

April 2013

Budget pressures on Australian governments

John Daley



Grattan Institute Support

Founding members



Australian Government



Program support

Higher Education Program



Affiliate Partners

National Australia Bank

Senior Affiliates

Wesfarmers

Stockland

GE Australia and New Zealand

Google

Affiliates

Arup

Urbis

The Scanlon Foundation

Lend Lease

Origin Foundation

Sinclair Knight Merz

Grattan Institute Report No. 2013-4, April 2013

This report was written by John Daley, Chief Executive Officer, Grattan Institute. Cassie McGannon and Jim Savage provided extensive research assistance and made substantial contributions to the report. Hans Zhu also made a significant contribution. Many others at Grattan Institute provided valuable input and suggestions across a wide variety of topics

We would like to thank numerous people from the public policy community, the private sector, and the members of Grattan Institute's Public Policy Committee for their helpful comments as this work was developed. Many of its ideas have been drawn from their suggestions, and it has benefited much from their counsel.

The opinions in this report are those of the authors and do not necessarily represent the views of Grattan Institute's founding members, affiliates, individual board members or reference group members. 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 report may be cited as:

Daley, J., McGannon, C., and Savage J., 2013, *Budget pressures on Australian governments*, Grattan Institute

ISBN: 978-1-925015-31-7

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

Overview

Australian government budgets are under pressure. In the next 10 years, they are at significant risk of posting deficits of around 4 per cent of GDP. That means finding savings and tax increases of \$60 billion a year. This alarming task is not impossible, but it will require tougher choices than those made over the last decade.

Over the economic cycle of boom and bust, balanced budgets are much better than the alternative. Persistent government deficits incur interest payments, and limit future borrowings. As a result they can unfairly shift costs between generations, and reduce flexibility in a crisis. Yet in good times it is hard for governments to run a surplus. They are invariably tempted to spend money. Many voters prefer outcomes with no obvious losers.

On published figures, government budgets are close to balanced. But this masks significant problems. Our analysis examines the budgets of the Commonwealth and the three largest State governments as a whole. It investigates trends over the next decade, and reveals serious pressures that put our prosperity at risk. The greatest come from sustained increases in spending, especially in health. Over the past decade health expenditure rose by over \$40 billion in real terms. The ageing population was not the prime cause. Rather, people of any age saw doctors more often, had more tests and operations and took more prescription drugs.

Demography also had relatively little impact on Age Pension costs because more older people worked, and this trend is likely to continue. However, new policies increased Aged Pension benefits and widened eligibility. If these trends continue, they will increase

expenditures by another 0.5 per cent of GDP. On top of this, inequality may well rise after the mining boom ends, creating pressure to increase welfare payments, a trend evident overseas when inequality has grown.

Governments and oppositions have raised expectations of substantial new expenditures on the National Disability Insurance Scheme, schools, additional paid parental leave, and northern infrastructure, among other policies. Even a subset of these could well cost 0.5 per cent of GDP.

To be sustainable, current budgets need to be in surplus. Underlying revenues are weaker than they seem. Company and mining taxes, and carbon price revenues are likely to be 1 per cent of GDP – \$15 billion a year – less than current forecasts. Current revenues are inflated by the mining boom and Australia's high terms of trade. If, as many predict, minerals prices fall, government revenues will fall by another 1 per cent of GDP.

With these pressures, responsible leaders will need to find 4 per cent of GDP in savings and tax increases to balance their books by 2023. What can they do to bridge the gap? Smaller government will not necessarily improve Australia's budget balances. Substantial increases in productivity and participation, while welcome, are also unlikely to solve the problem. Instead, history suggests that only tough policy choices can substantially improve government budgets. But it will require courageous leaders, as well as new institutional arrangements and mindsets. A forthcoming Grattan Institute report will examine the options.

Table of contents

Overview	1
1. The challenge for Australian government budgets	6
2. The value of balanced budgets.....	8
3. The bottom line for Australian governments	11
4. Expenditure trends	13
5. Revenue trends	21
6. External pressures.....	27
7. Future pressures	33
8. Responding to pressures.....	47
9. Conclusion.....	53
Appendix A: Detailed budget analysis	54
Appendix B: Budget analysis approach	64
Appendix C: A bluffer’s guide to budgets.....	73
References	77

Table of figures

Figure 1: Projected 2023 budget balance for Australian governments by 2023 given plausible scenarios.....	6
Figure 2: Average underlying general government balance, OECD countries, 2000-2008	9
Figure 3: General government net debt, 1980-2011	10
Figure 4: Australian governments' historic expenditure and revenue.....	11
Figure 5: Commonwealth and State expenditures and revenues	12
Figure 6: Australian governments' combined expenditures	13
Figure 7: Change in Australian governments' expenditure	14
Figure 8: Large changes in Australian government expenditures	15
Figure 9: Change in Australian governments' health expenditure.....	16
Figure 10: Change in Australian governments' education expenditure	17
Figure 11: Change in Australian governments' welfare expenditure	18
Figure 12: Households experiencing hardships by main income source of household	19
Figure 13: Drivers of change in Age Pension expenditure	20
Figure 14: Australian governments' revenues	21
Figure 15: Change in Commonwealth government revenues	22
Figure 16: Variation in Commonwealth major tax revenues	22
Figure 17: State and Territory government revenues by source	23
Figure 18: Change in State government revenues	23

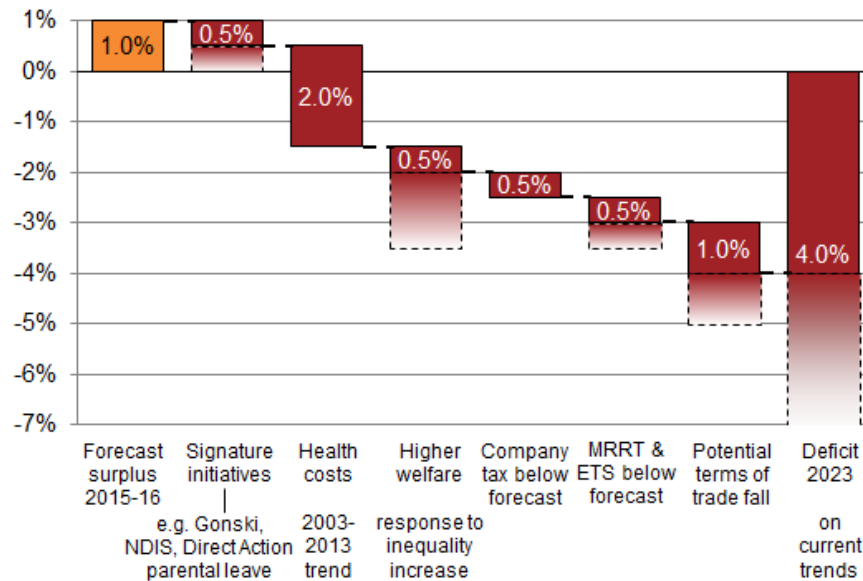
Figure 19: National savings by sector 1990-2012.....	25
Figure 20: Commonwealth government budget balance	28
Figure 21: Impact of terms of trade on Commonwealth tax revenues.....	28
Figure 22: Cyclical impacts on Commonwealth budget balance	31
Figure 23: Actual and forecast underlying cash balance, Commonwealth budget	31
Figure 24: Budget impact of committed and possible policy proposals – Australian Labor Party	34
Figure 25: Budget impact of committed and possible policy proposals – Liberal-National Coalition.....	35
Figure 26: Household income inequality after taxes and payments in the OECD	38
Figure 27: Changes in household income inequality, after taxes and payments.....	38
Figure 28: Average incomes of the top 1 and 5 per cent	39
Figure 29: Wages and employment growth by occupation	39
Figure 30: Earnings premium for higher education	40
Figure 31: Drivers of hours worked per household	41
Figure 32: Growth in household post-tax real income.....	41
Figure 33: Redistribution of welfare payments in OECD countries	42
Figure 34: Value of indirect health and education benefits by decile	43
Figure 35: Household income growth and growth differences between the top and bottom deciles, OECD	43
Figure 36: Workforce participation by age group	45
Figure 37: Changes in labour force participation rates	46

Figure 38: Government expenditures and deficits, OECD, 2011	47
Figure 39: Impact of Commonwealth discretionary budget measures	51
Figure 40: Commonwealth government expenditure by policy area, 2012-13	54
Figure 41: State government expenditure by policy area, 2012-13.....	55
Figure 42: Government expenditure, 2012-13.....	56
Figure 43: Change in Commonwealth government expenditure	59
Figure 44: Change in State government expenditure	59
Figure 45: Change in total government health payment expenditure by sub-category, 2002-03 to 2012-13.....	60
Figure 46: State and Territory expenditures by policy area	60
Figure 47: State and Territory revenues by source.....	61
Figure 48: Change in Australian government expenditure by policy area and level of government, relative to GDP growth	61
Figure 49: Change in Australian government expenditure by policy area and level of government, relative to CPI growth.....	62
Figure 50: Change in Australian government expenditure by policy sub-category, relative to CPI growth	63
Figure 50: Description of expenditure categories	66
Figure 51: Estimates of effects on future government budget balances	70

1. The challenge for Australian government budgets

Australian government budgets are under substantial pressure. The result could drag budgets back from a projected surplus of 1 per cent of GDP from 2015-16 onwards to a deficit of more than 4 per cent of GDP, or \$60 billion in today's terms. Figure 1 summarises these pressures.

Figure 1: Projected 2023 budget balance for Australian governments by 2023 given plausible scenarios
Per cent of GDP



Source: Grattan analysis. See Figure 51 in Appendix B for detail.

1. A combination of signature policy initiatives (Gonski school reforms and the National Disability Insurance Scheme, or paid parental leave and Direct Action) and other proposals with significant backing (e.g. increasing Newstart and restoring defence spending) could easily increase expenses by 0.5 to 1 per cent of GDP.
2. Health expenses are likely to increase by 2 per cent of GDP as their growth over the last decade continues, driven primarily not by an ageing population, as many believe, but by the increase in the scope and volume of health services.
3. Additional welfare payments to hold inequality at current levels would increase government spending by 0.5 to 2 per cent of GDP – assuming that the current tight targeting of welfare continues.
4. Company tax collection may be 0.5 per cent of GDP less than currently forecast because of unbudgeted deductions for accelerated depreciation, and company income depressed by lower minerals prices while the Australian dollar remains unusually high.
5. Revenue from new sources – carbon pricing and the Minerals Resource Rent Tax (MRRT) – appear likely to collect at least 0.5 to 1 per cent of GDP less than forecast.
6. A future fall in minerals prices, and thus the terms of trade, may reduce revenue by 1 to 2 per cent of GDP.

Some of these issues are already playing out. There are indications that budget outcomes and forecasts will be lowered materially in May 2013 by about 1 per cent of GDP,¹ reflecting some of the revenue issues in points 4 to 6 above.

In the remainder of this paper:

- Chapter 2 explains why continued budget deficits are a problem;
- Chapter 3 provides an **overview** of Australian government budgets;
- Chapter 4 describes the **expenditure** pressures over the last decade;
- Chapter 5 describes the increasing **revenue** pressures over the last decade;
- Chapter 6 describes the **external** pressures over the last decade;
- Chapter 7 outlines some of the **future** pressures for Australian government budgets;
- Chapter 8 scopes the **potential to close the gap**, and concludes that difficult budgetary policy choices are inevitable;
- Appendix A presents more detailed analysis of current Commonwealth and State budgets;

- Appendix B explains the approach we have used for budget analysis;
- Appendix C presents a 'bluffer's guide to budgets' that explains the terminology used in budget discussions and this paper.

¹ Swan (2013)

2. The value of balanced budgets

Over the economic cycle of boom and bust, balanced budgets are much better than the alternative. Persistent government deficits incur interest payments, and limit future borrowings. As a result they can unfairly shift costs between generations, and reduce flexibility in a crisis. Yet in good times it is hard for governments to run a surplus. They are invariably tempted to spend money. Many voters prefer outcomes with no identifiable losers.

Australia has escaped these problems, repairing its debt position over the 2000s, supported by public attitudes that were more averse to debt than in most other countries. However, there are concerns that Australian attitudes may be softening.

2.1 Balance over the economic cycle

Balanced budgets over the economic cycle make a big difference. Persistent large government deficits incur interest costs. They lead to large government debt that can limit future borrowings. Some argue that high debt reduces economic growth.² On any view, persistent large deficits can unfairly shift costs between generations, and reduce flexibility in a crisis.³

As many developed countries have rediscovered in recent years, high government debt coupled with low economic growth creates a terrible economic dilemma. If government increases spending, the debt gets worse, markets charge higher interest rates, and

borrowing more becomes impossible. If government tries to reduce its deficit, GDP slows further, and government debt can rise as a proportion of GDP, making the problems worse.⁴ Their successors and financial institutions can then find it difficult to borrow at reasonable costs, and economic growth is often slow for a long time.⁵

How to respond to the trap of low growth and high government debt remains contentious. Far better to avoid the trap in the first place – which means running balanced budgets over the economic cycle.

Australia will need to run substantial surpluses over the remainder of the current economic cycle. During the Global Financial Crisis (GFC), the Australian government aggressively stimulated the economy through increased spending to avoid unemployment. Some argue that the government should have instead simply relied on the ‘automatic stabilisers’ of lower tax collection and increased welfare payments.⁶ Irrespective of views on this question, if budgets are to balance over the cycle, then additional stimulus in an economic downturn must be matched by additional government surpluses during good times.

It is arguable that continued deficits are sustainable if they are small enough that government debt does not increase as a percentage of GDP. The burden of interest payments transferred

² Reinhart and Rogoff (2009), but see the debate summarised in Economist (2010) and Herndon et al (2013)

³ Kotlikoff (1984)

⁴ De Grauwe and Ji (2013), Figure 5; Summers and DeLong (2012)

⁵ Reinhart, Reinhart and Rogoff (2012)

⁶ Differing views are canvassed in McDonald and Morling (2011)

to future generations can be rationalized if the debt funds investments that benefit future generations, or if economic growth is greater than the real interest rate. However, there is inevitable ambiguity about whether government spending is truly investing, or simply spending for current generations. It may also be difficult to communicate to voters that recurrent budgets need to average substantial surpluses to pay the principal and interest for capital works. Nor is there any clear level at which government debt is 'sustainable'. As discussed below, political forces for 'responsible' government are the only real restraint on politically motivated spending. A deficit of zero – a balanced budget – may well be the only salient number to rally such political forces.

2.2 Political obstacles to balanced budgets

It is hard for governments to run a surplus in good times. They are inevitably tempted to spend money. In the short term, additional spending and tax cuts increase economic growth and reduce unemployment. Governments will always find it attractive to provide tangible benefits that generate clear winners and obvious short term gains.⁷ By contrast, the benefits of a balanced budget are less obvious – the winners are spread widely, and the gains are longer term. The short-run matters more in politics because election cycles are usually shorter than economic cycles.

Repair of a budget deficit is particularly difficult because political debate favours outcomes that do not create identifiable losers.⁸ Spending cuts and tax increases take away existing benefits that are typically valued more than the potential gain of a new benefit

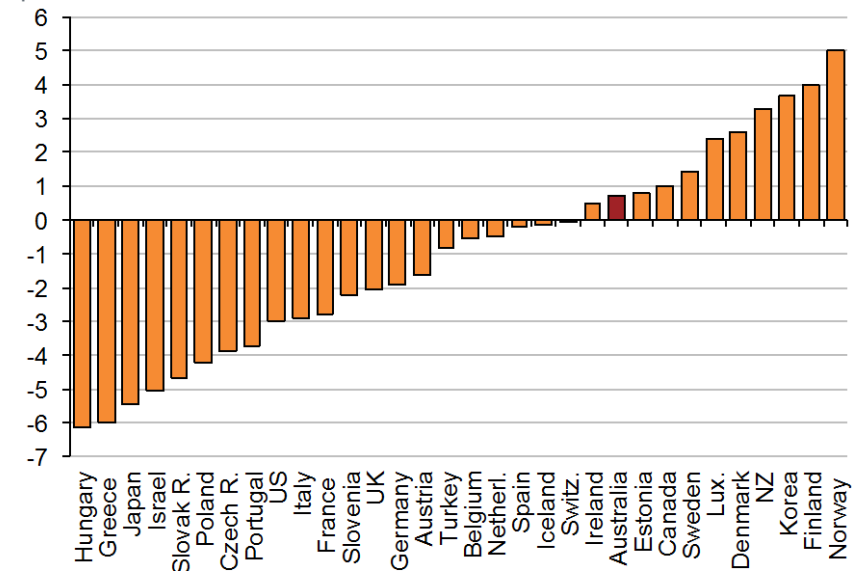
⁷ Buchanan and Wagner (1977)

⁸ See Megalogenis (2012) and Tingle (2012)

such as a balanced budget. Reduced spending or higher taxes usually affect particular groups that are more motivated to lobby to protect their position than groups that represent a more general public interest.⁹

As a result, few countries ran surpluses through the boom years of the 2000s. Most OECD countries ran deficits from 2000 to 2008, as Figure 2 shows.

Figure 2: Average underlying general government balance, OECD countries, 2000-2008
per cent of GDP



Source: Grattan analysis of OECD (2012a).

⁹ See Leighton and Lopez (2013)

If the goal is to run a balanced budget over the economic cycle, then many countries – Australia included – wasted the good times, maintaining smaller fiscal balances than one would expect given rapid and sustained economic growth

Instead, governments often only repair budgets in a crisis, with all the pain that entails. Worse still, the result is the precise opposite of good fiscal policy: governments are boosting the economy when it is strong, and holding back when it is weak.

2.3 Australian attitudes to budget deficits

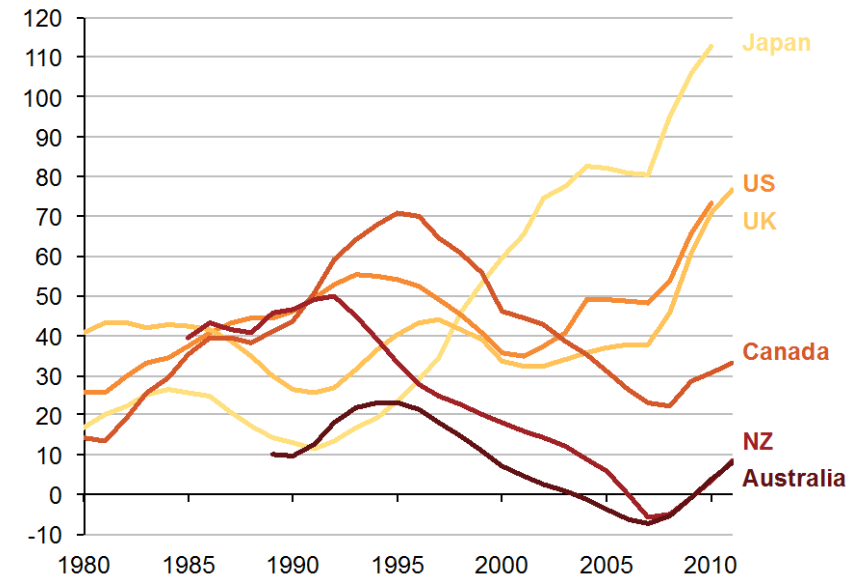
Australia and New Zealand are in part exceptions to this pattern, at least over the last few decades. From around 1995 they produced substantial and sustained surpluses for over a decade, reducing net debt rapidly, in contrast to many other developed countries (see Figure 3).¹⁰

Ian Macfarlane, then Governor of the Reserve Bank in Australia, suggested in 2006 that the average voter in Australia is more economically literate than a typical voter elsewhere. This may be because Australian media provide more coverage of key economic decisions such as Reserve Bank interest rate decisions, perhaps because Australian mortgages are more likely to be floating rate. Speaking *before* the GFC, Macfarlane observed that this economic awareness helped to produce surpluses in Australia; by contrast the United States and many European countries were running deficits despite good economic times.¹¹

¹⁰ For a brief history, see Kamener and Tan (2012)

¹¹ Macfarlane (2006). It is unlikely that the difference can be explained by the additional boost to the Australian economy from the mining boom. From 2003-

Figure 3: General government net debt, 1980-2011
per cent of potential GDP



Source: Grattan analysis of IMF (2012).

