

July 2015

---

# **Fiscal challenges for Australia**

Grattan Institute Working Paper

John Daley and Danielle Wood

---

## Grattan Institute Support

### Founding Members



Australian Government



### Program Support

#### Higher Education Program



THE MYER  
FOUNDATION

### Affiliate Partners

Google

Origin Foundation

### Senior Affiliates

EY

PwC

The Scanlon Foundation

Wesfarmers

### Affiliates

Ashurst

Corrs

Deloitte

Jacobs

Mercy Health

Urbis

Westpac

## Grattan Institute Working Paper No. 2015-4, July 2015

This working paper was written by John Daley, Grattan Institute CEO and Danielle Wood, Fellow. Brendan Coates, Cameron Harrison, and Hugh Parsonage provided extensive research assistance and made substantial contributions to the report.

We would like to thank numerous people from the public policy community and Grattan Institute's Public Policy Committee for their helpful comments.

The opinions in this working paper are those of the authors and do not necessarily represent the views of Grattan Institute's founding members, affiliates, individual board members reference group members or reviewers. Any remaining errors or omissions are the responsibility of the authors.

Grattan Institute is an independent think-tank focused on Australian public policy. Our work is independent, practical and rigorous. We aim to improve policy outcomes by engaging with both decision-makers and the community.

For further information on the Institute's programs, or to join our mailing list, please go to: <http://www.grattan.edu.au/>

This working paper may be cited as: Daley, J. and Wood, D., 2015, Fiscal challenges for Australia, Grattan Institute

ISBN: 978-1-925015-69-0

All material published or otherwise created by Grattan Institute is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License

## Summary

Grattan Institute's 2013 report, *Balancing budgets: tough choices we need*, concluded that without structural reforms Australian Governments could face a decade of deficits. Subsequent events suggest this may have been optimistic.

The Commonwealth Government has run deficits for six years, largely due to a rapid increase in net spending on older households. The costs of repaying these deficits will fall primarily on younger households.

The next ten years are likely to be even more difficult. Falling terms of trade and lower nominal economic growth will drag on revenues at the same time the Commonwealth Government intends to fund substantial new policy initiatives.

The Commonwealth Government is yet to respond to the scale of its budget challenges. In office, both major political parties have hoped that bracket creep and favourable economic conditions would deliver a surplus. Hope is the key word: over the last six years, outcomes have consistently been worse than these projections. The latest short- and medium-term projections rely on optimistic assumptions about organic revenue growth and spending restraint. If any of them fail to materialise, the burden on younger generations will increase.

The biggest worry is that budget projections assume that growth will return to "trend". The International Monetary Fund recently joined a growing group of economists who believe that long-run economic growth in developed countries was trending lower even before the financial crisis, and future expectations should be lower again.

State budgets are also under pressure. Spending in health and education and other vital areas is growing faster than GDP. States' revenues are threatened because the Commonwealth has alleviated some of its own budget pressures by substantially reducing promised transfers to state governments for hospitals and schools. Recent state government budgets provide no insight into how they will respond to the looming funding gap.

Hoping for the best is not a budget management strategy: it simply shifts the costs and risk of budget repair onto future generations. More active policy measures to achieve budget repair are required. While containing spending will be important, both the politics of budget repair and the sheer size of the budget gap mean that governments will not be able to restore budgets to balance without also boosting revenues.

In a series of papers over the next two months, the Grattan Institute will set out four priority reforms for repairing Commonwealth and state government revenues. Our proposed policies – reducing superannuation tax concessions, changing capital gains tax and negative gearing, broadening the GST, and introducing a broad-based property levy – would all materially increase government revenue with limited collateral damage to the economy and the most vulnerable in our society.

These changes are politically difficult, particularly as governments do not have the money to "buy" reform. But if they are serious about tackling the looming budget gap governments will need to tackle some of them. Sustainable budgets depend on tough choices, not hope. Making these choices will be vital so that future generations do not have to foot the bill for today's inaction.

## Table of contents

Summary .....	1
1 Why do deficits matter? .....	3
2 A decade of Commonwealth deficits .....	4
3 Future pressures on Commonwealth budgets.....	7
4 State government budgets also face growing pressures.....	15
5 What should governments do?.....	20
6 References .....	21

## 1 Why do deficits matter?

If current policy settings persist, both Commonwealth and state governments are likely to post significant deficits for many years.

Deficits force future generations to pay for the spending of current generations. Our report for Grattan in 2014, *The Wealth of Generations*, showed that each \$40 billion dollar deficit would increase the lifetime tax burden for households headed by a person aged 25 to 34 today by \$10,000.<sup>1</sup> So the deficits run by the Commonwealth over the last five years represent a future tax burden of \$50,000 for an average young household. More years of deficits by Commonwealth and state governments will magnify this burden.

Deficits can be justified if they fund productive spending that will increase future economic growth. Yet recent deficits have largely funded growth in net spending on older households, particularly through health services, welfare payments and tax cuts for retirees.<sup>2</sup> While much of this increased spending is valuable, it is unfair to ask future generations to pay for it.

Addressing the structural concerns with the budget sooner rather than later is important for the future welfare of today's young Australians. But as the median voting age nudges 50,<sup>3</sup> there is likely to be strong resistance to policies that reduce entitlements for older Australians. Yet older Australians undoubtedly care about the welfare of the next generation. Older voters may be

persuaded that change is necessary if the dividend for younger Australians is clear.

There are also good economic reasons to repair the budget position. Governments can use deficit funding to smooth economic activity over the business cycle, as the Rudd Government did in 2009. Yet this requires governments to deliver surpluses when growth has recovered. Sustained budget deficits incur interest payments and limit future borrowings, reducing the capacity of governments to respond to adverse economic shocks. The Australian economy is particularly exposed because, with interest rates at historical lows, the Reserve Bank can do little more to stimulate the economy, and so the Commonwealth budget will be the primary defence in an economic downturn.

Both main parties espouse a medium-term fiscal objective of a balanced budget over the economic cycle. But ten years is a long cycle. There are real concerns that the can is being continually kicked down the road, justified by the claim that in the absence of perfect economic conditions, it is "not yet" the time for fiscal repair.

---

<sup>1</sup> Daley, *et al.* (2014), p. 9.

<sup>2</sup> *Ibid.*

<sup>3</sup> In the 2013 election, just over 47 per cent of voters were 50 and over at the Close of Rolls on 27 August 2013. See: AEC (2013).

## 2 A decade of Commonwealth deficits

In five of the last six years, the Commonwealth Government has posted headline deficits of more than 2 per cent of GDP. Assuming revenue and spending projections are correct, Australia is on track for more than a decade of deficits between 2008 and 2019, with Commonwealth net debt projected to peak at 18 per cent of GDP in 2017,<sup>4</sup> higher than any year since the mid-1990s.<sup>5</sup>

These deficits may have helped to maintain economic activity and minimise unemployment while economic growth was relatively slow. However, structural deficits are less defensible.

Budget balances will always follow a cycle – surpluses tend to occur when economic growth is strong, boosting tax receipts and reducing welfare spending. High prices for our exports relative to out imports – the terms of trade – can also boost tax receipts and make a favourable budget position more likely. The structural budget balance is the underlying budget balance after allowing for these fluctuations in the business cycle and the terms of trade.<sup>6</sup>

As well as a headline deficit, the Commonwealth Government also had a *structural* budget deficit of more than 2 per cent of GDP for the past five years (Figure 1). The drag of slower global economic conditions was generally outweighed by the temporary boost to revenues from the mining boom.

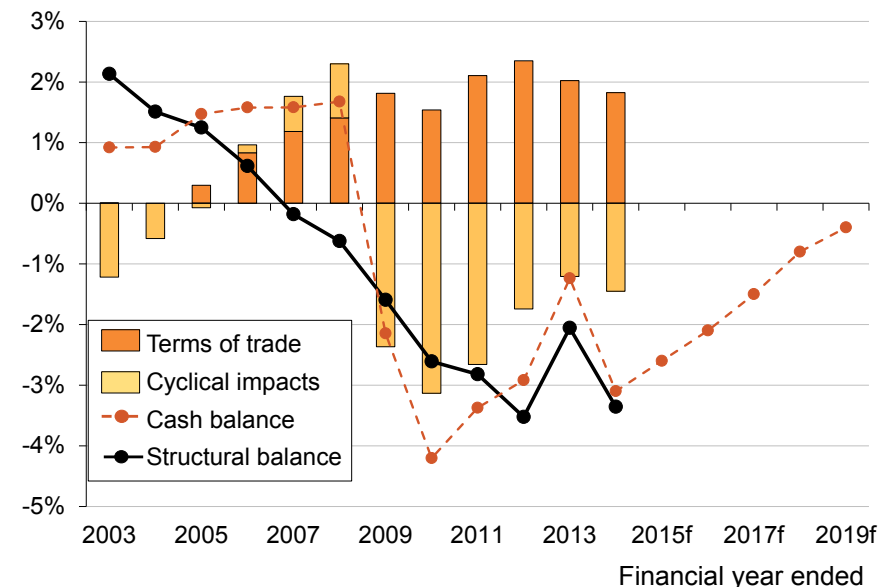
<sup>4</sup> Treasury (2015), p. 3-9.

<sup>5</sup> Net debt was 18.1 per cent of GDP in 1995-96. See: Treasury (2014b), p. 273.

