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A Retirement Policy and Research Centre Working Paper

The distributional impact of recent changes to retirement income policy: a preliminary analysis

By

Susan St John,[1] Michael Littlewood[2], and Lisa Meehan[3]

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Retirement Policy and Research Centre

Economics Department

University of Auckland Business School

Private Bag 92019

Auckland

New Zealand

www.rprc.auckland.ac.nz

[1] Senior Lecturer, Department of Economics, School of Business, University of Auckland; and Co-director, Retirement Policy and Research Centre.

[2] Co-director, Retirement Policy and Research Centre.

[3] Graduate Student, Department of Economics, School of Business, University of Auckland.

The Retirement Policy and Research Centre

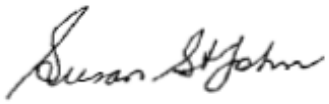
The Retirement Policy and Research Centre is pleased to publish this joint working paper based on work carried out in the Centre by researcher Lisa Meehan[4].

The Retirement Commissioner's 2007 Retirement Income Review warned:

"KiwiSaver has brought additional complexity and new fiscal risks, because of the high cost of the generous new incentives. Government will need to evaluate the outcomes and cost of KiwiSaver fully. Will New Zealanders' retirement finances improve overall? Will those who find it hard to save unfairly miss out on the incentives? Can New Zealand continue to afford the current level of KiwiSaver incentives?" (Retirement Commission, 2007, p. 4)

To begin to answer some of these questions, this working paper quantifies the value of the tax-funded incentives and subsidies for individuals who save under various hypothetical scenarios. The preliminary modelling shows how the future value of these subsidies and incentives varies by income, age and employer contribution. This paper concludes that they will have a regressive and unequal impact. The Retirement Policy and Research Centre recommends that this aspect of KiwiSaver should be reformed, and sooner rather than later. Further work is under way at the Retirement Policy and Research Centre to extend this analysis.

The RPRC welcomes comments on this paper.



Dr Susan St John

Michael Littlewood

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The distributional impact of recent changes to retirement income policy

The high-level KiwiSaver evaluation objectives are:

> *A: to assess the early implementation and delivery of KiwiSaver as a whole and the various components, to inform the early and on-going development and service delivery of KiwiSaver*
> *B: to assess which of the key features of KiwiSaver are generating the expected outcomes*
> *C: to assess the response to KiwiSaver in order to understand the scale and pattern of take-up*
> *D: to assess the impact KiwiSaver is having on the saving habits and asset accumulation of individuals who are not in a position to enjoy standards of living in retirement similar to those in pre-retirement*
> *E: to assess the impact of KiwiSaver on competitive superannuation markets and the financial sector.*
> (Inland Revenue Department, 2008)[5]

The Retirement Commission recommends:

> *That Inland Revenue fulfils and extends its plans beyond 2013 to evaluate KiwiSaver on the outcomes from the policy, in particular, whether KiwiSaver has improved retirement wealth overall for households, and what its distributional impact has been. That these outcomes are examined by analysing the spread of take-up and the value of incentives received by different households: by income level, gender, ethnicity, age, whether disabled, and employment status.*
> (Retirement Commission, 2007, p. 52)

Introduction

From the late 1980s until 2007, New Zealand's retirement income policies stood apart from those of other countries. While other countries, including Australia, introduced tax incentivised voluntary retirement savings and/or compulsory retirement savings schemes to address sustainability issues and the adequacy of retirement income, New Zealand maintained its two-pillar approach of a universal pension now called New Zealand Superannuation (NZS), and tax-neutral voluntary savings.

NZS is a non-contributory, universal pension provided to qualifying residents aged 65 years and over. Annual adjustments are made to reflect increases in living costs, but NZS must also remain between 65% to 72.5% of average ordinary time earnings after tax (New Zealand Government, 2001, section 16).[6] Net payments of NZS increased from 1 October 2008 as personal tax cuts announced in the May 2008 budget increased the net average wage, with further increases scheduled for 1 April 2010 and 2011.[7] Through this link to wages, NZS has been remarkably successful in achieving a low rate of pensioner hardship to date (Ministry of Social Development, 2006).

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[5] The IRD report notes "Four potential critical constraints for the KiwiSaver evaluation are: the multi-dimensional and complex context in which KiwiSaver is being implemented; data availability, timeliness and consistency; the timeliness of evaluation reporting; determining the extent to which impacts can be attributed to KiwiSaver."

[6] The floor of 65% became 66% under a side agreement between Labour and New Zealand First in 1999.

[7] See http://www.beehive.govt.nz/release/tax+cuts+deliver+nz+superannuation+boost

In 2007, a voluntary work-based, auto-enrolment private savings scheme called KiwiSaver was introduced in addition to NZS. KiwiSaver extended the government's role in retirement income not only by facilitating private retirement savings, but also by incentivising participation through tax-funded benefits, and by requiring employers to contribute.

