

Welfare: Savings not Taxation

Sir Roger Douglas*
Minister of Finance, NZ, 1984-1988
Roger Douglas Associates

Robert MacCulloch**
Matthew S. Abel Professor of Economics
Graduate School of Management
University of Auckland

First Draft: 18 April, 2016

This draft: 1 April, 2018

Abstract

Many nations are seeking to reform their welfare states so that costs to the government can be reduced and the quality of outcomes improved. As a potential way to achieve these aims, there has been a surge of interest in the Singaporean model which features compulsory savings accounts and transparent pricing of health services. It has achieved some of the best health-care outcomes in the world at a cost that is the lowest amongst high income countries. In this paper we show how tax cuts can be designed to help establish compulsory savings accounts so that a publicly funded welfare system can be changed into one that relies largely on private funding in a politically feasible way. To our knowledge, showing how both a tax and welfare reform can be jointly designed to enable this transition to occur has not been done before. Our policy reform creates institutions that have features in common with Singaporean ones, especially for health-care. However there are also key differences. We present a new unified approach to the funding of health, retirement and risk-cover (for events like unemployment) through the establishment of a set of compulsory savings accounts. A case study of New Zealand is used as an illustration. The fiscal impact of our proposed reform on the government's current and future budgets is reported, as well as its effect on low, middle and high income individuals.

Corresponding authors: * Roger Douglas. Email: rdouglas@xtra.co.nz ** Robert MacCulloch, Email: r.macculloch@auckland.ac.nz. Postal address: Auckland University Business School, Owen Glenn Building, 12 Grafton Rd, Auckland 1010, New Zealand.

I. Introduction

Across many countries publicly funded health-care and retirement programmes are forecast to put rising pressure on government budgets. For health and finance ministries, the search for ways to treat and prevent illness more cheaply without sacrificing quality is becoming urgent. Even in those nations where private funding has been relied on more heavily, as in the United States, health-care costs have been rapidly rising. Pension systems that are funded by taxing the young are also being threatened due to ageing populations and declining birth rates. This paper presents a detailed and practical budgetary reform plan that offers a way to relieve these kinds of strains through the establishment of a new set of welfare institutions. The reform seeks to lessen dependency on the State and expand choice, whilst at the same time improving the efficiency of the system and quality of services, particularly for lower and middle income earners.

In 1960, the total of both public and private health spending accounted for under 4% of GDP, on average, across OECD countries.¹ By 2009, this proportion had risen to 9.6%. The rise was particularly rapid in the United States, where the total grew from about 5% of GDP in 1960 to around 17% today. Projections of public health spending by the OECD forecast an increase of another 7.7 percentage points of GDP by 2060.² The cost of public pension schemes are also forecast to rise significantly over this period, by around 2.2 percentage points of GDP.

Many different reasons have been proposed to explain why health-care costs, in particular, have been rising faster than output across much of the world. Some commentators blame the rapidly expanding population of the elderly, compared to the population of the young who must support them, pointing out that the cost of caring for the elderly far exceeds that for the young. Others blame the use of more expensive technologies. Another reason may be the relatively slow productivity growth experienced by the health-care sector, possibly due to it needing a continuing labor content in which labor saving innovation is difficult to achieve.³

Some argue that the rise in health-care costs has been exacerbated by the fact that the users of health-care services often rely on a third party to fund their expenses, whether it be the government or their employer. Ensuring that there are adequate mechanisms to contain rising costs in the absence of direct monitoring by the users can be fraught with difficulty. In this instance, a single government payer might have the advantage of preventing differential pricing for the same services, and may even be able to drive down prices, especially for purchases of drugs, through the use of its own single-

¹ See "Health at a Glance", OECD Indicators (2011).

² The OECD (2013) calculates this figure using a 'cost-pressure' scenario in which health expenditures unrelated to demographics or income are assumed to continue growing at the same average rate as in the past.

³ This phenomenon has been referred to as the "Cost-Disease-Effect", as outlined by William Baumol (2012).

buyer (or ‘monopsony’) power.⁴ Due to these kinds of raging debates, reform of the welfare state, and in particular health-care, has become fraught with controversy, making change politically difficult.

One of the few countries that has successfully controlled health-care costs, whilst also maintaining one of the highest quality services in the world, is Singapore. The cornerstone of its system is the compulsory ‘Medisave’ account. Workers pay a percentage of their wages into their individual accounts. Employers also make contributions. The size of the contributions is set by the government. The funds are used to help pay for services, in addition to funding health insurance plans. Medisave has kept national costs low by helping health services to become more transparently priced to the users and by shifting a portion of expenses to individuals and their employers.⁵ On the delivery side, services are provided by a mix of both publicly and privately owned hospitals, competing with one another. Government assistance is provided for those who are unable to pay. In terms of performance, Singapore’s universal health-care system was rated 6th out of 191 nations by the World Health Organization, ahead of most high-income economies.⁶ A recent influential book by William Haseltine, a Founder of Human Genome Sciences, has lauded the Singaporean model for its remarkable success.⁷

In this paper, we present a policy reform which uses tax cuts to help establish compulsory savings accounts to enable a publicly funded welfare system to be replaced by one that relies largely on private funding. Some of the new regime’s features borrow from the Singaporean system.⁸ We show how the transition can be achieved in a politically feasible and practical way which, to our knowledge, has not been done before. The paper seeks a unified approach to the funding of health, retirement and risk-cover. Our reform relies primarily on establishing a set of accounts that give individuals choice over how their funds are spent, replacing many of the complex and diverse public schemes that have been developed over the past century.

We use a case study of New Zealand, where most welfare spending is funded by the government from general taxation on a “pay-as-you-go” basis, to show how the reform works. However there is no loss of generality, in the sense that changes similar to the ones that we propose could also be designed for many other nations. Current and future budgets under both the existing system and proposed new regime are calculated. The design of our reform seeks to overcome concerns that these kinds of changes may cause too many groups, especially low income earners, to lose out compared with the existing system, and also that institutions in a nation like Singapore reflect factors unique to its culture that cannot be replicated.

⁴ See Kenneth Arrow’s Stigler Centre Blog, courtesy of the University of Chicago’s Booth School of Business, 15 March, 2016.

⁵ Private health-care expenditures accounted for 65 per cent of total national health expense in Singapore in 2008.

⁶ See World Health Organization (2000). Other rankings are, for example, 37th for the US, 18th for the UK and 41st for NZ. France was top of the rankings.

⁷ See *Affordable Excellence: The Singapore Health-care Story* by William Haseltine (2013).

⁸ Other aspects of our reforms, like the establishment of an individual risk-cover account for events like unemployment, and the retention of a tax-financed state pension, differ from Singaporean institutions.

First, we show how tax cuts weighted towards lower earners can enable the funding of individual compulsory savings accounts. These accounts can be used to pay directly for medical expenses, cover events related to job-loss or accidents, purchase mandatory catastrophic insurance plans, as well as build up retirement savings. Taxes currently paid on earnings up to \$NZ 50,000 for single tax-payers go directly into the accounts. They are supplemented by contributions from employers, whose taxes and levies are reduced as compensation, as well as from individuals in lieu of other existing levies. These changes allow for privately funded welfare payments to substitute for many existing public ones. Total spending levels can be maintained across most welfare categories and transparent pricing of health-care services introduced.

Second, provided that subsidies are discontinued to two groups, namely businesses in receipt of ‘corporate welfare’ and university students from wealthy families, who will enjoy a cut in their income tax rates under the reform when they get older, then most people can establish significant savings balances (whilst retaining their pre-reform disposable incomes).

Third, even in the presence of our sizeable aggregate tax reductions, the government can still retain sufficient revenues to fulfil the role of ‘insurer of last resort’, helping to pay for those individuals who cannot meet their own welfare expenses out of their savings accounts.

More broadly, our reform is aimed at changing beliefs away from a culture of dependency to one of independence, whereby lower income earners are given the means and opportunity to build up their own capital from which they can choose to fund a range of affordable services and make progress for themselves. Our estimates of the reform’s impact do not assume efficiency gains. However, particularly for health services, such gains may be expected. The reason for optimism is that total health spending in Singapore, by both the government and private sector, is 4.8% of GDP, compared to 17.2% in the US, 9.3% in the UK and 9.5% in NZ.⁹ Yet Singapore’s relatively low cost system has managed to produce high quality health-care outcomes, better than even most of the developed nations of the world. Consequently, efficiency gains may not only be achievable, but also large enough to compensate any small drop in current consumption due to the creation of the compulsory savings accounts.

The paper is structured as follows. Section II summarizes some of the literature that has pointed to the threats faced by publicly funded welfare states. We discuss how Singapore has circumvented many of the problems faced by other systems. Section III describes our policy reform using a case study of New Zealand. It estimates both the aggregate-level impact of the reform on the fiscal position of the government, now and in the future, and also the individual-level impact on disposable income and wealth held in savings accounts. Section IV concludes.

⁹ See OECD (2014a, b and c) and the World Health Organization’s [Global Health Expenditure Database](#) (2015). These percentages are the sum of both private and public health expenditures.

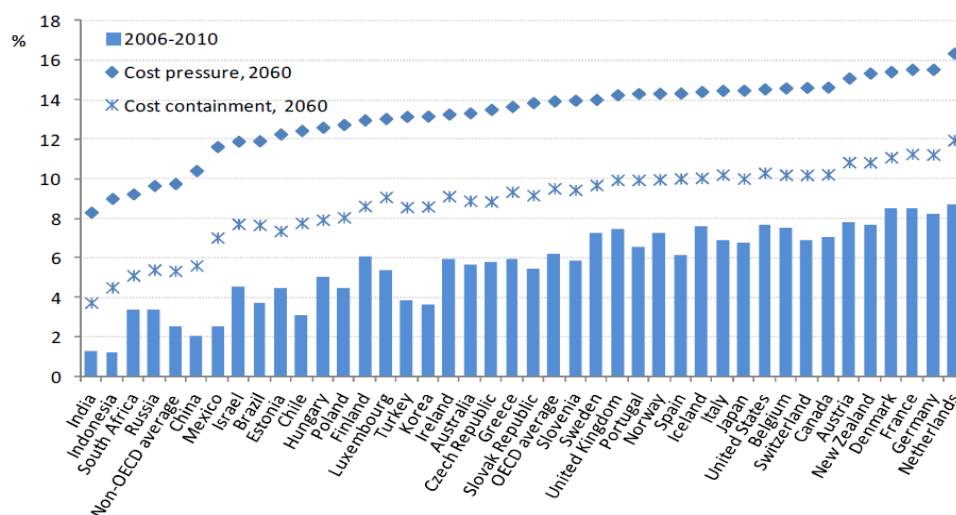
II. The Long Run Viability of Publicly Funded Welfare

A substantial literature has described the looming challenges faced by many countries whose welfare states are publicly funded.¹⁰ Indeed health-care, superannuation and spending on social programmes like unemployment insurance have become some of today's hottest economic issues. In this section, we discuss the challenges faced by each of these programmes and how Singapore, in particular, has attempted to resolve them.

II. a. Health-care

The ratio of public health and long term care (LTC) expenditure to GDP has been rising steadily for several decades. Since 1970, across OECD nations, public health spending has increased by 3.5 percentage points to reach around 6% of GDP in 2010. The latest projections for the next 40 years highlight the growing pressures. In the OECD's upside "cost-pressure" scenario, average health and LTC public expenditures are projected to almost double again, reaching approximately 14% of GDP by 2060. Even in the so-called "cost-containment" scenario, public spending is still projected to rise to almost 10% of GDP across the OECD over this time period.¹¹

Figure 1a:
Total Public Health & Long Term Care Spending Ratio to GDP in 2006-10 and Forecasts to 2060 with a Range of Estimates using Sensitivity Analyses for Individual Countries.



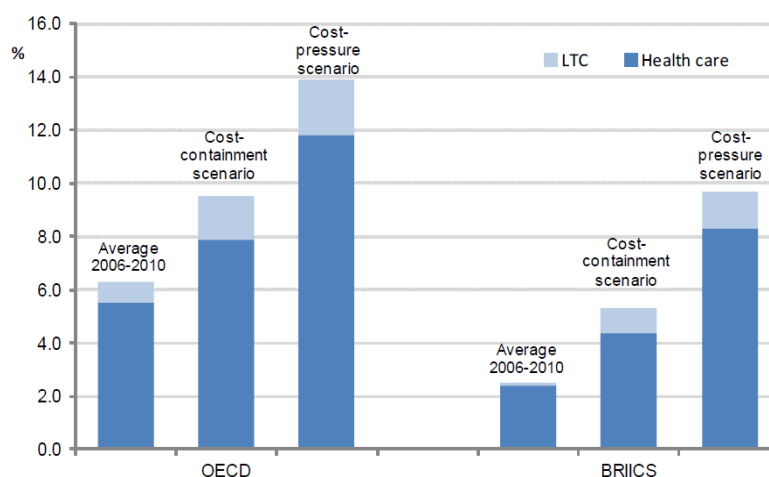
Source: OECD (2013a)

¹⁰ For example, Kotlikoff (2013) measures the "fiscal gap" which is the present value of projected future government expenditures net of the present value of future taxes. Using this approach, he argues that the true U.S. fiscal debt is not the \$US 13 trillion usually reported by the government, but is instead over \$US 200 trillion.

¹¹ The OECD (2013a) considers two scenarios for predicting future public health spending: a 'cost-pressure scenario' in which growth in expenditures unrelated to demographics or income is assumed to continue at the same average rate as in the past; and a 'cost-containment scenario' in which policy actions are assumed to make the spending drift fade away (from 1.7% to 0% in 2060). An example of 'cost-containment' is the government ensuring "better user information on the quality and price of health-care services".

For the ‘BRIIC’ countries (i.e., Brazil, Russia, India, Indonesia, China and South Africa) public health spending is presently at a much lower level than for the OECD, at around 2.5% of GDP (in 2010). However, under the “cost-pressure” scenario, it is forecast to increase by around four times, on average, across these countries, to become 10% by 2060. In the alternative “cost-containment” scenario it is forecast to double, to above 5% of GDP.

Figure 1b:
Public Health & Long Term Care (LTC) Expenditure in OECD and BRIIC countries (Brazil, Russia, India, China & South Africa) as a % of GDP in 2006-10 and Forecasts to 2060 under “Cost-containment” & “Cost-pressure” Scenarios.



Source: OECD (2013b).

Given the competing pressures from other spending programmes, these forecast trends in public health spending are likely to be a major source of strain for most governments. A particular challenge associated with publicly funded health-care concerns how to efficiently allocate resources when services are not transparently priced to the users. Attempts to estimate values have been made using tools like cost-benefit analysis. However, as is well known, comparing the benefits of different treatments by assigning monetary values is fraught with difficulty. There are long-standing debates, for example, on how to value a human life.

Another approach compares the additional ‘quality adjusted life years’ (or ‘QALYs’) of different treatments (sometimes called cost-utility analysis). Whether these kinds of methods can be used successfully by public health officials to help guide decisions is still somewhat of an open question.¹² The OECD (2013a) comments how “... *it is difficult to determine the appropriate supply of health and long-term care services without market signals - but at the same time, health and long-term care are areas where*

¹² A QALY is a year of life adjusted for its quality. When combined with an estimate of the cost of medical interventions, rankings can be created as to which are cheap (i.e., low cost per additional QALY) and which are expensive (i.e., high cost per additional QALY). In NZ, the government’s Pharmaceutical Management Agency (‘PHARMAC’) decides which drugs to subsidise using nine criteria, one of which is based on QALYs. On the use of well-being data for economic policy purposes, see Di Tella and MacCulloch (2001, 2006).

market failure is rife” (see page 37).

