

Fair Taxation: an Australian Perspective

Paper to accompany Symposium “Action to address health equity : ways to create a sustainable revenue base”, Flinders University 24 April 2015.

Ian McAuley. Centre for Policy Development and University of Canberra.

Summary and outline

Australia doesn't have a “big government” problem. Australia doesn't have a public debt problem – not yet, anyway. But Australia does have a public revenue problem: we're not collecting enough tax to provide the public goods we need and to help distribute the benefits of our prosperity.

We also have an institutional legacy and a set of public administration practices that make it hard for public expenditure to be directed to achieve good health outcomes.

Part 1 – *The present fiscal landscape– Reaganomics on hold* – describes the political and economic forces likely to guide Commonwealth spending and revenue decisions in the short to medium term.

Part 2 – *The “big government” myth* – shows that contrary to the calls for “smaller government”, public expenditure in Australia has not been growing over the last 40 years, and that in comparison with similar countries, if anything we have too small a public sector.

Part 3 – *What about the deficit and debt?* – points out that these issues are far more complex than the politically partisan simplifications presented by politicians and the media. The idea of “budget repair” is meaningless.

Part 4 – *Australia's tax problem – too little* – mirrors Part 2: we don't collect enough tax. And it analyses the government's idea of the public interest, explaining (but not justifying) the idea that business taxes are too low.

Part 5 – *Towards fair taxation in Australia* – outlines principles of fairness and efficiency in taxation, and points to ways in which public revenue can be increased without violating commonly-shared views about equity and efficiency.

Part 6 – *Wider reforms – restoring system thinking* – describes some of the institutional impediments to allocating public revenue to areas of need.

We need to re-frame the commonly-held idea that tax is a “burden”: rather we should see tax as a legitimate payment for public goods and a means of ensuring that the benefits of our prosperity are fairly distributed.

1. The present fiscal landscape – Reaganomics on hold

The much-loathed 2014 budget was the product of four converging ideas. One was the usual political notion that a government makes its tough decisions in its first budget. Another, also political, was an attempt to drive home the message that the Rudd-Gillard Government had been profligate and was taking the country on a road to fiscal ruin: “budget repair” was the government’s most pressing task. A third was the idea that shrinking the public sector is the road to economic prosperity – a message strongly proclaimed by the hand-picked Commission of Audit and oft repeated since. And the fourth idea was that long-term economic growth would benefit from a redistribution from the poor to the rich.

It was politically dumb. If an economy needs a bout of fiscal austerity it has to be applied in a way that involves shared sacrifice. A government can inflict fiscal austerity and get away with it if people are convinced of the need, or it can pursue policies to make the rich better off (Australian governments have been doing that for 30 years and getting away with it). But it cannot do both at the same time as was attempted in 2014.

Now, just a year later, to outside appearances there seems to be a conciliatory mood. Austerity is off the table, and public debt is nothing to worry about.

There hasn’t been a Pauline conversion, however: Abbott didn’t fall off his bike on the road to Canberra. Rather, the economic outlook has deteriorated and it now appears that without a significant fiscal boost Australia could sink into recession. Whatever the motives of the senators who blocked the 2014 budget measures, they have done Abbott and the nation a favor.

Prices of iron ore, coal and non-ferrous ores have tanked. Consumer and business confidence, which initially rose following the 2013 election (such was the political hype that the Abbott Government would rescue Australia from Labor’s supposed disaster) has fallen. Although the exchange rate has fallen, trade-exposed industries are yet to recover: in most industries that recovery will take years. And the global recovery from the 2008 crisis is far more sluggish than the recovery from any previous recession – even the recovery from the 1929 Crash was more rapid.

The scope of this economic and fiscal deterioration shows in the Government’s estimates of budget outcomes. Before the election, Treasurer-to-be Hockey promised to produce a surplus in every budget. In the 2014 budget that was deferred to 2017. A half year later the budget update pushed the date of surplus out to 2019,¹ and the more recent *Intergenerational Report*, prepared before the Government backed off on various “reforms”, pushes that date out to 2031.

That explains the immediate outlook. It is my guess that the government’s preferred general economic and fiscal policy direction hasn’t changed: it’s just on hold while the Government tries to stave off a recession, deal with a hostile Senate, and keep Abbott on political life support. There is no indication that the ideas of “small government” and an upwards distribution of income (“Reaganomics”) are off the table.

¹ The *Mid Year Economic and Fiscal Outlook*.

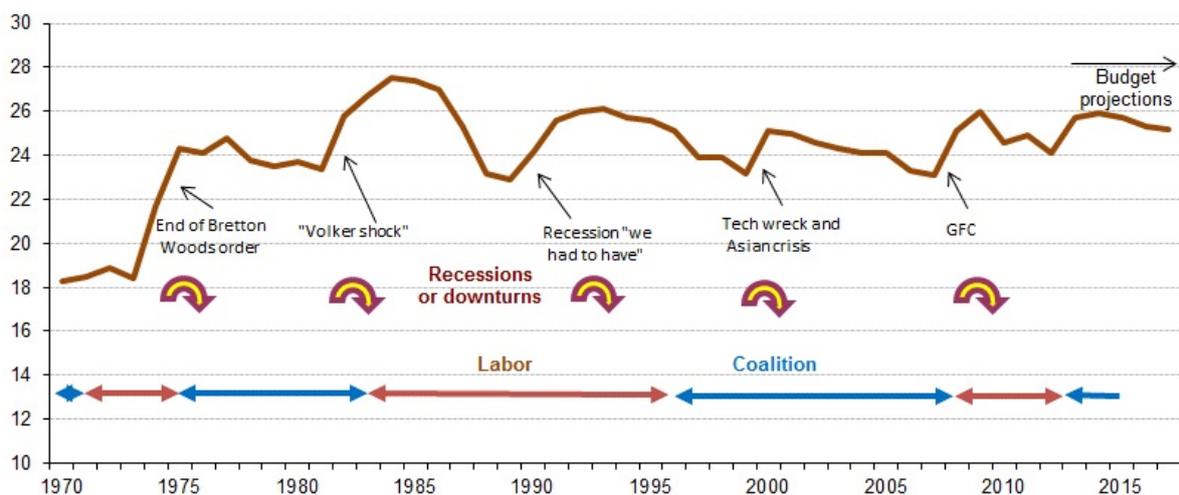
2. The “big government” myth

The idea that Australia has runaway “big” government does not stand up to scrutiny.

There is no one measure of the size of government: it can be seen in terms of regulatory reach, taxation, or its call on resources (expenditure). Even fiscal measures, although prepared in accordance with international accounting standards, are ambiguous. For example some estimates include the activities of government business enterprises while others do not, and where there are joint government-business operations there are issues of classification and allocation.

A starting point is to look at where the political fuss lies – Commonwealth expenditure. This is shown in Figure 1, as a share of GDP over the last 45 years. Annotations indicate the economy’s major economic shocks, mainly arising in the global economy.

Figure 1: Commonwealth outlays – percent of GDP



The general pattern has been for government expenditure to rise sharply in response to recessions or downturns and to fall away as the economy recovers. That’s normal counter-cyclical management, practised by governments of all persuasions. Expenditures actually peaked at 27.5 percent of GDP in 1984 (as the Fraser and then the Hawke governments responded to the “Volker shock”), and have been confined to a reasonably tight band ever since.