There are concerns that this public attitude may be eroded by several years of budget deficits, and the accompanying rhetoric justifying this in both Australia and overseas. Public concern about deficits may also be affected by promises for specific costly programs and political attitudes projecting a belief in the ability of government to cure all social ills (see below at Section 7.1).

2008, the US and Europe enjoyed strong economic growth but continued to run deficits that materially increased government debt.

3. The bottom line for Australian governments

The combined Commonwealth and State¹² budgets are now forecast to be close to balanced after substantial deficits through the GFC. Both Commonwealth and State governments are currently forecasting that things will get better from here, with higher revenues and lower expenditures

3.1 Combining Commonwealth and State budgets

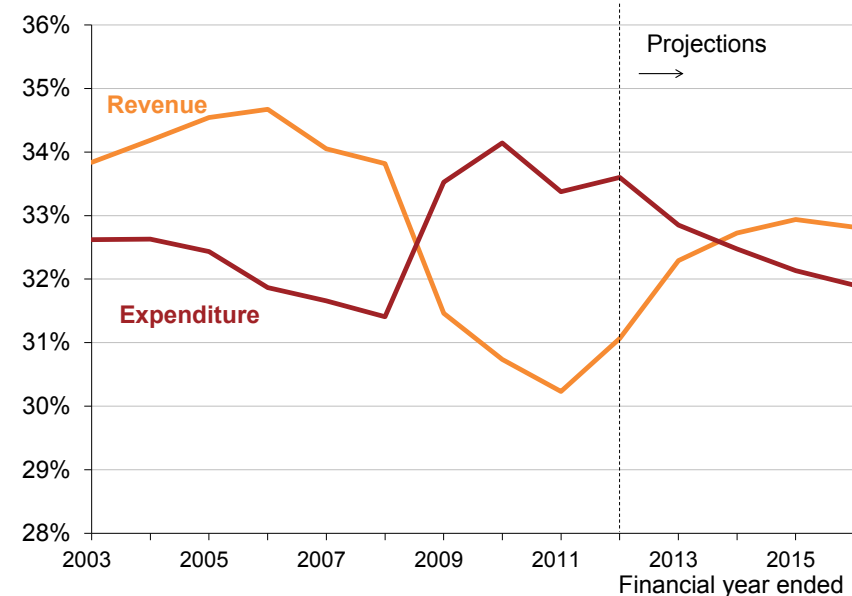
This paper tries to identify the collective position of Commonwealth and State governments. A combined picture reveals the real pressures on Australian government budgets, which are often obscured by transfers between Commonwealth and State budgets.¹³

3.2 Trends in the bottom line

Australian government budget positions deteriorated over the last five years through the GFC, as Figure 4 shows. The deterioration in 2009 was not surprising: as economic growth slows, government budgets should generally move into deficit. As growth has picked up since 2009, government budget positions are forecast to balance by 2013-14, although these forecasts may be

revised. Given economic conditions, they should probably already be in surplus (see below section 6.2)

Figure 4: Australian governments' historic expenditure and revenue per cent of GDP, 2002-03 to 2015-16



Note: Shows total revenue and expenditure for Commonwealth, State and Territory budgets. Transfers from the Commonwealth to States and Territories (e.g. GST, Specific Purpose Payments, National Partnerships) have been removed from Commonwealth expenditure and States' revenue so they are not double-counted. See Appendix A for further notes.

Source: Grattan analysis of Commonwealth, State and Territory budget papers 2002-03 to 2012-13; ABS (2012b) Cat. no. 5520.0 Table 30

¹² Throughout this paper, we use 'States' to include both States and Territories of Australia

¹³ Throughout this paper, we use 'transfers' to refer to payments from the Commonwealth to the States. Where we present combined Commonwealth and State expenditures, these transfers are treated as State expenditure unless otherwise specified. Welfare transfers are called 'payments' or 'benefits' to avoid confusion. Detail on the methodology for analysis of these budgets is presented in Appendix B.

3.3 Commonwealth and State trends

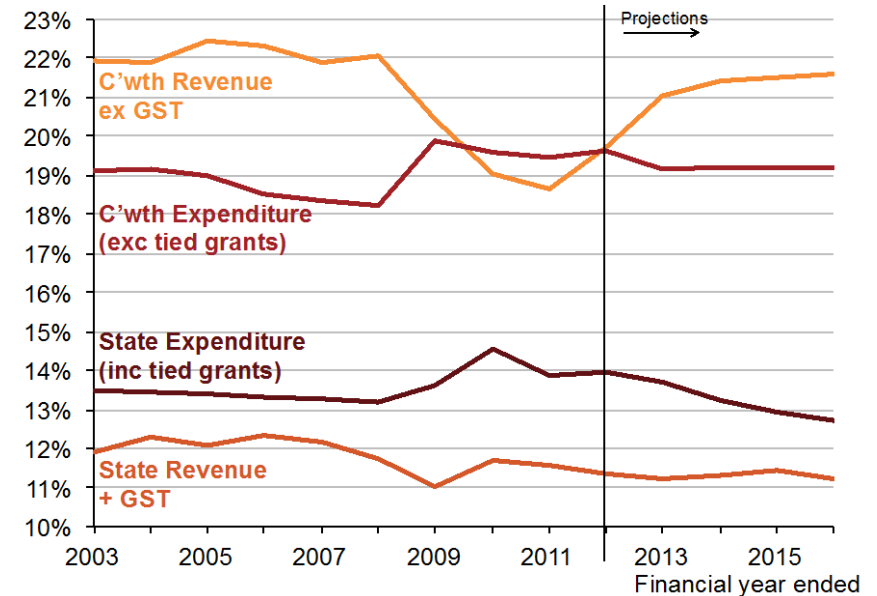
The combined position of Commonwealth and State budgets is often obscured by transfers between them. Transfers are often counted as part of both Commonwealth expenditure and State expenditure. In our analysis we try to treat transfers consistently as part of State expenditure.

The underlying position of the Commonwealth and States also depends on the treatment of GST. The Commonwealth collects GST, and includes it in its revenues, but transfers all the proceeds to the States. States bear the consequences if GST revenues are higher or lower than expected.

The underlying picture, as shown in Figure 5, is that both Commonwealth and State expenditure increased during the GFC, and remain well above pre-GFC levels as a percentage of GDP. Unlike Commonwealth expenditure, State government expenditure is forecast to fall below pre-GFC levels.

The GFC primarily affected Commonwealth revenue, reducing it by almost 3 per cent of GDP. Both Commonwealth and State revenue will remain below pre-GFC levels in the foreseeable future.

Figure 5: Commonwealth and State expenditures and revenues per cent of GDP, 2003-2016



Note: Revenue collected by the Commonwealth and transferred to States as specific purpose payments is shown as Commonwealth revenue, and as State expenditure. Revenue collected by the Commonwealth that is paid 'through' the States to other entities (e.g. local governments) is shown as Commonwealth expenditure. GST is treated as if it were a State revenue source

Source: Grattan analysis of Commonwealth and State budget papers 2002-03 to 2012-13; ABS (2012b) Cat. no. 5520.0 Table 30

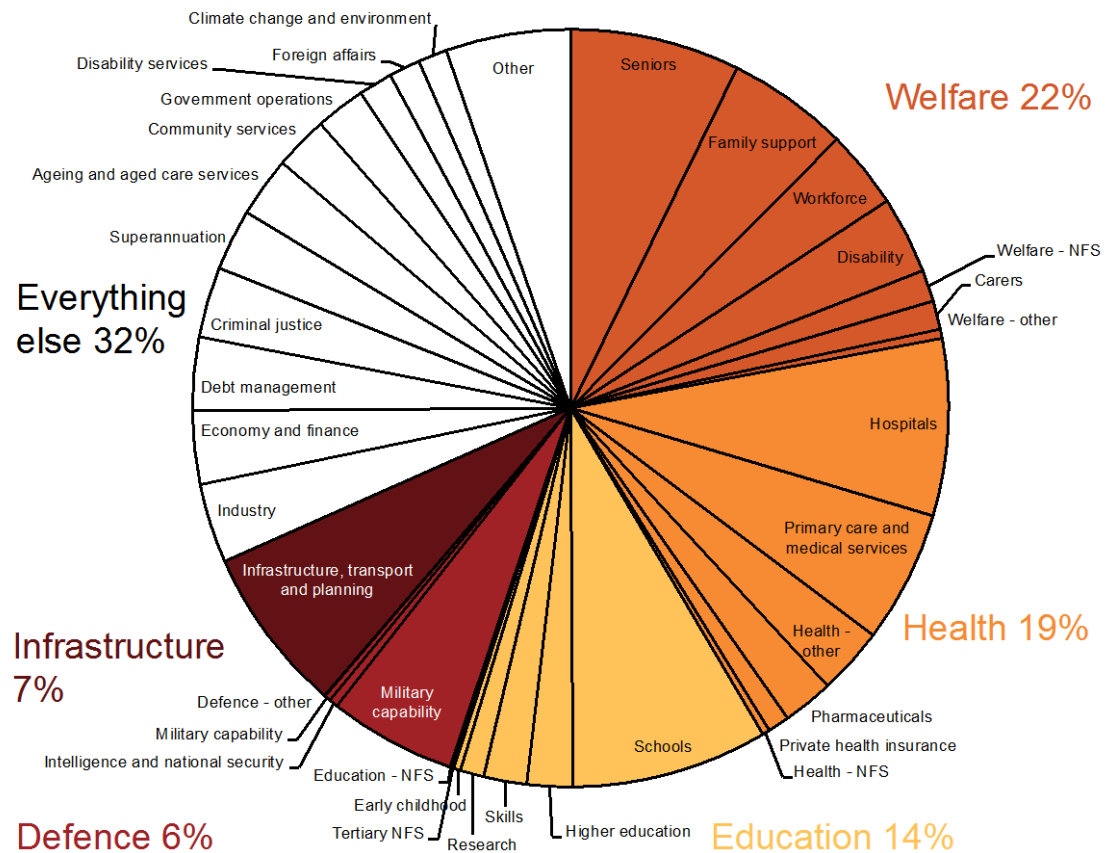
4. Expenditure trends

4.1 Overall expenditure trends

Health, welfare, education, defence, and infrastructure account for two-thirds of Australian government spending, as Figure 6 shows.

The largest three individual spends are on old age pensions, hospitals and schools. Collectively, these are equivalent to 8 per cent of GDP.

Figure 6: Australian governments' combined expenditures
Per cent of total, 2012-13 budget

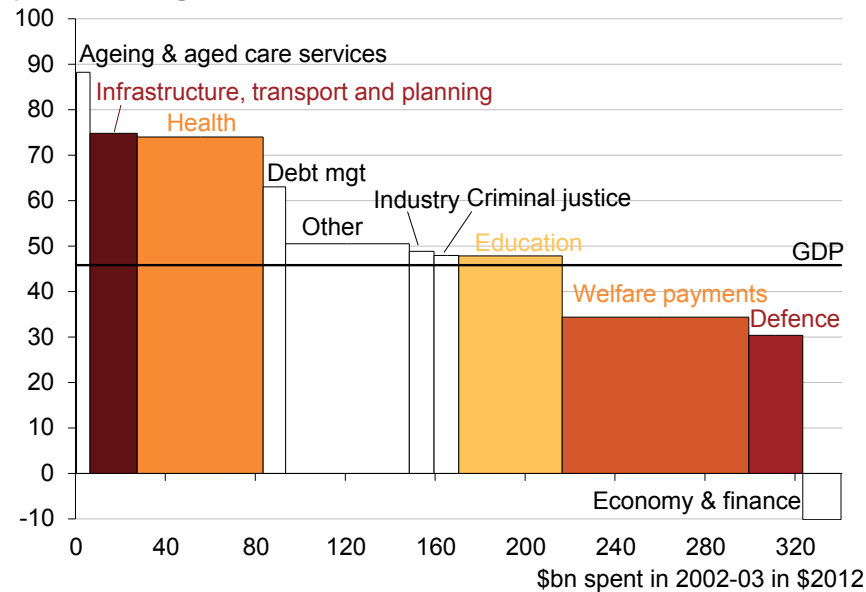


Note: NFS = not further specified. 'Other' comprises all other expenditure not elsewhere included, including employment, legal, immigration and customs, arts and sport, housing, communications, emergency services and water. See Appendix B for further notes, including category definitions.

Source: Grattan analysis of Commonwealth and State budget papers 2012-13

Expenditures remain 1 per cent of GDP higher than before the GFC. The main cause is health expenditure, which is eating into government budgets. Growth in health spending above GDP over the past ten years was greater than the growth above GDP of all other spending combined, as shown in Figure 7. Infrastructure expenditure also grew materially in that time.

Figure 7: Change in Australian governments' expenditure
per cent change above CPI, 2002-03 to 2012-13



Notes: Categories shown are the 10 largest expenditure categories for 2012-13. 'Other' comprises all expenditure not elsewhere included, including community services, gov operations, superannuation, disability services, climate change & environment, foreign affairs, employment, legal, immigration & customs, arts and sport, housing, communications, emergency services, and water. See Appendix B for further notes.

Source: Grattan analysis of Commonwealth and State budget papers for 2002-03 and 2012-13.

How to read Figure 7 and charts like it

This report includes a number of charts that illustrate size and growth in a single picture. They typically show the dollar amount of revenue or expenditure on the horizontal axis, and the percentage growth on the vertical axis.

Categories that are **large** are wide on the horizontal axis. In Figure 7, for example, 'welfare payments' are the widest, and thus the largest spending category.

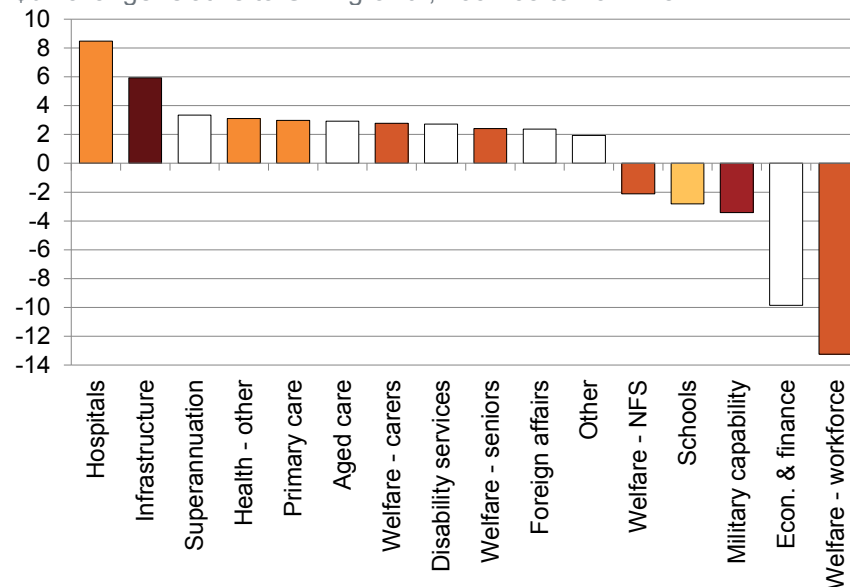
Categories that are **growing fast** are high on the vertical axis. In Figure 7 'ageing and aged care services' are the highest, and thus the fastest growing spending category. GDP growth in excess of CPI is shown. Categories higher than this have grown faster than GDP. In Figure 7 'education' has grown faster than GDP, implying that government now spends more on this category as a percentage of GDP than in the past.

Large real increases in dollar terms have a large area on the graph. In Figure 7, 'health' and 'welfare' have the largest areas, and thus constitute the largest growth in real dollar expenditure. The area above the GDP line represents the growth in dollar expenditure above GDP. 'Health' has the largest area above the GDP line ('welfare' by contrast has very little area above the GDP line), implying that much of the the dollar increase in spending above GDP was on 'health'.

The GDP line is not a spending target or benchmark. High rates of spending growth may be unsustainable, and do not tell us anything about the value for money of the expenditure.

The expense that did most to increase government spending above GDP growth was hospital spending, as shown in Figure 8.

Figure 8: Large changes in Australian government expenditures
 \$bn change relative to GDP growth, 2002-03 to 2012-13



Notes: Categories shown are all those that changed by more than \$2bn relative to change in GDP. 'Infrastructure' is infrastructure, transport and planning. 'Other' is the net change of all categories not shown separately. See Appendix B for further notes.

Source: Grattan analysis of Commonwealth and State budget papers for 2002-03 and 2012-13.

Infrastructure also increased, in part reflecting over \$4 billion of reconstruction after the Queensland floods.¹⁴

A number of welfare expenditures also grew materially, but the overall welfare category grew much less due to the aggregate reduction in payments to working age people, including Newstart, Parenting Payment and Youth Allowance.

The Australian trend for increased government health expenditure is mirrored in other countries. In the United States, for example, government health spending increased by 2 per cent of GDP, and aged pensions by 1 per cent of GDP over the decade to 2011. Overall, however, government expenditure in the United States jumped by 5 per cent of GDP, driven by trends not matched in Australia such as substantially rising spending in defence (1 per cent), unemployment benefits (2 per cent) and jails (1 per cent).¹⁵

¹⁴ Queensland Government (2012)

¹⁵ Silver (2013)

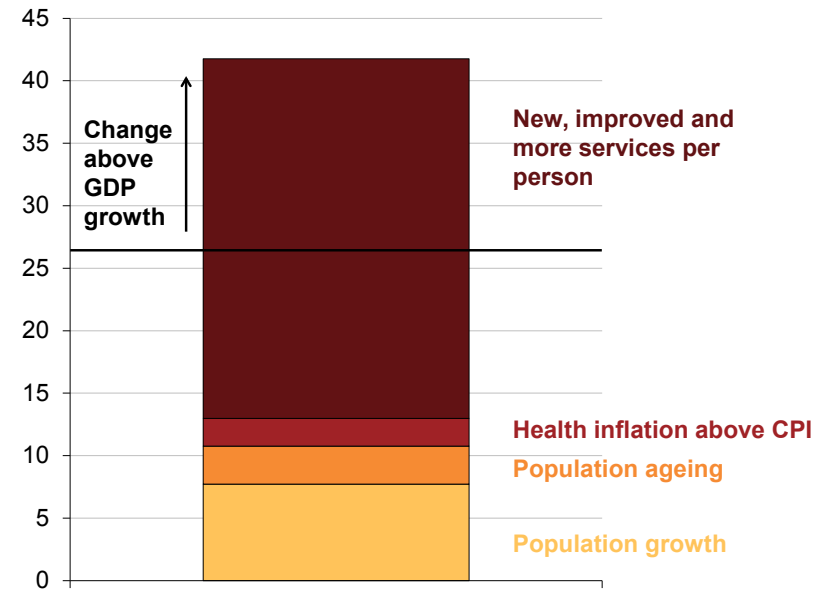
4.2 Health expenditure

Health expenses are 19% of Australian government expenditure, and grew by 74% in real terms over the last decade.

Increases in health expenditures are primarily driven not by an ageing population, but by people of all ages seeing doctors more often, having more tests and operations, and taking more prescription drugs, often employing new – and effective treatments. These changing practices are costing more per person, as Figure 9 shows.

The increased expenditure appears to be having an impact. Life expectancy, particularly for those aged over 65, has increased rapidly and consistently over the last 40 years.¹⁶ However, it has come at a cost.

Figure 9: Change in Australian governments' health expenditure
\$ bn, 2002-03 to 2012-13



Note: 'Population growth' models the effect of the increase in population size with no change in the age structure or average per capita health expenditure. 'Population ageing' uses age-specific per capita health expenditure data (based on AIHW figures) to model the effect of changes in the population structure. 'Health inflation above CPI' uses appropriate AIHW health price indices to model inflation in each category of expenditure. 'New, improved and more services per person' is the amount of expenditure that cannot be explained by these three factors.

