of some of the options. The development of appropriate tools for more quantified analyses within the LSF is clearly on the Treasury's agenda⁸⁶, and future LTFS can be expected to include additional such analyses. However, as the brief review in the previous section has made clear, even the qualitative assessments included in the 2013 LTFS and related background papers are very useful in highlighting the, sometimes difficult, trade-offs that New Zealand's policy makers will face in trying to maintain a sustainable fiscal position in the medium to long term.

The assessments also point to opportunities for exploiting synergies among the objectives (e.g. redirecting subsidies for ECE to lower-income groups would serve both equity and growth objectives; raising the retirement age would improve fiscal sustainability, while increasing labour force participation, and intergenerational equity), and for combining different policy instruments into packages that minimize net losses for the affected groups (an example being an increase in the GST rate, with part of the additional revenues being utilised to boost welfare benefits for the low income groups initially more affected by the rate increase).

The Treasury has avoided recommending in the LTFS any specific policy or package of policies, appropriately regarding such a choice as the Government's responsibility. However, it could have more explicitly recognised that, given the growing size of the gap between the "resume historic cost growth" projections and a prudent debt scenario, it would be increasingly difficult over time to bridge such gap through only a protracted compression of the expenditures controlled through operating and capital allowances. Accordingly, future Treasury advice should highlight the need for a balanced package of corrective policies, including as well revenue-raising reforms, reforms of the Superannuation system, and actions to contain the demand for ageing-related public services. An early adoption of such reforms would allow them to be implemented in a gradual and more socially acceptable manner.

Future revenue-raising reforms should be designed to be as efficiency- and equity-friendly as possible. The Treasury's analysis of tax reform options, which is in line with prevailing views in the international literature in this area⁸⁷, suggests that measures to broaden the tax base (such as a capital gains and a land tax) would perform best on both counts, although careful preparations would be needed to optimize their design and implement them effectively. It should be noted that New Zealand is an outlier in the OECD context as regards the taxation of capital gains. Also, most OECD countries get more revenue from property taxes than New Zealand does, although in general such taxes are assigned to local Governments to fund their spending responsibilities (typically significantly greater than in New Zealand).

Reforms of the Superannuation system would need to be both adequately effective in curbing the projected growth of pension spending, and socially acceptable. International experience with pension reforms (summarized in Box 4 below) suggests that there is no one-size-fits-all prescription in this area, as some countries have relied on parametric reforms (such as raising the pensionable age, reducing replacement rates, or modifying indexation mechanisms), others have enacted more fundamental reforms (such as shifts from defined-benefits to defined-contributions regimes, or from PAYGO to SAYGO ones), and yet others have combined elements of the two approaches.

⁸⁶ The analysis in Law, 2013 of the effects of alternative reforms of NZS on private and national savings, using an overlapping-generations model, constitutes a good example of this work.

⁸⁷ See, among others, Johansson and others, 2008; Arnold and others, 2011, and Wohlbier and others, 2014 for reviews of this literature; and Roeger and Int' Veld, 2010; EC, 2011 and 2013; and Coenen and others, 2012 for recent empirical analyses of the effects of different tax reforms on short and long-term growth.

Box 4: Recent experiences with pension reform in OECD countries

Pension reform has been high on OECD countries' policy agenda in recent decades, reflecting Governments' growing concerns about the long-term financial sustainability of existing pension systems in a context of (more or less rapidly) ageing populations.

Pension reforms have primarily aimed at balancing the objective of ensuring fiscal sustainability with that of adequately protecting the living standards of current and future pensioners. Subsidiary objectives have been: further extending the coverage of existing pension systems, to fill remaining gaps; providing incentives for individuals to work longer and to save more during their active lives; minimizing the running costs of both public and private pension systems through administrative efficiency gains; and promoting diversification of retirement income sources.

The mix of these –sometimes conflicting, sometimes complementary – reform objectives, has varied across countries reflecting a broad range of factors: the nature (e.g. defined-benefit or defined contribution), specific features (e.g. extent of coverage; level and variance of replacement rates; mechanism of indexation of benefits), and funding regimes (pay-as-you-go (PAYGO) or pre-funded (SAYGO)) of existing pension systems; the speed of population ageing; the overall state of the country's public finances; and socio-political factors, such as the degree of aversion to old-age poverty.

The table below, drawn from the 2013 issue of the OECD's *Pensions at a Glance* publication, provides a broad characterization of the pension reforms undertaken by OECD members in the years since the global financial crisis. The table suggests that most reforms have focused on strengthening the financial sustainability of public pension systems. Several countries have also taken steps to improve the adequacy of pension benefits for lower-income groups, and to lengthen working lives (the latter objective being complementary to the financial sustainability one). Fewer countries have focused on improving coverage (which in most OECD countries is already quite comprehensive), and diversifying sources of retirement income; and even fewer on administrative efficiency gains.

Table 1 Overview of pension reform measures in 34 OECD countries, 2009-13

	Coverage	Adequacy	Sustainability	Work incentives	Administrative efficiency	Diversification /security	Other
Australia	X	X	X	X	X		X
Austria	X	X	X				X
Belgium				X			
Canada	X		X	X		X	X
Chile	X	X			X	X	X
Czech Republic			X	X		X	
Denmark				X	X		
Estonia		X	X	X	X	X	
Finland	X	X	X	X		X	
France	X	X	X	X			X
Germany		X	X	X			
Greece		X	X	X	X		
Hungary		X	X	X		X	X
Iceland							X
Ireland	X		X	X		X	X
Israel	X	X				X	
Italy		X	X	X	X		
Japan	X	X	X		X		X
Korea	X		X		X		
Luxembourg	X		X	X			
Mexico		X			X	X	
Netherlands						X	
New Zealand		X	X				X
Norway		X	X	X			
Poland	X		X	X		X	
Portugal	X	X	X	X		X	
Slovak Republic			X		X	X	
Slovenia			X	X			
Slovenia	X	X	X	X	X	X	X
Spain		X	X	X			
Sweden		X	X	X	X	X	
Switzerland			X			X	
Turkey				X		X	X
United Kingdom	X	X	X	X	X	X	X
United States	X	X	X				

Source: OECD, 2013

Pension reforms fall into two broad categories: parametric and structural. Parametric reforms focus on adjustments in the main parameters of existing systems, such as: the age of statutory retirement; penalties for early retirement; contribution rates; determination of the base of the pension and the income replacement rate; indexation of benefits; survivor benefits, etc. Structural reforms entail more fundamental changes in the nature or funding of pension systems, such as a shift from a defined benefit to a defined contribution regime; or from PAYGO to SAYGO; or from a public to a privately administered system.

Parametric reforms have far outnumbered structural ones in OECD countries in recent years. The most common reforms have involved increases in statutory retirement ages (generally phased over a number of years). As a consequence, in the majority of OECD countries the statutory retirement age will have risen to 67 years for both men and women by the middle of this century. A few countries have also linked it to the evolution of life expectancy. Most countries have also increased financial penalties for early retirement, to promote closer alignment of the effective with the statutory age of retirement.

A number of countries have also undertaken reforms of benefit systems, including to lengthen the period on which the pensionable base is calculated; to reduce replacement rates, especially for upper-income workers; or to modify the indexation mechanism (e.g. shifting from wage to price indexation). In general, countries that have curtailed pension benefits, often in the context of overall fiscal consolidation programmes, have tried to protect lower income pensioners by improving minimum pensions and/or exempting them from temporary freezes in indexation.

At the same time as cutting back on future pension promises, a number of countries have introduced or strengthened existing mechanisms to complement public pensions, such as mandatory, automatic-enrolment, or voluntary retirement saving schemes, frequently with a tax subsidy. Several have also taken steps to reduce the administrative costs of such schemes and to strengthen their regulatory framework⁸⁸.

The Treasury's analysis provides a comprehensive discussion of the trade-offs to be confronted in pension reforms in New Zealand's circumstances. In the light of this analysis, it would appear that a combination of progressive increases in the pensionable age, and the introduction of a compulsory saving scheme may be less likely to face strong social opposition than changes in the indexation mechanism that would lead to an increase over time in relative poverty levels.

As regards the other major category of ageing-related public spending, namely health and long-term care, a number of countries have taken steps in recent years to moderate the demand for, and make more cost-effective the supply of these services (Box 5).

⁸⁸ More details on the nature of the reforms can be found in Ch. 1 of the 2013 issue of the OECD's *Pensions at a Glance*. For a recent interesting analysis of the distributional effects of recent pension reforms in a number of OECD and non-OECD countries, see Clements, Eich and Gupta, 2014.

Box 5: Experiences of advanced economies in containing health spending

Public spending on health and long-term care already represents on average around 6 percent of GDP in the OECD area and, in the absence of effective corrective action, is projected to double in relation to GDP over the next 40 years⁸⁹, reflecting the impact of ageing populations, relatively low productivity of labour in the sector (the “Baumol effect”), income growth, and technological advances that boost the demand for high-cost medical services. This underscores the importance of identifying and implementing reforms to contain health spending over the short to longer term. In a recent study⁹⁰, the IMF staff has analysed the effectiveness of various types of reforms to curb health spending undertaken by OECD countries in recent years, using a range of techniques, including eight case studies of successful reform efforts⁹¹, event studies based on a sample of 24 countries, and econometric analyses based on the OECD database on efficiency and other characteristics of public health systems in the area⁹².

The study groups the reforms under three broad headings:

- Macro-level controls, including:
 - Budgetary caps on health spending (either total or for specific sub-sectors)
 - Supply controls (such as limits on the list of goods and services provided by public providers, or eligible for public reimbursement, if provided by private ones); and
 - Controls on the prices of health care inputs (e.g. salaries of doctors and nurses in public hospitals) or outputs (pharmaceutical products or selected medical treatments)
- Micro-level reforms, including:
 - Steps to strengthen the accountability and coordination of public health providers (primary health care organizations and hospitals); reduce duplication of services; and introduce gate-keeping arrangements
 - Changes in contracting arrangements (e.g. shift from fee-for-service to capitation- or case load-based reimbursement systems); and
 - Introduction of market-type mechanisms in the delivery of health services (e.g. separating the purchaser and provider functions of hospitals, stimulating competition among health services providers, and allowing patients greater choice of physicians and hospitals); and
- Demand-side reforms, to increase the share of health care costs borne by patients, with a view to avoiding excessive consumption of health services. These have included the introduction or increase of co-payments, and changes in the tax treatment of private insurance plans.

The empirical analyses in the study suggest that effective reforms typically tend to include a mix of macro and micro-level reforms. Budget caps; the introduction of market type mechanisms; the devolution of health spending to subnational Governments, but under hard budget constraints; and demand-side reforms, appear to have been the more effective approaches to curbing health spending. In contrast, price controls and reliance on systems that leave more freedom to insurers have tended to increase health spending.

The study notes, however, that a protracted use of tight budget caps can lead to a deterioration of the quality of services (e.g. unduly lengthy waiting periods for surgery and specialized diagnostic treatments), as witnessed by experiences in e.g. Canada and the UK. Substantial use of co-payments can create inequities in access to health services (unless the co-payments can be effectively means-tested) and create inefficiencies (such as a shift from less expensive services (such as primary care) that are subject to co-payments to more expensive ones (hospital care) that are free from them.

⁸⁹ Soto, Shang and Coady, 2013

⁹⁰ Tyson, Kashiwase, Soto and Clements, 2013

⁹¹ These include reforms in Canada, Finland, Germany, Italy, the Netherlands, Sweden, the UK and the US, mostly implemented during the 1980s and 1990s.

⁹² See Joumard and Nicq, 2010 for an extensive discussion of this database.

The Treasury's analysis of options to improve the efficiency and effectiveness of the health system in New Zealand is largely in line with the lessons from international experiences briefly reviewed in Box 5. The stepped-up efforts the Treasury is currently engaged in, to strengthen its information base on performance indicators for health spending (see Chapter VI below), should prove very beneficial in the medium term in allowing a quantification of potential savings from supply-side type measures. As regards demand-side type measures, an appropriate means-testing of co-payments should allow a balancing of budgetary savings with equity objectives. More generally, a greater reliance on means-testing of various types of social subsidies (e.g. for early child education and student loans) would help contain spending on these services without jeopardizing vertical equity.

VI The Treasury's role in performance-oriented financial management

1 Overview

New Zealand has a long tradition of performance-oriented public financial management (PFM), underpinned by a well-defined accountability framework for all public officials; use of accrual accounting and budgeting (supplemented by cash-flow information) under Generally Accepted Accounting Practice (GAAP); appropriation of budgetary resources by outputs, rather than inputs⁹³; costing of outputs; and the use of capital charges for net assets of departments and selected Crown entities.

These features are widely recognised in the international literature as key building blocks of effective performance-oriented PFM⁹⁴. In this literature, New Zealand is generally characterized as a first-class performer, especially in terms of transparency, breadth of coverage of the financial management system, probity in the use of public resources, and commitment to fiscal responsibility⁹⁵.

Nevertheless – as recognised in various official documents, including reports by the Controller and Auditor General⁹⁶, the State Services Commission, and the Treasury – there is scope for improvement, especially as concerns strengthening the efficiency and effectiveness of Government spending.

a Government-wide initiatives to strengthen performance in PFM

Improving the value New Zealanders receive for their tax money through the provision of public goods and services has been a priority for the Government, especially in recent years, when efforts to return to an operating surplus and reduce the net public debt, while eschewing tax increases, have required strict containment of the discretionary spending controlled by operating and capital allowances⁹⁷. Moreover, as discussed in the previous section, continued restraint in these expenditures, which encompass most of non-transfer spending, is certain to be a key component of any programme of actions to ensure long-term fiscal sustainability in a context of ageing population.