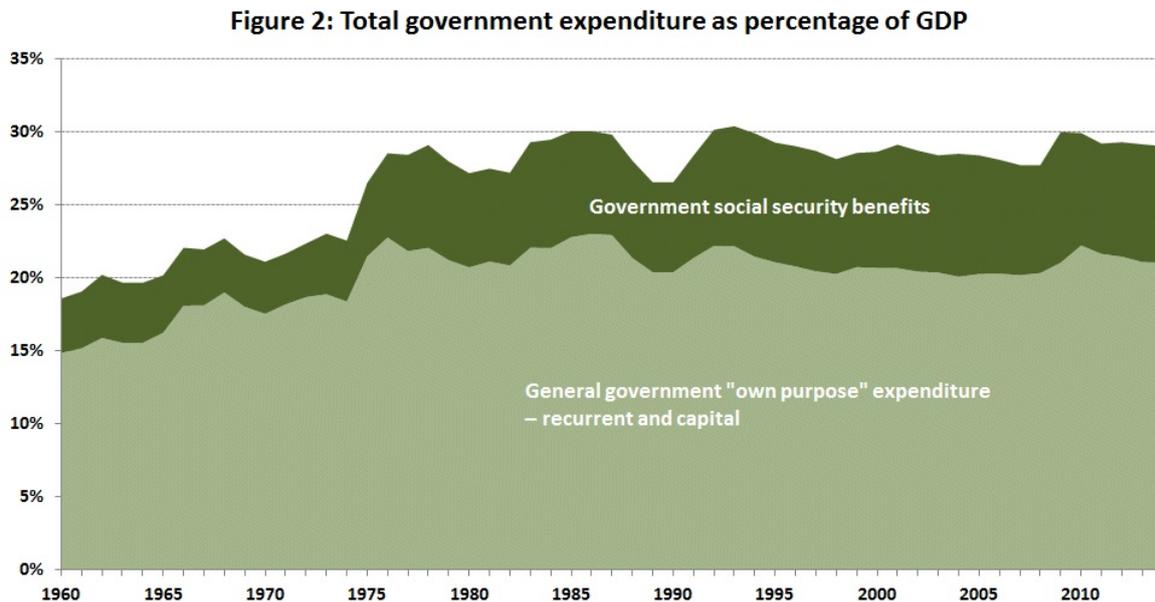
Those with a partisan ax to grind, however, often pick a short period to illustrate supposedly runaway expenditure.² That’s been the case with the *Intergenerational Report*, which bases its fiscal projections to 2055 on the atypical period following the GFC, showing how a continuation of “previous policy” (read Labor’s profligacy) would lead us to a debt of 122 percent of GDP.

In reality, it’s the stage of the business cycle, rather than the ideological color of the government, that’s the main factor influencing the Commonwealth’s short-term budget policy.

Although the Commonwealth is the main spending and taxing authority, it is useful to consider the pattern of *all* government expenditure – Commonwealth, state and local. We don’t have plain consolidated figures – the conceptual and measurement problems are just too great. But we can

² Even John Fraser, the recently-appointed Secretary of Treasury, used such a selective presentation to demonstrate a high growth in expenditure, choosing 2007 and 2012 as his starting and end points in his speech “Australia’s Economic Policy Challenges”, Address to the Committee for Economic Development of Australia” on 27 February 2015. This was a major departure from public service impartiality.

cobble together a reasonably robust figure by adding two series taken from ABS national accounts: government “own purpose” expenditure and personal cash benefits.³ Figure 2 shows total government expenditure – Commonwealth, state and local – over the last 55 years.⁴ It too peaked in the 1980s, and has been comparatively stable since.



Over this 55 year period total government expenditure has risen from 19 to 29 per cent of GDP, but it's important to note the distinction between the two components shown in the graph. Government “own purpose” expenditure on services (education, health care etc) and capital (roads, public transport etc) has risen from 15 to 21 percent of GDP, while personal transfer expenditure (social security) has doubled from 4 to 8 percent of GDP. Following a steep rise between 1960 and 1975, for the last 40 years there has been no trend growth in government “own purpose” expenditure, but social security benefits have continued to grow a little – an unsurprising development given the trend growth in unemployment, ageing and inequality over this period. The problem in Australia, as in many other countries, is that these expenditures tend to crowd out government “own purpose” expenditures, particularly if it is government policy to keep expenditure and revenue within a tight cap.

And finally, where do we stand in relation to other countries?

Figure 3 shows government expenditure for high-income OECD countries in 2011.⁵ The basis of “expenditure” used by the OCED is a little different from that used in Figure 2, but it's clear that

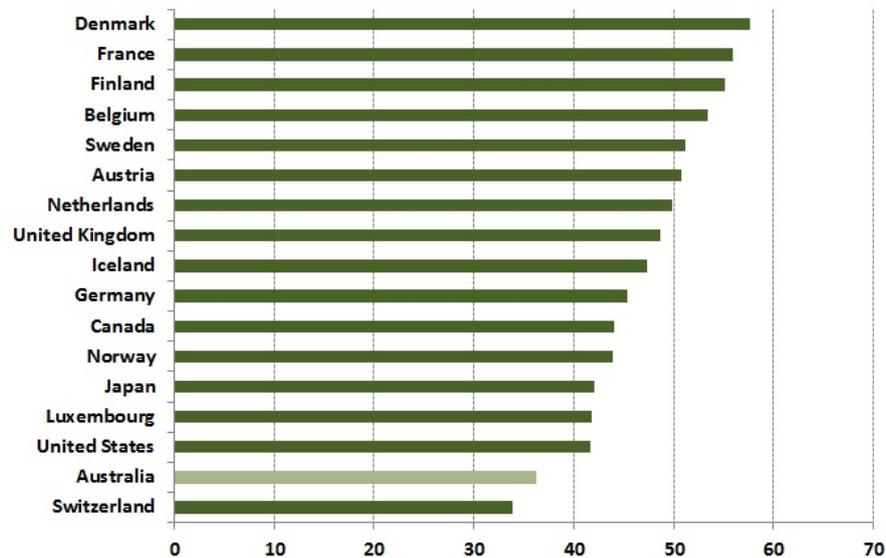
³ Government “own purpose” expenditure is spent on goods and services by governments – schools, roads, defense, hospitals, Medicare and so on. Personal cash benefits (“personal transfers” or “social security benefits”) comprise age and invalid pensions and other cash benefits, such as Newstart allowances, and come almost entirely from Commonwealth budgets.

⁴ In line with OECD accounting conventions, this does not include expenditure by government business enterprises.

⁵ These are the 17 OECD countries with per-capita GDP > \$35000 in 2009. Australia sits near the center of this group. This limited range is chosen because the OECD has expanded to include “developing” countries such as Mexico and Chile (low government expenditure) and former east European countries (high government expenditure).

Australia is near the bottom of the distribution. Also, in most of these countries, particularly the USA, there has been a significant growth in government expenditure in recent years.

Figure 3: General government outlays as percentage of GDP – high income OECD countries 2011



International comparisons lack precision because of the inclusion or otherwise of items such as social security payments, health insurance, special levies, semi-commercial government operations, universities, and so on, but these make for only minor differences between countries.

Yet, although we're down near the bottom, the stated and unquestioned policy of the Commonwealth Government is that government spending should be reduced.

It is not possible to make any categorical statement that government expenditure should be a certain percentage of GDP. Economists point out that in any given economy there is a theoretical optimum size, but its measurement is elusive.

Even though firm measurement is not possible, however, Australians know that our economic development has always been a private-public joint venture – the “mixed economy” in everyday terms. It is a reasonable proposition that in terms of the optimum public-private mix we have strayed from the optimum towards the private sector side: that's a more credible proposition than the notion that almost all other countries have got it wrong.