Even in countries that rely more heavily on private funding of health services, the design of their systems has often not been successful at containing costs. In the US, the tax subsidy which (third-party) employer-purchased health insurance plans receive is often blamed for contributing to the 17.2% of GDP that Americans spend on health-care (in 2011). Martin Feldstein argues that this policy is “*the primary cause of the rapid rise of health-care costs. Because employer payments for health insurance are tax-deductible for employers but not taxed to the employee, current tax rules encourage employees to want their compensation to include the very comprehensive ‘first dollar’ insurance that pushes up health-care spending*”.¹³

II. b. An Alternative: Affordable Health-care and the Singapore Model

We now discuss how Singapore has circumvented many of the above issues. Its health-care system provides universal coverage and has achieved ‘First World’ standards at a lower cost than any other high-income nation. By most measures, such as infant mortality and life expectancy, outcomes are excellent. Singapore’s adult mortality rate (i.e., the probability of dying between the 15 and 60 years old per 1,000 population) is the lowest in the world.

Yet the total of public and private spending on health-care is about 4.8% of GDP, nearly one-quarter of the proportion spent in the US, and about one-half of the UK and NZ. The Singaporean government’s spending on health-care was less than 1% of GDP until recently (it broke through this barrier in 2010 to reach 1.5%) compared with government spending of 8.1% for the US, 7.8% for the UK and 8.3% for NZ.¹⁴ The quality, efficiency and fairness of the Singaporean system is remarkable.

(i) Background

By the early 1990s, health-care costs in Singapore were growing at a potentially unsustainable rate. A Ministerial Committee was established to review the role that the government could play in containing costs whilst ensuring a high quality of care. The Committee issued a White Paper called ‘Affordable Health Care’ which became the blueprint for the future system.

It set out five objectives: “1. *Become a healthy nation by promoting good health; 2. Promote individual responsibility for one’s own health and avoid over-reliance on state welfare or third-party medical insurance; 3. Ensure good and affordable basic medical services for all; 4. Engage competition and market forces to improve service and raise efficiency; 5. Intervene directly in the health-care sector when necessary, where the market fails to keep health-care costs down*”. The compulsory ‘Medisave’ account plays a crucial role in the achievement of these goals.

¹³ See “A Better Way to Health Reform”, Washington Post, 8 October, 2009. Some economists argue that these kinds of pressures have already begun to crowd out state-funded support for education, especially higher education. See Arrow (2016).

¹⁴ See OECD (2014a, b and c).

(ii) The 'MediSave', 'MediShield' and 'MediFund' Accounts

'MediSave' is a compulsory medical savings account for employed Singaporeans that was the first of its kind in the world. It is based on the idea that people should be helped to save for their own health-care expenses. The government regards MediSave as a way to ensure that everyone has the funds to do so. Workers and their employers are required to contribute a specified portion of wages into each individual's account. The accounts are held within the government-managed Central Provident Fund (the 'CPF'). All of the savings are tax exempt. As of 2012, the total contribution for 50 year-olds amounted to nine percent of their wages.

Although dollars put into a MediSave account belong to the contributing worker, the government has tight (and continually revised) guidelines as to how the money can be spent. Its aim is to balance affordable health-care against over-consumption and to prevent the premature depletion of funds. Haseltine (2013) argues that MediSave has allowed the government to focus assistance programmes on the very needy who are unable to pay for their own care.

People can choose between five ward classes in the public hospitals, called 'A', 'B1', 'B2+', 'B2' and 'C', ranked from most to least expensive, respectively. 'A' patients have a private room with bathroom and access to private doctors of their choice. 'C' patients are in open wards, eight to nine to a room, and sharing a bathroom. Their doctors are assigned to them. Aside from amenities, the quality of care remains the same across ward classes. There is no government subsidy for 'A' patients, whereas those in 'C' wards receive up to 80 percent of their charges. Financial means-testing is used to determine eligibility for subsidies. No-one is obligated to stay in publicly subsidized wards if willing to pay for more than what is offered. Furthermore, means-testing does not prevent patients from choosing any ward class. For example, high income earners can choose the 'C' class ward although their level of subsidy would be lower.

For large and ongoing bills that could otherwise drain a person's MediSave funds, medical insurance schemes are available. The government created a low-cost one called 'MediShield' under which individuals are automatically insured unless they choose to opt out. Annual premiums are not expensive and MediSave funds can be used to pay for them. As a catastrophic health insurance, MediShield focuses its benefits on helping people pay for serious illnesses. Whilst MediSave and MediShield cover most bills without patients needing to pay cash for hospitalization, Singaporeans also have the option of buying private insurance, especially if wishing to stay in higher ward classes.

The third 'M' of Singapore's system is 'MediFund', which is a safety net. It is a multi-billion dollar endowment fund created by the government to help the lowest income individuals receive a level of care that they otherwise could not afford, even in the most highly subsidized wards of public hospitals. MediFund is the safety net for those who are unable to pay for health-care, after using their MediSave money and MediShield coverage. Individuals can apply to the guardians of this fund for

financial assistance. The amount of aid dispensed depends on the person's and their family's income, social circumstances, the medical condition and health-care expenses incurred. MediFund is one reason why there are no documented cases in Singapore of a person being forced into bankruptcy due to being unable to pay for their health-care bills.

(iii) Controlling Costs

Nations that struggle to support their publicly funded health systems have to resort to various forms of rationing, including limitations and even denial of service, as well as waiting lists for appointments, testing and treatment. Haseltine (2013) believes that the MediSave account is central to avoiding these kinds of problems whilst at the same time keeping health-care affordable, because *“perhaps when people have to spend their own money, as the Singapore system requires, they tend to be more economical in the solutions they pursue for their medical problems, In contrast, in countries with third-party reimbursement systems ... since someone else is paying - government programs, insurance companies - there is little incentive to be prudent”*.

The Singaporean government owns and operates sixteen hospitals. Although public and private hospitals coexist, most health-care is directed by the government toward the public side. The public hospitals are dominant in the sense of offering an extraordinarily high quality of care at affordable prices and setting the ethos for the entire system, though the private system is seen as necessary to challenge it. The public system, in turn, serves to keep private costs in check. The public-private balance works successfully now, but it took time and significant changes were made over the years as various market failures were encountered.

In other words, although people largely 'spend their own money' to purchase health-care services out of their savings accounts, the government still helps set uniform and affordable prices, bypassing a problem of the US health-care system in which differential pricing is prevalent due to individuals facing dominant private suppliers. To ensure transparency, the Health Ministry in Singapore publishes prices on its website for medical conditions, surgeries, procedures, ward classes and more. The aim is to empower patients with information for making informed decisions regarding high-quality, low-cost care and encourage competition between institutions.

The Singaporean welfare system has critics. Some argue that its institutions depend on cultural values and beliefs that cannot be transferred elsewhere.¹⁵ For example, strong family ties are presumed to exist in the sense that those family members with adequate resources are expected to help pay for the health-care of poorer relatives out of their Medisave accounts. Of total withdrawals from Medisave

¹⁵ See Gadiel and Sammut (2014) who argue that *“it may be unwise for Australia to borrow a model found simply to work in Singapore's unique social and city-state geographical setting”* (pg 16). Dong (2006) describes how some of the ideas behind medical savings accounts have been used in Shanghai but their effectiveness has not been emulated. Barr (2001) states that *“the heart of the Singapore system of health funding, with its financial discipline, is government control of inputs and outputs and strict rationing of health services according to wealth”*.

accounts to pay for health bills, 56% of funds came from patients' own accounts and the remainder from the accounts of children, spouses, parents and grandchildren (in 2010). Cultures with weak family ties may be less able to take advantage of these kinds of informal risk-sharing arrangements.¹⁶

However, although culture may affect the optimal design of formal State institutions, it has been observed how causality may also run in the opposite direction.¹⁷ Indeed, publicly funded welfare states are frequently blamed for fostering a 'culture of dependence'. This issue has been acknowledged by the Singapore Government in its "Health-care Financing Philosophy" which is to "*offer universal health-care coverage to our citizens, with a financing system anchored on the twin philosophies of individual responsibility and affordable health-care for all*".¹⁸ To the extent that Medisave helps strengthen family ties and empowers individuals, it may help in promoting values conducive to prosperity.

In summary, the Singaporean government maintains a delicate balance between individual responsibility to control costs and the provision of a basic level of quality care for all (which does necessitate heavy subsidies). It promotes transparency by informing people as to the price of medical treatments, which it strives to keep affordable through wide-scale interventions. People can choose to spend funds on care beyond the basic level, including amenities in public hospitals, private hospitals and private doctors. They contribute toward the costs of their health-care using their Medisave funds, own money and approved insurance plans.

This paper presents a reform that shows how a largely publicly funded health system, like the New Zealand one, can be changed into a savings-based system with similarities to Singapore. It uses tax cuts to establish compulsory savings accounts that help fund smaller health-care expenses, as well as pay for medical insurance plans to cover larger ones. At the same time, a significant role for the State is maintained in terms of it being the "insurer of last resort", providing subsidies to those who have insufficient funds in their health accounts.

II. c. Retirement (or "Superannuation")

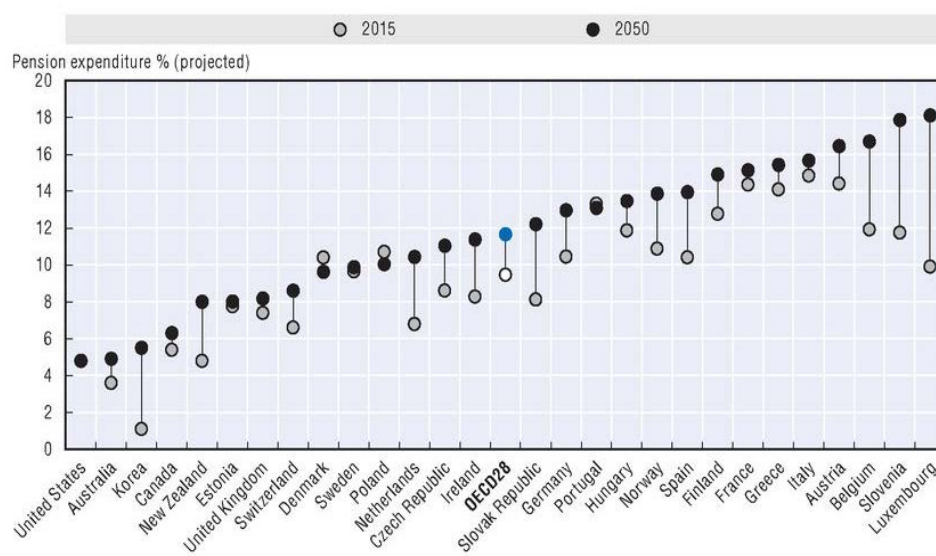
Aside from the challenges coming from funding a high-quality health-care service, a large literature has also discussed the looming challenges faced by pension schemes. The OECD Pensions Outlook (2014) describes how "*Population ageing and the present economic environment characterised by low returns, low growth and low interest rates are creating serious problems with the sustainability of Pay-As-You-Go financed public pensions*". Public pension spending is forecast to grow from 9.5% of GDP in 2015 to 11.7% of GDP in 2050, on average, across OECD countries.

¹⁶ See Di Tella and MacCulloch (2002).

¹⁷ See Alesina and Giuliano, *forthcoming*.

¹⁸ See https://www.moh.gov.sg/content/moh_web/home/costs_and_financing.html

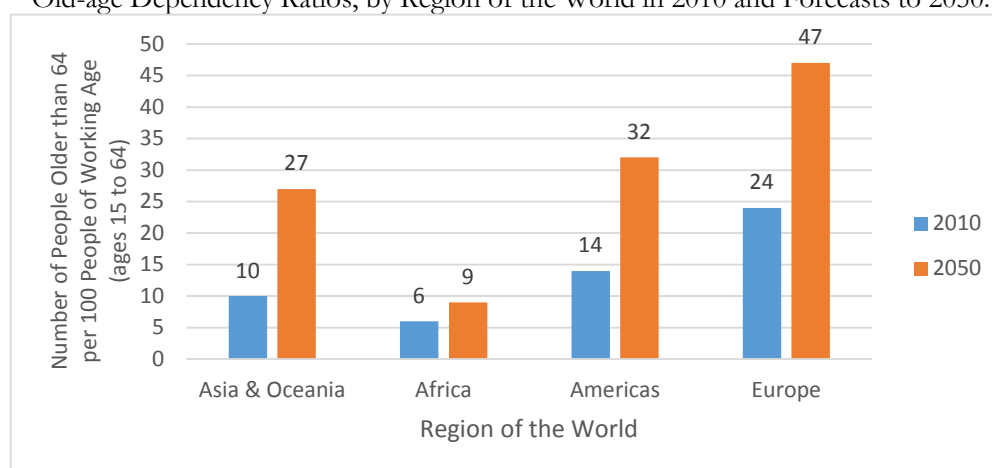
Figure 2a:
Projections of public pension expenditure as a share of GDP from 2015 to 2050.



Source: OECD (2014)

There are many ways of measuring how the population age structure is forecast to change. One metric relevant to the sustainability of publicly funded pension schemes is the ‘dependency ratio’, which is the proportion of elderly people to younger, economically active, workers. This ratio is expected to rise all over the world. In Asia, it is predicted to nearly triple, from 10 seniors per 100 working-age people in 2010 to 27 in 2050. It is forecast to more than double in the Americas, from 14 to 32, and nearly double in Europe, from 24 to 47, over this same period.¹⁹

Figure 2b:
Old-age Dependency Ratios, by Region of the World in 2010 and Forecasts to 2050.

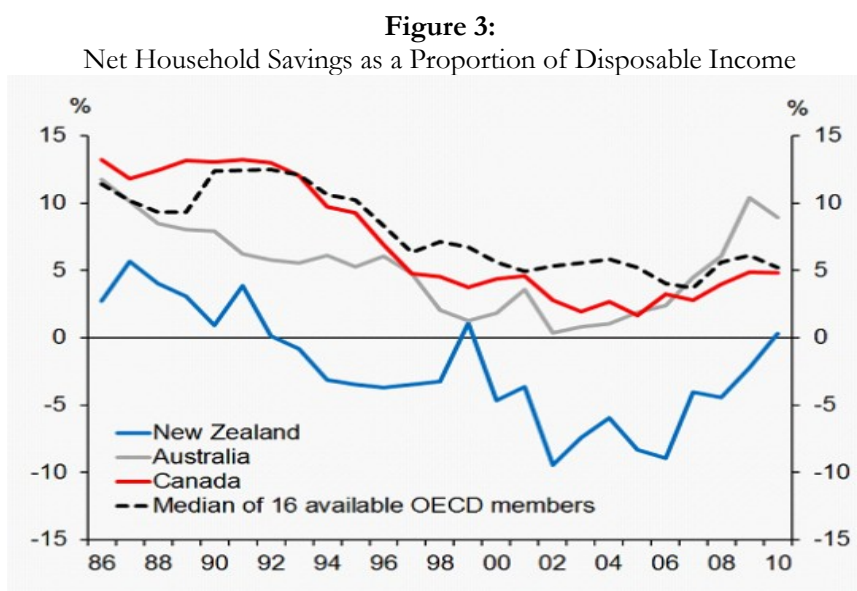


Source: United Nations, Department of Economic and Social Affairs, World Population Prospects: 2012 Revision, June 2013.