<sup>6</sup> Daley, *et al.* (2014)

**Figure 1: The Commonwealth Government budget will deliver a decade of deficits**

Per cent of nominal GDP

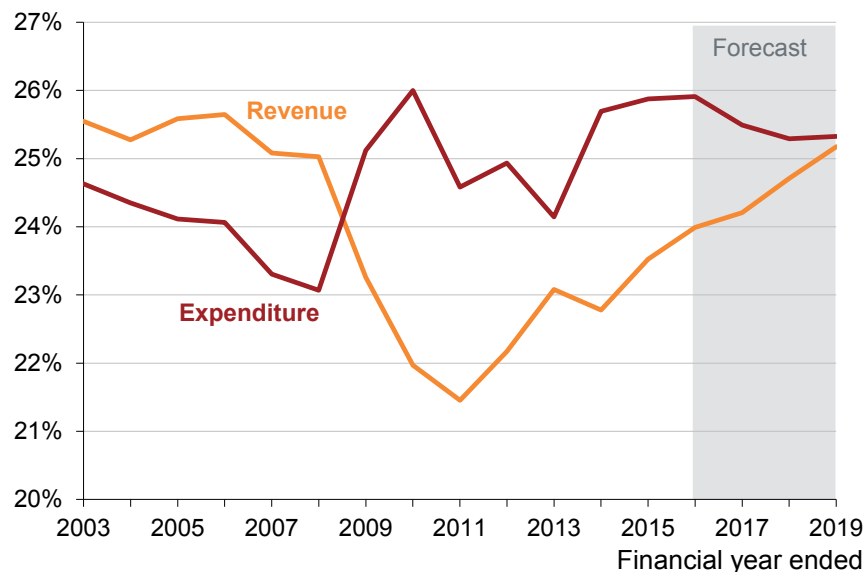


Notes: Cash balance is equal to receipts minus payments, minus Future Fund income (under 0.25 per cent of GDP). Stimulus is treated as a cyclical impact; changes in company tax from the decade average due to depreciation are treated as a cyclical impact. The depreciation rate is assumed to be 15 per cent. Terms of trade baseline is 2002-03. Source: Minifie *et al.* (2013); Grattan analysis

Both higher spending *and* lower revenue caused these headline and structural deficits. Commonwealth **revenues** fell sharply during the GFC but steadily rose after 2010-11 (Figure 2). Yet policy changes did not cause this rise. The Abbott Government's Temporary Budget Repair Levy boosted revenues by about \$1

billion a year over three years, and reindexing the fuel excise in line with inflation will raise \$1 billion in 2017-18. But at the same time, the Government cut off revenue streams by abolishing the carbon and mining taxes. These were forecast to raise \$2.9 billion and \$1.1 billion respectively in 2014-15.<sup>7</sup>

**Figure 2: Commonwealth revenues fell while expenditures remained high**  
Commonwealth revenue and expenditure as percentage of nominal GDP



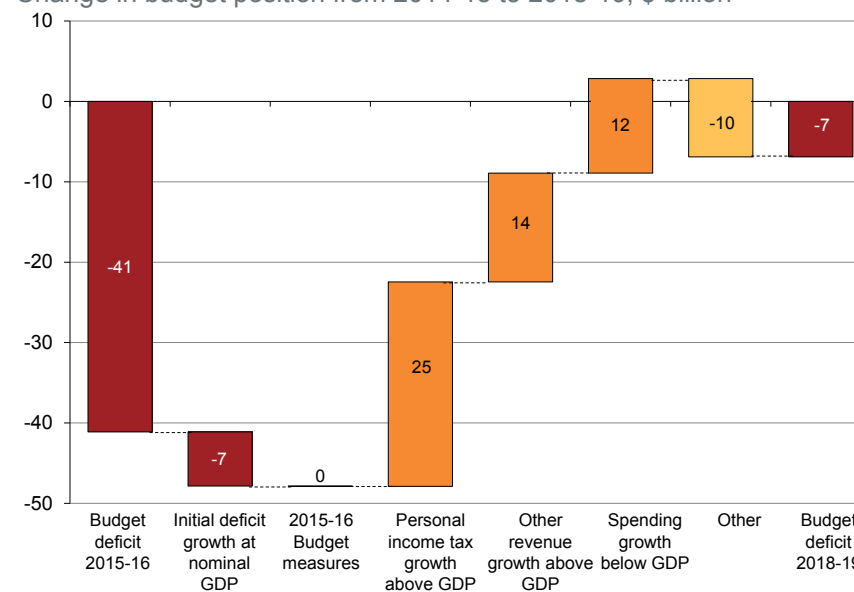
Note: Revenues and expenses from the general government sector operating statement of the Commonwealth Government financial statements. Difference between revenue and spending is the net operating balance. Commonwealth “own purpose” revenues and expenses (i.e. excluding revenues from the GST, and excluding grants to the states) follow a similar pattern.

Source: Treasury (2015); Grattan analysis.

<sup>7</sup> PEFO (2013), p. 55.

Instead, most of the revenue increase over the last four years, and the increase projected over the next four years, results from existing taxes growing faster than GDP. Fiscal drag – growth in income tax collections as a share of wages – accounts for most of the planned improvement in the budget position (Figure 3).

**Figure 3: Fiscal drag is doing most of budget repair work**  
Change in budget position from 2014-15 to 2018-19, \$ billion



Notes: Budget balance is the underlying cash balance from the 2014-15 budget. Estimates of the contribution of spending and revenue (including personal income tax) growth are based on the differences between the 2018-19 forecasts of these variables and the value if they had grown at the same rate as nominal GDP from 2014-15. Personal income tax includes income and other withholding taxes, superannuation fund taxes and fringe benefits. Initial growth in deficit at nominal GDP shows impact on budget balance if spending and revenue had continued to grow at nominal GDP. Other is a balancing item and includes effects of parameters changes.

Source: Treasury (2015); Grattan analysis.

When fiscal drag is not returned through periodic personal income tax cuts then average tax rates for most taxpayers increase. Growth in nominal wages results in taxpayers paying their top marginal tax rate on a great proportion of their income. This is exacerbated for taxpayers pushed into higher tax brackets.

Middle-income earners are particularly hurt. Figure 4 shows that on the wages growth projected in the 2015-16 budget, the average tax rates for people in middle-income groups will increase by between 1.5 and 2.5 percentage points. For example, a person in the sixth income decile, earning \$50,000 a year, will go from paying an average tax rate of 17.1 per cent in 2015 to 19.1 per cent in 2019. Such higher marginal tax rates can significantly affect incentives to participate in the workforce, particularly for women with children in childcare.<sup>8</sup>

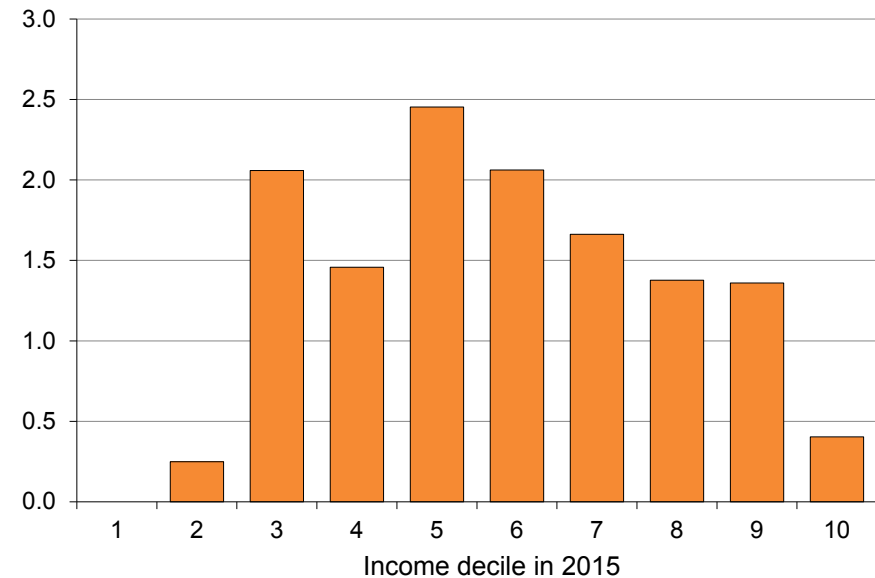
On the **spending** side, the Commonwealth’s stimulus package increased spending during the GFC. That was meant to be a one-off boost to the economy, yet since then spending has been maintained at these higher levels. Social security and welfare spending contributed about a third of the growth in spending over the decade. Growing Age Pension payments are the biggest contributor, but health, education and general public services, all of which grew faster than GDP,<sup>9</sup> also increased significantly.

In contrast, over the next four years outlays are forecast to grow slower than GDP. But explicit policy measures only explain some of this slower spending growth. Spending measures introduced in the Government’s 2014-15 Budget were projected to save \$14.2 billion in 2017-18.<sup>10</sup> Of these, \$5.9 billion have been passed, \$5.8

billion are stalled in the Senate (but are included in the budget projections)<sup>11</sup> and a further \$2.5 billion have been abandoned.<sup>12</sup> The Government has booked another \$2.3 billion in savings in the 2015-16 Budget. If all the measures passed, they would only restrain spending growth by about 0.8 per cent a year. Even on these forecasts, spending will remain a larger share of the economy than at any point between 2003 and 2008 (Figure 2).

**Figure 4: Bracket creep will increase average tax rates most for middle income earners**

Percentage point increase in average tax rates 2015 to 2019



Source: Treasury (2015); ATO (2015); Grattan analysis.

<sup>8</sup> Productivity Commission (2015), pp.11-12; Daley, *et al.* (2012), pp. 42-23.

<sup>9</sup> PBO (2013), pp. 7-8; Daley, *et al.* (2014), pp. 20-23.

<sup>10</sup> Treasury (2015), BP No. 2, p. 47.

<sup>11</sup> PBO (2015c)

<sup>12</sup> Grattan estimates based on major measures that have been reversed including proposal to index social security benefits to CPI, Medicare co-payments and the 6 month waiting period for Newstart Allowance.