Source: Grattan analysis of AIHW (2012); AIHW (2012); ABS (2013a) Cat. no. 6401.0 Tables 1 and 2; ABS (2013c) Cat. no. 3101.0 Table 59.

¹⁶ Daley et al (2012a), p. 56

4.3 Education expenditure

Education expenses are 14% of Australian government expenditure, and grew by 48% in real terms over the last decade.

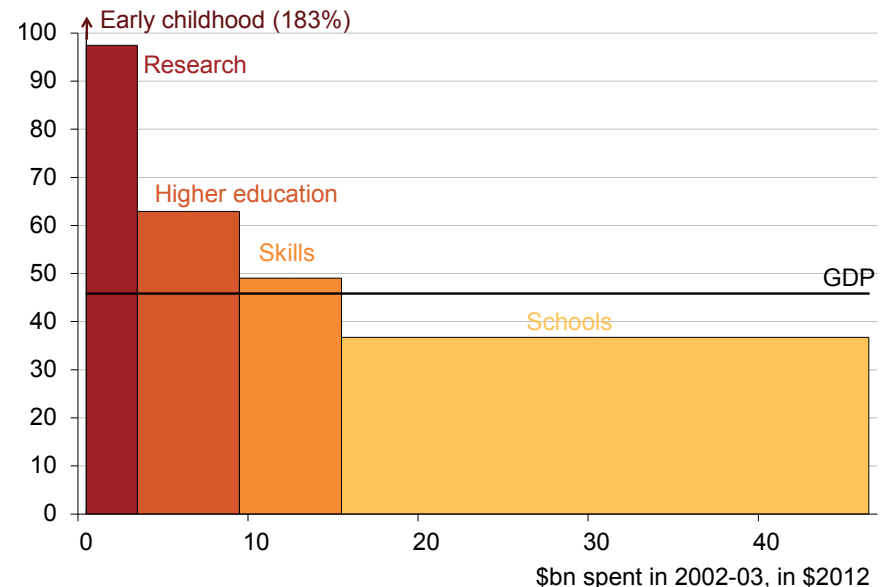
School education expenses are much larger than other areas of education expenditure (Figure 10). Although they grew more slowly in percentage terms than other categories such as research and higher education, they grew by 37% in real terms over the last ten years.¹⁷ School expenditure by governments in 2012-13 is \$11.3 billion more in real terms than in 2002-03, the fourth largest increase in dollar terms (behind only hospitals, infrastructure, and welfare for seniors). Spending on government schools has been driven primarily by the reduction in government school class sizes, and by the increasing average seniority of teachers – which translates into higher pay.¹⁸

School spending by governments as a percentage of GDP has fallen slightly. A smaller proportion of the population is of school age than ten years ago. The shift of enrolments into non-government schools dampened government spending on schools, as governments collectively provide less funding per student in a non-government school than in a government school. It should be noted that there is little evidence that more money for schools leads to better student outcomes.¹⁹

Higher education and research have grown significantly, but off a much smaller base. Together they will receive \$6.3 billion more in

real terms in 2012-13 than they did a decade ago. Government-funded higher education student numbers have grown by over 34 per cent in this time.²⁰

Figure 10: Change in Australian governments' education expenditure
per cent change above CPI, 2002-03 to 2012-13



Note: 'Education expenditure not further specified' is too small to show; it comprised \$0.9bn in 2012-13. See Appendix B for further notes.

Source: Grattan analysis of Commonwealth and State budget papers for 2002-03 and 2012-13.

¹⁷ Data is for government expenditure only. In 2009, private expenditure was 15.9 per cent of total expenditure on schools: see OECD (2012b)

¹⁸ Jensen et al (2011)

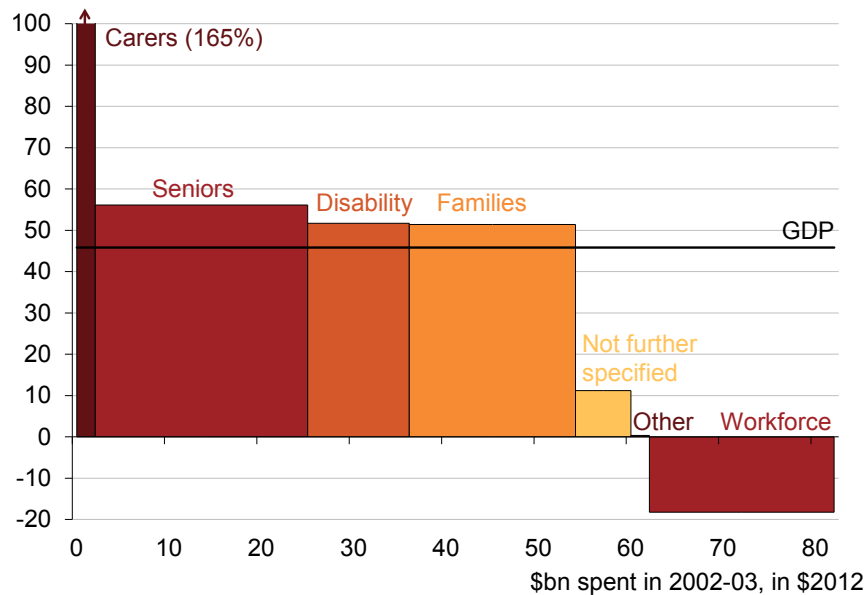
¹⁹ Jensen et al (2012)

²⁰ DIISRTE(2012); Commonwealth budget papers 2012-13; Norton (2013)

4.4 Welfare expenditure

Welfare is the largest single category of government spending, consuming 22% of government expenditure. Welfare spending only grew by 34% in real terms over the last decade, more slowly than GDP.

Figure 11: Change in Australian governments' welfare expenditure per cent change above CPI, 2002-03 to 2012-13



Notes: Categories comprise welfare payments directly to the identified group, and related administrative spending where identifiable. 'Families' includes family tax benefits, child care subsidies, parental leave, baby bonus and schoolkids bonus. 'Workforce' comprises payments to working-age people, including Newstart, Youth Allowance and Parenting Payment. See Appendix B for further notes.

Source: Grattan analysis of Commonwealth and State budget papers for 2002-03 and 2012-13.

The impact of welfare on the budget may have been somewhat higher than is suggested if tax concessions for less well-off households are also included.

Three of the four largest categories of welfare – seniors, disability pensions, and family support – all grew by around 50 per cent in real terms over the last decade, faster than real GDP, as Figure 11 shows.

Welfare did not keep pace with GDP only because the aggregate cost of workforce payments such as Newstart, Youth Allowance and Parenting Payment fell in real terms. The unemployment rate fell, eligibility rules changed, and Newstart and Youth Allowance did not keep pace with wage inflation.

These shifts had substantial human impact. On any measure, households on Newstart are doing it tougher than households receiving other forms of welfare, as Figure 12 shows.

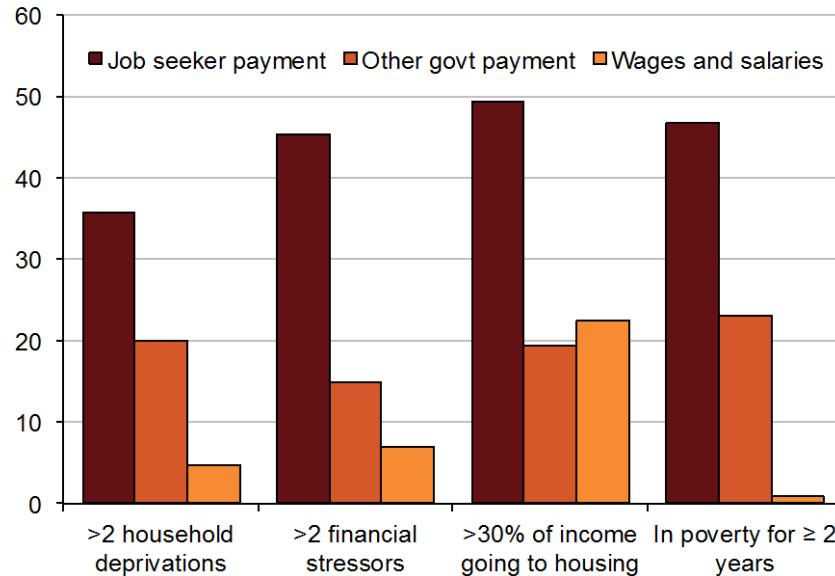
Households in which the main income is Newstart or jobseeker Youth Allowance are more financially stressed, spend more of their income on “basics”, and are more likely to be and remain for an extended period in poverty (as defined by the OECD) than are other households.²¹ Households whose main income is Newstart or jobseeker Youth Allowance have a median disposable income of \$305 and \$242 a week respectively after paying for housing. The median disposable income of households on other government payments is \$503 a week after paying for housing.²²

²¹ Philips and Nepal (2012)

²² Philips and Nepal (2012), p. 13

Figure 12: Households experiencing hardships by main income source of household

Percentage of households in category, 2009-10



Note: 'Job seeker payment' includes Newstart and jobseeker Youth Allowance. 'Other govt payment' is dominated by age and disability pensions. "Deprivations" (such as the inability to afford to invite friends for a meal once a month) and "Financial stresses"(such being unable to pay electricity on time) are as defined by the ABS Household Expenditure Survey. 'Poverty' is defined as householders whose income after tax and welfare, and paying for housing is less than 50% of the median Australian household:

Source: Grattan analysis of Phillips and Nepal (2012).

The real reduction in workforce payments may be partially reversed in coming years. There is significant pressure to increase the level of Newstart given the stresses now experienced by Newstart households.²³ Increasing Newstart by \$50 per week would cost the budget around \$2 billion, 0.1 per cent of GDP.

By contrast, disability pensions grew slightly faster than GDP. Some of this was the consequence of individuals switching from Newstart to the disability support pension (DSP), which pays more per week, and does not have the same requirements to actively search for work.

Over half the growth in DSP reflects the claims of older households. The total proportion of older households on welfare has reduced over the last decade. However, there are more older households; older households on welfare are more likely to claim DSP rather than Newstart; and DSP now supports some of the older households that would previously have received payments that have now been phased out, such as mature age allowances and widows pensions. These demographic and classification effects amongst older households account for over half the growth in DSP.²⁴

Total Age Pension expenditure grew faster than GDP. Welfare for seniors is now the largest component of welfare spending. Yet, as with health spending, demographic ageing was *not* the prime cause (Figure 13).²⁵ Spending on older people increased rapidly,

²³ See, for example, Australian Greens (2013)

²⁴ Whiteford (2011)

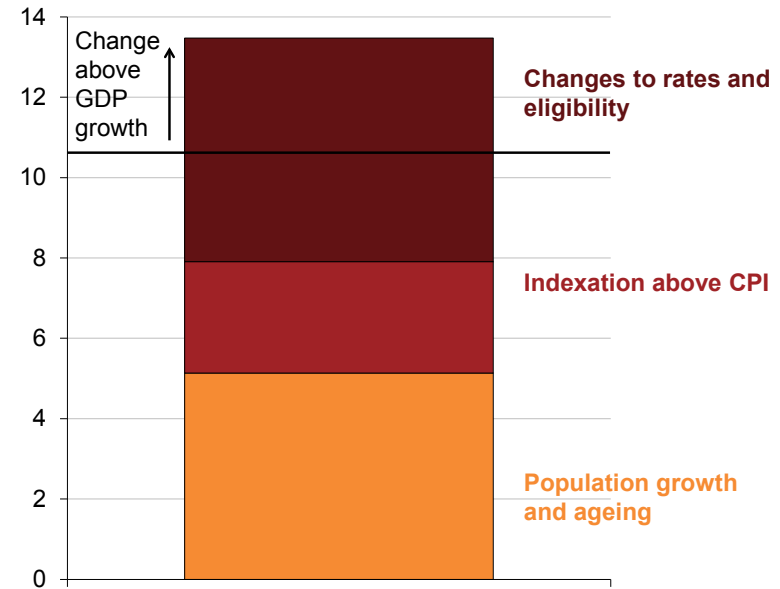
²⁵ See also Productivity Commission (2005)

despite an increasing number of people retiring with superannuation, as a result of deliberate policy choices to increase Age Pension spending. These included the Howard Government changes to the assets and income tests in 2006-07, the 2008-09 Rudd Government increase to the base pension rate, and the 2010-11 Gillard Government Clean Energy Supplement accompanying the introduction of the carbon price. The growth in spending above GDP was entirely due to discretionary changes like these. Whether these policy decisions were appropriate depends on many factors, including whether Age Pension expenditure was too low in 2003.

As well as the Age Pension, a number of other government expenses and concessions are aimed at older people. Concessions for public transport, car registration and third party insurance, utilities, rates, and health costs are already substantial. Public transport concessions are available to anyone over 60, irrespective of income.²⁶ Many other concessions are available if any person in a household is entitled to a part pension. The cost of these concessions is substantial: they will cost Victoria over \$518 million in 2012-2013.²⁷ In addition, older people have access to additional welfare payments such as the Seniors Supplement, and benefit from substantial tax concessions such as the Senior Australians Tax Offset, and superannuation concessions.

²⁶ Seniors Card (2013)
²⁷ Victorian Government (2012)

Figure 13: Drivers of change in Age Pension expenditure
 \$bn, 2002-03 to 2012-13



Note: Until September 2009, the Age Pension was indexed by CPI and benchmarked at 25% of Male Total Average Weekly Earnings (MTAWE). From September 2009, it was indexed by the greater of CPI or the Pensioner and Beneficiary Living Cost Index (PBLCI), and benchmarked to 27.7% of MTAWE. The 'indexation above CPI' category shows the impact of using the 25% MTAWE benchmark over ten years. Change in MTAWE has been the highest index in 7 of the 10 years between 2002-03 and 2012-13. 'Demographic change' is based on the increase in the number of people aged 65 and over; this is an approximation as in 2002-03 women were eligible for the Age Pension from age 63.5.

Source: Grattan analysis of ABS (2012a) Cat no. 6302.0 Table 10C; ABS (2013a) Cat. no. 6401.0 Tables 1 and 2; ABS (2013b) Cat. no. 6467.0 Table 1; ABS (2013c) Cat. no. 3101.0 Table 59; FaCS (2002); FaHCSIA (2012); Harmer (2009).

5. Revenue trends

Australian governments are forecast to collect \$501 billion in revenues in 2012-13, around 33 per cent of GDP.

These revenues are dominated by income tax, company tax and the GST.

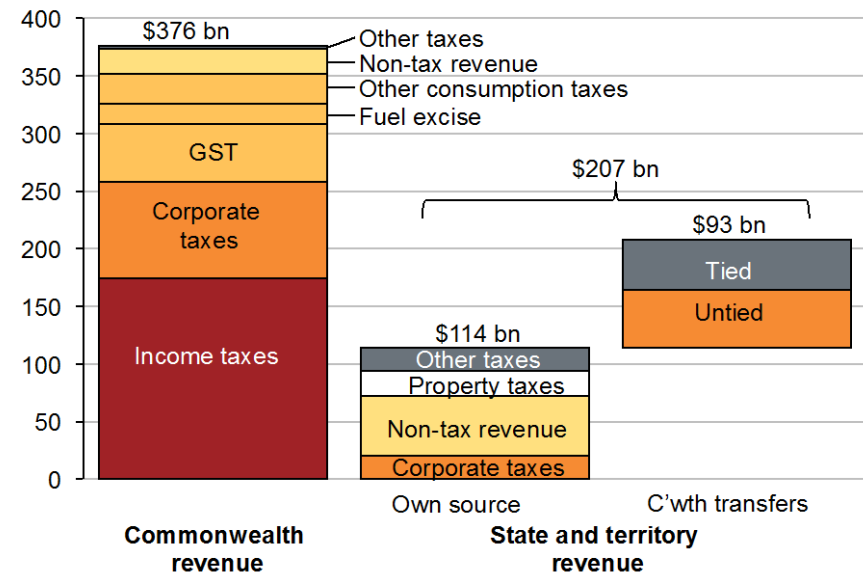
Other taxes – including all those raised directly by the States – are relatively small, as Figure 14 shows. Revenues collected by the Commonwealth are now three times larger than revenues collected by all the States and Territories combined. Commonwealth transfers are almost half of State revenues.

All major revenue sources dropped during the GFC. Collections have since recovered, apart from GST collections, which are likely to remain around 0.5 per cent of GDP less than the 2000-2010 average. Corporate taxes are recovering, but current forecasts may overestimate future revenue by about 0.5 per cent of GDP. New revenue sources – carbon pricing and the Minerals Resource Rent Tax (MRRT) – appear likely to collect substantially less than current forecasts.

Tax expenditures – concessions to general tax provisions aimed at a specific policy outcome – now cost Australian governments over \$130 billion a year in foregone revenue.²⁸

²⁸ Grattan analysis of Treasury (2013) and State government budget papers 2012-13.

Figure 14: Australian governments' revenues
\$ bn, 2012-13 budgets



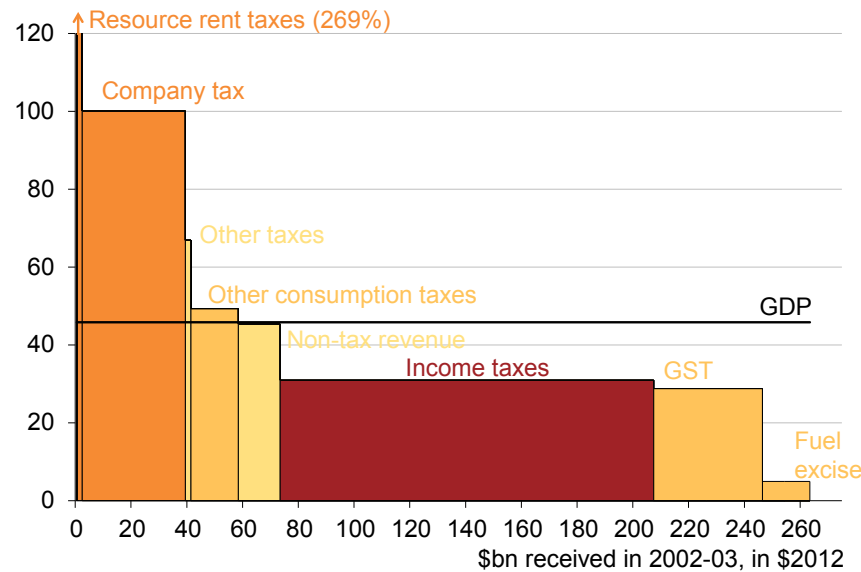
Note: Classifications are based on liability rather than incidence, so income taxes' are individual income tax, superannuation taxes and fringe benefits tax; 'corporate taxes' are company tax, resource rent taxes and payroll tax; 'other consumption taxes' are carbon pricing, customs, excise and other sales taxes; 'other taxes' are mostly agricultural taxes for the Commonwealth, and gambling, insurance and vehicle taxes for the States; 'non-tax revenues' are not further specified for the Commonwealth, and are mostly dividends, interest, royalties and sale of goods and services for States; 'property taxes' are mostly land tax and stamp duty. For Commonwealth transfers to States: 'untied transfers' are mostly GST; 'tied transfers' include Specific Purpose and National Partnership payments.

Source: Grattan analysis of Commonwealth and State budget papers 2012-13

5.1 Commonwealth revenues

Revenues collected by the Commonwealth are forecast to amount to about 24 per cent of GDP in 2012-13. Over the decade to 2013, all major Commonwealth revenue sources increased in real terms, as shown in Figure 15. Company taxes increased relatively more, and sales taxes relatively less.