An official aim of KiwiSaver was to "to encourage a long-term savings habit and asset accumulation by individuals who are not in a position to enjoy standards of living in retirement similar to those in pre-retirement" (New Zealand Government, 2006). KiwiSaver has no stated redistributional goals, nor is it the intention for the government to evaluate its distributional impact as is clearly demonstrated in the opening extract from the Inland Revenue Department's "*high-level KiwiSaver evaluation objectives*".

In contrast to the Inland Revenue Department's position, in 2001 Treasury considered equity was one of the measures that should be used for evaluating tax incentives for private savings (New Zealand Treasury, 2001). This view was echoed by the Retirement Commission's 2007 review of retirement income policy. The aim of this report is to begin to illuminate the distributional impacts of the recent changes and provide a basis for further monitoring.

Background

New Zealand's pension system

From the late 1980s until the introduction of KiwiSaver in 2007, tax incentives associated with voluntary retirement saving in New Zealand were negligible.[8] During 1988-1990, the government broadened the tax base and eliminated tax subsidies that existed for certain classes of savings, including specified retirement savings. There were equity concerns about tax subsidies since they decreased general tax revenue, but benefited mainly high-income, white, long serving males in large companies (St John & Ashton, 1993). According to the OECD, "[a]fter the radical reforms undertaken in the 1980s, the NZ tax system has long been regarded as one of the most efficient within the OECD" (OECD, 2007). The economic rationale behind the removal of tax incentives was not only their high cost of forgone tax, but also that they had increased distortions contributing to lower growth. Between 1988 and 2007, with the exception of housing which remains taxed largely on a TEE[9] basis, New Zealand generally adhered to the principle of tax neutrality for saving (St John, 2007). The introduction of KiwiSaver in 2007 effectively ended the tax neutral approach to retirement saving.

The development of KiwiSaver

KiwiSaver was announced in Budget 2005 and began operating in July 2007 as an auto-enrolment, workplace-based retirement savings scheme, although those not in paid employment, the self-employed, and children can also join. New employees are

[8] Other than a minor arbitrage between the top marginal tax rate (MTR) of 39% and the top ESCT rate of 33%. Some employees could potentially benefit by a reduction in their effective MTR if they were in receipt of an income-tested state benefit (e.g. Working for Families) as income earned through a registered superannuation scheme is not taken into account. This possibility is not considered in this analysis.

[9] TEE or Taxed Exempt Exempt is one option for treatment of income and assets. In the TEE housing example, the money to acquire the asset comes from after tax income (T). Returns to housing are not taxed as they accrue, nor is imputed rental income taxed for home owners (E). Any gains on final sale are not taxed (E). (Traders may be taxed on capital gain however).

automatically enrolled in KiwiSaver, and have eight weeks to opt-out of the scheme. Employees can choose whether to contribute 4% or 8% of their gross pay to KiwiSaver.

In the original framework for KiwiSaver (KiwiSaver I) set out in the 2005 Budget and the KiwiSaver Act 2006, the distributional concerns were relatively modest. The government incentives were restricted to a one-off $1,000 kickstart payment and a small annual contribution towards fund management fees. However, just before the KiwiSaver Act 2006 was passed, the further incentive of exemption to ESCT for employer contributions was announced. As noted below in Table 1, employer contributions of up to 4% of gross pay to KiwiSaver and to "complying superannuation funds" that match KiwiSaver's minimum requirements are exempt from ESCT.

Previously the government had acted to try to ensure more fairness in the way the employer contribution was taxed by limiting the advantages from salary sacrifice under the old regime.[10] Exempting KiwiSaver and other complying funds increases the incentive to engage in salary sacrificing at least until the mandatory employer contributions reach 4% of pay from 1 April 2011. Thus two people receiving the same amount of total income may pay different amounts of tax, offending the principle of horizontal equity (New Zealand Treasury, 2001). Furthermore under a 2008 change, the employer contribution is to be in addition to, not part of, total remuneration, adding to horizontal equity concerns.[11] Moreover, the ESCT exemption also has strong vertical equity implications since it is capped only in percentage terms, not in dollar terms, so those on higher incomes will benefit the most.

In 2001 the Treasury discussed the options for tax incentives for private savings and commented on the equity implications of proposals such as caps on tax advantaged contributions:

> *Implementing savings incentives raises serious equity considerations. Assuming an optimistic response at all income levels to a tax incentive for savings, a savings incentive is largely a tax break for the top 10-20% of income earners. Roughly 70% of the cost of an incentive would be directed at the top 20% of households by income. Over 50% of that cost is directed at the top 10% of households. Addressing these concerns can result in decreasing the effectiveness of an incentive.*
> *Contribution caps do not remove equity problems, but they improve equity. With a contribution cap of $1000 and a rebate of $.10 on the dollar, approximately 56% of the spending on an incentive is still directed toward the top 20% of households.* (New Zealand Treasury, 2001, p. 8)

Later, Treasury recommended policies that supported private saving, such as financial education and facilitation of work-based savings, but did not recommend government subsidies (New Zealand Treasury, 2003, 2005). It was therefore surprising that in May 2007, the Treasury released a report outlining its increased support for government intervention to encourage private saving. This represented a change from its long-held position on this issue. The report stated that:

> *... in light of recent data, evidence and analysis…on balance we think that further or stronger pro-saving action is now justified. This judgement for further or stronger action rests*

[10] The official issues paper prepared by the Policy Advice Division of IRD and NZ Treasury: "Countering Extreme Salary Sacrifice: Ensuring that Employer Superannuation Contributions are Taxed Fairly," 2006, states that the changes will "improve fairness by reducing the opportunity to minimise tax through salary sacrifice" .
[11] This was made under an amendment to the Employment Relations Act.