### 3 Future pressures on Commonwealth budgets

Commonwealth Government revenues will struggle over the next decade if the terms of trade continue to fall and if economic growth remains sluggish. At the same time, the budget will need to make room to fund significant new spending initiatives.

#### 3.1 Slowing income growth and tax revenues

Australian government revenues are strongly linked to the performance of the economy and the terms of trade. When national incomes are growing strongly, personal and corporate income tax receipts increase. About two thirds of Commonwealth Government revenues come from these volatile direct taxes.<sup>13</sup> The projected slower growth in Australian living standards over the next decade is therefore a problem for Commonwealth revenue.<sup>14</sup>

In the 2000s, record terms of trade led to incomes rising quickly.<sup>15</sup> But falling terms of trade are expected to drag on future income growth. Minerals prices are falling as past mining investments increase supply.<sup>16</sup> Australia's terms of trade are forecast to fall by 9 per cent next year, and then stabilise.<sup>17</sup>

<sup>13</sup> Grattan analysis of Treasury (2014a), BP No.1, p. 5-18.

<sup>14</sup> Treasury (2010), p. vii.

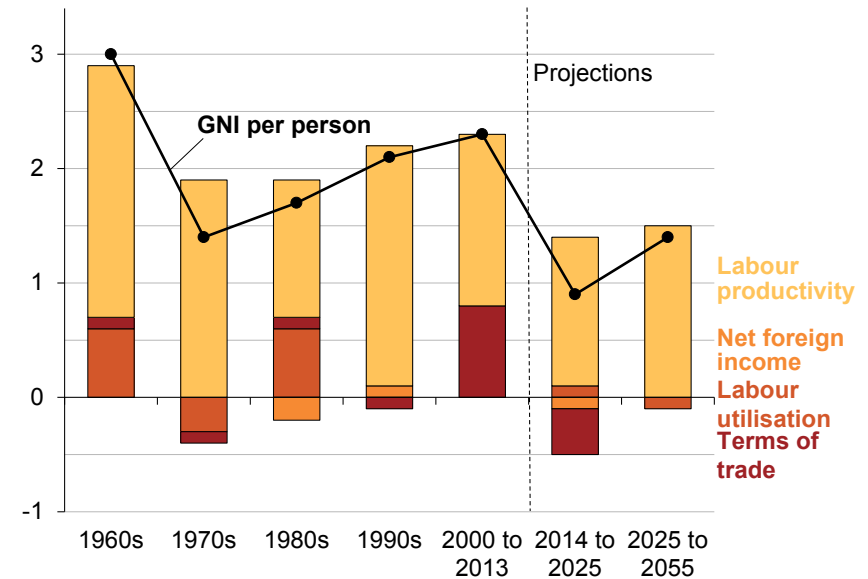
<sup>15</sup> Carmody (2013). National living standards are often measured by reference to Gross Domestic Product (GDP), which measures the volume of goods and services produced in the Australian economy. Gross National Income (GNI) measures the income earned by Australian residents. GNI differs from GDP principally because GNI captures changes in the price of exports compared to the price of imports. In periods when there are large changes in the terms of trade, GNI is arguably a more accurate reflection of living standards.

<sup>16</sup> Stevens (2013); Minifie, *et al.* (2013)

<sup>17</sup> Treasury (2015), p. 2-5.

Other projections suggest a longer and deeper fall in the terms of trade.<sup>18</sup> The drag on per capita incomes will be material – about 0.5 percentage points over the next decade, when the terms of trade return to long-run levels (Figure 5).

**Figure 5: Terms of trade added to income growth in the 2000s, but will drag in the next decade**  
Average annual percentage point contribution to gross national income per person



Note: Assumes labour productivity for 2025-2055 is at historical average of 1.5 per cent.  
Source: Hockey (2015a), p. 33.

<sup>18</sup> Treasury (2014a)

Labour force participation over the next few decades will also transition from boosting growth to dragging on growth as the baby boomer generation reaches retirement age. Treasury estimates that the labour force participation rate for people aged 15 years and over will fall from 64.6 per cent in 2014-15 to less than 62.4 per cent by 2054-55, as a smaller proportion of the population will be of traditional working age.<sup>19</sup> The annual impact is estimated to reduce national income growth by 0.1 percentage points, compared to the boost of 0.2 percentage points from rising participation over the past 40 years (Figure 5).<sup>20</sup>

Labour productivity may also fall. A decline in the number of mining construction employees will reduce average labour productivity because other industries generate much less value per hour worked.<sup>21</sup> This effect is likely to outweigh the 'productivity dividend' from past investments in the mining industry beginning production.<sup>22</sup>

Over the longer-term, technological change is the main driver of higher labour productivity. But some economists warn that technology will not improve living standards as dramatically as it has done in the past.<sup>23</sup> Therefore national incomes and individual living standards are likely to grow less quickly. Terms of trade are falling; participation is likely to be flat to decreasing; and there is more risk that labour productivity growth will be lower, rather than higher, than its long term average (Figure 5). As a result, Commonwealth revenues will be under pressure. Treasury has

warned that Australia is highly unlikely to achieve the real rate of growth required to return the budget to surplus by relying on economic growth alone.<sup>24</sup>

### 3.2 Spending demands are not going away

The Commonwealth budget will also face increasing pressures on spending from population ageing<sup>25</sup> and from new policy initiatives such as the National Disability Insurance Scheme (NDIS), the Families Package, and the Direct Action policy to address climate change, and commitments to increase defence spending. Together these signature policies are likely to add more than 1 per cent of GDP to spending over the decade.<sup>26</sup> Funding for these commitments will need to come through some combination of increases in revenues or cuts to spending in other areas.

The NDIS in particular will be a significant cost to the budget within the decade. The Parliamentary Budget Office (PBO) forecasts that spending on the scheme will rise to \$32 billion in 2025-26.<sup>27</sup>

### 3.3 Projections may understate the problems

Short and medium term projections of the Commonwealth budget position, although far from rosy, may understate the challenge of budget repair. They embody optimistic assumptions about

---

<sup>19</sup> Hockey (2015a), p. ix.

<sup>20</sup> Ibid., p. xi.

<sup>21</sup> Borland (2014)

<sup>22</sup> Productivity Commission (2014), p. 12.

<sup>23</sup> Gordon (2012); Cowen (2011). See Daley et al (2014) and Dolamore (2015) for a more detailed discussion of this literature.

---

<sup>24</sup> Parkinson (2014)

<sup>25</sup> Hockey (2015a)

<sup>26</sup> Grattan estimates based on the forecast spending on the NDIS (PBO (2014)) and the forecast growth in childcare and defence spending above the growth in nominal GDP (National Commission of Audit (2014)). This does not include the cost of the Direct Action Policy because no spending estimates are available beyond the forward estimates.

<sup>27</sup> PBO (2015a), p. 5.

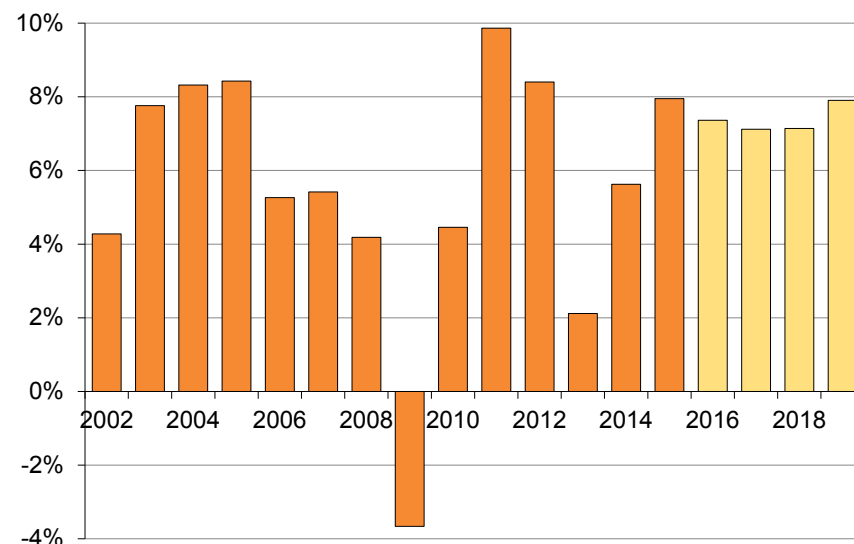
revenue and spending growth. Individually, any one of the assumptions may be defensible. Collectively, they seem unlikely. The history of the last six years is not encouraging: budget outcomes have consistently been much worse than the original projection four years earlier.

### 3.3.1 Revenue projections

Treasury’s projections of revenue and expenses over the four years of the forward estimates rely on income taxes rising from 11 per cent of GDP in 2014-15 to 12.1 per cent in 2018-19.

**Figure 6: Personal income tax is projected to grow more strongly than the last decade**

Annual growth in personal income tax revenues, historical and forecast



Source: ATO (2015); Treasury (2015).

The increase primarily reflects fiscal drag from rising nominal wages but also assumes a rapid recovery of capital gains tax receipts from 0.6 to 0.9 per cent of GDP. On these projections, personal income tax will grow faster than the historical average for each of the next four years (Figure 6).

This may be plausible if there are no changes to income tax rates and thresholds. But as average income tax burdens increase, the government is likely to face strong pressure to return some of the fiscal drag by changing the tax scales. In most years in the 2000s, governments reduced tax rates or increased tax thresholds (or both), limiting the effects of bracket creep.