In an environment of spending restraint, it is especially important for policy makers to define key budgetary priorities, and to reallocate resources accordingly. With its Better Public Services initiative, the Government has identified some priority target outcomes for the next four years in the areas of reducing long-term welfare dependence, supporting vulnerable children, boosting skills and employment, reducing crime, and improving citizens' interactions with Government. These are all ambitious, multi-dimensional objectives, likely to require coordinated actions across a number of expenditure programmes.

⁹³ Treasury, 2011b

⁹⁴ See OECD, 2007; Robinson, 2007 and 2013; Cangiano, Curristine and Lazare, eds., 2013, and Schick, 2013 for various international perspectives and practices in performance budgeting.

⁹⁵ New Zealand scored best, together with Denmark, in 2013 in Transparency International's (TI) Index of Perception of Corruption, with a score of 90 (with 100 indicating very clean and 0 very corrupt) in a sample of 177 countries. The 2013 National Integrity System Assessment by TI also found that New Zealand's national integrity system remains fundamentally strong, albeit facing increasing challenges; and made a number of recommendations for improvements. The assessment can be accessed at www.transparency.org.nz/nis

⁹⁶ CGA, 2012

⁹⁷ The fact that the allowances have been fixed in nominal terms in recent years has implied that aggregate discretionary spending has been cut in real terms by some 2 percent a year or so.

The Government is seeking to expand its “investment approach” to welfare reform (aimed at identifying obstacles to exit from unwarranted welfare dependence, and concentrating budgetary resources on actions that can be expected to most effectively tackle such obstacles, as discussed in Box 2 above) to other areas of spending, e.g. Justice (through an integrated approach to interventions in the police, courts and correction branches to minimize recidivism risks), and by supporting vulnerable children through better- coordinated interventions in the health and education areas.

In 2013, recognising that the investment approach would require a better-coordinated capability across Government to share and use data to analyse the impact of Government services and interventions from a recipient-centred perspective, Cabinet approved the establishment of an “Analytics and Insights” team to conduct system-level analysis. The team forms part of the State Sector Performance Hub in the Corporate Centre of Government⁹⁸. It works with Statistics New Zealand to increase the capacity of the SNZ’s Integrated Data Infrastructure (IDI), and improve access to it.

The Analytics and Insights team is working in partnership with various agencies to link system-level, multi-agency data securely held in the IDI, to understand how New Zealanders interact with Government services, and how such services affect long-term outcomes such as employment and earnings, benefit receipt and educational attainment. By applying analytics, the team can begin to identify trends, likely outcomes, and better predict the potential effects of policy interventions. This analysis is expected to inform Government agencies’ policies and investment decisions, and ultimately to help lift agencies’ performance.

In addition to the flagship Better Public Services whole-of-Government goals, individual Ministries have traditionally set out in their annual Statements of Intent (SOI) more or less quantified target outcomes for their respective sectors, and outlined main actions to pursue the targets during the budget period. More recently, growing recognition that the pursuit of, and accountability for, results requires focus on a longer time horizon than the budget year has led to requiring Departments and other Core Crown agencies to prepare Four-year Plans and Ten-year Capital Intentions Plans.

In the Four-year Plans – which are intended for internal Government use, and to be maintained and updated as needed – ministries are expected to outline their proposed strategic directions; their plans for delivery of services over the plan period; how they intend to manage spending pressures within the fixed budget baselines; their major projects; and their organization capabilities and workforce planning. The aim is to promote, through the preparation of these documents, and their subsequent discussion in Cabinet, greater focus of ministries on strategic choices, and on performance in terms of results.

To promote departmental focus on performance, the Performance Improvement Framework (PIF) - essentially a review (self-assessment or by an independent external agent) of Government agencies’ fitness for current and future purposes - has been significantly expanded. The review includes 28 questions aimed at assessing how well an agency is responding to Government priorities; how efficiently and effectively it is delivering on its core business; and how well it is faring on leadership, strategic direction, relations with stakeholders, workforce development, and financial management. The PIF model and initial findings of such reviews are outlined by the State Services Commission (the initiator of the programme) on its website.

⁹⁸ The Corporate Center includes the Department of the Prime Minister and Cabinet, the State Services Commission and the Treasury.

b The Treasury's role

A key responsibility of the Treasury has traditionally been to advise the Cabinet, during the budget preparation process, on the allocation of the operating and capital allowances among the various Votes⁹⁹, as well as on proposed appropriations for welfare benefits and other unrequited expenditures. Therefore, the Treasury is the main agency supporting the Cabinet in balancing priorities through the budget process. The Treasury is also responsible for monitoring the execution of the budget, on the basis of reports by individual ministries¹⁰⁰; for preparing the six-months economic and budgetary updates; and for advising the Cabinet of significant risks to the budget implementation.

The Treasury also plays a key role in the above-mentioned efforts to improve the taxpayers' value-for-money from public spending and from the Crown's assets. This involves advising the Cabinet not only on how departmental operating and capital spending requests conform to the Government's announced priorities, but also on the sustainability, efficiency, and effectiveness (impact on targeted outcomes) of the programmes funded by those requests. Moreover, the Treasury is striving to include capital efficiency into value-for-money considerations. This reflects a growing recognition of the interrelations between the effectiveness and efficiency of physical assets, on the one hand, and the related operating spending, on the other hand (i.e. a focus on the whole-of-life cost of public assets).

In its recent Statements of Intent, the Treasury has highlighted as a key objective enhancing its capability to deliver on these responsibilities. To achieve this objective, the Treasury needs a significant improvement in its information base.

It is widely recognised that, while financial information on state operations is – and has been for years – ample, timely, and reliable in New Zealand, information relating to performance is much less so. A recent analysis by Price Waterhouse Coopers¹⁰¹ concluded that the Treasury does not currently have adequate information and analytical tools to regularly and reliably measure the efficiency of expenditure programmes across the state sector, and that it does so only partially as regards the assessment of sustainability and effectiveness (in terms of social impact) of such programmes.

Recognising the need to “lift its game” in this respect¹⁰², the Treasury has set up a dedicated team to:

- Identify information requirements from the relevant departments and agencies, regarding costs, impact, and risks of various spending programmes
- Discuss and agree with the departments systems for regular provision of the necessary data; and
- Work with the internal Treasury sector teams to build tools and capacities for analysing such information, and reporting periodically to the Cabinet on their findings.

The enhanced Treasury monitoring framework is organized in four tiers. Box 6 below indicates the questions that the performance information will help address.

⁹⁹ Votes are groupings of appropriations that are the responsibility of one or more Ministers and are administered by one Department.

¹⁰⁰ Departments' Chief Executives regularly provide financial information to the Treasury through the CFISnet system.

¹⁰¹ PWC, 2013

¹⁰² Treasury staff refer to this objective as strengthening the Ministry of Finance (as distinct from the Ministry of Economy) role of the institution.

Box 6: Questions to be addressed by the Treasury's enhanced performance information base

Tier 1: Controls and monitoring	Tier 2: Outlook and sustainability
<ul style="list-style-type: none"> ▪ How are budgets tracking against forecasts? ▪ What is the resilience and stability of agencies' balance sheets? ▪ What impact would external shocks have? 	<ul style="list-style-type: none"> ▪ What are the long-term cost pressures and how well are they being managed? ▪ How effectively are agencies managing their capital expenditure?
Tier 3: Efficiency	Tier 4: Effectiveness
<ul style="list-style-type: none"> ▪ Is production efficient, in terms of outputs for inputs? ▪ Are agencies being efficiently managed? ▪ How does performance compare across agencies? 	<ul style="list-style-type: none"> ▪ How effectively are outputs generating outcomes? ▪ Would reallocation of resources support better outcomes? ▪ Can expected long-term liabilities be reduced by reallocating spending? ▪ What is the opportunity cost of capital invested?

The indicators to be assembled will vary depending on the nature and specific characteristics of each agency. For example, in the health sector, financial, cost, efficiency and outcome indicators will have to be collected both at the aggregate and the individual DHB level. This will allow comparisons and benchmarking, with a view to identifying best and worst practices, promoting the diffusion of the former, and proposing appropriate courses of action to correct the latter. The Treasury has been engaging with key spending departments, in particular Health and Justice so far, to design in a collaborative way appropriate specific work plans for the implementation of the monitoring framework.

In addition, the Treasury is stepping up its efforts to improve the evidence base on the current state and prospects of the social assets portfolio, including large-scale infrastructures. This work is being carried out in close cooperation with the relevant national agencies and with local Governments, as well as with private sector entities involved in the construction and management of some of the assets. It will feed into the preparation of the next National Infrastructure Plan, scheduled for 2015.

The efforts include the development of a number of indicators of performance of existing social and productive assets, based on currently available relevant data; the identification of key information gaps; the preparation of a central scenario, an upside one and a downside one, to assess the impact of projected relevant demographic, economic, resource and technological trends on the demand for infrastructure over the medium to long term; resilience assessments to identify major infrastructure vulnerabilities; and the preparation of a 10-year Capital Intentions Plan (Box 7)¹⁰³ reporting on current investment plans of capital-intensive agencies.

¹⁰³ Details on these initiatives can be found on the NIU website: www.infrastructure.govt.nz

Box 7: The 2013/14 Ten-Year Capital Intentions Plan

The 2013/14 Ten-Year Capital Intentions Plan constitutes the first attempt by the Treasury's National Infrastructure Unit (NIU) to provide a comprehensive overview of investments planned by the Central Government, Local Governments, and the private sector in the whole range of infrastructure sectors (although the main focus of the report is on infrastructures in the social sectors, in which the public sector plays a larger role).

Importantly, the document reports on current investment intentions, which can be expected to change over the plan period in reflection of evolving demographic and economic circumstances, societal preferences and Government priorities, as well as budgetary constraints. Moreover, a number of the proposed projects have not yet undergone the scrutiny of the Better Business Case process (see Ch. VII below). Despite these limitations, inherent in any long-term planning process, the Plan provides a useful snapshot of the relevant agencies' perceptions of the current state of infrastructures, and of related vulnerabilities and demand pressures in their respective areas; and of their proposed actions to address both.

The Plan includes over 3150 infrastructure-related projects, for a total value of NZ\$ 92 billion, of which more than half would be carried out by the Central Government. The Transport, Defence, Education and Health sectors (in descending order) account for most of these planned investments. A large share of the local Governments' investments is accounted for by the Auckland Council.

The Treasury expects that these efforts will substantially enhance over time its capacity to accurately estimate and project the cost drivers of main operating and capital expenditures; and to advise the Government about actions to reduce such costs, enhance the effectiveness of spending and asset management programmes in terms of desired outcomes, and facilitate an appropriate (total or partial) reallocation of the savings within the sector, or across sectors.

2 Commentary

a International background

New Zealand is certainly not alone in facing the challenge of reconciling the need for further fiscal consolidation – also in view of the long-term spending pressures related to population ageing – with the social and political imperative of continuing to improve the level and quality of essential public services, especially to its needier citizens. In the aftermath of the ravages wrought by the global financial crisis on the public finances of advanced countries¹⁰⁴, most Governments in these countries are struggling with the same challenges, often to a more acute degree than New Zealand.

For the most part, crisis countries, especially in the Euro area, have been forced to give priority to rapid fiscal consolidation, resorting to emergency revenue-raising measures and broad-based spending cuts, often with significant costs in terms of efficiency, social cohesion, and political support. Other countries with lesser financing constraints or debt sustainability concerns, have sought to create “fiscal space” for new spending initiatives not only through policy and administration measures to boost revenues, but also by reviewing and reprioritizing existing spending, and through efficiency gains¹⁰⁵.

¹⁰⁴ The challenges also exist in most emerging markets, as debt tolerance levels are lower in these countries, and they face greater social and physical infrastructure gaps and, in many cases, lower revenues from natural resources than during the recent commodity prices boom.

¹⁰⁵ See Marcel, 2012, and Hawkesworth and Klepsvik, 2013 for reviews of recent experiences of OECD countries in this area.

The main approaches to expenditure rationalization have included:

- Comprehensive or multi-sector (strategic), or sector- or programme-specific (efficiency-oriented) spending reviews. Box 8 below briefly reviews international experience with such reviews
- An increased use of automatic “productivity dividends”¹⁰⁶; and
- Steps to strengthen line-ministries’ accountability for results, and to improve the performance information available to central budget authorities. These steps have sought to strengthen spending agencies’ incentives to perform, while reducing the information asymmetries that decentralized systems of financial management create between the agencies and the central budget authority. Box 9 outlines some lessons from international experience with the use of performance information in budgeting and public financial management. Box 10 discusses in more detail Australia’s experience with the use of such information for the main social services.

A number of countries have used all three types of approaches, recognising that:

- Spending reviews can be most effective in identifying the scope for efficient savings when reliable information is available on the results (impact on outcomes) of different spending programmes and on their cost-effectiveness (value-for-money); and
- “Productivity dividend” requirements incentivize spending units to collaborate with central budget authorities in the identification of such savings, especially when they can expect to see at least part of the savings reallocated to other spending programmes under their responsibility.

¹⁰⁶ See Curristine and Flynn, 2013 for a discussion of this practice.

