

Policy Options to narrow New Zealand's Saving – Investment Imbalance

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Abstract

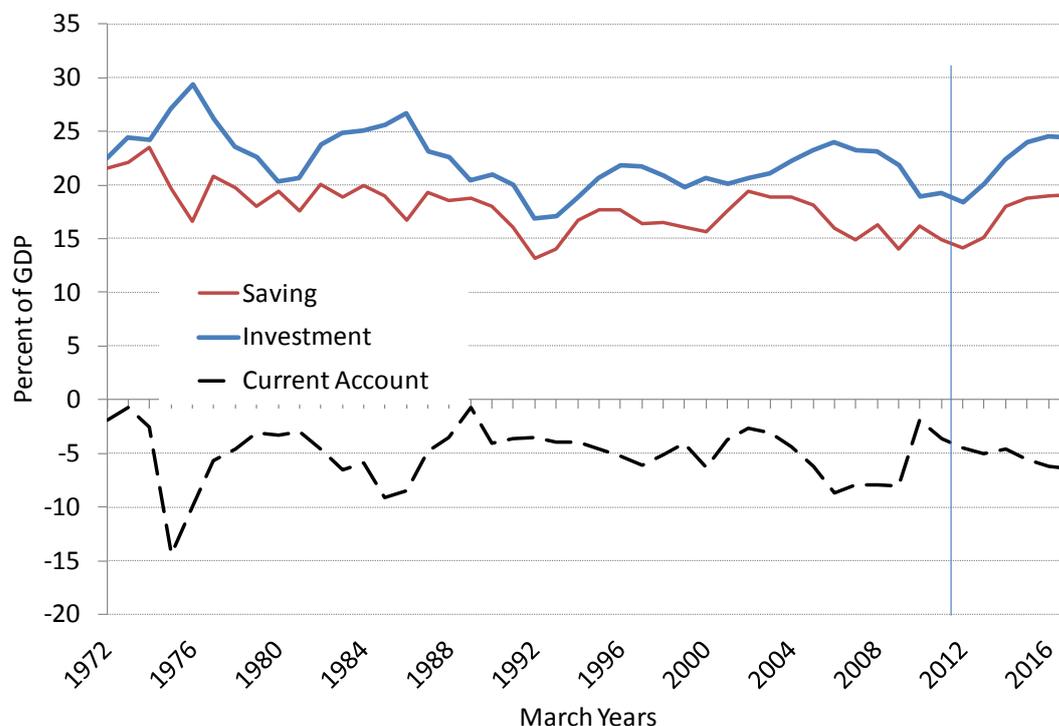
This paper asks the following question: Suppose we desired a narrower Saving-Investment gap in New Zealand, what reforms could help bring this about? Lower per capita growth in the capital stock overall does not seem a desirable goal, given the relatively capital shallow nature of the New Zealand economy, although there may be scope to bring about a more productivity-enhancing composition of investment. This suggests a need for a significantly higher rate of national saving. Previous recommendations to boost national saving have often focused on higher government saving. This paper agrees that higher public saving is desirable but argues that efforts to boost private sector saving rates are at least as important. Potential policy options to boost private sector saving include tax policy changes, a range of different retirement income policy settings and policies that affect the housing market. 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. Tax reform thus has potential to both raise the level of saving and improve its composition. One option may 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 tax changes to mitigate the equity and revenue impacts. Another option would be to move toward a private save-as-you-go (SAYGO) pension system, which would pair compulsory savings with means-testing of NZS. At the same time, there is a growing body of evidence pointing to the effectiveness of default policies that nudge individuals to save more (as KiwiSaver does). Finally, a number of policies are considered that would dampen house price inflation, which may help to boost private saving.

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1. INTRODUCTION

The persistence of New Zealand's saving - investment gap is illustrated in Figure 1. While both saving and investment rates have fluctuated over the years, domestic investment rates have been persistently higher than national saving rates, reflected in persistent current account deficits.¹

Figure 1. Gross National Saving and Investment



Source: Treasury HYEPU, 2012

This persistent shortfall of saving relative to investment has been linked to a number of aspects of New Zealand's macro-economic underperformance, briefly summarised in Figure 2. One set of concerns revolves around the macro-economic vulnerability implications of being heavily reliant on a possibly fickle supply of foreign saving. Other concerns are more focussed on the links to growth. For example, Reddell (2013) argues that New Zealand's persistent Saving - Investment imbalance underpins our high average real interest rate and helps to explain our high real exchange rate and relatively low capital to labour ratio, which – in turn – may help to explain our relatively low labour productivity.

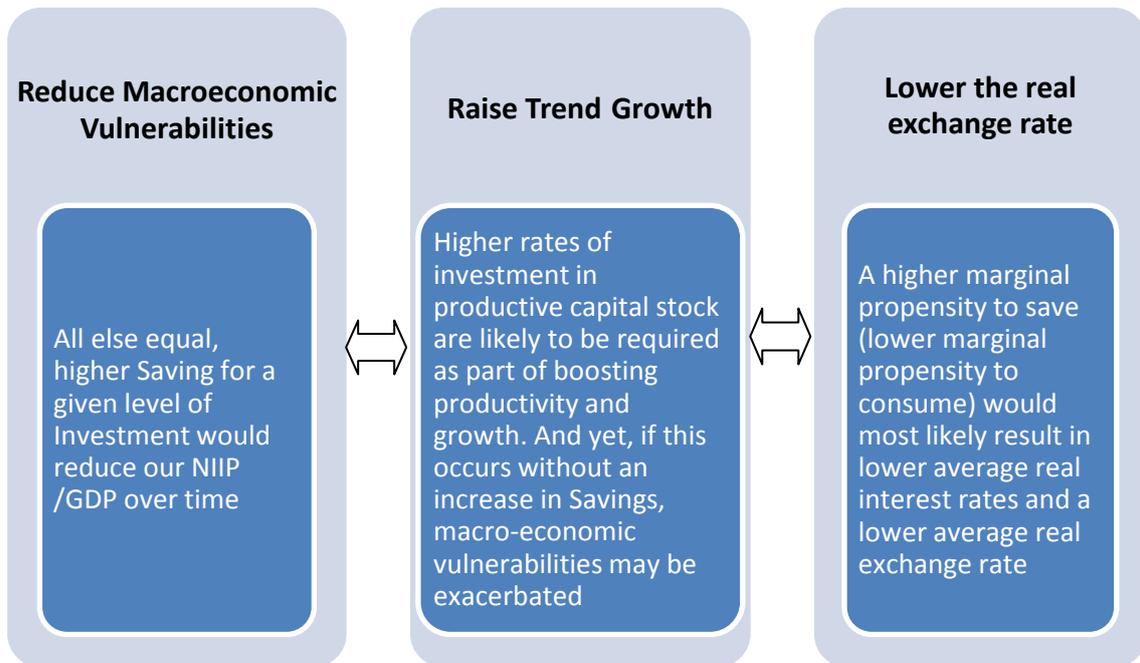
This paper does not attempt to explain these linkages.² Rather the focus of this paper is on the following questions: Suppose one was convinced that a higher national saving rate in New Zealand, or a narrower saving - investment gap would be of significant

¹ The current account balance differs from capital inflows only by the amount of net capital transfers from the rest of the world (e.g. due to reinsurance flows following the Canterbury earthquakes).

² For a discussion of the linkages between savings and macroeconomic performance generally see Treasury (2011) and Savings Working Group (2011), for a discussion of linkages between savings and macroeconomic vulnerabilities see Burnside (2013) and for a discussion of the linkages between saving and the real exchange rate see Reddell (2013).

benefit for one (or more) of the reasons depicted in Figure 2: How could national saving best be boosted? How successful might any reforms be? And what might be the unintended consequences?

Figure 2. Possible macro-economic reasons for taking an interest in Savings, or Saving – Investment imbalances.



To inform the discussion, Section 2 starts by presenting international comparisons of New Zealand’s saving and investment rates. Section 3 then focuses on the role of government saving; Section 4 focuses on policies that could help to raise private saving (e.g. tax policy, retirement income policy, student loan policy); and Section 5 focuses on the investment side of the equation. As discussed in Reddell (2013), a lower rate of growth in the per capita productive capital stock generally would not be considered desirable given the relatively capital-shallow nature of the New Zealand economy. Consistent with this, section 5 considers only the potential role that policy could play in improving the *composition* of investment. Of course, an obvious question is how large a difference to the saving - investment imbalance could reasonably be expected. Section 6 discusses the results of a preliminary quantification exercise, which sheds some light on this question, although significant further work is needed. Section 7 concludes.

2. NEW ZEALAND'S SAVING AND INVESTMENT RATES COMPARED WITH OTHER ADVANCED ECONOMIES

2.1 Saving rates

Net national saving in New Zealand has averaged about 5 percentage points of GDP lower than the average for advanced countries over the past 20 years and more than 3 percentage points of GDP lower than in Australia (Figure 3).³

Figure 3. Net national saving as percent of GDP
New Zealand compared with other advanced economies
Figure 3a

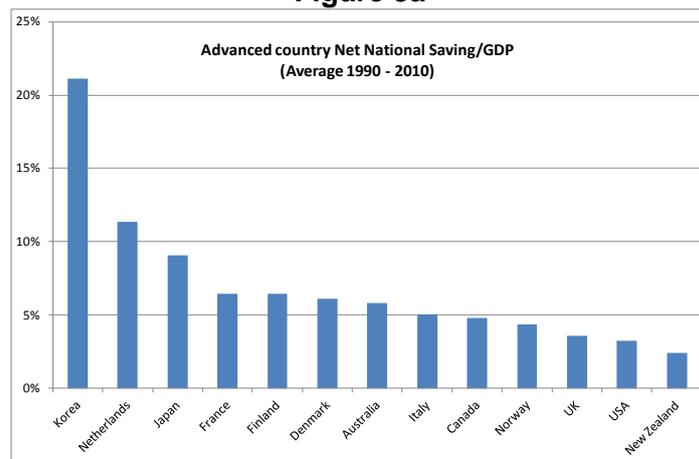
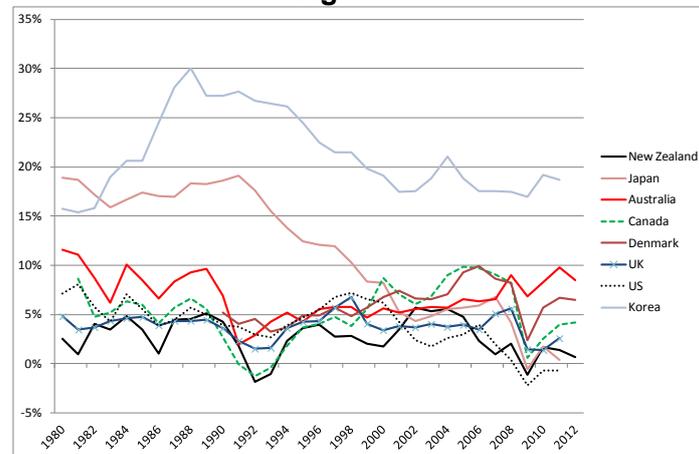


Figure 3b



Source: Haver Analytics

³ For countries with substantive net foreign lending or borrowing positions, these comparisons are somewhat biased by the impact of inflation, as existing accounting procedures attribute all interest paid on foreign-owned assets to the current account, whereas in fact that part attributable to inflation should be recorded in the current account (Makin, 1995). Since New Zealand has a particularly large net foreign liability position (with a large net debt component), adjusting for this inflation impact results would result in a narrowing of the gap between New Zealand's net national saving rate and that of other countries. Gorman et al (2013) estimate that adjusting for inflation reduces the level of New Zealand's net foreign liability/GDP ratio by around 1 – 2 percentage points, and raises the long-run average net national saving rate by around 1.5 – 2 percentage points. However, even after adjusting for inflation New Zealand's net national saving rate is still low by international standards.

New Zealand's lower saving rate is accounted for mainly by New Zealand's exceptionally low rate of net private saving (Figure 4), as net public saving in New Zealand has been consistently higher than in most other advanced economies, although still substantially lower than that of South Korea (Figure 5).⁴

Figure 4. Net Private Saving
(% of GDP)

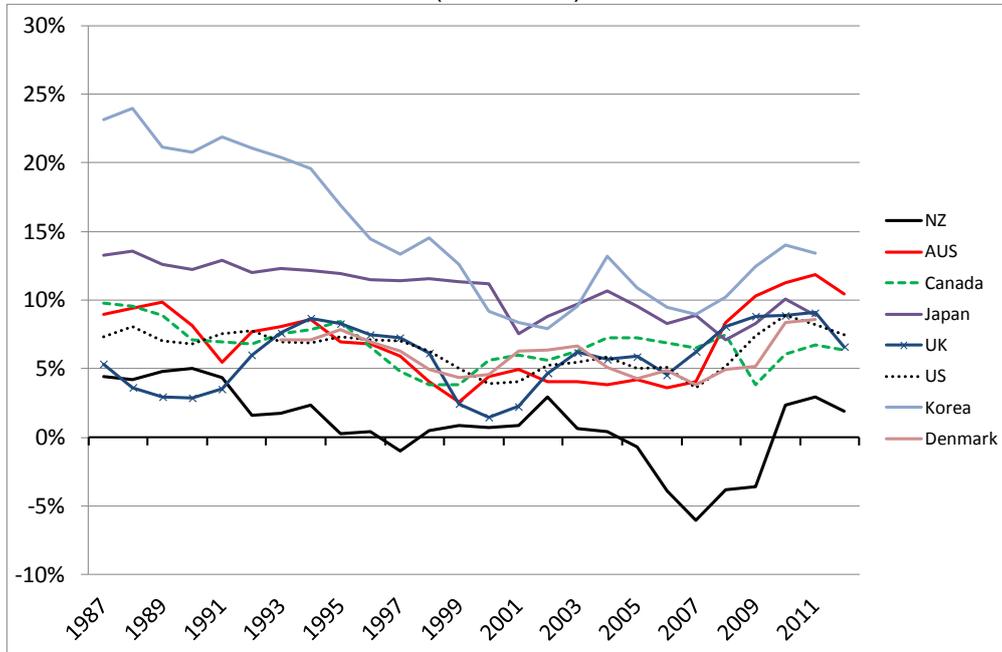
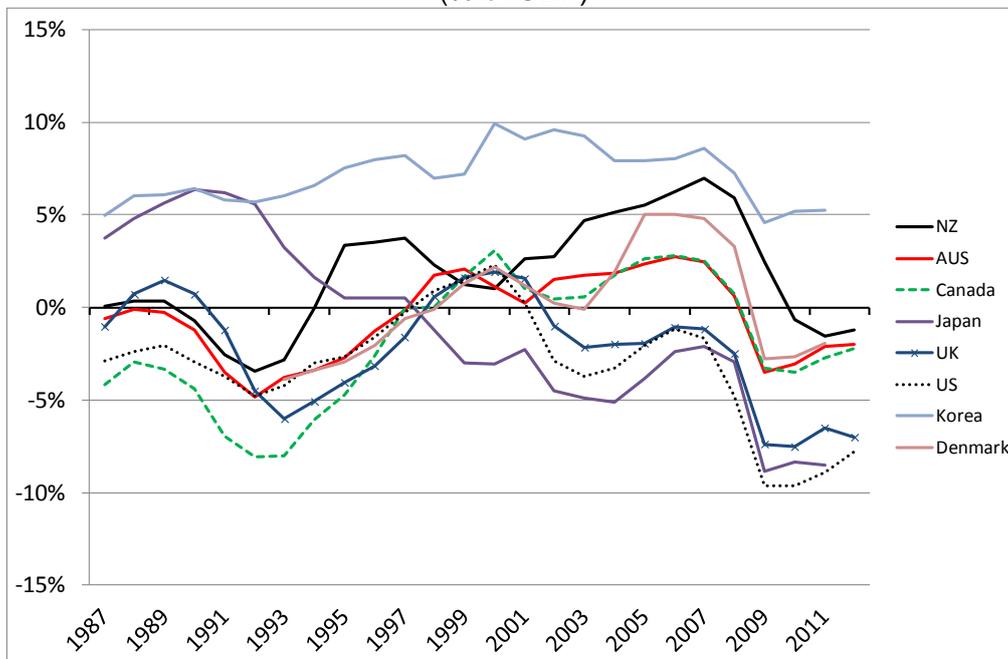