It is also a reasonable proposition that over time government expenditure should grow, for three reasons:

- as the population ages and life expectancies lengthen there will be increasing demand for pensions and health care;
- some government services, particularly education, health care and policing, are intrinsically labor-intensive, and therefore will rise in cost faster than most goods and services produced in private markets;

- thanks to productivity improvements people's consumption of private goods (cars, entertainment, food and so on) has been increasing, and therefore people are getting less benefit from each increment in consumption, and are therefore seeking relatively more public goods. In economists' terms there is a diminishing return from private goods and therefore people get higher benefits from increasing consumption of public goods. In lay terms, once you have your car with climate control, sat-nav, intelligent cruise control and a four way speaker system, you'd quite like it if the roads could be fixed up.

That's a cryptic summary. An elaboration of the evidence and argument against the Australian "small government" obsession is in a book my colleague Miriam Lyons have written, to be published on May 1.⁶ Our main finding is that the "size" of government has little to do with economic performance. What counts is the efficiency of government in carrying out its functions.

⁶ *Governomics: Can we afford small government?* Melbourne University Publishing, forthcoming.
<https://www.mup.com.au/items/155678>

3. What about the deficit and debt?

It is easy to portray a government deficit as something that indicates “bad” management, and by contrast a surplus as something “good”.

If only it were so simple.

As pointed out above, governments increase spending when the private economy turns down, and withdraw spending as the economy improves. Also, when the economy turns down, governments collect less corporate and personal income tax. That’s perfectly normal counter-cyclical economic management. When, on the watch of the Rudd Government, the world was hit with the worst financial shock since 1973, it responded appropriately with a boost in spending.

And, as a simple arithmetical relationship, if a government spends more than it is taking in as taxes and other revenue, it is reducing an accumulated surplus or increasing an accumulating debt. If a government runs a deficit of one percent of GDP, debt will increase by a corresponding amount. That’s why Commonwealth Government financial assets as estimated by Treasury fell from 4 percent of GDP just before the GFC to a deficit (net debt⁷) of 13 percent of GDP by 2013, and that’s why government debt is forecast to go on rising in the next couple of years. The medium-term task facing the government isn’t “budget repair” – the budget isn’t broken. Rather it’s the normal task facing governments after having given the economy a fiscal boost in response to a downturn. It needs a credible plan to reduce or close the deficit.

Single indicators on the size of the deficit or the value of accumulated debt don’t mean much (except to politicians seeking to make political mileage). There is a big difference between debt used to finance current consumption (as has been the case in Greece) and debt used to finance infrastructure (as is the case in Germany). While a corporation pays much more attention to its net asset position (assets minus liabilities), governments tend to focus on debt, because government assets are hard to value, but that doesn’t mean they can be treated as if they are of zero value. If we could take a balance sheet approach to government accounts, considering both the state of our public assets and our public debt, we may be able to have a more mature discussion about fiscal policy.

A growing economy can handle more debt than a stagnant economy: that’s why the Commonwealth was able to pay off debt standing at 130 percent of GDP on the conclusion of the Pacific War. There are accounting quirks that influence a country’s reported debt: for example in Australia’s case when the Commonwealth allocates funds to a state for capital purposes, the outlay counts as an “expense” on the Commonwealth balance sheet, and therefore as an increase in debt (without any offsetting asset), but as an asset on the state’s accounts. Also, there is a big difference between government debt in a country that has substantial foreign private debt (as is the case for Australia and the USA) and a country that has net foreign assets (as is the case for Japan). The Commonwealth may borrow mainly on the domestic market, but, because of our long-established deficit on current account, our domestic financial institutions are borrowing from the rest of the world. That’s one reason Australia may not be able to bear as much government debt as other countries.

It suffices to say that Australia, at this stage, does not have a Mediterranean scale problem with government debt. It would be dangerous to try to close the budget deficit too quickly, but we do need a mechanism to close that deficit over the longer term.

The default assumption that has almost passed into conventional wisdom is that the budget deficit must be closed by cutting spending. We hear nothing else from ministers when they are talking

⁷ “Net debt” is total debt offset by financial assets.

about fiscal matters. It has come to the point that journalists interviewing politicians hardly ever question that assumption. It's a long time since we have heard an ABC journalist ask "Yes, Minister, but have you considered raising revenue?"

But increasing revenue (and that means taxation, because we have few other sources of government revenue) is the path we must take if we are to provide the public goods and social security transfers if we are to sustain a healthy and productive economy that can distribute its benefits fairly, and to keep our government debt within reasonable bounds. We need a plan to increase revenue. It doesn't have to be immediate – given the present state of the economy we need to be running a deficit for now. But it should have a credible plan to increase revenue in the medium term.

4. Australia's tax problem – too little

*Today is the start of the conversation and the opportunity for Australians to be part of a reform that will give all of us a better tax system. One that delivers taxes which are lower, simpler, and fairer.*⁸

That was the Treasurer's statement on launching the Government's tax reform "white paper".⁹ True to the form established by this government, it wraps up a complex public problem in a three word slogan – "lower, simpler and fairer".

We have looked at public spending. We can look briefly at public revenue in the same terms – how our taxes have changed over time, and how they compare with taxes in other countries. There's no need to look at the case for simpler taxes – the case is indisputable (although "simplification" can be a shorthand for removing some well-directed taxes). I want to direct most attention to the question of making taxes fairer, while increasing our tax basis, and without doing any harm to the economy – indeed helping improve our economic performance.

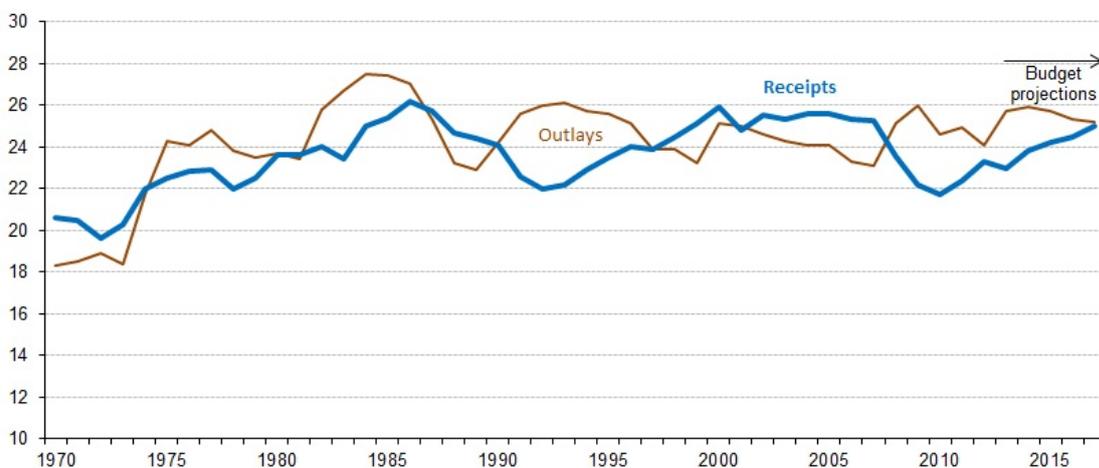
Lower taxes – really?

If there is no case to cut public spending, there is no case to cut public revenue.

Our immediate problem is that Commonwealth and state taxation revenue fell sharply in the wake of the 2008 crisis and has not recovered. And in comparison with other countries Australia's taxes are low – even though many of these countries are running large deficits and will have to raise their taxes from levels that, by Australian standards, are already high.