Box 8: Spending reviews

Spending reviews are a tool for creating “fiscal space” through the identification of potential savings in low-priority or relatively inefficient expenditure programmes. The savings can be reallocated to higher-priority or new programmes; to financing tax cuts; or to improving the budget balance and reducing the public debt. A key feature of spending reviews is that they focus on a scrutiny of baseline operating and capital expenditures, thus counteracting the tendency in budgetary processes to concentrate on new additional expenditures, which typically constitute a small fraction of total budgetary spending.

Spending reviews can take many different forms, reflecting differences in coverage, focus and frequency. Specifically, they can be comprehensive, encompassing all or most major expenditure programmes, or selective, focusing on specific programmes or cross-cutting processes, such as systems and practices in procurement or information technologies (IT). They can focus primarily on efficiency savings (efficiency reviews), or on identifying and cutting back lower-priority programmes (strategic reviews). They can be ad-hoc or typically, more comprehensive reviews tend to be carried out at lower frequencies than more selective ones.

Prior to the global financial crisis (GFC), most spending reviews were either ad-hoc comprehensive ones, aimed at identifying large budgetary savings required by fiscal consolidation needs (e.g. the Canadian Programme Reviews of the mid-1990s, and the Australian expenditure reviews of the late 1970s and mid 1980s); or efficiency-focused ones (such as those conducted on an annual selective basis in Denmark (the so-called Special Studies) and Finland (the so-called Productivity Programme); and the 2004 Gershon Efficiency Review in the UK).

In the last several years, in the aftermath of the GFC, the number of countries undertaking systematic spending reviews has expanded rapidly, reflecting a growing fiscal consolidation imperative. A 2012 OECD survey found that 17 countries reported carrying out systematic spending review processes, aimed at generating significant budgetary savings. Among leading examples of such reviews are: the 2010 Comprehensive Spending Review in the UK, carried out by the new conservative coalition to deliver major spending cuts; and comprehensive spending reviews carried out by the Netherlands in 2010, Australia in 2008-10, Canada annually as from 2007, and Ireland in 2008, and on a triennial basis from 2011 onwards.

Various analyses of international experiences with spending reviews¹⁰⁷ point to the following main lessons:

- Reviews should cover all Government spending, both operating and capital, although not necessarily all at the same time. In particular, they should include a systematic scrutiny of entitlement programmes, with a view to identifying any legislative action needed to adjust the design of such programmes to deliver targeted savings
- Reviews should be fully integrated into the budget process. This argues for privileging annual review cycles, covering on a rotating basis selected spending programmes or processes, preferably in related sectors. Nevertheless, there may also be scope for one-off, more comprehensive reviews, e.g. at the outset of a new Government
- Strong political support from the top of Government is essential for the success of spending reviews. The Government leadership should be fully involved in determining the key parameters of the review (i.e. its coverage, focus, and extent of targeted savings); in mandating the cooperation of spending ministers and departments; and in reflecting the findings of the review into budgetary decisions
- The Central Budget Authority (Ministry of Finance or Treasury) should have a key role in advising the Government leadership on the above-mentioned decisions; and should scrutinize, and challenge as appropriate, spending ministries' proposals for budgetary savings. A strong information base, with appropriate and timely indicators of efficiency and effectiveness of spending programmes and of Government assets, is crucial for the success of this role of the Central Budget Authority

¹⁰⁷ See e.g. Robinson, 2013 and Hawkesworth and Klepsvik, 2013.

- Spending ministries' cooperation is more likely to be forthcoming if they can hope to see part of the savings reallocated to some of their own programmes
- Evaluations by outside experts of selected programmes or processes being reviewed can usefully complement the analyses carried out by the staff of spending ministries or of the Ministry of Finance.

Box 9: The nature and use of performance information in public budgeting and financial management in OECD countries

For several decades countries, especially advanced ones, have collected information on budgetary variables that goes beyond financial reporting, and provides insights into the efficiency and effectiveness of spending programmes. The breadth and use of such information have varied, however, significantly across countries and over time. The literature distinguishes three main types of uses of performance information in public financial management (PFM):

- Performance reporting, i.e. the inclusion of indicators of outputs and outcomes of different spending programmes in budget documents, with the main purpose of promoting accountability of Government agencies in the use of public money vis-à-vis the Parliament and society at large Performance-oriented budgeting, whereby performance indicators are used to inform, but not determine, the allocation of budgetary resources among different programmes; and
- Performance budgeting *stricto sensu*, also referred to as formula funding, whereby performance indicators are used to determine budgetary allocations. This type of use of performance information is typically limited to selected programmes in the education and health sectors.

According to the latest OECD Budget Practices and Procedures Survey (2012-13), in most OECD countries performance information is used more by line ministries for planning and management decisions (i.e. to identify problems or deficiencies in spending programmes, and design corrective strategies) than by the central budget authority (typically the Ministry of Finance) to recommend reallocations of budgetary resources.

Performance information (PI) encompasses indicators of inputs (the resources going into a spending programme, or into the purchase or maintenance of an asset), outputs (the nature and quality of the goods and services provided) and outcomes (achievements in terms of intermediate or high level goals) of public expenditures. This information is used to calculate ratio indicators of productivity (outputs/inputs), efficiency (outputs/costs), effectiveness (outcomes/outputs) and cost-effectiveness (outcomes/costs) of the programmes.

Effective PI requires both a sound accounting system, capable of generating timely and reliable information on the cost of various spending programmes, and the selection of appropriate indicators of the results of such programmes. On the cost accounting side, the biggest challenge is an appropriate allocation of indirect costs (i.e. the costs of activities or inputs (e.g. overheads) which contribute to more than one spending programme). As regards the measurement of results, the challenges are greater for outcomes than for outputs.

The measurement of the quantity of outputs is generally relatively straightforward, but developing adequate indicators of their quality is more problematic, especially as concerns certain types of public services, such as policy advice. Also, quality has several different dimensions (including accessibility, fitness for purpose, timeliness) which may involve trade-offs.

As regards outcomes, the main challenges in developing a relevant set of indicators have to do with distinguishing the impact of spending programmes from that of external factors (e.g. socio-economic differences in different groups of beneficiaries of the goods and services provided by the programmes); allocating results among different contributing programmes; and accounting for outcomes that are difficult to measure (e.g. increased interracial tolerance). Even more difficult is to build equity dimensions into PI.¹⁰⁸

¹⁰⁸ See Robinson, 2007, Ch. 3 and 4 for a detailed discussion of the challenges in generating reliable information on results and costs of spending programmes

Ideally, performance indicators should be SMART (specific, measurable, achievable, relevant and time-bound). However, the indicators used in practice often fall short of one or more of these requirements. It is important to establish targets, or at least baselines for the indicators, against which performance can be measured.

Comparative analyses of actual international experiences with performance indicators for spending programmes are rather scarce. One such analysis of indicators in the sectors of agriculture, health, and transportation in four OECD countries (Australia, Canada, Ireland and the US)¹⁰⁹, based on information up to 2009, and therefore somewhat dated, found the indicators used in the US (and to a lesser extent Canada) to conform to the above-mentioned criteria more than those used by Australia and Ireland. The US uses a significantly smaller number of indicators (mostly outcome-based) than the other countries; it also specifies clear numerical targets for each of them. However, several of the targets are aspirational in nature, in the sense that their achievement is not under the direct control of the agency involved.

Box 10: The Australian Review of Government Service Provision

The Australian annual Review of Government Service Provision was established in 1993 by the Council of Heads of the Commonwealth and the States to provide information on the equity, efficiency and effectiveness of Government services, through the publication of an annual Report on Government Services (RoGS). The Review is managed by a steering committee of representatives of central agencies at the two levels of Government, chaired by the Head of the Australian Productivity Commission (APC), and supported by the staff of the latter. Its focus and methodologies have evolved over the last twenty years, and were significantly streamlined and improved in 2010, following the recommendations of an independent review panel.

The Review focuses mainly on the direct or indirect role of the central and state Governments in the provision of social services (such as education, health and long-term care, welfare assistance, justice, emergency management and housing). Public reporting of the comparative performances of national and sub-national agencies in delivering such services aims at strengthening agencies' accountability to citizens, and at creating incentives for improving such performances.

The 2014 RoGS contains performance information on 16 broad areas of service of key importance to social well-being, which have common or similar objectives across jurisdictions, lending themselves to comparative performance reporting. These services account for nearly 70 percent of operating spending and for about 12 percent of GDP.

The choice of indicators is guided by a number of criteria, including: comprehensiveness, focus on outcomes, meaningfulness, timeliness, comparability, ease of understanding by the public, and data reliability. Although the main focus is on outcomes, the Review also contains a number of output indicators, which, in conjunction with information on inputs, allow the calculation of technical efficiency ratios. It also includes some information on quality dimensions, in particular accessibility, appropriateness, and timeliness of the services surveyed. The RoGS notes, however, that quality information is still inadequate, and that data limitations still hinder the calculation of indicators of cost-effectiveness of the spending programmes.

The Review attempts to weave equity considerations into the performance assessment by comparing the proportion of expenditures on target groups of beneficiaries in total spending on specific services with the corresponding proportion of the target group in the relevant community. It also provides mainly qualitative information on some of the differences that might affect service delivery (e.g. those related to geographic characteristics of different communities), to assist readers in interpreting the performance indicators.

¹⁰⁹ Boyle, 2010

b New Zealand's performance

Against this international background, New Zealand's multi-pronged effort to improve the efficiency and effectiveness of major spending programmes, and of capital assets, appears clearly appropriate. It is especially commendable that this effort involves a holistic, medium-term and recipient-focused approach to the analysis and reform of these programmes (the "investment approach").

In this respect, New Zealand remains in the forefront of sound international practice in performance-oriented public financial management (PFM). As the main adviser to the Government in this area, the Treasury has been spearheading the technical design and the implementation of the approach, playing a key role in the various initiatives outlined in Sect. 1 above.

To maximize effectiveness in its role of Chief Financial Officer for the Government, the Treasury needs:

- To continue to receive strong support by the Government for such a role, ensuring an appropriate balance between the traditionally decentralized responsibilities and accountabilities of individual agencies, and the need for central guidance and oversight in PFM
- To maintain a strong leadership, and a high level of professionalism and expertise in its staff; and
- To significantly improve its performance information base.

While it is not possible to assess in detail, at this early stage of the process, the steps that the Treasury is taking in strengthening its PI base, on a general level it appears that the questions being addressed are relevant and well structured, and that the collaborative approach with spending departments is appropriate.

A few lessons from relevant international experiences can be mentioned here:

- First, when it comes to information, more is not always better. An overload of indicators may obscure, rather than clarifying, key performance issues and trends¹¹⁰. The Treasury's already substantial knowledge of such issues should be fully utilised in designing reporting requirements from spending departments that are as cost-effective as possible
- Second, for purposes of benchmarking New Zealand's performance on those of comparable countries, it would be useful to include in the database some aggregate indicators of efficiency and outcomes that are maintained by international organizations, such as the OECD, on a cross-country basis, e.g. in publications such as "Health at a glance", or "Education at a glance"
- Third, genuine collaboration by spending agencies is likely to be essential to the success of the initiative. This requires not only strong top-down guidance from the highest level of Government, but also the creation of appropriate incentives for the agencies to provide the information. They should see this as a tool to help them, as well as the Treasury, in "lifting their game"; and expect rewards in the form of additional budgetary resources for well-performing programmes, not just cutbacks for poorly-performing ones
- Finally, it is important to recognise that the gathering of performance information, and especially a detailed analysis of it, will take time, and that it would be unrealistic to expect the efforts to yield very rapid gains in terms of budget savings and productivity improvements.

¹¹⁰ See Robinson, 2006 and 2013.

It would also be important to ensure that the enhanced information base is effectively utilised to carry out more systematic spending reviews, both efficiency- and strategically-focused ones, than has been the case so far. A strengthened programme of spending reviews could usefully include:

- An annual programme of mainly efficiency-focused reviews of performance of a number of spending programmes, selected on a rotating basis; and
- More in-depth strategic reviews (of the types conducted in recent years for defence and social welfare programmes) for major spending areas, on a rotating multi-annual basis. Especially in light of the finding by the SSC¹¹¹ that collaboration among spending department and agencies involved in spending programmes spanning more than one Vote is often less effective than desirable, it would be important to ensure that the related reviews cover simultaneously all the entities involved.

Consideration should also be given to the possibility of conducting occasional (e.g. at the outset of a new administration) more comprehensive strategic spending reviews, to reassess the balance of budget priorities for the five years covered by the Fiscal Strategy Report.

It would be important that the reviews (especially the strategic ones) focus on both policy and management choices, and that they include not only the categories of expenditures that are controlled through the operating and capital allowances, but also social benefits programmes, notably the NZS. Excluding pension benefits from spending review would be tantamount to an a-priori intergenerational value judgment (e.g. privileging current over future taxpayers, or seniors over children), the appropriateness of which would be better assessed after the review.

¹¹¹ See the SSC website on initial results of PIFs.