¹⁹ See United Nations (2013), as reported by Pew Research Centre (2014).

When the number of welfare recipients rises, governments often tend to reduce the per capita generosity of publicly funded programmes to help fit their budget constraints.²⁰ To prepare for this future, one might expect that private savings would have been rising in those Western countries with large publicly funded systems as individuals seek to offset the likely drop in the generosity of their public welfare payments as they get older. However, this trend does not appear to be happening. For example, Robert Shiller notes that *“With so many more old people in coming decades, governments will be hard pressed to raise enough money to pay for their needs by taxing the young. None of this is news. But that is the point: despite the vast attention currently paid to the looming old-age crisis, household saving rates have been falling in most of the world’s rich countries”* (see Project Syndicate, 2004).

In the US, the household saving rate was declining for more than 20 years leading up to the Global Financial Crisis in 2008. It dropped from averaging around 9 percent in the 1980s, to approximately 5 percent in the 1990s, to almost zero in the first years of the new century.²¹ A contributing factor might have been that the rising stock market and higher value of homes induced individuals to consume more of their incomes and to save less. In the aftermath of the Global Financial Crisis, the household savings rate has risen in the US, probably due to people seeking to rebuild their wealth, although it is still well below 1980s levels. There has also been a similar trend decline in the UK and across the Euro-currency area since the 1990s.



Source: Wheeler, G., Governor of the Reserve Bank of NZ (2013).

A great deal of attention has also been focussed on an apparent ‘excess’ of desired saving over investment, coming especially from China and other Asian emerging market economies. Some

²⁰ See, for example, Di Tella and MacCulloch (2002) who focus on unemployment benefit programmes.

²¹ See Guidolin and La Jeunesse (2007).

commentators argue that this has resulted in a large flow of foreign saving into the US and may be a reason for low global interest rates over the past decade.²² To the extent that the decline in the savings rate in many Western countries has been viewed as a policy problem, various ways of increasing savings in these countries have often been debated.

For example, some economists have advocated in favour of changes to the tax system to encourage savings (e.g., Feldstein, 1983, in the US context). Others have argued that there is a self-control problem biasing people toward over-consumption. In this case automatically enrolling an individual in a savings plan, whereby one is joined up unless he or she specifically elects to opt out, might be a solution. An example of such a scheme is New Zealand's "Kiwi-Saver" accounts to help supplement retirement income. This idea of nudging people in a desirable direction is sometimes referred to as 'libertarian paternalism'.²³

A stronger policy response is to introduce compulsory retirement savings accounts, which are a feature of the Singapore system. The Central Provident Fund was first established when the country was under British colonial rule for the purpose of maintaining these kinds of individual accounts. Employers and their employees both make contributions. The CPF was later expanded in scope to include compulsory health savings accounts. As of 2012, the annual contribution of a 50 year old into their retirement account amounted to eight percent of their wages. The account is described by the CPF as being available to *"provide you with a monthly income to meet your basic living expenses in old age. You are encouraged to supplement your retirement savings with your personal savings"*.²⁴

Our new regime also introduces compulsory retirement savings accounts but differs from Singapore by retaining the NZ state pension (which continues to be funded out of taxation). In other words, it bears similarities to a desired option outlined by Barr and Diamond (2010) who argue that *"With pure funded individual accounts, all of the risk falls on the worker, and modifications frequently leave the worker bearing a large fraction of the risk. Many (including us) regard this concentration of risk as undesirable. One way of sharing risk more widely is to buttress individual accounts with a tax-financed non-contributory pension."*

II. d. Risk-Cover: Unemployment, Sickness, Invalid and Accidents

The two biggest categories of welfare spending are, by far, health and pensions. However, the welfare state in most Western countries also covers a wide range of situations which include becoming unemployed, or being unable to work due to sickness, disability or accident. Different schemes with different payments have typically been designed for each of these events.

With respect to unemployment benefits, controversy surrounds the extent to which they have

²² See Bernanke (2005, 2015).

²³ See Choi, Laibson, Madrian and Metrick (2002) and Thaler and Sunstein (2003).

²⁴ See <https://www.cpf.gov.sg/Members/AboutUs/about-us-info/cpf-overview>. In 1992, the Australian government introduced individual retirement savings accounts in which contributions were made compulsory for employers and voluntary (though tax deductible) for employees.

exacerbated European (long-term) unemployment, particularly in those countries where these benefits are of unlimited duration. In the US, on the other hand, unemployment benefits are limited to 6 months duration, unless there is high and rising unemployment in which case payments may be extended. In 1980, across the OECD countries, unemployment benefit spending was equal to 0.6% of GDP, on average, and has since increased to 0.9% in 2013.²⁵

By comparison, OECD countries spend 2% of GDP on sickness and disability benefits (i.e., over twice as much as what is spent on unemployment benefits). In some countries (e.g., the Netherlands and Norway) expenditures are much higher, close to 5% of GDP. More than half of OECD countries have seen a substantial growth in disability beneficiary rates in the past decade, with around 6% of the working-age population collecting disability benefits in 2007.²⁶

A feature of the Singaporean system compared to Europe and the US is that the government provides no unemployment benefit scheme. It instead funds programmes to support workers who are making an effort to get back into a job and who upgrade their skills. The zero unemployment benefit policy appears to stem from a cultural belief in the country that progress is mostly determined by a person's own efforts and abilities. Consequently jobless individuals are expected to use their own endeavours to get back to work and not rely on hand-outs from the government. Furthermore, the primary backstop in the event of becoming unemployed is regarded as being one's own family.

On this dimension, our new regime differs markedly from Singapore. It continues NZ's tradition of funding unemployment benefits, though makes several changes to the existing system which are detailed in the next section. In short, a compulsory savings 'risk-cover' account is established to help pay expenses for up to six months duration should one become out-of-work, regardless of the cause (i.e., whether it be due to redundancy, sickness, disability or accident). A catastrophic risk-cover insurance policy is also funded out of this account, with the government acting as 'insurer of last resort' for those with insufficient funds.

III. An Economic Reform Package:

Designing the Shift to a "Savings-not-Taxes" Welfare System

We now address the question of how to design an economic policy reform that allows a publicly funded welfare system to be changed into one that relies increasingly on private funding. Whilst our reform creates new institutions that share several features with the Singaporean system, especially relating to health-care, there are also key differences in terms of pensions and risk-cover (some of

²⁵ See <https://data.oecd.org/socialexp/public-unemployment-spending.htm>

²⁶ See OECD (2009).

which were discussed in the previous section).²⁷ A distinguishing feature of our new regime is that it proposes a unified approach to the funding of health, retirement and risk-cover through the establishment of a set of compulsory savings accounts that provide for each of these needs. A case study of New Zealand is used to illustrate a tax and welfare reform of a type that could enable the transition to take place in a politically feasible way.²⁸

III. a. A New Zealand Case Study: Background

Otto von Bismarck created the first ‘modern’ welfare state in Germany in the 1880s, including an old age pension programme in 1889. New Zealand was an early follower, introducing its own legislation in 1898, which was expanded in 1938. In the early 1950s NZ was one of the most prosperous places in the world, with a GDP per capita ranking of 3rd out of 24 OECD countries. It then began a steady decline to reach a position of 18th in the early 1980s, culminating in a constitutional and foreign exchange crisis.²⁹

In 1984 the newly-elected Labour Government embarked on “supply-side” reforms which encompassed both macro-economic stabilization and structural change. These included the cutting of personal income tax rates, introduction of a Goods and Services Tax, privatization of state-owned enterprises, deregulation, elimination of agricultural subsidies, removal of trade tariffs and independence of the central bank (which was given a price stability objective under a new act of parliament). However the welfare state underwent few changes during this period.

In the 1990s the incoming National government reduced the generosity of several classes of benefits and introduced a greater degree of means-testing for welfare services. Even with these changes, most welfare spending in NZ remains funded out of general tax revenue on a non-contributory “pay-as-you-go” basis. In 2015, taxation revenues accounted for about 30.0% of GDP. Government expenditures were at the same level.³⁰

III. b. A New Zealand Case Study: The ‘Welfare: Savings-not-Taxes’ Reform

This section describes how tax cuts can be designed to help people build up funds in their own compulsory savings accounts, which they can then use to either spend on welfare purchases or save for future use. One of the main aims of the reform is to enhance individual responsibility, though the government still retains a role in terms of helping to fund those who are unable to pay for their welfare needs out of their own savings.

²⁷ “Personal risk cover” is for events like accidents and unemployment.

²⁸ We do not attempt in this paper to provide details of the administrative changes that will likely be necessary as a result of the shift to the “Savings-not-Taxes” regime.

²⁹ See Maddison (2001) for GDP per capita rankings. Evans, Grimes, Wilkinson and Teece (1996) summarizes the reforms.

³⁰ See Executive Summary of the New Zealand 2015 Budget by the Minister of Finance, Hon. Bill English.

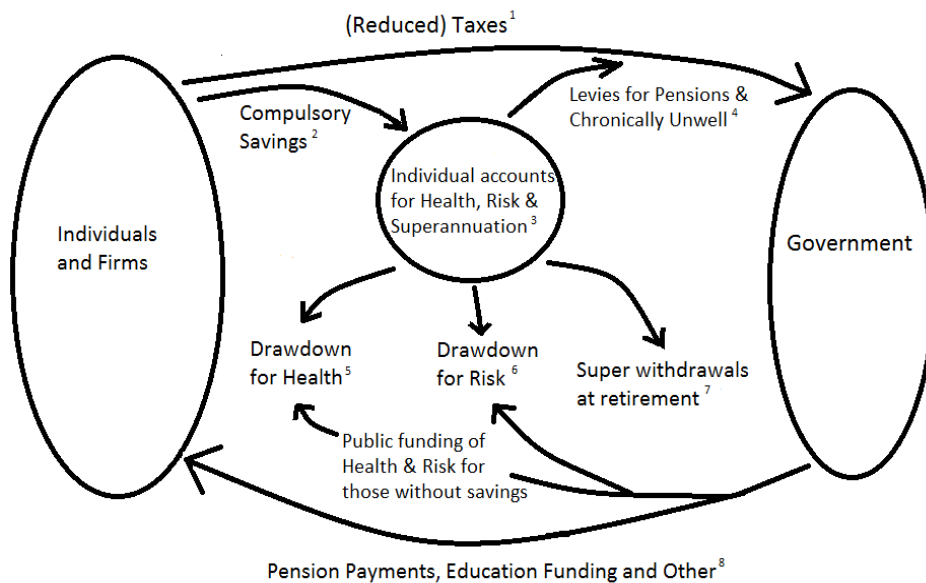
The Tax Reform

With respect to Personal Income Taxes (“PIT”) the rate is presently set at 10.5% for incomes from 0 to \$14,000 and 17.5% for incomes between \$14,000 and \$48,000. Tax rates rise to 30% for incomes between \$48,000 and \$70,000. The top rate of PIT is 33% which applies to incomes over \$70,000.

Under the new regime, the PIT falls to zero for single tax-payers (i.e., a single person or couple with two incomes) earning less than \$50,000. It becomes 17.5% for incomes between \$50,000 and \$70,000, and 23% on income beyond \$70,000. For one-income families with dependent children, PIT rates fall to zero for incomes less than \$65,000.

The corporate tax rate is cut from 28 to 17.5 cents in the dollar of profit and the Goods and Services Tax (“GST”) rate is increased from 15% to 17.5%. In total, taxes are cut by \$21.9 billion in the first year of the reform, comprising a \$21.0 billion cut in personal taxes, \$4.1 billion cut in company taxes and \$3.2 billion rise in GST (see Figure 4, label 1, “(Reduced) Taxes”).

Figure 4
Financial Flows in the “Savings not Taxation” System:
 Taxes are reduced and contributions made to Compulsory Savings Accounts in lieu. Funding for Health-care & Risk is publicly supported for those with insufficient savings.



The Welfare Reform

At present, the NZ government funds its welfare state out of general taxation. In addition to health and risk-cover (for unemployment, sickness and disability) it also pays a pension and makes grants to corporations and high-income earners. Under the new “Savings-Not-Taxes” regime, the funds from the above tax cuts on income below \$50,000 (or \$65,000 for one-income families with children) go

directly into the compulsory accounts. They are supplemented by an individual's own, and their employer's, contributions. Single tax-payers contribute 5% of earned income up to \$50,000. Their employer pays another 12½% of income up to \$50,000. These add up to savings of \$17,500 per year for each person earning \$50,000 or more (and \$22,750 for a one-income family with children on \$65,000 or more).

These funds are used to help meet current health and risk-cover payments, as well as build up savings balances for future superannuation payments. Smaller health and risk bills are paid directly whereas larger ones are funded by the purchase of catastrophic insurance plans. The government continues to pay a pension to retired New Zealanders. It also underwrites the health-care and risk-cover payments of those with insufficient savings. Summed across all individuals, compulsory savings equal \$28 billion (see Figure 4, label 2, "*Compulsory Savings*").

(i) Health-Care

The share of public health-care spending in NZ has remained relatively constant over the last decade at around 80% of total spending (well above the average of 72% in OECD nations).³¹ In the OECD's upside 'cost-pressure' scenario, public health and long-term care spending is forecast to increase to 15.3% of GDP by 2060. Even in their 'cost-containment' scenario, spending is forecast to rise to 10.8% of GDP over this period (See OECD, 2013).

Under our new regime, changes to the health system's source of funding and transparent pricing of services are introduced. Each person now builds up a 'Medi-Health Savings Account' which receives 45% of their compulsory savings. It is out of this account that most of one's medical expenses are paid. A prescribed level of savings is set for each person and after it is achieved, the level of required savings is reduced, increasing one's disposable income. Total contributions to the health savings accounts are \$12.6b (=45%*\$28b) in the first year of the reform (see Figure 4, label 3, "*Individual accounts*").

An annual catastrophic health insurance policy must also be taken out to cover medical events costing more than \$20,000 in any one year (in 2015 dollars) and is paid for out of one's savings account. Individuals have the choice to insure themselves at a higher level than the basic cover. Those earning more than \$65,000 are expected to pay for part of their own health-care, before drawing down on their savings accounts. A 12.5% levy on the yearly health savings contributions (of \$1.6 billion=12.5%*\$12.6b) is made to help pay for the chronically ill, retired and beneficiaries (see Figure 4, label 4, "*Levies*"). In practice, the levy, as well as a proportion of the public underwrite, may be paid into a fund from which it would be dispersed to beneficiaries.

³¹ About 20% of health spending in NZ is privately funded, mainly through out-of-pocket payments. The private health insurance market is small, funding 5% of total spending and supporting a limited range of services. See OECD (2015).