Figure 4 shows Commonwealth revenue over the last 45 years. It is essentially the same as Figure 1, but with revenue added. What stands out is the revenue effect of the GFC and the government's

Figure 4: Commonwealth receipts – percent of GDP



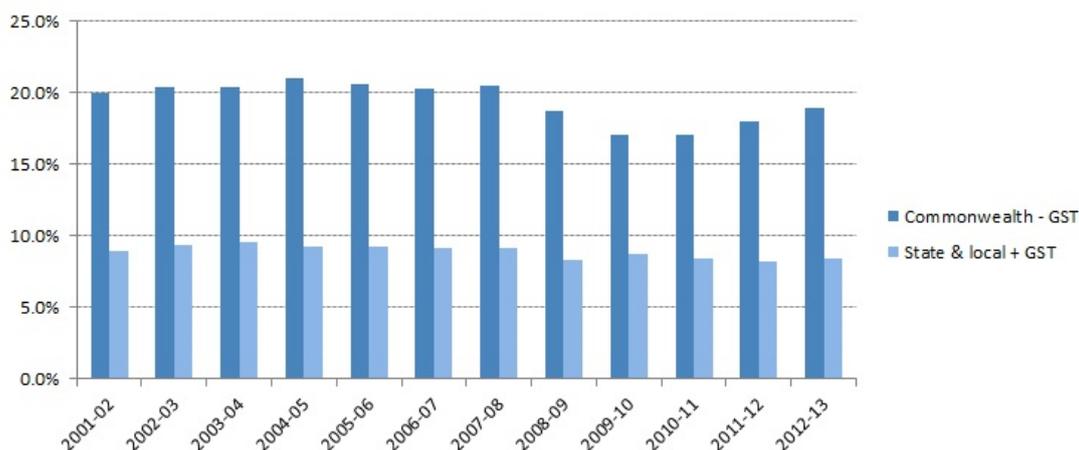
⁸ From Treasurer Hockey's speech "Launch of the Tax Discussion Paper" (Re:think), 30 March 2015. <http://jbh.ministers.treasury.gov.au/speech/010-2015/>

⁹ "Re:think" <http://bettertax.gov.au/>

policy response to that shock. All recessions and downturns result in some fall in public revenue, but the fall in the years following 2008 were outstanding – 3.5 percent of GDP.¹⁰

State governments too were hit hard. Figure 5 shows Commonwealth tax receipts and state and local government receipts over the ten years to 2012-13, with GST assigned to state governments (because it is essentially collected on behalf of the states).

Figure 5: Commonwealth, state and local taxes, percentage of GDP



Commonwealth tax receipts fell more sharply than state tax receipts because there were income tax cuts, and because even in the absence of tax cuts, in a downturn company and personal tax collections tend to fall faster than consumption taxes. People's spending slows down more slowly than their earning.

To get some idea of the magnitude of the fall in tax revenue, in 2004-05, when the mining boom peaked, total taxes (Commonwealth, state and local) were 30.3 percent of GDP. At their trough in 2010-11 they had fallen to 25.6 percent of GDP, and in 2012-13 were still only 27.3 percent of GDP. Each one percent of GDP is around \$16 billion, which means that even by 2012-13, when tax collections were rising, there was still a shortfall of around \$50 billion in governments' revenue. In that context a policy response of lowering taxes makes no sense.

And to complete the picture Figure 6 shows Australian government revenue for the same 17 countries as shown in Figure 3, which covered expenditure. Again, we are down near the bottom.

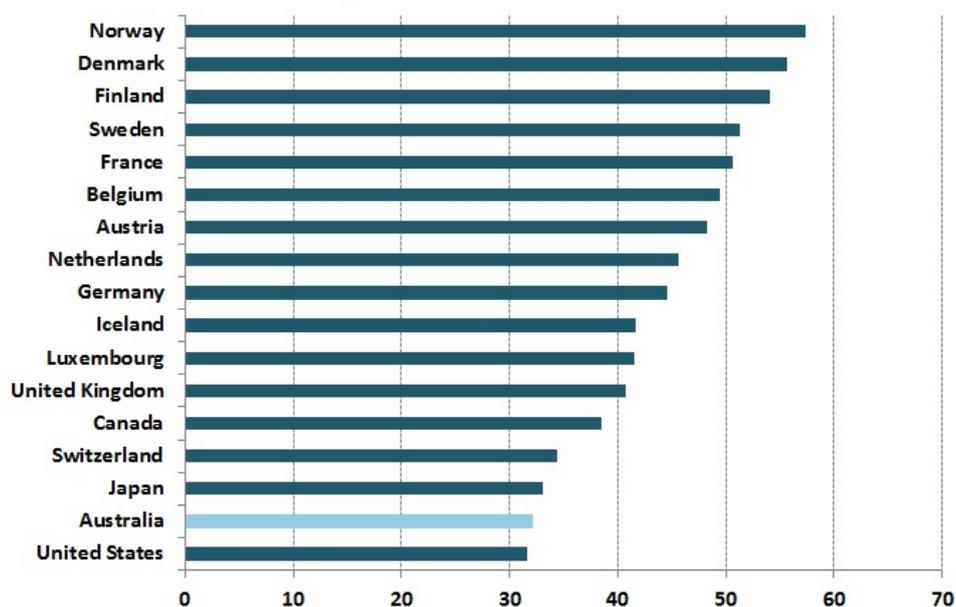
Even this presentation overstates Australia's ranking, because in 2011 the USA was running a much higher budget deficit than Australia – essentially deferring tax collection to future years. If budget deficits were to be added back to the above graph, Australia would easily come out on the bottom.

To get some idea of where we stand in relation to other countries, if we were to raise our public revenue from its present level of around 32 percent of GDP to 45 percent of GDP, the average of these other 16 countries, our governments would have another \$200 billion a year – enough to fund the Gonski education reforms, to bring up Newstart allowances to a decent level, and over a few

¹⁰ Some of this was a fall in non-tax revenue of around one percent of GDP. In this paper I have generally not included non-tax revenue, because it is a very small proportion of government revenue as usually measured.

years to provide a proper broadband service, high speed rail lines connecting the east coast capitals and Adelaide, proper interstate highways and metro systems in our major cities – just to mention some of our public spending shortfalls.

Figure 6: General government revenues as percentage of GDP – high income OECD countries 2011



Rather than starting with an assessment of the country's needs for public goods and transfers, the starting point for the Commonwealth has been to aim for an arbitrary level of taxation and to try to force-fit the rest of the budget around that figure. That process has been embedded in the budget process for the last twenty years. The arbitrary figure chosen by the Abbott Government has been 23.9 percent of GDP.¹¹

Perhaps Australia's government is in possession of some economic wisdom unknown to the governments of these other 16 countries. Or perhaps our government is out of step.

The government's version of tax reform

The government has presented the tax white paper as an options paper claiming to put "everything on the table", but there are some glaring omissions – it is much less comprehensive than the 2010 Henry Report. It has a strong normative stance, and that's not only in its assumption that taxes should be lower.

It makes no mention of resource-rent taxes or of a carbon tax, and although it is clearly written by people with good economics background, it fails to mention significant distortions in our present tax

¹¹ The rationalization for 23.9 percent is that it was the average of the period 2000-01 to 2007-08, even though this was a period when the Commonwealth was accumulating a large structural deficit.

arrangements – distortions that favor speculation over long-term productive investment.¹² One might have reasonably expected carbon and resource-rent taxes to get a mention, even if only to mount a case in opposition to them. But it is as if they are to be erased from history because they are associated with the economically irresponsible Labor Government.

The document is deeply partisan, and the experienced political journalist Richard Farmer presents a convincing argument that it was prepared by staff from the finance sector seconded to work in the office of Treasurer Hockey.¹³ If so, it has been influenced heavily by people from a sector which has a vested interest in “small government” and which profits from financial speculation.

The clear inference to be drawn from the paper is that our tax system should be re-structured to reduce corporate and personal income taxes, making up the shortfall by increasing the scope and rate of the GST. There is no argument for increasing total taxes.

The argument for reducing corporate taxes is tricky to say the least. It’s based on the fact that our corporate taxes are higher than in most other countries, but it fails to note that our high corporate rate is offset by our system of dividend imputation. In fact the paper criticises dividend imputation because it favors domestic investors over foreign ones (a strange interpretation of the national interest), and it fails to mention that imputation encourages a healthy recycling of investment capital.