Figure 15: Change in Commonwealth government revenues
per cent change above CPI, 2003-2013

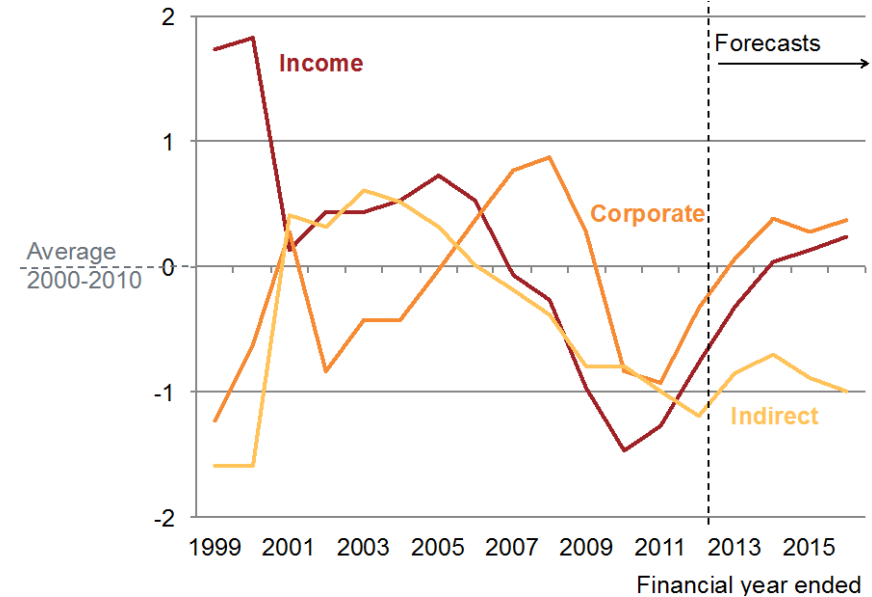


Note: 'Other taxes' is mostly agricultural taxes; 'other consumption taxes' is carbon pricing, non-GST sales taxes, customs, and non-fuel excises; 'income taxes' is individual income tax, superannuation taxes and fringe benefits tax. Non-tax revenues can vary widely depending on asset sales. However, the change in non-tax revenue, close to GDP, suggests that there are not major anomalies in either 2003 or 2013.

Source: Grattan analysis of Commonwealth budget papers 2002-03 and 2012-13.

However, a 10-year comparison conceals substantial variation from year to year. Commonwealth income and corporate tax dropped between 2007 and 2013 as the impact of the GFC flowed through the economy and then taxation revenues. Both tax bases are projected by Commonwealth Treasury to return to close to their 2001-2010 average by 2013-14.

Figure 16: Variation in Commonwealth major tax revenues
per cent of GDP above/below average 2000-01 to 2009-10



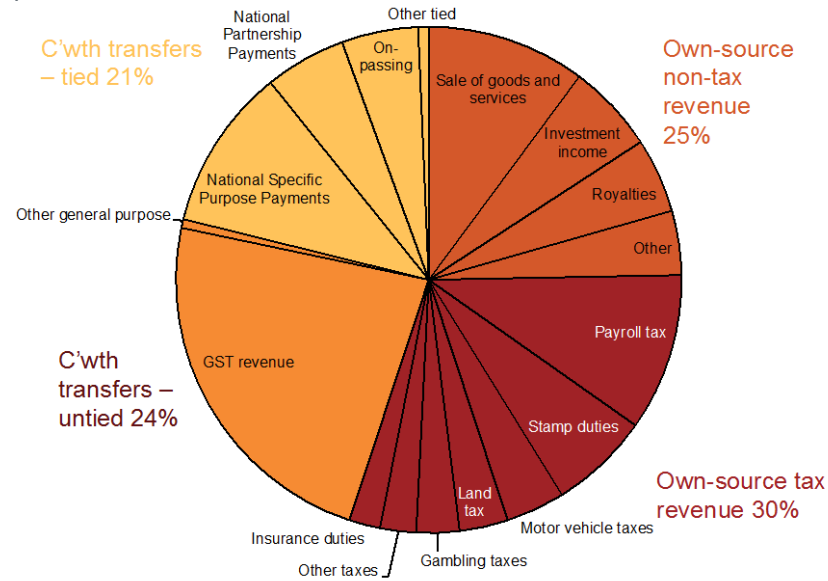
Note: Individual taxation receipts include individual and income tax withholding; corporate includes FBT, super funds, companies and RRT; indirect includes sales taxes, excise and customs duty, CPM, and other.

Source: Commonwealth Budget Paper 1, 2012-13

5.2 State revenues

Revenues received by the States are forecast to amount to about 14 per cent of GDP in 2012-13. Much of these revenues are collected by the Commonwealth and then transferred to the States. State governments collect little more than half of what they spend, as Figure 17 shows.

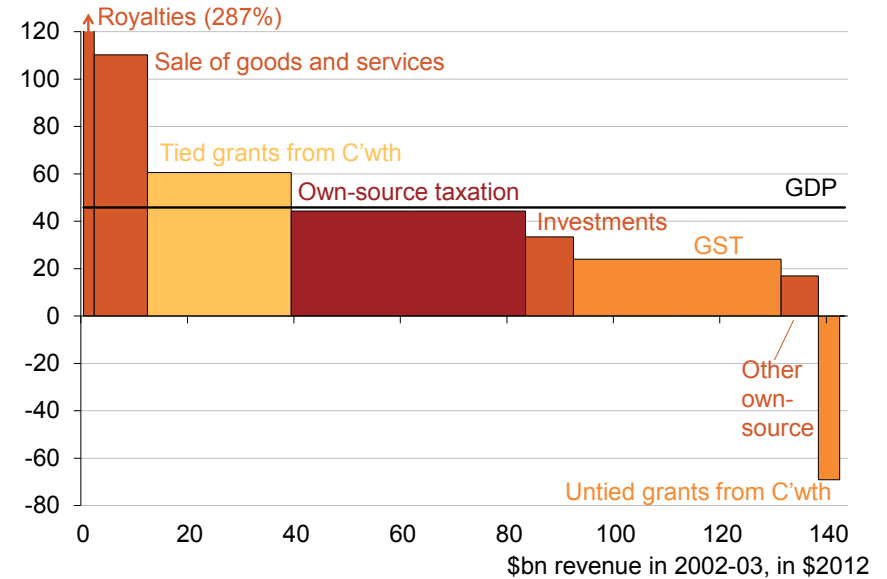
Figure 17: State and Territory government revenues by source per cent of total, 2012-2013



Notes: 'Investment income' includes interest income, dividends, and tax-equivalent payments from State entities. 'Other own-source' includes fines, fees, grants from entities other than the Commonwealth, and other revenue not elsewhere included. 'Other general purpose grants' is mostly royalty payments to WA.

Source: Grattan analysis of State budget papers for 2002-03 and 2012-13.

Figure 18: Change in State government revenues per cent change above CPI, 2003-2013



Notes: 'Tied grants from C'wth' include Specific Purpose Payments, National Partnership Payments, payments for on-passing to other entities, and other tied grants. 'Own-source taxation' includes gambling, land, insurance, vehicle, payroll and stamp duties. Investments include interest income, dividends, and tax-equivalent payments from State entities. 'Other own-source' include fines, fees, grants from entities other than the Commonwealth, and other revenue not elsewhere included. 'Untied grants from C'wth' in 2012-13 are mostly royalty payments to WA; in 2002-03, there were mostly National Competition Policy payments and compensation payments for loss of revenue from State taxes abolished with the introduction of the GST (both have now ceased).

Source: Grattan analysis of State budget papers for 2002-03 and 2012-13.

Over the last decade, State revenues from the Commonwealth were under pressure. Tied transfers from the Commonwealth increased, but untied transfers – including GST revenues – shrank relative to GDP (Figure 18). The gap was filled by State charges growing faster than GDP. More detail on State government revenues, including variations between large States, is in Appendix A.

5.3 Income taxes

Income taxes are forecast to be 11.5 per cent of GDP in 2012-13. This is close to their long-run average from 2000 to 2010

Income taxes fell by 2 per cent of GDP from a peak in 2004-05 to a low in 2009-10. Revenue fell partly as a result of the GFC (including falls in capital gains tax). Revenue also fell with a series of rate cuts in 2008-2010 so that income tax in 2010-2011 was \$10 billion lower than it would have been if the thresholds from 2007-08 had been indexed at CPI. However, by 2015-16, several years of bracket creep will cancel out the annual impact of these tax cuts, and income tax collection will be the same as if the income tax brackets had simply been indexed at CPI from 2007-08.²⁹

There is a reasonable chance that Capital Gains Tax (CGT) receipts will increase by about 0.3 per cent of GDP. CGT is collected as income, company and superannuation taxes. Collections in 2010 were at a cyclical low of 0.45 per cent of GDP, well below the peak of 1.48 per cent of GDP in 2007. However, the share market and property price boom of the 2000s should

²⁹ Deloitte Access Economics (2012), p. 73

probably be seen as an aberration; over 15 years, CGT receipts averaged 0.72 per cent of GDP.³⁰

5.4 Corporate taxes

Corporate taxes are forecast to be about 5.4 per cent of GDP in 2012-13. The largest components are company tax (4.7 per cent of GDP) and payroll tax (1.4 per cent of GDP).

Over the last four years company tax revenues were below the average for 2000 to 2010. In part, economic growth, and therefore corporate profits, were lower than before the GFC. In part company taxes were lower because of corporate losses during the GFC that were claimed in subsequent years. However, even after accounting for these effects driven by economic growth rates, company tax collections were still about 0.5 per cent of GDP lower than forecast.³¹ Mining companies paid less tax than forecasts, which failed to allow for accelerated depreciation on substantial new investments.

Long-standing tax provisions allow miners to claim depreciation not over the life of the mine (say 20 to 30 years), but at double this rate (over 10 to 15 years). Most of this surge in depreciation claims is likely to continue for another decade at least. Mining companies can also claim in the current tax year the entire cost of removing over-burden (soil and rock on top of mineable ore in an

³⁰ Grattan analysis of Commonwealth 2012-13 Budget Paper No.1, p. 5-6

³¹ Chessell et al (2012), p. xxi

open cut mine). Data are not readily available on the size of the effect on recent company tax collection.³²

Treasury forecasts of company tax did not allow for the specific impact of accelerated depreciation on revenues from the mining industry. Even after allowing for the difference between forecast and actual economic outcomes, company tax revenue would still have been around \$7 billion (about 0.5 per cent of GDP) lower than Treasury forecasts from 2008-09 to 2011-12.³³ Presumably the currently available Treasury forecasts have built in similar errors. If so, the corrections will reduce forecast company tax revenues by around 0.5 per cent of GDP.³⁴

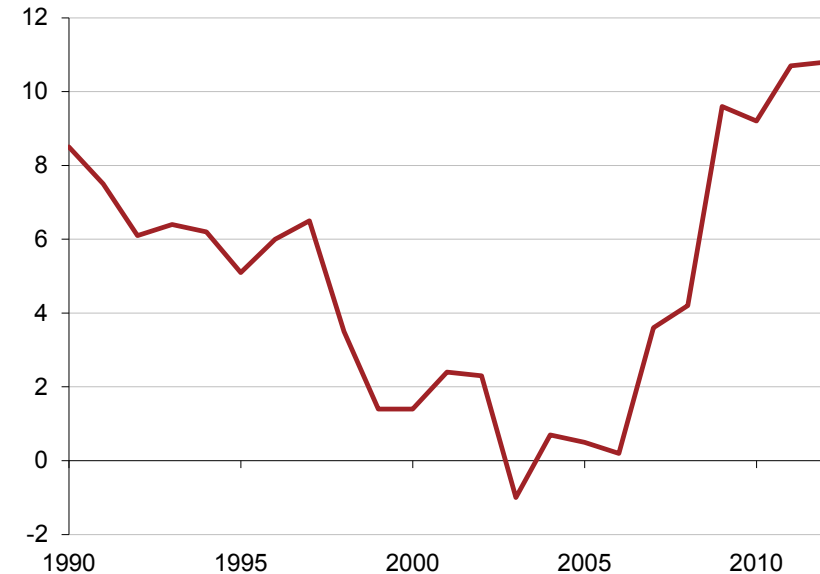
5.5 Indirect taxes

Indirect taxes – primarily the GST and fuel excise – dropped by about 1 per cent of GDP relative to the 2001-2010 average, as Figure 16 shows.

The fall in GST was mainly due to changes in household savings.³⁵ In 2003, Australian households were net borrowers of 1 per cent of ‘discretionary’ (post-tax) income. By 2012 they were much more frugal, saving 11 per cent of discretionary income, or 6.5 per cent of GDP. As Figure 19 shows, this appears to be a

persistent change in behaviour, perhaps driven by a combination of historically high debt levels that households are now looking to reduce; lower confidence as a result of the GFC; increased awareness of rising longevity and the need for additional retirement savings; and replacement of the wealth increase previously delivered by strong capital gains in housing and equities.³⁶

Figure 19: Household savings 1990-2012
Household savings ratio, per cent of disposable income



Note: Net household savings includes contributions and net earnings, less withdrawals, for superannuation.

Source: ABS (2012c) Cat no. 5204.0

³² Whether these tax concessions are justified by their impact on attracting mining investment that might otherwise not occur in Australia is beyond the scope of this paper.

³³ Chessell et al (2012), p. xxi

³⁴ Chessell et al (2012)

³⁵ The flow of household savings as calculated by the Australian Bureau of Statistics includes contributions and net earnings, less withdrawals, for superannuation.

³⁶ Freestone et al (2011)

GST revenues also fell because consumers spent an increasing proportion of their income on education and health, which are exempt from GST, and less on housing construction and renovation that are at cyclical lows, with a small loss of tax revenue as internet shopping grew.³⁷

Indirect taxes have also reduced relative to GDP because the fuel excise was not indexed after 2001.³⁸ As a result, fuel excise only just grew in real terms between 2003 and 2013, despite an increasing population, as Figure 15 shows. If fuel excise had been indexed in line with inflation over the last decade, revenue would be approximately \$2.4 billion higher.³⁹

5.6 New revenue sources

In the last two years, the Commonwealth legislated two substantial new revenue sources: the carbon price and the Mining Resource Rent Tax (MRRT). Both appear likely to generate substantially less revenue than current forecasts.

Carbon price revenues are likely to collect around \$5.3 billion per year (0.3 per cent of GDP) less than current forecasts from 2015-16 onwards. These forecasts assume a traded price of \$29/tonne from 2015-16. But current European prices (to which the Australian scheme is now linked) are around \$6/tonne. If carbon prices stay around this level, then revenue for 2015-16 will be approximately \$1.4bn rather than the \$6.7bn in current forecasts.

³⁷ Treasury (2012), p. 155

³⁸ Treasury (2010b), section 9.3.

³⁹ Fuel tax revenue is currently \$10b/yr; under indexation this would be higher by the cumulative change in CPI over the last decade of 30%, and assuming a 5% reduction in fuel usage due to higher efficiency and fewer trips

Current forecasts assume the MRRT will raise around \$5 billion in 2013-14, and similar amounts in future. In fact, it may well collect almost no revenue. Reported revenues in the first six months of operation are close to zero. Collections will depend on minerals prices, and many expect that future minerals prices will be at or below the levels of the last six months.⁴⁰

⁴⁰ See Section 6.1 below

6. External pressures

Government budgets benefited from the strong terms of trade over the last decade. The prices of goods that generated taxes rose more quickly than the price of services that governments bought (particularly foreign goods and Australian wages). There is a good chance that the terms of trade will fall in the medium term, and Australian governments will be looking for 1 per cent, and perhaps as much as 2 per cent of GDP in savings or tax increases to repair their budget balances as a result.

Australian government budgets also benefited from generally good economic conditions. Three years after the GFC, the economy of Australia and its major trading partners are close to their long run growth rates.

Combining these effects, one would expect that Australian governments should be running comfortable surpluses at this point in the mining and economic cycles to pay back the stimulus spending of the GFC, and to absorb the likely hit to budget balances when the terms of trade unwind and return to more normal levels. Instead Australian governments are relying on current minerals prices only declining slowly to maintain even current deficits or thin surpluses. They are very exposed to the risk of a scenario in which mining investment and earnings slow more quickly.

It is almost inevitable that mining investment and minerals prices will reduce from current levels, which are much higher than historic averages. As they reduce, nominal economic growth rates and government revenues will reduce, increasing the pressure on

government budgets, at least in the short term. This decline could well be much faster than is currently projected.

Sometimes macroeconomic influences – notably terms of trade (see Appendix C) – are described as ‘cyclical’ impacts that mask the ‘underlying’ or ‘structural’ budget position. The situation can be described as a budget position that is ‘at risk’ from macroeconomic changes that are inherently difficult to predict. The risk of a significant decline in minerals prices towards historic levels is large and plausible. Consequently there is a strong case for adjusting budget revenue and expenses sooner rather than later to prepare for this.

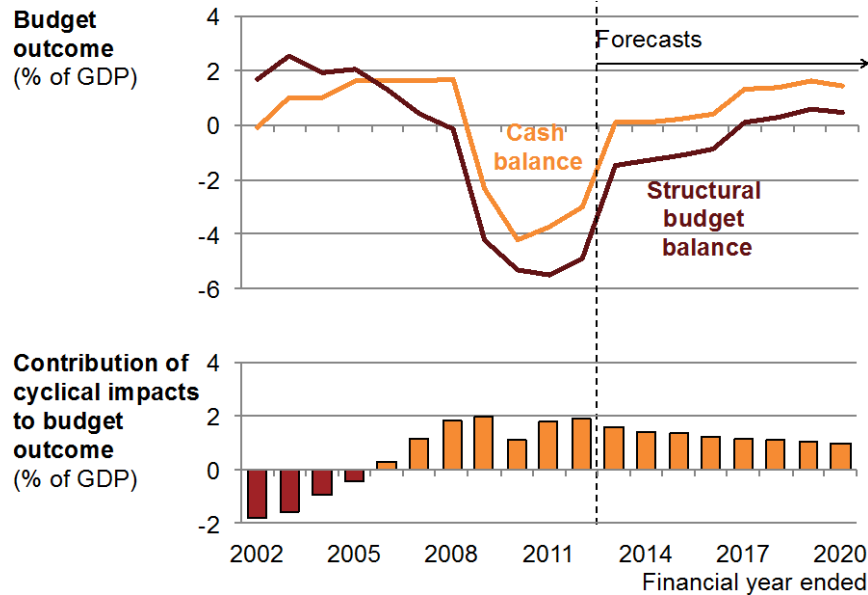
6.1 Terms of trade and minerals prices

The improvement in the terms of trade since 2003 as a result of the mining boom is estimated to have added around 1 to 2 per cent of GDP to the Commonwealth Government budget balance over the last few years, as Figure 20 shows. The publicly reported ‘cash balance’ was materially higher than the ‘structural balance’ (what the budget outcome would have been without cyclical economic factors).

The mechanism for this free kick to the budget was that government revenues were boosted by high export prices,⁴¹ while government expenses were more linked to import prices and local wages. The budget balance was thus 1 to 2 per cent of GDP

⁴¹ McDonald et al (2010)

Figure 20: Commonwealth government budget balance
Per cent of GDP



Note: The cash balance is the balance reported in the budget. Cyclical impacts are the effects of cyclical economic variables on revenues and expenses. The cash balance less the cyclical impacts is the structural budget balance. Analysis based on core scenario in McDonald et al (2010).