On the expenditure side, estimated drawdowns on the private health accounts in the first year of the reform equal \$7.5 billion and the government funds a further \$8.1 billion (see Figure 4, label 5, “*Drawdown for Health*”).³²

(ii) Retirement (or “Superannuation”)

At present, NZ pays a ‘universal’ pension to nearly everyone who is over the age of 65 years old who has completed quite modest residence requirements. It is “flat rate” (i.e., does not depend on a person’s previous income and is not means-tested). The pension cost 5.1% of GDP in 2015 and is forecast to rise to 8.1% by 2050.³³ The Labour government also introduced the “Kiwi-Saver scheme” in 2007, which is a voluntary retirement savings scheme. Employees are automatically enrolled unless they choose to opt out and contribute a percentage of their gross earnings. Employers and the government also make contributions.³⁴

Under the new regime, each person builds up their own ‘Superannuation Fund’ account, which receives 35% of their total compulsory savings. For many people their contributions will replace their existing Kiwi-Saver payments. Our new regime extends the retirement age from 65 to 70 years old over the next 20 years (i.e., by 3 months per year) and retains the government pension, although its source of funding changes. At the start of the reform the pension continues to be funded out of general taxation, though it will be increasingly covered by the 25% tax levied on the size of each individual’s Superannuation Fund on the date of their retirement.

Total contributions to the Super Fund accounts are \$9.8 billion (=35%*\$28 billion) in the first year of the reform (see Figure 4, label 3, “*Individual accounts*”). Of this total, a pension levy of \$2.5b (in 2015 values) is paid upon retirement (see Figure 1, label 4, “*Levies*”). The remaining \$7.3b becomes savings that one is free to spend after retiring. In year 1 of the reform there are no super withdrawals from the accounts, whereas the government spends \$10.6b on the pension (see Figure 4, labels 7 and 8, “*Super withdrawals*” and “*Pension Payments*”). As the retirement age starts to rise, public spending on the pension falls under the new regime, compared to the present one.

(iii) Risk-Cover: Unemployment, Sickness, Invalid and Accident Cover

Unemployment benefits in NZ are currently paid out of general taxation and are of unlimited duration. The government provides support for people with a health condition, injury or disability. It

³² Included in the \$7.5b of spending out of the private accounts is the levy of \$1.6b for the chronically ill, retired and beneficiaries, which reduces over time as these groups (especially the retired) become more able to meet health bills out of their own savings. Cato Institute scholars first proposed health savings accounts in the 1980s and were leaders in popularizing them among the public and policymakers. See, for example, Cannon (2006).

³³ Although the pension is paid out of general taxation, the Labour government established a ‘Superannuation Fund’ in 2001 to help partially pre-fund future payments. Contributions to this fund are financed out of tax revenues but were suspended in 2009. The latest estimates suggest that up to about 8% of the expected cost of the government pension in 2050 will come from the Super Fund.

³⁴ Total Kiwi-Saver assets were \$28.5 billion in 2015. The savings are privately managed in funds chosen by each individual. See the Financial Markets Authority (NZ) (2015).

also sponsors the Accident Compensation Corporation (“ACC”) that pays 80% of net wages to employed people who are unable to work due to accidents. As a result of these different schemes for unemployment, sickness and accidents, the size of payments to an individual who is out-of-work depends, at present, on what is the cause.

Under the new regime, each person has a ‘Risk-Cover Fund’, which receives 20% of their total compulsory savings. A prescribed level of savings is set for the fund. Once reached, required contributions drop sharply. Should one become out-of-work, a drawdown occurs. If still out-of-work after 26 weeks, then a weekly payment is received from a catastrophic risk insurance policy (purchased by the fund). If one has insufficient funds in the savings account, or is jobless for more than 156 weeks, leaving one without insurance cover, then government assistance is given.

Total contributions to the risk accounts are \$5.6 billion (=20%*\$28 billion) in the first year of the reform (see Figure 4, label 3, “*Individual accounts*”). Estimated drawdowns in the first year of the reform equal \$1.5 billion and the government funds a further \$8.4 billion which includes out-of-work benefits (see Figure 4, label 6, “*Drawdown for Risk*”). Note that the payments which each person receives no longer vary depending on the reason for being out-of-work.

(iv) Education

Primary and secondary schools in NZ are presently funded out of general taxation. Families may opt to pay for private education. The government also helps to fund “Early Childhood Education”. There are no changes to the budget allocations for these programmes under the new regime, although an education tax credit now becomes available for any child whose family would like one.

University students, on the other hand, currently pay a subsidized fee, and are also eligible for public grants. In 1992, the government introduced a ‘Student Loan Scheme’ which provides students with the opportunity to borrow for tuition fees, course costs and living expenses. In 2006, student loans were made interest-free.³⁵ Our reform retains the subsidized fee, though it introduces a means-test to restrict interest-free loans and grants to only those students who come from low income, low capital families. Note that university students are the group who stand to gain the most from lower personal taxes under the new regime when they get older. The reduction in these grants equates to \$3.3 billion. As a consequence, education funding falls to \$11.9 billion in the first year of the reform (see Figure 4, label 8, “*Pension Payments, Education Funding and Other*”).

(v) Other Welfare Expenses: Subsidies to Business, Kiwi-Saver and “Working for Families”

The government presently engages in a range of subsidies to business, sometimes called “corporate welfare”. It also subsidizes the Kiwi-Saver scheme and funds the “Working for Families” programme.

³⁵ Interest-free student loans are included in the public accounts under the heading ‘Social Welfare’. See Statistics NZ (2008).

In the budget accounts, these are referred to as “Other Expenses”.

Corporate welfare includes a range of subsidies for Ultra-Fast Broadband and fibre connections, movies that are “*internationally focused and produced in NZ*”, “*offshore market development*” assistance to business, and support to ‘Callaghan Innovation’ which maintains the “*strategic capabilities*” of industry. The total cost of these kinds of programmes was \$1.35 billion in 2015.³⁶ In addition, a range of ‘accelerated depreciation’ tax allowances are available to businesses in the forestry, farming, bloodstock and research industries, as well as favourable treatment of rental housing. These subsidies and allowances are generally discontinued under the new regime.

The Working for Families (“WFF”) programme, meanwhile, consists largely of earned income tax credits. Since our new regime cuts taxes for lower income earners and helps people to establish their own savings accounts, both WFF tax credits and Kiwi-Saver subsidies are no longer necessary. Even so, the WFF budget is still largely retained and instead reoriented to guarantee low and middle income working families with dependent children that their disposable income does not fall while their savings accounts are being established.

Of these types of public spending, there is a \$2.4b cut in subsidies to business and a drop in Kiwi-Saver subsidies of \$720 million under the new regime (i.e., \$3.1b in total). As a result, “other” welfare spending falls to \$19b (see Figure 4, label 8, “*Pension Payments, Education Funding and Other*”).

III. c. A NZ Case Study: Budgetary and Economic Impact of the ‘Savings-Not-Taxes Reform’

In this section, we estimate the impact of our new policy regime on the government’s budget and discuss its economic consequences at an aggregate level. We also estimate how people will be affected at an individual level according to whether, for example, they are on a low or high income, are working, jobless or retired. In addition, some long-term forecasts are provided.

(i) Impact on the Government’s 2015-16 Budget

Under the present taxed-based system, total government revenues equal \$75.2 billion (see NZ Treasury, 2016). This represents 31.4% of GDP (= \$239.5 billion). The first major impact of the new savings-based system is to cause tax revenues to fall to \$53.4 billion. This comprises lower personal income tax revenues (which fall from \$30.8b to \$10.5b), lower company taxes (which fall from \$10.8b to \$6.8b) and lower interest and dividend taxes (which fall from \$2.6b to \$1.9b). These cuts are offset by the rise in GST revenues (from \$18.3b to \$21.5b). Table 1 reports the NZ Budgetary accounts which summarize these changes. The notes to the accounts are contained in Appendix II.

³⁶ See “Estimates of Appropriations 2015/16 - Economic Development and Infrastructure Sector”, B5, Vol.1, NZ Treasury (2015). These programmes are administered by the Ministry of Business, Innovation and Employment.

Table 1
New Zealand Budget (Government plus Savings Accounts) for 2015-2016

Notes		(1) Government Budget (\$ millions)	(2) Savings Based Budget (\$ millions)	(3) Variance (\$ millions)
	Revenue Budget			
1	Personal income tax	30,800	10,500	20,300
2	Company tax	10,800	6,750	4,050
3	Interest & dividend tax	2,600	1,900	700
4	GST tax	18,300	21,500	(3,200)
5	Other direct & indirect tax	9,200	9,200	
6	Other revenue	<u>3,500</u>	<u>3,500</u>	—
	Sub Total			
7	Government cash income for year	75,200	53,350	21,850
	Income paid into Savings Accounts			
8	Current & Future expenditure for Super, health and risk cover	-	20,650	20,650
9	Total Income	<u>75,200</u>	<u>74,000</u>	<u>1,200</u>
	Expenditure Budget			
10.a	Health - Government	15,600	8,100	
10.b	- Ex savings accounts		7,500	
11	Superannuation	12,200	10,600	1,600
12.a	Social welfare - Government	12,600	8,400	2,950
12.b	- Ex savings accounts		1,250	
13	Education	13,100	11,900	1,200
14	Other expenses	7,300	3,800	3,500
15	Core government expenses	4,800	4,700	100
16	Finance costs	3,700	3,700	
17	Law and order	3,600	3,600	
18	Transport and communication	2,300	2,200	100
19	GST compensation		1,000	(1,000)
20	Total Expenditure	<u>75,200</u>	<u>66,750</u>	<u>8,450</u>
	Comprising:			
21	Government cash outlays for year	75,200	58,000	17,200
22	Savings accounts cash outlays for year		8,750	8,750
23	Government Cash Balance (=row7–row21)	0	(4,650)	(4,650)
24	Savings Based Budget Balance (=row8–row22)	—	<u>11,900</u>	<u>11,900</u>
25	Overall Balance	0	7,250	7,250
26	Allowance for what is owing by government for this year's retirees	<u>10,000</u>	<u>10,000</u>	—
27	Deficit/Surplus	(10,000)	(2,750)	7,250

Sources: NZ Treasury (2015-16): "Financial Statements of the Government of New Zealand for the year ended 30 June 2015", "2015 Tax Expenditure Statement", "Vote Social Development: The Estimates of Appropriations 2015/16 - Social Development & Housing Sector", "NZ Economic & Financial Overview 2016", "Budget Economic & Fiscal Update: Forecast Financial Statements 2015". See Appendix II for the notes to the accounts.

The second major impact of the new regime is the funding of personal savings accounts. A total of \$20.65b goes into these accounts to help contribute to each individual's current and future personal health expenses, out-of-work income and pay for catastrophic health and risk-cover insurance.³⁷ This total also includes the \$2.45b paid as a tax on the size of people's superannuation funds on the date of their retirement. It is included in the accounts, not as cash revenue for the government in the current year, but instead as an accrual. Although accruals are not generally included in public sector accounts worldwide, for our purposes they help to show the extent to which future liabilities being incurred by the government are being funded (either out of taxation or from compulsory savings accounts).³⁸

On the expenditure side, there is a reduction in public funding of health services equal to \$7.5 billion, which is fully offset by spending out of the private compulsory savings accounts. As a result, the total amount spent on health remains the same at \$15.6 billion.³⁹ Note that we are not assuming efficiency gains in health-care delivery. To the extent these are achieved (as pricing becomes more transparent, third party funding is reduced and more personal responsibility is encouraged) we may expect significant gains in service provision for this same level of funding.

Haseltine (2013) suggests that these efficiency gains may be sizeable. For example, total government and private sector health-care spending in Singapore, which uses a similar system of compulsory savings accounts to those proposed in the present paper, equals 4.8% of GDP (compared to 9.5% in NZ). Note that our regime gives the government a somewhat larger role in terms of it being the "insurer of last resort" compared to the current system in Singapore. In other words, we allow for the State to provide more assistance to those who cannot fully fund their own catastrophic health insurance, or make payments for smaller bills, or both.⁴⁰

In the case of pensions (or "superannuation") there is a drop in government spending from \$12.2 billion to \$10.6 billion in the 2015-16 year. Most of this change is due to the fact that these benefits are no longer taxed, so when they are reduced by the same amount as taxes are cut, the net benefit will not change. Since the state pension is retained, there is otherwise little immediate effect on the budget. However, as the retirement age starts increasing, superannuation payments become lower under the new regime compared to the existing one (i.e., they are up to 25% less by year 20 of the reform). Some of our estimated long-run forecasts to 2035 are reported below.

³⁷ Note that a further \$7.4b is paid into compulsory superannuation accounts though is not included in the Table 1 accounts for the reason that people are free to spend these funds as they choose upon retirement. The table includes only tax revenues and those payments into private savings accounts for which the government mandates a specific purpose (e.g., health and risk cover).

³⁸ An exception is NZ where the Public Finance Act 1989 states requirements for accrual reporting by government departments.

³⁹ Included in the \$7.5b of spending out of the private accounts is a government levy of \$1.5b for the chronically ill, retired and beneficiaries, which will reduce over time as these groups become more able to meet health payments out of their own savings. In practice, this levy, as well as a proportion of the other \$8.1 billion public funding of health-care, may be paid into a fund, similar to the MediFund account in Singapore, from which it would be dispersed to beneficiaries.

⁴⁰ Whereas the Singapore government spent 1.5% of GDP on health in 2010, our budget allows for public spending of 3.4% in 2015-16 (= \$8.1b/\$239.5b) which subsequently falls to around 2% by 2035.

With respect to Social Welfare, \$12.6 billion in payments were made in 2015-16 under the present tax-based system.⁴¹ Under the new regime, government spending on these programmes reduces to \$8.4 billion, which is partially offset by \$1.25 billion in spending coming from individual's Risk Cover savings accounts, leaving a net drop of \$2.95 billion. Of this variance, \$0.5 billion comes from welfare benefits being cut by the same amount as taxes on them are reduced (i.e., so that after-tax payments stay the same). The remaining difference is mostly due to restricting the “interest free” university student loan scheme (included under the “Social Welfare” heading in the budget accounts) to low income, low capital families (see note 12 to Table 1).

The government's level of spending on education is also reduced due to the application of an income and asset test on university student grants. This change causes a drop in those grants from \$2.5 billion to \$1.5 billion, a fall of \$1.0 billion (see note 13 to Table 1).

Of the remaining types of public spending, the biggest single change comes under the heading, “Other Expenses”. It comprises a \$2.4 billion cut in subsidies to business, a drop in Kiwi-Saver subsidies of \$720 million and a reduction in the Working-for-Families programme of \$380 million.⁴² The existing Working for Families budget of \$2.41 billion is still largely retained though it is reoriented to provide the guaranteed minimum income to low and middle income working families with dependent children (i.e., it is only reduced by 15.7%=\$380m/\$2,414m).⁴³

Before the reform, the government's total revenues and expenditures in 2015 were both equal to \$75.2 billion, leaving a balanced budget. After the reform, tax revenues fall to \$53.35 billion and expenditures drop to \$58 billion, leaving a cash deficit of \$4.65 billion, or 1.9% of GDP (=4.65/239.5). However there is also a total of \$20.65 billion flowing into the compulsory savings accounts which is subsequently used to help fund pensions, as well as health and risk cover expenditures that were previously made by the government. Since the outlays from these accounts equal \$8.75 billion, a surplus is generated of \$11.9 billion (= \$20.65b - \$8.75b). Hence the “overall budget balance” equals \$7.25 billion under the new regime (= \$11.9b - \$4.65b).

