

MACROECONOMIC IMBALANCES AND FISCAL POLICY IN NEW ZEALAND

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Over the past decade or so, New Zealand has experienced persistent macroeconomic imbalances, and relatively disappointing economic growth outcomes. Key features of the macroeconomy include: a very negative net international investment position, underpinned by persistently large current account deficits; a significant build-up in household debt, linked to strong house price increases; a persistently overvalued exchange rate; and a failure of our relatively low productivity to converge toward the productivity levels of wealthier economies. At first glance, these outcomes seem puzzling given New Zealand's generally sound fiscal framework and attractive business environment. This paper discusses the role that fiscal policy may have played in contributing to these imbalances. Unlike in many other OECD countries, fiscal policy sustainability issues are not considered to be an important contributing factor. Likewise, while pro-cyclical fiscal policy is likely to have played a role in widening imbalances in the mid-2000s, it is likely to be able to explain the persistence New Zealand's imbalances. By contrast, the more microeconomic aspects of fiscal policy (the structure role of fiscal policy) – such as tax policy and retirement income policy – may be playing a more important role.

1 Introduction

A useful analytical framework for assessing the impact of fiscal policy on economic growth is provided by Barker, Buckle and St Clair (2008) who discuss fiscal policy as seen through three lenses: fiscal sustainability, fiscal stabilisation and fiscal structure (Figure 1). This paper uses the same analytical framework for assessing the impact of fiscal policy on macroeconomic vulnerability.

To inform the discussion, Section 2 starts by summarising the key macroeconomic vulnerabilities currently faced by New Zealand. The following three sections then discuss the extent to which these vulnerabilities could be mitigated by improvements to each of the three dimensions of fiscal policy. Section 3 focuses on fiscal sustainability, and considers the importance of sound public finances. Despite the recent deterioration in New Zealand's fiscal balances in recent years, it is concluded that fiscal sustainability is not currently putting undue pressure on macroeconomic imbalances. Section 4 considers the stabilisation role of fiscal policy and – drawing on the experiences of the mid-2000s when pro-cyclical fiscal policy seems to have contributed to a build-up in macroeconomic imbalances – discusses ways to make fiscal policy more stabilising in future economic upturns. However, it seems very unlikely that the stabilisation role of fiscal policy has an important role to play in correcting macroeconomic imbalances. By contrast, in discussing the structure role of fiscal policy, Section 5 concludes that there are a number of areas where the combination of microeconomic fiscal policy settings (tax, welfare policy) may be contributing to macroeconomic imbalances. Section 6 concludes.

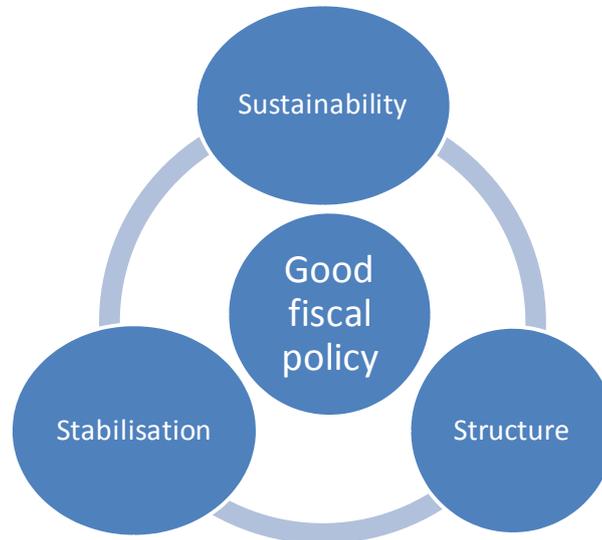
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The views expressed in this paper are those of the author and do not necessarily reflect the views of the New Zealand Treasury. Please send any comments to anne-marie.brook@treasury.govt.nz

Figure 1

The Three Dimensions of Good Fiscal Policy



2 Macroeconomic imbalances in New Zealand

For several decades now, New Zealand has been running some of the largest and most persistent current account deficits among the advanced economies. The resulting macroeconomic imbalances are regularly highlighted by international credit rating agencies:

Standard and Poor's: AA rating

“The ratings on New Zealand reflect the country’s fiscal and monetary policy flexibility, economic resilience, public policy stability, and financial sector that appears to be sound. These strengths are moderated by New Zealand’s **very high external imbalances**, which are accompanied by **high household and agriculture sector debt**; dependence on commodity income; and emerging fiscal pressures associated with its aging population.” (3 August 2012).

Fitch: AA rating

“The affirmation of New Zealand’s (NZ) ratings and Outlook ... reflects Fitch Ratings’ view that **high external indebtedness** and below median average incomes remain key vulnerabilities of the sovereign credit profile, particularly when related to its highly rated OECD peers. Offsetting factors are NZ’s strong track record of monetary policy management, prudent fiscal management, high level of economic development, and strong governance.” (11 September 2012).

Moody's Investor Services: Aaa rating

“ New Zealand's **reliance on foreign saving** is a vulnerability. The negative net international investment position is by far the largest of Aaa-rated countries. Partially mitigating this potential vulnerability is the structure of the country's cross-border liabilities, the majority of which are obligations of the large Australian banks that operate in the country.” (28 January 2013).

As highlighted by the above quotes (emphasis added), New Zealand's key macroeconomic imbalance stems from the fact that a persistently low rate of saving relative to investment has required significant capital inflows from overseas, reflected in persistent current account deficits (Figure 2). The consequence has been a build-up in New Zealand's net external debt position, which at around 70 per cent of GDP is not much smaller than that in troubled European economies such as Portugal, Ireland, Greece and Spain (Figure 3).

To judge a country's macroeconomic vulnerability, however, the *composition* of external debt is also important. A closer look at the composition of New Zealand's NIIP position highlights some mitigating factors. For example, New Zealand's external borrowing is substantially in domestic currency rather than foreign currency, providing a natural exchange rate hedge. In addition, New Zealand's relatively strong fiscal position (see Section 3 for further discussion), credible institutional structures, and floating exchange rate are also important mitigating features.

Figure 4 illustrates that since peaking at 85 per cent of GDP in March 2009, net external liabilities have declined to just over 70 per cent more recently. This decline has been driven primarily by falls in private sector net borrowing intermediated through the banking system and the temporary effects of earthquake-related claims on international reinsurers.¹ The decline in the private sector's net external liabilities has been partly offset by an increase in the net external debt of the government associated with ongoing fiscal deficits. The short-dotted line in Figure 4 (excluding reinsurance payments associated with the Canterbury Earthquakes) can probably be thought of as closer to the underlying trend level of the net external liability position.

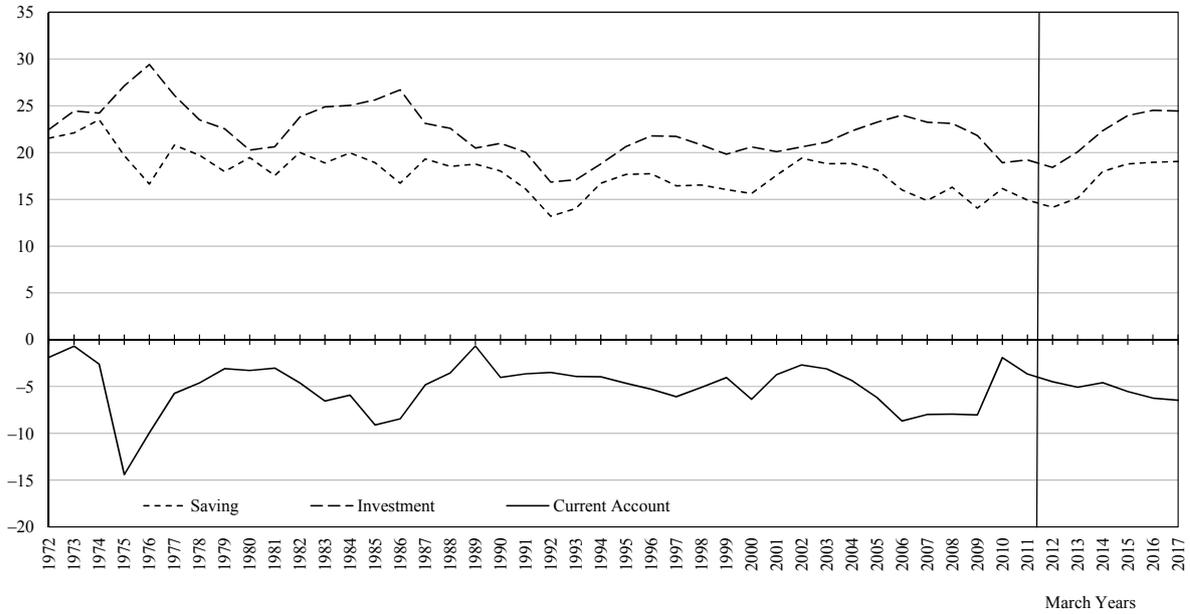
Even if New Zealand's net external debt position is perceived to be less risky than those in some of the European countries that have experienced recent debt crises, its size and New Zealand's ongoing reliance on foreign saving makes the economy relatively more vulnerable than other countries to changes in the availability and cost of external financing. These risks are exacerbated by some internal macroeconomic imbalances – most notably the high degree of leverage in the household and agricultural sectors, together with the fact that house prices are elevated relative to fundamental metrics, such as income and rents (Figure 5). Household debt is largely secured on property assets and a substantial property price correction could result in significant strain on household and bank balance sheets. A similar story can be told for farm prices, as discussed in RBNZ (2012).

Finally, it is worth noting that these developments have occurred against the backdrop of economic growth performance that has been poor by developed country standards over recent decades, and New Zealand's average incomes remain well below the OECD average (Figure 6).

¹ The cash settlements of some insurance claims from the Canterbury earthquakes have increased retail deposits from households and firms, and helped to reduce the banking system's reliance on external funding. As the rebuild progresses, however, much of this effect is likely to reverse.