Other revenue projections also seem optimistic. The 2015-16 budget projects that the terms of trade will fall by 9 per cent in 2015-16 and then stabilise at a level about 50 per cent higher than their long-run average (Figure 7). However, terms of trade shocks around the world in the last few decades have typically been symmetrical. In other words, the terms of trade have tended to revert to their long-run average.<sup>28</sup>

The budget also projects healthy economic growth of 3.25 per cent in 2016-17 and 3.5 per cent after that – including non-mining investment growth of 7.5 per cent in 2016-17.<sup>29</sup> In contrast, ABS and Reserve Bank survey data suggest non-mining investment could remain subdued for some time.<sup>30</sup>

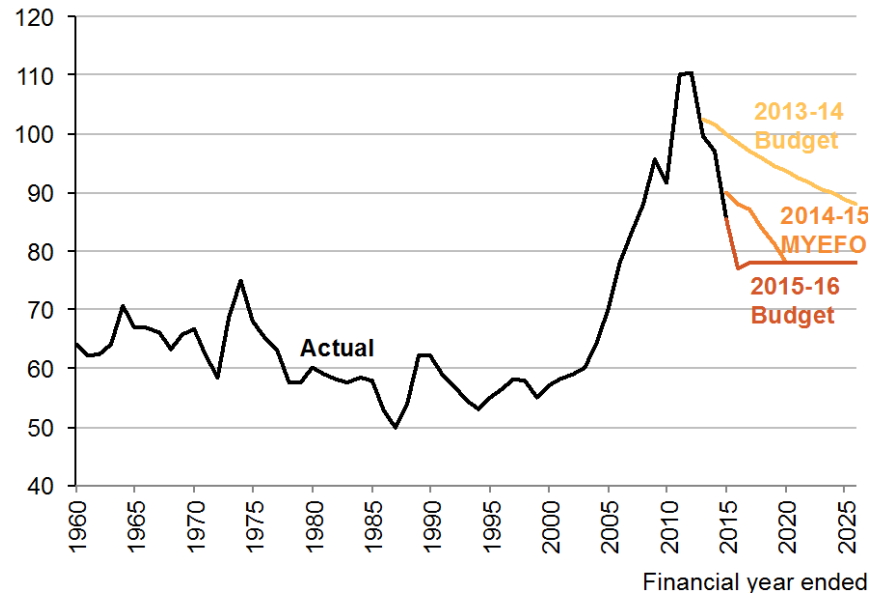
<sup>28</sup> Minifie, *et al.* (2013), pp. 34-35.

<sup>29</sup> Treasury (2015), pp. 1-7 and 2-5.

<sup>30</sup> RBA (2015), pp. 38-44.

**Figure 7: Terms of trade are projected to stabilise above their long-term average**

Terms of trade, 2013-14 = 100



Source: Eslake (2015)

These revenue projections are underpinned by an overarching assumption that by the end of the two-year estimates period the economy will return to the medium- to long-term growth rate.<sup>31</sup>

The assumption begs the question of what long-term growth rate is appropriate. Since the global financial crisis economic growth has been much slower in developed countries. In the 20 years leading up to the GFC (1988-2007), real GDP grew by an average

<sup>31</sup> Treasury (2014c). More precisely, the projections assume that economic activity increases to close the output gap, so if growth has been below trend, then economic growth is projected to be higher than the long run average.

of 2.8 per cent a year across the OECD. Since 2010, the average growth rate has been 1.6 per cent.<sup>32</sup> The IMF has warned that potential output growth rates in advanced economies are likely to remain below pre-GFC rates for at least the next five years because of the negative effects of demographics and the slow recovery in business investment.<sup>33</sup> On this basis, it suggested Australia should expect slower growth for several years.<sup>34</sup>

The longer-term prognosis is not yet clear:<sup>35</sup> it may just be a sluggish recovery, typical for a finance-induced recession, that will ultimately pass,<sup>36</sup> although the global increase in debt levels may foreshadow a lot more adjustment to come. Or it may reflect gloomy predictions that economic growth in coming decades will be slower than for the last few decades.<sup>37</sup>

Whatever lies ahead, the overall Commonwealth budget projections seem optimistic and unlikely to be realised. A PBO report concluded that the risks to the budget from economic shocks are weighted to the downside. It identified a real risk that labour productivity growth and the terms of trade will be less favourable than projected, significantly reducing tax collections.<sup>38</sup> Company tax receipts could also well be lower than forecast given slower business capital expenditure<sup>39</sup> and losses carried forward from the GFC.

<sup>32</sup> Grattan analysis of OECD (2015).

<sup>33</sup> IMF (2015b), chapter 3.

<sup>34</sup> IMF (2015a).

<sup>35</sup> Baily and Bosworth (2013)

<sup>36</sup> Roxburgh, *et al.* (2011)

<sup>37</sup> See above, footnote 23.

<sup>38</sup> PBO (2014)

<sup>39</sup> RBA (2015), pp. 38-44.

### 3.3.2 Spending projections

The Commonwealth’s spending projections also seem optimistic. They assume tight spending restraint, with government spending falling as a share of the economy (Figure 2).<sup>40</sup> Annual spending growth of 2.6 per cent is projected between 2014-15 and 2025-26, considerably below the average of 3.6 per cent over the previous decade.<sup>41</sup> Consistent with this spending restraint, the Commonwealth Government forecasts that spending will decline to 24.2 per cent of GDP in 2024-25, below its long term average.<sup>42</sup>

Spending is forecast to be below the historical average in all program areas other than defence, as is shown in Figure 8, which compares the projected growth in the Commonwealth’s largest spending programs over the next 10 years with the history of the last 10 years.

Some of these estimates seem improbable. For example, it seems unlikely that spending on demand-driven programs such as the **Medicare Benefits Schedule** will moderate without significant policy changes. The PBO attributes the strong historical growth in Medicare payments to policies (such as the Bulk Billing Incentive and the Extended Medicare Safety Net) that have made Medicare services more attractive or accessible. New policy measures such as the freeze in Medicare scheduled fees are forecast to produce lower growth. Yet for more than 20 years the ageing of the population, medical science and technology improvements and rising expectations of the health system have

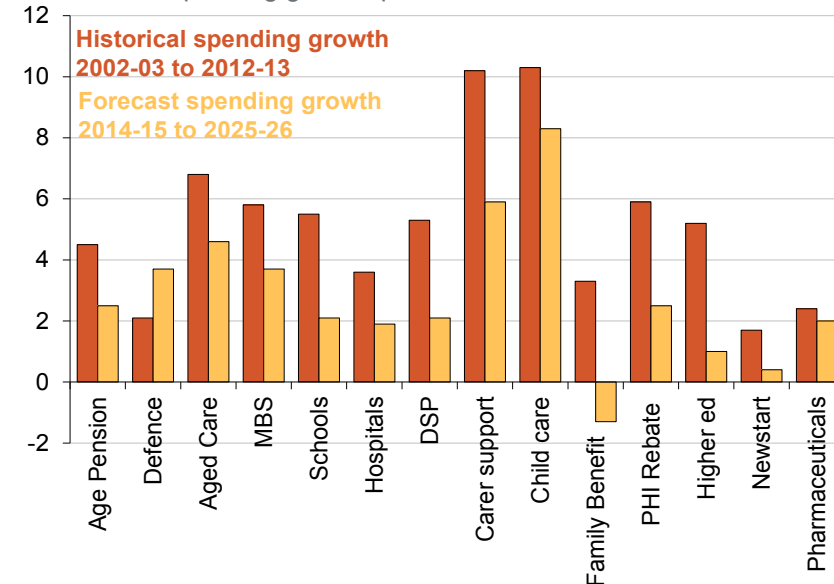
<sup>40</sup> Treasury (2015), p. 5-11.

<sup>41</sup> PBO (2015a), p. 5.

<sup>42</sup> Treasury (2015), BP No. 1, p. 3-9.

put relentless pressure on the health budget.<sup>43</sup> These pressures will not abate, and the forecasts almost certainly understate them. **Figure 8: Spending forecasts rely on lower growth in almost all major programme areas**

Real annual spending growth, per cent



Note: The defence estimates do not factor in the commitment to increase defence spending to 2 per cent of GDP by 2023-24. Rather they are based on the long-term funding commitments made in previous Defence White Papers and government announcements. Source: PBO (2014)

The decline in spending growth for **hospitals** and **schools** may be credible given the decision in the 2014-15 Budget to limit spending increases to inflation and population growth. This of course does not mean that spending growth will decline in these

<sup>43</sup> Daley, et al. (2014)

program areas – merely that the states will have to bear all of the cost of real per capita growth (section 1.5).

The 2015-16 budget assumes even tighter spending growth than have previous budgets. Except for welfare spending, mainly driven by the NDIS, no category is expected to grow materially faster than inflation.<sup>44</sup>

In other programs, lower forecast growth rates are tied to measures from the 2014-15 and 2015-16 Budgets that are unlikely to be passed by the Senate. Therefore spending on the **Carers Payment, Higher education** and **Newstart benefits** is likely to be more than forecast (section 1.1). Even the forecast growth in **defence** spending – the only program area where spending is forecast to grow faster than in the last decade – does not put Australia on a path to spend 2 per cent of GDP on defence by 2023-24 as the Government has promised.<sup>45</sup>

Spending projections also assume there will be no new spending initiatives promised at elections or in response to natural disasters or community demands for more assistance to the disadvantaged. Experience over the last decade suggests that such spending restraint will be difficult (Box 1).

Given the number of things that need to go right, moderating spending growth to 24.2 per cent of GDP in 2024-25 seems extremely unlikely without further explicit budget measures to cut expenditure.

---

<sup>44</sup> Treasury (2015), BP No. 1, p. 5-11.

<sup>45</sup> See: Defence (2014), p. 1.

