# **Andrew Coleman**

# Escaping Muldoon's Shadow tax and retirement options for 21st-century New Zealanders

# **Abstract**

New Zealand has the most unusual tax arrangements for providing public retirement incomes and taxing private retirement incomes in the OECD. The key differences are: (1) public retirement incomes are funded from general taxation, not social security taxes or contributions to a compulsory savings scheme; and (2) private savings are taxed on an income rather than expenditure basis. These arrangements distort investment decisions, reduce income levels, raise long-run tax rates, and artificially inflate property prices. Change is feasible, even if New Zealand Superannuation is not changed, and may be the key to reversing New Zealand's long-term economic underperformance.

**Keywords** tax distortions, social security taxes, compulsory savings schemes, inequality

ifty years ago a Labour government headed by Norman Kirk introduced a contributory retirement savings scheme. Working people were required to pay 8% of their wages and salaries to the government and in return they were to receive a pension

based on the size of their contributions (Tracy, 1975). The scheme did not last. It was scrapped within a year by a National government led by Robert Muldoon, and replaced by a universal retirement income scheme that ultimately evolved into New Zealand Superannuation.

New Zealand Superannuation has two features that make it fundamentally different from the retirement income schemes adopted in almost all other OECD countries. First, it does not have a contributary component. Most OECD countries combine a contributory system with a welfare-based pension for those whose contributory pensions are very small, but New Zealand only has a welfare-based system (Overbye, 1997). All people over 65 meeting eligibility requirements have the same pension entitlement, which is independent of their wealth, their previous earnings or how much they currently earn.1 Second, it is funded from general tax revenues, not social security taxes or contributions to compulsory savings schemes.

Different, of course, does not mean bad. Nonetheless, despite some attractive features, New Zealand Superannuation has two major downsides. It imposes very high costs on current and future generations of young New Zealanders, who will pay much more in taxes than is necessary to provide them with the pensions they will receive (Coleman, 2016, 2024). And it relies on unnecessarily distortionary taxes to raise funds, adversely affecting the wider

Andrew Coleman is an adviser at the Reserve Bank of New Zealand.

economy and exacerbating some dimensions of inequality.

New Zealand also has an unusual way of taxing private retirement incomes. In 1989 it disregarded the practices of most OECD countries – countries as diverse as Germany, Great Britain, Norway, Singapore, Sweden and the United States – and began taxing private retirement savings schemes in an unorthodox manner (Yoo and de Serres, 2004).

If New Zealanders could boast that their two different tax arrangements generated a high-wage, high-productivity and equitable economy, this would be some achievement. But it hasn't achieved even one of these things. Rather, New Zealand has chosen to tax capital incomes at high and variable rates, distorting investment decisions, reducing income levels, and artificially inflating property prices.

Moreover, even though labour incomes are taxed at low rates by OECD standards, it uses more distortionary taxes than those used in other countries, because there is no link between the taxes paid and the benefits received (Diamond, 2011). There are good reasons why none of the high-income, low-inequality countries of northern Europe, or any other countries for that matter, have adopted the New Zealand tax model.

This article outlines the consequences of New Zealand's unusual retirement income taxes. It is a strangely ignored topic. For example, even though the lack of social security taxes (or contributions to a compulsory savings scheme) is by far the most distinctive feature of New Zealand's tax system, this issue was almost entirely ignored by the 2001 Tax Review, and the 2010 Victoria University of Wellington Tax Working Group and 2018 Tax Working Group. When Robert Muldoon abolished the compulsory savings scheme in 1976, he cast a very long shadow over New Zealand's tax system. Fortunately, this shadow need not last much longer.

## The case for social security taxes

A social security tax is a special tax on labour incomes that is used to fund social security benefits, particularly old age pensions.<sup>2</sup> Most OECD countries use social security taxes or compulsory contributions to retirement savings schemes to fund

Most countries have decided that the best response is to tax labour incomes at higher rates than capital incomes to ensure that wages can be as high as possible.

the contributory components of their government pensions (Whitehouse, 1999). The amount someone pays each year is recorded, and their lifetime tax payments are used to determine the pension they receive. It is not paid on capital incomes such as interest, dividends or rents. This means that different types of income are taxed at different rates.