Figure 2

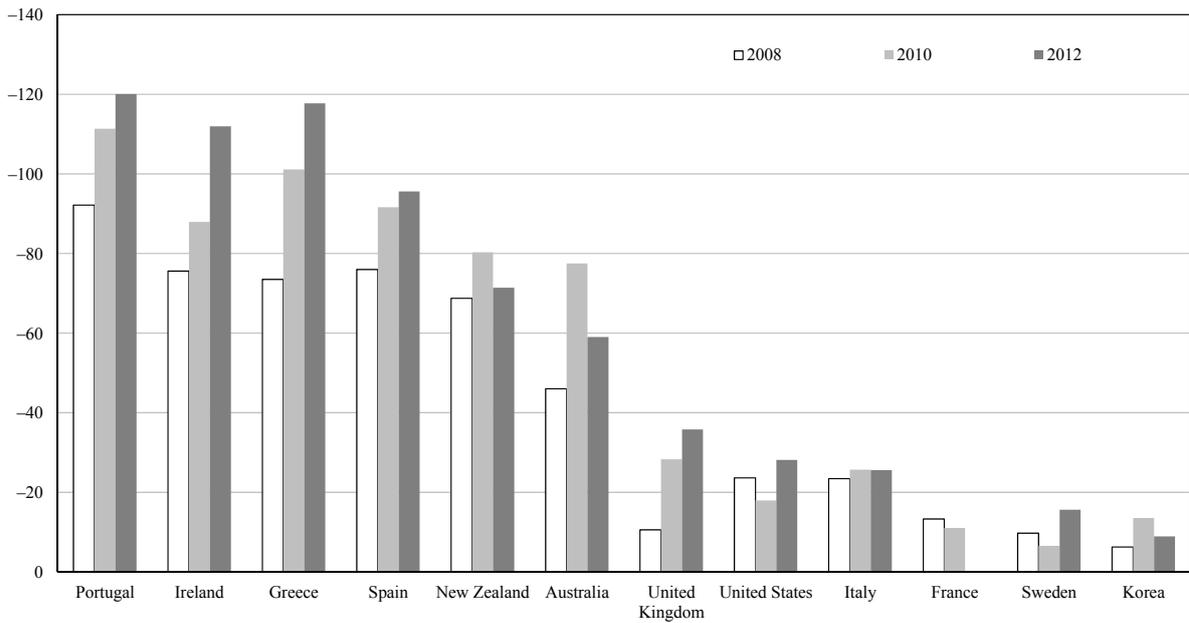
**Gross National Saving and Investment in New Zealand
(percent of GDP)**



Source: Treasury Half Yearly Economic and Fiscal Update, December 2012.

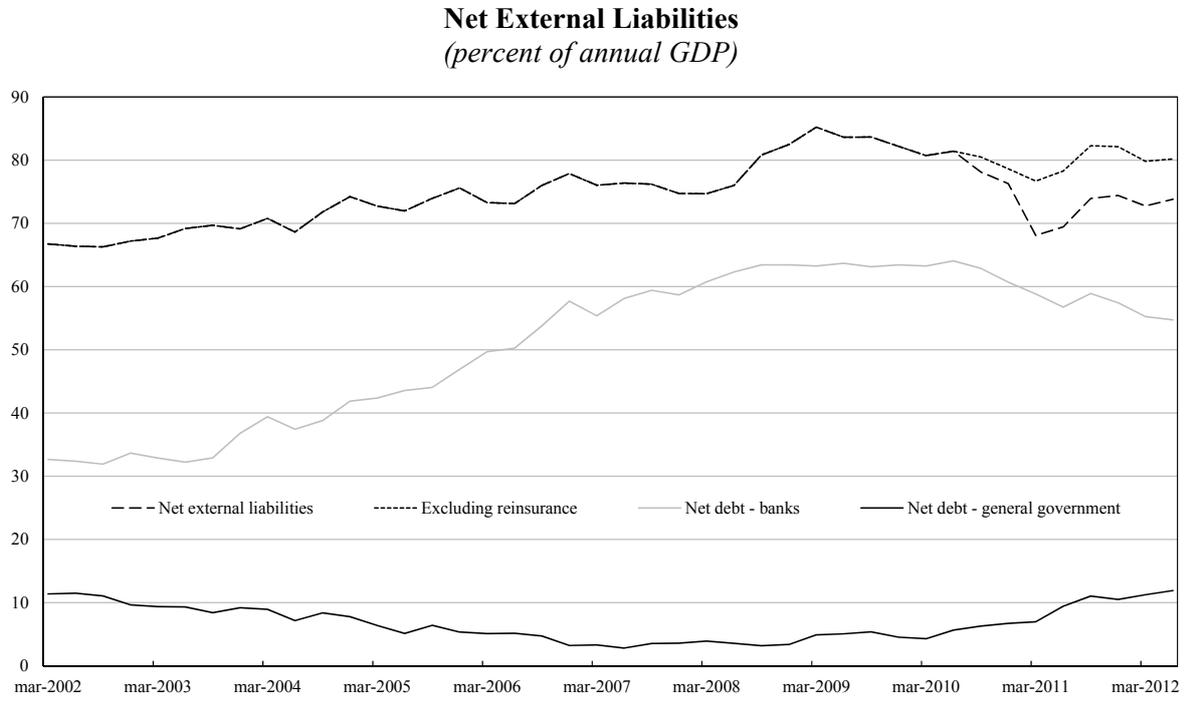
Figure 3

**Net International Investment Positions, New Zealand and Selected Countries
(percent of GDP)**



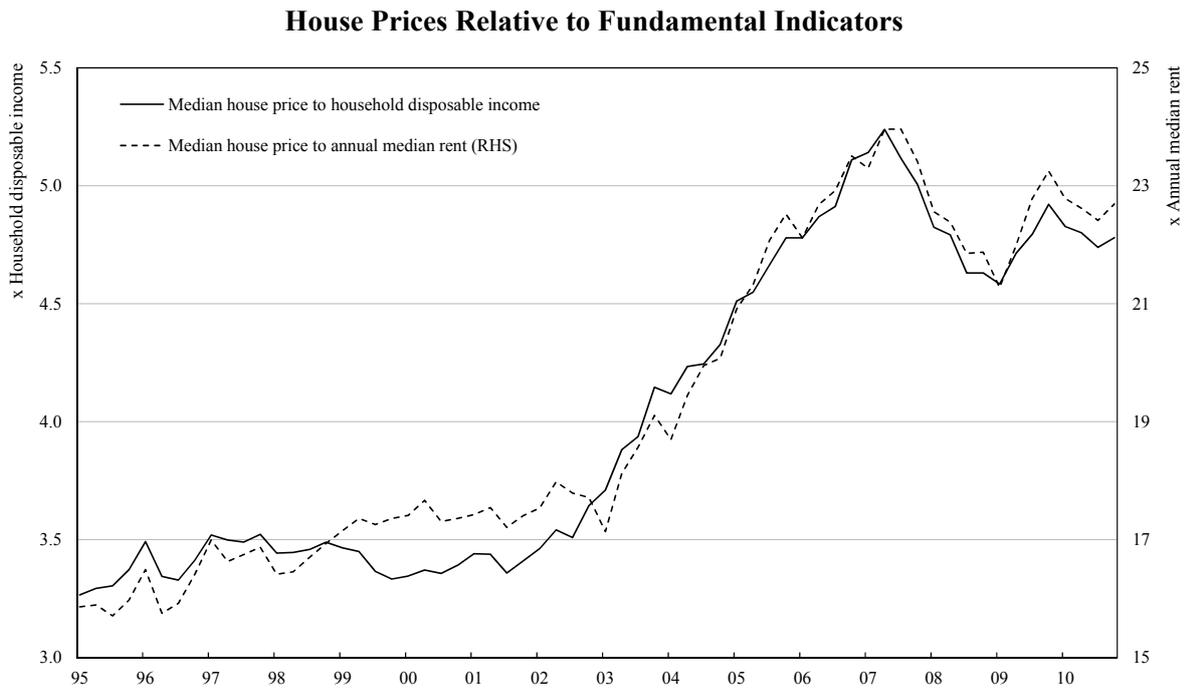
Source: Statistics New Zealand and IMF.

Figure 4



Source: Statistics New Zealand.

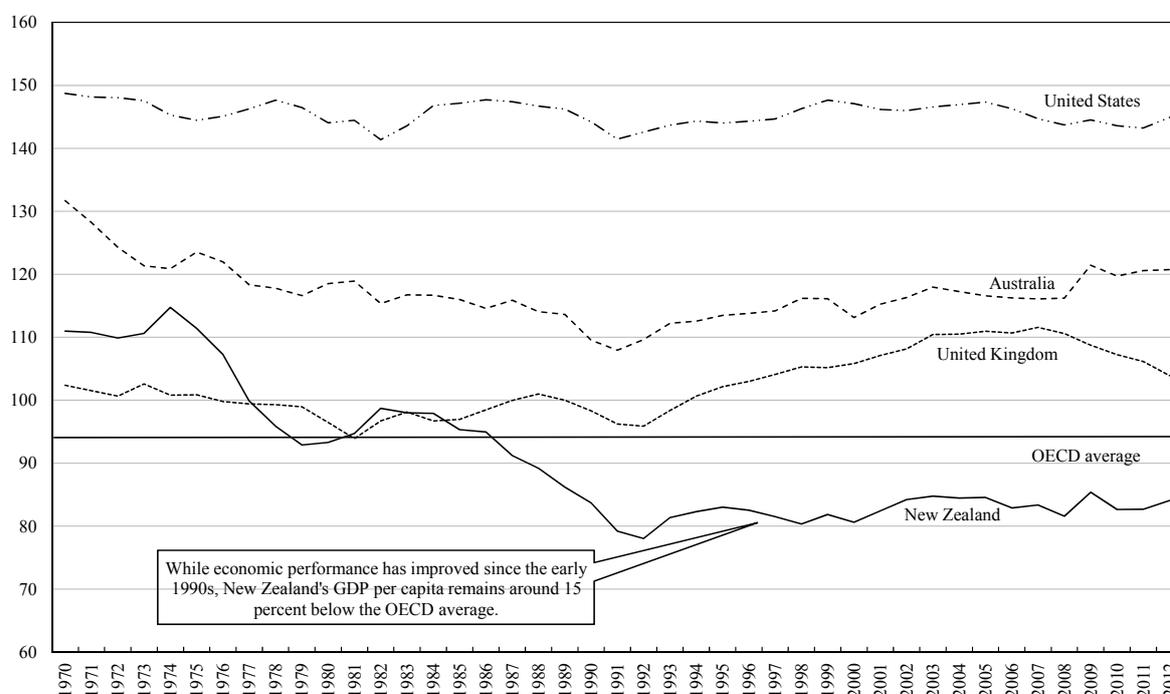
Figure 5



Source: Real Estate Institute for New Zealand, Statistics New Zealand, Department of Building and Housing, Treasury.

Figure 6

New Zealand's GDP Per Capita as a Percent of the OECD Average
 (percent of OECD average; index: OECD average = 100, US\$ constant prices and PPPs)



Source: OECD.