VII The Treasury's role in balance sheet management

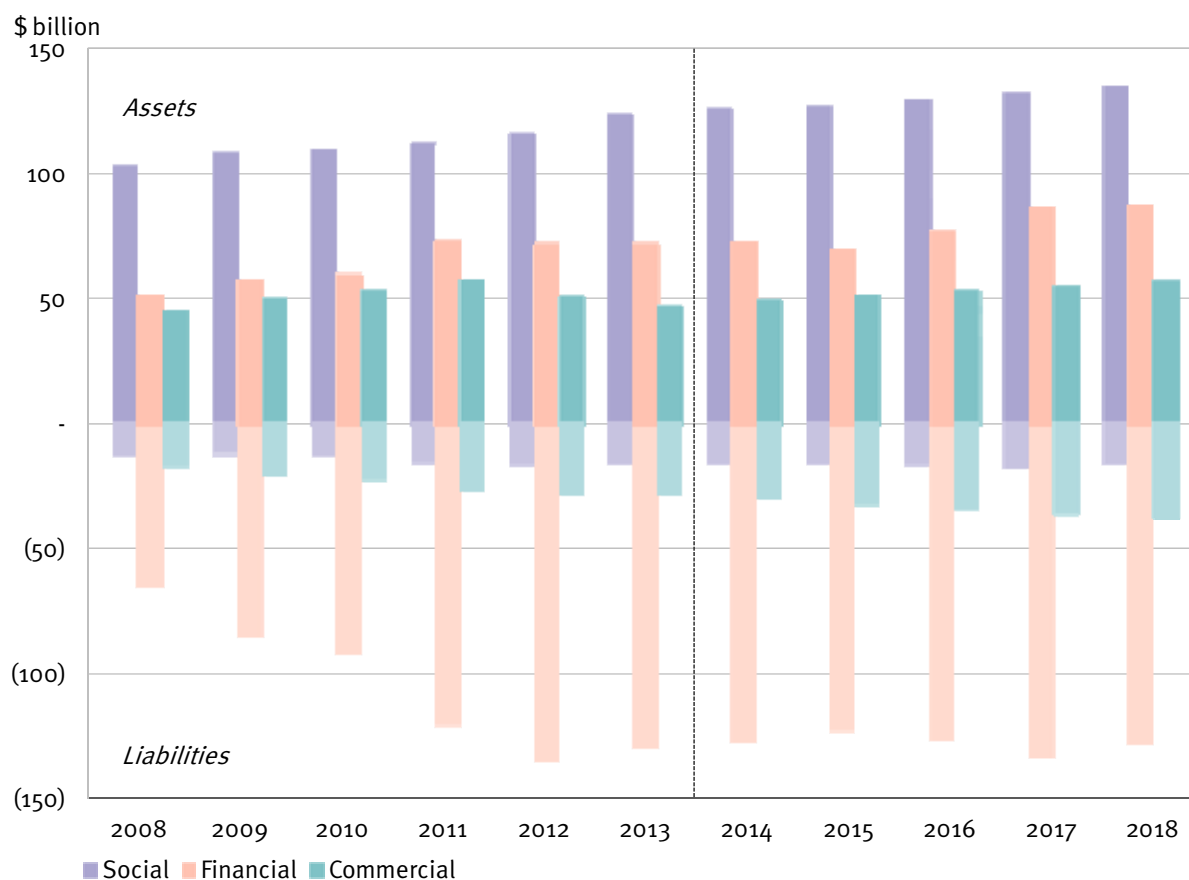
1 Overview

a Size and composition of the Crown's balance sheet

New Zealand has been a pioneer in focusing on the Government's balance sheet as an indicator of both sovereign solvency and capacity to deliver over time public goods and services to the population. It was the first country to publish a complete balance sheet of the Crown, compiled in accordance with GAAP, and it continues to publish monthly updates of it in the *Financial Statements of the Government of New Zealand (FSGNZ)*.

The Crown's balance sheet is large and growing. In mid-2013, assets totalled NZD244.4 billion and liabilities NZD174.4 billion, for a net worth of NZD70 billion, nearly 33 percent of GDP. The composition of the asset portfolio is currently weighted in favour of social assets (property and equipment, tax receivables, student loans and non-commercial Crown companies) which represent about 51 percent of the total (Fig. 8). Almost half of the social assets portfolio is held in three areas (transport, social housing, and primary and secondary schools). Social assets are projected by the Treasury to grow moderately (by around 9 percent cumulatively) over the next five years.

Figure 8 – Composition of the Crown’s balance sheet



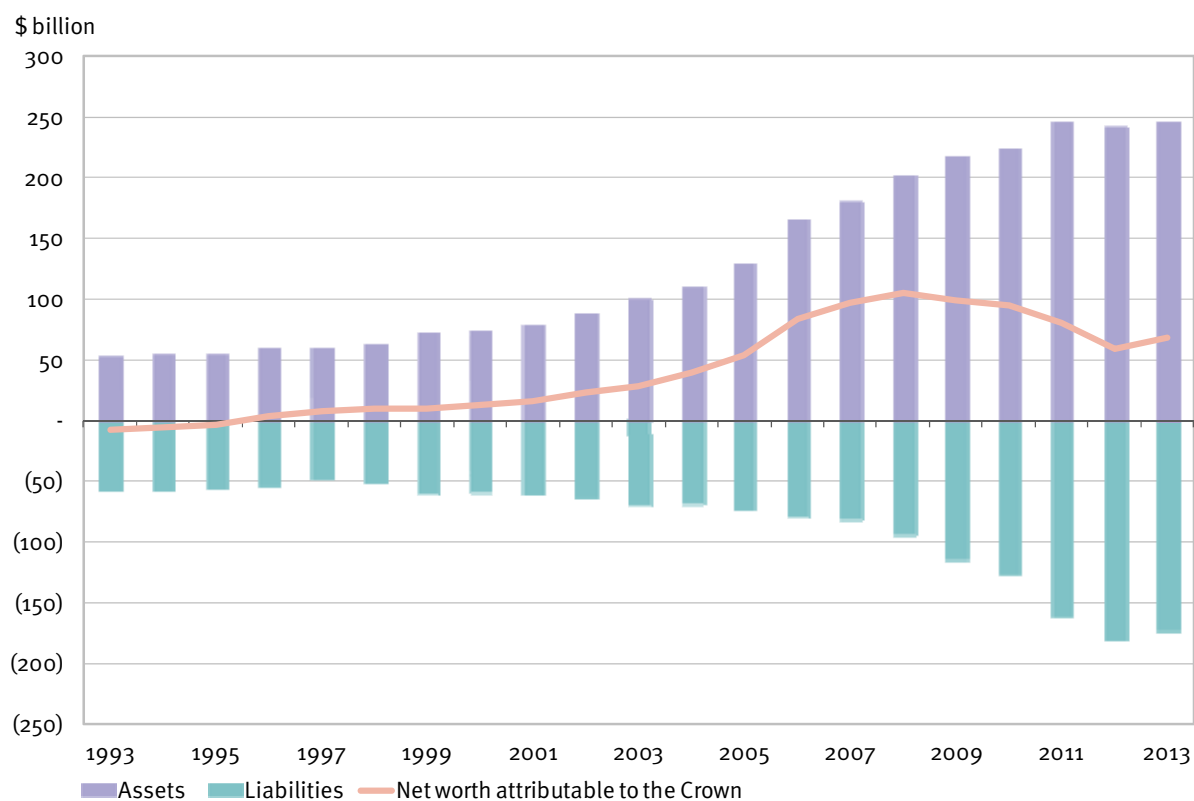
Source: NZ Treasury, Investment Statement 2014

Financial assets are held by the NZ Debt Management Office (NZDMO), the RBNZ, and the other Crown Financial Institutions, the most important of which are the NZSF, the Accident Compensation Corporation (ACC), the NDF, managed by the Earthquake Commission (EQC), and the GSF. They currently account for about 30 percent of total assets, but their share has been steadily increasing, and is projected by the Treasury to continue to do so in the next several years, reflecting expected strong returns on the existing assets. 79 percent of financial assets are held in the form of marketable securities and shares. The bulk (57 percent) of financial liabilities is accounted for by Government’s and SOEs’ debt, the rest being composed of insurance liabilities, contractual retirement obligations, and currency issued. The core Crown’s net debt was equivalent to about 27 percent of GDP in February 2014, and was forecast in the December 2013 HYEPU to decline to 22.3 percent of GDP by mid-2018.

The commercial assets portfolio includes a range of business with commercial objectives. The main ones are in the energy, transport and postal areas. These entities are run by Boards of Directors; are subject to the same fiscal regime as private companies; do not receive special subsidies; and are expected to produce adequate returns on the Crown’s resources invested in them (although this has not always been the case in practice). Their liabilities are included in the Crown’s balance sheet, but are not legally guaranteed by the latter. In the last few years, the Government has divested partially (but still maintaining majority stakes) from four companies (Air New Zealand, Meridian Energy, Mighty River Power and Genesis), with the proceeds of the share sales going to finance investments in the social portfolio. As a result, the share of commercial assets in the total portfolio has declined, and stood at about 19 percent in mid-2013.

The Crown's net worth has been positive since 1995, and it increased steadily until 2009, when it started declining, reflecting the impact first of the global financial crisis and then of the Canterbury earthquakes. It started increasing again in 2013 (Fig. 9).

Figure 9 – New Zealand: The Crown's Net Worth



Source: NZ Treasury, Investment Statement 2014

b The Treasury's role in the management of the asset portfolio

The management of such a large and diversified balance sheet is obviously complex, and is mostly conducted in a decentralized manner on the assets side, while borrowing authority and the management of the Crown's debt are concentrated in the NZDMO.

The decentralization of assets management is justified by the wide-ranging nature of the Crown's assets, but it also creates a need for high-level oversight, to ensure that:

- The overall public investment level is consistent with stabilisation and long-term sustainability objectives
- New capital allocations are aligned with the Government's evolving priorities
- Existing assets remain fit for purpose over time, through appropriate maintenance, depreciation, replacement and/or disposal policies
- Risks (including implicit contingent liabilities) are identified in a timely manner, and appropriately mitigated; and
- The management of liabilities is appropriately coordinated with that of the assets.

The Treasury has an important role in advising the Government on all aspects of such oversight, a fact underlined by the recent amendment to the PFA that has shifted to the Treasury responsibility for the Investment Statement. The recently issued first such Statement¹¹² by the Treasury, in addition to fulfilling the PFA's requirement to describe and value the Crown's assets and liabilities, and discuss their past and projected evolution, includes a discussion of the performance of the main components of the balance sheet, of the criteria for effective ownership and stewardship of the assets, and of the main risks affecting the balance sheet.

In the Statement, the Treasury notes again that, to fulfil more effectively its role in the management of the Crown's assets, it needs to further improve its information base, in particular the indicators of performance (efficiency, effectiveness and risk) of the assets included in the portfolio. This is especially the case as concerns the social portfolio, since standard indicators of performance are better developed for commercial and financial assets.

i Management of the social assets portfolio

In a context, like the one expected to prevail over the short to medium term, in which fiscal consolidation imperatives limit the scope for new public investments, an effective management of the social portfolio poses significant challenges, and makes all the more important a detailed and reliable assessment of both proposed new investments and the performance of existing assets.

The above-mentioned evidence, gathered so far by the NIU and reflected in the analysis of the social portfolio included in the latest Investment Statement, indicates that many of the Crown's social assets are quite aged¹¹³, a fact that impacts on operating costs and can create risks, in addition to functionality concerns. Moreover, demographic trends, the pronounced urbanization in recent decades, technological developments (e.g. in medical treatments and in IT), and growing concerns over resource depletion and environmental impact, all contribute to significant misalignments between the supply and demand for some of these assets. This raises difficult questions about the sectoral balance of social infrastructures (e.g. schools vs. health care facilities), location decisions for new facilities, and the closing of some old ones.

Improved understanding at the central level of the size and geographic distribution of these investment needs is crucial for sound budgetary decisions, as regards both the allocation of new capital allowances and the use of other funding sources for social assets. Currently, bids for funding of new projects through the capital allowances are required to be supported by fit-for-purpose business cases, based on the Five-Case Better Business Cases methodology, which is a core part of the government's investment management framework. However, investments made using the funding that agencies hold specifically for the replacement of existing capital, or from their own asset re-prioritization, or from specific revenue streams, are subject to less scrutiny, and in particular not to a systematic whole-of-Crown prioritization process, a fact that may be surprising, given that they are 7 times as large as investments funded by capital allowances.

The Treasury is appropriately involved in the management of an alternative to public procurement of new social assets, namely Public Private Partnerships (Box 11)

¹¹² NZ Treasury, Investment Statement 2014.

¹¹³ A significant share of education and justice sector assets are over 40 years old.

Box 11: Public-Private Partnerships

Public-Private Partnerships (PPPs) are whole-of-life contracts which combine a fixed-price/no-progress-payments component with a long-term service one. The contractor of a productive or social infrastructure project is paid after construction, through service payments over the life of the contract. The asset may be owned by the Government from the outset, or by the contractor until the end of the contract.

The main reason for a Government to choose a PPP over conventional procurement (design and construct contracts) should be the efficiency gains that can be obtained through a well-designed and implemented PPP¹¹⁴. These include:

- Minimization of whole of life costs for the project: a contractor who carries both the risks of construction of the project and of performance in the delivery of the subsequent services has the right incentive to optimize construction costs, so as to minimize the operation and maintenance costs of the project, consistent with the pre-specified performance standards.
- Avoiding cost overruns and delays: since no progress payments are made during construction, and the service payments are determined at the outset, the contractor has an incentive to avoid delays and cost escalation during construction
- Greater certainty and transparency of whole-of-life costs for the project.

PPPs, however, have also disadvantages, in particular high project preparation and contracting costs, and difficulties in pre-specifying appropriate performance standards. It is therefore very important that countries undertaking PPPs have well developed capacities to handle such projects, including a detailed and robust legal framework, a “gateway” analysis and review process, led by the Ministry of Finance, and adequate expertise, in both the latter and the relevant spending ministries, to prepare the projects and analyse the bids submitted for them.