Figure 5. Net Public Saving
(% of GDP)



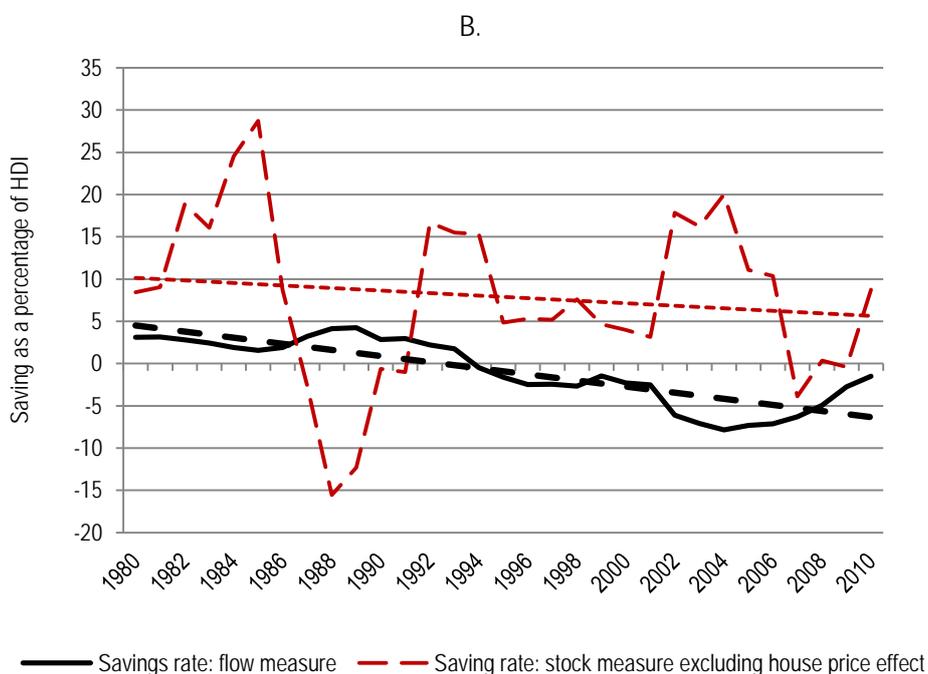
Source: Haver Analytics

⁴ Note that the relatively high rate of public saving in New Zealand since the 1990s contrasts with a prolonged period of very low public saving in earlier decades.

The private sector saving rate shown in Figure 4 can also be split into household vs corporate saving. However, the boundary between the savings of households and firms is blurred, as the household sector includes unincorporated businesses, and also because households are ‘owners’ of businesses, so when a firm invests retained earnings, these are arguably savings of households. For these reasons, it is often preferred to focus on the combined household and business sectors (i.e. the private sector). Given measurement challenges, questions have also been raised about the accuracy of the saving data. Indeed, comparisons of standard flow measures of saving with alternative stock measures, suggest that the existing flow measures may not be capturing the full extent of saving (Figure 6). The difference between the two measures shown is explained almost entirely by the additions to net wealth that come from property revaluations (capital gains). Nevertheless, measurement errors are likely to be similar in size and scope across countries, and thus are unlikely to alter broad conclusions about the relative position of New Zealand in international comparisons (Gorman et al, 2013).

Regardless of the measure used, however, household saving rates appear to have been trending downwards over the past three decades (Figure 6). This trend is not particular to New Zealand. Indeed, researchers in some other countries have pointed to evidence that this may have been influenced by shifts in factors such as financial regulation and welfare policies (among others), as reflected in societies placing ever greater weight on immediate gratification, and less weight on saving for the future (e.g. see Dobrescu, Kotlikoff & Motta, 2008).

Figure 6. Net household saving: flow vs real stock measures (stock measure excludes housing revaluation effects)



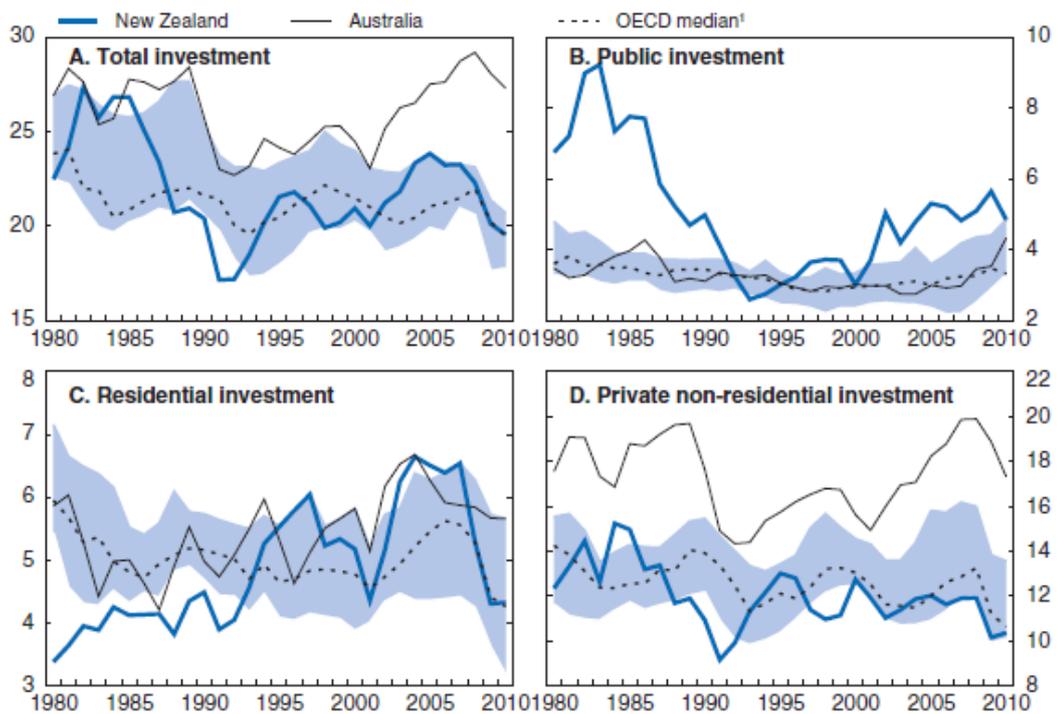
Source: Gorman et al (2013)

2.2 Investment

While total investment rates in New Zealand have been around the average level for OECD countries over the past few decades (Figure 7, panel A), New Zealand's capital intensity is unusually low, along with multi-factor productivity (MFP) levels (Figure 8). A higher rate of investment in the productive capital stock would boost labour productivity and likely contribute to higher MFP at the same time.

A look at the composition of investment in New Zealand reinforces concerns about domestic investment not being high enough to boost the productive sector capital stock (especially when considered on a per capita basis). In particular, government sector investment has been very high by OECD standards (Figure 7, panel B), while private non-residential investment has been low relative to other OECD countries for most of the time since the mid-1980s (Figure 7, panel D). This seems consistent with the fact that New Zealand has had very high average real interest rates, which in turn imply a higher cost of capital than abroad, which would be expected to restrain business investment.

Figure 7. Investment rates
per cent of GDP

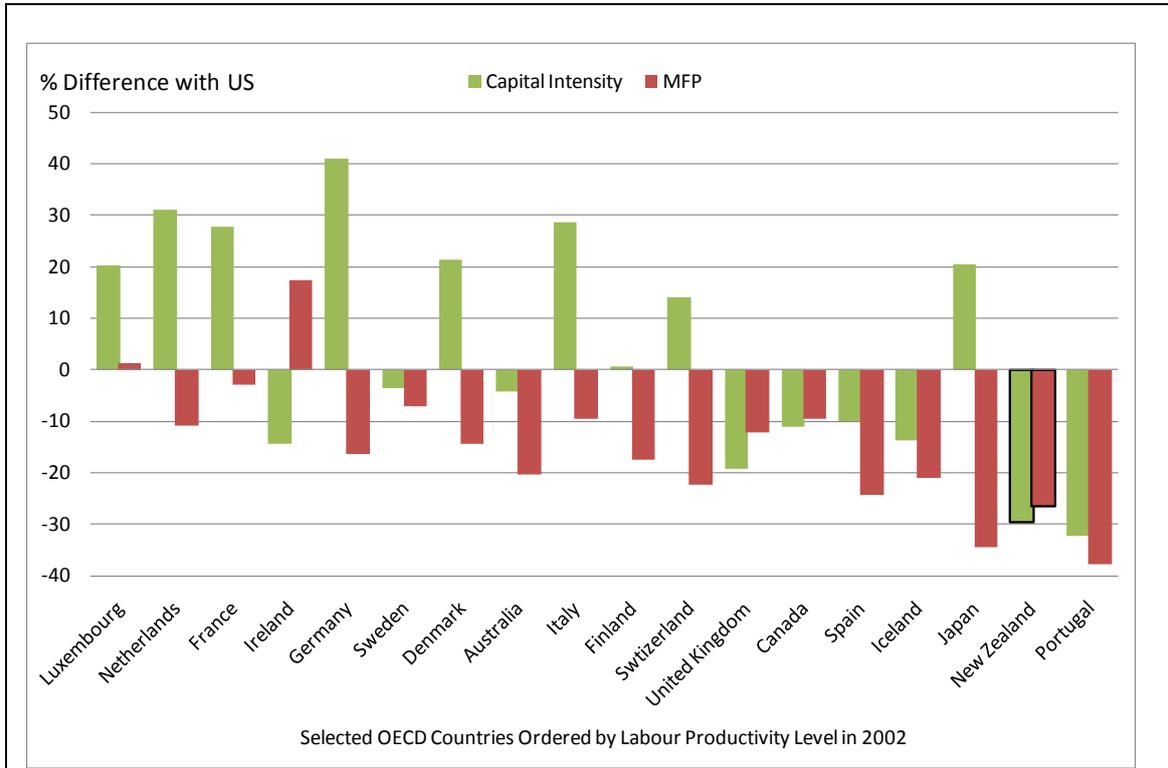


1. The shaded area is the OECD range of 25th to 75th percentile. Half of the countries lie inside this range.

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Source: OECD economic survey of New Zealand, 2011

Figure 8: Levels of Multi-Factor Productivity (MFP) and Capital Intensity Relative to the United States, 2002⁵



Source: OECD; New Zealand Economic Development Indicators, 2005.

Overall, two general conclusions can be reached about investment rates in New Zealand. First, a lower rate of growth in the per capita productive capital stock does not seem a desirable goal for New Zealand, given the relatively capital-shallow nature of the economy. This suggests that the Saving – Investment gap would need to narrow through a higher rate of national saving (which is the focus of most of this paper). But attention should also be paid to the composition of investment. In particular, any policies that are likely to encourage a more productivity-enhancing composition of investment would be desirable. Some options are discussed in Section 5.

⁵ Countries are ranked left-to-right according to labour productivity level in 2002 as measured by the OECD. The use of different data sets in the calculation of MFP and capital intensity levels leads to some apparent anomalies with this ranking, for example when comparing the labour productivity rank with the respective MFP and capital intensity levels of Finland and Australia.

3. GOVERNMENT SAVING

Despite Figures 3 and 4 suggesting that an important part of the problem with New Zealand's saving lies with the private sector rather than the public sector, it is commonly recommended that higher government saving should be prioritised as a policy solution. For example, both the SWG (2011) and IMF (2011) suggest that the surest way of increasing national saving would be to raise public saving, with the latter study estimating that an increase in public saving of 1 percent of GDP would be associated with a rise in national saving of about $\frac{1}{2}$ - $\frac{2}{3}$ percent of GDP.

The focus on government saving reflects in part the very significant deterioration in the government's fiscal balance after 2008, with the headline deficit peaking at 9.2% of GDP in the year ended June 2011 and the structural budget deficit peaking at 3.6% of GDP in the same year (cyclically adjusted, and excluding the effects of the Canterbury earthquakes). The size of the fall in the structural fiscal balance is one of the largest in the OECD and a return to a more sustainable fiscal position is certainly needed.

Another reason for prioritising higher government saving as a means of achieving higher national saving may be because it is a comparatively simple and non-controversial recommendation, and could be expected to impact on national saving fairly quickly. As will become clear in Section 4, there is much less consensus in the literature about appropriate policies for raising private saving.

Efforts to boost government saving are necessary but not sufficient

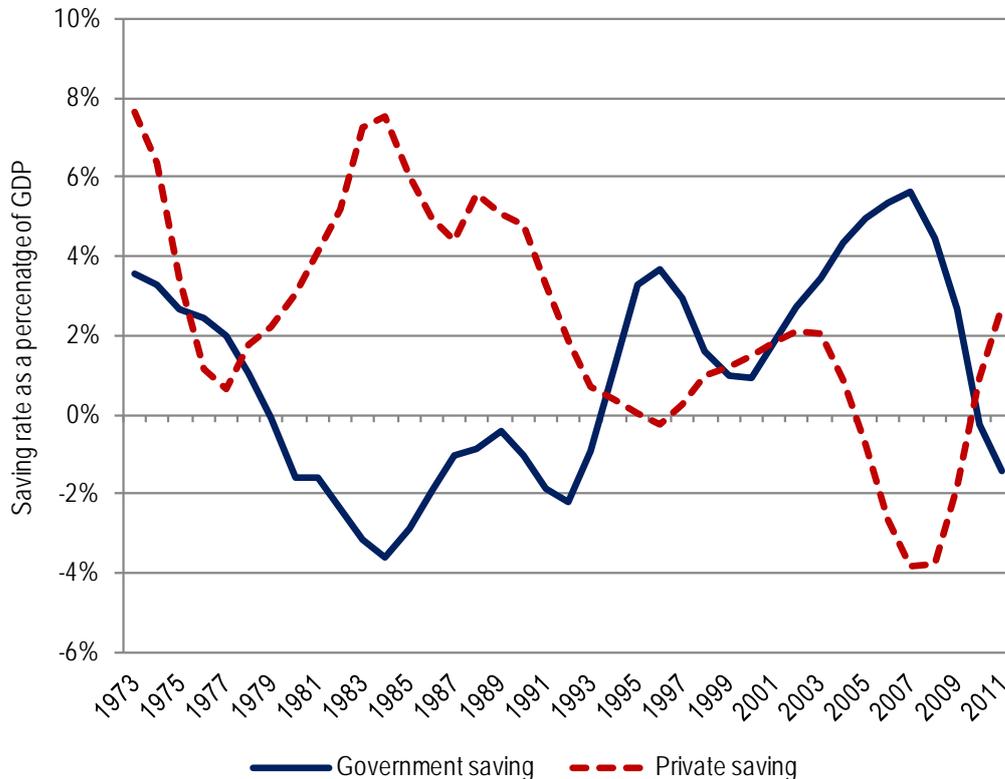
Nevertheless, this paper takes the view that any efforts to raise the national saving rate via higher government saving should be complemented with policies that aim to boost private saving (or at least to minimise the magnitude of an offsetting reduction in private saving in response to higher public saving). There are two reasons for this. First, if the national saving rate is to be raised through higher public saving alone, the magnitude of increase in public saving that would be required may be politically unsustainable. This may be particularly true in the future, as the ageing of the population over coming years will put downward pressure on the private saving rate, implying that a very sizeable increase in public saving may be needed to raise national saving (IMF, 2011).