Corporate tax rates, in fact, are only one of a host of factors businesspeople make when selecting places to invest. The quality of infrastructure and the education standards of the local workforce are crucial factors. Business lobbies need to remember that in most countries these are funded by taxes. Also important are the degree of development of the local market, the rule of law, and political stability. When countries cannot offer these benefits their fallback is to try to entice businesses with low corporate taxes. High corporate tax rates should be seen as payment for a sound investment climate, rather than as impediments to investment.

The most bizarre suggestion is that high corporate taxes encourage tax evasion (mainly profit-shifting to lower tax jurisdictions), and therefore should be lowered. The option of closing loopholes and devoting more compliance resources fails to get serious mention. In fact, on coming to office the present government decided not to proceed with the previous government’s changes to “thin capitalisation” provisions, designed to discourage profit-shifting to low-tax jurisdictions, and in its public service staff reductions has culled 4400 staff from the Australian Tax Office.

Most disturbingly, it is possible that the government is hooked on the idea that Australia can continue to rely on inflows of foreign investment capital to balance our chronic deficit on current account.¹⁴ That is, we have been importing more than we have been exporting. Mining booms attract huge swags of investment capital. Selling government assets to foreigners does the same, on a more modest scale. If we are to keep up this investment inflow we must be welcome foreign investment with easy conditions and low taxes – “open to business” in the government’s terms.

¹² The paper trivialises the case for taxes on negative externalities, classifying them as paternalistic interventions to force behavior “deemed socially desirable”, rather than as economic interventions designed to bring costs to full account. For an outline of this and other distortions see my *New Matilda* article “Joe Hockey’s Tax Paper: A Lesson In How To Avoid The Elephants In The Room” <https://www.newmatilda.com/2015/03/31/joe-hockeys-tax-paper-lesson-how-avoid-elephants-room>

¹³ Richard Farmer “The bankers who run Hockey’s office” *The Saturday Paper* April 4-10 2015.

¹⁴ By mathematical definition, the deficit on current account must be balanced by a surplus on the capital account.

But all the time our foreign debt and net equity position are deteriorating. We have been running a deficit on current account since 1974, but it's only luck that has allowed us to keep up this pattern of using foreign capital inflows to fund our demand for imports.¹⁵ Perhaps our government's obsession with government debt is a clever distraction to take our minds off accumulating national debt – a situation worsened by an open slather approach to foreign investment.

The suggestion to reduce personal income taxes rests on broadly similar arguments as those for reducing corporate taxes. In comparison with other countries Australia does collect a high proportion of revenue through personal income tax, but that's largely a simple mathematical artefact, because our *total* tax take is so low. When we reframe the comparison more meaningfully, as a percentage of GDP, we see that Canada, Denmark, Finland, Iceland, Italy, New Zealand and Sweden are all more reliant on personal income taxes than Australia.¹⁶ Also, Australia, in contrast to most European democracies, has traditionally relied more on progressive taxation rather than social security contributions to redistribute income.

Of course those with high incomes do have the means and incentives to evade or avoid tax.¹⁷ But such schemes, particularly those which involve shifting income offshore, are expensive. Perhaps they are attractive to those in the highest tax bracket, those 300 000 or so people with incomes above \$180 000.¹⁸ That is where, in fairness, compliance efforts should be directed. (Perhaps rather than sacking those 44 000 tax office staff, each could have been given a caseload of 70 high income people to scrutinise carefully!)

The bulk of income tax doesn't come from those with very high incomes. Around 62 percent of income tax is collected from taxpayers with incomes between \$50 000 and \$180 000.¹⁹ Those are the 47 percent of taxpayers with above median incomes, but not including those 3 percent with very high incomes. They are not going to go to the bother of shifting to the Cayman Islands or setting up Swiss bank accounts. Also, as a point in equity, they are the people who have enjoyed the benefits of public expenditure over their lifetime – free or subsidised tertiary education, good public health, security, transport infrastructure and so on.

In all the government's arguments seem to be rationalization for an economic philosophy that justifies a skewed distribution of income towards the already privileged in the interests of the public good, that public good being economic growth. The idea is known as "supply side economics" or, more commonly "Reaganomics". The aphorism "a rising tide lifts all boats" captures its idea of fairness. Even if some people do very well, so long as no one goes backwards, all is well.

This economic philosophy, which has become the basis of undergraduate economics teaching – and therefore the basis of ideas that dominate government treasury departments – is attributed to the Italian economist Wilfredo Pareto, an adviser to Mussolini's fascist government. It's not that academics and bureaucrats are attracted to fascism, but they are attracted to the simplicity of

¹⁵ See the Centre for Policy Development publications, *More than Luck: Ideas Australia needs now*, 2010 and *Pushing our Luck: Ideas for Australian Progress*, 2013.

¹⁶ See Table 9, P 96 in OECD *Revenue Statistics 1965-2013*.

¹⁷ The distinction is that "evasion" is illegal, while "avoidance" is legal. By most moral codes there is no distinction.

¹⁸ That is the number with declared income above \$180K – there would be more who *should* declare income in that bracket.

¹⁹ These estimates are based on ATO tax tables for 2011-12.

Pareto's economics, which absolves them from having to think about moral questions about inequality.

I don't want to go into a demolition of the moral and economic ideas behind Pareto economics. That's another whole topic, and few people (other than overpaid employees of the finance sector perhaps) find much appeal in a philosophy that ignores inequality. And, in any event, there is sound evidence and argument that inequality itself, once it reaches a certain level, impedes economic growth.²⁰

The idea behind Reaganomics is that the rich are rich because they are industrious and hardworking, and therefore should be given every opportunity to accumulate wealth, which they will invest in productive enterprises,²¹ thus providing incomes and jobs for all – as well as enough tax revenue to close any fiscal deficits.

When actually applied by the Reagan administration it was a disaster on all fronts. Although, in line with economic theory, the rich do invest a higher proportion of their income than the poor, they do not necessarily invest wisely. Rather than investing in productive enterprises, they are likely to put their funds into financial speculation, thus contributing to economic instability – the most notable consequence being the 2008 GFC. Much of their consumption is on foreign-produced luxuries – car makers in Bavaria and vigneron in Bordeaux are the likely beneficiaries of any consumption stimulus enjoyed by the rich. And they and the enterprises in which they invest do not pay more tax – instead they take tax evasion and avoidance to new levels. Above all a deliberate redistribution to the already well-off damages any sense of a moral contract that sustains public support for capitalism. Once a plutocracy becomes established there is an easy segue into cronyism.

As Treasury Secretary Martin Parkinson is reported to have said in his final public presentation in that role, commenting on the idea of reducing business taxes and increasing the GST, "A lot of what this debate is about is people saying 'Take money from the citizenry at large and give it to me'".²²

²⁰ These arguments are covered in our forthcoming work *Governomics*.

²¹ With the addition of the notion that wealth accumulation is an indication of moral virtue Reaganomics has a theological basis in Calvinism.

²² Quoted in the Fairfax media covering his address to the Committee for Economic Development of Australia, 27 November 2014. The quote is not from the official transcript, but could have been a response to a question.

5. Towards fair taxation in Australia

There are many notions of “fairness” in taxation. Textbooks refer to:

- horizontal equity – two people with the same means should be taxed the same amount;
- vertical equity – someone with more means should not be taxed less than someone with less means;
- ability to pay – this recognises that people differ in their liquidity, some people’s assets being illiquid;
- proportionality to benefits – there should be some recognition that some people (e.g. those who live in the outback) have less access to public goods.