### 3.3.3 Experience of budget forecasts and outcomes

The government's fiscal strategy relies heavily on these optimistic projections. The measures introduced in this year's budget will make no net improvement to the budget position in 2018-19 (Figure 3). The government justifies its inaction by saying that the projections suggest it is on a "clear and credible path back to surplus."<sup>46</sup> But projections over the past five years have consistently overestimated the position of the budget four years out (Figure 9).

#### Box 1: Electoral sweeteners: a recent history

Governments of both persuasions like to promise to lift welfare payments, cut taxes and improve government services, especially in election years.

In the last decade, Age Pension recipients have been the greatest beneficiaries of discretionary top ups. Increases in pension payments over and above the normal indexation arrangements were made in 2007 in the Simpler Superannuation changes, in the 2008-09 and 2009-10 Budgets, and in late 2011 as part of the carbon pricing compensation package.

Recipients of Family Tax Benefit Part B, the Disability Support Pension, Carer Income Support and childcare payments also received one or more discretionary increases

In 2009-10 higher education received a significant funding boost for teaching and research and reforms to the student income support system. In primary health, funding was boosted by the Bulk Billing Incentive and Extended Medicare Safety Net in 2004,

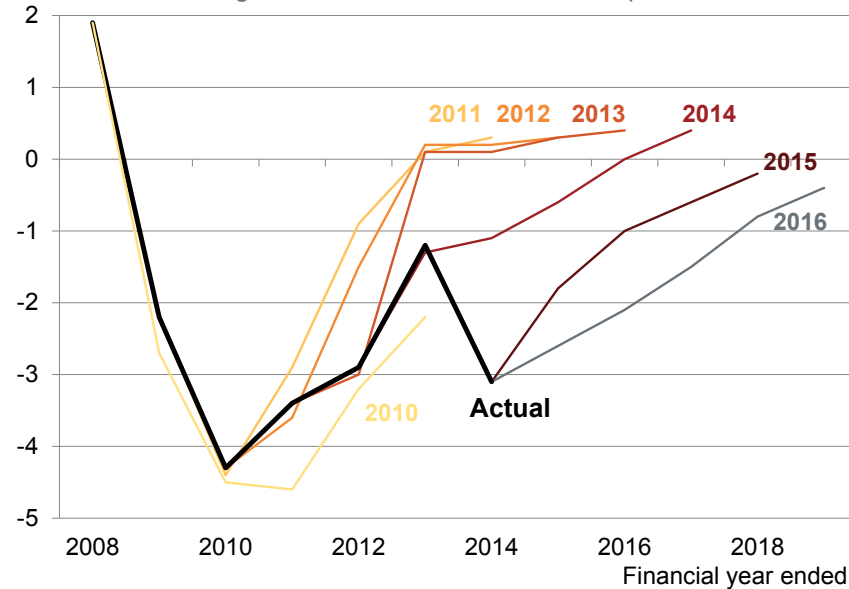
---

<sup>46</sup> Hockey (2015b)

by increasing GP benefits payments in 2005 and by the inclusion of dental services in 2007.

Source: PBO (2014); Commonwealth Budget Papers 2002-03 to 2012-13.

**Figure 9: Budget forecasts have persistently missed the mark**  
Commonwealth budget balance, actual and forecast, per cent of GDP

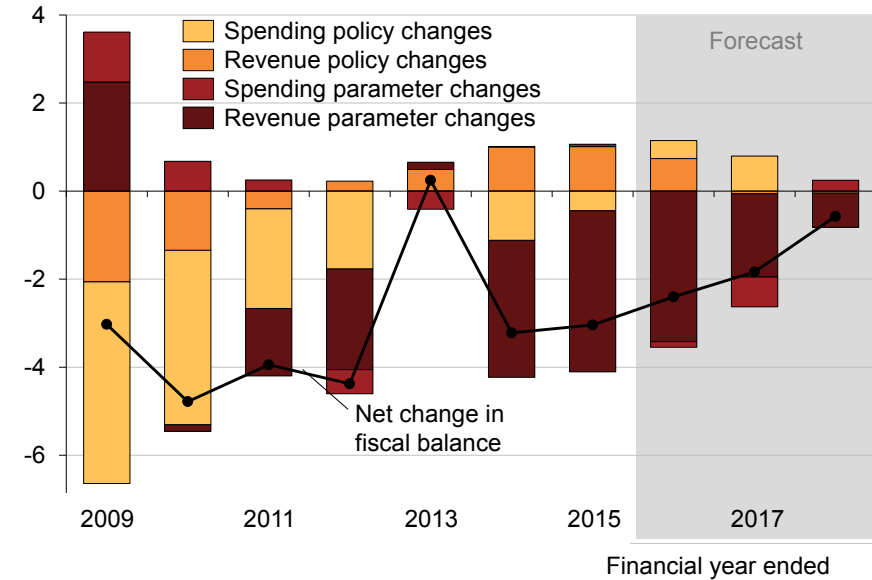


Source: Commonwealth Budget papers 2009-10 to 2015-16.

Figure 10 shows why. In the years leading up to the global financial crisis, forecasters underestimated the budget position by failing to anticipate the large spending and tax bonuses delivered in response to the crisis. These spending and revenue policy measures generated cumulative forecast errors in excess of six per cent of GDP for 2009. They were offset by higher revenues due to the unexpected increases in mining prices from 2006-2009.

**Figure 10: Budget outcomes have disappointed due to spending decisions and revenue shocks**

Cumulative change over 4 years to budget balance projection  
Per cent of nominal GDP



Notes: The change for each year 2009 to 2015 is the cumulative change over four years from the initial projection to the final outcome. The change for 2016 to 2018 is the cumulative change from the initial projection to the latest estimate. The change is expressed as a percentage of nominal GDP in the outcome year.

Sources: Commonwealth Budget Papers, Mid-year Economic and Fiscal Outlook statements, Pre-Election Economic Outlook and Economic Statements (various years).

But just as the earlier estimates failed to foresee the surge in revenue in the years leading up to the GFC, later estimates have failed to capture its decline. For the last two years, declines in revenue parameter estimates, particularly the terms of trade, have reduced budget balances from the original projections by more than 3 per cent of GDP. Policy decisions have not helped – new

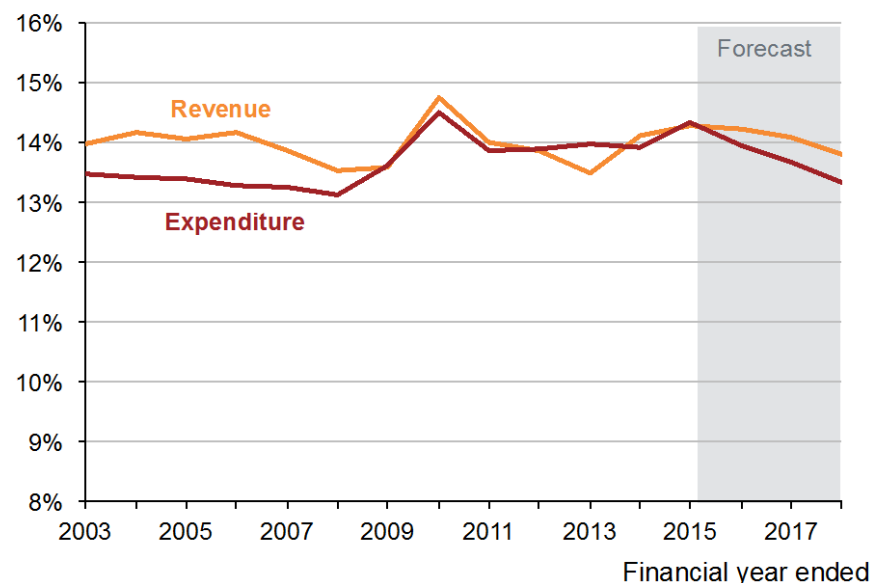
spending policies were not always matched by new revenue measures so budget positions deteriorated further from the projections in most years.

The scale of these errors – larger than the ultimate deficit in most years – calls into question a do-nothing budget strategy that justifies deficits on the basis of a projected surplus or near surplus at the end of the forward estimates period.

## 4 State government budgets also face growing pressures

In contrast to the Commonwealth, state government operating revenues have generally exceeded expenses over the last decade (Figure 11). Yet states spent more over the last six years than over the previous six. State revenues and spending are both forecast to fall over the forward estimates.

**Figure 11: State government budgets have been largely in balance**  
Per cent of nominal GDP



Notes: The 2014-15 Budget Papers for many state governments were released prior to the Commonwealth Government budget so forecasts do not include the full impact of reduced Commonwealth funding for health previously agreed under the National Health Reform Agreement. This equates to around \$1.2 billion in revenue (0.06% of GDP) in 2017-18. Source: Treasury (2014b); ABS (2014b) Table 1; Grattan analysis.