Many New Zealanders find it surprising that most countries tax different types of income at different rates. Surely, they say, all types of income ought to be taxed in the same way. Whether you earn \$50,000 from working in a shop or on a farm or from interest from the bank, shouldn't the tax be the same? How can it be fair for people to pay higher taxes on labour incomes than on capital incomes?

It turns out that this is not the right question, as fairness is only one characteristic of a tax system, along with effectiveness and simplicity. A better question is: how do you design a tax system that is simple, effective and fair? Economists call this question the 'optimal tax' problem, following two Nobel prize-winning economists, Peter Diamond and James Mirrlees (Diamoand and Mirrlees, 1971a, 1971b).

Diamond and Mirrlees argued that it is often efficient to tax activities people can easily change at low rates, and to tax other activities at higher rates, even if this does not seem fair. It can make sense to tax labour incomes at higher rates than capital incomes, for example, since most people go to work no matter the tax rate, but they can easily change their investments if tax rates are high.

This grates against the fairness principle, particularly as investment income tends to be concentrated among rich people. On the other hand, business people may be less willing to expand profitable businesses if capital incomes are taxed at high rates, or they may relocate their firms to other countries. This means that firms will typically be less productive, as they will have fewer resources in terms of machinery and capital.

There is clear evidence that some of the incidence of capital income taxes falls on wage earners: in Germany and the US, for example, evidence suggests that about half of the taxes on business profits fall on workers, because their wages are lowered (Suárez Serrato and Zidar, 2016; Fuest, Peichl and Siegloch, 2018). As a consequence, ordinary wage earners might find they are better off if the government taxes labour incomes at higher rates than capital incomes, because the higher wages they receive may more than offset the higher taxes they pay.

There is no easy way around this conundrum. Taxes that are fair may not be effective, and taxes that are effective may not be fair. Most countries have decided that the best response is to tax labour incomes at higher rates than capital incomes to ensure that wages can be as high as possible. One solution pioneered by Norway, Sweden and Finland – countries that are widely regarded as some of the most progressive and equitable nations in the world - is to tax labour incomes on a steeply progressive scale, but tax capital incomes at a lower rate. In the 1990s these countries were so concerned that their businesses would invest too little or move to other countries if they taxed capital and business incomes too heavily that they decided to tax all capital income at the bottom labour income tax rate. However, labour income taxes are steeply progressive. That means that people earning high labour incomes not only have higher average tax rates than people on low incomes, but have higher tax rates than people who have high capital incomes.

Whether or not you think this Nordic tax system is fair, Scandinavian countries have adopted it because they think it is an effective way to have an equitable and high-income economy. The US tax experts Joel

Slemrod and Jon Bakija argue that the Nordic tax system is probably the largest advance in tax practice in the last 30 years, and note that Scandinavian countries have some of the least inequality despite this tax system (Slemrod and Bakija, 2017).

Most OECD countries do something similar to the Nordic tax system by levying social security taxes on labour earnings but not on capital earnings. Many countries raise 25–30% of their tax revenue from the social security taxes that are used to fund retirement incomes and some other forms of social assistance (ibid.). This allows lower income taxes, which reduces some of the distortionary effects of taxes on saving and investment.

In contrast, New Zealand has chosen to have high average income tax rates as it collects only 3-4% of its taxes as social security taxes, to fund the Accident Compensation Corporation. As a result, it has some of the highest taxes on capital incomes in the OECD - even though capital gains are largely exempt from tax.3 However, it has some of the lowest 'combined' labour income tax rates in the world (income tax plus social security tax). This combination is not only the opposite of that chosen by the highly productive and equitable countries of Scandinavia, but it is opposite to the choices made by most other OECD countries as well.