> *on a least-regrets approach in the light of data uncertainties, persistent macroeconomic imbalances and the possibility that individuals are basing saving decisions on long-run expectations that could turn out to be mistaken."* (New Zealand Treasury, 2007, p. 4)

The release of this Treasury report coincided with the announcement in the Budget 2007 of further enhancements to KiwiSaver. Matching employer contributions were made compulsory, and were to be phased in to 4% of gross pay by 2011. The government also introduced tax credits of up to $20 a week for both members and employers. The speed at which the newly revised KiwiSaver was implemented was quite remarkable, with only five weeks between the Budget announcement and the implementation in July 2007 of the revised KiwiSaver scheme (referred to as KiwiSaver II).

Changes to the Portfolio Investment Equity (PIE) framework

In addition to KiwiSaver policy, recent changes to investment tax policies also impact on retirement income.[12] Previously, all relevant scheme returns had been taxed at 33%, regardless of the member's other taxable income and also regardless of the amount of income from superannuation schemes. Under the new policy, KiwiSaver schemes registered as 'portfolio investment entities' are subject to PIE[13] tax rates. From April 2008 as long as total income is less than $60,000 and income from other (i.e. non-PIE) sources is less than $38,000, the PIE rate is 19.5%. For those earning over $60,000, the PIE rate is 30%. The general objective of the PIE framework is to tax contributors at the member's marginal tax rate (MTR). While the PIE framework taxes most middle-income earners at close to their marginal tax rate, the PIE rate for those on the highest MTR is 9 percentage points lower.

Taking into account the low-income earner's rebate, the MTR on earnings between $9,500 and $38,000 is 21%, a positive difference of 1.5%. Those who earn less than $9,500 are eligible for the low-income rebate and pay 15% income tax, but face a 19.5% PIE rate, a negative difference of 4.5%.[14]

While there may be only a few members who earn under $9,500 and are penalised, there are considerable advantages to high income people. This raises questions of equity that are similar to those raised in the 1980s in relation to tax incentives on savings: the benefits go mainly to higher income earners, rewarding them for the saving they are largely doing anyway, but at the cost of lower tax revenue.

Evidence to date

Official data

The availability of official data on KiwiSaver is currently limited since the scheme has been in existence for a short time period. However, summarised below are some data on KiwiSaver enrolment from the first six-monthly IRD evaluation report (Inland Revenue Department, 2008). Since these figures are for the first six months of the scheme, IRD notes that the membership profile is likely to change over time.[15] But, in general, it is noted that:

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[12] For a full explanation of the tax implications of KiwiSaver, see Littlewood (2007).

[13] PIEs were formerly called Collective Investment Vehicles (CIVs).

[14] This penalty worsens from 1 October 2008 when the low income earner rebate is abolished and the bottom tax rate reduces to 12.5% and the bottom income band increases to $14,000.

[15] See Appendix 1 for addition demographic data and information on IRD's data sources.

- there is a fairly even split between men and women: 48% of members are men and 52% women overall, and for those who have opted-in, 47% are men and 53% are women;
- opt-in members tend to be older than automatically enrolled members as indicated by the age profile of those who have opted-in (median age of those who have opted-in is 47, compared to 32 for those who have been automatically enrolled);
- those who have opted-in (apart from children) tend to have higher incomes than those who have been automatically-enrolled;
- opt-in and auto- enrolled members tend to have higher incomes than opt-out members (median income for 2006/07 tax year for opt-in and automatic members is $33,376 compared to $24,001 for non-members who were automatically enrolled but opted out);
- the IRD does not collect ethnicity data, but respondents to their survey conducted by Colmar Brunton (2008) show a similar ethnic composition of member and non-member populations.

It is difficult to draw conclusions from these data due to their limited nature and the short time KiwiSaver has been running. However, as discussed below there are potential equity issues in relation to socio-demographic differences such as gender, age, and income between members and non-members.

Other evidence of distributional impacts

Gibson, Hector & Le (2008) examined the question of the distributional impact of KiwiSaver using data from their nationwide survey. They estimated the value of the equivalent income transfer provided to individuals by the KiwiSaver tax incentives.

They found KiwiSaver members, whether opt-in or automatic, tend to be older than non-members, are more likely to be male,[16] are less likely to be Maori or Pacific Islanders, and are more likely to have higher incomes and to hold a degree or higher qualification. Looking at the lifetime estimates of the distribution of KiwiSaver incentives, they found that Maori, Pacific Islanders, women, and the less educated receive a smaller share of incentives than their population size would dictate. The lowest 10% of income earners receive less than one-third of the share of incentives that their numbers would predict, while the highest 10% of income earners receives 90% more.