In addition to those principles concerning fairness there are questions about the taxation unit (individual, family?), needs (dependent children up to what age?), and increasingly the time span in which means are assessed. On this last point we have traditionally used a year as the settlement period for income tax, implicitly assuming that people’s means don’t vary much from year to year, but that assumption is becoming less robust.

Then there are questions of economic efficiency. As a general principle a tax system should not distort individuals’ decision-making, unless of course, that is a deliberate intervention such as discouraging harmful consumption (cigarettes) and accounting for negative externalities (pollution). Some people on the right of the political spectrum suggest that all taxes come at the cost of economic efficiency (essentially denying the value of all public goods).

More realistically, as the economist Joseph Stiglitz points out, a well-designed tax system can “improve the efficiency and stability of the economy”.²³ Taxes help shape our economic structure, and if we need to change our economic structure (for example to improve productivity), then our taxes can be designed to help the process along.

And there are questions of administrative efficiency. Taxation should not impose high collection costs by tax departments or high compliance costs by taxpayers. And the more complex taxes become, the more opportunities there are for avoidance and evasion.

In an interconnected world avoidance and evasion through shifting transactions to other jurisdictions are becoming easier. Opportunities once confined to multinational corporations are now available to online shoppers. Some tax theorists suggest therefore that there should be more emphasis on taxing immovable, or at least unambiguously locatable assets, such as land and natural resources. (In this regard the government’s overlooking a resource-rent tax is inexplicable.)

To those criteria I would add the general point that taxes must be seen to be legitimate. Contrary to the impression (understandably) conveyed by tax authorities, tax evasion is easy. Tax authorities succeed in collecting taxes when people believe that the system is fair, and that taxes are spent on needed public goods. No one wants to be the sucker paying for public goods when others aren’t pulling their weight, or to be funding services accessible only to a privileged minority.²⁴ An unfair tax system encourages otherwise honest people to engage in evasion.

Legitimacy is undermined when tax systems damage real or perceived connections between contribution and reward. If financial speculation is privileged over real economic contribution there is a distortion of incentives as people with analytical talent are attracted to the transactional

²³ Joseph Stiglitz, “Reforming Taxation to Promote Growth and Equity”, White Paper Address to the Roosevelt Institute, New York, May 2014.

²⁴ A manifestation of the “prisoners’ dilemma” problem.

economy and away from the real economy – witness the growth of the finance sector. More seriously, the normative basis of market economics – that rewards should be linked to contribution – is damaged. Politicians on the right talk about “lifters and leaners” and “dole bludgers”, but rarely do they address distortions in taxation systems that allow great financial fortunes to be gained by those who make little or no contribution to the real economy, or by those who shirk their obligation to contribute to public goods while enjoying the benefits of government services.

When a tax system is seen to be fair, and when taxes are seen to be spent in accordance with people’s desires for public goods, there is not strong resistance to paying taxes. People accept reasonable value-for-money in private markets, and do so similarly when it comes to taxes to pay for public goods.

Not many people fall for tax cuts financed by cost-shifting. Most people understand that a tax cut of \$1.00 is meaningless if, as a consequence, the same service as was once publicly-funded has to be purchased from a private provider for \$1.10 or \$1.90.²⁵ That’s why surveys show that for many services, people are willing to pay more tax.²⁶ They simply want reassurance that their taxes will be spent on those services, and not diverted to paying off interest groups or wasted on bureaucracy.

At the top of people’s lists, with support usually in excess of 80 percent, are health care and education. Transport and environmental protection get high priority, as does support for pensions (but less so for “welfare” – framing counts). Support for defense and policing tends to move in line with people’s perception of risk.

That’s why people like some degree of earmarking (*hypothecation* is the technical term) between taxes and expenditure. Surcharges such as the Medicare Levy, the 2011-12 levy to cover damage incurred in Queensland floods and the levy to contribute to the National Disability Insurance Scheme are easily received. In the 1980s the NSW Government introduced a gasoline levy of three cents a liter to contribute to road funding, and it was so politically popular that when, in an election, one party suggested dropping it, that party soon changed its mind because polls showed the levy to have strong support. In 2012 Californians voted strongly in favor of a proposition to raise state sales tax by 0.25 per cent, and to raise state income taxes for Californians with annual incomes above \$250 000, with the proceeds of \$8 billion a year directed to school education. Scaled back to Australia’s population that would equate to about \$5 billion – enough to cover the Gonski school funding reforms.

Such earmarking has some drawbacks, however, in that there will always be necessary expenditure for the public good that does not have a strong public constituency. In the health arena, there is likely to be more support for expenditure on a new oncology drug than for subtle interventions in areas like early childhood and town planning that have long-term benefits for health. Governments need some degree of fiscal flexibility – and a community that trusts that government will be guided by sound evaluation in allocating public funds.

All this means that there is no one test of what constitutes a “good” or “fair” taxation. Whenever there is more than one criterion to be satisfied different people’s values will result in different interpretations of what is desirable.

²⁵ This is the range of cost estimates for replacing publicly-funded health insurance with private insurance.

²⁶ For a compilation of research on attitudes to taxation, see James Whelan “The state of the Australian Public Service: An alternative report”, Centre for Policy Development, 2011
<http://cpd.org.au/2011/08/the-state-of-the-australian-public-service/>

But there are opportunities to make reforms that improve on our present situation, without necessarily compromising on any of the main principles of fairness and efficiency.²⁷

The list of reforms below is put forward as suggestions to raise revenue, by raising some taxes and by removing some tax breaks. All need detailed consideration and evaluation, but even if some turn out to be impractical, or have too many unintended consequences, the point is that the list is long – there are plenty to be considered.

Cut back superannuation tax concessions. Even the government's own white paper points out that revenue forgone ("tax expenditure" in economic terms) in providing tax breaks for superannuation has gone well beyond the point of helping providing a decent retirement income and reducing dependence on the age pension. For those who have accumulated great wealth in superannuation (or are in the process of doing so), high balances with tax-free returns are going to support lavish lifestyles or high inheritances. Superannuation tax concessions are estimated to cost \$40 billion in revenue forgone in 2015-16, rising to almost \$50 billion in just two years unless policy settings change.²⁸

Enforce compliance on corporations. A recent report suggests that Australia's 200 largest publicly-listed companies are avoiding \$8.4 billion in corporate taxes annually.²⁹ Almost one third of them have an effective tax rate of 10 percent or less. It is claimed that the politically influential News Corporation has been subject to a tax of just 10 percent.³⁰ And these figures do not cover the tax practices of foreign corporations that are not listed on the ASX – companies such as Apple, Ikea and the mining group Glencore-Xstrata (owner of Mount Isa mining and copper smelting operations).

Perhaps with stronger compliance there would be some lessening of foreign investment. But, as pointed out above, we must question the value of foreign investment in mining when we do not enjoy the benefits of dividends and taxes, being left with only mining royalties and, once the construction phase of mining is over, a handful of employment in capital-intensive operations.

There is strong public support for taxing corporations. Almost two thirds of Australians believe that large businesses, particularly mining corporations, should pay more tax.³¹ Three quarters of Australians believe multinational companies should be forced to pay a minimum tax rate on Australian earnings.³² Of course, when businesses serving Australian markets are taxed more highly, some of that cost is passed on to consumers. But when corporations serving foreign markets, be they Australian or foreign owned, pay more tax, the cost of higher taxes flow through to foreigners. Australians don't see why they should be subsidizing the people of China or Luxembourg through low local taxes.

²⁷ In economists' terms, we are so far from the frontier of possibilities that we can move much closer to that frontier without making any tradeoffs.

²⁸ MYEFO 204-15 http://www.budget.gov.au/2014-15/content/myefo/html/06_attachment_c.htm

²⁹ Tax Justice Network Australia and United Voice "Who pays for our common wealth? Tax practices of the ASX 200", 2014. <http://taxjustice.org.au/wp-content/uploads/2014/09/Who-Pays-ASX-200-Full-Report.pdf>.