New Zealand has also experienced a persistently overvalued exchange rate, and high average real interest rates over a period of several decades. Labuschagne and Vowles (2010) and Reddell (2013) suggest that these outcomes are most likely closely linked to New Zealand's macro-economic imbalances.

The drivers and policy implications of these macroeconomic imbalances have been widely discussed by a range of commentators, including Burnside (2013), IMF (2012, 2011), OECD (2011), André (2011), Steenkamp (2010) and Edwards (2006). While different economists emphasise different drivers (and none see the probability of an abrupt and costly external adjustment as being high in the near term), they all agree that it would be good to reduce New Zealand's vulnerability to shocks by a gradual unwinding of its imbalances, and all envisage some role for fiscal policy in that. Reasons for wishing to narrow the imbalances including concerns about large and growing external liabilities, as well as concerns that saving investment imbalances have been putting upward pressure of domestic interest rates and the exchange rate, thus damaging New Zealand's growth prospects.

The purpose of this paper is to discuss the potential role of fiscal policy in contributing to these macroeconomic imbalances. To do this, the following three sections discuss the role of fiscal policy as seen through each the three lenses of fiscal sustainability, fiscal structure and fiscal stabilisation. This paper does not attempt to discuss other areas of policy that may also have an important bearing on macroeconomic imbalances – such as economic regulation and competition policy.

Figure 7

New Zealand's Relative Fiscal and Net International Investment Position (2007-11 Average)



Source: OECD, IMF, RBNZ, Treasury.

3 Fiscal sustainability

Generally prudent fiscal management since the early 1990s has meant that public finances have been viewed as a key strength of the NZ sovereign credit profile. Indeed, New Zealand's gross government debt position as a percentage of GDP typically looks just as good relative to our OECD peers, as our NIIP position looks bad (Figure 7). This good record of fiscal management is often attributed to the transparency-based framework for encouraging responsible fiscal policy management, as set out in the Public Finance Act.

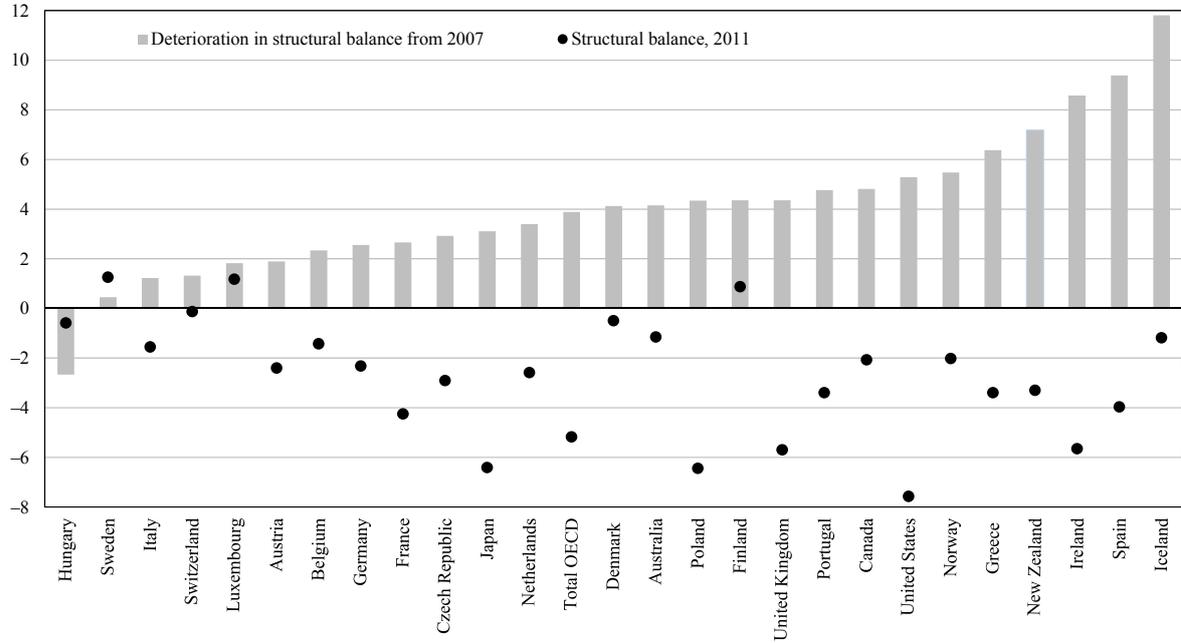
Over the past few years, however, New Zealand's public finances have worsened substantially (Figure 8). Contributing factors have been: weaker than expected economic activity (associated in part with the global recession); tax cuts introduced in 2009; and the unavoidable repair and reconstruction costs associated with the 2010 and 2011 Canterbury earthquakes.

As a consequence, general government debt has risen substantially (Figure 9), increasing the government's exposure to a possible deterioration in sovereign debt markets. To reduce this vulnerability and rebuild fiscal buffers, the Government aims to return to surplus by 2014/15, and bring the net debt to GDP ratio back below 20 per cent of GDP by 2020.

Given New Zealand's vulnerability to shocks, however, a strong case could be made for reducing public debt to a level significantly further below 20 per cent, especially during economic upturns. Moreover, the longer-term fiscal challenges associated with an ageing population and broader pressures on public health expenditures suggest that fiscal sustainability will remain an ongoing challenge. To illustrate, Table 1 provides some long-term projections of the government's budget based on an assumption of unchanged policies in spending areas and a fixed share of tax revenues as a percentage of GDP.

Figure 8

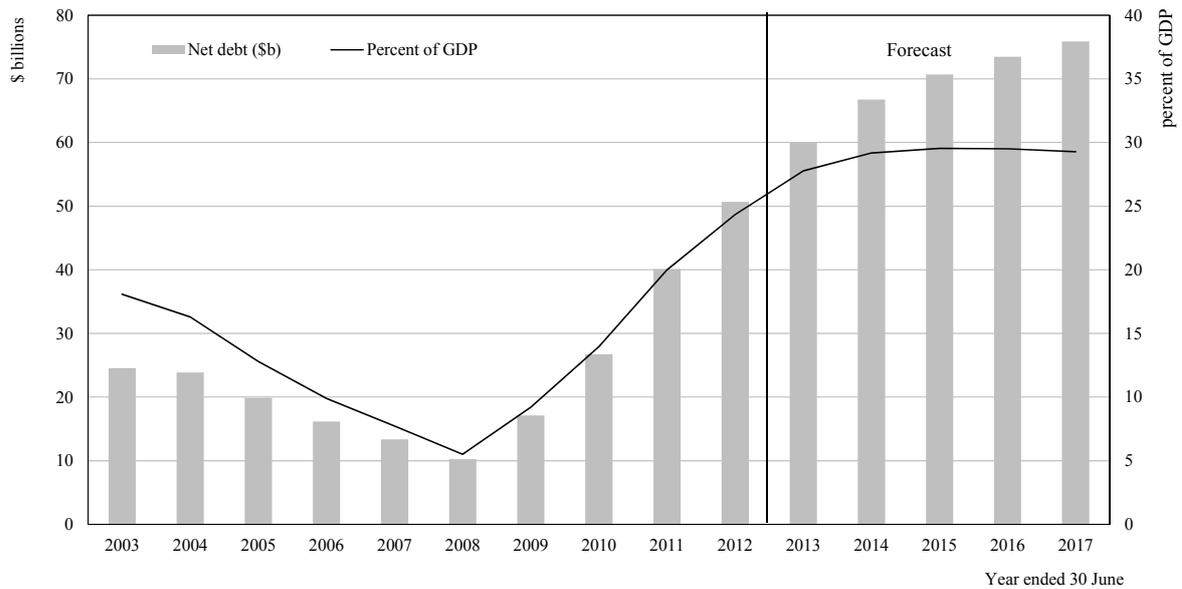
Deterioration in Structural Fiscal Balance
(percent of GDP)



The deterioration is measured by comparing the 2007 underlying balance with each country's lowest underlying balance over 2009-12. The New Zealand estimate has been adjusted by the Treasury to exclude temporary earthquake expenses. Source: OECD Economic Outlook 92 (December 2012), Treasury.

Figure 9

Net Core Crown Debt



Source: Treasury Half Year Economic and Fiscal Update, December 2012.

Table 1

Long-term Fiscal Scenario Based on Unchanged Policy
(percent of nominal GDP)

	2010	2020	2030	2040	2050	2060
Health	6.8	6.8	7.7	8.9	9.9	10.8
Pensions	4.3	5.1	6.4	7.1	7.2	7.9
Education	6.1	5.3	5.2	5.2	5.1	5.2
Justice	1.7	1.4	1.4	1.4	1.4	1.4
Non-pension Welfare	6.7	4.8	4.4	4.2	4.0	3.8
Other Expenses	6.5	5.6	5.7	5.8	5.9	6.1
Debt financing costs	1.2	1.8	2.5	4.2	7.1	11.7
Total Expenses	33.4	30.8	33.4	36.9	40.6	46.8
Total Revenue (mostly tax)	29.7	31.9	32.2	32.2	32.3	32.6
Gap to Balance Budget	3.6	-1.1	1.2	4.6	8.3	14.3
Net Government Debt	13.9	27.4	37.1	67.2	118.9	198.3

Source: Treasury (2013a).

Of course, the Treasury does not expect the projections in Table 1 to be realised, as it is expected that successive Governments will make adjustments to ensure that the goal of responsible fiscal policy, as set out in the Public Finance Act will be met. In fact, the table directly contradicts the Government's stated goal of bringing the net debt to GDP ratio back to 20 per cent of GDP by around 2020. This difference is due to the fact that the table's assumptions include that government spending will grow broadly in accordance with historical rates beyond the 2014/15 fiscal year, an assumption we do not expect will turn out to be true. The table does, however, demonstrate that the challenge of sustainable fiscal policy is an ongoing one.

The relationship between fiscal policy and macroeconomic imbalances has been examined in a number of studies. Schule (2010) used simulations of the IMF's GIMF model to show that raising government savings in New Zealand permanently by 1 per cent of GDP would improve the current account balance by about ½ per cent of GDP.