(ii) Macroeconomic Impact of the “Savings-not-Taxes” Reform and Some Theory

Our estimates of the government's current budget under the new “Savings-not-Taxes” policy regime assume that GDP remains at a similar level to the previous policy regime. In this section we determine how the introduction of compulsory savings accounts may affect a small open economy with a flexible exchange rate, like New Zealand. The policy change features a cut in both taxes and

⁴¹ We use the words ‘Social Welfare’ to refer to payments that include unemployment benefits, housing benefits, assistance to low income families and student loans, though excluding ‘Superannuation’ payments paid by the government to the elderly.

⁴² The ‘Forecast Financial Statements’ to the 2015 Budget show that Kiwi-Saver subsidies equalled \$720 million and the cost of the Working-for-Families programme was \$2.414 billion. See NZ Treasury (2015d).

⁴³ Goods and Services Tax (‘GST’) compensation is also included as an expenditure item to help protect low income earners from the effects of the rise in GST (from 15% to 17.5%).

public welfare spending. Government cash expenditure outlays are reduced by \$17.2 billion and tax revenues are cut by \$21.9 billion, producing a small budget deficit in the first year of the reform (equal to \$4.7 billion, or 1.9% of GDP) which subsequently reduces over time.

What is the estimated overall effect of the new regime on private consumption? Of the \$21.9 billion total drop in taxes, \$2 billion comes from no longer taxing welfare transfer payments which is offset by an equivalent cut in gross transfers. Hence average incomes, net of taxes and transfers, rise by \$19.9 billion, taking that factor into account. Offsetting this rise is the additional required level of compulsory savings of \$28 billion. Since the (automatic enrolment) Kiwi-Saver scheme (which received total contributions of \$5.2 billion in 2015) is largely subsumed into the new regime, the net increase in gross savings will be around \$22.8 billion ($=\$28b - \$5.2b$).⁴⁴

Consequently, assuming no other changes in private voluntary savings behaviour, there will be an approximately \$2.9 billion drop, on average, in after-tax-and-compulsory-savings incomes ($=\$22.8b - \$19.9b$, or 1.6% of GDP). In other words, since the compulsory savings are mostly funded out of tax cuts, private consumption, on average, may not be much affected in the current year upon implementation of the new regime.

Where does the \$22.8 billion in additional gross savings go? A total of \$8.8 billion is spent by individuals, out of their personal accounts, on health and social security. Hence net private savings rise by around \$14 billion ($=\$22.8b - \$8.8b$). Subtracting the government's dis-saving of \$4.7 billion (due to its deficit) yields an increase in total national savings of \$9.3 billion ($=\$14b - \$4.7b$, or 4.6% of GDP). A large part of these savings ($=\$6.4b$) can be traced back to the tax cuts made possible by the government's ending of subsidies to business and Kiwi-Saver ($=\$3.1b$) as well as interest free loans and grants to university students from wealthy families ($=\$3.3b$).⁴⁵

In other words, our paper highlights the extent to which just two existing government programmes (i.e., 'corporate welfare' and transfers to students from wealthy families) may be standing in the way of implementing a "Savings-not-Taxes" type of reform. The tax cuts arising from the discontinuation of these schemes allow for the funding of a significant part of the annual savings held in each individual's Medi-Health, Risk Cover and Superannuation Funds.

As mentioned above, these estimates assume that GDP remains largely unchanged before and after the new regime is implemented. But how realistic is this assumption? Our reform yields a sizeable decrease in the share of government spending in GDP. Furthermore, the associated drop in taxes enables compulsory savings accounts to be funded, from which a significant portion of welfare

⁴⁴ See the Financial Markets Authority (NZ) (2015).

⁴⁵ The reduction in subsidies to business (equal to \$2.4b, or 1.0% of GDP) and to Kiwi-Saver (equal to \$0.7b) together total \$3.1b (2015 figures). With respect to education, the decline in borrowing and the reduction in grants to university students (which come from our reform's income and asset tests) equal \$700 million and \$1.0b, respectively. Furthermore, the drop in interest on student loans, together with their early repayment, each total \$600 million. When combined with the cost savings from administering these schemes of \$400 million, our reform results in a total decrease in these kinds of payments of \$3.3b ($=\$0.7b + \$1b + \$0.6b + \$0.6b + \$0.4b$). See also notes 12, 13 and 14 to Table 1 in Appendix II.

purchases can be made directly.

A standard approach for predicting the macro consequences of a policy change in the NZ context is the small open economy flexible exchange rate model of Mundell-Fleming (1962, 1968). Using this model, the consequences of the new regime may include the following: (a) To the extent that the saved funds in the compulsory accounts which remain after spending on welfare lift national savings, then capital outflows increase; (b) Downward pressure is exerted on the exchange rate, which in turn increases net exports, leading to a trade surplus; (c) The level of GDP may not be much changed, at least in the short run, to the extent that the drop in government consumption is replaced by private purchases of welfare services and a trade surplus. Appendix III provides more details.

In a *large* open economy (where the interest rate is not fixed by world markets) the short-run predictions are somewhat different. In this context, an increase in savings leads to a drop in domestic interest rates and a fall in GDP as consumption demand drops, although there may be some offsetting rise in investment. However the fall in GDP is less than the amount that would have likely occurred in a closed economy to the extent that net exports rise. Of course, as noted earlier, long run efficiency gains are also likely under the new regime. Although these potential gains have not been formally included as part of our estimates, they are likely to be sizeable.

(iii) Impact of the “Savings-not-Taxes” Reform on Representative Individuals and Firms

In this section we estimate how the new “Savings-not-Taxes” policy regime affects different kinds of individuals and firms. Whereas ‘disposable income’ is usually defined as being net of taxes and transfers, for the purposes of this paper we define it as being net of taxes, transfers and contributions to one’s compulsory savings account. Our reform has a mix of consequences across different groups. Its’ aim is to secure the long-term viability of the welfare state and improve its efficiency whilst maintaining equitable outcomes. The existing level of general welfare services is retained, and potentially significantly increased in the long run compared to the existing system, across most parts of the population. The main change is that the payment for many of these services now comes from individual’s own private accounts.

Whilst our reform does not systematically seek to favour any particular income group, a necessary feature is to help low and middle income earners establish their own private savings accounts, with minimal impact on their disposable income. At the same time, the reform also aims to promote more responsibility for welfare needs and stronger work incentives. First, tax rates are reduced most for low and middle income earners, who pay zero taxes under the new regime (i.e., for single tax-payers on less than \$50,000 and one income families with dependent children on less than \$65,000). The size of the cuts to their marginal tax rates range from 10.5 to 30 percentage points. Middle income earners get a 12.5 percentage point reduction and high income earners (i.e., those on

more than \$70,000) get a 10 percentage point cut.

Second, employer contributions to workers' savings accounts equal 12.5% for single taxpayers on incomes less than \$50,000 (and \$65,000 for those with dependents). Contributions become voluntary at this point so will thereafter likely start declining as a proportion of income. Third, the government makes a payment to compensate low income earners for the rise in GST (equal to \$1 billion, or 0.4% of GDP). Fourth, for those people who cannot afford to pay their health-care bills, and the long-term unemployed with no insurance cover, the government acts as 'insurer of last resort'. Fifth, embedded in our reform is a guarantee that the disposable income of low income working families with dependents does not decline once it is implemented.

The main losers stemming from the reform are university students coming from high income, high capital families who no longer qualify for grants and interest-free loans from the government. Note that these are the families who gain the most from lower personal taxes. At the same time support is continued for students from low income, low capital families. The other group who lose are those firms (and owners) who receive subsidies from the government.

As for other firms, there are a mix of effects. On the one hand, the corporate tax rate on profits is reduced from 28 cents to 17½ cents in the dollar. Furthermore, there is a drop in compulsory employer support toward Superannuation and Employee Accident Cover for all employees on incomes over \$50,000. Offsetting these changes is an increase in costs due to the 12½% contribution of firms to their employees' compulsory savings accounts on earnings up to \$50,000 for superannuation, health-care and risk cover.

Estimates of the impact of the new regime on the retired, out-of-work and low, middle and high income earners are reported in Appendix IV. For example, the current retired (of around 700,000 people) will see little change in their disposable income as a result of the move from a tax-based system to a savings-based one (since the government pension remains intact). Low income and low-capital retirees receive an annual government grant to their Medi-Health Savings Fund, enabling them to take out a catastrophic health insurance policy and have extra funds available to supplement their normal expenditure on health.

Working low income families with dependents (i.e., on <\$50,000 a year) are better off since not only is their disposable income guaranteed by the government to stay at least as high as under the present system, but they also start building wealth in their own savings accounts. For working low income earners without dependants who have a Kiwi-Saver scheme, their disposable income, on average, is about 1 per cent less than at present, although again their savings rise significantly.⁴⁶

Working higher single income earners (on >\$50,000) with dependants see a rise in disposable

⁴⁶ However, for those working low-income families without dependents and with no Kiwi-Saver scheme, their disposable income will be reduced by about 5% for the reason that they will need to start making contributions to build up their own savings accounts without being able to make any offsetting reduction to their existing private (voluntary) contributions.

income, offset in part by an increase in GST. Superannuation, health and risk cover are the same as for a person earning \$50,000, plus any extra cover that they choose to take out, and they get an extra 10 cents in every dollar earned over \$100,000 due to the tax cuts.

(iv) Long-Term Forecasts of the Impact of the “Savings-not-Taxes” Regime on the Government Budget (to 2035)

Estimates of the future impact of the new regime on government revenues and expenditures, as well as on compulsory savings account revenues and expenditures are reported in Table A7 in Appendix V. It shows how, over time, our reforms avoid the large predicted fiscal deficits associated with funding the welfare state based on the existing tax settings.⁴⁷

For example, under the existing system, the government’s cash deficit is forecast to rise to \$19.3 billion by 2035 (or 4.9% of GDP assuming a growth rate of 2.5%). However it reduces to a \$2.7 billion deficit under the “Savings-not-Taxes” regime. Furthermore the overall budget balance (combining both government and compulsory accounts) goes into surplus due to the \$9.0 billion excess of income paid into the accounts over expenditures made out of them.

On the revenue side, the government’s cash income under the existing system in 2015-16 is greater than the total income coming from taxes and funds paid into the savings accounts (i.e., \$75.2 billion compared to \$74.0 billion). However by 2035 the situation is reversed (i.e., \$136.9 under the existing system compared to \$137.9 billion under the new one). In other words, total income available for spending on welfare increases more over time under the new “Savings-Not-Taxes” regime, compared to the existing one.

On the expenditure side, most of the long-term reduction under the “Savings-not-Taxes” regime comes from just three factors. First, pension spending falls from \$28.1b (under the existing system) to \$17.4b (under the new regime) due mainly to the rise in the retirement age from 65 to 70 years old between 2015 and 2035. Second, there is a drop in “Other Expenses” from \$13.2b to \$7.5b due to the cuts in ‘corporate welfare’. Third, social welfare and education spending drop due to the restrictions on interest-free loans and grants to students (i.e., from \$21.9b to \$17.0b for welfare, and from \$26.1b to \$23.7b for education, between 2015 and 2035).

The table also shows how the proportion of total health expenditures paid out of the Medi-Health savings accounts increases over time, whilst the government proportion declines. For example, the proportion of private spending in 2015 equals 48.1% ($=\$7.5b / \$15.6b$) whereas by 2035 it has increased to 61.0% ($=\$25.0b / \$41.0b$). In the case of health services, the total level of spending is kept the same under both regimes.

In summary, the introduction of compulsory savings accounts and associated reduction in

⁴⁷ Our complete set of long-term forecasted government accounts showing the impact of the reform is available as supplementary material to this paper, complete with assumptions. See Buckle and Cruikshank (2012) for some alternative fiscal forecasts.

taxes can be done in a way that maintains the total resources available for spending on most dimensions of the welfare state over time, compared to the present system. Combined with relatively small changes to the retirement age (phased in over many years) and a cut in two types of subsidies (to students from wealthy families and to private corporates) the long-run fiscal challenges facing the welfare state largely disappear. Moreover, a significant proportion of the population who today have few savings would be able to retire with substantial capital due to our changes in superannuation. The new regime that we propose may also help resolve a political dispute regarding wealth inequality (where the bottom 40% of income earners held just 3% of NZ household net wealth in 2015).⁴⁸

IV. Conclusion

Many countries are forecast to struggle to publicly fund their welfare states over the coming decades. Although their governments will be hard pressed to maintain present levels of (per-capita) welfare generosity through taxation, private savings rates have been falling. Inefficiencies have also become rife. As a potential way to pre-empt these looming problems, rising attention has been paid to the Singaporean model. It features compulsory savings schemes and transparent pricing of health services which have yielded some of the world's best health-care outcomes delivered for a cost that is the lowest amongst high-income nations.

In this paper we present a policy reform that uses tax cuts to help fund compulsory savings accounts to enable a publicly funded welfare system to be replaced by one that is largely privately funded. To our knowledge, the paper is the first to show how this transition can be achieved in a politically feasible way. We use a case study of New Zealand, a country with which we are familiar, although our proposed reforms could also be applied to other nations. The fiscal impact on the government's current and future budgets is reported, as well as the effect on personal disposable income and wealth held in the individual savings accounts. A reform of this type has the potential to lead to long-run efficiency gains, especially with respect to health-care and other forms of risk cover. It may also help to secure the fiscal viability of the welfare state, whilst at the same time retaining ample government resources to ensure universal coverage and equitable outcomes.

⁴⁸ See Statistics NZ (2016).