Social security taxes or contributions to compulsory savings schemes have a second benefit. Income taxes applied to labour incomes may be less distortionary than income taxes applied to capital incomes, but they are still distortionary. Because many people have jobs that are unpleasant or boring, they are tempted to work less when the government collects a large fraction of their earnings as tax, or they may avoid well-paid but unpleasant work in favour of less demanding and less well-paid jobs. They may also refrain from moving from one city to another to take advantage of better paying jobs, because they only keep a fraction of the pay increase. Why not live near the beach in Tauranga on \$80,000 per year rather than move to Auckland for \$100,000 per year if the government takes 33% of the extra \$20,000 as income tax, and 15% as GST?

When retirement benefits are linked to the amount of social security taxes someone [In 1989 New Zealand] ceased taxing dedicated retirement savings products by the standard international method and created one of the most distortionary taxation environments for retirement savings – and housing markets – in the OECD.

has paid, or their contributions to a compulsory savings scheme, these taxes or contributions have a smaller effect on labour market participation decisions than ordinary income taxes because people know they will be getting some of their taxes or contributions back as higher retirement incomes. Ask any Australian whether they treat their contributions to their personal retirement account the same as the money they pay in taxes and they will say 'No'.

It is not possible to be precise about the relative distortionary effects of income taxes and social security taxes, as there is not much statistical evidence on the topic. Nonetheless, most evidence from cross-country research programmes supports the common-sense position that people behave differently when the taxes they pay increase their retirement incomes than when the taxes they pay are gone forever (Disney, 2004; Liebman, Luttmer and Seif, 2009; Börsch-Supan and Cole, 2020).

Some people object that social security taxes tend to be regressive. This is true, but it does not mean that the tax system overall must be regressive. Most countries with social security taxes reduce other income taxes on

low-income people, and raise top marginal income tax rates on high-income workers. New Zealand could do this as well if it were to adopt social security taxes or a compulsory savings scheme to fund retirement incomes. Low-income individuals would be required to pay social security taxes on their labour incomes, but might not need to pay income taxes until they reached a high income threshold. A social security tax could also be combined with a family tax credit, so low-income households would get an income tax refund while paying social security taxes or making contributions to a compulsory savings scheme.

As many European countries show, it is possible to have a tax system that is both more redistributive and less distortionary than the one used in New Zealand. Gustafsson (2023) provides an extensive discussion of the ways that a retirement scheme that provides individual pensions that are proportional to the social security taxes each person pays can simultaneously increase aggregate labour supply and reduce life-cycle inequality. Indeed, European countries with the largest governments and the most redistribution are most likely to use social security taxes precisely because they are most fearful of the bad effects that can occur if they use poorly designed taxes to raise revenue (Lindert, 2004, pp.235–45).

The taxation of private retirement savings In 1989 New Zealand made a second major change to its tax system. It ceased taxing dedicated retirement savings products by the standard international method and created one of the most distortionary taxation environments for retirement savings – and housing markets – in the OECD. The first effect was to induce a partial collapse of the structured retirement savings scheme industry. The introduction of KiwiSaver in 2007 rejuvenated the sector, but the 1989 tax regime continues to create large distortions. It lowers returns to savers, it raises average tax rates in the long run, it penalises people who invest in interestearning assets when there is inflation, and it artificially increases house prices.

The peculiarities of our tax system revolve around the differences between income taxes and expenditure (or consumption) taxes. Income taxes are paid in the year when income is first earned. In contrast, expenditure taxes are paid when income is spent rather than when it is earned. This is the same thing if you spend everything as you earn it, but if you save some of your income, the tax is delayed. One of the main disadvantages of income taxes is that they reduce the rate at which the returns on savings compound, which distorts saving and investment decisions by more than expenditure taxes (Banks and Diamond, 2010).

# **EET and TTE**

To reduce the distortionary effects of taxes on saving and investment, most OECD countries tax the income earned in special retirement savings accounts such as KiwiSaver differently from the income earned from other assets. The system they use is called an EET (exempt, exempt, tax) system. EET was first proposed in the 1930s by Irving Fisher and was widely adopted in the 1950s and 1960s (Fisher, 1937). It is considered an expenditure tax, as income saved for retirement is not taxed when it is first earned, but when it is spent in retirement. Under EET:

- income put into a retirement fund is exempt from tax when it is earned;
- interest and dividends and capital gains earned on this money are exempt from tax as they accumulate; and
- tax is paid on all of the money when it is withdrawn.