Second, the tendency for private saving and public saving to move inversely (Figure 9), together with our limited understanding as to why this is,⁶ suggests that a focus on both public and private saving would be likely to have more impact, than a focus on public saving alone.

What would a significant increase in public saving mean in practice? At a basic level it implies running significantly larger fiscal surpluses and using the proceeds for some combination of paying down debt and building up assets. This would obviously require reduced spending or higher revenues.

⁶ It is likely that the inverse relationship between public and private saving rates reflects – in large part – common causal factors. For example, an upswing in the economic cycle typically results in both higher government saving (because tax revenues are strong) and lower private saving (due to wealth effects associated with asset revaluations). There may also be some degree of “Ricardian” type behaviour by private sector agents. However, the economic literature generally suggests that the Ricardian offset to greater government saving is less than one half.

Figure 9. Government and Private saving rates
(3 year moving avg)



Source: Statistics New Zealand

Higher government saving (public SAYGO) would require higher taxes or additional expenditure restraint

The most specific option for higher government saving to have attracted recent attention –considered in a paper prepared for the external panel of the long-term fiscal statement (Treasury, 2013a) – is known as public sector save-as-you-go (or public SAYGO).⁷ A simple way to implement public SAYGO would be to improve the fiscal balance so as to make payments from the public purse to the New Zealand Super Fund (NZSF)⁸, which accumulates resources to pay out pensions at a later date. An expansion of the role of public SAYGO would be a way for the government to directly boost the stock of domestically-owned capital. However, to achieve this would require either higher taxes, or significantly greater expenditure restraint.⁹

⁷ A SAYGO pension scheme involves accumulating retirement saving in a fund to finance future pension costs, as opposed to a pay-as-you-go (PAYGO) scheme, where current tax revenues are used to finance the pensions of current retirees, with no accumulation of capital.

⁸ Government contributions to the NZSF have been suspended since the global financial crisis. Even if contributions were being maintained, they would only contribute to higher national saving if not offset by increasing debt, or reductions in assets elsewhere on the Government’s balance sheet.

⁹ As discussed in the Half Year Economic and Fiscal Update 2012 (HYEFU 2012), current projection scenarios assume that revenues remain broadly constant as a share of GDP (close to 30% of GDP), while core crown expenditures are projected to fall from around 33% of GDP to 28% of GDP in 2023 (the year that the net debt target of 20% of GDP is reached). Beyond 2023 further expenditure restraint is assumed.

Compared with a private SAYGO scheme (individual saving accounts – discussed further in Section 4), public SAYGO has both advantages and disadvantages. On the plus side, public SAYGO may be better placed to achieve redistribution goals, as surplus contributions from wealthier people would go towards topping up the shortfalls of lower-income people rather than increasing their own pension wealth. It is also possible that investment returns of a single government-run fund could be superior due to economies of scale and a longer investment horizon.¹⁰ On the downside, it would have the following main weaknesses, relative to private SAYGO.

- The efficiency costs of public SAYGO would likely be higher, given evidence that taxes to fund contributions to a public SAYGO scheme are more likely to be perceived as an additional marginal tax rate than are contributions to individual retirement accounts (private SAYGO). Rather, in the case of private SAYGO, contributions are more likely to be perceived as increases in individuals' overall lifetime wealth.¹¹
- Questions may be asked about how well the government can be trusted to manage a potentially very large pool of capital. In particular, there would be risks that the government might expropriate the funds for other purposes in the future, such as occurred in Ireland during the GFC.
- A possible advantage of private SAYGO relative to public SAYGO stems from the fact that savings accumulated in individual saving accounts during an individual's working life would be part of their estate in the event of death. This feature of a private SAYGO system means that for a given level of individual retirement savings, the families of those people with shorter life expectancies (for example, many Maori and Pasifika) would receive proportionately more support.

4. PRIVATE SAVING

4.1 Introduction

The fact that private saving in New Zealand has been consistently low relative to that in comparator countries (Figure 4) draws attention to those features of New Zealand's institutional settings for private saving that are unique. These features are discussed in this section of this paper. In addition, New Zealand could also be thought of as belonging to a broader sub-group of OECD countries (primarily the English-language-speaking countries) that also have low saving rates compared with the rest of the OECD. Most of the possible common factors that may help to explain low saving in these countries seem to be related to housing market developments and will be discussed in Section 4.6.

¹⁰ New Zealand's experience with KiwiSaver to date has been that fees have been high and investment allocation typically quite conservative (by design in the case of the default schemes). However, the experience of countries such as Sweden suggests that it is possible to achieve economies of scale in the administration of individual private saving accounts (Weaver, 2005).

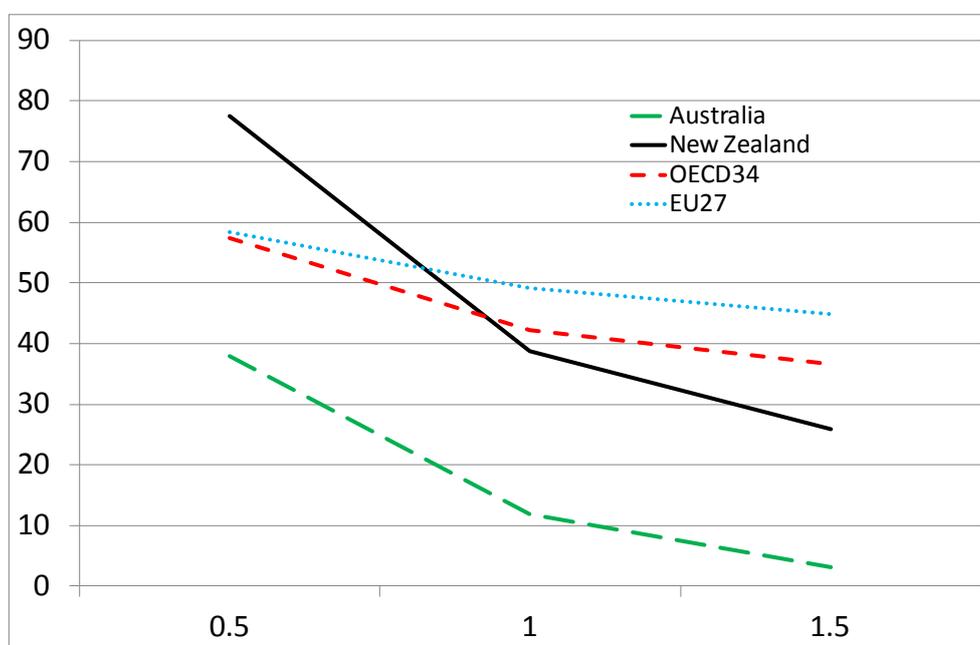
¹¹ E.g. Karam *et al* (2010). Also Disney (2004) shows that this is particularly true for women whose labour supply is more elastic than that of men.

New Zealand's institutional settings for private saving are unique...

What makes New Zealand's institutional settings unique? Broadly speaking, we have a set of institutions that encourage individuals to take responsibility for their own standard of living in retirement, while also guarding against old-age poverty through the provision of a first tier¹² universal pension – New Zealand Super (NZS) – that is relatively generous compared to the safety net pensions provided in other countries (Figure 10). Since there is no means testing, there is no disincentive for individuals to undertake voluntary saving (tier 3) to top up their NZS pension. At the same time, there are very few active incentives to encourage such voluntary saving.¹³

By contrast, almost every other OECD country has a tier 2 pension scheme (New Zealand and Ireland are the only OECD members that don't), and tier 1 pensions are typically means tested against tier 2 entitlements.

Figure 10. Public pension replacement rates for individuals earning half the median wage, the median wage and 1.5 times the median wage



Source: OECD Pensions at a Glance (2011)

¹² A typical OECD country pension model is sometimes referred to as having three tiers, where the tiers are: a publicly-provided safety net pension (tier 1); mandatory (or quasi-mandatory) personal retirement saving schemes (tier 2); and voluntary personal retirement saving schemes (tier 3). New Zealand has both a tier 1 scheme (NZS) and a tier 3 scheme (KiwiSaver).

¹³ The only incentives are those provided by Portfolio Investment Entities (PIEs) and KiwiSaver, although these are very small by international standards. The government tax credit for employee contributions to KiwiSaver is capped at \$521 per annum (reduced from \$1042 previously), and there is no longer a tax exemption for employer contributions to KiwiSaver and other complying funds (since 1 April 2012 employer contributions have been taxed at the employee's top marginal tax rate). The PIE regime offers a reduction in the tax rate to some investors, depending on their individual circumstances. In practice most investors in PIEs are effectively able to access a tax rate that is either 5 or 12.5 percentage points lower than their prima facie marginal tax rate.

Tier 2 schemes can be a mixture of defined benefit and defined contribution schemes and funded by social security taxes (e.g. payroll-tax-funded social security pension schemes in most of Europe and the United States) or compulsory private saving accounts (as in Australia and Chile).¹⁴ Besides New Zealand and Ireland (who do not have a tier 2 pension scheme), half of the remaining thirty-two OECD member countries have some form of mandatory or quasi-mandatory *private* tier 2 pension schemes, while the other half have some form of *public* tier 2 pension scheme.

An important difference between the public and private tier 2 schemes is the extent to which they are fully-funded. Among the private tier 2 schemes there has been an increasing trend towards greater pre-funding (e.g. Australia, Chile, Hungary, Mexico, Poland, and the Slovak Republic), while there are no examples of fully funded public schemes.

Almost all other OECD economies also offer some kind of tax incentives for saving. NZ is the only OECD economy where the taxation of retirement savings accords with the comprehensive TTE tax system – 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 refers to the fact that no tax is levied on funds when they are withdrawn from a savings account. And there are only three OECD countries with the ETT system, which is equivalent in a present value sense to TTE. The interaction between the tax system and saving is discussed in more detail later.

... bringing both advantages and disadvantages

Overall, it is not possible to rank the optimality of different countries' institutional policy settings as each has its advantages and disadvantages. If other OECD countries' settings have resulted in higher private saving rates, this will have come with some trade-offs, as means testing typically implies reduced work incentives, while tax incentives may imply some combination of lower government saving (due to lower tax revenues) or reduced efficiency of the tax system.

But it is difficult to directly link these institutional features to our saving rate

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 (Lopez Muphy & Musalem, 2004). Those few studies that do look at cross-country evidence typically only provide us with partial answers. For example, Disney (2006) shows that the closer a public pension programme is to an actuarial programme, the greater its substitutability for private retirement saving. So a 'Beveridge style' tax-and-transfer system such as NZS – which has no link between individual benefits and contributions – should have little offsetting negative effects on private saving. This result seems intuitively sound. However, this tells us nothing about

¹⁴ While Australia and Chile have the longest-running such schemes, mandatory private pension plans have more recently been established in Hungary, Mexico, Poland and the Slovak Republic.

the extent to which private saving in New Zealand may be adequate. To answer that question, one needs to consider adequacy from either a micro-economic consumption-smoothing perspective or from a macro-economic saving-and-investment perspective. It is the macro-economic perspective that raises the greatest alarm, as discussed below.

Microeconomic concerns are relatively minor

Most micro-economic concerns about New Zealand's low private saving rate revolve around retirement income adequacy and unsustainable household debt. While aggregate measures of household saving rates tell us little about the adequacy of saving at the microeconomic level of the household, or individuals and couples, there have been a number of studies – particularly since the introduction of KiwiSaver – that have used household survey data to evaluate the adequacy of household saving from a retirement perspective. For example, using a consumption smoothing model, Le, Scobie & Gibson (2009) find that the majority of the population aged 45 - 64 have made 'adequate' provision for retirement, in the sense that they will be able to maintain their pre-retirement standard of living after retirement. However, between one-eighth and one third of this age-group were found to have current saving rates below that required for 'adequacy', if they were to retire at age 65.

There may be more reason to be concerned about whether many younger people are saving adequately for retirement given that they face some quite different conditions from those of their parents (such as student debt, lower home ownership rates, and concerns about the sustainability of NZS). Empirically, however, the uncertainties associated with projecting lifetime incomes and wealth accumulation for 25–44 yr olds is too great to produce reliable estimates of retirement savings adequacy for this age group.

Even if a significant proportion of the population is under-saving from a consumption-smoothing perspective, this doesn't by itself constitute evidence of sub-optimal saving decisions. To make that assessment, one would need a clear understanding of each individual's preferences, utility function as well as all costs (including opportunity costs), prices and constraints faced. Since this information is not available, a case for intervention is often made by referring to market failures (such as imperfect information) or to research from the field of behavioural economics, which documents individuals' tendencies to make decisions in a way that deviates from what a rational choice model would suggest (e.g. such as the importance of mental accounting and time inconsistency).

Nevertheless, different people are likely to reach different conclusions as to the welfare implications of any interventions that go beyond simple 'nudges'.¹⁵

Taken together, it is the view of this paper that there is relatively little obvious problem currently with retirement saving from a micro-economic perspective, conditional on NZS continuing to offer a basic pension at a level above the poverty line. However, it may be that more significant problems will emerge among younger cohorts in the future (due to falling home ownership rates and the greater probability that NZS entitlements will be reduced).

¹⁵ For a discussion of "nudges" see Thaler and Sunstein (2008).

Instead, concerns stem mainly from macroeconomic concerns

Macroeconomic concerns associated with New Zealand's low saving rate are those related to our heavy reliance on a possibly fickle supply of foreign saving, and the likelihood that New Zealand's low national saving is playing a part in boosting average real interest rates, which in turn may be helping to keep the real exchange rate higher than otherwise, and damping the level of domestic investment.¹⁶

These concerns have grown over time...