In a more recent study, the IMF (2012) looked at 22 country experiences since 1970 where advanced or emerging market economies significantly reduced their net foreign liabilities. This study found that orderly reductions in net foreign liabilities have mostly been achieved at times of improvements in gross public savings – alongside successful fiscal deficit reduction – rather than improvements in private savings. However, in the cases studied, most of the liabilities were held by

the public sector. This contrasts with New Zealand, where the bulk of external liabilities are held by the private sector, bringing into question the ultimate effectiveness of budget deficit reduction in reducing external liabilities. Unfortunately, the international literature has paid much less attention to exploring the sustainability of private external debt levels.²

4 Fiscal stabilisation

The stabilisation role of fiscal policy is quite different in a small open economy with a floating exchange rate – such as New Zealand – from that in a more closed economy or for economies operating under fixed exchange rates. This is because interest rate and exchange rate reactions to fiscal shocks tend to be much larger in small open economies, which gives the government in a small open economy much more influence over the policy mix between monetary and fiscal policy, and therefore over the path of the exchange rate (e.g., Allsopp and Vines, 2005; Brook, 2013a).

At the same time, however, this greater control over the policy mix is accompanied by a relative ineffectiveness of using fiscal policy to stabilise output over the cycle. This is reflected in the international evidence which shows that estimated fiscal policy multipliers are often close to zero in countries such as New Zealand that are both open and have a floating exchange rate, whereas they are typically greater than unity for more closed economies or for economies operating under fixed exchange rates, or when monetary policy is impeded by nominal interest rates reaching the lower bound (Beetsma and Giuliodori, 2011; Ilzetzki, Mendoza and Vegh, 2011). New Zealand-specific results, such as Parker and Vehbi (2013) and Fielding, Parkyn and Gardiner (2011) are generally consistent with results from empirical studies for other small open economies with monetary accommodation, reflecting the reaction of interest rates and exchange rates to fiscal shocks. Recognition of this has underpinned a refocusing on what role fiscal policy can and should play in “leaning against the wind” to prevent the build-up of sectoral or external imbalances, and exchange rate overvaluation (e.g., see Lane, 2010 – drawing on Blanchard, 2007).

By contrast, in larger and less open economies, there is more focus on the potential role that fiscal policy can play in stabilising aggregate demand, when fiscal multipliers are positive. This literature focuses almost exclusively on the impact of fiscal policy stimulus during downturns, largely ignoring the impact of fiscal policy prudence during upturns. It also largely fails to consider the open economy dimensions of fiscal policy, making this literature of limited relevance for New Zealand, where the issue of “policy mix” is more pertinent.

For New Zealand, therefore, what this means is that fiscal policy can help to guard against the widening of macroeconomic imbalances by doing whatever it can to avoid pro-cyclical fiscal policy settings. As discussed by Brook (2013a), this goal was not achieved during the mid-part of the 2000s, when a range of fiscal indicators suggest that fiscal policy was insufficiently supportive of low interest rates and strong tradable sector activity over 2005 – 2008.

This failure of fiscal policy to prevent pro-cyclicality seems to reflect two main factors. First, while there was nothing in the Public Finance Act that would *prevent* macro-stability considerations from being given weight in policy advice, the act itself was, at that time, silent on the importance of conducting fiscal policy in a way that best helps to stabilise the macro economy, beyond allowing for the use of automatic stabilisers, and so such considerations tended to be underweighted. Second, when the economy is performing well and fiscal revenues are strong, there are inevitably strong calls to “spend” the surpluses (either on tax cuts or spending increases).

² *I.e.*, there is no Reinhart and Rogoff equivalent for private debt.

To address these problems, amendments to the Public Finance Act will include the introduction of a new principle of responsible fiscal management that governments should “formulate fiscal strategy with regard to its interaction with monetary policy”. This will not only *require* governments to pay explicit attention to the stabilisation role of fiscal policy, but it should also help to address the political economy problem, by giving a higher profile to this role of fiscal policy.

Other possible reforms that have been suggested to improve the stabilisation role of fiscal policy (e.g., in Brook, 2013a) include the following:

- A more explicit de-linking of spending decisions from revenue outturns. E.g., by clearer *ex ante* specification of spending plans in fiscal strategy documents, or through the use of a well-designed stabilisation fund.
- An increased focus on introducing fiscally costly policy changes more gradually, so as to mitigate the problems of operating fiscal policy under uncertainty.
- Permanent tax policy reforms, such as a capital gains tax that would increase the strength of the automatic stabilisers, while also improving the efficiency of the tax system more generally. Capital gains tax revenues could also be earmarked for a stabilisation fund.
- Consideration of the role that a regular independent review of fiscal policy could play in raising the quality of public debate and transparency and accountability of key fiscal policy judgements.

Overall, however, while it does play a role, the stabilisation role of fiscal policy is not likely to be an important part of either the causes or solutions of New Zealand’s macroeconomic imbalances. After all, these imbalances pre-date the episode of pro-cyclical fiscal policy that has been identified. The structure of fiscal policy – discussed in the following section – is likely to be much more important.

5 Fiscal structure

While the links between trends in government saving and external imbalances are well understood, there is much less consensus in the literature about how the structure of fiscal policy (specific tax and spending policies) can best support external balance by encouraging a higher rate of private saving.³

Since private saving in New Zealand stands out as being exceptionally low in comparison with other advanced economies (Figure 10, panel A), and in such stark contrast to the generally good record of public saving (panel B), it seems worth exploring what aspects of New Zealand’s fiscal policy *structure* (*i.e.*, tax and spending policies) could be contributing to a lower rate of private saving than typically found in other countries?

Three main possibilities present themselves. First, New Zealand’s first tier publicly-provided pension – known as New Zealand Superannuation (NZS) – is universal and not means-tested and set at a level that is relatively generous⁴ compared to safety-net pensions in other countries. Second, New Zealand is one of only two OECD countries (Ireland is the other) that does not have a tier 2 pension scheme (*i.e.*, a mandatory or quasi-mandatory employment-linked personal retirement saving scheme). Third, New Zealand’s TTE tax system (discussed below) provides no tax incentives to encourage voluntary saving.

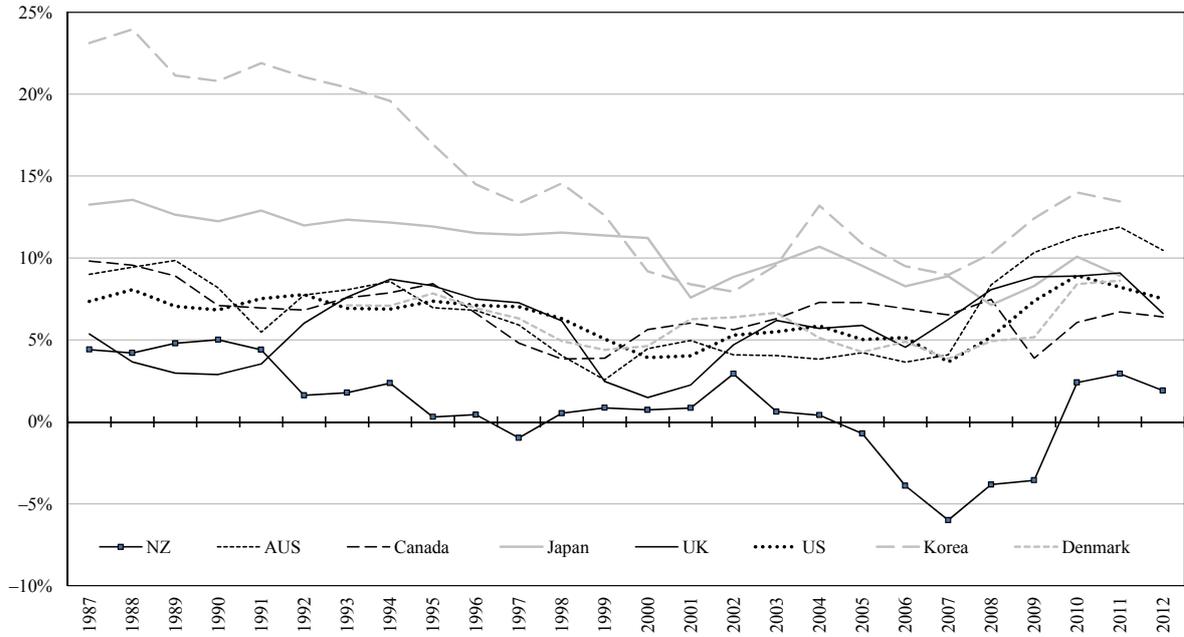
³ Brook (2013b) provides a more in-depth survey of the literature on this topic.

⁴ The level of the pension is “generous” only to the extent that it is sufficient to keep pensioners out of poverty, as defined in a relative sense.

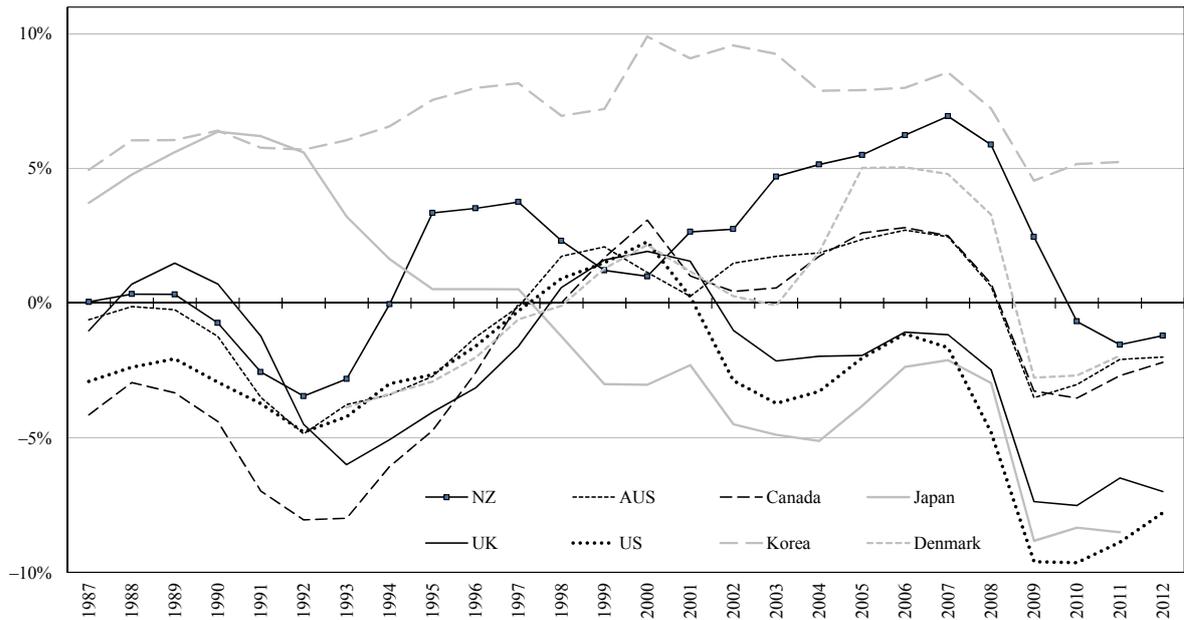
Figure 10

Public and Private Saving Rates in New Zealand and Selected Other Countries

a) Net Private Saving
(percent of GDP)



b) Net Public Saving
(percent of GDP)



Source: Haver Analytics.