Gibson et al. (2008) point to the unequal distribution of KiwiSaver incentives which increases over time due to the rising importance of the benefit of the ESCT exemption, which is capped in terms of a percentage of income rather than in absolute dollar terms. In fact, the ESCT exemption is the most unequally distributed of the incentives, with the greatest benefit going to those with the highest incomes. The ESCT exemption was not introduced as part of the main announcements in the 2005 and 2007 budgets, and did not receive the same scrutiny, hence, they suggest, it is perhaps the most overlooked element of the KiwiSaver incentives.

Methodology

Suitable data to undertake a comprehensive examination of equity issues of government incentives analysis of KiwiSaver are not likely to be available for several years. Gibson et al (2008) addressed the lack of data by conducting a survey, and from that data they were

[16] This contrasts with the IRD, Colmar Brunton 2008 findings.

able to estimate the impact of KiwiSaver on inequality measures. This paper provides a general discussion of potential distributional issues using some relatively simple hypothetical modelling of individuals under different assumptions about age, income and employment. The inequalities in the job market itself in terms of gender, ethnicity and education will be reflected in overall KiwiSaver outcomes, but are not modelled here.

The model uses pre 1 October 2008 tax rates and assumes a net real rate of return of 2%, and no change to an individual's real income over time. There is also a presumption that the real value of the kick-start, fee subsidy, member, and employer tax credits is maintained. The analysis also assumes the 4% matching employer contribution is instigated immediately, rather than being phased in between 2008 and 2011.

The exemption to the Employer Superannuation Contribution Tax (ESCT), previously called the Specified Superannuation Contribution Withholding Tax (SSCWT), for employer contributions was announced just before the KiwiSaver Act 2006 was passed. Employer contributions of up to 4% of gross pay to KiwiSaver and to equivalent "complying superannuation funds" matching KiwiSaver's minimum requirements, are exempt from ESCT. Previously 33% of ESCT would have been paid on employer contributions for a 39% rate employee. Now the ESCT is nil. The exemption from the ESCT for a taxpayer on a marginal tax rate of 39% is properly valued as a saving of 39%.

The interaction of retirement income policies and other policies, such as Working for Families, (WFF) are not modelled although they may have significant distributional effects.[17] The first home buyers' subsidy and mortgage diversion scheme are likewise not modelled as they are only tenuously relevant in this preliminary analysis. The intent is to show the relative value of accumulated tax-funded subsidies and tax credits at age 65 for different incomes and ages and employment status. Table 1 below sets out the elements to be explored.

Table 1.Taxonomy of relevant KiwiSaver Policies as at 1 April 2008.

Policy	Amount	Explanation
Kickstart	$1,000 one-off	One-off initial payment
Fee subsidy	$40 p.a. tax-free	Annual subsidy
Member tax credit	Max $20 a week, tax-free	Matching government contribution of up to $20 a week. Assuming 4% member contributions, those earning over $26,000 p.a. receive the full $20 a week.
Employer tax credit	Max $20 a week	Employer tax credit for matching employer contributions of up to $20 a week. At 4% matching employer contributions, employers receive $20 a week for those earning over $26,000 p.a. For those earning up to $26,000, the tax credit entirely covers their employer's contribution obligation.
ESCT exemption from 1 April 2008	Up to 4% of gross wages/salary exempt from ESCT (but not more than the employee contributes)	Assumes that the MTR of the individual would apply without the exemption because without employer contribution the gross taxable wage could have been higher.
PIE tax effect	From 1 April 2008, a negative differential of 4.5% for those earning up to $9,500; 1.5% positive differential over the marginal tax rate for those earning between $9,500 and $38,000; 3% positive differential for those earning between $38,000 and $60,000 and 9% positive differential for those earning over $60,000.	PIE tax rates applying to KiwiSaver funds from April 2008 are 19.5% for those with taxable incomes up to $38,000, (and total income under $60,000) and 30% for those with incomes over $38,000.

[17] For example if KiwiSaver contributions by the employer allow WFF recipients to retain more family tax credits, or repay less on their student loans.

Differences in the tax rates on returns from PIEs are directly relevant as most KiwiSaver schemes are PIEs. PIE rates apply to all portfolio investments if they are managed in appropriately qualified vehicles, and have broad equity implications for retirement income. However the assumption in the analysis is a fixed 2% real after-tax return.

A brief look at international evidence on the distributional impact of savings incentives

The USA federal government has subsidised retirement saving relative to other saving since 1913. This carries a large fiscal cost. In 2003, the present value of the federal revenue loss from new contributions to employer pensions exceeded $US184 billion (Burman, Gale, Hall, & Orszag, 2004). Despite this fiscal cost, little attention has been paid to the distributional impact of retirement saving advantages. Burman et. al (2004) attempt to address this gap by using tax returns and demographic information to estimate the distribution of benefits from different retirement arrangements.