It is very unlikely that this paper, or one like it, would have been written 15 or 20 years ago. The dominant view on national saving at that time was consistent with the views of several Australian academics who argued that policy should not attempt to influence what they perceived to be the outcome of optimal decisions by private agents. i.e. the 'consenting adults' view.¹⁷

However, as economic growth has under-performed that in our comparator countries, and as macroeconomic-imbalances have widened, increasing attention has been paid to possible market failures (such as the role of externalities and imperfect information) that could be underpinning 'suboptimal' saving rates at the national level.¹⁸ Meanwhile, the behavioural economics literature, which draws on evidence of psychological biases in individuals, has provided an additional justification for policy-makers to consider options for influencing the saving decisions of individuals (discussed further in Section 4.5).

Addressing the problem of low private saving – if we are to characterise it like that – is not, however, clear-cut. In part this is because private saving is likely to be affected by the *combination* of policy settings across a number of different areas, including the tax treatment of saving, the design of any specific retirement saving vehicles (e.g. KiwiSaver in the New Zealand context) and the design of state-provided safety-net pensions. However, most of the economics literature in this area focuses on relatively specialist areas, rather than on the optimal combination of policies.

The remainder of Section 4 focuses on those features of New Zealand's institutional settings for private savings that are unique, and potential directions for reform. This includes a discussion of the taxation of saving, and a discussion of the potential role that compulsory saving combined with means testing of NZS against compulsorily-accumulated balances could imply.

Some have argued that the generosity of our welfare system may explain New Zealand's relatively low rate of private saving. While there is little doubt that a welfare system will tend to reduce the rate of private saving, New Zealand's welfare system is nowhere near as generous as many OECD countries that have both more generous welfare systems and higher private and national saving rates. However, section 6 does provide some quantitative estimates of the impact that reducing the generosity of NZS might have on national saving.

¹⁶ See Treasury (2011) and Reddell (2013) for further discussion.

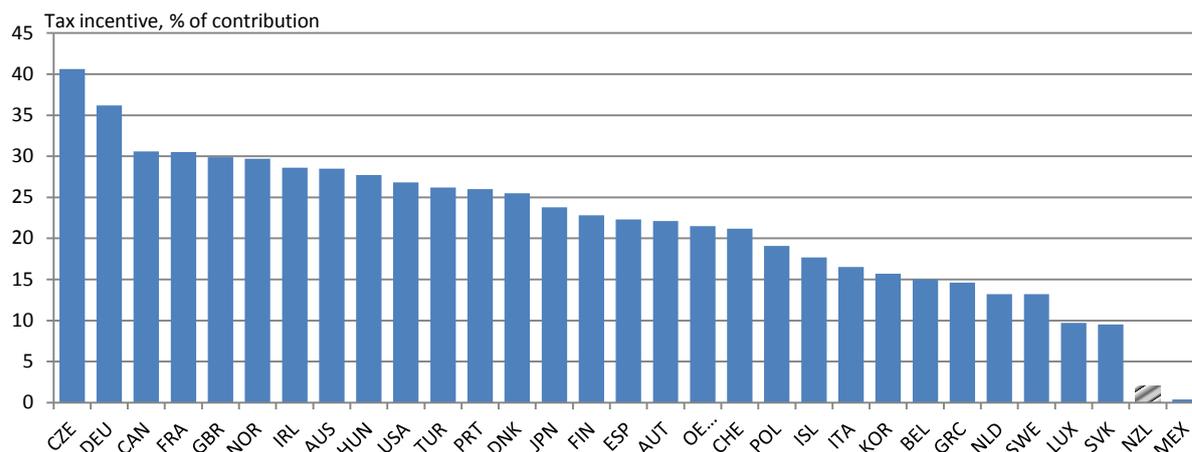
¹⁷ Cordon (1977), Pitchford (1989).

¹⁸ E.g. see Blanchard (2007).

4.2 Taxation of Savings – a primer

It has been suggested that New Zealand's low private saving rate may reflect the general absence of tax incentives for voluntary saving. Indeed, New Zealand's tax treatment of savings does stand out as somewhat unusual internationally (Figure 11).¹⁹ However, the evidence from the economics literature is mixed as to what the associated implications for national saving are likely to be.

**Figure 11: Tax incentives for private pensions
2003 parameters and rules**



Source: Yoo and De Serres (2004), pp 73 – 110.

The goal of this section of this paper is to draw attention to the main design features of New Zealand's tax system, to contrast these with other countries' tax settings, and to discuss the pros and cons of each.

The choice of 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.²⁰ 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'.

¹⁹ Yoo and de Serres (2004) used a present-value methodology to calculate the net fiscal revenue foregone per unit of contribution to tax-favoured private pension plans in 30 OECD countries and found that the size of the subsidy varied across countries, ranging from around 40 cents per dollar or euro of contribution (Denmark, Czech Republic) to close to zero (New Zealand, Mexico). The applicable tax subsidy in New Zealand derived from the fact that employers' contributions to private pension funds were taxed at 21 per cent, lower than the marginal tax rate. However, by 2004 (when this study was conducted) many of these schemes would have been closed to new members.

²⁰ 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 tax rate reduction on some investments.

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 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).

Other countries have tax settings that are more encouraging of saving than New Zealand

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. This judgment is clearly implicit in key statements in recent tax reviews in the UK and Australia. For example, the Mirrlees Review of taxation in the UK states that "The argument for taxing income from savings on the grounds that 'all income should be taxed the same' does not stand up" (Mirrlees *et al*, 2011, p. 315), while the Henry Review of Australia's tax system takes a similar position, arguing that "Comprehensive income taxation, under which all savings income is taxed the same as labour income, is not an appropriate policy goal or benchmark" (Henry *et al*, 2009, p. 32). In part, this position may reflect the fact that both countries have a means-tested public pension, so the fiscal cost of their schemes is reduced if people have greater private retirement savings. However, the position reached by both reviews also seems to reflect a broader judgment about the role of savings in the economy more generally.

But the empirical evidence on the impact of tax incentives on savings is mixed

There is a significant number of empirical studies that estimate the implications of tax on the returns to saving using variants of the life cycle hypothesis. 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,²¹ there are also a number of studies that conclude that tax incentives create mainly new saving, raising total saving.²² This wide range of estimates is partly explained by the difficulty in controlling for unobservable heterogeneity in savers' preferences.²³ 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,²⁴ 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.²⁵

Corporate taxation can also influence private saving

Taxation affects corporate saving through two channels. First, an increase in the corporate tax rate reduces after-tax earnings. Second, both personal and corporate taxes may affect dividend policy. In considering the impact that tax policies may have on business sector saving, it is important to consider the interactions with households, who – after-all – own corporations. Bernheim (2002) provides a useful summary of the literature. An obvious link might be that greater corporate saving might add to private saving if shareholders are liquidity constrained. Alternatively, shareholders might be more inclined to spend dividends than capital gains, either because they believe that capital gains are more transitory than dividends, or for “mental accounting” reasons. If such channels are important then one rationale for having the corporate tax rate lower than the personal income tax rate might be to encourage a higher rate of corporate saving (investment). However, differences between the company and personal tax rates raise other important tax design issues.

Inflation raises the effective tax rate on savings

Because tax is levied on nominal values, inflation raises the effective tax rate on savings. 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 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

²¹ E.g. Gale and Scholz (1994), Attanasio *et al* (2004), Disney *et al* (2007).

²² E.g. Poterba *et al* (1995, 1996), Engelhardt (2001), Ayuso *et al* (2007), Gelber (2011).

²³ 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.

²⁴ 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).

²⁵ E.g. Benjamin (2003), Engen and Gale (2000).

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 two options for indexing the tax system.²⁶ As discussed later, from a saving perspective, the indexation of the tax system can be seen as a special case of reducing the tax rate on interest income. Indeed, the Henry review advocated a broad 40 per cent discount on the tax rate on income from 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.

So what is the case for New Zealand to introduce some kind of tax preferences to encourage saving? As discussed in the following section, the extent to which tax incentives will achieve the goal of increasing national saving depends very much on their design. Moreover, choices about the tax system need to be considered alongside other key institutional design features, such as for example, the settings around New Zealand Superannuation (NZS) and KiwiSaver.

4.3 Trade-offs: efficiency, equity, and simplicity.

When considering the relative merits of alternative tax regimes, tax practitioners typically focus on a range of criteria including the sustainability of fiscal revenue, efficiency and growth, equity, integrity, and compliance/administration. A goal of encouraging higher national saving would fall under the umbrella of “efficiency and growth”. However, the sorts of tax incentives to encourage saving that are common in other countries may create trade-offs with some of the other criteria of a good tax system, and indeed with other efficiency criteria. The goal of this section is to briefly review some of these main trade-off considerations.

Achieving efficiency goals is important but difficult

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.

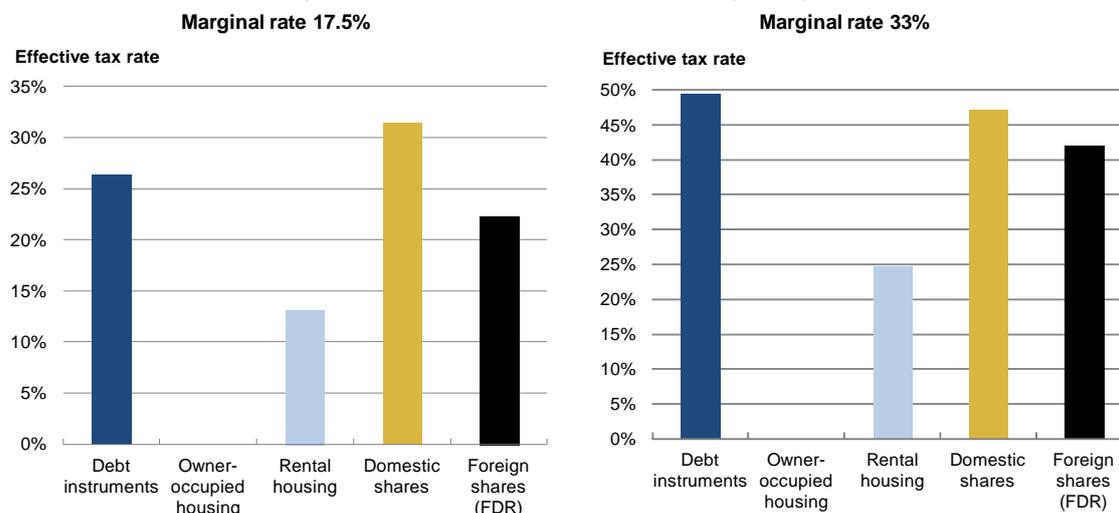
The non-neutrality of different saving vehicles in New Zealand is well known, with the most obvious example of non-neutrality being the fact that financial assets (such as bank deposits or shares) are taxed at a significantly higher rate than housing assets. As Figure 12 illustrates, returns on owner-occupied 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).²⁷ Debt instruments are taxed at the highest rates, and

²⁶ These options were: a) at a minimum, to index interest income and expense by a notified standard rate that reflects the rate of inflation (e.g. 2% per year); b) alternatively, to index interest as above, together with asset cost bases for depreciation purposes.

²⁷ 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.

since this includes deposits in bank accounts, this is likely to affect the least sophisticated investors.

Figure 12. Real effective tax rates on different investments (results are sensitive to assumption)²⁸



Source: Savings Working Group (2011)

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,²⁹ 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 (see Section 4.6 for further discussion). The tax-preference currently enjoyed by housing assets is also likely to have encouraged excessive leveraging in pursuit of tax-preferred income.³⁰ This may be one of the key 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

²⁸ 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).

²⁹ As shown in Figure 7, panel C, housing investment in New Zealand was quite strong in the mid-1990s, and mid-2000s, but over a longer span of time 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.

³⁰ The Henry review makes this point for Australia also, although the tax-advantage enjoyed by housing there is lower than in New Zealand, due to the presence of a capital gains tax on rental property, and the existence of tax-favoured saving vehicles.

more tax-preferred form. The evidence on the proportion of new saving is mixed, as discussed in Section 4.2. Nevertheless, results are very sensitive to precise design details, suggesting that there may be some role for well-thought-out tax incentives to play.

The most efficient schemes are the ones which encourage contributions from middle- and low-income households...

Given that the ex-ante cost of offering tax incentives for saving can be very significant, there are important implications for public saving and tax policy more generally. If the incentives are funded with debt, public saving will be lower than otherwise (OECD, 2007; Yoo and de Serres, 2004). Alternatively, the cost of the incentives can be compensated for by other tax revenues, but that might have efficiency costs. The design of the tax incentives scheme is important. 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.³¹ 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,³² and some schemes offered very expensive tax incentives.

However, 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. For example, if New Zealand were to introduce tax incentives for saving, would the reduction in fiscal revenues be used to run up debt (lower public saving), or would the same fiscal balance be maintained by raising other taxes or reducing spending (unchanged public saving)? For Australia, Gruen and Soding (2011) argue that the foregone tax revenue from tax incentives 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.

.. as Kiwisaver does

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

³¹ 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.

³² 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.

on these 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.

Another common financial incentive for saving – and one of the features of KiwiSaver – is the use of ‘matching contributions’. In standard models of intertemporal decision making, the presence of some kind of matching contribution makes consuming income more expensive than saving it, thereby inducing higher saving. This would be expected to induce a higher rate of participation in the scheme. For individuals who are already contributing to the savings plan, however, the impact on saving is ambiguous, since – as in the case of tax subsidies – there is both an income and a substitution effect at play.

The empirical evidence looking at the impact of matching contributions on saving has used three sources of match variation: naturally occurring cross-sectional variation (e.g. across firms); natural experiments, such as changes in the structure of the match within a given saving scheme; and experimental variation generated by researchers, in which some individuals are offered a match, or a more generous match, and others are not. Of the three types of studies, the natural and field experiments are considered the best, as there are fewer concerns about potential endogeneity. Two main conclusions have emerged from these studies. First, as in the case of tax subsidies, the empirical evidence on the impact of matching contributions is mixed. However, the bulk of the evidence suggests that only relatively small increases in participation are achieved and only relatively small increases in contributions for those who are already participating. Second, the studies also highlight that the match rate seems to serve as a strong focal point in helping individuals decide how much to save. This point is picked up again in section 4.5.

Few studies have compared the relative effectiveness of tax incentives for saving with matching contributions. One that has – Hawkesworth (2006) – found evidence suggesting that automatic enrolment and matching contribution schemes are more effective at generating a saving response than standard tax relief. However, these results are likely to be sensitive to the design details of the incentives provided.

Taken alone, these results might suggest that it would be relatively difficult to make a strong case for the re-introduction of tax incentives in New Zealand. However, all the studies summarised above really tell us, is that many other OECD countries don’t have optimal settings either. They 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. What can New Zealand learn from these experiences? Some options are considered in the following section (Section 4.4)

In addition, a potential short-coming of the studies referred to above is that they are generally based on neo-classical economic models that assume rational and informed behaviour. If, instead, individuals need some kind of commitment device to ‘optimise’ their behaviour, and if tax incentives help to create such devices, then it is possible that the above studies could be underestimating the impact of tax incentives on saving. This takes us to the potential role for policies that can ‘nudge’ or ‘compel’ individuals to save more, as discussed in Section 4.5.