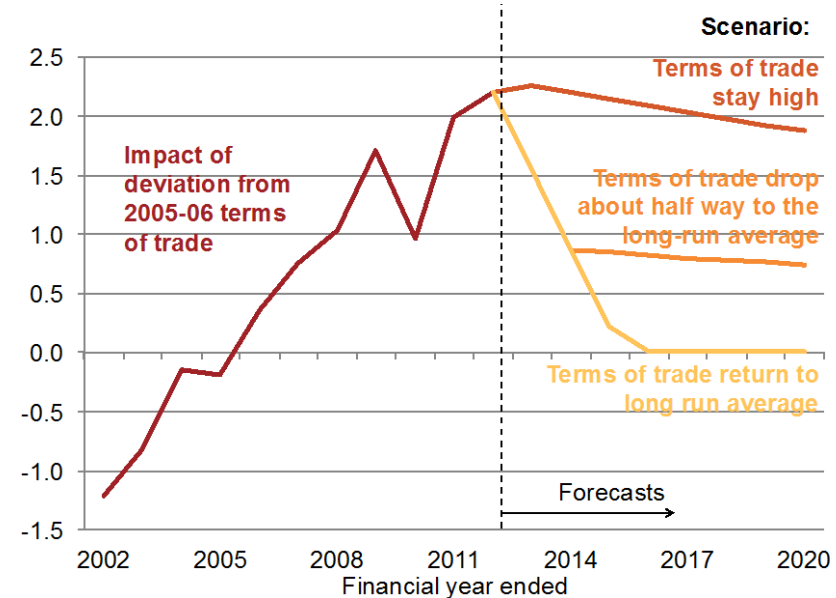
Source: Grattan analysis of ABS (2012c) cat. no. 5204.0; ABS (2012d) cat. no. 5506.0; Commonwealth budget papers for 2002-03 to 2012-13; McDonald et al (2010).

higher than it would have been without a mining boom. When mining prices return closer to historic levels, these effects will unwind. Indeed there are signs that this is already happening.⁴²

⁴² Swan (2013)

Treasury authors in 2010 estimated that the effect on the budget was 1 to 2 per cent of GDP, consistent with estimates compiled by the OECD, the IMF, and by Deloitte Access Economics.⁴³ As this implies, if terms of trade fall to their long-run average, the impact on the Commonwealth budget would be very significant, reducing revenues, and the budget balance, by 2 per cent of GDP, as Figure 21 shows.

Figure 21: Impact of terms of trade on Commonwealth tax revenues
Per cent of GDP



Source: Grattan analysis of ABS (2012c) cat. no. 5204.0; ABS (2012d) cat. no. 5506.0; Commonwealth budget papers for 2002-03 to 2012-13; McDonald et al (2010).

⁴³ Deloitte Access Economics (2013)

Current budget forecasts assume that from their peak in 2011-2012, the terms of trade will decline by 9 percent by 2014-15. Treasury then projects that the terms of trade will decline by 16 per cent from their peak by 2023.⁴⁴ This additional decline is not in the forward estimates, which only forecast the next three years.

However, the decline may be faster and deeper than this. There is every chance that the terms of trade could rapidly decline to around halfway between peak and the long-run average. If so, the price effect would reduce the Commonwealth budget balance by 0.6 per cent of GDP below current forecasts, and Treasury scenario analysis suggest the flow-on effects on the economy and the labour market would be much larger, albeit possibly offset by changes in the exchange rate.⁴⁵

To be prepared for this scenario, Australian governments would need to be running a budget balance 1 to 2 per cent of GDP higher than ordinary economic indicators would suggest. As discussed below, major economic indicators for Australia and the world suggest that the Australian economy is now growing close to trend, and governments should have a net budget surplus, even without the contribution of the terms of trade.

Government revenues in some States also benefited from a surge in royalties as volumes increased, and some States increased royalty rates. Total royalties collected are \$10 billion, or 0.7 per cent of GDP, so the potential impact on Australian government budgets of royalty payments falling with mining prices is relatively small.

⁴⁴ Treasury (2010) MYEFO Part 2, p. 25

⁴⁵ Treasury (2012) Budget Paper 1, Statement 3, Appendix A

How significant is the risk of lower terms of trade? It is inherently difficult to forecast the minerals prices that drive Australia's terms of trade. Prices may stay stronger for longer given high demand from the continuing economic development of a range of countries, and relatively slow increases in supply due to the consolidation of the global mining industry, declining ore grades, and slowing construction.⁴⁶ However, some analysts, such as Goldman Sachs, forecast a decline in iron ore prices from around \$140 to around \$90 a tonne by 2014, based on increasing supply from Chinese domestic iron ore mining and steel recycling, as well as from committed expansions in capacity by global producers, including in Australia.⁴⁷

6.2 Economic growth

Australian economic growth has a material impact on budgets from year to year. Just the gap between forecast and actual economic growth and prices typically added or subtracted in the order of \$5 to \$10 billion from Commonwealth revenues over the last decade.⁴⁸

Australia is no longer at the bottom of the economic cycle. Instead, the economy is probably at or above the average performance that can be expected over the next decade or two. GDP growth is close to its average over the 2000s, inflation is inside the RBA's target of 2-3 per cent, and unemployment is lower than any recent period outside the boom-years of

⁴⁶ Eslake (2011)

⁴⁷ Lelong and Curry (2013)

⁴⁸ See Chessell et al (2012) p. xviii, xxi

2005-2008.⁴⁹ Meanwhile, commodity prices are higher than during the pre-GFC boom, and terms of trade are higher than almost any period in the last 60 years, boosting national income.

Much of Australia's good fortune is driven by economic performance of its trading partners. While the world economy has slowed post-GFC, Australia's main trading partners have been roaring ahead, at growth rates a little below their mid-2000s boom. As a consequence, Australian commodity export volumes are higher than ever before. Australian iron ore exports are now *double* their pre-GFC level.

There are some weaknesses in the Australian economy that might improve. The high dollar is impeding growth in trade-exposed industries, particularly manufacturing and international services such as higher education. Economic growth may also be boosted as new mining capacity begins production. A key will be how much of this revenue stays in Australia, either as dividends for shareholders or tax and royalties for governments.

However, economic growth is normally slower after the peak of a mining boom than before. The history of previous mining booms around the world suggests that manufacturing industries typically rebound strongly after the boom. But these rebounding industries typically add less to economic growth than is subtracted by the slowing resources sector.⁵⁰

⁴⁹ RBA (2013)

⁵⁰ This will be discussed in a forthcoming publication by Grattan Institute, authored by Jim Minifie

Thus the current economic conditions may be about 'as good as it gets'. This implies that Australian budgets should not expect a significant improvement from the economy 'returning to normal'. Economic conditions generally close to long-run trends imply that at this point in the economic cycle, Australia governments should be posting comfortable surpluses.

Classic Keynesian fiscal policy suggests that a country should have budget surpluses when the economy is growing strongly, and budget deficits when the risks of stalling are high. This approach is codified in the current government's statement of fiscal strategy, 'to achieve budget surpluses, on average, over the medium term'.⁵¹ Given this strategy, the substantial budgetary stimulus that Australia employed at the bottom of the economic cycle needs to be counter-balanced by budget surpluses even at mid-points in the economic cycle.

The budgetary surpluses appropriate at this point in the economic cycle are in addition to the buffer that may be needed if Australia's terms of trade reduce, affecting prices in ways that would reduce government budget balances by about 1 to 2 per cent of GDP, as discussed above (Section 6.1).

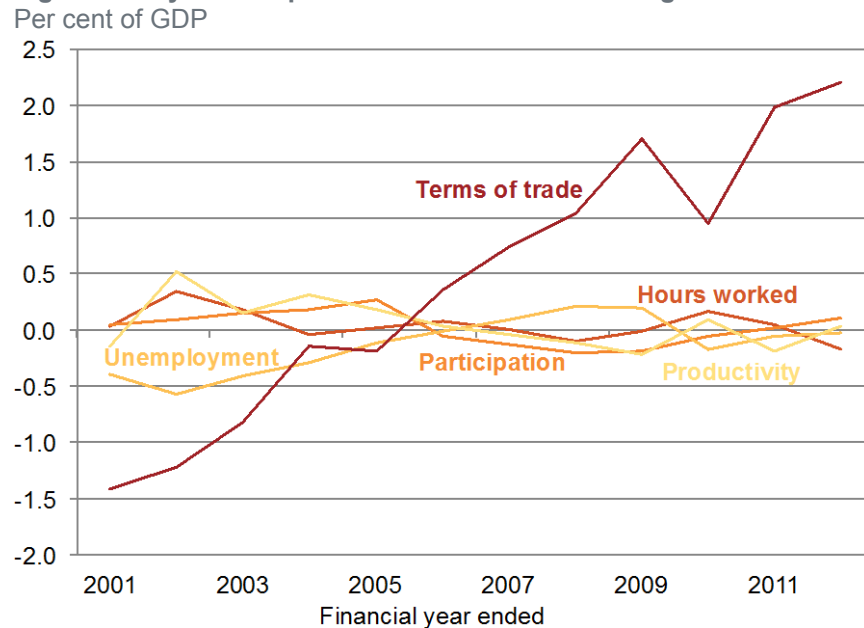
6.3 Other cyclical impacts

Other cyclical factors did not materially affect Commonwealth budgets over the last decade. Productivity, participation, hours worked and unemployment did not generally affect the budget outcome by more than 0.25 per cent of GDP in any one year, and their collective impact has tended to be close to zero, as

⁵¹ Treasury (2012) Budget Paper 1, Statement 3.

Figure 22 shows. Therefore, marginal improvements in productivity and GDP similar to those in any year of the last decade are unlikely to have a large impact on budget outcomes.

Figure 22: Cyclical impacts on Commonwealth budget balance



Note: Unemployment, participation, productivity and hours worked are typical 'cyclical' variables: they tend to move with the Australian economic cycle. Terms of trade (TOT) is also included here as a cyclical variable, although it is part of a different economic cycle. Treating TOT as a 'structural' variable would inappropriately imply that future levels are relatively certain. Structural GDP is calculated based on an unemployment rate of 5 per cent and a long-run terms of trade of .66 (where it was 1 in 2011). The cyclical impacts exclude interaction effects between variables. While so-called 'real' cyclical variables have the potential to affect the budget balance, their recent impact has been dwarfed by nominal changes (particularly terms of trade).

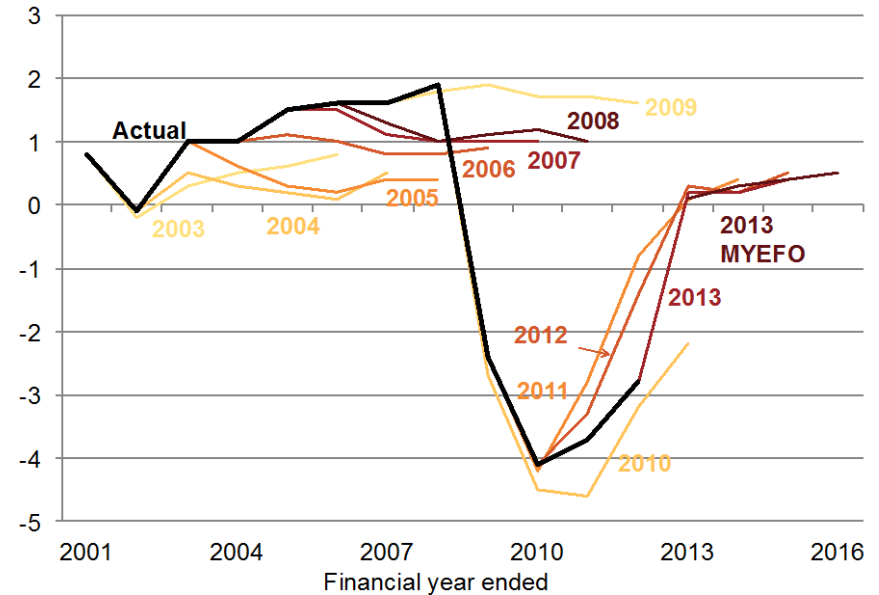
Source: Grattan analysis of ABS (2012c) cat. no. 5204.0; ABS (2012d) cat. no. 5506.0; Commonwealth budget papers for 2002-03 to 2012-13; McDonald et al (2010).

6.4 Economic forecasts

Budgetary forecasts depend on economic forecasts. If economic forecasts are systemically optimistic or pessimistic, then the medium-term outlook may need to be revised. In the 2000s, budget outcomes were often about 1 per cent of GDP better than forecast, and since the GFC they have generally been about 1 per cent worse than forecast, as Figure 23 shows.

Figure 23: Actual and forecast underlying cash balance, Commonwealth budget

Per cent of GDP, year of forecast labelled



Source: Commonwealth Budget papers 2002-03 to 2012-13

The variations are primarily in revenues not expenses.⁵² Before the GFC, Treasury tended to underestimate the strength of growth in the global and Australian economies, and in the terms of trade, causing it to underestimate taxation revenue.⁵³ Since the GFC, Treasury has generally overestimated the budget outcome by about 1 per cent of GDP. About half of this due to overestimating the strength of global and Australian economic growth.⁵⁴

Estimating economic growth is inherently difficult: an RBA analysis found that half of its forecasts for GDP growth for the following year were out by 1.2 per cent or more. Private sector forecasts were similarly inaccurate.⁵⁵ These forecasting issues are likely to balance out over the economic cycle. However, about \$7 billion per year of the Treasury's recent forecasting error was due to incorrect forecasting of company tax, a systemic error that will need to be corrected in future.⁵⁶

6.5 Balance sheet risks

Government net debt is created by year-to-year budget deficits, and any major liabilities assumed by government that turn out to be unrecoverable. Only financial sector liabilities are likely to be material to total government debt, and these are unlikely to crystallise given current policy settings.

⁵² Deloitte Access Economics (2013), p. 17

⁵³ Chessell et al (2012), p. xviii

⁵⁴ Chessell et al (2012), p. 37

⁵⁵ Tulip and Wallace (2012), p. 40

⁵⁶ See above (Section 5.4)

The Commonwealth sets out its major liabilities in its "Statement of Risks", part of each year's budget papers. Many of these risks are substantial, several are described as "unquantifiable", but few are likely to result in the Commonwealth government taking on a debt of tens of percentage points of GDP. Even if the entire investment in the National Broadband Network turns out to be irrecoverable, it would still only add 3 per cent of GDP to total government debt.

The largest risk is a government assuming the bad debts of major financial institutions. During the GFC the Commonwealth guaranteed deposits, and provided guarantees for the wholesale borrowing of Australian banks. As recent events in Spain, Iceland, Ireland and Cyprus have shown, taking on these liabilities can add materially to total government debt.

Australia's financial institutions remain in relatively good health, despite the stresses of the GFC. In part this was good luck, as Australia's banks were short of deposits given Australia's long-running negative balance of payments, and so avoided lending to sub-prime mortgages or to governments that subsequently encountered difficulties. As well, the Australian property market did not suffer a rapid collapse. In part this was due to good management as many bank managers had been part of banks that came near to failing in 1990, and APRA actively discouraged more risky lending in the years before the GFC.⁵⁷ Whether by good luck or good management, the failure of a substantial financial institution in Australia appears unlikely in the foreseeable future given current policy settings.

⁵⁷ McDonald and Morling (2011)

7. Future pressures

In the last decade government budgets absorbed sustained increases in expenses, particularly health costs (1 per cent of GDP), absorbed substantial cuts to income tax and fuel excise (1 per cent of GDP), suffered through the GFC, but then benefited from both the price and economic effects of the mining boom and high terms of trade (2 per cent of GDP). Current forecasts are under pressure as revenue from company tax may be lower than forecast due to accelerated depreciation (0.5 per cent of GDP). Similarly, revenues from new sources – carbon pricing and MRRT – may raise less than forecast (0.5 per cent of GDP).

Future government budgets will come under pressure from rising political expectations and specific policy promises. Social and economic trends, particularly the increasing demand for health services, may also increase pressures. Rising inequality as a result of increasing returns to the more highly educated may also create pressure for additional welfare spending, although this trend is not yet evident in Australia, as it is in the United States and the United Kingdom. The ageing population will have surprisingly little impact over the next two decades, particularly if policy reforms to increase workforce participation are put in place.

7.1 General expectations

The title of Laura Tingle's *Quarterly Essay*, 'Great Expectations',⁵⁸ aptly captured the political tendency to raise expectations about what government can and should deliver. As she pointed out,

⁵⁸ Tingle (2012)

although governments have relinquished direct control of many institutions from running airlines to setting interest rates, political rhetoric over the last decade tended to imply that government could solve virtually any problem. These expectations were easier to fulfil when government revenues continued to rise as a percentage of GDP. With budgets under pressure, disappointment is more likely.

There are also community expectations that standards of living will continue their 20-year rise, with real incomes per person rising at over 2 per cent per year. Through the 1990s, this growth was fuelled by productivity improvements. In the 2000s, the terms of trade delivered rising standards of living, particularly through lower prices for imports – an effect that may well unwind in future.⁵⁹

Unless there is a substantial sustained jump in productivity growth, living standards will rise much more slowly in future. There may well then be a political tendency to raise expectations that government should fill the gap, although it is unclear that government intervention would make much difference.

7.2 Specific expectations

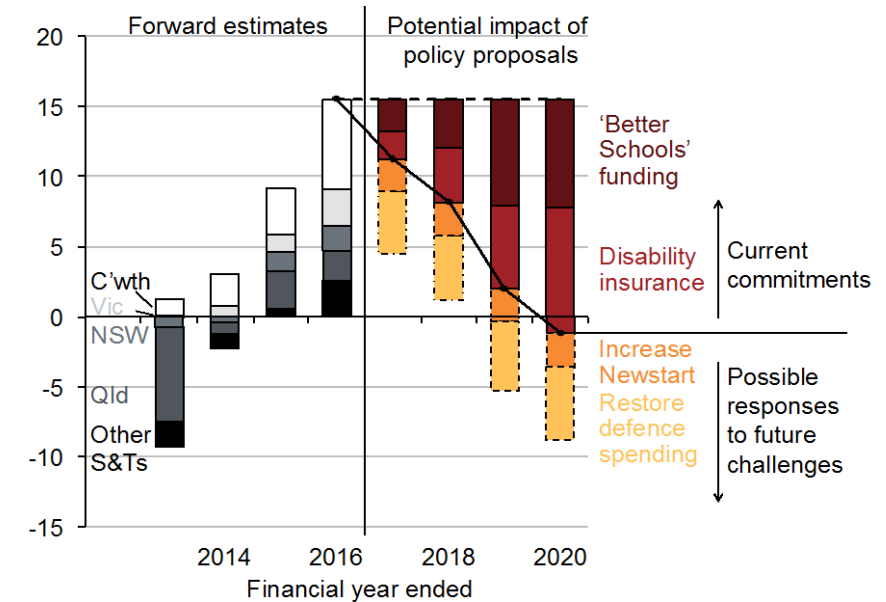
Governments have already raised specific expectations on a number of issues. Expenditures were committed on the basis of mining taxes and a carbon price, but these are likely to raise less

⁵⁹ Gruen (2012) p. 3; Eslake and Walsh (2011)

revenue than originally forecast. The total cost of the proposed National Disability Insurance Scheme and the Gonski school funding reforms will be substantial. There are also calls to increase Newstart, and restore defence spending to historic levels. Collectively these measures could reduce budget balances by around \$25 billion, or 1.1 per cent of GDP, within the next few years, as Figures 24 and 25 show.

Both sides of politics have raised specific expectations on a number of issues. The ALP has made some big spending commitments beyond the forward estimates, including increases in school funding, and implementing a national disability insurance scheme (Figure 24). The Liberal-National Coalition has promised more spending on reducing carbon emissions through ‘direct action’, and a more generous paid parental leave scheme. They have also committed to abolish the carbon price and mining taxes, reducing revenues further below revised forecasts (Figure 25). Both parties also face demands for more spending in areas as diverse as welfare and defence. Without cuts or new sources of revenue, the ALP’s current commitments could reduce budget balances by around \$17 billion or 0.7 per cent of GDP in 2020, while the Liberal-National Coalition’s current commitments could reduce them by around \$10 billion or 0.4 per cent of GDP in 2020. Other proposals – much speculated about, but by no means adopted as commitments – could bring the initiatives of both parties to around 1.1 per cent of GDP in 2020.