In contrast, most income in New Zealand, including the earnings in KiwiSaver and other retirement income accounts, is taxed on a 'TTE' basis:

- all income is taxed as you earn it, with no exemptions for income that is saved;
- interest and dividends are taxed as they accrue; and
- savings and accumulated earnings are exempt from further direct taxation when they are withdrawn or the investments are sold.

This small difference in taxation can have large effects on accumulated savings. Suppose a person pays tax on interest at 33% and the interest rate is 5%. If they were to place \$1,000 of after-tax income in a savings account at the start of every year from age 25 to age 65, and then withdraw it slowly in equal instalments until it is all spent by the time they are 90, they would

Unfortunately,
New Zealanders
who save by
accumulating
interest-earning
assets pay much
higher taxes on their
real interest income
than the taxes paid
on almost any other
class of investments.

have 75% more to spend every year in retirement under an EET system than under a TTE system.<sup>4</sup>

EET taxes also have a second benefit: they significantly reduce the tax advantage enjoyed by owner-occupied housing. In fact, an EET system for retirement savings reduces the tax on savings to a similar, although not identical, level to the tax on owner-occupied housing. This reduces the incentives for people to build bigger houses or bid property prices to artificially high levels, and it does so without increasing taxes on housing.

Why is this? In most countries, including New Zealand, housing income is taxed on a 'TEE' basis.

- houses are purchased and/or paid off from income that has already been taxed when it was earned;
- imputed rent (the value of rental services obtained by the owneroccupier) is tax exempt; and
- the value of the house, including any capital gains that accrue when it is sold, are also exempt from tax.

It turns out that there is not that much difference between TEE (housing) and EET (retirement savings) because the annual returns (either housing services, or interest and dividends) are not taxed each year but are only taxed when income is first earned (TEE) or when savings are realised and withdrawn (EET). This result was first

demonstrated by Lord Kaldor in the 1950s (Kaldor, 1955). However, when housing is taxed on a TEE basis and investment income is taxed on a TTE basis, there is a big difference, as retirement savings are more heavily taxed than housing. This difference creates incentives to build larger houses and pay more for owner-occupied property to the extent that housing is equity financed.<sup>5</sup>

Who in New Zealand doesn't know that the best way to have saved for retirement in the last 30 years has been to buy the most expensive house they could afford and wait for it to appreciate? When everyone has these artificial tax incentives, the result is artificially large houses and artificially high land prices. It also means many households have highly concentrated investment portfolios, often comprising one or two residential properties in the same city, rather than a diverse range of assets across sectors or countries.

A third desirable aspect of EET tax schemes is that they are neutral with respect to inflation. This is not the case with a TTE (income tax) scheme, which raises the effective tax rate on real interest income above the statutory rate in an inflationary environment, sometimes to more than 100% (Viner, 1923). Unfortunately, New Zealanders who save by accumulating interest-earning assets pay much higher taxes on their real interest income than the taxes paid on almost any other class of investments. In contrast, the EET tax schemes used in most OECD countries tax real interest income at the statutory rate, irrespective of the inflation rate. Since interest-earning assets tend to be favoured by less sophisticated, more risk-averse and older investors, the 1989 tax change means that New Zealand now taxes the simplest savings products and the least sophisticated savers at higher rates than other investment products or

Since EET taxes have many desirable properties, it is reasonable to ask why all capital income is not taxed in this manner. One reason is that EET requires people to pay tax to the government when they spend their savings. Governments suspect people may 'forget' to pay their taxes when they spend their savings, so they restrict EET taxes to easily monitored accounts.

Retirement savings accounts are easily monitored, and in most countries they are peoples' biggest asset after their house. If a country taxes these assets on an EET basis, it covers a big fraction of savings. But other savings products can be taxed on an EET basis to reduce the distortionary consequences of income taxes, as is the case in Great Britain.