Equity goals can be undermined by tax incentives for saving, requiring other modifications to the tax system

As discussed earlier, there is a direct trade-off between distributional goals of the tax system and tax design to encourage savings (as tax breaks tend to favour the wealthy). This trade-off can be mitigated by clever design – such as by capping the size of the tax benefit, by making other features of the tax system more progressive (e.g. by taxing capital gains, or by introducing higher top marginal tax rates on labour income), or via adjustments to transfer programmes..

4.4 Policy Options

The discussion in Sections 4.2 and 4.3 has highlighted three specific weaknesses of the New Zealand tax system, as it impacts on saving. First, the comprehensive income tax base affects the timing of saving decisions, creating a disincentive to save relative to an expenditure tax system. Second, inflation raises the effective tax rate on savings, creating a further disincentive to save. Third, it has been noted that there are some very significant non-neutralities between the taxation of different saving vehicles, which distorts the allocation of savings across different assets.

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%) were 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.³³ A capital gains tax would be expected to reduce investment in rental housing and increase investment in debt investments although it could also increase investment in owner-occupied housing if that is exempt from the tax (Coleman, 2011).

Both the Treasury and the SWG have also considered some options 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.

³³ 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) and Cheung (2011).

Recently, a number of options for shrinking the size of the middle ‘T’ have been evaluated by the Treasury and IRD using a 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 welfare³⁴ 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 the impacts of the necessary fiscal offset to fund the tax reform and 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.³⁵ 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 PIE tax treatment to other forms of investment. 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. A PIE regime expansion would have 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 12 above) As with the previous options, this would also encourage more domestic saving, given lower tax rates on a broader range of investments. However there would be some negative efficiency impacts (e.g. creating a bias between investing in passive savings rather than in one’s own business) which would need to be worked through. There are also fairness concerns if the PIE extension only involves extending the current top rate cap (28% compared to 33% for the top income tax rate).

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).

³⁴ 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.

³⁵ 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 (narrowing some of the gaps in Figure 12). But it could also increase effective tax rate differentials with other investments (e.g. equities in Figure 12).

One disadvantage of each of the above two cases 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, Section 4.2 suggested 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.

One option for tax reform would be PIE regime extension

In New Zealand, the current government has tried to mitigate the magnitude of the non-neutrality between consumption and saving by reducing income tax rates and increasing GST. However, the non-neutrality remains significant – continuing to provide incentives for individuals to bring their consumption forward – and scope for additional small tax switches is likely to be limited.³⁶ This suggests that any further attempt to use tax reform to improve saving incentives should focus attention on policy options that would reduce the tax rate on income from savings (i.e. shrink the middle ‘T’). If we are to exclude the more radical options (such as a dual income tax) for complexity and administrative reasons, then one good option may be PIE regime extension, which could be designed to better improve the neutrality of taxation across different saving vehicles. Of course, there are many practical compliance and tax integrity and tax system issues that must be considered in contemplating any significant tax change.

³⁶ There are questions about the political feasibility of further income tax cuts and GST increases.

However, any tax reforms to improve saving incentives would need to be packaged together with other policy changes

However, all options to shrink the middle “T” would have some drawbacks. In particular, all of them would likely have equity implications, since reduced taxation of saving would tend to favour the wealthy. This suggests that any such change may be best paired with other tax reforms to offset this, such as a capital gains tax (which would fall more heavily on the wealthy), modifications to the progressivity of income tax rates, or adjustments to transfer programmes. However, such changes could have other efficiency implications.

Another important aspect of these options is that they would lower tax revenues, and thus would need to be packaged together with other revenue-positive reforms. 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. A recent Treasury paper considers a range of potential revenue-raising reforms and concludes that a well-designed land tax may be one of the better options as it would be very efficient, with a largely proportional distributional impact and little adverse effects for economic growth. However, such a tax may face significant opposition, due to its transitional inequity impact, as the cost of the tax would fall entirely on existing land owners (Treasury, 2013b). From a savings perspective, however, this tax may have other benefits, as the resulting fall in land prices may be expected to boost saving (see section 4.6 for more discussion of the relationship between saving and property prices).

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 is 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. In this case, those tax incentives would be seen as pure tax expenditures, as in Section 4.3.

Some form of adjustment to compensate for the inflation distortion seems justified

A final consideration relates to the distortionary impact on savings created by the interaction of the tax system with inflation. Even with inflation as low as 2 per cent per annum, this distortion is important enough to double the effective tax rate on the return to savings for many investors (while at the same time providing a significant subsidy to borrowers). For example, Figure 12 illustrates the extent to which effective tax rates exceed an investor’s normal marginal tax rate.

- **Inflation indexation:** A number of studies have shown that adjusting interest income for the effects of inflation would increase savings significantly.³⁷ Since most practical proposals for indexation (e.g. SWG) have involved indexing interest income only at a notified standard rate (such as 2% per annum), this proposal can be thought of as a special case of the option of reducing the tax rate on interest income or extending the PIE regime. As in that case, inflation indexation would reduce the effective tax rate on interest income to be closer to the effective tax rate

³⁷ E.g. Treasury and IRD (2013), SWG (2011).

on property investments. Whether or not it would also narrow the differential with other asset classes, such as equities, would depend on the design details of any proxy for indexation adopted.

An important difference between a simple proxy proposal and full indexation would be that under full indexation only the real interest expense would be allowed as a deduction, which would tend to increase the cost of capital and possibly reduce the overall investment rate. Thus, while this reform option would undoubtedly help to narrow Saving Investment imbalances, there are questions about how desirable any resulting fall in Investment might be.³⁸ This reform would also add complexity to the tax system, due to ongoing compliance costs (which may be especially relevant for SMEs) and may face implementation difficulties, given current IRD systems capability. Because of these concerns, Treasury and IRD (2013) did not recommend that full indexation be pursued as a medium-term reform. However, the importance of the distortion created by taxing the inflation component of returns on saving significantly boosts the case for some form of tax rate reduction on savings, such as by broadening the PIE regime.

A key implication of the inflation distortion is that even if one wishes to retain a fully comprehensive income tax base, some reduction in the tax rate on saving (as a proxy for indexation) can be justified, just to correct for the distortionary impact of inflation.

Indeed, if a reform such as PIE extension was to be pursued, the magnitude of the inflation distortion 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% (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%, depending on the individual’s normal marginal tax rate (with the larger reductions applying to lower income individuals).

4.5 Behavioural ‘nudges’ and saving compulsion

“People often make poor choices - and look back at them with bafflement. We do this because as human beings, we all are susceptible to a wide array of routine biases...”

Thaler and Sustein (2008)

Over the past decade or two, an increasing number of economists have questioned the suitability of the life cycle hypothesis for modelling the effects of tax policy on personal saving. Their concerns revolve around issues related to ‘bounded rationality’ and ‘self control’. Issues of bounded rationality arise from the complexity of intertemporal planning, and are particularly pertinent for those individuals who are poorly-equipped to make economic calculations, while issues of self control refers to the inability to follow through on intertemporal plans that require an individual to forego short-term

³⁸ Of course, it should be kept in mind that the current tax regime is essentially providing a tax subsidy to investment. See Section 5 for further discussion of the composition of investment.

gratification. A large body of psychological research suggests that imperfect self-control lies at the heart of many intertemporal decision-making problems.³⁹

Efforts to model these effects tend to use stylised models in which there are two types of agents: active savers and passive savers. Active savers make their voluntary saving decisions as a neoclassical utility-maximising lifetime consumption model would predict. Passive savers save at a fixed rate that is invariant to ‘automatic contributions’ (i.e. the rate of contributions deducted at payroll) or tax incentives. To investigate how common these two types of agents are, Chetty et al (2012) analysed the impact of various saving policies in Denmark. Taking advantage of the fact that contribution rates to tier 2 pension schemes in Denmark differ across firms, the authors were able to use event studies of individuals who switch firms to conclude that individuals’ marginal propensity to voluntarily save out of their take-home pay-packet is significantly smaller than their marginal propensity to save out of their ‘automatic contributions’. This is consistent with the idea that the majority of individuals use some form of “mental accounting” (REF) and better meet the definition of being passive savers. In addition, by studying the impact of changes in the generosity of tax incentives for saving the authors showed that only a minority of savers were ‘active’ savers in the sense that they responded to the change in tax incentives, but that those who did respond, did so primarily by shifting assets across accounts rather than by reducing consumption (so the tax incentives are largely ineffective at encouraging new saving). The combination of these results led the authors to conclude that automatic contributions are more effective at increasing household saving than tax subsidies for three reasons. (1) because not many people respond to tax incentives, (2) for those who do respond, they generate substantial crowding-out of other savings, and (3) they do not influence the saving behaviour of passive individuals, who are the least prepared for retirement. By contrast, most individuals were found to save much more when the saving was done automatically for them than when they had to make the saving decisions themselves.

A large number of other studies have found similar results. Even relatively highly educated individuals such as college professors have been found to exhibit significantly higher saving ‘additionality’ for employer contributions than for employee contributions – contrary to the predictions of a standard lifecycle savings model, but consistent with the idea that many people are ‘passive’ savers who maintain different ‘mental accounts’ for savings that are labelled differently (Card & Ransom, 2007).

Automatic enrolment in saving plans has been found to be very effective

More generally, the importance of behavioural biases is reflected in the growing body of research that explores the effectiveness of a range of non-financial approaches to encouraging saving, such as automatic enrolment and other commitment features.

An important conclusion from this literature is that the setting of automatic default rates for saving – typically referred to as automatic enrolment in New Zealand – has been found to have a powerful influence on saving behaviour in a wide range of settings, as many individuals passively accept the default options,⁴⁰ although there are likely to be

³⁹ The psychological frictions that impede saving include present bias, complexity, inattention and temptation, e.g. as discussed by Thaler (1990), Bernheim (2002) and Thaler and Sustein (2008).

⁴⁰ E.g. Beshears et al (2010, 2012),

limitations to the effectiveness of defaults.⁴¹ The evidence suggests that defaults are particularly influential for low-income employees, most likely because these individuals face higher barriers to active decision-making.⁴² 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).⁴³ The importance of default settings is also reflected in the fact that 50 per cent of all current members allowed themselves to be initially allocated to a default fund, and around 60% of those have stuck with their default fund allocation.⁴⁴ However, it is not possible to fully separate the impact of default settings in KiwiSaver from the impact of financial incentives (kickstart & member tax credit).

The effectiveness of defaults highlights the importance of setting them carefully. While defaults may be socially optimal when agents have a shared optimum and the default leads them to it, they can also have undesirable effects if agents have heterogeneous needs. For example, conservative default portfolio allocations may lead to significantly lower wealth accumulation for individuals who fail to switch into funds with higher equity exposure. To counter the problem of heterogeneity, some have proposed *requiring* individuals to make an 'active decision'. Such an active-decision regime has both pros and cons, as discussed by Carroll et al (2009). On the plus side, it is inexpensive to implement, and it pushes heterogeneous workers to choose personally optimal contribution rates or risk profiles. It is also favoured by many because it represents an alternative to the more overt paternalism associated with a planner's choice of a default. On the con side, active decisions force workers to engage in a costly decision process that might be inefficient if a single default would have done a good job for most. Likewise, forced active decisions may force financially unsophisticated savers to make uninformed decisions.

Signalling and framing effects are also influential

In addition to the impact of automatic enrolment, the literature has also highlighted the importance of signalling and framing effects. These have been found to play an important role in influencing saving decisions, even by relatively highly educated individual such as college professors (Card & Ransom, 2007).

⁴¹ For example, Beshears et al (2010) found that opt-out rates increased significantly in a firm where employers were automatically enrolled at a 12% contribution rate (a default rate that is higher than the contribution rate defaults studied in the past), despite financial incentives in the form of matching contributions for employees who contribute at a rate higher than 12%.

⁴² 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).

⁴³ 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% 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%, and more recently has increased to 3%, 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.

⁴⁴ These statistics refer to members as of June 2012 (MBIE, 2012).

It is likely that the signalling effects of policy changes have played an important role in the New Zealand context in at least two respects. First, the phasing out of special treatment for savings in 1988 encouraged employers to close a variety of work-based pension plans. Bernheim (2002) mentions a number of reasons why an extensive private pension system might exist even in the absence of tax incentives.⁴⁵ However, this has not been the New Zealand experience. Second, the absence of any specific tax incentives for voluntary saving, combined with the fact that financial assets are taxed at a higher after-tax rate than other assets (see Section 4.3 for further discussion) may have inadvertently sent the signal to some younger New Zealanders (who were not already locked into employment-based pension schemes) that saving should not be a high-priority activity. The more recent introduction of KiwiSaver is likely to have served as the re-introduction of pro-saving signalling to some extent.

The studies surveyed by Madrian (2012) on matching contributions also shed some light on the possible signalling effects of default settings. For example it was found that saving rates cluster heavily around focal points, including the match threshold (as traditional theory would predict) and numbers that are multiples of five (something traditional economic theory would not predict)⁴⁶. This finding suggests that the match threshold may be a much more important parameter in a matching scheme than the match rate. The increase in the minimum KiwiSaver contribution from 2% of gross earnings to 3% due to take effect from 1 April 2013 should be thought of as an increase in the match threshold in this context.

Mandatory saving schemes have also been found to boost saving...

The generally positive impact of automatic enrolment (soft compulsion) on saving raises questions about the potential merits of mandatory saving. There is some evidence that compulsory saving has a positive impact on national saving. For example, in a comparison of mandatory and voluntary *funded* pension schemes, Lopez Murphy & Musalem (2004) found evidence that the accumulation of pension funds' financial assets was associated with higher national saving when these funds were the result of a mandatory pension program.

Estimates of the extent to which mandatory saving in Australia has resulted in higher household saving vary widely, from around 25 per cent additionality, to over 80 per cent⁴⁷. A reasonable central estimate is probably around 60 – 70 per cent additionality,⁴⁸ as estimated by Connolly and Kohler (2004) and Connolly (2007).

By contrast, Law et al (2011) estimated that only around 30% of saving in KiwiSaver are additional. The lower estimate of additionality for KiwiSaver probably reflects the fact that KiwiSaver is not a mandatory scheme, and therefore is less likely to include liquidity-constrained individuals for whom participation would be more likely to result in additional saving.

⁴⁵ E.g. He argues that employers may offer pensions to bond the workforce against union activity, voluntary job turnover, or poor job performance, or (via defined benefit plans) to induce a desired pattern of retirement.

⁴⁶ See Madrian (2012) for a review.

⁴⁷ Hawkesworth (2006) provides a review of the literature. See also Connolly (2007) and Gruen and Soding (2011).

⁴⁸ 70 per cent additionality is often expressed in terms of there being a 30% offset.

... although there are welfare costs for some

However, compulsion does raise micro-economic concerns about the adverse effects on the welfare of individuals for whom compulsion would result in over-saving (such as for very low-income individuals), or prevent the individual from saving in preferred alternative vehicles (such as by repaying their mortgage more quickly). While the over-saving problem may be able to be mitigated by careful design (such as by establishing a contribution-free income threshold), the second problem represents a cost that could probably not be avoided.