Incentives for retirement savings in the US are complicated, but in short, 401(k) plans are voluntary, workplace-based, tax-preferred savings instruments. Employees can participate only if their employer chooses to sponsor a 401(k) programme, and the employer will usually subsidise the employees' contributions. Eligible employees may then choose whether or not to participate. Contributions are tax-deductible and returns earned on savings are tax-free. Withdrawals are taxed as income. Usually, both employers and employees make tax-deductible contributions. Total contributions to the plans are limited (in 2004, the limit was the lower of US$41,000 or 100% of income). The USA also has Roth individual retirement arrangements, also known as individual retirement accounts (IRAs). Taxation of IRAs (that individuals can join) is similar to the taxation of 401(k) plans, but with lower contribution limits.

Burman et al. (2004) find that about 70% of tax benefits from 401(k) plans in 2004 accrued to the highest 20% of tax units,[18] and over half go to the top 10%. IRAs are subject to income limits, and as such, the benefits were less weighted towards high-income units. However, almost 60% of IRA tax benefits still accrued to the top 20% of households, and more than 85% of benefits go to the top 40%. Relative to income, the largest benefits went to households that were roughly in the 80th to 99th percentiles of income distribution. The top 1% of households received benefits that were significantly smaller in relative terms, but much larger in absolute terms.

For Ireland and the UK, Hughes (2002) found that tax incentives for retirement saving results in high coverage rates for middle-to-high income earners, but low coverage rates for low-income earners. Also, retirement saving tax incentives in Ireland and the UK are regressive, providing benefits mainly to higher income earners. Two-thirds of the benefits accrue to the top 20% of income earners in both Ireland and the UK, while less than 3% accrue to the bottom 20%. Moreover, rather than resulting in fiscal savings through decreased reliance on means-tested pensions, tax incentives have imposed higher fiscal costs. Hughes concludes that "[t]he regressive nature of such incentives means that all taxpayers have to pay more taxes to provide benefits which accrue overwhelmingly to higher income taxpayers". Interestingly, Hughes (2008) makes the point that in Ireland there is a consensus that the role of the state is to help the social partners to develop a national pension system for *workers* whereas in New Zealand there

[18] Couples may file tax returns separately or jointly, and each return is treated as a "unit".

is a consensus that the role of the state is to provide security in old age for *citizens*. It is debatable whether this is as true now under KiwiSaver II.

Australia's Superannuation Guarantee, introduced in 1992 (after a partial implementation from 1986), mandates employers to make superannuation contributions on behalf of employees. These contributions amount to 9% of employee earnings which are placed in individual accounts in private superannuation funds. The self-employed and those who earn less than $A450 per month are exempt (Rothman, 2003). Taxation of employees was, until recently, on a ttt basis (that is, contributions, earnings and withdrawals are taxed at an incentivised rate represented by lower case t). It is now on a ttE basis that is, withdrawals are no longer taxed, the final payout is tax-free or exempt (E).

Several equity issues have been raised in relation to the Australian Superannuation Guarantee. Firstly, saving 9% of earnings represents a much greater burden on low-income workers. Though this cost is nominally the responsibility of employers, in fact, as part of overall remuneration the indirect cost is borne by employees. Secondly, wealthier people can offset compulsory payments more readily by reducing other forms of savings. Thirdly, the tax incentives are highly regressive as shown by Rothman (2003). High-income earners, although they are subject to higher marginal tax rates, benefit more from tax concessions since they contribute more to superannuation schemes. Fourthly, those not in paid employment, and very low-income workers, miss out completely on the tax incentives.

A further equity concern is that the Australian system disadvantages women. Women are more likely to have interrupted work patterns and, on average, have lower incomes than men. As a result, women will reach retirement with a lower level of superannuation savings. Australian statistics suggest that of those who have saved in this scheme, male employees are entering retirement with an average of more than twice the amount of superannuation savings as female employees, (Association of Superannuation Funds of Australia, 2008).[19] Similar results can be expected for KiwiSaver, but the intention in the following analysis is to look only at the distribution of the tax concessions themselves.

Modelling equity outcomes

Tables below demonstrate the difference in the value of government incentives received between those who do and do not join KiwiSaver. The first table sets out the value the KiwiSaver incentives might have on reaching retirement age for KiwiSaver members who are currently 40, 45, 50, 55 or 60 years old and earning an average income of $47,320 (based on the combined average total weekly income of $910 for males and females from Statistics NZ June 2008 Quarterly Employment Survey).

Table 2 assumes a 2% net real rate of return (see appendix for sensitivity analysis); that the relevant policies do not change in the future; and that the real value of the member and employer subsidies are maintained. It also assumes that, rather than employer contributions increasing from 1% to 4% over the first 4 years, 4% of income is contributed by both employee and employer to KiwiSaver from the start of the scheme, and no additional contributions are made.

By participating in KiwiSaver, a person who is currently 50 years old on the average weekly income might expect to receive accumulated KiwiSaver incentives worth almost

[19] The mean balance for males aged 45-59 is $87,100 and women 45-59 is $35,000.