The change made in 1989 occurred for two reasons. First, the government wanted to tax retirement savings in the same way as other investments. Rather than reduce distortionary income taxes on other investments, however, they chose to increase them on retirement savings. Arguably, this made the whole tax system more distortionary, as it increased the fraction of savings subject to the more distortionary effects of income rather than consumption taxes, and it increased the tax advantage enjoyed by owner-occupied housing over other asset classes. This increased incentive to invest in residential property most likely inflated house prices by an artificial amount, imposing unnecessary costs on subsequent generations. Strangely, the government's advisors didn't even consider the effects of the tax change on house prices, even though housing is the biggest asset class in New Zealand (New Zealand Government, 1988; Todd Task Force, 1992).

Second, the government wished to bring forward the time when taxes were collected on dedicated retiring savings schemes. This helped reduce the government deficit in the short term, and reduced the level of government debt in the medium term. Unfortunately, the reduction in government debt levels comes at a considerable long-term cost. First, it reduces the long-term returns to private investors, who have lower returns under a TTE system than under an EET system, and thus lower wealth for any level of savings. Second, it raises tax rates in the long term, so long as the average return on the investments held in KiwiSaver accounts exceeds the government bond rate. This is because when a government taxes retirement savings on an EET basis it has a claim on an asset that is compounding at a higher rate than the government interest rate, and thus when the taxes are ultimately paid it will be able to pay all interest accumulated on its debt and have extra money left over.

Since 1976 New
Zealand has
adopted a highly
unusual set of
taxes to fund
public retirement
incomes and tax
private incomes.
No other country
does what New
Zealand does.

The New Zealand government often boasts that it has lower government debt levels than most foreign governments, but it ignores the large offsetting claims these governments have on EET-taxed private retirement savings accounts (see Isaksen et al., 2014). So, while the 'benefit' from taxing retirement savings on a TTE basis is a lower government debt level, it comes at the expense of lower private wealth and higher average tax rates – a bargain that few other countries have found attractive.

# Hurihia to aroaro ki te ra, tukuna to ātārangi ki muri i a koe<sup>6</sup>

Do New Zealanders have to retain the peculiar set of taxes used to fund public retirement incomes, or the taxes they pay on KiwiSaver or other dedicated private retirement income accounts? The answer is 'No'. A range of alternatives exist. The nature of these alternatives depends on whether New Zealanders want to reform New Zealand Superannuation or adopt a compulsory savings scheme, as well as change taxes.

There are two key issues. First, any decision on the taxes used to fund public retirement incomes can largely be made independently of the decisions on how to tax private retirement savings schemes such as KiwiSaver. Both, one or neither can be changed.

Second, it is not necessary to make changes for all New Zealanders. In

particular, it is possible for younger New Zealanders to adopt a different retirement scheme and a different set of taxes than older New Zealanders. This is possible for the simple reason that a person cannot change their birthdate, so it is possible to have different systems without creating incentives to switch from one to another. Since New Zealand Superannuation is an inefficient way of providing retirement incomes to younger New Zealanders, they may wish to choose a different system, one designed for people who will live their adult lives in the 21st century, not the 20th century. Since no New Zealanders aged under 45 voted in the 1997 compulsory retirement savings referendum, let alone the 1975 or 1987 elections, democratic principles suggest younger New Zealanders should be allowed to choose a different system if that is what they want.

Nor is it necessary for older New Zealanders to change the type of taxes they pay if young people want to change the retirement income systems or types of taxes they use. But they could change them. It is straightforward to allow income and social security tax rates to vary by age as well as income, as Switzerland already demonstrates. Older people may wish to adopt different taxes even if they do not change the structure of New Zealand Superannuation. For example, they could adopt social security taxes to partly fund New Zealand Superannuation, even though taxes they pay do not affect the retirement benefits they obtain. Ireland already does this. And it would reduce the distortionary nature of New Zealand's current tax system.