Ideally, it would be possible to draw conclusions from the international literature about the links between the unique features of New Zealand's saving environment and our relatively low saving rates. Unfortunately, any such conclusions are difficult to draw due to the difficulties of isolating the impact of policy settings from other drivers of saving. For example, Bernheim (2002) points out that it is not possible to reliably infer the saving effects of saving schemes from simple cross-country correlations or regressions, as countries where voters care more about saving are more likely to introduce tax incentives for saving, creating an endogeneity problem. Multicollinearity problems are also common (López-Murphy and Musalem, 2004). So this paper does not attempt to draw a direct causal link from these institutional settings to New Zealand's poor private sector saving behaviour. It does, however, look at the extent to which changes to fiscal policy structure may have potential to boost private saving, and thus alleviate macroeconomic imbalances.

5.1 *The role of tax policy*

There are two main ways in which tax policy is likely to affect private sector saving incentives. The first relates to how the tax system influences the timing of individuals' saving versus consumption decisions (*i.e.*, incentives to save now). The second relates to the extent to which the tax system distorts the allocation of savings across different saving vehicles.

5.1.1 *New Zealand's choice of a comprehensive tax base has important implications for people's consumption vs saving decisions.*

The way in which savings are taxed is a key distinguishing feature of different tax systems and a key characteristic of the tax base. If the tax base is defined as including income from savings as well as labour earnings, and if all components of that tax base are taxed equally, then this is known as a "comprehensive income tax system". Broadly speaking, this is the type of tax system that New Zealand has adopted.⁵ Alternatively, if earnings that are saved, and the returns to savings, are not taxed until they are used for consumption, the resulting tax system is an "expenditure tax" or "consumption tax". The difference in the tax treatment of savings is the critical difference between these two tax bases.

An important implication of the choice of tax base is that it has an effect on the incentive to save. An expenditure tax system creates a neutral setting for people to make decisions about whether to consume now or later. By contrast, a comprehensive income tax system taxes people who choose to consume later in life (high savers) more heavily than people who choose to consume earlier in life (low savers). This suggests that a move towards an expenditure tax would increase people's incentives to save. However, since expenditure tax systems can be administratively difficult to implement and can make achieving other objectives more difficult, no country has a pure expenditure tax system. Most countries have ended up with some features of each.

Differences in the taxation of savings are often described in short-hand using the notation of a three-letter acronym of Ts and Es. For example, a comprehensive income tax system, such as New Zealand's, is normally characterised as a TTE regime – where the first T refers to the income tax rate, the second T refers to the tax rate on the return to savings, and the E (=exempt) refers to the fact that no tax is levied on funds when they are withdrawn from a savings account. By contrast, a pure expenditure-based tax system is characterised as EET, which in present value terms is equivalent to TEE (*i.e.*, a regime where income from savings is tax-exempt).

⁵ New Zealand's tax base falls short of being fully comprehensive as few capital gains are taxed. Also the Portfolio Investment Entity (PIE) regime provides investors with a small tax rate reduction on some investments.

While many other countries' tax systems are also based around a comprehensive tax base, most have attempted to increase saving incentives by introducing various sorts of tax-preferred private saving accounts. In some cases these are EET or TEE tax systems (where returns to savings are fully tax exempt), while in other cases they are TtE or EtT systems (where the small middle t refers to the fact that returns to savings are taxed at a reduced rate). In choosing to offer tax-favoured saving vehicles, these countries are making a judgment that the comprehensive tax base creates too great a disincentive for saving.

However, the empirical evidence on the impact of tax incentives on savings is mixed. Theoretically, the effect of tax incentives in life cycle hypothesis models is ambiguous, since there is both an income and a substitution effect at play. On the one hand, tax incentives for saving make consumption now more expensive relative to future consumption, which should increase current saving. On the other hand, the amount that it is necessary to save to achieve a given level of wealth is reduced. In order for tax incentives to increase saving, the intertemporal elasticity of substitution must be negative (*i.e.*, an increase in the after-tax return on saving must reduce consumption).

Given the theoretical ambiguity, it is perhaps not surprising that the empirical evidence is quite disparate and far from providing a definitive answer. While a significant number of studies have concluded that tax incentives lead mainly to reallocation,⁶ there are also a number of studies that conclude that tax incentives create mainly new saving, raising total saving.⁷ This wide range of estimates is partly explained by the difficulty in controlling for unobservable heterogeneity in savers' preferences.⁸ It also reflects differences in the design of tax incentive schemes across countries. For example, it is generally agreed that high income individuals tend to reallocate savings in the face of tax incentives,⁹ while for mid-to-low-income individuals participating in funded pension plans, their contributions tend to come from new saving, so countries where tax incentives are skewed toward lower-income individuals are more likely to conclude that tax increases raise new savings.¹⁰

An additional way in which the tax system affects saving incentives stems from the fact that tax is levied on nominal rather than real values. Even though inflation rates in New Zealand are now low on average, they are nonetheless still significant in the context of real investment returns. Indeed, as noted by the Savings Working Group (SWG, 2011), the impact of inflation can potentially double effective rates of tax for many investors (while at the same time providing a significant subsidy to borrowers). As also noted by the SWG, there are two reasons why non-indexation may be more distortionary in New Zealand than in other countries: first, because most other countries impose capital gains taxes, which reduce the incentive to borrow to invest in asset classes that increase in value when there is inflation; and second, because most other countries provide households with retirement income vehicles that are less distorted by inflation, because they are taxed more according to expenditure tax principles than income tax principles. For these reasons, the SWG recommended that the Government consider options for indexing the tax system (discussed further below). Alternatively, reducing the tax rate on interest income more generally, could be seen as a proxy for inflation indexation. Indeed, the Henry review on the Australian tax system (Henry *et al.*, 2009) advocated a broad 40 per cent discount on the tax rate on income from

⁶ E.g., Gale and Scholz (1994), Attanasio *et al.* (2004), Disney *et al.* (2007).

⁷ E.g., Poterba *et al.* (1995, 1996), Engelhardt (2001), Ayuso *et al.* (2007), Gelber (2011).

⁸ Individuals with a high propensity to save are likely to have higher savings in both tax-preferred and non-preferred accounts. Since these unobserved preferences affect both the explanatory variable (saving in tax-favoured accounts) and the dependent variable (total savings), this causes a problem of endogeneity.

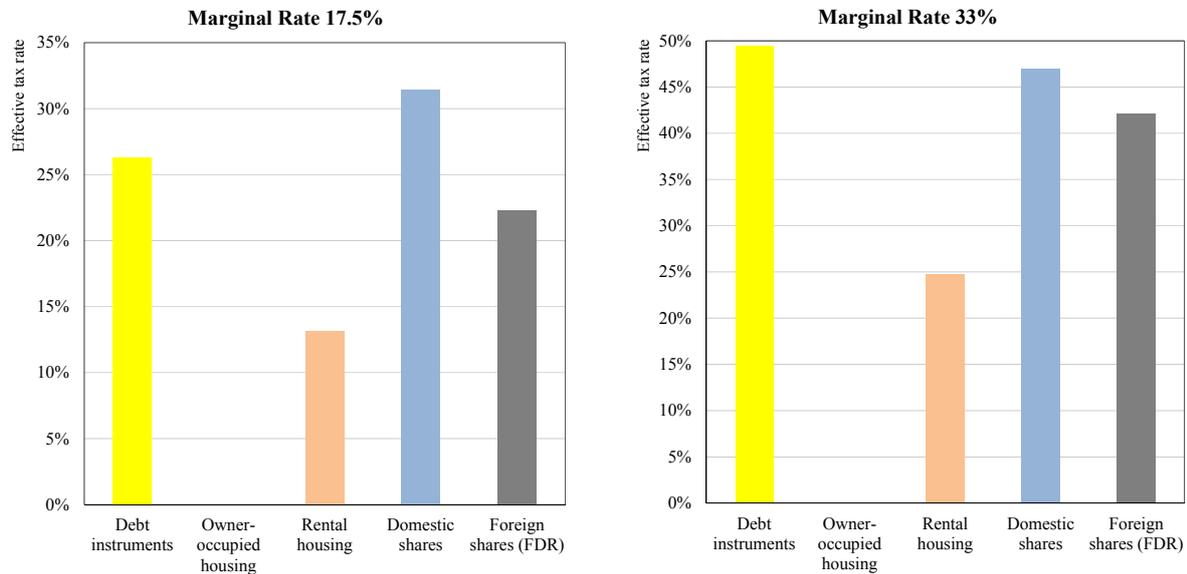
⁹ An exception is for high income individuals close to retirement age, who have been found to increase new saving in response to tax incentives (Ayuso *et al.*, 2007).

¹⁰ E.g., Benjamin (2003), Engen and Gale (2000).

Figure 11

Real Effective Tax Rates on Different Investments

(results are sensitive to assumptions)¹¹



Source: Savings Working Group (2011).

bank deposits, bonds, rental properties, capital gains and for certain interest expenses, in part to address the distortions created by not inflation-indexing the tax system.

5.1.2 Tax settings in New Zealand also create non-neutralities across saving vehicles

While the taxation of saving has potential to affect the total amount of savings in the economy, it also affects how those savings are allocated across different assets. This can directly affect the amount of capital invested in the economy, and how efficiently it is invested. The key consideration here is the neutrality of taxation of different saving vehicles. Ideally, different forms of saving should be taxed at similar rates.

The non-neutrality of taxation across different saving vehicles in New Zealand is well documented, with the most obvious example of non-neutrality being the fact that financial assets (such as bank deposits or shares) are taxed at a significantly higher rate than housing assets. As Figure 11 illustrates, returns on owner-occupied housing are not taxed at all (TEE), and returns on investments in rental housing are taxed at a much lower rate than returns on financial assets (TtE).¹² Debt instruments are taxed at the highest rates, and since this includes deposits in bank accounts, this is likely to affect the least sophisticated investors.

¹¹ Note that the real effective tax rate shown for investments in companies (*i.e.*, shares) will vary according to the nature of the company's business. The chart gives the case for a company that has no debt financing, and therefore presents the maximum possible tax rate. At the other extreme, the marginal effective tax rate on shares should in principle be negative (e.g., for a highly geared property owning company).