$50,000 after tax in today's terms when they retire. This is assuming a modest net real rate of return, and is potentially much larger if a higher rate is earned (see the appendix). Simply by participating in KiwiSaver, a person who is 60 will receive incentives that will be worth roughly $15,000 at age 65. In this scenario at all ages, the accumulated tax incentives are 47-8% of the total KiwiSaver lump-sum.

Table 2. Value of KiwiSaver incentives for those currently 40, 45, 50, 55, or 60 years old

	Current age	40	45	50	55	60
1	Assumed annual gross income	$47,320	$47,320	$47,320	$47,320	$47,320
2	Value of employee contributions at age 65	$60,627	$45,990	$32,733	$20,726	$9,850
3	Value of employer contributions at age 65	$60,627	$45,990	$32,733	$20,726	$9,850
4	Private contribution (without tax exemption)	$101,247	$76,803	$54,664	$34,612	$16,450
5	Private contribution (with tax exemption)	$121,254	$91,980	$65,466	$41,452	$19,700
	Values of government subsidies at age 65					
6	$1,000 kickstart	$1,641	$1,486	$1,346	$1,219	$1,104
7	$40 annual fee subsidy	$1,281	$972	$692	$438	$208
8	up to $1,043 annual member tax credit	$33,408	$25,342	$18,037	$11,421	$5,428
9	up to $1,043 annual employer tax credit	$33,408	$25,342	$18,037	$11,421	$5,428
10	Value of ESCT exemption at 65	$20,007	$15,177	$10,802	$6,839	$3,251
11	**Total value of government subsidies**	**$89,745**	**$68,319**	**$48,914**	**$31,338**	**$15,419**
12	Total KiwiSaver lumpsum at age 65	$190,992	$145,122	$103,578	$65,950	$31,869
13	**Tax-funded share of lump sum at 65**	**47.0%**	**47.1%**	**47.2%**	**47.5%**	**48.4%**

Notes and simplifying assumptions:

a) incomes are assumed to remain constant in real terms throughout the period

b) although the $40 a year fee subsidy is probably spent on fees during the accumulation period, that saves the fee being met from amounts saved and so represents a gain when compared with other types of saving;

Equity issues in relation to income

Figure 1 shows the value by income level of "core" KiwiSaver incentives i.e, the $1,000 kickstart, $40 annual fee subsidy, $20 a week matching contribution, and $20 a week employer tax credit at 65 years of age for someone who is currently age 55. It is assumed that the employee effectively receives the benefit of the employer tax credit. That is the Employer Tax Credit reduces the direct cost to the employer and may be regarded as the tax funded portion of the employer contribution. As above, it assumes a 2% net real rate of return and that the real income levels and relevant policies do not change over time. It is also assumed that the employee contributes 4% of income to KiwiSaver, and no additional employee contributions are made. It does not take into account PIE tax advantages for those on a 33 or 39% tax rate, nor the exemption from the ESCT (more on those below).

Those earning over $26,000 a year who contribute to KiwiSaver will receive the full benefits of the matching contributions and employer credits. However, those earning less than $26,000 and contributing less than $20 a week do not receive the full benefits.

Figure 1. Value of core KiwiSaver incentives at 65 years for a current 55 year old by income

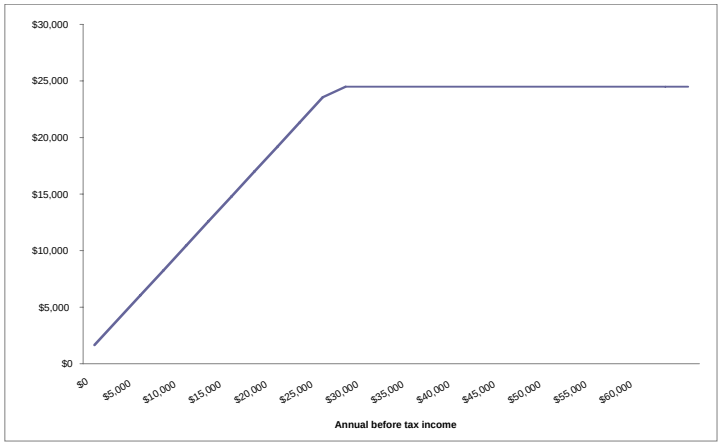

Table 3 demonstrates how the value of total incentives varies by income. A 40 year old on multiples (0.5,1.0,1.5,2.0,4.0) of Average Weekly Earning (AWE). The design of KiwiSaver II means that, rather than employer contributions ceasing at a specified level, they are a percentage of annual income, however high that income may be. The same is true of the ESCT exemption. Thus in absolute terms, those on high incomes benefit the most, both from the tax saved and from employer contributions.

The ESCT is capped at 4% of gross earnings, but not in dollar terms. The aim of capping incentives is to target low-to-middle income earners, since higher income earners are likely to be saving anyway. As Treasury noted above the cap on the "core" KiwiSaver incentives alleviates but does not eliminate equity issues. Table 3 shows the regressive nature of the ESCT in row 12.

It is important to note that this hypothetical analysis does not take into account differences in take-up rates. It is doubtful whether many low income earners will participate at all since they are less likely to be able to afford to forego 4% of their current income, and also because NZS is likely to provide adequate income replacement in retirement. It is also reasonable to assume that middle-income earners will be less likely than higher income earners to join KiwiSaver for affordability reasons.