In other work I have argued that since the New Zealand economy is dynamically efficient, young New Zealanders could adopt a compulsory savings scheme -KiwiSaver 2.1 – that partially replaces New Zealand Superannuation and which delivers retirement benefits that are at least as large as New Zealand Superannuation, at lower cost (Coleman, 2024). Such a scheme would allow a long-term reduction in the tax distortions that afflict New Zealand, as well as providing additional benefits in terms of higher retirement benefits and reduced wealth inequality. When you start with a flawed system, big improvements are possible.

Tax decisions ultimately involve a tradeoff between equity, efficiency and administrative simplicity. Since 1976 New Zealand has adopted a highly unusual set of taxes to fund public retirement incomes and tax private incomes. No other country does what New Zealand does. There is very little reason to suspect that New Zealand has a system that achieves either its equity or efficiency goals, and good reasons to suspect it does not. Indeed, there is a joke told in tax circles that New Zealand politicians and bureaucrats have the 'Wellington syndrome' – they have fallen in love with the income tax system that abuses them. Whether New Zealand decides to change its retirement system, a re-examination of New Zealand's retirement income funding and tax mechanisms is long overdue.

- Pension entitlements are identical, but actual payments depend on whether a person lives by themselves or with other people.
- 2 Social security taxes are levied on self-employed people as well as employees in most countries. Among the G7 countries, for example, most self-employed people are liable for social security taxes in the US, UK, Germany, France, Canada and Italy, although in some cases there are special rules giving exemptions to some classes of self-employed people (e.g., freelancers). The situation is more complex in Japan, where the social security obligations of employees and the self-employed are different.
- 3 International comparisons of tax rates on capital income are difficult to make, as definitions of capital income vary across countries. Much of the work is done by the OECD and the World Bank to ensure consistency of sources and methodologies. Coleman (2019, appendix 1) summarises many of these results, and shows that New Zealand is often recorded as having some of the highest taxes on capital income in the OECD, particularly amongst smaller OECD countries. (See also Hanappi, 2018, fron which much of this data was sourced.)
- 4 Under TTE, the person accumulates \$84,410 by age 65, which allows after-tax withdrawals of \$4,875 every year until they are 90. Under EET the person can place \$1,492 into the account every year and still have the same after-tax income. This accumulates to \$189,310 by age 65. This allows annual withdrawals of \$12,792, which reduces to \$8,570 after tax.
- 5 New houses have become much larger and land prices have gone up significantly since New Zealand switched to a TTE retirement saving tax regime; in fact, between 1990 and 2020 New Zealand had a faster increase in house prices than any other OECD country. Tax is not the only reason for both of these changes, and it is difficult if not impossible to establish empirically how much of

- this was due to the tax changes because of all the other changes that occurred in the economy in that period. (See Coleman, 2017, 2019.)
- 6 Turn and face the sun and let the shadows fall behind you.

### Acknowledgements

This article was written when I was on leave from the Reserve Bank of New Zealand as visiting professor at the Asia School of Business, Kuala Lumpur. The Reserve Bank has no responsibility for its contents. Comments are welcome and can be addressed to andrew.coleman@asb.edu. my. The article is based on work I started in 2020 with Jeanne-Marie Bonnet while we were both at the University of Otago, and has been improved with help from Anthea Coleman. I am grateful for both of their assistance and insights. All errors remain my own.

### References

- Banks, J. and P. Diamond (2010) 'The base for direct taxation', in J.A.