³⁰ Michael West, "Murdoch empire siphons off \$4.5b", Fairfax media 6 April 2015.

³¹ Essential Report 10 March 2015.

³² Essential Report 31 March 2015.

Restore a carbon tax. A carbon tax is not primarily a revenue measure. Rather it is a way of bringing to account the cost of contributing to greenhouse gas pollution. In effect, if properly designed and applied, a price on carbon removes a subsidy to GHG-intensive industries and activities. In so doing a price on carbon provides a price incentive to encourage industry restructuring. Ideally, in the long run, once the economy has been decarbonised, a carbon tax should cease to collect any revenue, but in the meantime it can help in the task of raising public revenue, and it can help restructure the economy to a more competitive basis for the day when those countries that have not reduced their emissions are left behind in the pressure of global competition, perhaps even being hit with countervailing duties on carbon-intensive industries by the WTO rules on subsidies.

In 2013-14 Australia's modest carbon tax (\$25.40 a tonne) raised \$7 billion. Its reinstatement would raise at least this amount and would result in an additional modest saving if the government's "direct action" scheme were abolished.

Remove tax breaks (and other subsidies) for the private health insurance industry. This industry receives at least \$11.6 billion in tax-funded subsidies each year,³³ and the amount is growing strongly. Removal of this subsidy would require some replacement funding for private and public hospitals, but there would be a significant short-term saving in avoiding the high administrative costs of private insurance and a long-term saving in terms of removing a major driver of health costs.³⁴ There should be little political cost in raising additional funds for health through a higher Medicare levy.

Increase fuel excise rates. Each one cent rise in fuel excise raises around \$430 million a year.³⁵ Until 2001 the excise was linked to the CPI, but it was nominally frozen at that rate until 2014, when, to its credit, the Commonwealth re-introduced indexation, but it did not make it retrospective. Restoring it to its real 2001 level would raise the excise rate by 17 cents, bringing in up to \$8 billion a year in extra revenue. Even then, with taxes at around 60 cents a liter, Australian fuel prices would be significantly lower than those in Europe – in northern Europe fuel taxes are up to \$1.20 per liter.

Fuel taxes should be seen as a short-term alternative to comprehensive road user charging, as recommended in the Henry Report. Well-designed road user charging can not only cover the costs of transport infrastructure, but also bring costs of congestion and pollution into account, thus improving the efficiency of use of the infrastructure, and saving on investments such as widening of freeways. Also user charging can replace some inequitable taxes, such as vehicle registration fees, and can be designed so as to hold or even reduce fuel prices in country regions.

Restore capital gains tax neutrality, including indexation. Under reforms introduced by the Hawke Government in 1995 capital gains were treated in the same way as other income.

³³ Comprising \$7.2 billion direct budgetary outlays, \$1.7 billion as tax expenditures because the rebate is exempt from income tax, and \$2.7 billion resulting from exemption of high income earners from the Medicare Levy Surcharge. (This last figure is an understatement because it is based on 2011-12 taxation statistics.)

³⁴ For a detailed description of the pernicious costs of private health insurance on public budgets and on health care costs generally, see John Menadue and Ian McAuley, *Private Health Insurance: High in cost and low in equity*, Centre for Policy Development, 2012. <http://cpd.org.au/2012/01/private-health-insurance/>

³⁵ In 2013-14 a rate of 38.143 cents a liter raised \$14.84 billion. In addition there is a 10 percent GST added to excise. There will be some elasticity effect as prices are raised, thus reducing these revenue estimates.

Nominal gains were reduced to real levels by use of indexation to the CPI. In 1999 the Howard Government, under pressure from the finance sector to encourage more “financial dynamism” (i.e. speculation) halved the rate of capital gains tax for assets held for more than a year and removed indexation. That move privileged short-term-high-growth investments, while disadvantaging long-term modest-growth investment.³⁶ (Many commentators point out the distortion caused by halving the rate, but they miss the distortion caused by removal of indexation.)

This would have an immediate boost to revenue, tempered by the consequential dampening of financial speculation, and would help establish the legitimacy of the tax system.

Remove incentives for highly geared investments. There is general awareness that the practice known as “negative gearing”, whereby individual investors borrow heavily to buy real estate for investment purposes, has been driving up house prices. Such investment is privileged by a degree of double counting when investors are permitted to claim both depreciation and interest on borrowings against rental income.³⁷ Permitting only the real (after inflation) component of interest to be deducted against income would contribute to public revenue and would help dampen demand-side housing inflation.

Prohibit the use of family trusts for tax minimization. These are straight out tax minimization schemes. Indeed they are promoted as such. There is only a limited number of situations (e.g. where assets are held for an orphaned child) where trusts have any legitimate purpose. Proposals to remove privileges for family trusts are usually met with squeals of protest from lobbies purporting to speak for “small business”, but family trusts are about distributing the proceeds of business: in fact their use encourages people to take drawings from their businesses rather than retaining earnings for re-investment.

Remove fringe benefit tax privileges for automobiles. In 2013 the Rudd Government announced its intention to remove a fringe benefit tax concession privileging the purchase of cars.³⁸ The concession was originally introduced as a back-door way of subsidising the Australian automobile industry (thus circumventing WTO rules on subsidies). At the time the local industry, supported by import restrictions, held most of the Australian car market. By the time the Rudd Government announced removal of the concession the local industry held only 20 percent of the car market, and firms had announced their intention to withdraw from local manufacture. Yet, under pressure from the financial sector (specifically the Australian Salary Packaging Association) the incoming Abbott Government decided not to proceed with this reform, which would have saved \$1.8 billion a year. Besides budgetary savings, repeal of the privilege would have removed a distortion favoring certain consumption (cars). If you would be satisfied with a Toyota but are subsidized to have a BMW, that’s a distortion.

Reintroduce inheritance and gift taxes. Inheritance taxes were imposed by state governments and lasted until 1979 when the Queensland Government abolished them and all other states

³⁶ If annual inflation is 3.0 percent, after 23 years tax is falling on nominal gains. $(1.03^{23} = 2.0)$.

³⁷ This double-counting exists whenever there is inflation and generous depreciation allowances: the higher inflation the higher the double-counting.

³⁸ Normal tax rules would require an employee given a car by his or her employer to include the value of the car to be assessed as income, with the cost of any documented business use to be claimed as a tax deduction. Under the FBT concessions, however, there is a “statutory formula” that allows a much lower value of the car to be assessed as income, *even if the vehicle is never used for work purposes*.

were therefore pressured to follow suit. Inheritance taxes are problematic however, in that they fall disproportionately on those with moderate wealth – the rich find ways to avoid them. They should be reintroduced only after other loopholes are closed.

Increase the rate and scope of the GST. This is contentious, partly because an increase in the GST is usually proposed as a tradeoff for business taxes, and because the GST, like all consumption taxes, is regressive. But regressivity has to be considered in context, and the context of Australia's GST is that it is earmarked for state governments. State governments are the major providers of school education and hospitals (absorbing around half their budgets). These, and other services such as housing and public transport, are important components of the "social wage". That is, although services such as health, education and public transport are not provided primarily for redistributive purposes (there are hard-nosed economic reasons for public provision), they do have significant redistributive benefits.

The net effect of our present GST therefore, because it is directed to state governments, is progressive³⁹ While state governments come under pressure from interest groups (particularly property developers), they are more constrained than the Commonwealth in their expenditure – they don't get tempted to buy Joint Strike Fighters or to subsidize private health insurers. They are under more political pressure than the Commonwealth to provide widely-available public goods that have redistributive benefits.