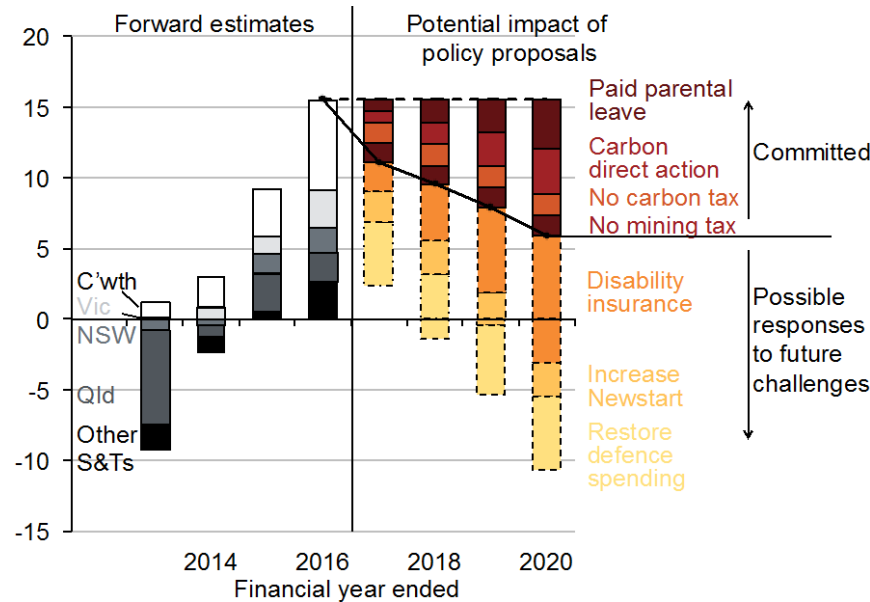
Figure 24: Budget impact of committed and possible policy proposals – Australian Labor Party
Nominal \$ billion



Note: Forward estimates are taken from each jurisdiction’s 2012 Mid-Year Economic and Fiscal Outlook or equivalent, and assume current policy settings and forecasts. Basis of policy costings: ‘Better schools’ total announced funding of \$14.5 billion phased in over 6 years to 2019. ‘Disability insurance’ shows full cost of National Disability Insurance Scheme progressively phased in over four years from 2016-17. ‘Increase Newstart’ assumes an increase to jobseeker welfare payments (Newstart and jobseeker Youth Allowance) of \$50 per week in today’s dollars, indexed at CPI. ‘Restore defence spending’ shows budget impact of a return to 2009-10 spending levels as a percentage of GDP from 2017.

Source: Grattan analysis of Commonwealth and State budget and Mid-Year Economic and Fiscal Outlook papers, 2012-13; Australian Government Actuary (2012); Australian Greens (2013); Carling (2012); DEEWR (2013).

Figure 25: Budget impact of committed and possible policy proposals – Liberal-National Coalition
Nominal \$ billion



Note: 'Paid parental leave' assumes 2010 election commitment costing, less cost of current arrangements, phased in over four years from 2015-16 to 2019-20. 'Carbon direct action' assumes announced cap of \$10.5 bn to 2020, less four-year costings from 2010 election commitment costing, phased in over four years from 2015-16 to 2019-20. 'No carbon tax' shows budget impact of abolishing carbon pricing compared to revenue estimates from current scheme based on \$6/tonne carbon price. 'No mining tax' shows budget impact of no mining tax compared to revenue estimates half that currently forecast in MYEFO. 'Disability insurance', 'Increase Newstart' and 'Restore defence spending' and other assumptions are as per Figure 24.
Source: Grattan analysis of Commonwealth and State budget papers and Mid-Year Economic and Fiscal Outlook papers, 2012-13; Australian Government Actuary (2012); Australian Greens (2013); Carling (2012); Eltham (2011); Karvelas (2010); Loughnane (2010); Loughnane (2013).

7.3 Health costs

Health dominated the increase in government spending above GDP over the last decade. Health costs are likely to continue to increase as a percentage of GDP. As discussed above (Section 4.2), the primary driver of increasing health costs over the last decade was *not* an ageing population, but rather increased services for all ages. Without concerted policy changes, these trends are likely to continue. The 2010 Intergenerational Report (IGR) forecast that health costs would increase by 3 per cent of GDP by 2050, with 1.3 per cent of GDP a result of the increased scope of health services.⁶⁰ Actual growth in just the last decade was an additional 1 per cent of GDP, and about 2 per cent of GDP after adjusting for the terms of trade boom, substantially faster than the IGR projection.⁶¹

If the scope of health services continues to increase at the rate of the last decade, health will demand an additional 2 per cent of GDP of government budgets by 2023.

⁶⁰ Treasury (2010a)

⁶¹ If economy-wide prices grew at the CPI over the past decade, health spending would have been about two percentage points above its 2002-3 proportion of GDP. As the terms of trade boom lifted economy-wide prices, this meant government had additional revenues to pay for increasing health costs. However, we expect economy-wide prices to move with CPI over the coming decade, with the price of healthcare continuing along its current trend. This implies an increase in share of GDP of about 2 per cent by 2022-23.

7.4 Welfare

Welfare is the largest category of government expenditure: 22 cents of every dollar spent by Australian governments. Future budgets are therefore sensitive to changes in welfare spending.

Welfare payments aim to reduce inequality of outcomes and opportunities. According to some economic analysis, some political theories, and public choice theory, if incomes before taxes and payments become less equal, there is likely to be pressure to increase welfare to redress the balance. Although these claims are contested, almost all political theories agree that welfare payments should enable the most disadvantaged to fulfill basic values and pursue worthwhile opportunities.

Overall inequality in Australia is a little above the OECD average. Australia has avoided extremely high earnings for those in the top 1 per cent. Tertiary graduates earn less of a premium, perhaps because the mining boom has kept wages relatively high for those with fewer skills. The effects of income inequality are mitigated by Australia's welfare system, which has lower total payments, but targets them more towards areas of greatest need than other OECD countries.

The real incomes of poor Australian households have generally risen over the last decade. But if the mining boom slows, inequality is likely to increase and absolute incomes will grow more slowly. This may increase the pressure for Australian governments to spend more on welfare.

7.4.1 Reasons for reducing inequality

Unequal incomes are inevitable when some have more luck, talent, or industry. Government payments to reduce unequal incomes may be justified in a variety of ways.

From an economic perspective, some argue that less equal outcomes reduce total economic growth because they reduce economic mobility, dampen economic growth and promote excessive borrowing leading to financial crisis and middle-class debt. Others argue that inequality enables economic elites to capture and exploit government institutions leading to national decline. The evidence for all these claims is contested.⁶² Political self-interest suggests when incomes are more unequal there will be more pressure for welfare payments from which the median voter sees the likelihood of gain; conversely there will be less political pressure for welfare payments when incomes are more equal and the median voter sees more possibility of losing from the payments.

From an ethical perspective, some argue that more equally distributed resources are intrinsically a better outcome, other things being equal, because they maximise opportunities for all.⁶³ On this basis, welfare benefits would generally grow with GDP, distributing the fruits of economic growth across the community.

Other philosophers are more focused on 'disadvantage' that leads to those who are less well-off being unable to fulfill basic values in their lives,⁶⁴ or in Sen's terms, having fewer opportunities to

⁶² Winship (2013), Wilkinson (2009)

⁶³ Rawls (1971)

⁶⁴ Finnis (1980), p. 174

pursue lives that they have reason to value.⁶⁵ On this theory, welfare benefits would generally grow with CPI, but not GDP, ensuring that the disadvantaged have access to basic resources to pursue opportunities. Over the medium term, additional welfare might reflect changes in what is required to pursue opportunities.

The design of Australia's welfare system, highly targeted to the bottom 20%, appears to have been motivated primarily by this latter theory of alleviating disadvantage. However, the indexation of the Aged Pension to average weekly earnings implicitly shares the benefits of economic growth, irrespective of basic needs.

7.4.2 Overall inequality

Household inequality measures the financial resources available to each household. It depends on the income of each household member, levels of participation, and government welfare payments. Household income inequality after taxes and payments in Australia is slightly higher than the OECD average, as Figure 26 shows.

⁶⁵ Sen (2009), p 253-254

Indicators of inequality

Inequality can be measured in many ways. Two of the more common methods are the 80:20 ratio and the Gini coefficient. These methods can describe inequality in the distribution of many outcomes such as income, consumption, and wealth.

The 80:20 ratio

If a country had 100 people, ordered from the person with the lowest income to the person with the highest income, the 80:20 income ratio would be the income of the 20th richest person divided by the income of the 20th poorest person.

Often the calculation averages outcomes around these benchmarks. The 80:20 ratios in this report take the average of the 76th through 85th percentiles and divide by the average of the 16th through 25th percentiles.

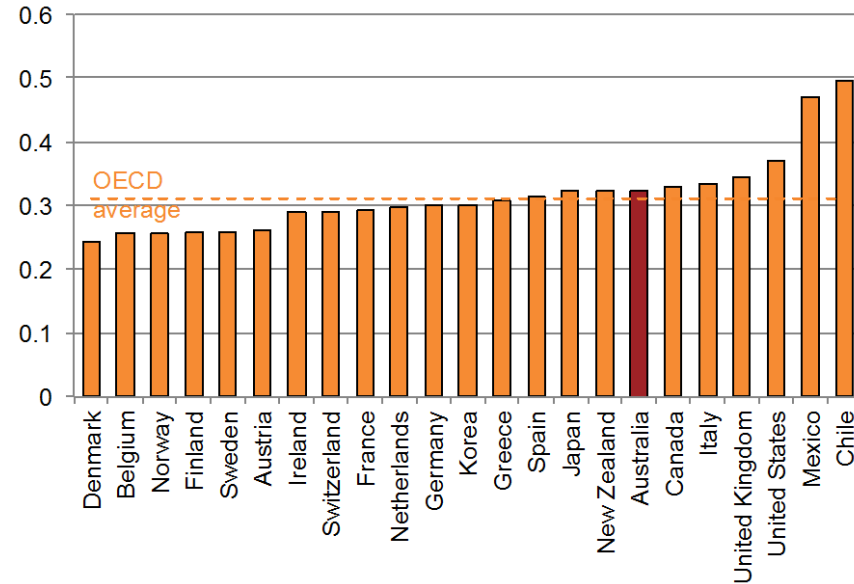
The Gini coefficient

Unlike the 80:20 ratio, the Gini coefficient tries to distinguish between consistent trends in inequality, and situations in which those at the extremes do particularly well or badly.

The Gini coefficient is half of the expected difference between the income of a randomly selected individual and average income, as a percentage of average income. The coefficient is 0 if everyone has the same income, and 1 if one person earns everything. Most countries have a Gini coefficient for income between 0.25 to 0.45. In the late 2000s, Australia's Gini coefficient for income after taxes and payments was 0.33; the US was 0.38, and Sweden was 0.26.

Figure 26: Household income inequality after taxes and payments in the OECD

Gini coefficient, late 2000s, household disposable income

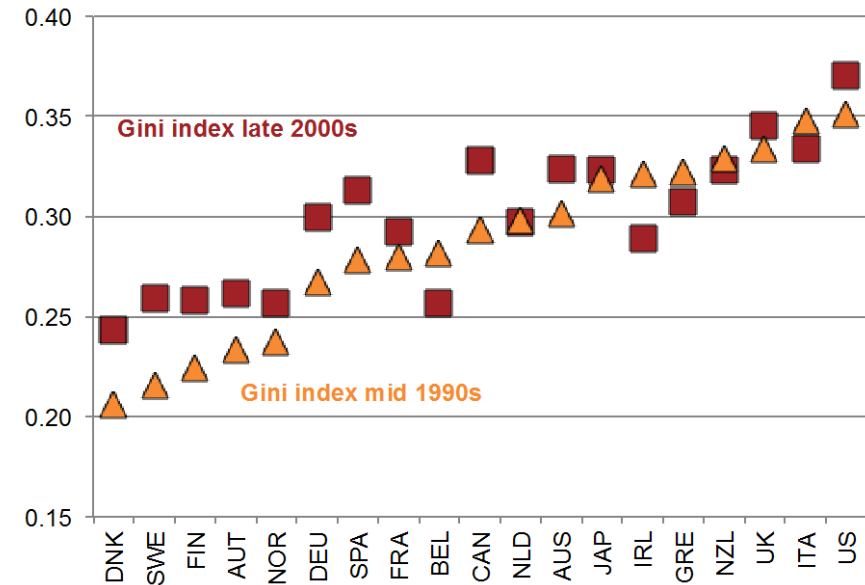


Note: Gini coefficient based on equivalised household disposable income (after taxes and payments)
Source: OECD (2013)

Household income has become less equal in most advanced economies over the last decade, as Figure 27 shows. In traded sectors, globalisation increased the supply of low-skill, low income workers, and reduced their relative wages. Globalisation also enlarged markets, and so increased the returns to innovation and technology for high skill, high income workers.

Figure 27: Changes in household income inequality, after taxes and payments

Gini coefficient, income, mid 1990s to late 2000s

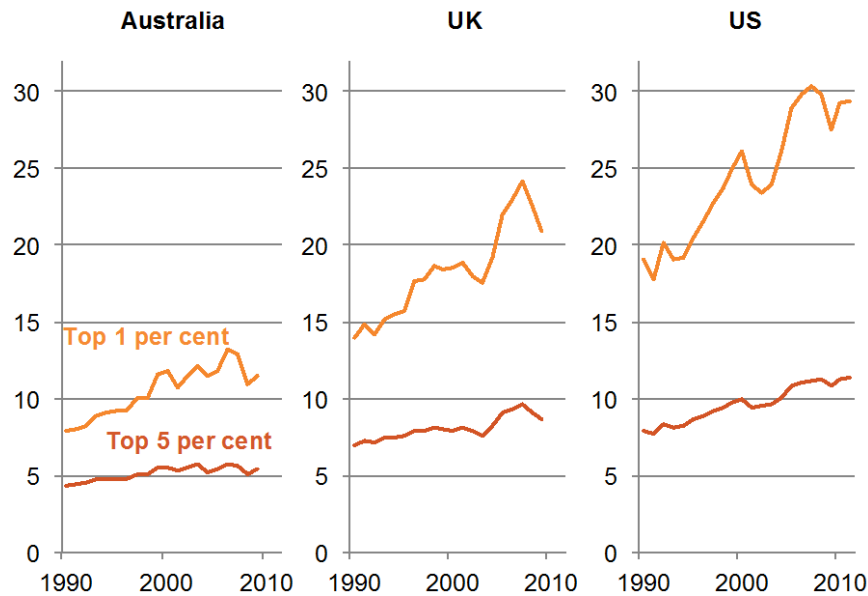


Note: Gini coefficient based on equivalised household disposable income (after taxes and payments)
Source: OECD (2013)

7.4.3 Earnings inequality

Earnings inequality is less extreme in Australia than elsewhere. Earnings per hour for part-time workers in the bottom decile have grown rapidly.⁶⁶ As well, returns to the top 1 per cent are noticeably lower, and have not increased nearly as fast, as in the United States and the United Kingdom, as Figure 28 shows.

Figure 28: Average incomes of the top 1 and 5 per cent
Multiple of average income for bottom 90 per cent

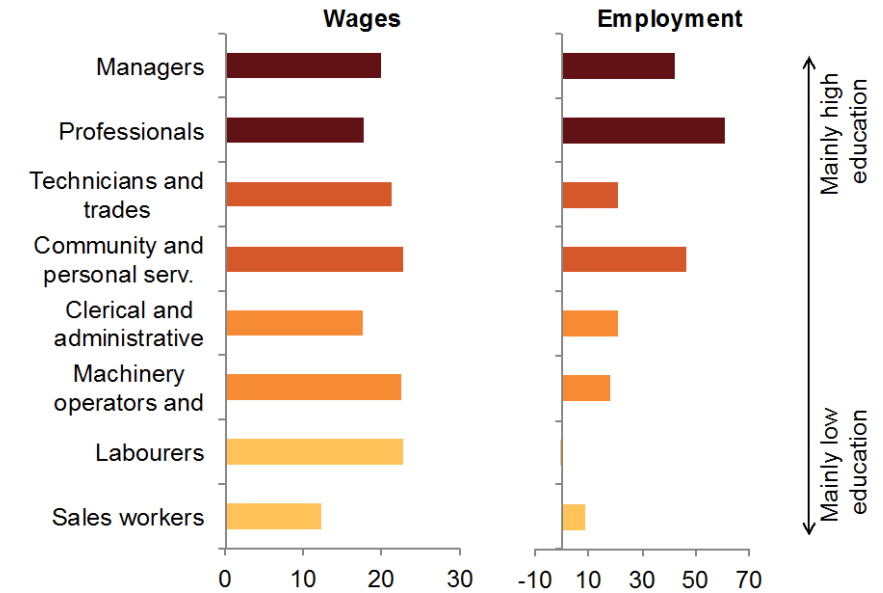


Source: Grattan analysis of Alvaredo et al (2013)

⁶⁶ Greenville et al (2013) p 49.

Earnings inequality is also reduced by the limited premium for higher levels of education in Australia. Although the number of jobs requiring higher education grew rapidly over the last decade, wages for these roles did not grow much faster than other roles, as Figure 29 shows.

Figure 29: Wages and employment growth by occupation
Cumulative per cent growth, 1997-2011



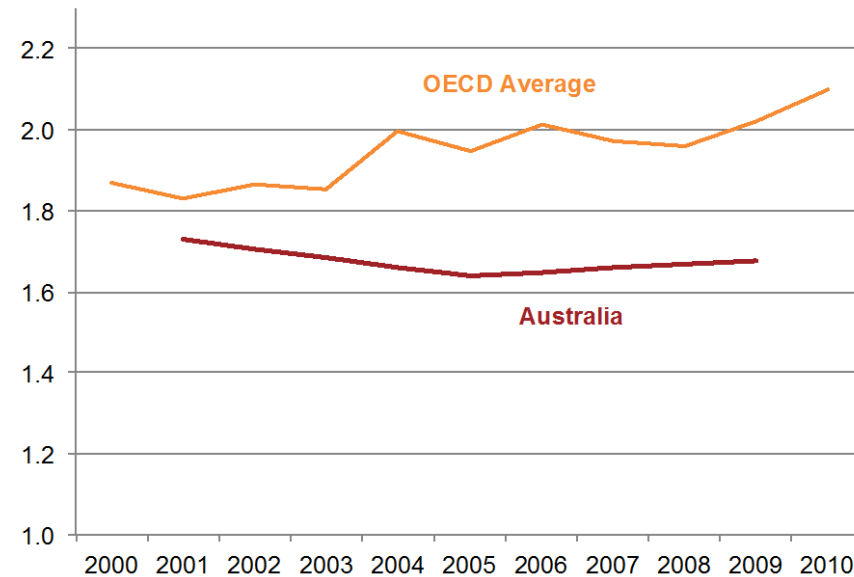
Source: ABS (2006) Cat no. 1220.0; ABS (2007) Cat. no 6310.0; ABS (2012f) Cat. no. 6291.0.55.003; ABS (2013a) Cat. no 6401.0, Tables 1 & 2.

The increasing supply of graduates appears to have kept pace with demand, keeping wages under control. Also, strong demand for mining construction workers may have kept wages for less

skilled workers relatively high. Resources sector jobs, many of them in construction and relatively low skilled, grew from 5 per cent to 10 per cent of the Australian workforce over the decade, with wages growing much faster than the remainder of the Australian economy.⁶⁷

Figure 30: Earnings premium for higher education

Earnings of workers with bachelor degree as a multiple of earnings of workers with only upper high school education



Note: Wage premium of education: the ratio of wages for those with a bachelor degree over those with an upper secondary education. The Australian values are missing in places—linear interpolation has been used.

Source: OECD (2012b)

⁶⁷ Bishop et al (2013)

Australia’s experience contrasts with the rest of the OECD, where the wages premium for higher levels of education is high and growing, as Figure 30 shows. When the mining boom ends Australia may well revert to the OECD trend, paying a greater premium to those with high levels of education, thereby increasing income inequality.