These micro-economic costs would need to be offset against the potential benefits for (short-sighted) individuals who would be better off as a result of saving more. Law et al's (2011) estimate that the KiwiSaver scheme has reached only about one third of the population who would not otherwise have saved enough to maintain their standard of living in retirement,⁴⁹ suggesting that there is a significant proportion of the population who may be in this category.

Pairing compulsion with means-testing of NZS would have larger saving effects

While raising national saving could be an important objective of a mandatory saving scheme, other possible objectives are improved intergenerational equity and greater fiscal sustainability, as mandatory 2nd tier schemes permit first tier safety net pensions to be means tested against entitlements from mandatory schemes, which reduces government spending on 1st tier pensions. The introduction of such a mandatory saving scheme – i.e. where compulsorily-accumulated balances were used to part-fund NZS – would constitute a move from pay-as-you-go (PAYGO) pensions towards save-as-you-go (SAYGO) pensions.⁵⁰ 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).⁵¹ 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 scheme, 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 (2012b) 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.

⁴⁹ The KiwiSaver Act 2006 describes the purpose of KiwiSaver as being “to encourage a long-term saving habit and asset accumulation by individuals who are not in a position to enjoy standards of living in retirement similar to those in non-retirement”.

⁵⁰ The alternative option of achieving these benefits – public SAYGO – was discussed in Section 3.

⁵¹ Diamond (1965, 1997), Feldstein (1974), Coleman (2012a).

While there is currently little appetite for means testing receipt of NZS, this would likely become more politically acceptable once large KiwiSaver balances had accumulated if KiwiSaver were made mandatory. Some recent Treasury analysis (see Section 6 and Annex 1) also suggests that the pairing of compulsion with abatement of NZS would result in a more significant boost to national saving than compulsion alone, partly due to the fiscal savings, but also because the loss of NZS entitlements would boost individuals' incentives to save (so, for wealthier individuals this should mean less offsetting of compulsory savings with reduced saving elsewhere).

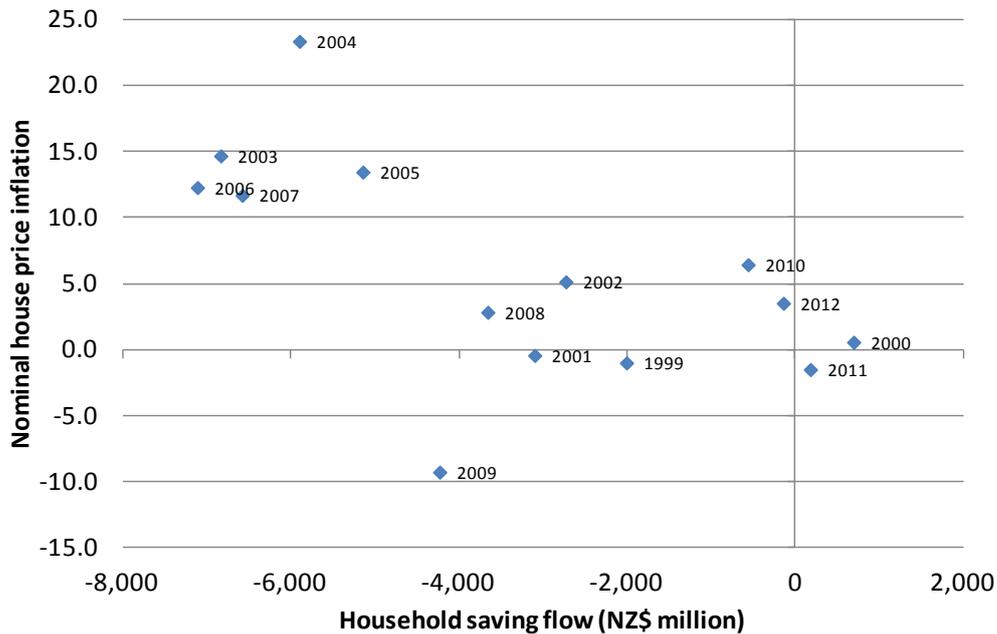
Overall, the findings discussed in this section suggest that individual saving decisions are sensitive to many precise details of retirement income policy settings, including many that do not change the financial incentives for saving. New Zealand's recent experience with KiwiSaver corroborates these findings. Together with the findings discussed in Section 4.2 and 4.3, this suggests that efforts to raise private saving could avoid the expensive loss of tax revenue implied by tax incentives by aiming to get significant increases in saving through channels which encourage more 'automatic saving'. Options to consider may include full compulsion, further extension of auto enrolment of KiwiSaver, and tweaking of the default contribution rates and other parameters, with the objective of encouraging higher participation by low-to-middle-income earners. Consideration should also be given to modifying the match threshold. However, as discussed in section 4.4 there may still be a case for reducing the tax rate on saving to encourage *voluntary* saving, to correct for the distortionary effect of inflation, and to improve the neutrality of taxation of different saving vehicles.

4.6 Housing and Savings

High property price inflation tends to be associated with lower-than-otherwise private saving (Figure 13), although there is some uncertainty about the exact channels through which this relationship works. The exact effect on saving from the purchase and sale of houses depends on how fast the new owner pays off the loan, and how fast the seller consumes the proceeds. However, higher house prices do relax collateral constraints on households, permitting a rise in borrowing to purchase property. This rise in borrowing pushes up households' debt servicing obligations as a proportion of household income,⁵² reducing households' disposable income. If consumption is maintained, this will flow through to lower household saving. This effect will be magnified if households take advantage of their increased access to credit to bring forward consumption more generally. Intergenerational models, in which house price increases confer a one-off transfer from future generations to existing house owners would also predict a bringing forward of consumption.

⁵² In New Zealand over the past decade the impact of higher debt levels has more than outweighed the offset of lower average inflation, implying higher total payments as a proportion of household income (although more recently – post GFC – deleveraging has been reflected in a pick-up in household saving and a small decrease in interest servicing as a percentage of income).

Figure 13. Household saving and annual house price inflation

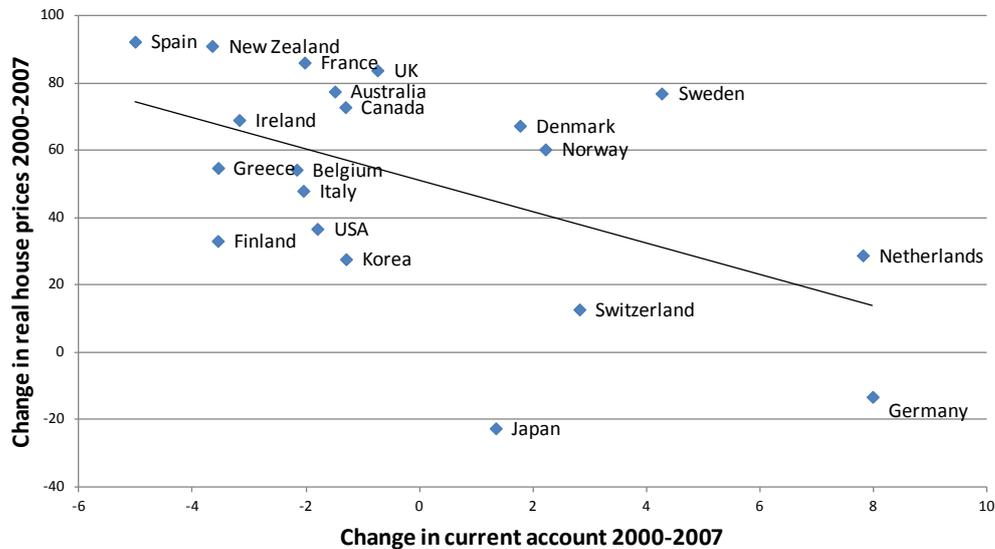


Source: Statistics New Zealand, Quotable Value NZ.

Some econometric estimates have also suggested that buoyancy in the housing market has played a material role in dampening private sector saving, although there is significant uncertainty about the exact magnitude of the relationship. Jarrett (2011) estimated that household saving in New Zealand would have been around 4 percentage points of GDP higher on average had there been no growth in real house prices since 2000. IMF (2011) estimated that increases in household net worth (which was driven largely by house prices) accounted for an estimated 5 percentage point fall in the household saving rate between 1990 and 2009.

Since strong house price inflation is likely to also stimulate some new building investment, it is not surprising that there is also a significant cross-country correlation between the size of the house price cycle and the change in saving investment imbalances (as measured by changes in the current account balance) (Figure 14).

Figure 14. Change in real house prices and current account balance 2000 - 2007



Source: Haver Analytics

It is interesting to note that the links between high house price inflation and deteriorations in national saving have also been highlighted in the United Kingdom (eg. Weale, 2009) – another low-saving economy.

This relationship suggests that any policies which dampen house or land price inflation, will also tend to result in higher private saving (where saving is defined as excluding capital gains). These policies may include some demand-side policies (such as removing the tax distortions that currently encourage investment in housing and slowing net migration flows) as well as the easing of supply-side constraints. Each of these is discussed briefly below.

Tax advantages for investing in property have boosted demand for housing investments

The tax advantages for investing in property were discussed in section 4.3 and illustrated in Figure 12. These advantages are likely to contribute (along with good historical returns) to the widespread belief among New Zealanders that investing in housing is better than saving in other assets. Some measures to remove the tax advantages for 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. Nevertheless, the absence of taxes on capital gains and imputed rent means that a tax bias favouring housing remains.

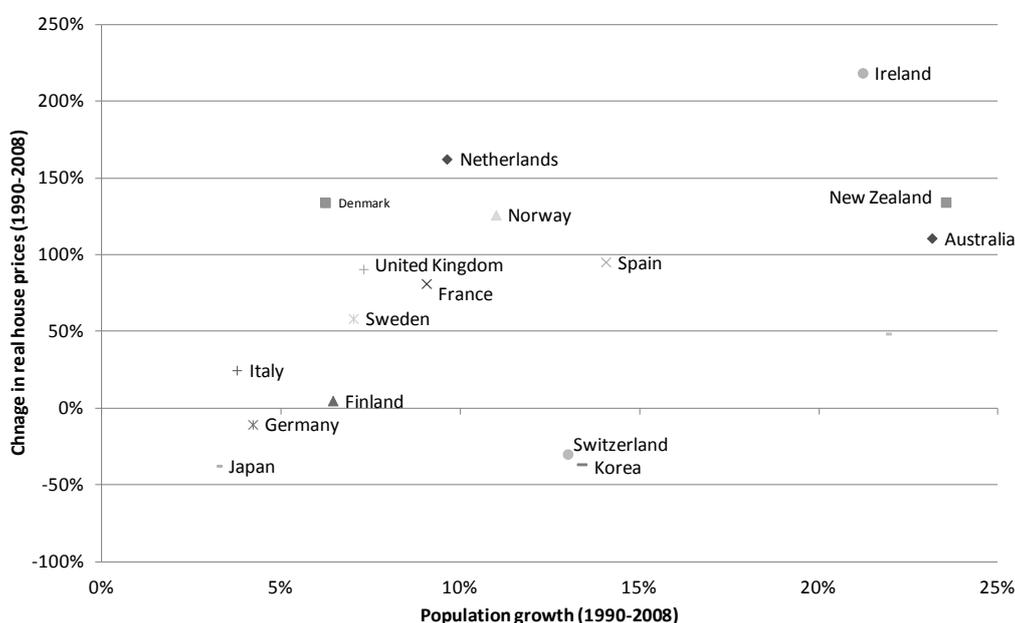
Cheung (2011) provides a detailed discussion of options for addressing this. She concludes that eliminating the bias towards housing relative to alternative saving vehicles could enhance the productive capacity of the economy by encouraging greater saving in financial assets which would deepen the capital markets and may reduce the cost of capital.

However, it is difficult to identify a simple relationship between concessional tax treatment of housing and the rise of house prices across countries. In part this may reflect the importance of the interaction between the factors that influence the supply of housing in response to higher demand (discussed in more detail below). By contrast with tax policy, the cross-country evidence suggests a stronger relationship between house prices and population growth.

Net migration flows are also highly correlated with the house price cycle

Since strong population growth creates higher demand for housing it is not surprising that cross-country evidence suggests a significant correlation between population growth and housing prices (Figure 15).

Figure 15. Real House Price and Population Growth between 1990 and 2008

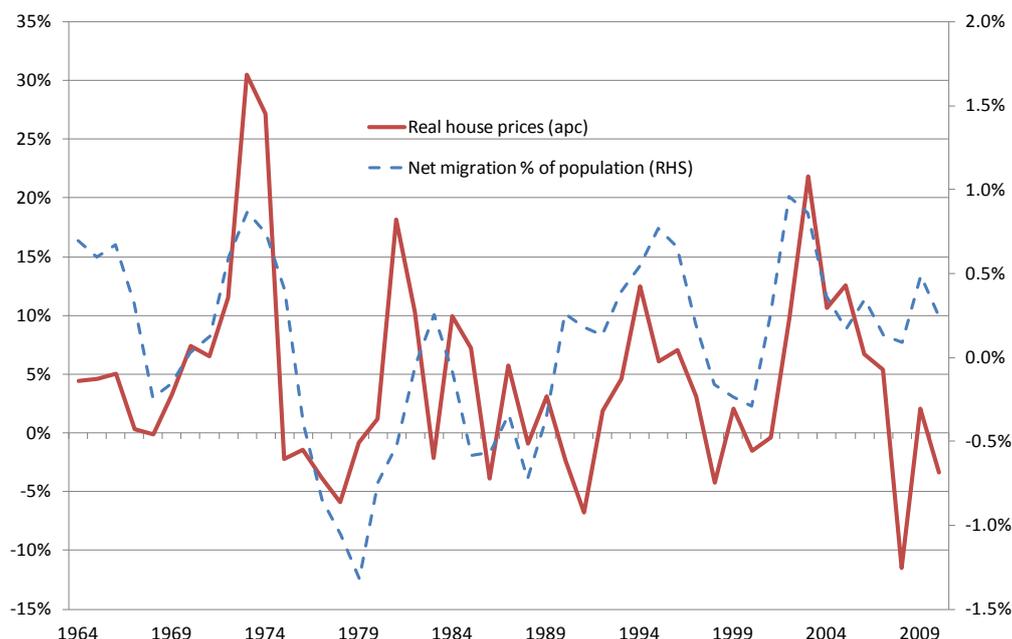


Source: Haver Analytics

The relationship between New Zealand housing prices and migration has been analysed by Coleman and Landon-Lane (2007). They found that since the 1960s a net immigration flow equal to 1% of the population is associated with an approximately 10% increase in house prices. Since net migration flows reached almost 1% in each of 2002 and 2003, this undoubtedly contributed to strong house price inflation over that period. Limiting the average rate of immigration, or smoothing net migration flows, could therefore limit the amplitude of future house price cycles. Figure 16 illustrates the volatility of net migration flows.