The last effect to take into consideration is the impact of the differential between an individual's PAYE MTR and the PIE rate levied on the investment income earned in the KiwiSaver scheme. Although it is not modelled in Table 3, this concession will also be worth more in absolute terms to a higher-income earner. As noted previously:

- Those earning over $60,000 ($70,000 after 1 October 2008) will benefit the most, with a 9% differential.
- Those earning between $38,000 and $60,000 on a 33% PAYE rate ($40,000 to $70,000 after 1 October 2008), will pay a 30% PIE rate a 3% advantage.
- Those earning between $9,500 and $38,000 on a 21% MTR ($14,000 to $40,000 from 1 October 2008), have a 1.5% advantage.
- Those earning $9,500 and less will pay a 19.5% PIE rate compared to their MTR of 15%, or a 4.5% disadvantage, or a 7% disadvantage after 1 October 2008 on income to $14,000 a year.

Clearly, both the ESCT exemptions and differential PIE rates are regressive in terms of their distribution. PIE rates can apply to all managed fund investments, not just

KiwiSaver, so this effect will also be present in other investment returns and there are further ways open to high wealth people to maximise the advantages from PIE rates (Littlewood, 2008).

Table 3 Estimated returns at age 65 for current age 40 with varying annual incomes

1	Annual income	$23,660	$47,320	$70,980	$94,640	$189,280
2	Assumed net real rate of return	2%	2%	2%	2%	2%
3	Marginal tax rate	21%	33%	39%	39%	39%
4	Annual employee contribution	$946	$1,893	$2,839	$3,786	$7,571
5	Value of gross employer contributions	$946	$1,893	$2,839	$3,786	$7,571
6	Value of total employer and employer contributions at 65	$60,627	$121,254	$181,881	$242,508	$485,016
7	Annual member tax credit at 65	$30,301	$33,408	$33,408	$33,408	$33,408
8	Annual employer tax credit at 65	$30,301	$33,408	$33,408	$33,408	$33,408
9	$40 annual fee subsidy at 65	$1,281	$1,281	$1,281	$1,281	$1,281
10	Kickstart at 65	$1,641	$1641	$1,641	$1,641	$1,641
11	Value of ESCT exemption	$199	$625	$1107	$1476	$2953
12	Value of ESCT exemption at 65	$6366	$20007	$35467	$47289	$94578
13	Total value of government subsidies at age 65	$69,889	$89,744	$105,204	$117,026	$164,315
14	**Total KiwiSaver lump sum at age 65**	$124,150	$190,991	$251,618	$312,245	$554,753
15	**Tax-funded share of lump sum at age 65**	56%	47%	42%	37%	30%

Equity issues in relation to age

Government incentives for retirement savings raise vertical equity issues in relation to age. Firstly, those over 65, even if working, cannot participate in KiwiSaver and so do not receive the benefits of the government incentives. However, their taxes must be higher to help pay for the costs of those who do join. Similarly, while those under 18 years can receive the kickstart payment, and can make contributions, they do not receive the member tax credit. If they are working, they must make contributions of 4% but they do not qualify for the matching employer contribution (unless the employer volunteers the contribution). Again, their taxes will be higher to pay for the costs of KiwiSaver.

In general, across different working-age groups, there are two opposing forces. Those who are younger will be able to receive the incentives for a longer period of time, and so the value of the incentives will be greater when they reach 65 years. However, older people will be able to access these benefits earlier. It seems reasonable to assume that an individual who joins KiwiSaver would have a discount rate which is lower than the real rate of return, including the value of tax incentives and subsidies otherwise they would, in general, do better by opting out or not joining at all. It follows that overall, as long as the net real rate of return is greater than the rate at which the future is discounted, the young will benefit more.

It would be reasonable to assume that the young discount the future more heavily than the old as they have other financial commitments (such as mortgage payments, paying off student loans and paying for their children's education). If so, it would be expected

that a higher proportion of younger people choose not to join KiwiSaver. At this preliminary stage, this preference is reflected in official IRD data and Gibson et al (2008) where KiwiSaver members tend to be older than non-members.

Discussion and conclusion

KiwiSaver incentives are paid for through general tax revenue (or resulting foregone tax revenue) yet benefit high-income earners more. In 2007 the total cost of KiwiSaver subsidies was projected by Treasury to reach NZ$2 billion a year by 2016 (Retirement Commission, 2007). This is now likely to be much higher reflecting the higher than projected take-up rates (New Zealand Government, 2008). Little or no analysis of the potential distributional impacts of KiwiSaver II appears to have been undertaken by officials. This begs the question - is the cost of the regressive redistribution justified by KiwiSaver's benefits? It is difficult to answer this question since the purpose of KiwiSaver is unclear.

The KiwiSaver Act states that the purpose is "to encourage a longterm savings habit and asset accumulation by individuals who are not in a position to enjoy standards of living in retirement similar to those in preretirement" (KiwiSaver Act 2006, Part I, 3.1). However, the goal of increasing national saving and concern over the persistent current account deficit are also key factors in justifying a more interventionist approach (for example, see Cullen, 2007; New Zealand Treasury, 2007).