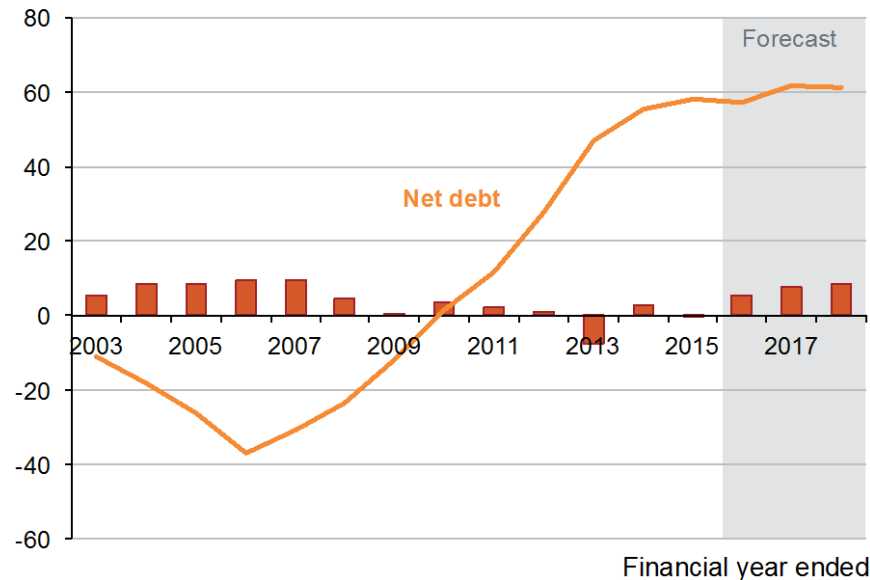
These aggregates obscure variations between states. Tasmania and South Australia ran operating deficits after property market turnover declined and stamp duty revenues fell in 2010-11. Their budget positions have since improved. In Queensland, deficits were larger when revenues were hit by the 2011 floods, but the return to surplus was faster. The NSW, Victoria and Western Australia Government operating budgets were largely balanced over the period. More recently, Western Australia went into deficit when royalty revenues from iron ore fell sharply. This was exacerbated by the fall in their share of GST revenues as the Grants Commission process redistributed record state mining royalty revenues from previous years which had already been spent by the WA Government.

Unlike the Commonwealth, the states also have significant capital spending that does not immediately affect net operating balances.<sup>47</sup> Capital spending increased substantially after 2005, and far exceeded the offsetting depreciation of previous capital spending. State governments funded this increased infrastructure spending largely through borrowing, and so net debt increased (Figure 12). In the decade to 2013-14, higher interest and depreciation costs increased subsequent operating budget expenses from six to more than nine per cent of state revenues.<sup>48</sup>

<sup>47</sup> The depreciation on this capital spending affects net operating balances in subsequent budget years. Non-cash depreciation already built into state operating budgets will erode this debt if state capital spending falls, as their most recent budgets forecast.

<sup>48</sup> Daley, *et al.* (2014), p. 41.

**Figure 12: State and territory net debt has increased rapidly**  
Total state and territory net operating balances and debt, 2014\$ billion



Notes: Debt forecasts in NSW, Queensland, South Australia and ACT were revised downwards between the 2013-14 Budget and the 2014-15 Budgets and Mid-Year forecasts. This accounts for the lower combined debt forecasts compared to those presented in our 2014 Budget Pressures report (Daley, McGannon, et al. (2014), p. 41). The improvement in the forecast debt position was particularly significant in NSW because of the sale of Macquarie Generation in September 2014.  
Source: State government Budget Papers and Mid-Year forecasts.

#### 4.1 Future pressures on state government budgets

All state governments will face more significant budget pressures beyond the forward estimates. Health and education spending are forecast to grow strongly over the next decade. At the same time, the Commonwealth has stated that from 2017-18 it will no longer contribute to growth in real spending per person in these areas. Health and education make up almost half of state government

expenditure. If spending per person continues to grow faster than inflation, then it is unlikely that other areas can be cut enough to make up the gap. Instead, state governments will need additional revenues to keep their budgets balanced.

#### 4.2 More spending on hospitals, schools and infrastructure

Growing healthcare costs are the most significant spending pressure on state governments. Spending on health, primarily hospitals, is about 25 per cent of state recurrent expenditure.<sup>49</sup>

State government health spending grew considerably faster than the economy over the last two decades. Increased use of services rather than population ageing was the main cause of health spending growth (Figure 13).<sup>50</sup> As the economy grew, governments spent more of their income providing more and better health treatments, including those using new technologies.<sup>51</sup>

This strong non-demographic growth is forecast to continue.<sup>52</sup> Population ageing will also contribute more to spending growth as the large baby boomer cohort reaches the age brackets when health spending per person is much higher.<sup>53</sup>

<sup>49</sup> Ibid., Supporting Analysis, p. 4.

<sup>50</sup> Daley, et al. (2014), p. 26.

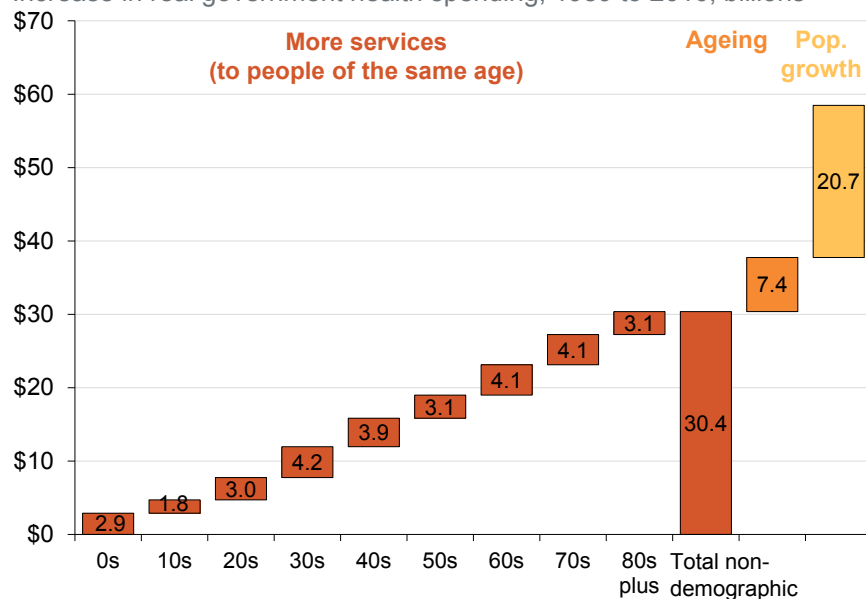
<sup>51</sup> Gruen and Thomson (2007)

<sup>52</sup> PC (2013)

<sup>53</sup> Daley, et al. (2014), p. 26.

State government spending on schools is also forecast to rise faster than GDP in years to come. The increase is partly a result of commitments to increase funding for schools with disadvantaged students between 2014 and 2019 under the National Education Reform Agreement.<sup>54</sup>

**Figure 13: All age groups contributed to increased health spending**  
Increase in real government health spending, 1989 to 2010, billions



Note: Less reliance ought to be placed on figures for 80+, as sample sizes are small and data categories change across surveys. Spending figures are adjusted to constant prices using the GDP implicit price deflator. Since health prices grew somewhat faster than average price levels, a small proportion of the increase across all categories will reflect this faster price growth.

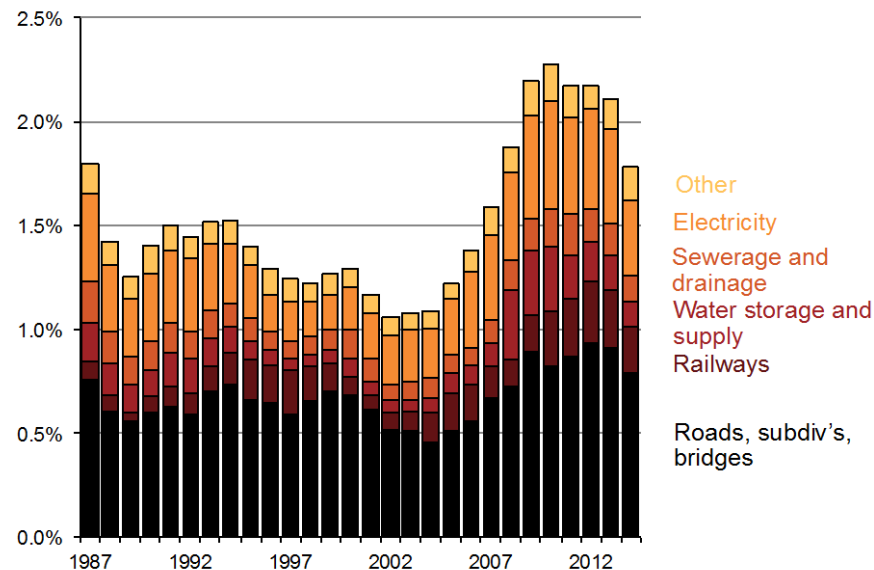
Source: ABS (Various years); ABS (2014a) Table 59; Grattan analysis.

<sup>54</sup> National Education Reform Agreement

State governments spent more on infrastructure – particularly in transport – over the last decade (Figure 14).<sup>55</sup> Much of it was effectively unfunded. Although state spending on infrastructure is now falling, there will be significant pressure to maintain or increase spending on infrastructure to cope with increasing population and concerns about congestion.<sup>56</sup>

**Figure 14: Government spending on infrastructure rose from 2007, but is now falling**

Engineering construction work done for the public sector, % of GDP



Notes: By financial year. Exclude telecommunications, insignificant after Telstra sale. Source: ABS (2015)

<sup>55</sup> These estimates based on engineering work done are consistent with ABS statistics based on government budget papers PBO (2015b), p. 41.

<sup>56</sup> Kelly and Donegan (2015), pp. 112-128; Infrastructure Australia (2015).

Higher infrastructure spending can be justified if it generates increases in the productive capacity of the economy sufficient to justify the cost. But Australian governments could do a lot better in their project choices. An overhaul of project selection processes – including greater reliance on independent and transparent cost-benefit analysis – would significantly improve the returns to this spending.<sup>57</sup>

### 4.3 The Commonwealth has substantially reduced planned funding for the states

Under Commonwealth policy adopted in the May 2015 budget, state governments will have to fund all increases in real spending per person for hospital and schools.<sup>58</sup> The change abandoned previous Commonwealth undertakings, set out in the COAG National Education Reform Agreement and the National Health Reform Agreement, to contribute to real increases in spending per person.