¹² Some measures to remove the tax advantages for rental housing were taken in the 2011 Budget. For example, regulations on Loss Attributing Qualifying Companies (LAQCs) were tightened so as to reduce the extent of attribution of losses to shareholders. At the same time the ability to claim depreciation allowances on most residential and commercial properties was removed.

Some have argued that the tax-favoured nature of the ownership of housing has led to too much of New Zealand's saving being diverted into housing. This is not an argument that there has been too much real investment in housing,¹³ but rather an argument that the tax-favoured nature of house ownership – in combination with supply-side constraints – may have contributed to the sharp increase in the real price of houses over the last 20 years. In turn high house price inflation has been found to put downward pressure on private saving rates through a variety of mechanisms. The tax-preference currently enjoyed by housing assets is also likely to have encouraged excessive leveraging in pursuit of tax-preferred income. This may be one of the factors that have influenced the composition of capital inflows.

In most other countries, the neutrality of saving in different forms is further distorted by the presence of tax-favoured saving vehicles. In order for tax incentives to achieve their stated goal of increasing or encouraging saving, at least some of the funds going into tax-favoured forms of saving must come from reductions in individuals' consumption levels as opposed to a simple reshuffling of money from one form of saving to another more tax-preferred form. The evidence on the proportion of new saving is mixed, as discussed above. Nevertheless, results are very sensitive to precise design details, suggesting that there may be some role for well thought-out tax incentives to play. In particular a number of studies have shown that since moderate-income individuals face a lower tax rate, the more they participate in comparison with high income individuals, the lower the tax expenditure for foregone tax revenues (Antolin *et al.*, 2004). OECD (2007) considers the extent to which tax-preferred saving schemes in 11 OECD countries are efficient, where a plan is judged to be efficient if it increases personal and national saving at the lowest possible cost. In summary, the paper suggests that there are two main requirements for efficiency of tax-preferred schemes. First, the design of the scheme must encourage high rates of participation and contributions from middle and low-income households, whose contributions are more likely to come from new savings.¹⁴ Second, tax expenditures must be kept low. Most of the plans reviewed by OECD (2007) did not meet these criteria, as wealthier individuals were typically found to have the highest take-up of tax-favoured schemes,¹⁵ and some schemes offered very expensive tax incentives.

An important difficulty in estimating the impact of tax incentives on *national* saving stems from the fact that we typically don't know what the fiscal policy counterfactual would be. It is here that the overall fiscal strategy becomes important. For example, Gruen and Soding (2011) argue that the foregone tax revenue from tax incentives in Australia has forced the government to achieve the same budget surpluses (which are required as part of the fiscal strategy) by making savings elsewhere in the Budget. So overall they argue that any boost to private saving from the tax-preferred status of superannuation in Australia has not been offset by lower public saving, meaning that the boost to private saving has translated directly into national saving. In other countries, with a less prudent fiscal strategy, however, different conclusions might be reached.

So what might be the main options for tax reform to boost national saving in New Zealand? In the New Zealand debate, acknowledgment of the impact of the comprehensive income tax system on the timing of saving decisions, has often led to suggestions to improve saving incentives by lowering income taxes and raising consumption taxes. Indeed, the tax changes announced in Budget 2010 (which reduced income tax rates, and raised GST from 12.5 to 15 per cent) were

¹³ Over the past couple of decades, real investment in housing has not seemed consistently out of line with other OECD countries. Indeed, once our strong population growth has been taken into account (not shown), there has probably been less investment in housing than might have been appropriate.

¹⁴ Not only are lower-income individuals likely to contribute more new saving, but the fact that they also face a lower tax rate implies that the cost of tax expenditures on these individuals is normally lower.

¹⁵ There are three main reasons for this pattern. First, tax-free accumulation is worth less to low-income households as they face a lower marginal tax rate. Second, low-income individuals are more likely to be liquidity constrained and less able to reduce their consumption further to fund their contributions. Finally, some plans are provided by employers, and low-income individuals are less likely to work for firms offering such plans.

partly motivated by this consideration. However, it is acknowledged that other objectives of the tax system – particularly equity concerns – pose limitations to the extent to which this is considered acceptable. In particular, there are concerns that the limit to raising GST has already been reached (for equity reasons, or because of concerns that a higher rate would undermine the breadth of the GST base).

With respect to the second of the two distortions – the non-neutrality of the taxation of different forms of saving – the Treasury (2011) and other commentators such as the OECD have recommended raising taxation on housing by introducing a capital gains tax.¹⁶ A capital gains tax would be expected to reduce investment in rental housing and increase investment in debt investments.

Some options have also been considered for shrinking the size of the middle “T” in our TTE tax regime (*i.e.*, moving to more of a TtE system). This is equivalent to a small step away from a comprehensive tax base in the direction of a more expenditure tax regime. As such it would improve the neutrality of the saving-consumption decision. If done well, such a reform could also improve the neutrality of taxation of different saving vehicles.

Recently, a number of options for shrinking the size of the middle ‘T’ have been evaluated by the Treasury and IRD using a purpose-built CGE model developed by Diamond and Zodrow (DZ model). The DZ model is a computable general equilibrium model that permits us to examine how tax reforms might affect the allocation of capital in New Zealand, as well as the impacts on key variables such as GDP, economic welfare¹⁷ and the level of savings (Treasury and IRD, 2013). The advantage of such a model is that it enables the economy-wide effects of a policy change to be evaluated, including so-called second-round effects in markets not directly affected by the policy under consideration. At the same time, such models also have limitations in that they are quite highly aggregated and not able to provide insight into all the possible effects of a policy change. Importantly, the results obtained from such a model are influenced by the structure of the model itself and its underlying assumptions about producer and consumer behaviour.

Two key options that have been considered for shrinking the middle “T” are as follows:

- **Reducing the tax rate on interest income:** Of all the tax reforms modelled using DZ, this was the one that had the biggest positive impact on saving (although a general personal income tax reduction (shrinking the first “T”) showed similar gains for saving). It also increased GDP and welfare. However, its impact on the neutrality of taxation of different saving vehicles was considered mixed.¹⁸ Concern was also expressed about the impact on the complexity of the tax system given the need for anti-arbitrage rules. Overall, however, the report recommended that further consideration be given to this option.
- **PIE regime extension:** Another way of shrinking the middle “T” would be to extend the preferential Portfolio Investment Entity (PIE) tax treatment to other forms of investment.¹⁹ The most obvious other asset class that would be brought under the PIE umbrella by such an expansion would be interest-bearing assets. Thus a PIE regime extension would be an alternative means of achieving a reduction in the tax rate on interest income. Compared with

¹⁶ While a comprehensive capital gains tax could be ideal, significant improvements in neutralities across investments would still be achieved even if owner occupied housing was exempted from such a tax. Reasons why owner occupied housing might be exempted, and options for implementing a capital gains tax are discussed in Treasury (2009).

¹⁷ The measure of economic welfare takes account of the fact that some tax changes benefit foreign investors, which would increase GDP, but not the economic welfare of New Zealanders.

¹⁸ On the positive side, a discounted tax rate on interest would reduce the effective tax rate on interest to be closer to the effective tax rate on housing. But it could also increase effective tax rate differentials with other investments (e.g., equities in Figure 11).

¹⁹ A Portfolio Investment Entity (PIE) is a special tax investment entity type for which the tax rate on investment income is lower than for other income types, depending on their personal circumstances (some individuals on the lower marginal tax rates do not qualify for a reduction). Some managed funds are registered as PIEs but not all.

reducing the tax rate on interest income alone, a PIE regime expansion would have greater efficiency advantages (by making the tax treatment of many easily-substitutable forms of capital income more consistent and helping to address the non-neutralities in tax treatment of different investments noted in Figure 11 above). As with the previous options, it would also encourage more domestic saving, given lower tax rates on a broader range of investment.

This option (broadening the PIE regime to include all interest and dividends earned by New Zealand residents) was recommended by the SWG (Savings Working Group, 2011).

If such a reform was to be pursued, the magnitude of the inflation distortion (discussed above) could be used as an objective basis for deciding by how much to shrink the middle “T”. The reduction recommended by the Henry Review for Australia, in this context, was 40 per cent (Henry *et al.*, 2009). By contrast, the SWG suggested targeting a rate reduction for all investors of 5 to 10 percentage points (which would imply a reduction in tax rates of somewhere between around 15 – 50 per cent, depending on the individual’s normal marginal tax rate (with the larger reductions applying to lower income individuals).

One disadvantage of each of the above two options is that reducing the size of the middle “T” differentially across assets can increase the size of some non-neutralities between different saving vehicles (albeit while reducing others). To avoid this problem some countries have adopted a practice of taxing all forms of capital income – including corporate income – at a standard low rate. This type of tax system – common in the Nordic countries – is known as a dual income tax regime. Dual income tax regimes typically have relatively high taxation of labour income.

- **A dual income tax regime:** A dual income tax regime was modelled using the DZ model and shown to generate some additional saving and investment (which in turn increases GDP), although these gains were found to be smaller than for simple rate changes to personal income taxes or the tax rate on interest income. The model found that a dual income tax did not increase economic welfare because the benefits of the additional investment were outweighed by the loss of tax revenue on existing investments from reducing the corporate tax rate as part of the general reduction in capital taxes. These results are dependent to some extent on the parameterisation of the DZ model, although sensitivity analysis did not produce markedly different results. An important disadvantage of dual income tax regimes is that they add complexity to the tax system (e.g., rules are required to prevent labour income from being reclassified as capital income). It would also be challenging to implement in the near-to-medium term given IRD systems capability. Because of these difficulties, both SWG (2011) and Treasury and IRD (2013) did not recommend pursuing a dual income tax regime at this stage.

Where does this leave us? On the one hand, it seems that New Zealand’s relatively poor record of private sector saving could be partly explained by the combination of: a) the non-neutralities in the consumption saving decision inherent in our comprehensive income tax system; and b) the absence of significant tax-favoured savings vehicles to help mitigate these; although it is difficult to know the extent to which this might be the case given the lack of an observable counterfactual. On the other hand, the literature discussed earlier suggests that most tax-favoured saving vehicles are not very efficient. This suggests that any modifications to the balance of how we tax labour and capital income should be designed carefully so as to reduce distortions against saving without introducing new efficiency costs.

Another important consideration is that all options to shrink the middle “T” would likely have distributional implications, since reduced taxation of saving would tend to favour the wealthy. These options would also lower tax revenues. This suggests that any such change may be best paired with other revenue positive tax reforms that would fall more heavily on the wealth. One obvious contender in this context would be a capital gains tax, which as well as raising revenues

would help to reduce non-neutralities between different saving vehicles. However, given the volatile revenue profile of a capital gains tax, other revenue-positive options would also need to be considered.