Crucial to the success of PPPs is an appropriate sharing of risks between the public and the private partner. In principle, each type risk should be allocated to the partner who is best able to bear it. In practice it is not always easy to determine such an optimal allocation. Generally, the public partner bears any risks related with the legal framework and regulatory (e.g. environmental) constraints, and the private partner the construction and performance risks. Country practices vary with respect to the allocation of risks related to the demand for the services of the asset; if the public sector is the sole originator of such demand (e.g. in the case of school or prison facilities), it should bear the full risk. In other cases (e.g. a toll highway) the risk may be shared between the public and private partners.

An appropriate accounting treatment of PPP transactions is important to avoid that these arrangements are undertaken to minimize recorded public deficits and debt, rather than to exploit their potential for efficiency gains. Specifically, the NPV of future service payments should be recorded as a Government liability when the contract is signed.

The choice of PPP as a means of procuring infrastructure in New Zealand is primarily motivated by quality and effectiveness objectives. A sound framework for PPPs¹¹⁵ has been developed, with the Treasury’s Commercial Operations Unit providing specific guidance and support to central Government agencies considering such types of arrangements¹¹⁶. The relevant Treasury Vote teams evaluate the business cases for, and advise the Government on the approval of, large or high-risk infrastructure projects, including any undertaken as PPPs.

Accounting provisions for PPPs are in line with international best practices and the standards developed by IPSAS in this area.

¹¹⁴ See Schwarz, Corbacho and Funke, 2008; European Investment Bank, 2010; and OECD, 2012

¹¹⁵ The framework only covers PPPs undertaken by the central Government. It does not apply to those undertaken by local authorities. One such project that would have benefited from the framework (a wastewater management facility in the Kaipara district) was plagued by major management flaws resulting in huge cost overruns, and contributing to financial difficulties that ultimately required central Government intervention of the district.

¹¹⁶ See National Infrastructure Unit, 2009.

Only a few PPP projects have been procured in New Zealand to date, namely two schools and the Wiri prison. The latter is especially interesting as the performance of contractor will be assessed on, among other things, the reduction in prisoners' recidivism. New PPP projects in course of preparation are the Transmission Gully highway, the redevelopment of a maximum-security prison in Auckland, and four additional schools.

ii Management of the commercial and financial portfolios

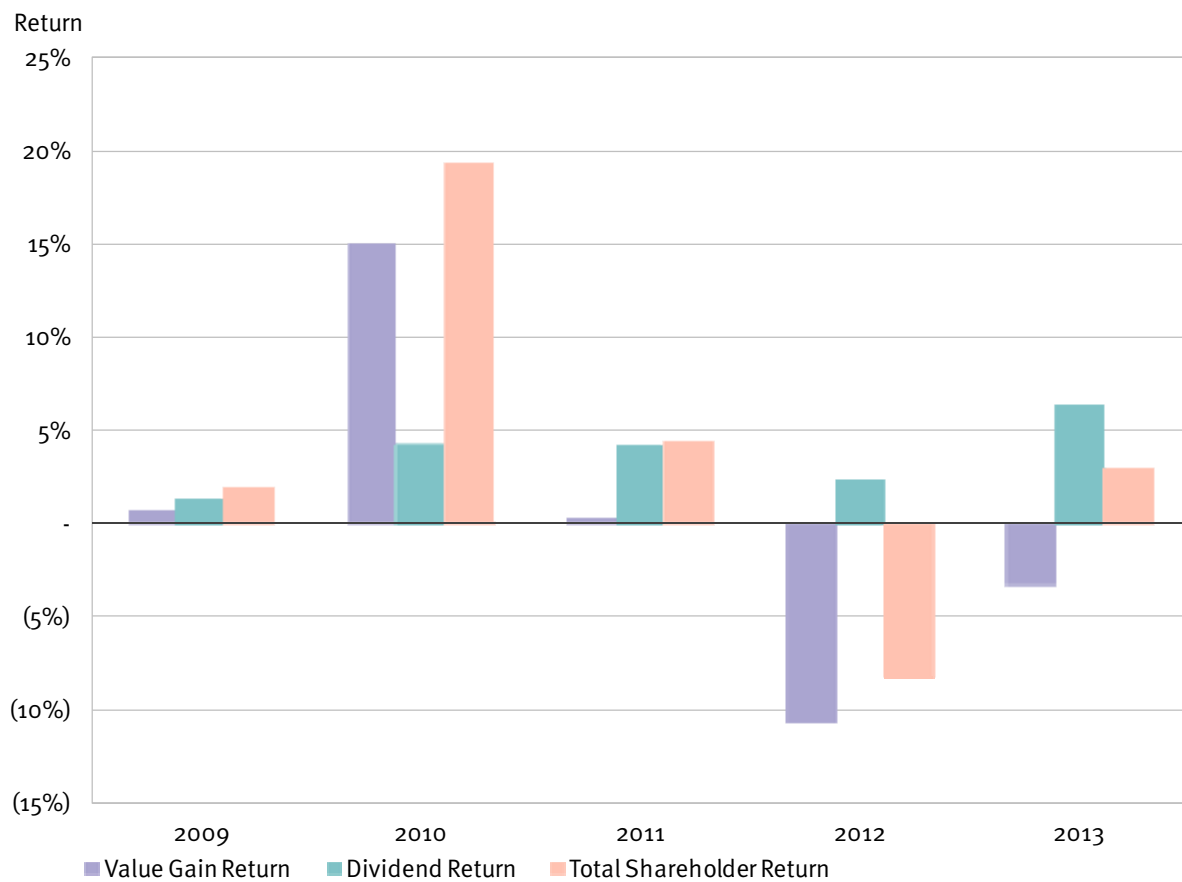
The Treasury's involvement in the management of the Crown's commercial and financial assets is more limited. The Minister of Finance and the Minister for SOEs act as controlling shareholders of the SOEs and of the three listed companies with minority private participation, appointing the Boards of Directors of the enterprises, and holding them accountable for the enterprises' performance, as specified in the respective Statements of Corporate Intent approved by Parliament. The Treasury monitors the performance of the enterprises and advises the Government on it.

In the recent Investment Statement, the Treasury notes that the total shareholder return on its commercial portfolio¹¹⁷ has been moderate on average in recent years (4.1 percent a year during 2009-13), but with substantial variance across both years and enterprises¹¹⁸ (Fig. 10). Especially in view of the fact that most SOEs have made substantial investments in recent years, in good part funded by debt, it would be important to redouble efforts to ensure a significant improvement in their financial performance in the years ahead, as well as to slow down their debt accumulation.

¹¹⁷ Total shareholder return on a SOE is defined as the sum of dividends paid by the SOE to the Crown (less any equity injection) and the change in its commercial value.

¹¹⁸ Two SOEs faced substantial financial distress in 2013.

Figure 10 – New Zealand: Commercial portfolio returns ¹¹⁹

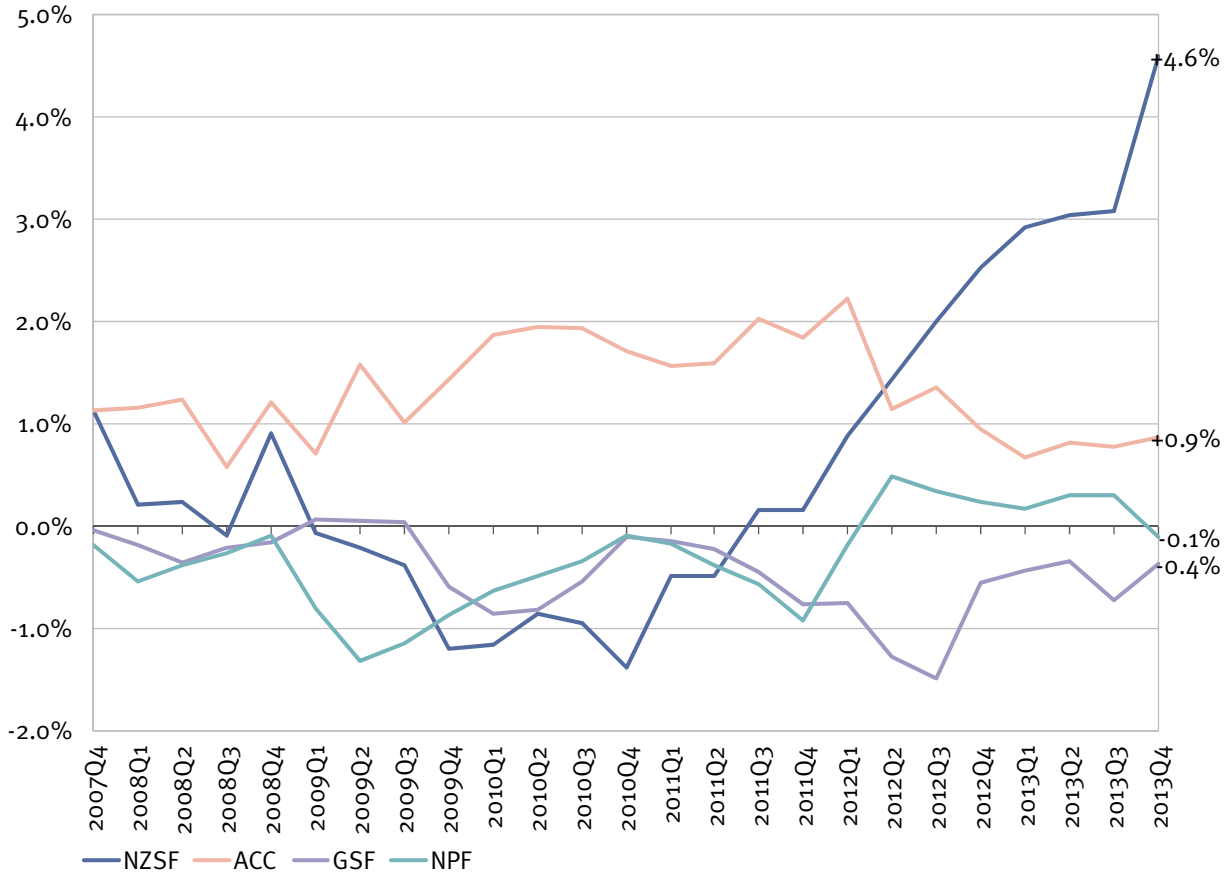


Source: NZ Treasury, Investment Statement, 2014

The Crown’s financial assets are held mainly to fund known or potential future liabilities, associated in particular with the ageing of the population, and the occurrence of accidents and natural disasters; or to build buffers against external shocks. This component of the Crown’s portfolio was adversely affected by the global financial crisis and the Canterbury earthquakes, but has been recovering strongly in recent years, in most cases exceeding benchmarks (Fig. 11). The strong performance of ACC’s portfolio has facilitated a reduction of the related levies.

¹¹⁹ Excluding KiwiRail and listed companies.

Figure 11 – New Zealand: Performance of Crown Financial Institutions relative to benchmarks



Source: New Zealand Treasury, Annual Portfolio Report 2013

Looking forward, the main challenges involve:

- Rebuilding appropriate buffers to deal with natural disasters, specifically determining the appropriate mix of pre-funding through the NDF, reinsurance, and post-disaster debt funding; and replenishing the NDF accordingly
- Reducing the actuarial shortfall of the GSF, including by improving its investment performance; and
- Ensuring that investment strategies for the growing asset portfolios of the NZSF and the ACC appropriately balance returns and risks.

c Management of the Crown's debt

In contrast to the asset side of the portfolio, the Treasury through the NZDMO is fully responsible for the management of the Crown's debt (and of some liquid financial assets). The NZDMO's overarching goal is to minimize the cost of the Crown's net debt, within an appropriate risk framework. In practice, this involves appropriately balancing a number of (sometimes conflicting) objectives:

- Minimizing the cost of borrowing
- Reducing the volatility of its impact on the operating balance (OBEGAL), given the importance of the latter as a fiscal policy anchor
- Ensuring an acceptable matching of maturities and risks between assets and liabilities
- Adjusting debt issuance and redemption strategies to different, and changing, investors' preferences for maturities and risk; and
- Minimizing rollover risks, in the face of increased volatility in international financial markets.

The trade-offs among those objectives vary in different macro-economic environments. Specifically, in a scenario where risks are weighted to the upside, supporting expectations of rising inflation and interest rates, fixed-rate instruments are preferable to variable-rate ones in terms of minimizing borrowing costs over time. The opposite is true in downside-risk scenarios. Under both types of scenarios, variable rate instruments reduce the volatility of the OBEGAL, since the non-interest component of the latter, being positively correlated with the output gap (revenues are more cyclically sensitive than expenditures), co-varies with interest costs.