If the goal is to encourage a savings habit, then KiwiSaver II is an expensive way to achieve it. KiwiSaver I facilitated saving, with its auto-enrolment features, portability and kickstart payment, and would have had minimal adverse equity effects.

In regard to the goal of increasing national saving, international evidence suggests that incentivised retirement savings are not very effective. Those who are most likely to have saved anyway, such as higher income households, are likely to simply shift assets from other sources rather than reduce their current consumption (Barr, 2000; Retirement Commission, 2007; Retirement Policy and Research Centre, 2008). Fiscally costly savings incentives that raise equity concerns do not appear to be justified.

Appendix 1 Data on KiwiSaver Membership

Tables 1.1-1.3 are from the IRD's first six-monthly KiwiSaver evaluation report (Inland Revenue Department, 2008). Their socio-demographic data is drawn from: a survey of 704 eligible individuals aged 18-65 that was carried out between November 2007 and January 2008 by Colmar Brunton (Inland Revenue Department, 2008); and IRD's administrative data for KiwiSaver members (those who opted-in and were auto-enrolled) and those who were auto-enrolled but opted out. The data do not include those whose employers are yet to make the scheme available, and those who are not currently employed.

1.1 Gender

Enrolment method	**Female**		**Male**		**Not known**		**Total**
	No.	%	No.	%	No.	%	No.
Active member	165,692	52%	151,658	48%	1,725	0%	319,075
Opt-in	132,919	53%	118,039	47%	1,600	1%	252,558
Auto-enrol	32,773	49%	33,619	51%	125	0%	66,517
Opt-out	30,496	50%	30,841	50%	103	0%	61,440

1.2 Age

Membership & enrolment method	% under 30 years	Median age
Members	26%	44
Non-members	Not yet analysed	Not yet analysed
Opt-in	20%	47
Auto-enrolled (active)	44%	32
Opt-out	47%	31

1.3 Ethnicity

Ethnicity	Member (n=133)	Non-member (n=571)	Opt-in (n=83)	Auto-enrolled (active) (n=50)	Thinking of joining	
					Yes (n=196)	No (n=323)
NZ European	75%	73%	73%	68%	68%	79%
Maori	10%	17%	5%	22%	22%	14%
Chinese	3%	3%	4%	4%	4%	2%
Indian	6%	5%	7%	2%	2%	6%
Pacific	5%	9%	7%	12%	12%	6%
Other	5%	4%	4%	5%	5%	3%
Refused	0%	0%	0%	0%	0%	0%

Source: (Colmar Brunton, 2008).

Figure 1.4 Demographics of KiwiSaver Enrolments 31 July 2008

Age range	**Numbers enrolled**	**% of total enrolled**	**Census numbers in age range**	**Numbers enrolled as % of total in age range**
0-17	90,722	13%	1,033,666	8.8%
18-24	120,934	16%	385,074	31.4%
25-34	117,653	16%	519,000	22.67%
35-44	130,333	17%	615,252	21.18%
45-54	134,839	18%	546,153	24.69%
55-65	141,430	19%	413,088	34.24%
No information	14,920	2%		
	758,860	100%		

Sources: KiwiSaver statistics as at 31 July 2008, available at http://www.kiwisaver.govt.nz/media/ks-media-stats-080731.html, plus StatsNZ Census data 2006, available at http://www.stats.govt.nz/NR/rdonlyres/FA494C9E-303E-4101-B01B-9FD2067427AD/0/03age.xls

Appendix 2: Base case sensitivity analysis at 1, 2 and 3% real rate of return

Table 2.1. Estimated returns at age 65 for current age 40 with varying net real rates of return

	Assumed net real rate of return	**1%**	**2%**	**3%**	**4%**
1	Assumed annual gross income	$47,320	$47,320	$47,320	$47,320
2	Value of employee contributions at age 65	$53,459	$60,627	$69,010	$78,827
3	Value of gross employer contributions at age 65	$53,459	$60,627	$69,010	$78,827
4	Private contribution (without tax exemption)	$89,276	$101,247	$115,247	$131,642
5	private contributions (with tax exemption)	$106,917	$121,254	$138,020	$157,655
	Values of government subsidies at age 65				
6	$1,000 kickstart	$1,282	$1,641	$2,094	$2,666
7	$40 annual fee subsidy	$1,130	$1,281	$1,458	$1,666
8	up to $1,043 annual member tax credit	$29,458	$33,408	$38,027	$43,437
9	up to $1,043 annual employer tax credit	$29,458	$33,408	$38,027	$43,437
10	Value of ESCT exemption at 65	$17,641	$20,007	$22,773	$26,013
11	**Total value of government subsidies at age 65**	$78,969	$89,745	$102,379	$117,219
12	Total KiwiSaver lump sum at age 65	$168,245	$190,991	$217,626	$248,860
13	**Tax-funded share of lump sum at 65**	47%	47%	47%	47%

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