An interesting question in this context is to consider the interaction between the tax system and saving compulsion. The normal argument for offering tax incentives is to encourage saving. However, if saving were to be made mandatory, and if one adopts the comprehensive income tax base (*i.e.*, that income from saving should be taxed at the same rate as income from labour) then the case for offering any tax incentive on those mandatory savings would evaporate.

Indeed, since 2007 New Zealand already has been following the increasingly popular practice of automatically enrolling employees who start a new job in a savings scheme (KiwiSaver). This is not a mandatory saving scheme as employees have the option to actively opt out if they do not wish to belong. A growing body of international research has found that the setting of such automatic default saving rates has a powerful influence on saving behaviour in a wide range of settings, as many individuals passively accept the default options.²⁰ The evidence suggests that defaults are particularly influential for low-income employees, most likely because these individuals face higher barriers to active decision-making.²¹ Initial evaluations of the impact of KiwiSaver have found similar results for New Zealand; *i.e.*, the automatic enrolment into KiwiSaver of individuals starting a new job has been found to result in increased total saving by some individuals, particularly women, those with more children, those expecting NZS to be their main income in retirement and those in poor health (Law *et al.*, 2011).²² However, it is not possible to fully separate the impact of default settings in KiwiSaver from the impact of financial incentives (kickstart and member tax credit).

Taken together, the literature discussed in this section does not provide a clear sense of tax policy direction for policy-makers in a country like New Zealand that wishes to facilitate a higher rate of national saving. On the one hand, New Zealand's TTE taxation of savings may be too discouraging of savings. But it is also clear that many other OECD countries do not have optimal settings either. Studies highlight the fact that encouraging saving through the use of tax incentives is likely to have costs in the form of reduced equity (as tax breaks tend to favour the wealthy), reduced efficiency (by favouring saving in some forms over others) and greater complexity.

One positive feature of New Zealand's policy settings is that in comparison with tax-favoured saving schemes in other countries, the financial incentives offered as part of New Zealand's KiwiSaver scheme generally perform better on most criteria of efficiency. This is because the annual incentive is a capped tax credit (instead of a generous deduction as in most countries), and low- and middle-income savers receive a greater proportionate benefit for their contributions compared to high income savers, so the incentive is more significant for those on lower incomes.

What other aspects of the *structure* of fiscal policy may influence saving? The following section discusses some options on the spending side of the fiscal accounts: in particular it considers

²⁰ E.g., Beshears *et al.* (2010, 2012),

²¹ Compared with high-income employees, low-income employees have been found to exhibit a greater degree of bunching at the default rate and a lower rate of opting out of the default even when the default is far from what the typical low-income employee actively chooses. Default portfolio allocations also have a more powerful impact on low-income employees. E.g., Beshears *et al.* (2012).

²² In New Zealand the KiwiSaver default rate and matching government contribution have changed several times. At the time the scheme was introduced the default contribution rate was set at 4 per cent of earnings, and the government contribution matched this \$1 for \$1 (via the member tax credit) up to a maximum of \$1040/year. Subsequently the default was reduced to 2 per cent, and more recently has increased to 3 per cent, while the government contribution has been reduced to 50c for \$1 up to a maximum of \$521/year. Analysis of behaviour has revealed a tendency to maximise the government contribution, rather than one's own KiwiSaver accumulation.

some hypothetical changes to the institutional settings around New Zealand Superannuation (NZS) – the universal, non-means-tested pension currently available to all New Zealanders from the age of 65.

5.2 Possible reforms to the settings of New Zealand Superannuation

This section draws on Law (2013) who quantifies the likely impacts of some hypothetical retirement income policy reforms on national saving. The results suggest that some feasible changes to retirement income policies could lead to substantial cumulative changes in national savings over the next few decades.

Briefly, Law's (2013) analysis produces some indicative estimates of national saving effects that may result from the following three retirement income policies:

- Lifting the age of eligibility for New Zealand Super (NZS) from 65 to 67.
- Changing the indexation of NZS from wage growth to the average of wage and CPI growth.
- The introduction of mandatory private pre-funding by making KiwiSaver compulsory and using the accumulations to reduce NZS entitlements (with an abatement rate of 50 per cent).

The choice of these three reform policies is designed to be illustrative of the sort of retirement income policy reforms that could be considered. Obviously any such quantification exercise is fraught with difficulties, as assumptions must be made about behavioural responses.

The third of these options – the introduction of a mandatory 2nd tier saving scheme that would be used to permit abatement of NZS – would constitute a move away from New Zealand's pay-as-you-go (PAYGO) pension scheme towards more of a save-as-you-go (SAYGO) scheme. As such, it can be shown that such a move would have all the efficiency gains of a save-as-you-go (SAYGO) pension system as long as the return to capital investments is larger than the growth rate of the economy (which is normally the case).²³ The basic idea is that by boosting the stock of capital in the economy, a SAYGO pension system will temporarily boost the economic growth rate and permanently boost the level of output in the economy. The disadvantage of such a move, however, is that in the early years existing pensioners continue to be paid their NZS entitlements on a PAYGO basis while working cohorts must at the same time make contributions to the SAYGO fund. So transitional generations effectively pay both for some proportion of their own pensions and for the full cost of the pension entitlements of earlier generations. While this can be considered inequitable for existing generations, Coleman (2012) has shown that under the existing PAYGO-funded SNZ scheme, cohorts born prior to 1980 can expect to pay only half as much as they can expect to get in retirement benefits, because of the relatively small number of pension recipients when they made the bulk of their payments. This makes the transition costs of transitioning to a SAYGO system (either public or private) seem more palatable.

The results of the analysis of the three hypothetical policy reform options do not incorporate the impact of cumulated returns. Thus, the charts below underestimate the potential increase in saving as a result of these policies (both national and household). The extent of the underestimate will not be substantial in the early years of estimates but toward the end of the modelling period saving is likely in each case to be significantly higher than shown here. However, the relative profiles of the three options modelled should be unaffected.

Broadly, the model starts by calculating the impact of each retirement income policy change on an individual's NZS receipts, taking into account their age cohort, income, taxes etc. The model then *assumes* that the greater the reduction in expected NZS receipts, the more people are likely to

²³ Diamond (1965, 1997), Feldstein (1974).

respond by cutting back on consumption and increasing saving.²⁴ Thus, since changing the indexation of NZS (as modelled) implies the greatest loss of NZS entitlements, this hypothetical policy generates the largest saving response, even allowing for a wide range of potential behavioural responses (indicated in Figures 12 and 13 by the dotted lines). By contrast, the smallest saving response comes from raising the age of entitlement from 65 to 67, as this implies a relatively small loss of entitlement, and because years of labour force participation by 65- and 66-year-olds among future cohorts is expected to increase anyway.

In all cases, the annual additions to total household saving eventually slow down as additional saving by working-age people starts to be balanced out by decumulation as retired people start to run down their savings.

The overall impact of any such retirement income reform on national saving would depend not only on the extent to which private saving behaviour would change (Figure 12) but also on the extent to which the government were to use the fiscal savings realised in terms of lower NZS payments to reduce deficits (or increase surpluses). If the full extent of NZS “savings” were to be realised as higher-than-otherwise fiscal saving, the total impact on national saving flows would be as shown in Figure 13. Alternatively, if all of the NZS savings were offset by higher expenditure elsewhere, or lower taxes, the national saving flows would be equivalent to the change in household saving flows only, as shown in Figure 12. The analysis does not take into account any dynamic (second round) effects of fiscal policy.

The estimates shown in Figures 12 and 13 are additional annual saving flows. By cumulating these flows over time, Figure 14 shows that the impact on the stock of national savings (or, assuming unchanged investment, on the Net International Investment Position, NIIP) could be to improve it by around 40 per cent of GDP after 50 years in the case where mandatory saving is introduced and the accumulations used to abate the costs of NZS, or in the case where the age of eligibility for NZS is lifted. This would be equivalent to roughly halving the size of the NIIP as a percentage of GDP over a 50 year period (Figure 14). Note that these estimates would be significantly larger if the impact of cumulated returns was added to the model.

The quantification results above suggest that the types of reforms to retirement income policies modelled have the potential to significantly boost national saving flows by up to 2.5 percentage points of GDP per annum within 40 years, even excluding the impact of cumulative returns. However, this 2.5 percentage point figure results only from reforms that involve very significant cuts in the level of NZS as a percentage of average wages, which would be unlikely to be supported by the majority of New Zealanders. The more politically feasible options (raising the age or introducing compulsory saving with abatement of NZS) suggest that national saving flows might increase by at least ½ to 1 per cent of GDP per annum (it would be higher once cumulative returns are included), assuming that the associated fiscal savings are realised, and not cycled back into lower taxes or higher spending.

While additional flows of ½ to 1 per cent of GDP could be considered to be relatively small, the stock impact analysis above shows that their cumulative impact over a period of decades can be very significant. Also, the total impact once cumulative returns are included would be significantly larger. Finally, a combination of reforms would be expected to result in larger additional annual flows.

²⁴ This assumption seems logical based on a neoclassical utility-maximising lifetime consumption model. Some more recent models have allowed for two types of agents: “active” savers who make their saving decisions as a life-time consumption-smoothing model would predict, and “passive” savers who save more when the saving decisions are done automatically for them than when they had to make the saving decisions themselves (e.g., Chetty *et al.*, 2012). Such models may suggest higher saving responses under a mandatory scheme than under the other policy options.