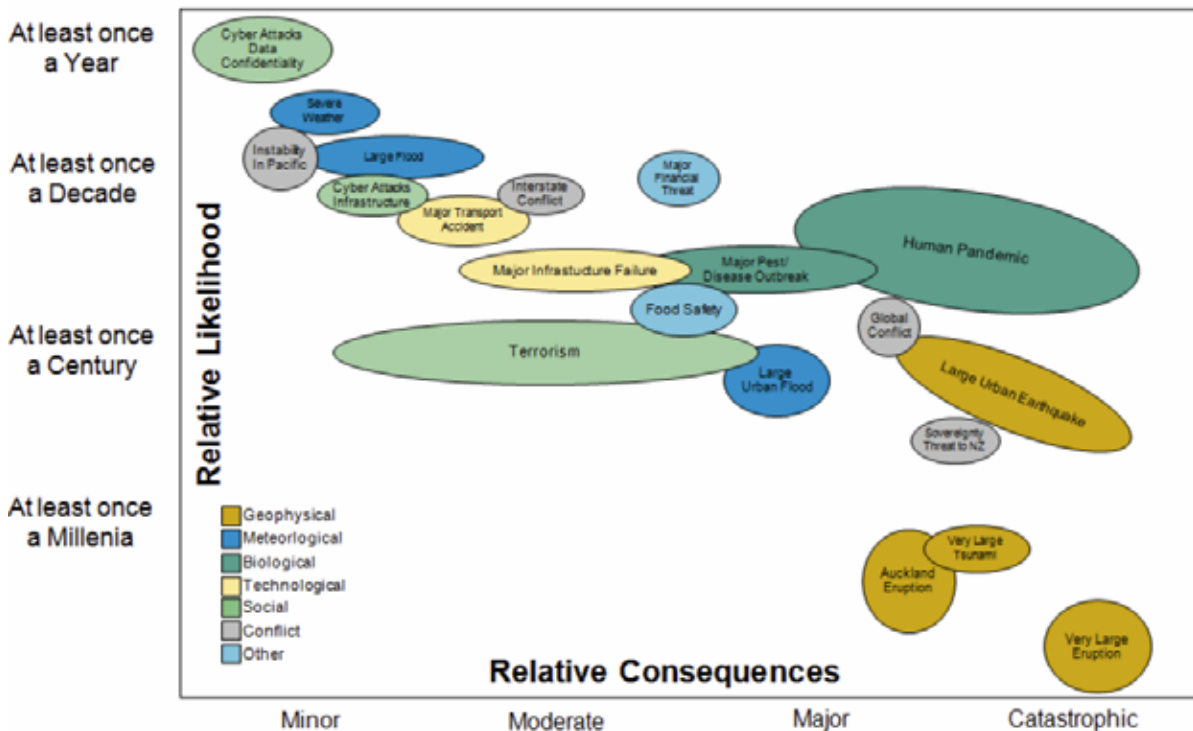
Longer-term fixed-rate instruments are preferable in terms of matching the maturities of assets and liabilities, and reducing rollover risks (although care is needed in avoiding bunching of maturities). The objective of tapping different segments of the investor universe argues for diversification of instruments (including inflation-indexed ones), but this must be balanced with the objective of maintaining the liquidity of the instruments, which argues for limiting such diversification, especially in a relatively small borrowing programme, as in the case of New Zealand.

These considerations have led the NZDMO to advise a debt issuance strategy that gives greater weight to fixed rates instruments, but maintains in the portfolio significant shares of both inflation-indexed and variable-rate bonds.

d The Treasury's analysis and management of balance sheet risks

The 2014 Investment Statement highlights the importance of an effective management of the risks faced by the Crown, not only for fiscal sustainability, but also to strengthen the New Zealand economy's resilience to the wide range of exogenous shocks to which it is exposed. Fig. 12 presents an illustration of the nature, relative likelihood and relative impact of such shocks.

Figure 12 – New Zealand: Relative likelihood and consequences of various risks



Source: <http://www.dpmc.govt.nz/sites/all/files/publications/national-security-system.pdf>

The Statement notes that the current Crown’s risk management framework is relatively decentralized, reflecting a view that individual Government agencies are best placed to understand the risk they face. Accordingly, the framework centres on holding agencies responsible for managing their respective risks, subject to some central guidance from the Treasury regarding the processes to be followed by the agencies in their identification, assessment, and control of the risks. A Cabinet Committee oversees the management of major national risks spanning the responsibilities of several agencies. The Treasury is responsible for providing the Cabinet advice on the fiscal and economic implications of such risks.

The Statement argues that, while this framework has generally been effective in creating appropriate management accountabilities, the growing size of the Crown’s balance sheet, the increased weight in it of more volatile financial assets, and the greater awareness of implicit contingent liabilities, point to the need for strengthening it in various dimensions, namely through:

- Increased sharing of agency risk information, to facilitate the assessment of overall Crown risk exposure and of the scope for its mitigation
- Improved analysis of implicit risks and contingent liabilities, including those related to the financial sector, and of possible approaches to mitigating them
- Increased pooling of agencies’ risks, when appropriate (e.g. risks related to operations in foreign exchange); and
- Strengthened central guidance to agencies (including the Crown Financial Institutions) on the appropriate degree of risk appetite.

Progress in these dimensions will require significant improvements in the information base and the tools of analysis (briefly reviewed in Box 12 below) underpinning an increased role of the Treasury in the management of the Crown's financial risks.

Box 12: Current Treasury tools for risk analysis

The NZDMO uses Value at Risk (VaR) models, the details of which are not published, to analyse market risks stemming from the imperfect matching of its assets and liabilities. In a recent Consultation Paper, the NZDMO presented a new simulation model (including three modules, namely a macro-economic one, a debt strategy one, and a fiscal projection one that utilises the FSM) to calculate the impact of different debt instruments on the OBEGAL, under different macro-economic scenarios¹²⁰.

Some staff papers have reported on additional analytical work carried out within the Treasury to quantify general fiscal risks. A 2011 Working Paper explored¹²¹ the impact of two types of severe economic shocks (a strong earthquake and a large episode of household deleveraging, possibly triggered by external factors) on fiscal (revenue and spending) flows and ultimately on the Crown's debt, using the Treasury's FSM. The paper concluded that a natural disaster would be unlikely to threaten fiscal sustainability, but a prolonged adverse growth shock would carry significant liquidity risks for the Government, if the public debt reached a level considered unsustainable, and could require substantial adjustments in taxation and/or spending to ensure fiscal sustainability.

In the last decade or so, a number of other Treasury staff papers have attempted to measure the exposure of the Crown's balance sheet to risk.¹²² A 2009 Working Paper¹²³ integrated standard portfolio risk analysis with an analysis of the risks created by uncertainties in future revenue and spending flows. The authors constructed a notional risk budget for the Crown's comprehensive net worth¹²⁴, measuring the risk of each asset and liability class as its annual standard deviation. Their calculations suggested that, not surprisingly, about half of the total risk stemmed from volatility of the primary balance, one quarter from that of social assets, and the rest from other financial and non-financial assets and liabilities. Further, the authors estimated probability distributions for the Crown's future net worth over a ten-year period. These estimates suggested that the Crown's Value at Risk at the 95% probability level over a 5-year horizon was quite large (equivalent to between 8 and over 12% of tax revenues, depending on the definition of net worth used)¹²⁵.

The EFU documents also include a Statement of Specific Fiscal Risks, listing Government decisions, contingent liabilities, or contractual obligations that can be expected, with a more than 50% probability, to have a material impact on the fiscal outlook¹²⁶. Risks and contingencies deemed unquantifiable are included in this Statement without specific values, but with a brief description of their nature, and a notation of whether they are changed or unchanged from the corresponding previous Statement.

¹²⁰ The paper (Direen and Kao, 2013) reports the results of both deterministic and stochastic (Monte Carlo) simulations.

¹²¹ Fookes, 2011

¹²² See e.g. Bradbury and others, 1999; and Irwin, 2009.

¹²³ Irwin and Parkyn, 2009

¹²⁴ The comprehensive net worth is equivalent to the net worth as measured according to GAAP standards (the definition used in the Crown's financial statements), plus the present value of future primary revenues, and minus the present value of future primary spending.

¹²⁵ The authors note that the estimated loss in comprehensive net worth from the recession of 2008-09 significantly exceeded that predicted by their model at the 95% confidence level.

¹²⁶ Material is defined as more than \$100 million over 5 years. Contingent liabilities and assets less than \$100 million are not separately listed, but included in "other quantifiable" totals.

2 Commentary

a General assessment

As indicated in the previous section, New Zealand pioneered the compilation of a complete audited balance sheet for the public sector, and remains one of few countries worldwide that do so systematically. The analysis of developments in the balance sheet allows a richer understanding and narrative of the evolution of the public finances than an exclusive focus on the public debt. This is the case because the balance sheet plays a number of roles:

- It provides a number of indicators of fiscal sustainability, ranging from the narrowest (the gross public debt) to progressively broader ones, namely: the net public debt in New Zealand's definition (which, as mentioned above, refers to the Core Crown and nets out only liquid non-earmarked financial assets); total net financial liabilities (including those in the commercial portfolio); and the overall net worth.
- It acts as absorber of exogenous shocks, mainly through the financial assets portfolio; and
- It also represents an indicator of the public sector's capacity to deliver public goods and services over time, mainly through its social and commercial portfolios.

These functions are echoed in the principles of fiscal responsibility that mandate the Government to achieve and maintain levels of the Crown's net worth adequate to ensure the balance sheet's resiliency to shocks, manage prudently the risks of such shocks, and ensure effectiveness and efficiency in the management of the Crown's resources. At the same time, however, the principles highlight the key role of the public debt as a fiscal policy anchor by requiring the maintenance over time of prudent levels of the debt.

Translating these broad principles into practice involves a range of complex judgments about, among other things:

- The extent to which long-term spending pressures should be met by pre-funding (building earmarked assets, such as the NZSF) and/or by reducing the net public debt
- The range and size of risks to which the Crown is exposed, and their potential impact on the different components of the balance sheet; appropriate mitigation strategies; and the extent to which such risks should be addressed through specific buffers (earmarked funds) rather than (or in addition to) the general buffer of a low net debt
- The efficiency and effectiveness of the social portfolio, and its alignment with evolving population needs and Government policy priorities; and the extent to which it would be feasible to improve such alignment through divestment or outsourcing
- Whether the performance of the various components of the commercial portfolio adequately rewards the investment of public resources in them, and, if not, what would be the appropriate balance between efforts to improve such performance, and divestment.

The 2014 Investment Statement represents an important first attempt to systematize and make public the Treasury's reflections on these complex issues. As outlined in the previous section, it contains valuable insights into several of them, building on, in particular, prior work by the National Infrastructure Unit, the now-restructured Crown Ownership Management Unit (COMU), the NZDMO, and other units in the Treasury. However, it also leaves unanswered some important issues, or it provides only a broad qualitative analysis of them.

In particular, the Statement does not clarify whether, in the Treasury's view, the Government's current net debt target of no more than 20 percent of GDP would remain appropriate beyond the end of this decade, or further reductions should be targeted in subsequent years, to strengthen the general buffer for long-term spending pressures and potential future shocks to the public finances. The Treasury should consider including a recommendation to this effect in its Briefing to the Incoming Minister of Finance later this year, especially since an early signal by the new Government in this respect would have beneficial effects on confidence at home and abroad about a continued commitment to prudent fiscal management over the longer term.

A possible approach would be to recommend that the new Government in its first Fiscal Strategy Report announce an intention to keep the net debt-to-GDP ratio within a gradually declining band (to accommodate cyclical fluctuations and/or unexpected shocks) beyond 2020. The recommended speed of the decline and width of the band would need to be specified together with recommendations about the build-up of the specific buffers (NZSF and NDF) mentioned above, as well as about other mechanisms to address potential contingent liabilities, discussed in the section below.

The Investment Statement appropriately highlights the need to strengthen both the information base and the tools of risk analysis currently available to the Treasury to advise the Government on the management of the balance sheet. The efforts currently underway to strengthen the Treasury's information base as regards the efficiency and effectiveness of capital spending have been outlined in Ch. VI above. The next section in this chapter focuses on the management of a range of balance sheet risks.

It needs to be recognised that progress on both fronts will require some reconsideration of the traditional model of decentralized responsibilities for the management of various components of the balance sheet and their related risks. Striking the right balance between safeguarding the benefits of this model in terms of expertise and accountabilities, on the one hand; and the obvious need for a more holistic evaluation of the fitness for purpose, effectiveness, efficiency, and risk resilience of the Crown's assets and liabilities, on the other hand, will be challenging, as institutional changes always are, and will require buying-in and strong support from the Government.

b Considerations on the management of balance sheet risks

As background to an assessment of the management of balance sheet risks in New Zealand, Box 13 presents a brief overview of lessons from international experiences in this area.

Box 13: Sound management of fiscal risks and contingent liabilities

The global financial crisis has highlighted the broad range of risks affecting the public finances, and the need to strengthen various aspects of the management of these risks. The crisis has brought into sharp relief the adverse fiscal impact of both exogenous macroeconomic shocks and the materialization of explicit and implicit contingent liabilities. The combined effects of these factors explain most of the massive deterioration of the public finances, particularly in advanced countries, in recent years.

Fiscal risks can be grouped into two broad categories:

- General economic ones, which relate to the impact of exogenous economic shocks (such as an economic downturn, an increase in interest rates, an exchange rate change, or a loss in the terms of trade) on budgetary flows, or on various components of a Government's balance sheet; and
- Specific fiscal risks, which can arise from a range of factors, such as natural disasters; adverse judicial rulings; the calling of Government guarantees; or a Government's inability to resist calls for bailouts of SOEs, local authorities, banks, or financial and non-financial firms too big to fail (implicit contingent liabilities).

A sound and effective management of fiscal risks requires a number of Government actions:

- A timely identification of major sources of risk
- A correct assessment of the potential liability involved, and of the likelihood of its materialization
- The fullest disclosure of the risks consistent with avoidance of moral hazard¹²⁷
- The design and implementation of appropriate risk-mitigation strategies; and
- Frequent monitoring and review, to ensure that the steps listed above remain fit for purpose.