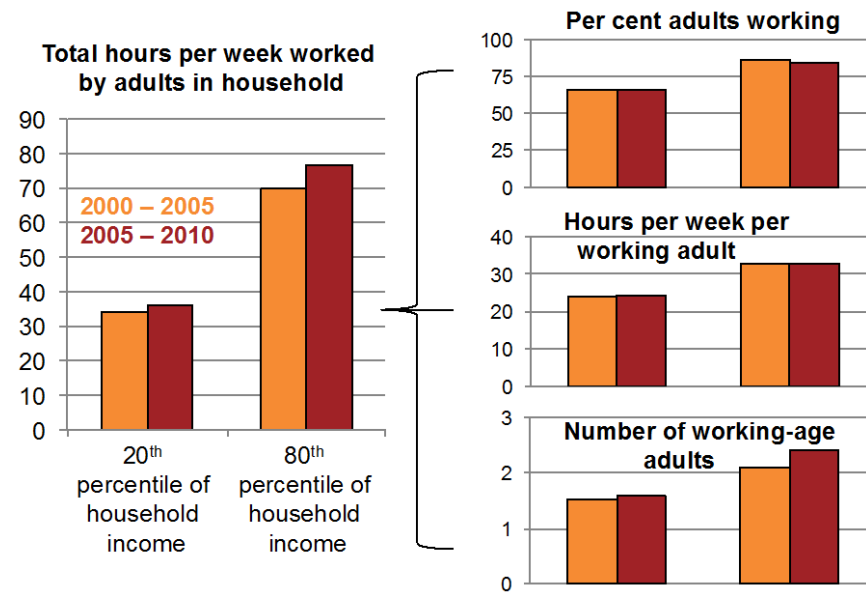
7.4.4 Participation inequality

Excluding welfare payments, Australian households with higher incomes (in the top quintile) earn 5.4 times more than households with lower income (in the bottom quintile).⁶⁸

Much of the disparity in household income is a consequence of different levels of participation. This is so even when looking only at pre-retirement age households and over a period of time that reduces the effects of absence from the workforce due to child-rearing. As Figure 31 shows, households in the 80th percentile by income work more than twice as many hours as households in the 20th percentile. High-income households contain more working-age adults, a greater percentage of them work, and work more hours. This premium is growing.

⁶⁸ ABS (2011) Cat. No. 6523.0. This figure is post taxes and payments; incomes are equivalised.

Figure 31: Drivers of hours worked per household
Pre-retirement age households, average over 5-year period



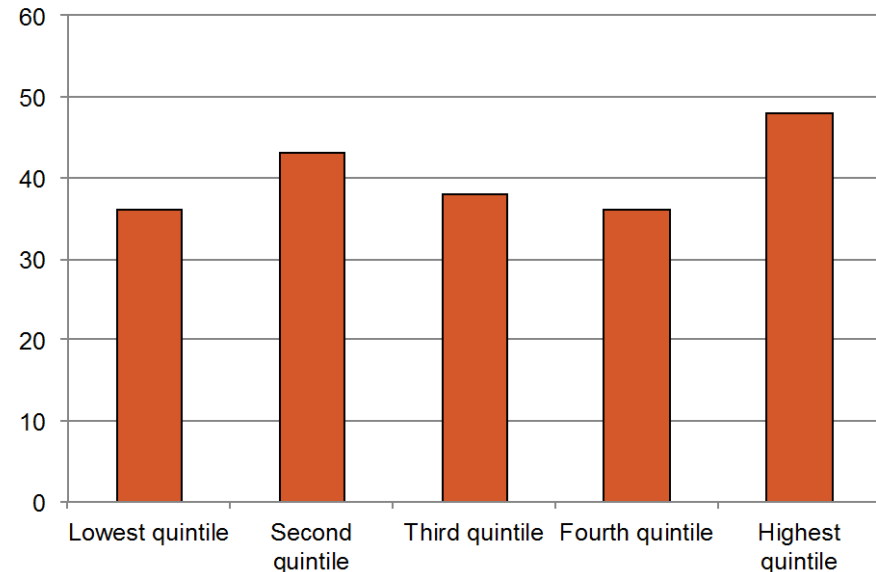
Note: Households were selected if they were in waves 1-10 of HILDA, excluding households with members over 65. Households were ranked according to their post-tax/benefit income over the 5 year period. The 20th percentile is the average of 16th-25th percentiles; the 80th percentile is the average of 76th to 85th percentile. Incomes are not equivalised.

Source: Grattan analysis of HILDA. See Summerfield et al (2011)

The net impact of individual income and participation has been to make Australian household incomes less equal over the last decade. Even so, incomes have continued to grow strongly across the spectrum of households, as Figure 32 shows. Households towards the bottom of the distribution have benefited

from reductions in the unemployment rate, and reasonable wages growth.⁶⁹ An open economy, no banking collapse, and the mining boom all contributed.

Figure 32: Growth in household post-tax real income
Per cent growth in equivalised household post-tax real income, mean of quintile, 2000-2010



Note: The ABS changed its measure of income in 2006 to include fringe benefits, which may affect the comparability of income in different periods. See Kecmanovic and Wilkins (2011)

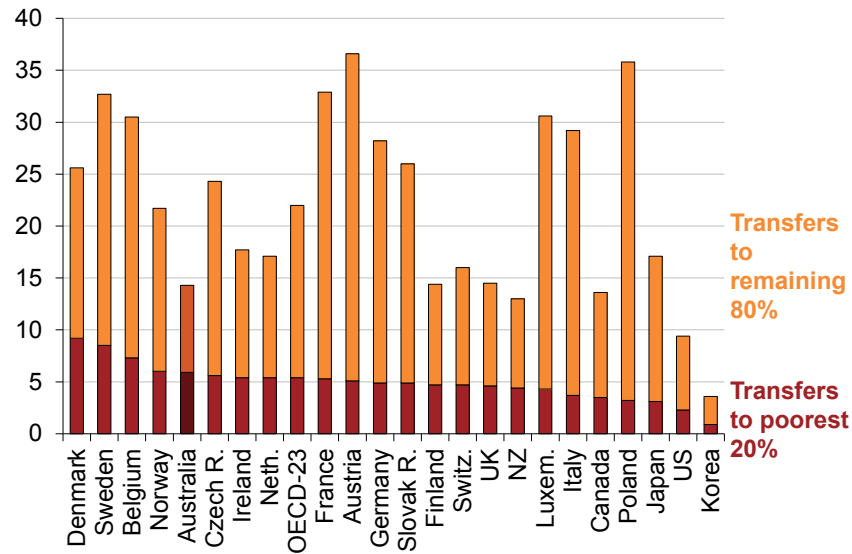
Source: ABS (2011) Cat. no.6523.0

⁶⁹ Greenville et al (2013), p.72-73.

7.4.5 Government payments and inequality

Government payments reduce inequality between households. Australian government payments do more to redistribute welfare payments to the poorest 20 per cent than any other country in the OECD except Denmark.⁷⁰

Figure 33: Redistribution of welfare payments in OECD countries
Public payments to households as a proportion of population disposable income, mid-2000s



Note: Incomes are equivalised.

Source: Grattan analysis of Whiteford (2010)

⁷⁰ Whiteford (2013), p.37

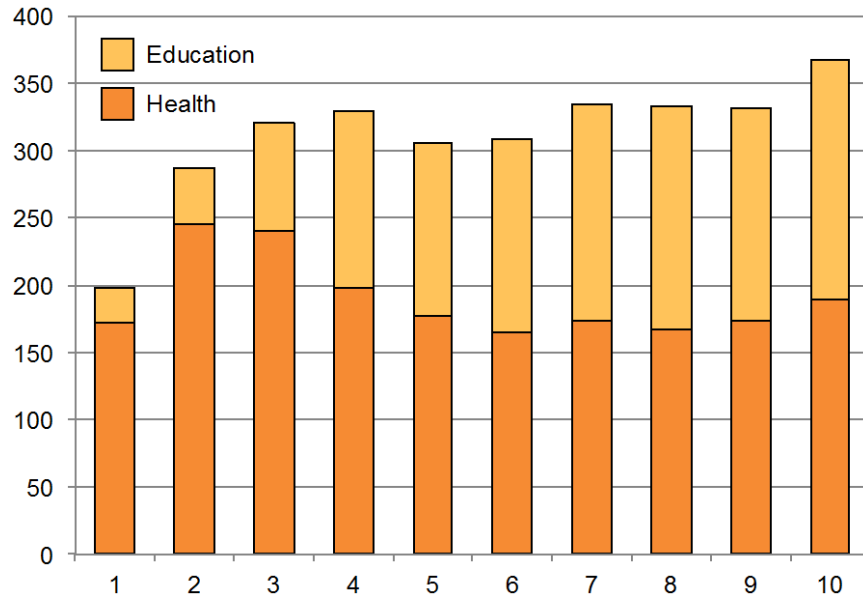
Although Australian government payments are relatively small, they are much better targeted towards low-income households, as Figure 33 shows. Australian spending on means-tested payments is almost double anywhere else in the OECD. As a result, those in the poorest quintile in Australia receive 12 times more in cash payments than those in the richest quintile. Across the OECD the poorest quintile only receives twice as much in cash payments, on average. The Australian tax system is also more redistributive than the OECD average, meaning that a greater proportion of the total tax take is collected from the rich than in comparable countries.⁷¹

7.4.6 Indirect redistribution

Households also benefit indirectly by using services that governments provide. In total, the top decile of households by income in Australia use the most government services, the bottom two deciles use least, and other deciles are roughly equal, as shown in Figure 34. Households in the top 6 deciles benefit more from education services. Households in the 2nd and 3rd bottom deciles benefit more from health services. Much of the disparity is because post-retirement households are concentrated in the bottom 3 deciles of household income.

⁷¹ OECD (2008), p.103-105

Figure 34: Value of indirect health and education benefits by decile
\$ per household per week, 2009-10



Note: Incomes are not equivalised

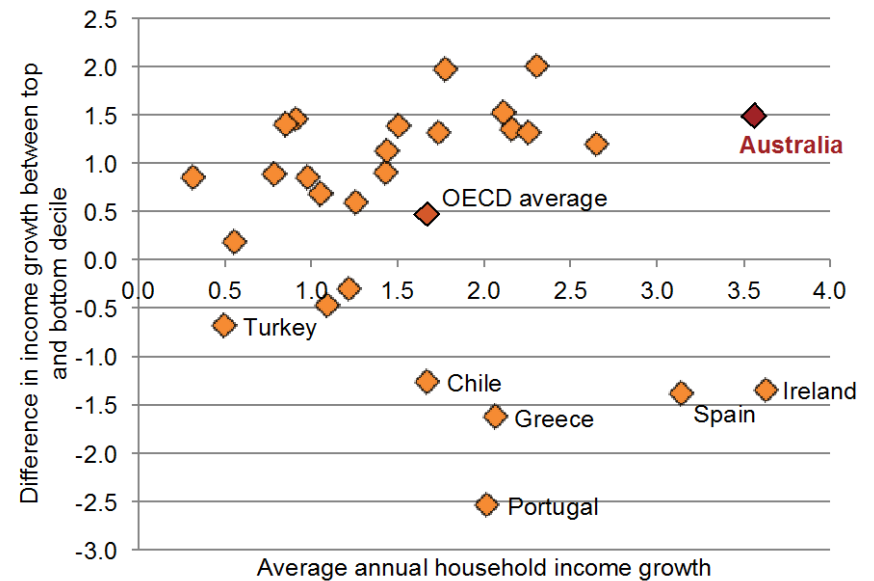
Source: Grattan analysis of Greenville et al (2013) p.86-87

7.4.7 Real income growth

The strong growth in income even among poorer households may explain why there has been relatively little pressure to increase payments to offset the rise in inequality. As Figure 35 shows, Australian household incomes grew faster than any other OECD country except Ireland over the last three decades, offsetting the increase in inequality. The strong income growth due to both a

growing economy and the rising terms of trade increased the real incomes of even poorer households. A rising tide lifted most boats, even if it lifted the top boats more.

Figure 35: Household income growth and growth differences between the top and bottom deciles, OECD
mid-1980s to late 2000s



Source: Greenville et al (2013)

7.4.8 Future inequality

When the mining boom slows, there is likely to be pressure to increase taxes and payments if the gap widens between rich and poor households. The rapid growth of inequality in the rest of the world suggests that inequality in Australia may grow much faster in future, particularly if there is less demand for lower skilled workers after the mining boom. If this happens, inevitably there will be more calls for governments to increase taxes and payments to reduce inequality. These calls are likely to be louder if poorer households are not seeing any growth in real income.

Reducing inequality in these circumstances would impose substantial pressures on government budgets, particularly the Commonwealth's, which includes most welfare payments. Even with Australia's highly targeted tax-payment system, if Australia's household income inequality follows its historic trend for another decade, it would cost 0.5 to 1.5 per cent of GDP to maintain the current level of household income inequality.

Attempting to maintain current levels of inequality assumes an intrinsic value to distributing resources more equally. As discussed above, many believe redistribution is justified only if it ensures that poorer households are not so disadvantaged that they are cut off from significant opportunities. Nevertheless, attempts to redistribute more widely drive at least some welfare payments in practice. For example real spending on the Age Pension, after adjusting for the ageing of the population, is \$8 billion per year more than a decade ago. This suggests that the estimated budget pressure from welfare increases of 0.5 to 1.5 per cent of GDP may be conservative.

The progressive tax system will go some way to maintaining budget balances despite growth in inequality and government payments. If those on higher incomes earn more, then on average, more income tax will be paid on the dollars earned. However, maintaining the current level of inequality in this scenario would have a net cost to the budget even if the welfare payments were perfectly targeted. The additional tax would inevitably be less than the additional payments required to maintain current inequality levels. Unfortunately, higher taxes and payments inevitably impose inefficiencies, and often reduce incentives for workforce participation. Policy changes that increase participation rates among low-income households can have lower costs and do more to reduce inequality, although inevitably there are fewer guarantees that such policies will have the desired impact.

7.5 Ageing

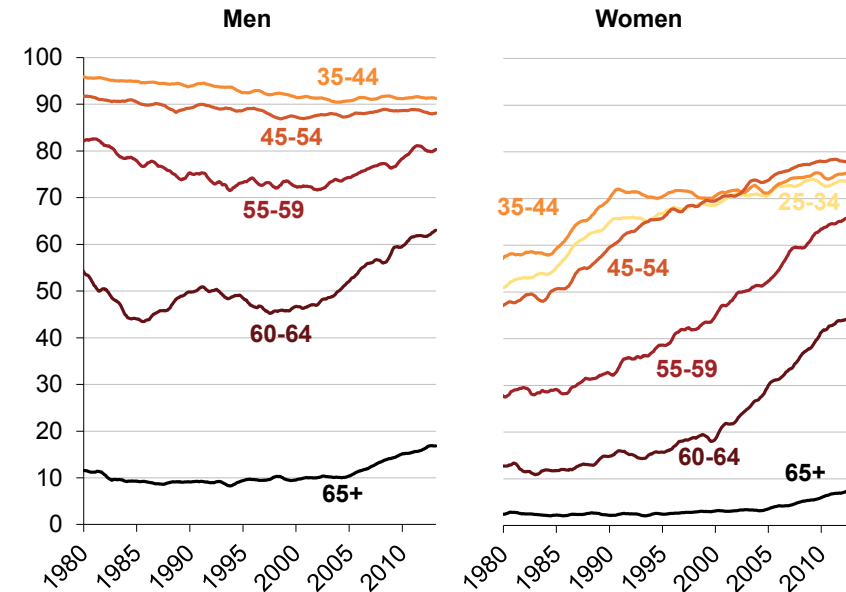
Many believe the ageing of the population has, or will have, a material impact on Australian governments' budgets.⁷² They will have more impact over the next decade on aged care and health as substantially more people move into their 70s and 80s. However, the impact on budgets is likely to be relatively small if participation continues to increase in line with trends over the last decade. Participation may even increase, despite ageing, if older age workforce participation is reinforced by policy change to increase the age of access to the Age Pension and superannuation.

⁷² e.g. Deloitte Access Economics (2013), p.33-34

Concern about future participation rates and the impact on government budgets was a clear message of the first Intergenerational Report (IGR), published in 2002.⁷³ Yet the impact of ageing on government budgets depends on both demography and workforce participation. If more older people work, then economic output is higher, governments collect more in taxes, and pension expenses are lower.

The first IGR assumed that participation rates for men in most older age-groups would remain constant.⁷⁴ These rates had not increased in the previous two decades (and indeed participation of men in all age groups between 35 and 59 had fallen). However, participation rates for men increased substantially between 2002 and 2012, as Figure 36 shows. While the first IGR did assume an increase in female workforce participation, the actual increase between 2002 and 2012 for women between the ages of 45 and 64 was again much higher than projected, and continues to trend strongly upward.

Figure 36: Workforce participation by age group
% of cohort



Note: 12 month trailing average of labour force participation rate by age cohort

Source: ABS (2012f) Cat no. 6291.0.55.001

Besides tax reform, policy reforms to increase participation would have more impact on economic output than any other reforms identified in our previous publication, *Game-changers*.⁷⁵

Increasing the age at which people qualify for the age pension, or are entitled to withdraw their superannuation would substantially increase older age workforce participation. Female workforce

⁷³ Treasury (2002)

⁷⁴ Treasury (2002), p.72-73

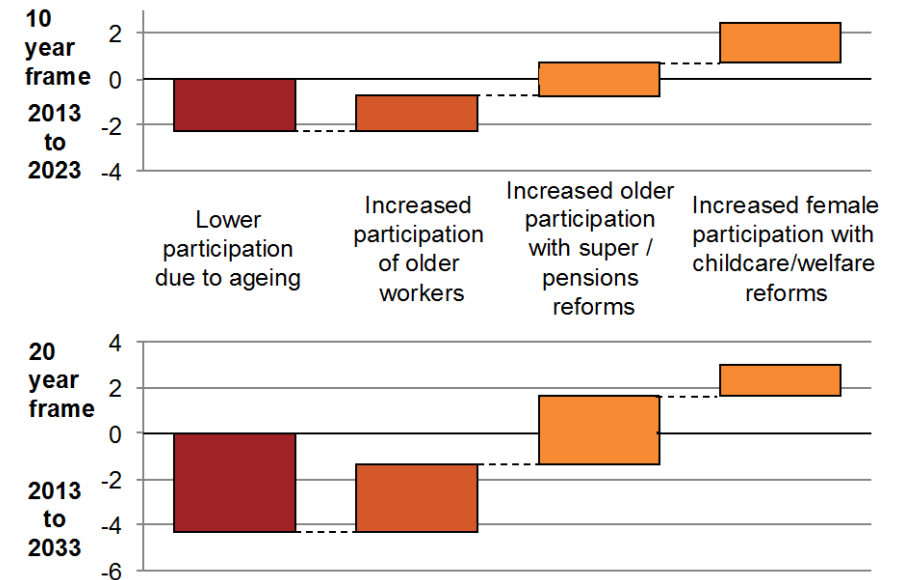
⁷⁵ Daley et al (2012a)

participation is likely to increase substantially if women with young children take home more of their earnings after paying tax, giving up welfare benefits, and paying for childcare.

Without change in the participation rate of each age group, overall participation will reduce over the next decade. If participation rates of older age groups continue to increase, however, then overall participation rates will only fall slightly in the next decade, although they will probably fall more substantially thereafter.⁷⁶ Policy reforms along the lines of those identified in *Game-changers* would more than counteract the impact of demography on participation, leading to substantially *higher* participation than there is now, as Figure 37 shows. Indeed, such reforms are promising opportunities for governments to improve their medium term budget position by increasing participation, and therefore increasing income and consumption tax revenues while reducing pension expenditure.

An ageing population will also substantially affect budgets if pension benefits and eligibility increase faster than GDP growth. The cost of pensions increased substantially over the last decade, as discussed above (Section 4.4). Political pressure to continue these trends is likely to grow. As the age of the median voter increases, a greater proportion of the electorate will have a vested interest in broader eligibility and higher benefits for aged pensions. In the medium run, this is where an ageing population will exert most pressure on government budgets.

Figure 37: Changes in labour force participation rates
% of total population who participate in workforce



Note: 'lower participation due to ageing' assumes current age-specific participation rate of each age cohort. 'Increased participation of older workers' assumes participation rate of each age cohort continues to increase at 50% of current trends. 'Super / pension reforms' are to lift age of access to pension and superannuation to 70, as specified and modelled in Daley et al (2012a). 'Increased female participation with childcare/welfare reforms' assumes reforms to tax, welfare and childcare subsidies, as specified and modelled in Daley et al (2012a)

Source: Grattan analysis of ABS (2012e); Daley et al (2012a); ABS (2008) 3222.0 T A9.