The shift in spending responsibility back to the states is very significant. The Commonwealth estimates that by 2024-25 the changed policy will reduce its real spending by \$11 billion on hospitals and \$5 billion on schools.<sup>59</sup> By 2054-55, the reduction in real spending for hospitals could be as large as \$78 billion (Figure 15).<sup>60</sup>

If the forecast growth in spending on these services occurs, then state government budgets will need to cut other services or increase revenues by a substantial amount.

<sup>57</sup> Productivity Commission (2013)

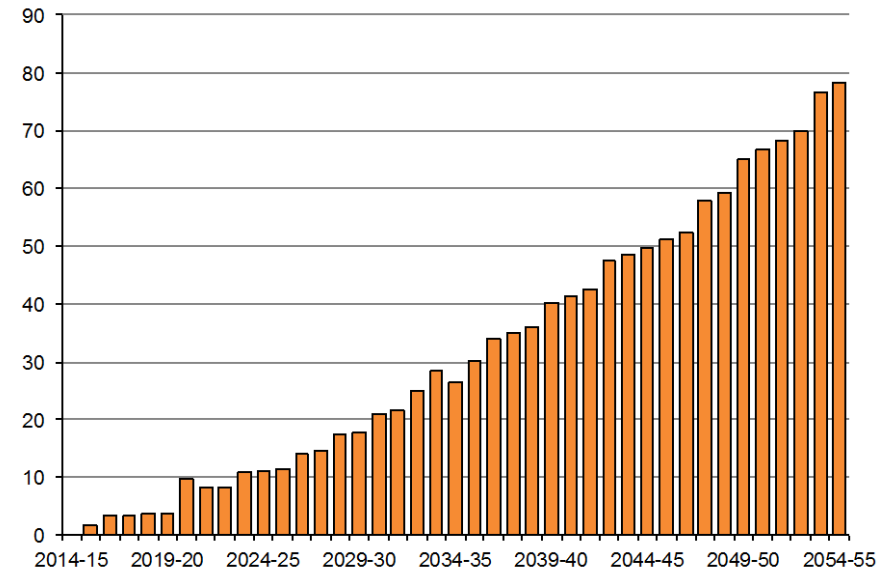
<sup>58</sup> Treasury (2014a), BP No.2, p. 126.

<sup>59</sup> Estimates in 2013-14 dollars. Schools estimate calculated from nominal value of transfer provided in *ibid.*, Overview, p. 7. Health estimates based on Hockey (2015a) (see: Figure 15).

<sup>60</sup> Treasury (2014a), Overview, p. 7.

**Figure 15: Commonwealth will provide much less funding to the states for health than previously agreed**

Forecast Commonwealth health funding withdrawn from states, 2014\$ billion



Notes: Estimates of health funding withdrawn from states based on the difference in Australian Government spending under the 'proposed policy' and 'previous policy' scenarios modelled in the 2015 Intergenerational Report.

Source: Hockey (2015a), Tables 2.10 and C.2; Grattan analysis.

#### 4.4 Other State revenues are also under pressure

State revenues may also come under renewed pressure. Relatively constant revenues over the last decade may have masked increased vulnerabilities in individual revenue sources.

In particular, untied revenues from the GST fell over the decade, from almost 4.0 per cent to 3.2 per cent of GDP in the decade to 2013-14. The main causes were people saving more and spending more on untaxed goods and services, particularly rent and mortgage payments.<sup>61</sup> Unless these trends reverse, GST is unlikely to increase as a percentage of GDP.

Conveyance stamp duties also fell. They averaged about 1.2 per cent of GDP between 2002-03 and 2007-08, but only 0.9 per cent of GDP since then.<sup>62</sup>

These falls over the decade were offset by rises in royalties and small increases in property and payroll taxes. Yet state royalties are now falling as price falls outweigh volume increases.<sup>63</sup> All states effectively benefited from the rise in royalties, and will feel the pinch if they fall. Revenue redistribution determined by the Commonwealth Grants Commission and implemented through the carve up of the GST means that changes in one state's royalties are effectively shared among all states.

---

<sup>61</sup> Daley, *et al.* (2014), p. 34.

<sup>62</sup> PBO (2015b)

<sup>63</sup> State royalties are typically value-based; they are not simply charges based on volume.

## 5 What should governments do?

Australian governments are running substantial budget deficits. Future pressures are likely to make the problems worse. A drift back to surplus is unlikely, and relies on best case assumptions that have often disappointed in the past.

There have been a range of justifications for inaction. Governments have taken advantage of the wriggle room provided by the vagueness of where Australia is in the economic cycle. For several years they have played St Augustine: “let us be chaste and run a surplus – but not yet.” And while they have pointed to sluggish economic growth to justify deficits, they have glossed over the temporary boost to revenues from the mining boom. Finally, they have talked up their position by pointing to surpluses or near surpluses towards the end of each budget’s forward estimates. These surpluses have continued to recede to the horizon as optimistic projections have run aground on reality.

To bring their budgets back to balance, governments will need to undertake reforms on both the revenue and the spending side. But recently the Commonwealth Government’s energy has been focussed on cuts to spending. There have been large reductions in the budget for foreign aid<sup>64</sup> and sizeable savings have also been proposed (and in some cases reversed) for higher education, primary care, and welfare through changes in eligibility thresholds and indexation arrangement for benefits.<sup>65</sup> The

---

<sup>64</sup> The 2014-15 Budget cut proposed spending for official development assistance (ODA) by \$7.6 billion over five years (Treasury (2014a), p.121). Another \$3.7 billion in savings over four years was announced in MYEFO 2014-15 (Treasury (2014b), p. 47).

<sup>65</sup> Treasury (2014a), Budget Paper No. 2, pp. 77; 133; 197-204; 210.

Commonwealth Government has deferred any significant changes in its revenue mix until after its *Tax White Paper*.<sup>66</sup>

Most state governments have also shown a lack of enthusiasm for new revenue measures.<sup>67</sup> These governments, after benefiting from high mining royalty revenues, have offered no plan to fill the gap as these volatile revenues wane.

But there are revenue measures that could make a meaningful contribution to budget repair with little collateral damage. In a series of forthcoming papers, we set out four policy proposals – reducing superannuation tax concessions, changes to capital gains tax and negative gearing, broadening the GST and the introduction of a broad-based property levy – that we think governments should adopt to improve their fiscal position.

These reforms will be politically difficult. To build the public case, governments should adopt budget projection methodologies that provide a more realistic picture of the pressures on Australia’s medium term budget outcomes. These will make it more obvious that we cannot rely on the hope that our luck will improve. Tougher decisions are needed.

---

<sup>66</sup> Loughnane (2013)

<sup>67</sup> Very few state governments have engaged in serious debate about tax reform in recent years. Indeed, the trend in election campaigns has been to rule out any changes to taxation. In the recent Victorian election campaign, the Labor Opposition committed to no new taxes or tax increases if they won power (Savage (2014)). The LNP made similar commitments in the Queensland Election campaign (Eaton (2015)). One exception is South Australia that has recently released a comprehensive discussion paper on State Tax Reform (Government of South Australia (2015)).

## 6 References

- ABS (2014a) *Australian Demographic Statistics* catalogue number 3101.0 Australian Bureau of Statistics
- ABS (2014b) *Australian National Accounts: State Accounts, 2013-14*, catalogue number 5220.0, Australian Bureau of Statistics
- ABS (2015) *Engineering Construction Activity, Australia, Dec 2014*, catalogue number 8762.0, Table 11, Australian Bureau of Statistics
- ABS (Various years) *Household Expenditure Survey and Survey of Income and Housing, Australia*, catalogue number 6540.0, Australian Bureau of Statistics
- AEC (2013) *Total enrolled to vote in the 2013 Federal Election by Division, Age Groups and Gender for all States/Territories, as at Colse of Rolls 12 August 2013*, accessed 24 June 2015, from [http://aec.gov.au/Enrolling\\_to\\_vote/Enrolment\\_stats/elector\\_count/2013/elector-count-election-2013.pdf](http://aec.gov.au/Enrolling_to_vote/Enrolment_stats/elector_count/2013/elector-count-election-2013.pdf)
- ATO (2015) *Taxation Statistics 2012-13*, accessed 28 May 2015, from <https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Tax-statistics/Taxation-statistics-2012-13/>
- Baily, M. N. and Bosworth, B. (2013) 'Prospects for Growth in the World's Four Major Economies', Nomura Foundation's Macro Economy Research Conference, accessed 2 June 2015, from <http://www.brookings.edu/~media/research/files/papers/2013/09/united-states-economy-why-weak-recovery-baily-bosworth/united-states-economy-why-weak-recovery-baily-bosworth.pdf>
- Borland, J. (2014) *The influence of mining on labour productivity - We may be doing worse than we think*, accessed 23 November 2014, from <https://sites.google.com/site/borlandjum/labour-market-snapshots>
- Carmody, C. (2013) *Slowing Productivity Growth – a Developed Country Comparison*, Australian Treasury Economic Roundup, accessed 6 October 2014, from <http://www.treasury.gov.au/PublicationsAndMedia/Publications/2013/Economic-Roundup-Issue-2/Economic-Roundup/Slowing-productivity-growth>
- Daley, J., McGannon, C. and Ginnivan, L. (2012) *Game-changers: Economic reform priorities for Australia*, Grattan Institute, accessed 2 October 2013, from <http://grattan.edu.au/publications/reports/post/game-changers-economic-reform-priorities-for-australia/>
- Daley, J., McGannon, C. and Hunter, A. (2014) *Budget Pressures on Australian Governments 2014* Grattan Institute accessed 21 November 2014, from <http://grattan.edu.au/report/budget-pressures-on-australian-governments-2014/>
- Daley, J., Wood, D., Weidmann, B. and Harrison, C. (2014) *The wealth of generations* Grattan Institute, accessed 13 February 2015, from <http://grattan.edu.au/report/the-wealth-of-generations/>
- Defence (2014) *Defence Issues Paper* accessed 10 April 2015, from <http://www.defence.gov.au/whitepaper/docs/defenceissuespaper2014.pdf>