In most advanced countries, responsibility for the identification and assessment of fiscal risks tends to be spread throughout Government. Typically, the Central Budget Authority (Ministry of Finance/ Treasury) is fully responsible for identifying and assessing general economic risks to the budget and the balance sheet, although it may seek the input of other relevant agencies (e.g. the Central Bank; and the Tax Administration and Debt Management agencies, if separate from the MOF). However, line ministries or other Government agencies have often primary responsibility for the identification and management of specific fiscal risks related to their respective areas. Especially since specific fiscal risks are often correlated, and also correlated with general economic risks, it is essential for sound overall fiscal risk management that the Ministry of Finance/Treasury receive timely and reliable information on the entire range of specific fiscal risks, and maintain an independent capacity to monitor and analyse them.

The tools for analysis and assessment of fiscal risks vary with the nature of the risk. The fiscal impact of general economic risks is typically assessed on the basis of sensitivity and scenario analysis, including importantly through the use of stress tests to model the impact of the simultaneous occurrence of correlated risks (as discussed in Chapter III above), and of stochastic analysis, to derive the probability distribution of main fiscal aggregates under stochastic simulations of growth shocks, or other macroeconomic shocks. For countries that have well-developed balance sheet, such analyses should cover the impact of the shocks not only on budgetary flows, but also on the main types of Government assets and liabilities¹²⁸.

¹²⁷ See IMF, 2008 for discussion of appropriate disclosure practices for fiscal risks.

¹²⁸ Barnhill and Kopits, 2003 discuss the use of Value at Risk (VAR) techniques to assess the stochastic impact of shocks on a Government's net worth.

A number of qualitative and quantitative techniques can be used to estimate the cost of specific risks from contingent liabilities and guarantees, depending on the nature of the risk, data availability, the significance of the risk exposure, and institutional capacity. At a minimum, efforts need to be made to classify as low, medium or high the probability of realization of the liability (or calling of the guarantee) and as small, medium, or large the size of its potential budget impact, based on relevant past history or on educated guesses.

More sophisticated methods include use of market data, quantitative models, such as options pricing, and stochastic simulations¹²⁹. Countries that price guarantees and other contingent liabilities use one or more of these techniques. For instance, Sweden uses market data, options pricing and simulations. Chile, Colombia and Peru use simulations to estimate contingent liabilities associated with minimum revenue guarantees under PPPs. The FDIC in the US uses expected bank loss estimates derived from historical data¹³⁰.

Approaches to incorporating risks in the budget vary across countries. Most countries that budget on a cash basis include a contingency appropriation in the annual budget to cover the expected value in cash terms of called guarantees and other specific fiscal risks. Such contingency reserves rarely exceed, however, 3 percent of total expenditure, and therefore may fall well short of the cost of the materialization of large fiscal risks. Other countries budget the full expected cost of guarantees on an accrual basis, i.e. they appropriate the NPV of expected future cash outflows for calls on a guarantee when the latter is granted. This approach is most effective in eliminating incentives for Governments to prefer granting guarantees, instead of explicit subsidies, because of a differential accounting treatment.

Governments can take a number of steps to mitigate fiscal risks¹³¹:

- Transfer risks, e.g. by purchasing insurance and reinsurance for potential natural disasters; or by securitizing financial assets, such as student loans
- Hedge risks, such as those linked to exchange rate or international commodity price movements Reduce risks, e.g. by strengthening financial sector regulations; setting limits on sub-national debt; and ensuring a sound, commercially-oriented management of SOEs
- Cap risks, by transforming implicit contingent liabilities into more limited explicit ones, e.g. through a (small) deposit insurance mechanism funded by bank premiums; and more generally
- Have adequate buffers (low debt and positive net worth) to absorb remaining risks without jeopardizing fiscal sustainability.

From the discussion in Box 13, the following points of relevance to New Zealand appear to emerge:

- As regards general fiscal risks, it will be important for the Treasury to equip itself to conduct more systematic analyses of the impact of such risks on the major components of the balance sheet, and of the correlations of such risks within and among the portfolios. A sound understanding of these correlations is crucial to ensure that the overall risk exposure of the Crown's portfolio is consistent with the Government's risk appetite, and that opportunities are exploited for overall risk mitigation through appropriate risk pooling, offsetting, and diversification strategies across the whole portfolio. Risk analyses should also include stress tests to assess the impact of tail risks on the balance sheet.

¹²⁹ See IMF, 2008 for discussion of appropriate disclosure practices for fiscal risks.

¹³⁰ See Hemming, 2006; Cebotari, 2008; and Lindwall, 2013.

¹³¹ Budina and Petrie, 2013

- New Zealand meets international standards as regards the disclosure of explicit contingent liabilities in both EFUs and the audited annual Financial Statements of the Government. As regards contingencies currently considered unquantifiable, it would be useful to include in the risk statements a qualitative assessment (low, medium, or high) of the likelihood of their realization and of the extent of their impact.
- It would appear especially important to strengthen the assessment and approaches to mitigation of some large implicit contingent liabilities.
- As regards those related to the financial sector, they have been to some extent mitigated by the measures already implemented, or in course of implementation, by the RBNZ to strengthen prudential regulations and supervision. However, the absence of a limited deposit insurance mechanism and the degree of concentration of the banking system still give cause for concern about the fiscal risks of a potential failure of one or more banks. These concerns are reinforced by the precedent of the blanket deposit guarantee extended by the Government in the wake of the global financial crisis. It would be desirable for the Treasury to revisit, in consultation with the RBNZ, its advice to the Government in this area.
- Consideration should also be given to possible approaches to converting other large implicit contingent liabilities (e.g. to farmers for exogenous shocks such as a protracted drought or a foot-and-mouth disease) into more limited explicit ones, through the creation of premium-funded insurance mechanisms
- Increased attention should be given to the risks potentially posed by the high and growing indebtedness of some local authorities (see Box 14 below). Although total local gross liabilities are relatively small in relation to GDP, they are relatively large (nearly 170 percent on average) in relation to the localities' own revenues. Moreover, some municipalities (including several large ones) have significantly higher debt-to-own-revenues ratios than the average.
- Although this debt is not guaranteed by the Crown, financial distress of one or more municipalities, especially large ones, could create difficult-to-resist pressures for bailouts. The Treasury should consider recommending to the Government the introduction of caps on local debt, relative to own revenues. Limits on sub-national debt are very common in advanced and emerging markets, as they are widely recognised as an effective preventive measure against sub-national financial distress and related bailout pressures¹³²
- Finally, it would be desirable for New Zealand to undertake a Fiscal Transparency Assessment under the revised Fiscal Transparency Code of the International Monetary Fund, which focuses significantly more than the earlier version on the analysis, management and disclosure of a range of fiscal risks¹³³.

¹³² See Ter-Minassian, 2014b for an overview of international experience on controls of sub-national borrowing.

¹³³ The new version of the Code, and a few country assessments under it can be found at www.imf.org/fiscal-transparency

Box 14: A brief overview of local Government finances in New Zealand

There are 78 local authorities in New Zealand: 11 Regional Councils; 12 City Councils (mainly urban); 54 District Councils; and 1 Auckland Council, established in November 2010, to amalgamate 8 former councils in that metropolitan area.

Local Governments are responsible for the provision of a range of goods and services to their respective communities, including water, sewerage and solid waste management, street lighting, civil defence, urban transport and other infrastructure, various cultural and recreational facilities, urban planning, and environmental and other regulations. In contrast to many other countries, however, they are not responsible for primary education or health care. Altogether, local operating spending was equivalent to about 4 percent of GDP in 2012. The proportion of employees' cost in such spending has been declining in recent decades, to less than 21 percent in 2012. Local Governments employ about 23,000 people. Their capital spending is equivalent to about 2 percent of GDP.

Total local operating revenues were equivalent to about 4.2 percent of GDP in 2012¹³⁴. Tax revenues accounted for little more than half of such revenues, the bulk being constituted by property taxes (rates), which have been growing rapidly in recent years, reflecting buoyant housing prices. Transfers from the central Government represented about one quarter of operating revenues, the rest being constituted by investment income, sales of goods and services, and various fees and charges.

On the whole, local operating balances have tended to show small aggregate surpluses, and overall balances, including investment spending, small deficits in recent years. As a result, total local liabilities have risen steadily, to the equivalent of nearly 6 percent of GDP by 2012. About three quarters of these liabilities is accounted for by loans, mostly from domestic banks or from the Local Government Financing Agency (LGFA)¹³⁵. Local authorities, with the exception of the Auckland Council, are barred from borrowing in foreign currency. Local debt is not guaranteed by the Crown; local Governments can pledge assets or future revenues from property taxes as collateral for their borrowing. Local Governments also hold substantial financial assets, equivalent to over 7 percent of GDP in 2012, resulting in a small positive financial net worth. However, it is unclear how much of these assets are liquid ones.

Aggregate figures mask significant differences across local Governments. The Auckland Council accounts for nearly half of the total debt, and its ratio of debt to revenues from property taxes (235 per cent) is significantly higher than the nationwide average of 167 percent. Moreover, the same ratio is even higher for some other districts, reaching as high as 433 percent in the case of the Kaipara District, which is currently under intervention by the central Government¹³⁶.

The Crown does not currently set limits on local Government debt. It is empowered by the Local Government Act of 2002 (strengthened in 2012) to intervene in the case of a local Government showing substantial signs of financial mismanagement, by appointing a Commissioner to run temporarily the administration until new local elections can be held.

¹³⁴ These figures refer to GFS-based statistics. See NZ Statistics Local Government Finances, 2012.

¹³⁵ The Crown currently holds 20 percent of the paid-up ordinary shares of the LGFA, the remaining 80 percent being held by participating local authorities. The LGFA also has a credit line with the Crown. The LGFA's debt currently amounts to about NZD 3.3 billion (over 1.5 percent of GDP).

¹³⁶ The high debt of the Kaipara District is partly a reflection of a mismanaged PPP for a wastewater treatment system.

References

- Afonso A., Baxa, J. and Slavík, M., 2011: “Fiscal developments and financial stress: a threshold VAR analysis,” Working Paper 1319 European Central Bank, Frankfurt
- Arnold, J. M., Brys, B., Heady, C., Johansson, A., Schweltnus, C. and Vartia, L., 2011: “Tax policy for economic recovery and growth”; *Economic Journal*, 121(550)
- Auerbach A. J., and Gorodnichenko, Y., 2010: “Fiscal Multipliers in Recession and Expansion”; Working Paper 17447 National Bureau of Economic Research, Cambridge, Mass.
- Balassone, F. and Kumar, M. S., 2007a: “Cyclicality of Fiscal Policy”; in Ter-Minassian, T. and Kumar, M. S. (eds.) “*Promoting Fiscal Discipline*”, IMF, Washington, DC
- Balassone, F. and Kumar, M. S., 2007b: “Addressing the Pro-cyclical Bias”; in Ter-Minassian, T. and Kumar, M. S. (eds.) “*Promoting Fiscal Discipline*”, IMF, Washington, DC
- Baldacci, E. and Kumar, M.S., 2010: “Fiscal Deficits, Public Debt, and Sovereign Bond Yields”; Working Paper/10/184; IMF, Washington, DC
- Ball, C., 2013: “Stochastic Fiscal Projections”; Presentation at Population Association of New Zealand Conference
- Barnhill, T. and Kopits, G., 2003: “Assessing Fiscal Sustainability under Uncertainty”, Working Paper 03/79, IMF, Washington, DC
- Baum, A. and Koester, G.B., 2011: “The impact of fiscal policy on economic activity over the business cycle – evidence from a threshold VAR analysis” Discussion Paper - Economic Studies no. 3/2011, Deutsche Bundesbank, Berlin
- Blanchard, O. and Perotti, R., 2002: “An empirical characterization of the dynamic effects of changes in Government spending and taxes on output”; *The Quarterly Journal of Economics* 117(4)
- Bradbury, S., Brumby, J, and Skilling, D., 1999: “Sovereign Net Worth: an Analytical Framework”; NZ Treasury Working Paper 99/03
- Brook, A.M., 2013a: “Making fiscal policy more stabilizing in the next upturn: Challenges and policy options”, *New Zealand Economic Papers*, 47(1).
- Brook, A.M., 2013b: “Macroeconomic Imbalances and Fiscal Policy in New Zealand”, to be published in the proceedings of the 2013 Bank of Italy Workshop on Fiscal Policy
- Buckle, R. and Cruickshank, A., 2013: “The Requirements of Long-Term Fiscal Sustainability”; NZ Treasury Working Paper 13/20
- Budina, N. and Petrie, M., 2013: “Managing and Controlling Fiscal Risks” in Cangiano, Curristine and Lazare: “*Public Financial Management and Its Emerging Architecture*”, IMF, Washington, DC
- Cangiano, M., Curristine, T. and Lazare, M.: “*Public Financial Management and Its Emerging Architecture*”, IMF, Washington, DC
- Caprioli F. and Momigliano S., 2012: “The macroeconomic effects of fiscal policy shocks during good and bad times,” mimeo
- Cebotari, A., 2008: “Contingent Liabilities: Issues and Practice”; Working Paper 08/245, Washington, DC

Chinn, M.D. and Prasad, E., 2000: “Medium-Term Determinants of Current Accounts in Industrial and Developing Countries - An Empirical Exploration”; Working Paper 00/46, IMF, Washington, DC

Claus, I., A. Gill, B. Lee and McLellan, N., 2006: “An empirical investigation of fiscal policy in New Zealand”; NZ Treasury Working Paper 06/08

Clements, B., Coady, D. and Gupta, S., 2012: “The Economics of Public Health Care Reform in Advanced and Emerging Economies”, IMF, Washington, DC

Clements, B., Eich, F. and Gupta, S., 2014: “*Equitable and Sustainable Pensions: Challenges and Experiences*”, IMF, Washington, DC

Coenen, G., Erceg, C., Freedman, C., Furceri, D., Kumhof, M., Lalonde, R., Laxton, D., Lindé, J., Mourougane, A., Muir, D., Mursula, S., de Resende, C., Roberts, J., Roeger, W., Snudden, S., Trabandt M., and in ‘t Veld, J., 2012: “Effects of Fiscal Stimulus in Structural Models”; *American Economic Journal: Macroeconomics*, 4(1), 22-68.