However, there are good reasons to be cautious about New Zealand's ability to manage the flow of net migration with much precision. Forecasts of the components of net migration tend to have large errors and miss significant turning points. Moreover, an initial assessment suggests only a weak relationship between permanent migrants and visa approvals. At a minimum, however, policy should be careful to avoid abrupt and large changes in strategy, such as those that led to the large and simultaneous increase in permanent residency, student visas, and temporary workers that occurred in the early part of the 2000s.

Figure 16. Annual house price inflation and net migration flows in New Zealand



Source: Statistics New Zealand, Quotable Value New Zealand

A more responsive supply of housing would dampen upward pressure on prices in response to demand shocks

While there are a number of demand-side shocks that can put upward pressure on property prices, the impact of these shocks will be smaller when housing supply is more responsive. Moreover, an insufficient supply of housing may have wider implications by boosting expectations of future house-price increases and driving speculative activity that pushes prices above fundamental levels. Indeed, there is econometric evidence pointing to a material impact on house prices from supply responsiveness (e.g. Andrews, 2010). Based on cross-country estimates of housing supply, Caldera Sanchez and Johansson (2011) find that New Zealand’s aggregate housing supply appears to respond reasonably well to changes in house prices over the long run relative to other OECD countries, but demand shocks nevertheless tend to have persistent effects on the level of house prices.

Following the Productivity Commission’s 2012 enquiry into Housing Affordability, both central and local government have initiated a number of changes that should lead to improvements in the responsiveness of housing supply. These include better planning for infrastructure and housing intensification in Auckland; a loosening of restrictions on the longer-term supply of land available for development (as part of resource management reform); improvements in building regulations; and efforts to improve productivity in the construction sector. Since much of these policy changes are still under discussion, it is too early to assess how far these reforms will go or how effective they will be.

5. POLICIES THAT COULD IMPROVE THE COMPOSITION OF INVESTMENT

This section takes a brief look at two broad policy areas that might have implications for the composition of investment: immigration and public investment.

5.1 Immigration policy

As discussed in Reddell (2013), insufficient saving (too much consumption) is not the only potential explanation for the domestic demand pressures that have put persistent upward pressure on New Zealand real interest rates in recent decades. An alternative hypothesis is that strong population growth over the past 20 years or so has put upward pressure on New Zealand's infrastructure investment (houses, roads, hospitals, shops etc), resulting in domestic interest rates needing to be higher than otherwise, which has crowded out some other forms of investment that would otherwise have taken place. The result is continued growth in New Zealand's total capital stock, but slower growth in the capital stock *per worker*, than would otherwise have been the case. In particular, such a story – where infrastructure investment crowds out more “productive” investment – implies lower *productive capital stock per worker*.

If valid, this hypothesis would suggest a case for reducing the target rate of gross inward migration flows to New Zealand. However, significantly more work is required before such a conclusion could be reached; particularly given the potential benefits that inward migration may also offer.

5.2 Public investment

As illustrated in Figure 7 (panel B), New Zealand has experienced a material increase in public investment over the past decade, from around 3 percent of GDP in the second half of the 1990s to around 5 percent of GDP since the mid-2000s. Such a level of investment in an identity sense may make New Zealand's saving investment imbalance larger.⁵³

Figure 7 also suggests that New Zealand's rate of public investment is relatively high by international standards. However, there are challenges in making international comparisons of investment rates – due to factors such as the different roles of the state across countries in providing infrastructure. In addition, there is no effective and reliable way to benchmark cross-country public infrastructure. Indicators that do exist across countries in particular areas suggest a mixed picture; for example, surveys based on perceptions (WEF) reflect views that New Zealand infrastructure is deficient (probably driven by comparisons with infrastructure in more densely populated countries). However, more objective data on partial indicators (such as congestion times) suggest that New Zealand is not an outlier in any meaningful sense.

While the importance of infrastructure for growth is well documented, evidence suggests that at some point there are diminishing returns to further infrastructure investment. Given that it is difficult to judge the appropriateness of overall investment levels, it seems sensible to focus on the cost-benefit assessment of marginal infrastructure investments (these are a reasonable proxy for economic contributions

⁵³ This is true in the case where the government has not increased its saving specifically to fund the increase in investment. In some cases, such as investment in roads – which are funded by road user levies – increased investment may have been directly funded by increased saving and in this case there would be no implications for saving investment imbalances.

because they also measure a wider range of welfare benefits). On this metric, there are reasons to think that the quality of investment is uneven, with likely over-investment in some areas and under-investment in others, as projects with good benefit-cost ratios are not always undertaken, while other projects are often prioritised despite low benefit-cost ratios. In some cases this may reflect the difficulty of capturing the expectation of large positive spillover effects from some investments (e.g. ultra-fast broadband, rail, stadia and convention centres). In other cases, decisions to proceed with marginal projects may reflect political considerations (e.g. some roading investments).⁵⁴

6. QUANTIFYING THE POSSIBLE IMPACT OF POLICIES ON NATIONAL SAVINGS

The goal of this section of the paper is to consider the available quantitative evidence regarding the extent to which some specific policy options may feasibly increase national saving. Obviously any such quantification exercise is fraught with difficulties, as assumptions must be made about behavioural responses. In addition, it should be recognised that the discussion in this section is very partial, as to date only a very limited number of policies have been examined with respect to their likely impact on national saving.

Most of the discussion in this section draws on some work currently under way within Treasury (Law, 2013) which quantifies the likely impacts of some hypothetical retirement income policy reforms on national saving. A summary of the methodology and results available to date are provided in Annex 1. Briefly, the analysis produces some indicative estimates of national saving effects that may result from the following three hypothetical retirement income policies:

- Lifting the age of eligibility for New Zealand Super (NZS) from 65 to 67.
- Changing the indexation of NZS from wage to mixed wage and cpi.
- Mandatory private pre-funding by making saving compulsory and using the accumulations to reduce NZS entitlements (with an abatement rate of 50%).

The choice of these three reform policies is designed to be illustrative of the sort of retirement income policy reforms that could be considered.

The results of the analysis are not yet complete, as the impact of cumulated returns has not yet been incorporated into the estimates. Thus, the charts below underestimate the potential increase in saving as a result of these policies (both national and household). This underestimate effect 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. The relative profiles of the three options modelled however, is not expected to change.

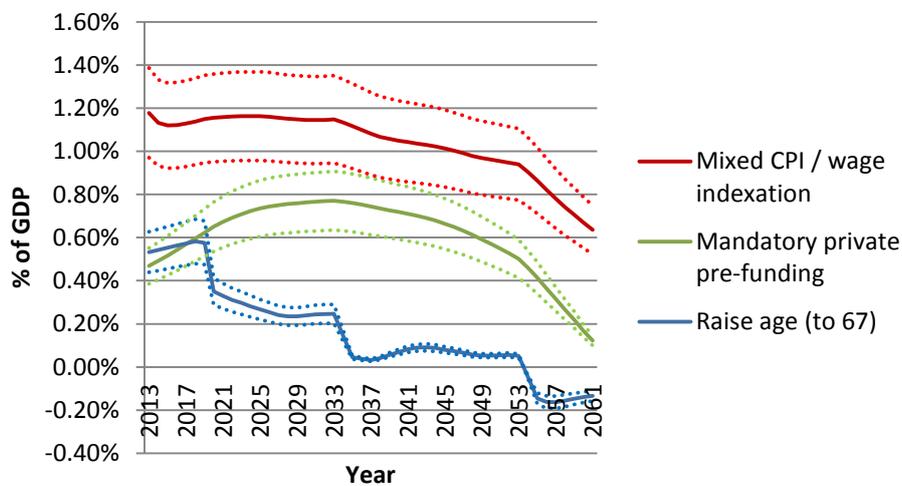
Broadly, the model *assumes* that the greater the reduction in expected NZS receipts implied by a change to retirement income policies, the more people are likely to respond by cutting back on consumption and increasing saving. Thus, since changing the indexation of NZS implies the greatest loss of NZS entitlements, this hypothetical policy generates the largest saving response, even allowing for a wide range of

⁵⁴ Although investment in roads should be thought of as a special case in New Zealand, since it is fully funded by road user levies, and so has no implications for saving investment imbalances.

potential behavioural responses (indicated in the Figures 17 and 18 by the dashed 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.

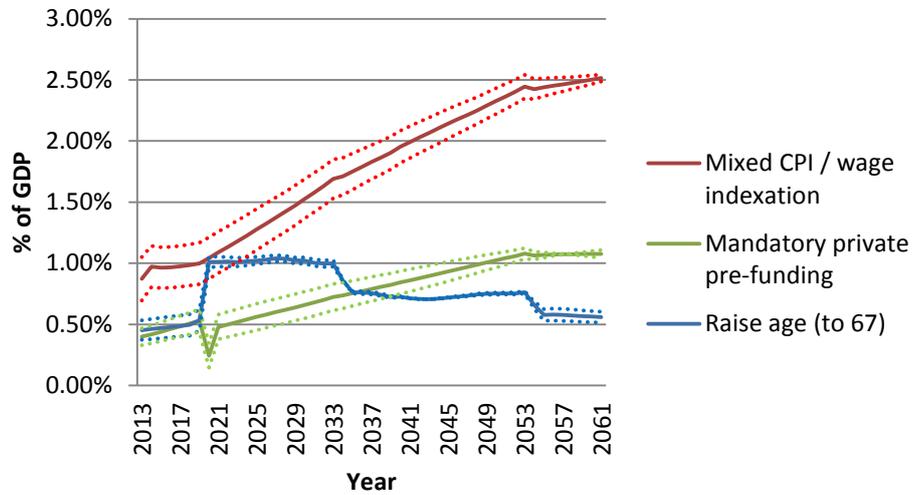
In all cases, the annual additions to total household saving eventually slow down as additional saving by working-age people starts to be balanced out by decumulation as retired people start to run down their savings.

Figure 17. Annual increase in total household saving flows over and above business-as-usual projections, under three hypothetical retirement income policy reforms



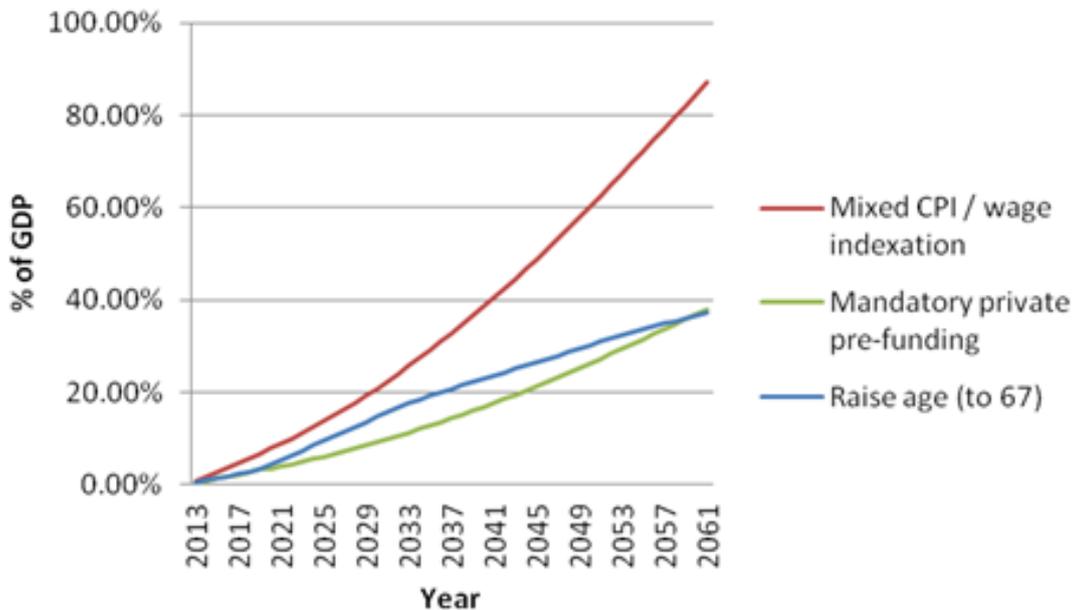
The overall impact of any such retirement income reform on national saving would depend not only on the extent to which private saving behaviour would change (Figure 17) but also on the extent to which the government were to use the fiscal savings realised in terms of lower NZS payments to reduce deficits (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 18. 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 17. The analysis does not take into account any dynamic (second round) effects of fiscal policy.

Figure 18. Annual increase in national saving flows, over and above business-as-usual projections, under three hypothetical retirement income policy reforms, assuming that fiscal savings are realised



The estimates shown above are additional annual saving flows. By cumulating these flows over time, Figure 19 shows that the impact on the stock of national savings (or, assuming unchanged investment, on the Net International Investment Position (NIIP)) could be around 40% of GDP after 50 years in the case of mandatory saving. Note that these estimates are expected to be significantly larger once the impact of cumulated returns is added to the model.

Figure 19. Cumulative impact of national saving flows (based on data from Figure 18 above)



These results suggest that retirement income policy reform could boost national savings by a significant margin

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 upper limit 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 around ½ to 1 percent of GDP per annum (excluding cumulative returns), assuming that the associated fiscal savings are realised, and not cycled back into lower taxes or higher spending.

As a plausibility check, it could be argued that the order of magnitude of impact on saving flows does not seem unreasonable in the context of the historical variation in New Zealand's national saving rate over time (Figure 1), or in the context of cross-country variation in national saving rates (Figure 3b).

While additional flows of ½ to 1 percent 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.

Ideally it would be good to compare these estimates with estimates for the likely impact of reforms in other policy areas, such as tax or housing. Unfortunately, comparable estimates are not available.

Although policy-makers would need to be mindful of adverse effects

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, 2013a).

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).
- 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).⁵⁵ These welfare costs would need to be offset by any welfare gains for short-sighted individuals who may be better off under compulsion.
- Public sector administration and welfare costs under re-indexation (as higher poverty rates would put pressure on the broader welfare system).

⁵⁵ This could potentially be addressed by including an income threshold below which compulsory saving would not be required.

7. CONCLUSION

This paper has explored the question of what policy levers policy-makers have at their disposal to help narrow New Zealand's saving investment imbalance. The main reasons for wishing to narrow these imbalances include concerns about large and growing external liabilities as well as concerns that saving investment imbalances have been putting upward pressure on domestic interest rates and the exchange rate, thus damaging New Zealand's growth prospects. These transmission mechanisms have been explored in other papers.

The primary focus of this paper is on policy levers to narrow saving investment imbalances by boosting national saving, rather than by reducing investment. This seems logical given New Zealand's relatively capital-shallow economy and the consequent need for significant additions to the productive capital stock going forward. However, there seems plenty of scope for policy to also bring about a more productivity-enhancing composition of investment. Lower inward migration may help in this respect, as might reduced public-sector investment, although further work would be required to confirm these hypotheses. If a more productivity-enhancing composition of investment could be brought about, then the existing saving investment imbalance would seem less problematic – as the accompanying growth would be stronger – although New Zealand's national saving rate would still look low by international standards.