- Dolamore, R. (2015) *Are advanced economies stagnating?: a quick guide*, Parliamentary Library, accessed 9 April 2015, from [http://www.aph.gov.au/About\\_Parliament/Parliamentary\\_Departments/Parliamentary\\_Library/pubs/rp/rp1415/Quick\\_Guides/SecularStagnation](http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/rp1415/Quick_Guides/SecularStagnation)
- Eaton, M. (2015) 'Queensland election 2015: Newman promises payroll tax cut and moratorium on new taxes', *ABC News* 16 January 2015 accessed 23 February 2015 from <http://www.abc.net.au/news/2015-01-16/queensland-election-newman-promises-tax-cut/6021504>
- Eslake, S. (2015) *Some further thoughts on the 2015-16 Budget* Bank of America Merrill Lynch
- Government of South Australia (2015) *State Tax Review Discussion Paper*, accessed 23 February 2015, from [www.yourSAy.sa.gov.au](http://www.yourSAy.sa.gov.au)
- Gruen, D. and Thomson, J. (2007) *Conceptual challenges on the road to the second Intergenerational Report*, accessed 2 December 2014, from [http://archive.treasury.gov.au/documents/1329/HTML/docs\\_hell.asp?URL=03\\_Conceptual\\_challenges\\_on\\_the\\_road\\_to\\_the\\_second\\_Intergenerational\\_Report.asp](http://archive.treasury.gov.au/documents/1329/HTML/docs_hell.asp?URL=03_Conceptual_challenges_on_the_road_to_the_second_Intergenerational_Report.asp)
- Hockey, J. (2015a) *2015 Intergenerational Report*, Australian Government accessed 10 March 2015, from <http://www.treasury.gov.au/PublicationsAndMedia/Publications/2015/2015-Intergenerational-Report>
- Hockey, J. (2015b) *Budget 2015, House of Representatives*, accessed 28 May 2015, from <http://www.joehockey.com/media/speeches/details.aspx?s=170>
- IMF (2015a) *Australia: Concluding Statement of the 2015 Article IV Mission*, International Monetary Fund, accessed 1 July 2015, from <http://www.imf.org/external/np/ms/2015/062415a.htm>
- IMF (2015b) *Uneven Growth: Short- and Long-Term Factors*, International Monetary Fund, accessed 25 June 2015, from <http://www.imf.org/external/pubs/ft/weo/2015/01/>
- Infrastructure Australia (2015) *Australian Infrastructure Audit* accessed 2 June 2015, from <http://www.infrastructureaustralia.gov.au/policy-publications/publications/Australian-Infrastructure-Audit.aspx>
- Kelly, J.-F. and Donegan, P. (2015) *City Limits: Why Australia's cities are broken and how we can fix them*, Melbourne University Press
- Loughnane, B. (2013) *The Coalition's Policy to Lower Company Tax* Liberal National Coalition, accessed 19 February 2015, from <http://lpaweb-static.s3.amazonaws.com/The%20Coalitions%20Policy%20to%20Lower%20Company%20Tax.pdf>
- Minifie, J., Cherastidtham, I., Mullerworth, D. and Savage, J. (2013) *The mining boom: impacts and prospects*, Grattan Institute, accessed 30 October 2013, from <http://grattan.edu.au/static/files/assets/2111d9d3/194-mining-boom-impacts-and-prospects.pdf>
- National Commission of Audit (2014) *Toward Responsible Government* accessed 13 February 2015, from <http://www.ncoa.gov.au/>
- OECD (2015) *OECD Stats Extracts - Key short-term economic indicators* Organisation for Economic Cooperation and Development from <http://stats.oecd.org/>

- Parkinson, M. (2014) *Fiscal sustainability & living standards – the decade ahead*, Speech to the Sydney Institute, accessed 6 October 2014, from [http://www.treasury.gov.au/~media/Treasury/Publications%20and%20Media/Speeches/2014/Fiscal\\_sustainability/Downloads/Sydney\\_Institute\\_2\\_Apr\\_2014.ashx](http://www.treasury.gov.au/~media/Treasury/Publications%20and%20Media/Speeches/2014/Fiscal_sustainability/Downloads/Sydney_Institute_2_Apr_2014.ashx)
- PBO (2013) *Australian Government spending: Historical trends from 2002-03 to 2012-13*, Parliamentary Budget Office, Parliament of Australia, accessed 10 April 2015, from [http://www.aph.gov.au/About\\_Parliament/Parliamentary\\_Departments/Parliamentary\\_Budget\\_Office/research\\_report\\_s/Australian\\_Government\\_spending](http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Budget_Office/research_report_s/Australian_Government_spending)
- PBO (2014) *Projections of Government spending over the medium term*, Parliamentary Budget Office, Parliament of Australia, accessed 21 November 2014, from [http://www.aph.gov.au/About\\_Parliament/Parliamentary\\_Departments/Parliamentary\\_Budget\\_Office/reports/Projections\\_of\\_Government\\_spending\\_over\\_the\\_medium\\_term](http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Budget_Office/reports/Projections_of_Government_spending_over_the_medium_term)
- PBO (2015a) *2015-16 Budget: medium term-projections* Parliamentary Budget Office, Parliament of Australia, accessed 26 June 2015, from [http://www.aph.gov.au/About\\_Parliament/Parliamentary\\_Departments/Parliamentary\\_Budget\\_Office/research\\_report\\_s/2015-16\\_Budget\\_-\\_medium-term\\_projections](http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Budget_Office/research_report_s/2015-16_Budget_-_medium-term_projections)
- PBO (2015b) *National Fiscal Trends* Parliamentary Budget Office, Parliament of Australia, accessed 28 May 2015, from [http://www.aph.gov.au/About\\_Parliament/Parliamentary\\_Departments/Parliamentary\\_Budget\\_Office/research\\_report\\_s/National\\_fiscal\\_trends](http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Budget_Office/research_report_s/National_fiscal_trends)
- PBO (2015c) *Unlegislated measures carried forward from the 2014-15 Budget* Parliamentary Budget Office, Parliament of Australia, accessed 2 June 2015, from [http://www.aph.gov.au/About\\_Parliament/Parliamentary\\_Departments/Parliamentary\\_Budget\\_Office/Chart\\_packs](http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Budget_Office/Chart_packs)
- Productivity Commission (2013) *Public infrastructure*, Productivity Commission from <http://www.pc.gov.au/projects/inquiry/infrastructure>
- Productivity Commission (2014) *PC Productivity Update* Productivity Commission, accessed 24 November 2014, from [http://www.pc.gov.au/\\_data/assets/pdf\\_file/0008/135935/productivity-update-2014.pdf](http://www.pc.gov.au/_data/assets/pdf_file/0008/135935/productivity-update-2014.pdf)
- Productivity Commission (2015) *Childcare and Early Childhood Learning*, Inquiry Report 73, Productivity Commission, accessed 26 February 2015, from <http://www.pc.gov.au/inquiries/completed/childcare/report>
- RBA (2015) *Statement on Monetary Policy: May 2015*, accessed 24 June 2015, from <http://www.rba.gov.au/publications/smp/2015/may/pdf/0515.pdf>
- Roxburgh, C., Lund, S., Wimmer, T., Amar, E., Atkins, C., Kwek, J.-H., Dobbs, R. and Manyika, J. (2011) *Debt and deleveraging: The global credit bubble and its economic consequences (Updated analysis)*, McKinsey Global Institute accessed 2 June 2015, from [http://www.mckinsey.com/insights/global\\_capital\\_markets/debt\\_and\\_deleveraging\\_the\\_global\\_credit\\_bubble\\_update](http://www.mckinsey.com/insights/global_capital_markets/debt_and_deleveraging_the_global_credit_bubble_update)
- Savage, A. (2014) 'Victoria election 2014: Labor reveals policy costings', *ABC News* 27 November 2014, accessed 23 February 2015, from <http://www.abc.net.au/news/2014-11-27/labor-party-reveals-policy-costings/5922346>

- Stevens, G. (2013) *Economic Policy after the Booms* Address to The Anika Foundation Luncheon, Sydney, 30 July, RBA, accessed 28 May 2015, from <http://www.rba.gov.au/speeches/2013/sp-gov-300713.html>
- Treasury (2010) *Australia's future tax system - Report to the Treasurer*, The Treasury, Australian Government, accessed October 2013, from [http://taxreview.treasury.gov.au/content/Content.aspx?doc=html/pubs\\_reports.htm](http://taxreview.treasury.gov.au/content/Content.aspx?doc=html/pubs_reports.htm)
- Treasury (2014a) *Commonwealth Budget papers 2014-15*, The Treasury, Australian Government, accessed 12 November 2014, from <http://www.budget.gov.au/2014-15/index.htm>
- Treasury (2014b) *Mid-Year Economic and Fiscal Outlook, 2014-15*, The Treasury, Australian Government accessed 26 January 2015 from [http://www.budget.gov.au/2014-15/content/myefo/download/MYEFO\\_2014-15.pdf](http://www.budget.gov.au/2014-15/content/myefo/download/MYEFO_2014-15.pdf)
- Treasury (2014c) *Treasury's medium-term economic projection methodology*, The Treasury, Australian Government accessed 1 June 2015, from <http://treasury.gov.au/PublicationsAndMedia/Publications/2014/Tsy-Medium-Term-Projection>
- Treasury (2015) *Commonwealth Budget Papers 2015-16*, accessed 28 May 2015, from <http://www.budget.gov.au/2015-16/index.htm>