References

- Alesina, Alberto and Paulo Giuliano, "Culture and Institutions", Forthcoming *Journal of Economic Literature*.
- Arrow, Kenneth (2016). "There Is Regulatory Capture, But It Is By No Means Complete", Interview with Asher Schechter in the blog of the Stigler Centre at the University of Chicago Booth School of Business. URL: <https://promarket.org/there-is-regulatory-capture-but-it-is-by-no-means-complete/>
- Barr, M. (2001). "Medical Savings Accounts in Singapore: A Critical Inquiry", *Journal of Health Politics, Policy and Law*, vol. 26, no. 4: pp. 709-26.
- Barr, Nicholas and Peter Diamond (2010). "Reforming Pensions: Lessons from Economic Theory and Some Policy Directions", *Economia*, Fall.
- Baumol, William (2012). *The Cost Disease: Why Computers Get Cheaper and Health Care Doesn't*, with Contributions by David de Ferranti, Monte Malach, Ariel Pablos Méndez, Hilary Tabish and Lilian Wu. New Haven, Connecticut: Yale University Press.
- Bernanke, Benjamin (2005). "The Global Saving Glut and the U.S. Current Account Deficit", *Sandridge Lecture*, Virginia Association of Economists, Richmond, Virginia. Washington: US Federal Reserve Board. URL: <http://www.federalreserve.gov/boarddocs/speeches/2005/200503102/>
- Bernanke, Benjamin (2015). "Why Are Interest Rates So Low? Part 3: The Global Savings Glut", *Ben Bernanke's Blog*, Washington: The Brookings Institution. URL: <http://www.brookings.edu/blogs/ben-bernanke/posts/2015/04/01-why-interest-rates-low-global-savings-glut>
- Buckle, Robert and Amy Cruickshank (2012). "The Requirements for Long-Run Fiscal Sustainability", *Draft Paper for the Long-Term Fiscal External Panel*, NZ Treasury: Wellington.
- Callick, Rowan (2008). "The Singapore Model", American Enterprise Institute.
- Cannon, Michael (2006). "Health Savings Accounts: Do the Critics have a Point?", Policy Analysis no. 569, Cato Institute: Washington.
- Choi, James, David Laibson, Brigitte Madrian and Andrew Metrick (2002). "Defined contribution pensions: Plan rules, participant choices, and the path of least resistance", *Tax Policy and the Economy*, vol. 16: pp.67-11, Cambridge: MIT Press.
- de la Maisonnette, Christine and Joaquim Oliveira Martins (2013). *Public Spending on Health and Long Term Care: A New Set of Projections*, OECD: Paris.
- Deloitte Touche Tohmatsu Limited (2015). *NZ Budget 2015: Transformation or Minor Updates?* Deloitte Ltd. URL: <http://www2.deloitte.com/nz/en/pages/government-budget/articles/2015-new-zealand-budget.html>
- Di Tella, Rafael, Robert MacCulloch and Andrew Oswald (2001). "Preferences over Inflation and Unemployment: Evidence from Surveys of Happiness", *American Economic Review*, vol. 91, no. 1: pp. 335-341.
- Di Tella, Rafael and Robert MacCulloch (2002). "Informal Family Insurance and the Design of the Welfare State", *Economic Journal*, vol. 112: pp. 481-503.
- Di Tella, Rafael and Robert MacCulloch (2002). "The Determination of Unemployment Benefits", *Journal of Labour Economics*, vol. 20, no. 2, pp. 404-434. Chicago: The University of Chicago Press.
- Di Tella, Rafael, and Robert MacCulloch (2006). "Some Uses of Happiness Data in Economics", *Journal of Economic Perspectives*, vol. 20, no. 1: pp. 25-46.
- Dong, W. (2006). "Can Health Care Financing Policy be Emulated? The Singaporean Medical Savings Accounts Model and Its Shanghai Replica," *Journal of Public Health*, vol. 28, no. 3: pp. 209-14.
- Douglas, Sir Roger and Louise Callan (1987). *Toward Prosperity*. Auckland: David Bateman Ltd.
- Douglas, Sir Roger (1993). *Unfinished Business*. Auckland: Random House New Zealand.
- Douglas, Sir Roger (1996). *Completing the Circle*. Auckland: Seascope Press.

- English, Hon. Bill (2015). New Zealand 2015 Budget, Executive Summary. Wellington. NZ Government.
URL: <http://www.treasury.govt.nz/budget/2015/execsumm/b15-execsumm.pdf>
- European Union (2016). EuroStat: Your Key to European Statistics, Luxembourg: Publications Office of the European Union. URL:
<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tsdec240&plugin=1>
- Evans, Lou, Grimes, Arthur, Bryce Wilkinson, and David Teece (1996). “Economic Reform in New Zealand 1984-95: The Pursuit of Efficiency”, *Journal of Economic Literature*, Vol. XXXIV (December), pp. 1856-1902.
- Feldstein, Martin and Daniel Feenberg (1983). “Alternative Tax Rules and Personal Saving Incentives: Microeconomic Data and Behavioral Simulations” in Behavioral Simulation Methods in Tax Policy Analysis, Editor: Martin Feldstein, Chapter 6, pp. 173-210, Chicago: University of Chicago Press.
URL: <http://www.nber.org/chapters/c7709>.
- Financial Markets Authority (New Zealand) (2015). KiwiSaver Annual Report: 30 June 2014-30 June 2015, NZ Government.
- Fleming, J. Marcus (1962). “Domestic Financial Policies Under Fixed and Under Floating Exchange Rates”, *Staff Papers*, International Monetary Fund, Vol. 9 (November), pp. 369–79.
- Gadiel, David and Jeremy Sammut (2014). Lessons from Singapore: Opt-Out Health Savings Accounts for Australia, Policy Monograph (Papers in Health and Aging): The Centre for Independent Studies, Australia.
- Goodman, John (2016). “Better than Government: New Ways of Managing Life’s Risks”, Presentation to the Mount Pelerin Society, Goodman Institute for Public Policy Research.
- Guidolin, Massimo and Elizabeth La Jeunesse (2007). “The Decline in the U.S. Personal Saving Rate: Is It Real and Is It a Puzzle?”, *Federal Reserve Bank of St. Louis Review*, November / December, vol. 89, no. 6, pp. 491-514.
- Haseltine, William (2013). Affordable Excellence: The Singapore Health-care Story, Brookings Institution.
- Keynes, John Maynard (1940). How to Pay for the War: A Radical Plan for the Chancellor of the Exchequer. Harcourt Brace: New York.
- Kotlikoff, Laurence (2013). “Assessing Fiscal Sustainability”, Mercatus Center at George Mason University.
- Littlewood, Michael (2013). “New Zealand Superannuation’s Real Costs - Looking to 2060”, Retirement Policy and Research Centre, *Pension Briefing Paper*, no. 2013-6. University of Auckland Business School: Auckland.
- Maddison, Angus (2001). The World Economy: A Millennial Perspective, Development Centre Studies, OECD: Paris.
- Mundell, Robert (1968). International Economics, Macmillan: New York.
- New Zealand Treasury (2012). “Health Projections and Policy Options for the 2013 Long-term Fiscal Statement”, Draft Paper for the Long-term Fiscal External Panel, November 2012. NZ Treasury: Wellington.
- (2015a). Financial Statements of the Government of New Zealand for the year ended 30 June 2015. NZ Treasury: Wellington. The URL for this document is:
<http://www.treasury.govt.nz/government/financialstatements/yearend/jun15>
- (2015b). 2015 Tax Expenditure Statement, NZ Treasury: Wellington. URL:
<http://www.treasury.govt.nz/budget/2015/taxexpenditure>
- (2015c). Vote Social Development: The Estimates of Appropriations 2015/16 - Social Development and Housing Sector B.5, Vol.10, NZ Treasury: Wellington. URL:
<http://www.treasury.govt.nz/budget/2015/estimates/v10/est15-v10-socdev.pdf>

- (2015d). Budget Economic and Fiscal Update: Forecast Financial Statements 2015, NZ Treasury: Wellington. URL: <http://www.treasury.govt.nz/budget/forecasts/befu2015/befu15-7of11.pdf>
- (2016). New Zealand: Economic and Financial Overview 2016, NZ Treasury: Wellington. URL: <http://www.treasury.govt.nz/economy/overview/2016/nzefo-16.pdf>
- OECD (2009). “Sickness, Disability and Work: Keeping on Track in the Economic Downturn”, Background Paper for the High-Level Forum, Stockholm, 14-15 May, 2009. OECD: Paris.
- (2013a). “Public Spending on Health and Long-Term Care: A New Set of Projections”, *OECD Economic Policy Papers*, No. 6. OECD: Paris. URL: www.oecd.org/eco/growth/Health%20FINAL.pdf.
- (2013b). “What Future for Health Spending?” *OECD Economics Department Policy Notes*, no. 19 (June). OECD: Paris.
- (2014). OECD Pensions Outlook. OECD: Paris.
- (2014a). OECD Health Statistics. How does the United Kingdom compare? OECD: Paris.
- (2014b). OECD Health Statistics: How does the United States compare? OECD: Paris.
- (2014c). OECD Health Statistics. OECD: Paris.
- (2015). OECD Health Statistics: How does Health Spending in New Zealand Compare? OECD: Paris. URL: <https://www.oecd.org/els/health-systems/Country-Note-NEW%20ZEALAND-OECD-Health-Statistics-2015.pdf>
- Ramsay, Catriona (2005). “A Comparison of Health-care in Singapore and New Zealand: The Influence of Society and Culture”, *New Zealand Family Physician* (since replaced by the *Journal of Primary Health-care*), vol. 32, no. 3, pp. 201-204.
- Shiller, Robert (2004). “Saving a World that Doesn’t Save”, Project Syndicate: New York. The URL is: <https://www.project-syndicate.org/commentary/saving-a-world-that-doesn-t-save?barrier=true>
- Statistics New Zealand (2007). New Zealand’s 65+ Population: A Statistical Volume. Statistics NZ: Wellington.
- (2008). Measuring Government Sector Productivity in NZ: A Feasibility Study, Statistics NZ: Wellington. URL: http://www.stats.govt.nz/browse_for_stats/economic_indicators/productivity/measuring-govt-productivity/7-education.aspx#
- (2015). Household Net Worth Statistics: Year Ended June 2015. Statistics NZ: Wellington. URL: http://www.stats.govt.nz/browse_for_stats/people_and_communities/Households/HouseholdNetWorthStatistics_MRYeJun15.aspx
- Thaler, Richard and Cass Sunstein (2003). “Libertarian Paternalism”, *American Economic Review*, vol. 93, no. 2, pp. 175-179.
- United Nations (2013). World Population Prospects: 2012 Revision, Department of Economic and Social Affairs, UN: New York, as reported in Attitudes about Aging: A Global Perspective, “Chapter 3. Aging in the Major Regions of the World, 2010 to 2050”, Pew Research Centre: New York. URL: <http://www.pewglobal.org/2014/01/30/chapter-3-aging-in-major-regions-of-the-world-2010-to-2050/>
- Wheeler, G. (2013). “Improving New Zealand’s Economic Growth”, Canterbury Employers’ Chamber of Commerce, *Paper presented by the Governor of the Reserve Bank of NZ*, 1st February 2013. Reserve Bank of NZ: Wellington.
- Whitehead, John (2006). “Facing Fiscal Futures”, *Paper presented at the New Zealand Association of Economists’ Annual Conference by the Secretary to the Treasury*, June 28th, 2006. The NZ Treasury: Wellington.
- World Health Organization (2000). The World Health Report 2000. Health Systems: Improving Performance. WHO: Geneva.

Appendix I

Summary of the “Savings-Not-Taxes Policy”

1. Taxation and Compulsory Savings: Objectives and Policy

- a. The corporate tax rate on profits is set at 17.5%.
- b. The goods and services tax rate (GST) is set at 17.5%.
- c. A tax free personal income up to \$50,000 for a person classified as a single taxpayer (single/couple with two incomes). Current taxes paid on the first \$50,000 of income, including Accident Corporation Compensation (ACC), equals \$8,750. This sum goes directly into the personal saving accounts.
- d. A tax free income of \$65,000 for a one income family with dependants. (Current taxes paid including ACC equal \$13,250). The extra \$4,500 in tax savings in the case of a two adult family goes directly into the Health and Risk Cover accounts of the non-working spouse, whereas in the case of a single parent family it will be available for the family’s child-care costs to enable the single parent to work.

These tax savings are supplemented by individual’s own, and employers’, contributions, as follows:

- e. An individual contribution of 5% on any earned income up to \$50,000 and an employer contribution of 12½% on income up to \$50,000 brings the total savings level to \$17,500 a year for those on an income of \$50,000 (or above) and \$22,750 for a one income family with children on \$65,000.

In summary, the \$17,500 savings contribution is made up as follows. (i) Individual = 50% via government collection, instead of personal tax and ACC contributions on the first \$50,000 of income (i.e., \$8,750). (ii) Individual = 14.3% instead of Kiwi-Saver contributions and other payments (i.e., \$2,500). (iii) Employer contributions = 35.7%, instead of ACC, superannuation and via a 37½% reduction in the corporate income tax rate from 28c to 17½c in the dollar (i.e., \$6,250). Note that subsidies for ACC and superannuation contributions on income >\$50,000 are no longer compulsory.

- f. For individuals earning <\$50,000 (or one-income families with dependent children earning <\$65,000):

A reduction in savings of 35 cents in the dollar for every dollar < \$50,000 (or < \$65,000 for a one income family with dependent children) occurs. For a single taxpayer earning:

\$45,000 → savings of \$15,750 per annum or 35% a year of gross income
\$40,000 → savings of \$14,000 per annum or 35% a year of gross income
\$35,000 → savings of \$12,250 per annum or 35% a year of gross income
\$30,000 → savings of \$10,500 per annum or 35% a year of gross income
\$25,000 → savings of \$8,750 per annum or 35% a year of gross income.

Note: Many low-income families will have two incomes and therefore have savings in normal circumstances of at least \$25,000 a year per family.

- g. An individual’s savings to be allocated on the following basis:
Superannuation savings account 35% (i.e., \$6,125)
Health savings accounts 45% (i.e., \$7,875)
Risk savings account 20% (i.e., \$3,500)
- h. Income savings and contributions to be indexed to an appropriate inflation index (e.g., superannuation indexed to wage increases).
- i. Low-income working families with dependants will, in addition to any savings they get, receive a guaranteed minimum income that ensures cash in the hand income of at least what they get today.
- j. Personal Income greater than \$50,000 is to be taxed as follows:

\$50,001–\$70,000	17.5c in the dollar (currently 30c, so a reduction of 42%)
\$70,001+	23c in the dollar (currently 33c, so a reduction of 30%)

These reductions in personal tax will allow taxpayers in these categories to more easily cover what are now their own costs on income above \$50,000 for out-of-work insurance (ACC, sickness, unemployment) and extra costs for superannuation, health and tertiary education.

- k. Superannuation savings are to be shared equally between the partners each year.
- l. Employers' contributions to employees' individual savings accounts is limited to the first \$50,000 of income. Any contributions on income above \$50,000 is voluntary.

2. Health-care: Objectives and Policy

- a. *Base Case:* \$7,875 savings per year (inflation adjusted) to go into each individual's 'Medi-Health Cover Savings Fund'.⁴⁹
- b. *Variances from Base Case:* For one income families with dependants, \$12,375 to go into their savings account per year (inflation adjusted) (i.e., \$4,500 over and above base case which goes to the partner's health-care savings or in the case of single parent family towards child care). Low income earners (i.e., below \$50,000) savings reduce by 15.75 cents per dollar.
- c. A prescribed level of savings set for each person (i.e., a Medi-Health Savings Fund, equal to 1.5 times a contributor's current age, measured in '000s of 2015 dollars). For example, for 40 year olds, the savings objective is \$60,000 + inflation).
- d. Once the Medi-Health Savings Fund objective is achieved, the level of required savings for health-care is reduced by 40% (i.e., \$3,150 = 40% * \$7,875 per year) thereby increasing a contributor's disposable income by that amount.
- e. A contributor can at any time, put a lump sum into his or her Savings Fund in order to achieve a reduction in their contribution level.
- f. A 12 ½% per annum levy is charged to the fund, as a contribution to the health costs incurred by the retired, beneficiaries and chronically ill (i.e., \$988 inflation adjusted - see Table A1 below). This levy will be reduced from year 11 of the reform onwards, as the retired pay an increasing proportion of their own health-care costs.
- g. A catastrophic insurance policy to be taken out each year to cover medical costs above \$20,000 (inflation adjusted) in any one year.
- h. A government underwrite, if the amount in an individual's Savings Fund is insufficient to pay for any approved health-care undertaken.
- i. Those individuals earning more than \$65,000 will be expected to pay for their own health-care (up to 3% of income) before they drawdown on their savings account. Note that these individuals will receive a tax reduction of between 10 and 12½ cents per dollar on income above \$50,000.
- j. Individuals have the option to insure themselves at a higher level than the basic cover provides (e.g., their own hospital room).
- k. Steps over a 10 year period to move the NZ health-care system closer to a Singapore-style system.

⁴⁹ This figure applies to more than 1 million New Zealanders. It varies around this base for nearly another 1 million.