Figure 12

Annual Increase in Total Household Saving Flows Over and Above Business-as-usual Projections, Under Three Hypothetical Retirement Income Policy Reforms
(percent of GDP)

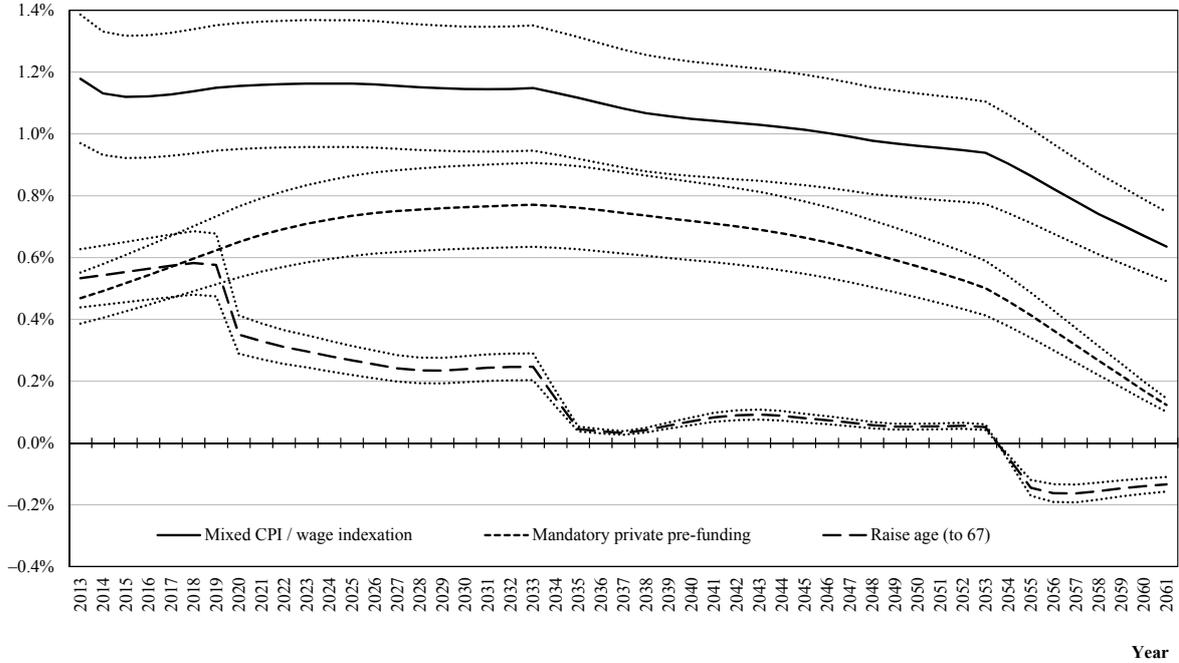


Figure 13

Annual Increase in National Saving Flows, Assuming that Fiscal Savings Are Realised
(percent of GDP)

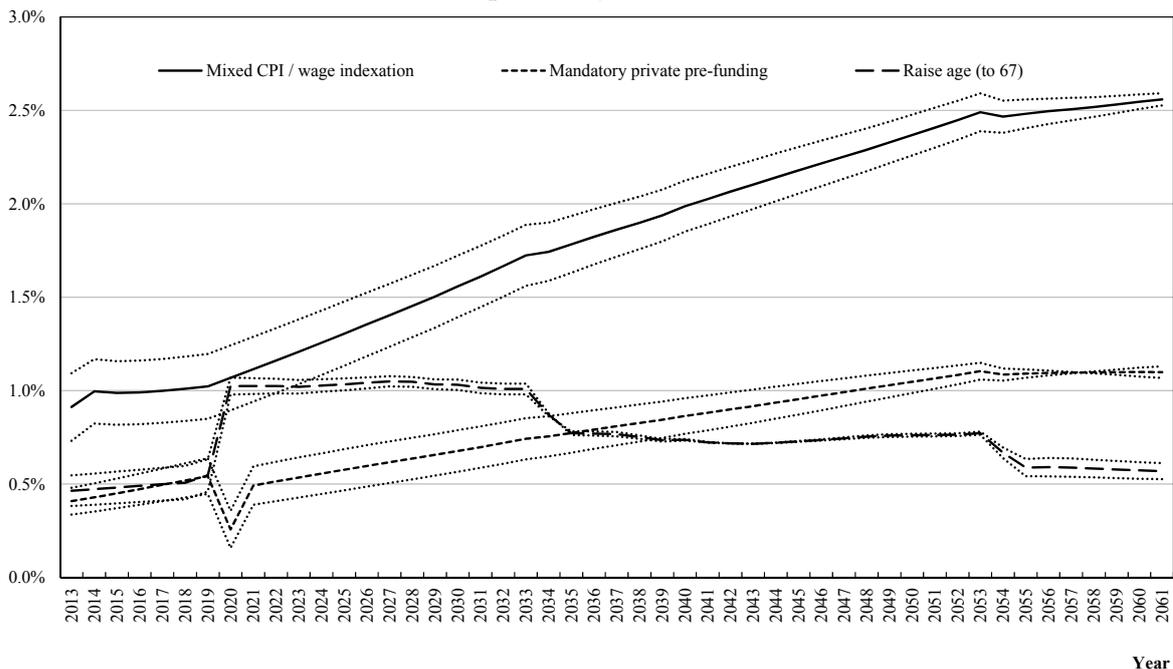
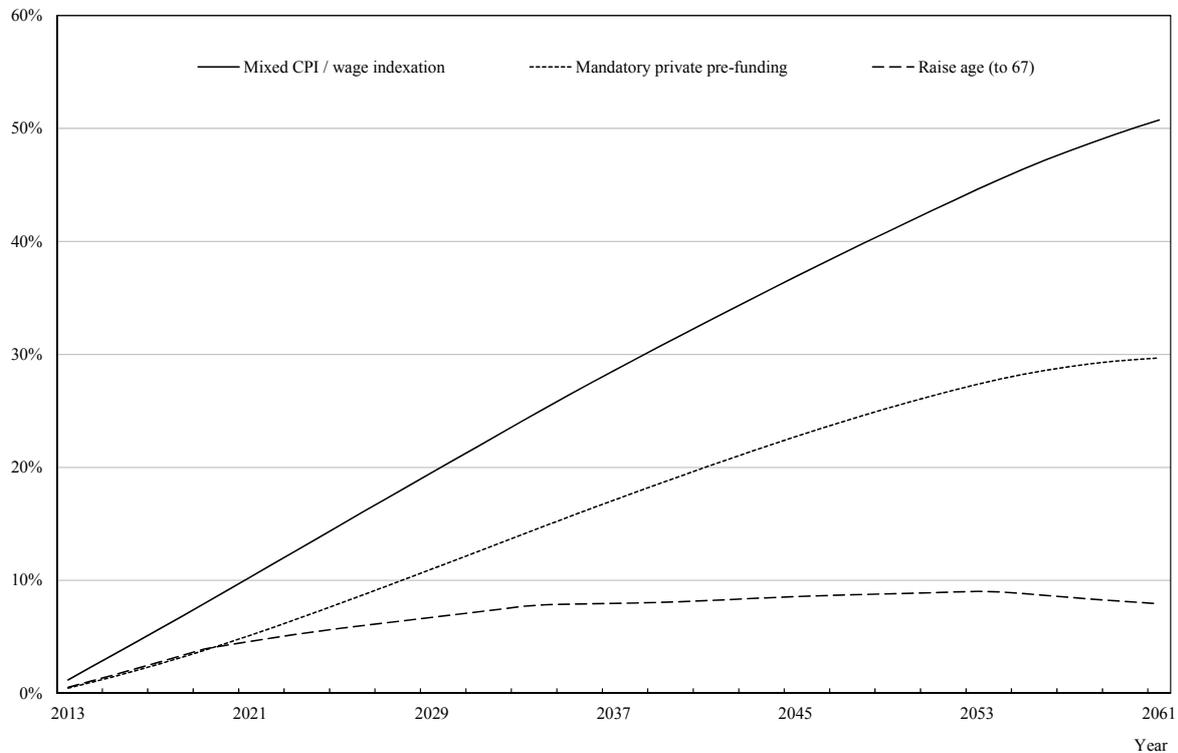


Figure 14

Net International Investment Position, Assuming that Fiscal Savings Are Realised
(percent of GDP)



A more comprehensive analysis of the three hypothetical retirement income policy reform options considered above has been undertaken as part of the Treasury's long term fiscal project (Treasury, 2013b).²⁵

As extensions to this quantification exercise it would be useful to compare these estimates with estimates for the likely impact of reforms in other policy areas, such as tax or housing.

6 Conclusion

This paper has considered the role that fiscal policy as viewed through three lenses – fiscal sustainability, structure, and stabilisation – has played in the development of New Zealand's macroeconomic imbalances, and in particular the persistent shortfall of national saving relative to investment.

It has been commonly argued that the best contribution that the government can make to national saving is to increase its own saving – which is part of the *sustainability* role of fiscal

²⁵ Some of the potential undesirable impacts of the hypothetical reforms to retirement income policies considered would include: health or poverty costs for some people who would find it difficult to work beyond the age of 65; higher old age poverty rates (if NZS re-indexed); transition costs for current working cohorts if a move to more of a SAYGO scheme (compulsory saving); and welfare costs for rational individuals (if saving made compulsory) who may be prevented from saving in their own preferred form, such as paying off their mortgage, or who are forced to save "too much" (*i.e.*, from a consumption-smoothing perspective). These welfare costs would need to be offset by any welfare gains for short-sighted individuals who may be better off under compulsion.

policy. This paper agrees that returning the fiscal balance to surplus and re-building fiscal buffers is important, but argues that efforts to boost private sector saving rates are at least as important.

The paper also considers the *stabilisation* role of fiscal policy. It is noted that fiscal policy probably contributed to the widening of macroeconomic imbalances over the 2005 – 2008 period, when a buoyant economy boosted revenues and permitted strong increases in expenditures, pushing interest rates and the exchange rate up. Changes to the Public Finance Act are expected to put more emphasis on the importance of fiscal policy stabilisation in future economic upturns, although the political economy challenge of ensuring that surpluses are not ‘spent’ (either on tax cuts or spending increases) during economic upturns is likely to persist. However, in most years fiscal policy has not been pro-cyclical, and there is little reason to think that more stabilising fiscal policy could do much to affect New Zealand’s long-standing macroeconomic imbalances.

By contrast, the paper suggests that the *structure* of fiscal policy (*i.e.*, specific tax and spending policies) may have a significantly more important role to play in boosting national saving by influencing incentives for private saving. Internationally, New Zealand stands out as being one of the only OECD countries where individuals do not have access to any significantly-tax-preferred saving vehicles other than property. This suggests that tax reform has potential to both raise the level of saving and improve its composition. One option discussed in the paper would be to reduce the tax rate on capital income, such as by extending the existing PIE regime, although such a reform would need to be packaged together with other changes – such as a capital gains tax – to mitigate the equity and revenue impacts. Another option would be to move toward a private save-as-you-go (SAYGO) pension system, which could involve pairing compulsory savings with means-testing of New Zealand’s universal old-age pension (NZS). The quantification exercise discussed in Section 5.2 suggests that this would have significantly beneficial macro-economic impacts: boosting national saving; mitigating external vulnerabilities; and facilitating fiscal sustainability. The micro-economic impacts of compulsion are less clear, as compulsion would likely benefit some individuals but impose costs on others.

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