Since 2003 GST collections have fallen from 4.0 to 3.3 percent of GDP – a shortfall of around \$11 billion a year.

Exemption of school fees from GST should be seriously examined. Governments already provide almost all funding for tuition in public schools, and a substantial proportion of tuition fees in private schools – a large proportion of school fees is spent on items which would be subject to GST in other contexts. Exemption of education from GST is estimated to cost around \$4 billion a year. (So long as the Commonwealth goes on withdrawing funding for higher education, the same argument does not hold for imposing GST on university or technical education.) The case for removing other GST exemptions is less clear-cut, but it should be noted that in total GST exemptions cost around \$17 billion a year,⁴⁰ and that there may be less indirect means of sustaining equity than GST exemptions, some of which, such as those applying to food, are very messy.

Also, it should be noted that at 10 percent, Australia's consumption taxes are low in comparison with other high-income countries. The Nordic countries, with their strong socialist traditions, have rates of VAT ranging between 21 percent in Sweden and 25 percent in Norway and Denmark. Consumption taxes can be part of a progressive tax mix.

And GST is one of the few taxes collected from "self funded" retirees and foreign visitors.

As a replacement for corporate or personal income taxes any rise in GST should be off the table, but as a component of a tax mix guided by principles of fairness it should be considered, particularly if it is linked to universally-available services that maintain the social wage.

³⁹ For a more complete analysis of the effect of an increased GST on the social wage, including calculation of Gini coefficients, see my 2013 paper "Taxes – our payment for civilization" <http://sacoss.org.au/sites/default/files/public/documents/Election%20SA%202014/McAuley%20Paper%20for%20SACOSS%20AGM%202013.pdf>

⁴⁰ Commonwealth Treasury, *Tax Expenditure Statement 2014*, Table 1.1.

The following measures are suggested not so much in terms of raising revenue as removing some of the distortions in existing taxes.

Implement a resource rent tax. The previous government's short-lived resource-rent tax raised only a small amount of revenue, in part because it was watered down from the original proposal in the Henry Review, and in larger part because it was introduced as commodity prices were falling sharply. It would raise even less revenue if it were to be introduced today. But there will probably be future commodity booms, and a well-designed resource rent tax can smooth out some of the destabilizing effects of commodity booms and capture for the Australian people more of the benefits of those booms. Because they could replace royalties and similar volume-based fees they would provide some smoothing of mining industries' profits (and the public revenue flows for Western Australia.).

Implement a financial transaction tax. A small tax, even as low as 0.1 percent on all share, bond and currency transactions would have the effect of dampening financial speculation, while not being so burdensome as to discourage trades reflecting real changes in value.

There may be a case for imposition of what are known as "sumptuary taxes" (sometimes more popularly known as "sin taxes") on goods deemed to be socially undesirable. We already have such taxes on tobacco and liquor.

It's a difficult area for public policy. While we have a largely publicly-funded health system, there is a case for taxes on tobacco and liquor on the basis of public costs associated with their use, and a similar case can be made for a tax on some foods. The time will probably come when marijuana is legalized, and there will arise the question of whether it too should be taxed.

Where there are clear negative externalities (as in the case of GHG emissions), the economic case for taxation is relatively uncontentious. But where the harm done through consumption of certain goods is largely to oneself, the question of externalities does not arise.⁴¹

One of the most significant changes in recent times, particularly the Howard Government's abolition of the old wholesales sales tax, has been the removal of paternalistic taxes on "luxuries".⁴² Few people regretted the passing of high taxes on "luxuries" such as television sets and motor vehicles – taxes introduced when only the well-off had TVs or cars.

Any proposal to extend sumptuary taxes, for example to junk foods, needs to be preceded by a public discussion about the extent to which we want governments to provide incentives to modify our behavior.

Fairness is not only about increasing taxes. If some of the above reforms can harvest enough revenue, there is a case for abolishing some taxes. One clear issue relates to gambling taxes. State governments collected \$5.5 billion in gambling taxes in 2012-13, of which \$3.2 billion was from taxes on gambling machines. All states, apart from Western Australia, have become dependent on

⁴¹ The economic philosopher Thomas Schelling has posited an argument for paternalistic intervention in considering two individuals – "I now", and "I later". "I now" wants to smoke, practice unsafe sex, eat junk food etc, but the costs will fall on "I later", whom he treats as external to "I now".

⁴² There is still a "luxury car tax" on vehicles costing more than \$62 000. When it was introduced it was set at a threshold just above the price of the most expensive Australian-made car, the Holden Caprice. It was, in effect, a form of industry subsidy.

gambling machines taxes.⁴³ The Commonwealth could provide a better funding deal for the states dependent on implementing the reforms recommended in the 2010 report of the Productivity Commission on gambling, and breaking the states' fiscal dependence.

⁴³ In other states and territories, once one state introduces poker machines, the others have to follow suite or lose revenue. Western Australia has been able to maintain a degree of sovereignty because it's a rather long drive from Adelaide to Eucla or from Darwin to Kununarra.

6. Wider reforms – restoring system thinking

Improving our public revenue base and making it fairer are important, but they are not the only fiscal reforms needed to ensure we collect and spend public money wisely.

In a set of changes dating from the mid 1980s governments, particularly the Commonwealth Government, have lost some of their capacity to take a system-wide approach to public policy. Those changes were designed to make managers in the public service more responsible for their own spending. A key piece of those reforms was that if a minister had an initiative involving new spending, the default assumption is that it had to be financed from savings in his or her own portfolio.

Other reforms associated with giving departments more responsibility and therefore more autonomy were to give departments more flexibility in setting pay and conditions. As a result there is now less mobility between government agencies.

The net result is less system-wide awareness. People on the public payroll are less likely to see themselves as “public servants” with wide responsibilities, and are more likely to see themselves as employees of a particular agency or department. In Australia, as a federation, there is already the problem of cost-shifting between tiers of government, particularly in areas such as health and education where responsibilities overlap. To these problems we have added the isolation of individual government departments from one another.

Theoretically the Commonwealth Treasury is supposed to attend to policy coordination, but there is a limit to their capacity, and policy coordination is a weaker way of bringing policies together than policy integration – what the British know as “joined-up government”. An institution known to public servants of earlier years, the “Interdepartmental Committee” (committees of middle-ranking experts charged with bringing policies together) is all but dead.

Even within departments there is compartmentalisation. A capability review conducted by the Public Service Commission found that the Department of Health tends to work in “silos” and seems to lack the capability to consider “whole-of-health-system policy”.⁴⁴ Even programs such as Medicare and the Pharmaceutical Benefits Scheme, which should come together as components of a patient-oriented primary care system, operate with a degree of isolation from each other. It’s hard to muster attention to the wider social determinants of health when there is such policy isolation.

It’s not as if public servants are incapable of system-thinking. Governments recruit well, and tend to favor people with multi-disciplinary perspectives when they hire graduates. But the incentives for system-wide policy development are not strong, and if anything have been weakened in the “reforms” of the last 30 years.

⁴⁴ Australian Public Service Commission, “Department of Health Capability Review”, 2011.
<http://www.apsc.gov.au/publications-and-media/current-publications/capability-review-health>

Conclusion

Carved into the plinth of the Internal Revenue Service building in Washington D.C. are the words “Taxes are the price we pay for civilization” – a quote from Justice Oliver Wendell Holmes.

We need to break from thinking of taxes as a burden or imposition. Every time a politician says or implies that we must cut taxes, we need to challenge that thinking. Some politicians on the right tend to portray all public spending as paternalistic, as if public spending deprives us from exercising our choice in the market.

But it is the height of paternalism for politicians to deny us the choice of providing for one another those things we choose to share – almost always with sound reason.

We need to realize the destructiveness of this push to “small government”. We cannot afford to see our common wealth depleted.