Turning to policies that would influence national saving, it has been commonly argued that the best contribution that the government can make to national saving is to increase its own saving. This paper agrees that returning the fiscal balance to surplus and re-building fiscal buffers is important. In the longer-term, a sustained increase in public sector saving may be best done via expanded NZSF contributions (public SAYGO), given the political economy constraints to running persistently large fiscal surpluses.

Whatever policies are adopted to lift public saving, this paper argues that these should be complemented with policies that aim to boost private saving. This acknowledges the tendency for private and public saving to move inversely, as well as the fact that it is New Zealand's low rate of private saving that stands out as being unusual internationally, in contrast with our public saving rate which has been relatively high since the mid-1990s.

There is little consensus overall in the economics literature about appropriate policies for raising private saving, although there is a growing body of evidence from the behavioural economics literature highlighting the importance of automaticity or “nudge” effects. Part of the difficulty in reaching consensus reflects differences in judgments about the importance of savings for an economy. This judgment underpins countries' decisions about whether or not to tax income from savings at the same rate as labour income (as in New Zealand) – a design feature which creates incentives for individuals to bring forward their consumption, resulting in lower saving. Most other countries attempt to make the consumption-timing decision more neutral by offering tax incentives for saving. However, in many cases these tax incentives are not designed efficiently, which means that relatively few private savings result for a given level of trade-offs for other objectives of the tax system.

Non-financial approaches to encouraging saving, such as automatic enrolment, have been found to have a powerful influence on saving behaviour in a wide range of

countries, particularly for low-income individuals, most likely because these individuals face higher barriers to active decision-making. The literature has also highlighted the importance of signalling and framing effects. New Zealand's KiwiSaver scheme – which incorporates elements of automatic enrolment, matching contributions, and some financial incentives (kick start and member tax credit) – generally incorporates most of the good design features that have been identified, although there is scope for further improvement, such as via the government's plans to extend auto-enrolment to all employees (including the self-employed).

If a further step was taken towards making KiwiSaver mandatory, this would also likely provide a further boost to private saving, and national saving if the fiscal cost of providing financial incentives to all new members was compensated for elsewhere in the budget. A more complete transition towards a private SAYGO scheme would likely also require means testing NZS against compulsory savings balances. The quantification exercise discussed in Section 6 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.

Given the inter-linkages between them, this paper argues that decisions about whether to pursue reforms to KiwiSaver, NZS, and/or tax policy should be undertaken jointly rather than independently. For example, improved financial incentives for saving in financial assets can be shown to benefit mainly the wealthy, who have more savings. But if combined with compulsory KiwiSaver (private SAYGO) and abatement of NZS some of that benefit would be offset by reduced NZS entitlements for wealthy individuals. Similarly, a capital gains tax would also fall more heavily on the wealthy, while simultaneously improving the neutrality of taxation across alternative retirement saving vehicles.

Another area where policy has important links to savings is the housing market. High property price inflation tends to be associated with lower-than-otherwise private saving. Thus, saving should be encouraged by any policies which dampen house or land price inflation. Reforms to ease supply-side constraints are particularly important here although some demand-side policies should also be considered.

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ANNEX 1. NATIONAL SAVING QUANTIFICATION OF RETIREMENT INCOME POLICIES

Introduction

This Annex discusses some indicative estimates of national saving effects and some of the fiscal consequences that may result from the implementation of three different retirement income policies:

1. Lifting the age of eligibility for New Zealand Super (NZS) from 65 to 67
2. Changing the indexation of NZS from wage to mixed wage & cpi
3. Making KiwiSaver compulsory. Accumulations are then used to reduce NZS entitlements (with an abatement rate of 50%)

Modelling Approach

The general approach of this exercise stems from a desire to model the three policies in a consistent way and the realisation that each will result in the loss of an individual's current expected NZS entitlements to varying degrees depending upon one's age cohort, income, taxes etc. These losses are quantified for different individuals who are then assumed to adjust their behaviour in one, or a combination of, three ways: saving more over their working life; working longer; or consuming less in retirement. The effects are then aggregated over the relevant population in each year between 2013 and 2061.

The relative weighting across these three adjustment mechanisms is allowed to vary with age (see Table A1 for assumptions). Generally more weight is given to adjustment via additional saving for younger cohorts who have a greater proportion of their working lives to save over. By contrast, older cohorts are assumed to adjust relatively more by working longer and by consuming less in retirement. In addition, more weight is given to adjustment through working longer for all cohorts when the age of eligibility for NZS is raised, compared to the other two reform options. Similarly, under compulsory saving, more weight is given to adjustment through saving.

The model also makes some effort to consider effects on taxation. In particular, the estimates for government saving calculate the impacts of the policy reforms on GST and income tax. With respect to the third policy (compulsory KiwiSaver with abatement), different tax rates play an important role in individual accumulations. For instance, the way the progressive income tax schedule interacts with the member tax credit (MTC) for KiwiSaver, means that as a proportion of their income those on low incomes contribute around 1.8 percentage points more to, and earn about 0.75 percentage points higher returns on KiwiSaver accounts, than those on high incomes.

Finally, the model also makes an allowance for decumulation of savings in line with the effects of each policy. To ensure comparison of policies rather than differences in timing of implementation, in each case it is assumed that respective policy is announced in 2013 and implemented in 2020.

Assumptions underpinning the mandatory saving policy

Though the first two policies are pretty self explanatory the third is a little more complicated: Compulsory KiwiSaver for who? For how long? etc. The model assumes that:

- All those aged between 25 and 64 inclusive who either are salary or wage earners or are self employed must contribute (this equates to about 70% of the 25-64 year old population).
- KiwiSaver initially looks like it is supposed to after the latest set of policy changes take effect i.e. 3% employee contributions, 3% employer contributions (before ESCT deductions), a MTC up to \$521 and a Kick-start of \$1000 for new members.
- The MTC and Kick start are assumed to move in line with wage growth
- An income distribution is used to generate variation in KiwiSaver accumulations and individuals' tax circumstances are taken into account.
- All tax thresholds are assumed to move in line with wage growth.
- Compulsion results in higher membership of KiwiSaver than would otherwise have been the case – this imposes some additional fiscal costs on the government.

Results

Some indicative results are presented in the following four graphs which compare national saving and fiscal saving outcomes under the three policies. Results are marginal changes due to the policy change, rather than what we would expect, for example, total national saving to be in each of the next 50 years.

Note that the results presented are not yet complete as the impact of cumulated returns is yet to be incorporated into the estimates. Thus, the charts below underestimate the potential saving effects of these policies (both national and household). This effect will not be substantial in the early years of the estimates, but toward the end of the modelling period, savings are likely in each case to be significantly higher than shown here. The *relative* profiles of the three options modelled however, is not expected to change.

The dotted bands in each graph represent 'high' and 'low' savings responses by individuals to the policies – derived from altering relative responses to the policies through working more, saving more, or consuming less in retirement (see Table A2 for these parameters).

The other particularly important assumption is around how the government responds / uses any savings it makes from these policy changes. To illustrate the importance of this assumption, the two extremes for national saving are shown. The first (Figure A1) illustrates the case where the government saves everything (i.e. runs larger than otherwise surpluses or smaller than otherwise deficits) and the second (Figure A2) shows the case where the government saves nothing (i.e. it either spends on other policies or reduces taxes). Conveniently that version of national saving therefore also illustrates the household sector saving response.

Figure A1: Potential National Saving Impact (When the Government Saves)

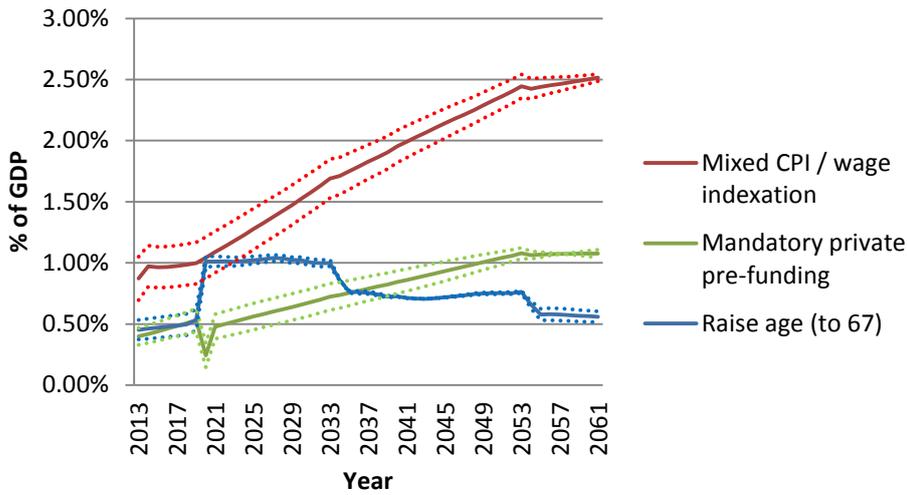


Figure A2: Household Saving Response (= National Saving if Government “spends” fiscal savings)

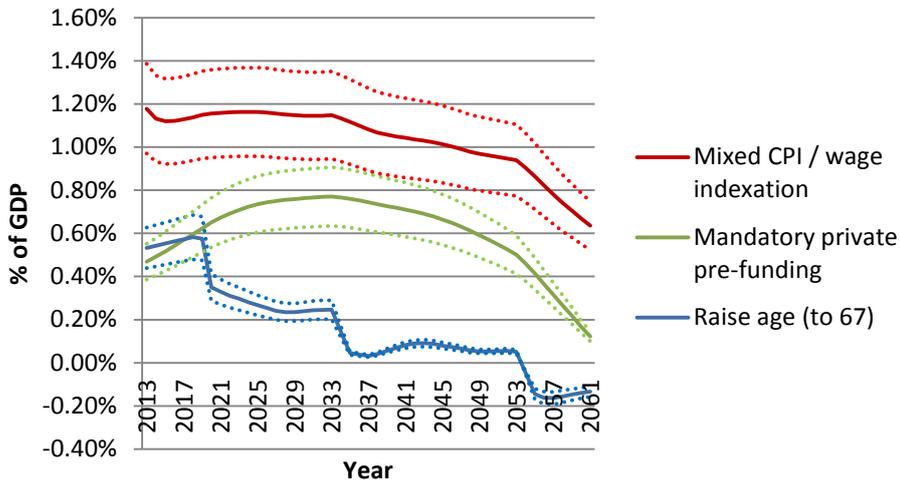


Figure A3: Fiscal Savings (Total)

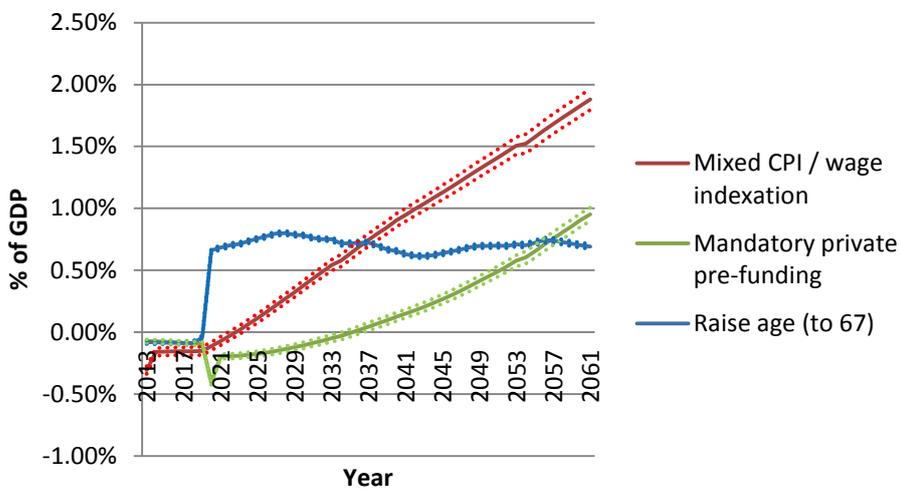


Figure A4: Fiscal Savings (From New Zealand Super Reductions Only)

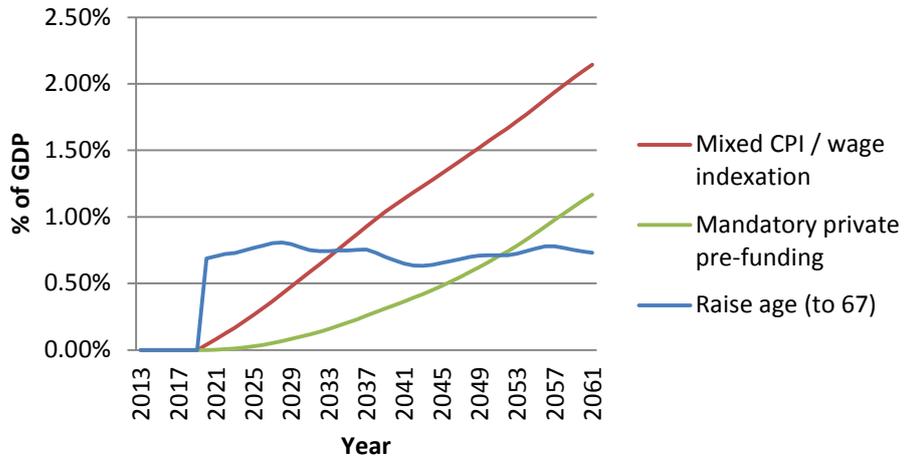


Table A1. Baseline parameter assumptions

Age group	Policy change Response	Base		
		Change indexation	Raise age of eligibility	Mandatory private pre-funding
Young	Save more	0.8	0.775	0.85
	Work more	0.1	0.15	0.075
	Consume less	0.1	0.075	0.075
Middle	Save more	0.6	0.55	0.7
	Work more	0.2	0.3	0.15
	Consume less	0.2	0.15	0.15
Older (but not old)	Save more	0.4	0.3	0.6
	Work more	0.3	0.5	0.2
	Consume less	0.3	0.2	0.2

Table A2. High/low parameter assumptions

Adjustment for High / Low saving = $(1-0.85)/0.85$ since S can't exceed 1 = 17.6471%

Age group	Policy change Response	Change indexation		Raise age of eligibility		Mandatory private pre-funding	
		High S	Low S	High S	Low S	High S	Low S
Young	Save more	0.94	0.66	0.91	0.64	1	0.7
	Work more	0.03	0.17	0.08	0.22	0	0.15
	Consume less	0.03	0.17	0.01	0.14	0	0.15
Middle	Save more	0.71	0.49	0.65	0.45	0.82	0.58
	Work more	0.15	0.25	0.25	0.35	0.09	0.21
	Consume less	0.15	0.25	0.10	0.20	0.09	0.21
Older (but not old)	Save more	0.47	0.33	0.35	0.25	0.70	0.49
	Work more	0.26	0.33	0.47	0.53	0.15	0.25
	Consume less	0.26	0.33	0.17	0.23	0.15	0.25

Young = those -23 to 24 years of age @ 2013

Middle = those 25 to 44 years of age @ 2013

Older = those 45 to 64 years of age @ 2013

Thus, the model considers about 88 age cohorts who can respond to policy changes. In addition, in the case of changing indexation of NZS, those already retired (65 to 99 years old in 2013) are also considered – but this group is assumed to respond only by lowering consumption.