  Mirrlees and S. Adam (eds), *Dimensions of Tax Design: the Mirrlees*Review, Oxford: Oxford University Press
- Börsch-Supan, A. and C. Cole (2020) 'Social security programs and retirement around the world: reforms and retirement incentives introduction and summary', NBER working paper 25280, Cambridge, Mass: National Bureau of Economic Research
- Coleman, A. (2016) 'Pension payments and receipts by New Zealand birth cohorts, 1916–1986', New Zealand Economic Papers, 50 (1), pp.51–70
- Coleman, A. (2017) Housing, the 'Great Income Tax Experiment', and the intergenerational consequences of the lease, working paper 17/05, Motu Economic and Public Policy Research
- Coleman, A. (2019) 'Taxing capital income in New Zealand: an international perspective', Economics discussion paper 1902, University of Otago
- Coleman, A. (2024) 'Retirement, tax and preferences: understanding New Zealand's most intractable problem', Asia School of Business
- Diamond, P. (2011) 'Economic theory and tax and pension policies', Economic Record, 87, pp.2–22
- Diamond, P., and Mirrlees, J. (1971a). Optimal taxation and public production I: Production efficiency. *The American Economic Review*, 61(1), 8-27.
- Diamond, P. A., and Mirrlees, J. A. (1971b). Optimal taxation and public production II: Tax rules. *The American Economic Review*, 61(3), 261-278.
- Disney, R. (2004) 'Are contributions to public pension programmes a tax on employment?', *Economic Policy*, 19 (39), pp.268–311
- Fisher, I. (1937). Income in theory and income taxation in practice. Econometrica 5(1) 1-55.
- Fuest, C., A. Peichl and S. Siegloch (2018) 'Do higher corporate taxes reduce wages? Micro evidence from Germany', *American Economic Review*, 108 (2), pp.393–418
- Gustafsson, J. (2023) 'Public pension policy and the equity-efficiency tradeoff', Scandinavian Journal of Economics, 125 (3), pp.717-52
- Hanappi, T. (2018) Corporate Effective Tax Rates: model description and results from 36 OECD and non-OECD countries, taxation working paper 38, Paris: OECD
- Isaksen, J., P.L. Kramp, L.P. Sørensen and S.V. Sørensen (2014) 'Household balance sheets and debt: an international country study', in B. Winkler,

- A. van Riet and P. Bull (eds), A Flow-of-Funds Perspective on the Financial Crisis: volume I: money, credit and sectoral balance sheets, London: Palgrave Macmillan
- Kaldor, N. (1955) An Expenditure Tax, London: George Allen and Unwin Ltd Liebman, J.B., E.F. Luttmer and D.G. Seif (2009) 'Labor supply responses to marginal social security benefits: evidence from discontinuities', *Journal of Public Economics*, 93 (11–12), pp.1208–23
- Lindert, P.H. (2004) Growing Public: social spending and economic growth since the eighteenth century, vol.1, Cambridge: Cambridge University Press
- New Zealand Government (1988) *Tax Treatment of Superannuation*, report of the Consultative Committee on Superannuation, Life Insurance, and Related Areas, Wellington: Treasury
- New Zealand Government (2001) *Tax Review 2001: final report*, Wellington: New Zealand Government
- Overbye, E. (1997) 'Mainstream pattern, deviant cases: the New Zealand and Danish pension systems in an international context', *Journal of European Social Policy*, 7 (2), pp.101–17
- Slemrod, J. and J. Bakija (2017) *Taxing Ourselves: a citizen's guide to the debate over taxes* (5th edn), Cambridge, Mass: MIT Press
- Suárez Serrato, J.C. and O. Zidar (2016) 'Who benefits from state corporate tax cuts? A local labor markets approach with heterogeneous firms', American Economic Review, 106 (9), pp.2582–624
- Tax Working Group (2018) *The Future of Tax*, Wellington: New Zealand Government
- Todd Task Force (1992) *Private Provision for Retirement: the options*, Wellington: New Zealand Government
- Tracy, M.B. (1975) 'New contributory pension program in New Zealand', Social Security Bulletin, 38 (3) pp.15–17
- Victoria University of Wellington Tax Working Group (2010) A Tax System for New Zealand's Future, Wellington: Victoria University of Wellington
- Viner, J. (1923) 'Taxation and changes in price levels', *Journal of Political Economy*, 31 (4), pp.494–520
- Whitehouse, E. (1999) 'The tax treatment of funded pensions', MPRA paper 14173, University Library of Munich
- Yoo, K. and A. de Serres (2004) 'The treatment of private pension savings in OECD countries', OECD Economic Studies, 39 (2), pp.73–109