Table A1: Example of a Medi-Health Cover Fund

Example	1	2	3
Age	24	36	50
Prescribed level of savings	36,000	54,000	75,000
Yearly savings (inflation adjusted)	7,875	7,875	7,875
Balance at start of year	10,000	42,000	85,000
Yearly contribution	7,875	7,875	4,725
Voluntary contribution	-	12,000	-
Gross Total	17,875	61,875	89,725
less Cost of catastrophic cover for health & risk	(800)	(1,400)	(3,000)
Levy for chronically ill and long-term out-of-work (12½%)	(988)	(988)	(988)
Withdrawals for health-care cost	(512)	(812)	(3,012)
Outgoings	(2,300)	(3,200)	(7,000)
Net Balance at end of year (=Gross-Outgoings)	15,575	58,675	82,725
Amount required to reach prescribed savings level	20,425	Over prescribed by \$4,875, reducing payment next year	Still over prescribed by \$7,725

1. *Health-care during Retirement:* The objective, after 20 years of contributions to the Medi-Health Cover Fund, is to retire with at least \$80,000 in that Fund.

Those individuals of retirement age who keep working will continue to save for their own health-care, take out a catastrophic insurance policy and meet the first 5% of their health-care costs (out of earnings and/or their own capital).

For those not working in retirement, a person may expect to have:

- (i) A Medi-Health Cover Fund on retirement of at least \$80,000 (in 2015 dollar values).
- (ii) A catastrophic health insurance policy.
- (iii) Sufficient income and/or capital to pay for their own health-care needs (i.e., income from existing government benefits and from their own capital, consisting of both the Medi-Health Cover Fund and the Retirement Super Fund).
- (iv) A government underwrite if for any reason the amount of savings and/or yearly income of an individual is insufficient to pay for approved health-care needs.
- (v) Any balance in the Fund on death is transferred to the surviving spouse's Medi-Health Cover Fund or the individual's estate.

Expenditure during Retirement Years:

- (i) A catastrophic insurance policy to cover any health-care costs above \$15,000.
- (ii) Health-care costs up to 5% of income paid by oneself before any drawdown on one's Fund.
- (iii) Drawdown on the Medi-Health Cover Fund.
- (iv) A government underwrite.

3. Superannuation

- a. *Base Case:* \$6,125 savings per year (indexed to wages) to go into each person's 'Superannuation Fund'.⁵⁴
- b. A 25% tax on the size of the Superannuation Fund on the date of retirement.
- c. Moving the date of retirement from 65 to 70 over 20 years (i.e., by three months a year).
- d. Individuals can still retire at 65 provided they drawdown the equivalent of the government pension from their own fund.

- e. A government pension equivalent to what is paid today plus a Superannuation Fund the size of which will depend on the number of years' contributions and income earned.

What is a person likely to receive in retirement (assuming savings of \$6,125 a year indexed to wages)?

Table A2: Funds Received upon Retirement assuming a 3% Real Interest Rate
Estimated Net Size of Superannuation Fund for a Person Earning \$50,000 (in 2015 dollars)

Years of contributions	3% return
10	\$64,586
20	\$158,321
30	\$300,391
40	\$511,094
50	\$818,561

Note: These figures are net of the 25% tax paid on the size of the fund upon retirement so are funds received "in the hand".

4. Risk-Cover (Unemployment, Sickness, Invalid and Accident Cover): Objectives and Policy

- a. *Base Case*: \$3,500 savings per year (indexed to wages) to go into each person's Risk-Cover Fund.⁵⁰
- b. The prescribed level of savings is set for the Risk Cover Fund, equivalent to what each individual would currently be paid if unemployed, plus 10% of that amount, for 40 weeks.
- c. Once the above level is reached, individual contributions are reduced by 70% (or \$2,450=70%*\$3,500) thereby increasing a contributor's disposable income by that amount.
- d. A catastrophic insurance policy to cover being out of work for more than 26 weeks.
- e. A government underwrite (if funds insufficient to cover the first 26 weeks of being out of work).
- f. An insurance policy to cover the next 130 weeks.
- g. A government underwrite beyond three years (i.e., 156 weeks).
- h. Ability to insure oneself for more than the basic cover (i.e., unemployment benefit + 10%) but only at one's own cost, not out of the Fund. (High income earners will likely do this out of their tax cuts).
- i. If out-of-work, then a weekly drawdown from the individual's Risk-Cover Fund (for weeks 1-26). If still out of work, then a weekly insurance company payment (for weeks 27-156). If still out of work, then weekly government payments for weeks > 156 plus additional payments if extra insurance has been taken out by individuals.

5. Education: Objectives and Policy

- a. An education tax credit for every child whose family would like one (in order to have individual choice) for their children's education.
- b. Reformed management structure for education.
- c. Loans only available to students from low-income, low-capital families.

⁵⁰ This figure applies to more than 1 million New Zealanders. It varies around this base for nearly another 1 million.

6. Housing and Transport: Objectives and Policy

Housing

- a. Primary objective of housing policy is to greatly increase the supply of sections in areas of New Zealand where sections are in short supply.
- b. Secondary objective is to assist low-income families.
- c. Investment in housing of 10% of yearly welfare savings of \$28 billion over the next 5 year period.
- d. Policies which ensure that sufficient land is zoned for section development.
- e. Once zoned, levy rates on estimated number of sections to be provided after six months.
- f. Impose penalties if action to develop sections is not started within the first year.
- g. Residential housing: losses can only be set off against future residential housing profits.

Transport

- a. Primary objective of transport policy is an end to peak time gridlock (Auckland city in particular).
- b. Reduce petrol tax and in its place have a variable rate of tax (e.g., motorways at peak times of the day).
- c. Ensure adequate capital available for required infrastructure work.

7. Out of Work Beneficiaries including Domestic Purposes: Objectives and Policy

- a. Ensure every domestic purposes beneficiary or out-of-work person is in a position where it is possible to look after themselves (i.e., they have the skills to do so).
- b. For those who don't have the skills, specialist training will be provided (up to 15 hours a week). Penalties for non-attendance.
- c. Children will be provided pre-school care while training is taking place.
- d. *Reformed Management Structure*: Establish an Out-of-Work Management Board (to replace Ministry of Social Development) whose role is to:
 - (i) Manage all NZ beneficiaries starting with those who are long-term, but ultimately covering all welfare, sickness, unemployed, ACC and disability beneficiaries.
 - (ii) Appoint and oversee hands-on personal managers for all out-of-work beneficiaries. The role of the managers is to assess each beneficiary against criteria (e.g., work, health, life skills) established by the Board, undertake training where required, give financial management help where necessary, ensure detailed reporting and enforce penalties for non-attendance. The first port of call to finance the Board is use of existing resources and money saved from those who re-enter the work-force.

Appendix II

Table A3
New Zealand Budget (Government plus Savings Accounts) for 2015-2016

Notes		(1) Government Budget (\$ millions)	(2) Savings Based Budget (\$ millions)	(3) Variance (\$ millions)
	Revenue Budget			
1	Personal income tax	30,800	10,500	20,300
2	Company tax	10,800	6,750	4,050
3	Interest & dividend tax	2,600	1,900	700
4	GST tax	18,300	21,500	(3,200)
5	Other direct & indirect tax	9,200	9,200	
6	Other revenue	<u>3,500</u>	<u>3,500</u>	—
	Sub Total			
7	Government cash income for year	75,200	53,350	21,850
	Income paid into Savings Accounts			
8	Current & Future expenditure for Super, health and risk cover	-	20,650	20,650
9	Total Income	<u>75,200</u>	<u>74,000</u>	<u>1,200</u>
	Expenditure Budget			
10.a	Health - Government	15,600	8,100	
10.b	- Ex savings accounts		7,500	
11	Superannuation	12,200	10,600	1,600
12.a	Social welfare - Government	12,600	8,400	2,950
12.b	- Ex savings accounts		1,250	
13	Education	13,100	11,900	1,200
14	Other expenses	7,300	3,800	3,500
15	Core government expenses	4,800	4,700	100
16	Finance costs	3,700	3,700	
17	Law and order	3,600	3,600	
18	Transport and communication	2,300	2,200	100
19	GST compensation		1,000	(1,000)
20	Total Expenditure	<u>75,200</u>	<u>66,750</u>	<u>8,450</u>
	Comprising:			
21	Government cash outlays for year	75,200	58,000	17,200
22	Savings accounts cash outlays for year		8,750	8,750
23	Government Cash Balance (=row7–row21)	0	(4,650)	(4,650)
24	Savings Based Budget Balance (=row8–row22)	—	<u>11,900</u>	<u>11,900</u>
25	Overall Balance	0	7,250	7,250
26	Allowance for what is owing by government for this year's retirees	<u>10,000</u>	<u>10,000</u>	—
27	Deficit/Surplus	(10,000)	(2,750)	7,250

Sources: NZ Treasury (2015-16): "Financial Statements of the Government of New Zealand for the year ended 30 June 2015", "2015 Tax Expenditure Statement", "Vote Social Development: The Estimates of Appropriations 2015/16 - Social Development & Housing Sector", "NZ Economic & Financial Overview 2016", "Budget Economic & Fiscal Update: Forecast Financial Statements 2015". See Appendix II for the notes to the accounts.

Notes: Explanation of Budget Variances

1) Personal Income Tax (PIT)

<u>Per Capita Income</u>	<u>Total Income</u>		<u>Tax rate</u>		<u>PIT (Savings Based budget)</u>
\$50,000 - \$70,000	\$16,564 million	*	17½ cents	=	\$2,900 million
\$70,000 +	\$26,208 million	*	23 cents	=	\$6,030 million

Plus Tax on non-residents/citizens; Part-time workers < 20 years; Over 65s \$1,570 million

Total Personal Income Tax \$10,500 million

The variance of \$20,300 million equals the drop in Government PIT revenue of 66% (i.e., \$2 out of \$3).

- \$14,000 million of the cut goes directly into New Zealanders' Personal Savings Accounts. The maximum savings for any individual = \$17,500.
- \$4,300 million of the cut goes to those earning more than \$50,000 via a reduction in personal tax rates on income above \$50,000. These reductions in tax are offset by increased expenses (GST, Risk Cover and Tertiary Education).
- \$2,000 million of the cut is due to welfare benefits no longer having tax added to them (a "contra", see notes 11 and 12).

2) Company Income Tax (CIT)

\$4,050 million is the cut in corporate tax by 37½%. Along with lower compulsory superannuation and risk cover contributions on incomes over \$50,000 earned by their employees, this cut is offset by higher contributions for super, risk cover and health-care on the first \$50,000 of income earned by all employees.

3) Interest and Dividend Tax (IDT)

\$700 million equals the reduction in taxes on interest and dividends by 37%, as a result of the drop in personal tax rates (from 33 cents to 23 cents and 30 cents to 17½ cents).

4) Goods and Services Tax (GST)

\$3,200 million equals the increase in tax receipts due to the 2½ percentage point increase in the GST tax rate (i.e., from 15% to 17.5%).

5) **Other Direct & Indirect Tax** and 6) **Other Revenue:** No changes.

7) Government Cash Income for Year

\$21,850 million is the total reduction in the government's income of 29% for the year (see notes 1-4).

8) Income Paid into Savings Accounts for Future Government Expenditure

This is calculated as follows:

Table A4: Yearly Savings (by individual New Zealanders)

(1) No. of People	(2) Income, \$	(3) Individual Savings	=(1)*(3) Total Savings (\$ millions)
1,115	50,000+	17,500	19,500
321	40,001-50,000	15,750	5,050
318	30,001-40,000	12,250	3,900
210	25,001-30,000	9,625	2,020
Total	1,964	Total Savings	30,470
Less Non-residents & Over 65s (who do not need to save)			(2,470)
			Net Savings
			28,000

Source: Hon Bill English, Minister of Finance (2015). See the total personal taxable income that all individuals contribute to each band, as reported in New Zealand 2015 Budget, Executive Summary

Table A5: Where Do the Savings Go?

		(1) Savings, \$ Millions	(2) Years spending	=(1)-(2) Balance, \$ Millions
Superannuation	35%	9,800	50	9,750
Health	45%	12,600	7,500	5,100
Risk Cover	20%	5,600	1,250	4,350
	100%	28,000	8,800	19,200

Transferred to Revenue Account for Current and Future Expenditure:

25%	Superannuation Account	\$2,450 million
100%	Health	\$12,600 million
100%	Risk Cover	<u>\$5,600 million</u>
		<u>\$20,650 million</u>

9) Total Income

\$1,200 million is the difference between the reduction in existing government income and the funds paid into savings accounts.

10) Health-care Expenditure

There are \$7,500 million estimated withdrawals from the Health-care Fund accounts, which includes the \$1,500 million levy on these funds for the retired, beneficiaries and the chronically ill, leaving the government to contribute \$8,100 million (and thereby reducing its' funding by \$7,500 million).

11) Superannuation Expenditure

No tax on benefits ("contra": see note 1)	\$1,500 million
Change in retirement age and tax on super funds on retirement	<u>\$ 100 million</u>
<i>Total Savings</i>	<u>\$1,600 million</u>

12) Social Welfare Expenditure

a. No tax on benefits ("contra": see note 1)	\$ 500 million
Reduction in the number of beneficiaries paid by the Government replaced by private insurance cover	\$ 350 million
Student Loans: decline in borrowing (due to income & asset test)	\$ 700 million
Interest on student loans	\$ 600 million
Early repayment of student loans	\$ 600 million
Administration savings	<u>\$ 200 million</u>
<i>Total savings</i>	<u>\$2,950 million</u>

b. There are \$1,250 million estimated withdrawals from the Risk Savings Account.

13) Education

Reduction in grants (due to income and asset test)	\$1,000 million
Reduction in administration costs	<u>\$ 200 million</u>
<i>Total savings</i>	<u>\$1,200 million</u>

14) Other Expenses

Kiwi-Saver subsidies	\$ 720 million
Working for Families (reduction in payments to high income people who have received tax reductions)	\$ 380 million
Corporate welfare	<u>\$2,400 million</u>
<i>Total savings</i>	<u>\$3,500 million</u>

15) **Core Government:** Reduction in administration costs \$ 100 million

16) **Finance Costs** and 17) **Law & Order Costs:** No change.

18) **Transport and Communications:** Reduction in administration costs \$ 100 million

19) **GST Compensation:** For low income earners. \$ 1,000 million

20) Total Expenditure Variance

\$8,450 million equals the sum of rows 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19.

21) Government Cash Outlays Variance

\$18,200 million equals the sum of rows 10, 11a, 12a, 13, 14, 15, 16, 17, 18 and 19.

22) Savings account withdrawals

The total of \$8,750 million equals the sum of rows 11b and 12b.

It comprises \$1,250 million of welfare and \$7,500 million of health spending.