Controller and Auditor General, 2012: “Reviewing financial management in central Government”; available on the CAG’s website

Controller and Auditor General, 2013: “Commentary on *Affording Our Future: Statement on New Zealand’s Long-Term Fiscal Position*”; available on the CAG’s website

Curristine, T. and Flynn, S., 2013: “In Search of Results: Strengthening Public Sector Performance”; in Cangiano and others: “*Public Financial Management and Its Emerging Architecture*”, IMF, Washington, DC

de la Maisonnette, C. and J. Oliveira Martins, 2013: “Public spending on health and long-term care: a new set of projections”; *Economic Policy Papers*, No. 06, OECD, Paris

Deroose, S., Moulin, L. and Wierds, P., 2006: “National Expenditure Rules and Expenditure Outcomes: Empirical Evidence for EU Member States”; *Wirtschaftspolitische Blätter*, 1/2006

Direen, S. and Kao, S., 2013: “The Optimal Debt Strategy”, NZDMO Consultation Paper

European Commission (EC), 2010: “*Report on Public Finances in EMU*”, Brussels

European Commission (EC), 2012: “*Report on Public Finances in EMU*”, Brussels

European Commission (EC), 2013: “*Report on Public Finances in EMU*”, Brussels

European Commission (EC), 2012: “The 2012 Ageing Report. Economic and budgetary projections for the 27 EU Member States (2010-2060)”, Brussels

European Investment Bank (EIB), 2010: “Innovative financing of infrastructure – the role of public-private partnerships”; EIB Papers, Vol. 10 No. 1 and 2, Luxembourg

Favero, C. and Giavazzi, F., 2007: “Debt and the effects of fiscal policy”; NBER Working Papers 12822, National Bureau of Economic Research, Inc.

Fookes, C., 2009: “Spending through the Tax System: Tax Expenditures”, NZ Treasury Policy Perspectives Paper 09/01

Fookes, C., 2011: “Modelling Shocks to New Zealand’s Fiscal Position”, NZ Treasury Working Paper 11/02

Frankel, J., 2011: “Over-optimism in Forecasts by Official Budget Agencies and Its Implications”; *Oxford Review of Economic Policy* Vol. 27, Issue 4, 2011.

Girouard, N. and André C., 2005: “Measuring Cyclically-adjusted Budget Balances for OECD Countries”; Economics Department Working Paper, No. 434, OECD, Paris

Gleisner, B., Llewellyn-Fowler, M. and Mc Alister, F., 2011: “Working Towards Higher Living Standards for New Zealanders”; NZ Treasury Working Paper 11/02

Hawkesworth, I and Klepšvik, K., 2013: “Budgeting levers, strategic agility and the use of performance budgeting in 2011-12”; OECD Journal on Budgeting, Volume 13, issue 1, Paris

Hemming, R., ed., 2006: “Public-Private Partnerships, Government Guarantees and Fiscal Risks” IMF, Washington, DC

Hemming, R., 2013: “The Role of Independent Fiscal Agencies”, in R. Allen, R. Hemming and B. Potter (eds.): “*The International Handbook of Public Financial Management*”, Palgrave MacMillan, New York.

Hemming, R. and Joyce, P., 2013: “The Role of Fiscal Councils in Promoting Fiscal Responsibility” in: Cangiano, Curristine and Lazare, (eds.): “*Public Financial Management and Its Emerging Architecture*”, IMF, Washington, DC

Hurnard, R., 2012: “The assessment of retirement income options”, Paper prepared for the LTFS External Panel

IMF, 2011a: New Zealand Selected Issues Paper, Country Report 10/103, available on www.imf.org

IMF, 2011b: “The Challenge of Public Pension Reform in Advanced and Emerging Economies”; Policy Paper, IMF, Washington, DC

IMF, 2013: “The functions and Impact of Fiscal Councils”, Policy Paper, IMF, Washington, DC

IMF, 2014: “Fiscal Policy and Income Inequality”, Policy Paper, IMF, Washington, DC

Irwin, Timothy, 2009: “The Crown’s Comprehensive Balance Sheet”; Report prepared for the New Zealand Treasury

Irwin, T., 2012 a: “Accounting Devices and Fiscal Illusions”; Staff Discussion Note 12/02, IMF, Washington, DC

Irwin, T., 2012 b: “Some Algebra of Fiscal Transparency: How Accounting Devices Work and How to Reveal Them”; Working Paper 12/228, IMF, Washington, DC

Irwin, T. and Parkyn, O., 2009: “Improving the Management of the Crown’s Exposure to Risk”; NZ Treasury Working Paper 09/06

Johansson, Å., Heady, C., Arnold, J., Brys, B. and Vartia, L., 2008: “Tax and Economic Growth”; Economics Department Working Papers N°620, OECD, Paris

Joumard, I., Andre’, C. and Nicq, C., 2010: “Health Care Systems: Efficiency and Institutions”; Economics Department Working Paper No. 769, OECD, Paris

Kalb, G. and Scutella, R., 2003: “New Zealand Labour Supply from 1991-2001: An Analysis Based on a Discrete Choice Structural Utility Model; NZ Treasury Working Paper 03/23

Kumar, M.S. and Woo, J., 2010: “Public Debt and Growth”; Working Paper 10/174, IMF Washington, DC

Law, D., 2013: “Retirement Income Policy and National Savings”; NZ Treasury Working Paper 13/28

Lee, J., Milesi-Ferretti, G. M., Ostry, J. D., Prati, A. and Ricci, L. A., 2008: “Exchange Rate Assessments: CGER Methodologies”; Occasional Paper no. 26, IMF, Washington, DC

Lindwall, P., 2013: “Budgeting for Contingent Liabilities” OECD Discussion Paper GOV/PGC/SBO (2013)7

Ljungman, G., 2008: “Expenditure Ceilings: A Survey”; Working Paper 08/282, IMF, Washington, DC

Mabin, G., 2010: “New Zealand’s Exchange Rate Cycles: Evidence and Drivers”; NZ Treasury Working Paper 10/10

Marcel M., 2012: “Budgeting for fiscal space and Government performance beyond the great recession”, forthcoming in OECD Journal of Budgeting; draft available on www.oecd.org

Mears, T., Blick, G., Hampton, T. and Janssen, J.: “Fiscal Institutions in New Zealand and the Question of a Spending Cap”; NZ Treasury Working paper 10/07

Medeiros, J. and Schwierz, C., 2013: “Estimating the drivers and projecting long-term public health expenditures in the European Union: Baumol’s cost disease revisited”; European Economy Economic Papers no. 50, Directorate General for Economic and Financial Affairs, European Commission, Brussels

Merola, R. and Sutherland, D., 2012: “Fiscal Consolidation: Part 3: Long-run projections and fiscal gaps”; Economic Department Working Paper no. 934, OECD, Paris

New Zealand Treasury- National Infrastructure Unit, 2009: “Guidance for Public Private Partnerships (PPPs) in New Zealand”

New Zealand Treasury, 2011a: “Government and economic growth: Does size matter?”; NZ Treasury Paper 11/01

New Zealand Treasury, 2011b: “Putting It Together: An Explanatory Guide to New Zealand’s State Sector Financial Management System”

New Zealand Treasury, 2012: “Improving the Living Standards of New Zealanders: Moving from a Framework to Implementation”; Treasury paper

New Zealand Treasury, 2013: “Affording Our Future: Statement on New Zealand’s Long-term Fiscal Position”; Treasury paper

New Zealand Treasury, 2013a: “Long-term Fiscal Projections: Reassessing Assumptions, Testing New Perspectives”; Background paper to the LTFS

New Zealand Treasury, 2013b: “The Role of Tax in Maintaining a Sustainable Fiscal Position”; Background paper to the LTFS

New Zealand Treasury, 2013c: “Health Projections and Policy options”; background paper to the LTFS

New Zealand Treasury, 2013d: “Long-term Care and Fiscal Sustainability”; background paper to the LTFS

New Zealand Treasury, 2013e: “Future Costs of Retirement Income Policy, and Ways of Addressing Them”; background paper to the LTFS

New Zealand Treasury, 2013f: “Future Costs of Working Age Welfare”; background paper to the LTFS

New Zealand Treasury, 2013g: “The Education Sector over the Long Term”; background paper to the LTFS

New Zealand Treasury, 2013h: “*Annual Portfolio Report*”

New Zealand Treasury, 2014: “*Investment Statement*”

OECD, 2007: “Performance Budgeting in OECD Countries”, Paris

OECD, 2011: “Divided We Stand: Why Inequality Keeps Rising”, Paris

OECD, 2012: “Principles for the public governance of Public-Private Partnerships”, available at www.oecd.org

OECD, 2013a: “*Health at a glance*”, Paris

OECD, 2013b: “*Education at a glance*”, Paris

OECD, 2013c: “*Pensions at a glance*”, Paris

OECD, 2013d: “*Economic Policy Reforms. Going for Growth*”, Paris

- OECD, 2014: “*All on Board: Making Inclusive Growth Happen*”, Paris
- Parkyn, O., 2010: “Estimating New Zealand’s Structural Budget Balance”; NZ Treasury Working Paper 10/08
- Parkyn, O. and Vehbi, T., 2013: “The Effects of Fiscal Policy in New Zealand: Evidence from a VAR Model with Debt Constraints”; NZ Treasury Working Paper 13/02
- Philip, R. and Janssen, J., 2002: “Indicators of Fiscal Impulse for New Zealand”; New Zealand Treasury Working Paper 02/30
- Price Waterhouse Coopers (pwc), 2013: “What performance information matters”; Report prepared for the NZ Treasury
- Robinson, M., 2007: “*Performance Budgeting: Linking Funding to Results*”, IMF/Palgrave Macmillan
- Robinson, M., 2013: ““Performance Budgeting””; in Allen, Hemming and Potter (eds.): “*International Handbook of Public Financial Management*”; Palgrave Macmillan, 2013
- Robinson, M., 2013a: “Spending Review”; paper prepared for the 34th Annual Meeting of OECD senior budget officials, GOV/PGC/SBO (2013)6, OECD Paris
- Roeger, W. and in't Veld, J., 2010: “Fiscal stimulus and exit strategies in the EU: a model-based analysis”; European Economy Economic Paper no. 426, Directorate General for Economic and Financial Affairs, European Commission, Brussels
- Ryan, M. and Szeto, K.L., 2009: “An Introduction to the New Zealand Treasury Model”; NZ Treasury Working Paper 09/02
- Schaechter, A., Kinda, T., Budina, N., and Weber, A., 2012: “Fiscal Rules in Response to the Crisis—Toward the “Next-Generation” Rules. A New Dataset”; Working Paper 12/187, IMF, Washington, DC
- Schick, A., 2013: “The metamorphoses of performance budgeting”; Paper prepared for the 34th Annual Meeting of OECD senior budget officials, GOV/PGC/SBO(2013)5, OECD Paris
- Schule, W., 2010: “The Potential Contribution of Fiscal Policy to Rebalancing and Growth in New Zealand”; Working Paper 10/128, IMF, Washington, DC
- Schwan, A. and Sail, E., 2013: “Assessing the economic and budgetary impact of linking retirement ages and pension benefits to longevity”; European Economy Economic Paper no. 512, Directorate General for Economic and Financial Affairs, European Commission, Brussels
- Schwartz, G., Corbacho, A. and Funke, K., 2008: “*Public Investment and Public-Private Partnerships*”, IMF and Palgrave Macmillan, N.Y.
- Soto, M., Shang, B., and Coady, D. 2013: “New Projections of Public Health Spending, 2010-50” in: Clements, Coady and Gupta (eds.): “*The Economics of Public Health Care Reform in Advanced and Emerging Economies*”, IMF, Washington, DC
- Szeto, K.L., 2013: “Estimating New Zealand’s Output Gap Using a Small Macro Model”, NZ Treasury Working Paper 13/18
- Ter-Minassian, T., 2010: “Preconditions for a Successful Introduction of Structural Fiscal Balance-based Rules in Latin America and the Caribbean: A Framework Paper”; Inter-American Development Bank Discussion Paper 157
- Ter-Minassian, T., 2014: “Fiscal Policy and Economic Growth: An Overview of Theory and Empirical Evidence”, IDB Working Paper, forthcoming

Ter-Minassian, T., 2014b: “Promoting responsible and sustainable fiscal decentralization”; in Ahmad, E. and Brosio, G.: “*Handbook of Fiscal Federalism, II*”, E. Elgar, forthcoming

Tyson, J., Kashiwase, K., Soto, M., and Clements, B., 2013: “Containing Public Health Spending: Lessons from Experiences of Advanced Economies” in: Clements, Coady and Gupta (eds.): “*The Economics of Public Health Care Reform in Advanced and Emerging Economies*”, IMF, Washington, DC

Wohlbier, F., Astarita, C. and Mourre, G., 2014: “Consolidations on the revenue side and growth-friendly tax structures: an indicator-based approach”; Economic Papers No. 513, EC, Brussels