23) Government Cash Balance for Year (=row 7-row 20)

Existing = 0 and Savings Based = (\$3,650 million) deficit

24) Savings Based Budget Balance: Revenue \$20,650m - Expenditure \$8,750m **\$11,900 million**

25) Overall Budget Balance

For existing government budget: Revenue \$75,200m - Expenditure \$75,200m

For savings based budget: Revenue \$74,000m - Expenditure \$65,750m **\$ 8,250 million**

26) Unfunded Liabilities for 2015/16

This figure is the increase in liabilities of the government due to the rise in the number of retired people in the current year. It can be estimated as follows:

25,000 additional retired NZ'ers at \$25,000 a year less a time discount **\$10,000 million**

27) Budget Surplus/Deficit

Government Budget (Deficit) **(\$10,000 billion)**

Savings Based Budget (Deficit) **(\$1,750 million)**

28) The Present Government Liability for the Current Retired

10,364 life years * \$25,000 (Average Benefits=\$16,000 + Health-care costs=\$9,000) **\$259 billion**

Less discount **(\$3,000)** **\$ 31 billion**

Unfunded liability **\$22,000** **\$228 billion**

This \$228 billion liability to the existing retired is not provided for in the NZ Treasury's "Crown Balance Sheets". Table A6 below shows how the number of life years is calculated.

Table A6: Total Estimated Number of Life Years of Existing Retired as at 30 June, 2016.

Population Numbers in Each Age Bracket (thousands)								
(1) Years to Live	(2) 65-69	(3) 70-74	(4) 75-79	(5) 80-84	(6) 85-89	(7) 90+	(8) Total Years 65-90+	(1)*(8) Total Life Years
2½	13	17	22	25	16	32	125	313
7½	21	24	28	12	41	----	126	945
12½	30	32	14	49	----	----	125	1,563
17½	40	11	65	----	----	----	116	2,030
22½	13	84	----	----	----	----	97	2,183
30	111	----	----	----	----	----	111	3,330
2016 Population	228	168	129	86	57	32	700	10,364

Source: Statistics New Zealand (2007). See Series 5.

29) The government liability to the retired under the present tax-based system is forecast to rise by 75% over the next 25-30 years (to \$400b). Under a "Savings-not-Taxes" system it would instead fall to about \$125 billion (which equals the gross liability to the retired of \$400b less the cash held in savings accounts for future expenditures, which the government would otherwise have had to undertake, of \$275b).

Appendix III

A Simple Model

Assume a small open economy with a floating exchange rate. Let:

$$GDP = Y = C + I(r) + G + NX(e) \quad (1)$$

where GDP and Y both refer to Gross Domestic Product, C is consumption, I is investment, G is government purchases and NX is net exports (=exports-imports). The real interest rate is r and the real exchange rate is e . Assume that the government's budget is in balance (i.e., $G = T$ where T is total taxes).

The New "Savings-not-Taxes" Policy

Assume that the government cuts both its purchases and taxes by the same amount, thereby maintaining budget balance: $\Delta G = \Delta T < 0$.

It also introduces a compulsory savings scheme which at least offsets the rise in disposable income coming from the tax cuts. Total contributions to the scheme are set equal to S^{comp} . Compulsory savings can only be used for the purchase of welfare services, $C^{welfare}$, and any residual balances, $S \geq 0$, are invested. In other words, $S^{comp} = C^{welfare} + S$. Assume that $-\Delta G \geq C^{welfare}$.

An individual's post-tax income before the reform is $Y - T + b$ where b is government transfers. Assume, without loss of generality, that $b = 0$. Once the new regime is introduced post-tax-and-compulsory savings income equals $Y - (T + \Delta T) - S^{comp}$.

Total private consumption under the new regime is:

$$C = (Y - (T + \Delta T) - S^{comp} - S^{vol}) + C^{welfare} = Y - (T + \Delta T) - S - S^{vol} \quad (2)$$

where S^{vol} refers to voluntary savings made by individuals (in addition to the savings made under the compulsory scheme).

Result 1

To the extent that total savings increase upon the introduction of compulsory accounts (under the new "Savings-not-Taxes" policy regime) the Mundell-Fleming model predicts there will be an unchanged level of GDP, a fall in the exchange rate and an accompanying increase in net exports.

Proof:

The small open economy Mundell-Fleming model is defined by equation (1) and also:

$$M/P = L(r, Y) \quad (3)$$

where $r = r^*$, the world real interest rate. M is the nominal money supply and P is the price level.⁵¹

The total change in savings (net of spending from the compulsory accounts on welfare services) when one shifts to the "Savings-not-Taxes" regime equals:

$$\Delta \text{Savings (New Regime - Old Regime)} = S + \Delta S^{vol} \quad (4)$$

⁵¹ The 'Mundell-Fleming' model was developed in the 1960s. See Mundell (1968) and Fleming (1962).

which is positive provided $S > -\Delta S^{vol}$ where ΔS^{vol} is the change in voluntary savings that may occur as a result of the shift. In other words, to the extent that the introduction of the compulsory savings accounts crowds out private voluntary savings, the overall change in national savings will be less.

Note that the equilibrium level of GDP in this economy, Y^* , which is determined by equation (3), will not be affected by the new regime.

Let $\Delta NX(e)$ and $\Delta I(r^*)$ refer to the change in net exports and investment, respectively, that occur due to the policy change. Then equation (1) implies:

$$S + \Delta S^{vol} = \Delta NX(e) \tag{5}$$

where $\Delta I(r^*) = 0$, given that investment is fixed by the world real interest rate. Provided the left hand side of this equation (which equals the change in savings under the new regime compared with the existing one) is positive, then the right hand side must also be positive.

Consequently the real exchange rate, e , must fall and net exports rise.

#

The intuition for this result is as follows: the introduction of the compulsory savings accounts lifts total savings. Since the level of domestic investment (which is determined by the world real interest rate in a small open economy) doesn't change, the additional savings lead to capital outflows (i.e., net foreign investment rises). This puts downward pressure on the exchange rate which in turn lifts net exports.

Consequently GDP remains unchanged since the drop in government consumption is replaced by private welfare purchases, paid from the compulsory savings accounts, with the residual balances in the accounts raising national savings and yielding a trade surplus. Since the accounts are largely funded out of tax cuts, there is little change in private consumption.

Note that in a *large* open economy (whose interest rate is not fixed by world financial markets) the predictions are somewhat different. In this context, an increase in savings leads to a drop in domestic interest rates and a fall in GDP (in the short run) as consumption demand drops, although there may some offsetting rise in investment.

However the fall in GDP is less than the amount that would have likely occurred in a closed economy to the extent that net exports rise.

Appendix IV

Impact of the “Savings-not-Taxes” Policy on Representative New Zealanders

1. Existing Retired

The current retired (of 700,000 people) will see little change in their income as a result of the move from a tax-based system to a savings-based one:

- a. The government pension remains (i.e., with the same yearly adjustment as present along with a one-off adjustment for the GST increase of 2½%).
- b. Low-income, low-capital retirees will receive a yearly grant into their Health-care Fund Account. This grant enables them to take out a catastrophic health insurance policy and have additional funds available to supplement their normal expenditure on health. The grant is funded from the levy on yearly savings paid by those in work and a drawdown on the ‘New Zealand Superannuation Fund’.
- c. A government underwrite for health will ensure retirees receive the health-care they need.
- d. Greater security that superannuation benefits and health-care will be sustainable into the future.
- e. A more efficient health-care system with higher quality outcomes.

2. New Zealanders Within 20 Years of Retirement

- a. The government pension equal to what is paid today and on the same terms will continue.
- b. In addition, individuals will hold capital in their Medi-Health and Superannuation savings accounts upon retirement.
- c. The size of these accounts depends on number of years to retirement and earnings. Estimated fund size at retirement will be, for example, between \$15,000 and \$60,000 in the health-care account; and \$28,000, \$65,000, \$102,000 and \$158,000 for a person who is 5, 10, 15 and 20 years from retirement, respectively, in their Super Fund.
- d. A more efficient health-care system with higher quality outcomes.
- e. An increase in retirement income.

3. New Zealanders More Than 20 Years From Retirement

- a. The government pension will continue.
- b. In addition, individuals will hold capital in their Medi-Health and Superannuation savings accounts.
- c. Estimated fund size at retirement will be, for example, \$80,000 in the health-care account; and \$218,000, \$300,000, \$385,000, \$510,000, \$630,000 and \$820,000 for a person who is 25, 30, 35, 40, 45 and 50 years from retirement, respectively, in their Super Fund.

4. Impact of a Savings Based Welfare System on Out-of-Work New Zealanders

- a. Benefit levels and other assistance remain at present levels and will be adjusted on the same basis.
- b. Increased support by way of specialist training for all that need it, with the aim of:
 - (i) Improving life skills.
 - (ii) Putting jobless NZ'ers in a position where they have the necessary skills to get a job & maintain it.
 - (iii) New support structure (one-on-one).
- c. Responsibility of those who are out of work - where required attend practical training sessions.
- d. Improved incentive to find a job.

5. Working - Low Income (earning under \$50,000 a year)

- a. With dependants: Income in the hand at least what it is today (under tax-based welfare) due to the Guaranteed Minimum Family Income.
- b. No dependants: With a current Kiwi-Saver scheme, disposable income 1-2% less than now. With no Kiwi-Saver, disposable income 5-6% less than now (due to required payments into Super Fund).
- c. Superannuation:
 - (i) *With Kiwi-Saver Scheme*: increase in savings per year for a person on \$50,000 of \$80 per week, or \$4,125 a year, increasing their retirement lump sum by \$540,000 in 2015 dollars (for a person saving at this rate for 40 years at an interest rate of 3%)
 - (ii) *With no Kiwi-Saver Scheme*: increase in savings per year for a person on \$50,000 of \$118 per week, or \$6,125 a year, increasing their retirement lump sum by up to \$650,000 in 2015 dollars (for a person saving at this rate for 40 years at an interest rate of 3%).
 - (iii) *Married Couple Both Working*: Likely to retire with around \$1 million dollars.
- d. Health and Risk Cover:
 - (i) For a person earning \$50,000, savings of \$11,375 per year (i.e., health=\$7,875 and risk=\$3,500).
 - (ii) *Health*: catastrophic insurance policy for costs > \$20,000 per event. *Risk*: catastrophic insurance policy (covering unemployment, sickness and accident) for being out of work > 26 weeks.
 - (iii) *Health*: reduction in required savings rate of 40%, increasing disposable income, once savings reach 1,500 times one's age (e.g., 30 years old requires savings of \$45,000). *Risk*: reduction in required savings rate of 70% once savings reach 40 weeks at the person's benefit rate.
 - (iv) A government underwrite, which is important for the chronically ill.
- e. Housing: Access to housing improved for low-income earners, including use of a percentage of one's own superannuation. Government funding of development & regulation of section development.
- f. Improved incentives and rewards for low-income earners (no personal tax up to \$50,000; government underwrite of health, risk and retirement income).

6. Working middle-income (earning between \$50,000 and \$90,000 a year)

- a. Single income with dependants: disposable income likely to be \$1,000-\$4,000 higher than at present.
- b. Two incomes with dependants and/or single income individuals: disposable income likely to be higher than now though offset by increase in GST and extra risk cover costs.
- c. Super, health and risk cover: same as for someone earning \$50,000, plus any extra cover individuals take out on their own account.
- d. Improved incentives as marginal tax rates decline.

7. Working higher income (earning \$90,000 and above a year)

- a. Disposable income likely to be \$4,000-\$5,000 more than now (plus 10 cents more for each dollar earned over \$100,000). Offset by increased costs of GST, health and risk cover costs.
- b. Superannuation, health and risk cover are the same as for a person earning \$50,000, plus any additional cover individuals take out on their own account.
- c. Individual's current tax rate brackets fall (i.e., from 33% to 23%, and from 30% to 17½%).

8. Employers

- a. Corporate tax rate reduced from 28 cents in the dollar of profit to 17½ cents.
- b. Reduction in compulsory employer support for: (i) Employee Superannuation on income > \$50,000 (ii) Employee Accident Cover beyond the basic level to all those employees on income > \$50,000.
- c. Increase in existing costs due to 12½% contribution on income up to \$50,000 for super, health-care and risk cover of employees. These costs are offset by reductions in existing costs (see (a) and (b)).

Appendix V

Table A7
New Zealand Budget (Government plus Savings Accounts): Forecasts from 2015 to 2035.

	Current Year: 2015		10 Year Forecast to 2025		20 Year Forecast to 2035	
	(1)		(2)		(3)	
	Gov't Budget (\$ millions)	Savings Budget (\$ millions)	Gov't Budget (\$ millions)	Savings Budget (\$ millions)	Gov't Budget (\$ millions)	Savings Budget (\$ millions)
Revenue Budget						
Personal income tax	30,800	10,500	38,500	13,120	54,200	18,500
Company tax	10,800	6,750	15,220	9,520	21,510	13,430
Interest & dividend tax	2,600	1,900	3,660	2,680	5,160	3,780
GST tax	18,300	21,500	24,590	30,330	33,050	42,780
Other direct & indirect tax	9,200	9,200	12,360	12,360	16,530	16,530
Other revenue	<u>3,500</u>	<u>3,500</u>	<u>4,710</u>	<u>4,710</u>	<u>6,410</u>	<u>6,410</u>
Sub Total						
Government cash income for year	75,200	53,350	99,040	72,720	136,860	101,430
Income paid into Savings accounts						
Current & Future expenditure for Super, health & risk cover	-	20,650	-	27,800	-	36,500
Total Income	<u>75,200</u>	<u>74,000</u>	<u>98,360</u>	<u>100,522</u>	<u>136,860</u>	<u>137,930</u>
Expenditure Budget						
Health - Government	15,600	8,100	25,600	11,800	41,000	16,000
- Ex savings accounts		7,500		13,800		25,000
Superannuation	12,200	10,600	18,100	13,640	28,060	17,400
Social welfare - Government	12,600	8,400	16,260	10,800	21,850	14,450
- Ex savings accounts		1,250		2,000		2,500
Education	13,100	11,900	18,480	16,790	26,070	23,680
Other expenses	7,300	3,800	9,810	5,580	13,180	7,500
Core government expenses	4,800	4,700	6,450	6,300	8,660	8,467
Finance costs	3,700	3,700	4,970	4,820	6,680	6,480
Law and order	3,600	3,600	4,850	4,700	6,520	6,220
Transport and communication	2,300	2,200	3,090	2,890	4,150	3,883
GST Compensation		1,000				
Total Expenditure	<u>75,200</u>	<u>66,750</u>	<u>107,610</u>	<u>93,120</u>	<u>156,170</u>	<u>131,580</u>
Comprising:						
Government cash outlays for year	75,200	58,000	107,610	77,320	156,170	104,080
Savings account cash outlays for year		8,750		15,800		27,500
Government Cash Balance	0	(4,650)	(8,570)	(4,600)	(19,310)	(2,650)
Savings Based Budget Balance		<u>11,900</u>		<u>12,000</u>		<u>9,000</u>
Overall Balance	0	7,250	(8,570)	7,400	(19,310)	6,350
Allowance for what is owing by government for this year's retirees	<u>(10,000)</u>	<u>(10,000)</u>	<u>(10,000)</u>	<u>(10,000)</u>	<u>(2,000)</u>	<u>(2,000)</u>
Deficit/Surplus	(10,000)	(2,750)	(18,970)	(2,600)	(21,310)	4,350

Sources: NZ Treasury (2012-16): "Health Projections & Policy Options for the 2013 Long-term Fiscal Statement", "Financial Statements of the Government of New Zealand for the year ended 30 June 2015", "2015 Tax Expenditure Statement", "Vote Social Development: The Estimates of Appropriations 2015/16 - Social Development & Housing Sector", "NZ Economic & Financial Overview 2016", "Budget Economic & Fiscal Update: Forecast Financial Statements 2015". Calculations and assumptions on which these forecasts are made are available on request.