⁷⁶ Similarly, see NSW Treasury 2011-12 Budget Paper No.6, section 3-2

8. Responding to pressures

Australian governments face big budgetary challenges. As this report has shown, governments are likely to post a collective deficit in 2012-13, and a budget gap of 4 per cent of GDP may well open up in the decade thereafter. How should Australian governments respond to the underlying deterioration of their budgets over the last decade, and substantial future pressures?

Smaller government will not necessarily improve Australia's budget balances. Substantial increases in productivity and participation, while welcome, are unlikely to grow Australia out of trouble. Instead, history suggests that tough policy choices can substantially improve government budgets. These could easily be big enough to cope with the pressures that built up over the last decade, and that are likely to increase over the next one.

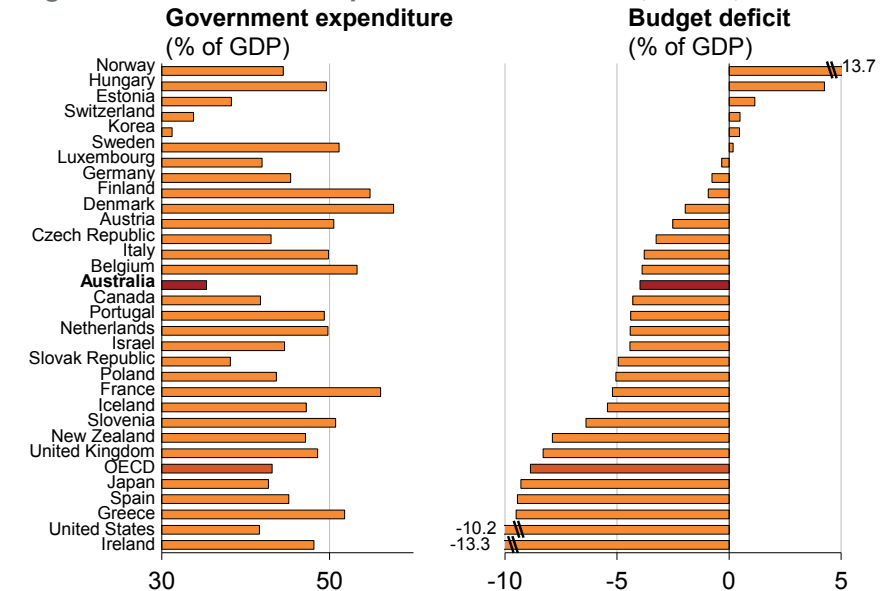
8.1 Smaller government

Some argue that government books are more likely to balance if government is smaller.⁷⁷ But smaller government is not the solution to restoring budget balances. As Figure 38 shows, large governments can run budget surpluses and small governments can run large budget deficits.

Nor is there good comparative evidence that Australia's governments, around 34 per cent of GDP, are too large. They are among the smallest in the OECD, with expenditures a lower percentage of GDP than any country except South Korea or Switzerland (Figure 38).

⁷⁷ Cowan, et al (2013); Argus (2013)

Figure 38: Government expenditures and deficits, OECD, 2011



Source: Grattan analysis of OECD (2012a)

Of course, comparisons should bear in mind that Australia has an internationally unusual privatised superannuation system. If compulsory superannuation contributions were made to a government social insurance scheme, as in many other countries, Australian government would be about 5% larger⁷⁸ – still smaller than most OECD countries. The major driver of the difference is

⁷⁸ Compulsory superannuation contributions in year ended June 2012 were \$82 billion: APRA (2013)

that Australia's welfare system is much more tightly targeted towards low income groups (see above, section 7.4.5).

Nor is the size of Australian government historically unusual. In 1920 it reached around 34 per cent of GDP,⁷⁹ very similar to today. The role of government has changed considerably since then. It no longer provides electricity, shipping, telecommunications and banking services, for example, and instead provides much more substantial welfare payments, education and health services.⁸⁰

Some also argue that smaller government is more efficient in achieving social outcomes. This rests on the claim by Tanzi and Schuknecht that the optimal size of government for developed countries is likely to be less than 30 per cent of GDP.⁸¹ They argue that government spending higher than that creates few additional social benefits. Yet their analysis does not put a high value on reductions in inequality. On their own analysis, countries with large government generally have less inequality.⁸² They also do not recognise that the costs of larger government depend in large part on the design of the tax system and consequent deadweight costs.⁸³ With a well designed tax system, government can afford to be bigger.

⁷⁹ Vamplew (1987) p 133, 256

⁸⁰ see Tanzi and Schuknecht (2000) p. 23-49

⁸¹ *Ibid* p.133-134; Cowan (2013), p. 11

⁸² Tanzi and Schuknecht (2000), p.112-114; and see the criticisms in D'Ambrosio (2001)

⁸³ The welfare-maximising level of government spending depends on the costliness of raising revenues, as well as the cost of purchasing additional welfare. For a nuanced discussion, see Feldstein (1997).

The optimal size of government is driven partly by beliefs about what services government should provide, as well as empirical experience about which services are prone to such market failures that they are better provided by government. For example, although government delivers most health services in Australia, the outcomes relative to cost are among the most efficient in the OECD. Some countries with more privately delivered and funded services have worse health outcomes at greater cost.⁸⁴

The size of government is also significantly driven by tax and welfare design. Government in Australia is relatively small because welfare is relatively well-targeted. Although Australian governments spend relatively little on cash payments to individuals, most payments are targeted to those in the bottom quintile, as discussed above (Section 7.4).

Thus there is no reason why a balanced budget, or more efficient government, necessarily requires smaller government. Nevertheless, there are some links between them.

In reducing a government deficit, some expenditures are likely to be reduced. It is easier to sell the political pain involved in reducing deficits if all interests are seen to bear some of the burden. History suggests that successful budget repair invariably involves both tax increases and expenditure reductions.⁸⁵

A smaller *role* for government may also improve budget deficits if outsourcing leads to public services being provided more efficiently. Such outsourcing can impose greater discipline in

⁸⁴ Daley et al (2012b), p. 50-51

⁸⁵ Hardy et al (2011)

defining, measuring, and rewarding outcomes, and increase efficiencies through competition. Shifting to this kind of delivery model for social services involves a number of trade-offs beyond the scope of this paper.

8.2 Productivity and participation

Increasing productivity and participation can improve government budget positions. They both increase taxation revenues, and reduce welfare payments. Yet any benefits to the bottom line must be balanced against any costs needed to increase productivity or participation.

For example, raising the age for access to the Age Pension and superannuation is likely to increase participation.⁸⁶ Such policy changes would cost the budget little in the short run, and substantially boost budget balances in the medium term. By contrast, reducing the effective cost of childcare would come at a significant cost to government, even if it substantially increased female labour force participation.

Such productivity and participation improvements are unlikely to make a substantial difference to budgets quickly. As the last decade shows, cyclical changes in productivity and participation have had relatively little impact on the budget balance in any year (see above Figure 22).

Over the decade, productivity growth might increase materially as a downturn in the terms of trade and pressure on real incomes might motivate increased innovation and efficiency. But it is

⁸⁶ Daley et al (2012a), p.53-55

unlikely that Australian governments can do much to provoke substantial productivity increases (other than tax reform) given the successful policies already in place.⁸⁷ Consequently budgetary policy cannot rely on such improvements.

There is more scope for government intervention to increase participation. As shown in Figure 37, changes to taxes and payments could increase total participation by up to 2% over a decade, although this would require substantial and controversial policy reform.

8.3 Efficiency measures

Obviously, budget reforms are better if they reduce waste and inefficiency, or reduce costs that are large relative to the benefits. Realistically, however, budget processes always target such opportunities. Many of the remaining opportunities are likely to require hard political choices.

With health the largest single pressure point for government budgets, measures to control spending growth are an obvious priority. However, there is no expert consensus on which system reforms would substantially improve efficiency. There are no obvious patterns internationally about which institutional arrangements improve efficiency. Australia already has amongst the best health outcomes in the OECD for the money spent.⁸⁸

There are a substantial number of budget programs, often individually small, that many believe deliver relatively little for their

⁸⁷ Daley et al (2012a)

⁸⁸ Daley et al (2012b). p.50-51

cost. Identifying and eliminating such programs may be a major opportunity, although inevitably every program has a constituency with a vested interest in maintaining it. To rationalise a large number of small programs depends on devising an effective process for a large number of small programs.

8.4 Institutional arrangements

Australia substantially reformed its Commonwealth budget institutions over the last fifteen years. *The Charter of Budget Honesty Act 1998* requires governments to specify their long-term fiscal objectives, the key fiscal measures for assessing this policy, and the fiscal targets. The Charter also requires the production of three comprehensive reports per year, as well as an economic and fiscal outlook before each election, and an intergenerational report at least every five years. The system of forward estimates requires rolling projections of all revenues and expenditures for three years beyond the next budget, including reconciliation with the previous year's estimates.⁸⁹

The problems described in this report have accumulated in Australia despite these institutions.

More recently, the Parliamentary Budget Office was created to provide independent and non-partisan analysis of the budget cycle, fiscal policy and the financial implications of budget proposals. In its first year of operation, it is too early to assess its impact. However, the Parliamentary Budget Office was to some extent modeled on the Congressional Budget Office, which makes a substantial contribution, but has not prevented the US

⁸⁹ For a summary of these processes, see Blöndal et al (2008)

government accumulating large deficits and debt regarded by all parties as unsustainable.

A potential further reform would be an independent and public institution that reviewed all budget proposals in advance, aiming to reduce programs with poor returns. There would inevitably be concerns about the interactions between such a body and the political priorities of elected governments. However, the effectiveness of such an institution would be limited if in practice it simply spawned a new industry of invariably favorable 'evaluations'. Many would argue that the requirements for regulatory impact statements, with the parallel aim of reducing regulatory burdens, have not prevented long-term growth in legislative volumes. Alan Stockdale, former Treasurer of Victoria, who oversaw substantial spending reductions in the 1990s, suggested that a centralised process to vet every program, such as that attempted in the United States under Reagan, was doomed to fail.⁹⁰

Instead, significant budgetary reform in practice tends to result from a combination of fiscal crisis, public concern, and hard (but often blunt) processes involving senior politicians with the authority to make tough trade-offs.⁹¹

Reconsidered federal arrangements might make a difference. Some argue that Australia's mismatch between how much States raise and how much they spend may reduce economic growth.⁹² Others argue that the mismatch may increase the likelihood of

⁹⁰ Stockdale (2012), comparing his approach with Stockman (1986)

⁹¹ See Kamener and Tan (2012); Veldhuis et al (2011)

⁹² Twomey and Withers (2007), but compare Drummond (2009)

higher deficits, because it reduces the political incentives for responsible budgeting decisions.⁹³ Commonwealth-State agreements may also make budgetary reform harder if they require States to maintain existing levels of real expenditure.⁹⁴ On the other hand, Australia’s States have a track record of competing to attract business by reducing the rates of taxes they control,⁹⁵ even when the outcomes are unsustainable. Reformed federal arrangements will be considered in more detail in our forthcoming report on potential solutions to Australia’s budget pressures.

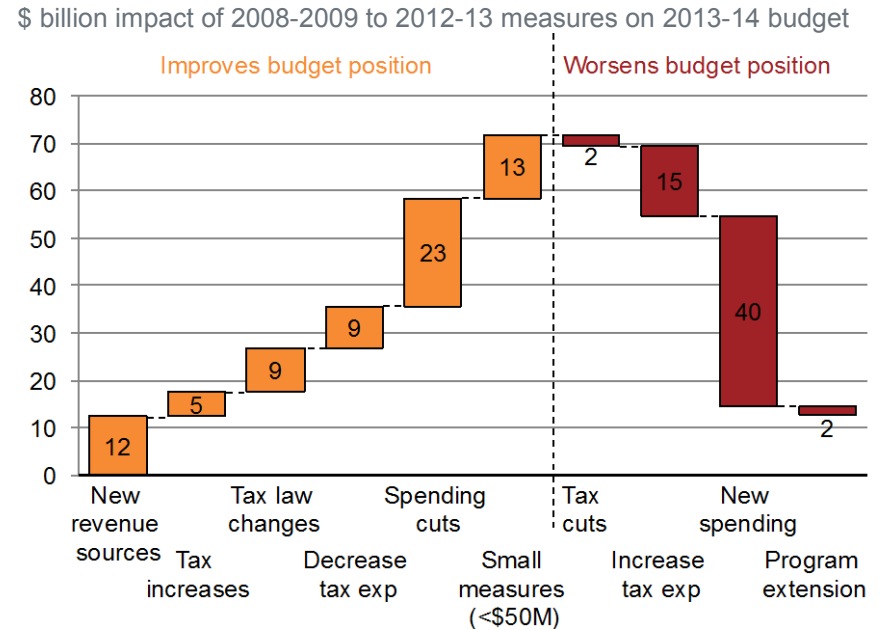
8.5 Policy choices

In contrast to some European countries, Australian demography is not destiny. In some European countries demography has driven increasing pension liabilities and lower participation, leading to historic levels of debt and extended periods of slow economic growth. Along with struggling financial institutions, these outcomes have constrained budget choices. Australia has far more policy flexibility.

Australia’s last decade suggests that policy choices can drive budget outcomes in the medium term. Over the last four years, the Commonwealth Government made budget choices with a cumulative annual impact of around \$60 billion in the medium term, as Figure 39 shows. But this is the gross impact. Spending cuts, tax increases, and tax law changes were matched by an

almost exactly equivalent amount of spending increases, tax cuts, and increases in tax expenditures. The net impact is only projected to be positive due to the revenues planned from the carbon price and Minerals Resource Rent Tax, which are likely to be much less than originally forecast (see Section 5.6 above).

Figure 39: Impact of Commonwealth discretionary budget measures



Source: Grattan analysis of Commonwealth budget papers, MYEFO, PEFO, and UEFO, 2008-9 to 2012-13; Swoboda (2012)

Note: Where possible, RSPT (mining tax mark I) and CPRS-related data have been removed from the analysis, as both policies have been reversed. Ongoing spending from 2008-09 and 2009-10 budgets and MYEFOs has been inflated at 5.5 per cent per year to put in 2013-14 budget terms.

⁹³ Eyraud and Lusinyan (2011)

⁹⁴ e.g. with the National Plan for School Improvement (the ‘Gonski reforms’), the Commonwealth proposed a condition that States maintain their existing level of expenditure, indexed at 3 per cent per year: Gillard and Garrett (2013)

⁹⁵ Parkinson (2012)

In health, education and welfare – as with government expenditure and revenue in general – specific policy measures over the last five years have made the big difference to budgets. Most increased expenditures in these areas resulted from policy choices to provide more services or increase payments. Demographic and macroeconomic forces had relatively less impact.

In terms of future spending, explicit policy choices will again drive budget outcomes. As discussed above (Section 7.2), forecast budget recoveries will be swamped by planned policy changes.

Since health, welfare, and education dominate Australian government expenditure, it will be hard to reduce future deficits without substantial reforms in these areas. They are obviously politically sensitive, but Australian governments have few other choices.

9. Conclusion

Australian government budgets are under pressure, and are likely to deteriorate. Policy choices, both good and bad, made by both Commonwealth and State governments, will ultimately decide the result.

As this report has highlighted, growth in health expenditures is the biggest single challenge for budget sustainability. Identifying opportunities to improve efficiency in the health sector will be a focus of Grattan Institute's Health Program.

More generally, budget reform will require tough choices, revised institutional arrangements, and different mindsets that make hard changes politically feasible.

Defining these will be the subject of a Grattan Institute report in the coming months. It will outline plausible policy choices that could have a substantial impact on budgets. Many of the proposals often cited – such as reduced family support payments or staff cuts in Commonwealth departments – may have less budget impact than is widely imagined. On the other hand, tax expenditures are large potential targets, but are invariably politically difficult to change.

Our next report will also identify the institutional arrangements needed for substantial budget reform. Reconsidered federal arrangements, tighter budget rules, and better processes have all been proposed. We will examine whether change is needed in the way Australian governments manage their budgets.

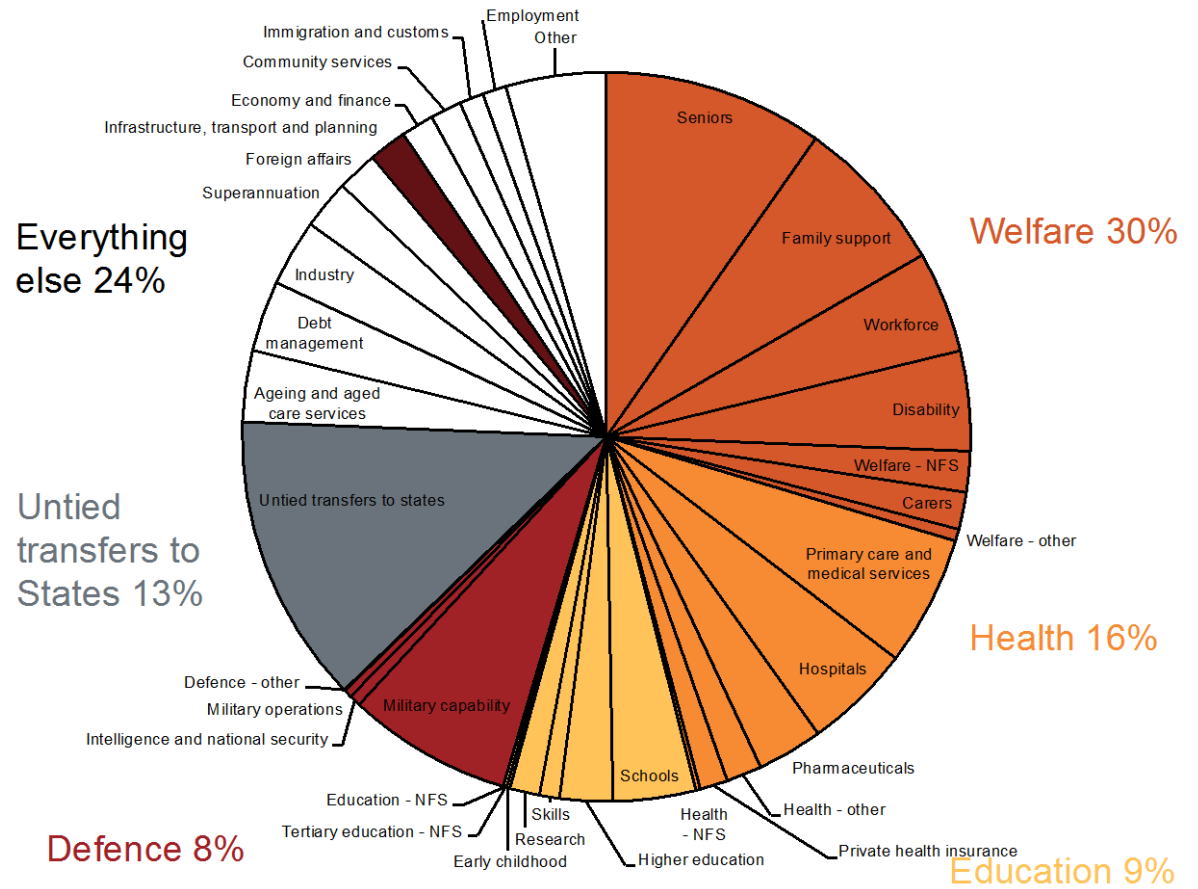
The report will investigate the mindsets of policymakers and the public that have been important in achieving substantial budget reform in the past. Do we need a broader understanding of the scale of the budget challenge? Do all interests need to be seen to contribute to reform? And do we need to acknowledge that there will have to be many 'losers' from reform, at least in the short term, to realize the long-term wins for everyone?

It has been orthodoxy over the last decade for governments to 'buy' reform, accompanying any budget pain with a budget gain. The GST, the carbon pricing reforms, and school funding have all been advocated as leaving all but the wealthiest 'no worse off'. In a decade of rising government revenue, exceptional economic growth, and rising prices for Australian minerals, governments could afford this approach.

The future is going to be more difficult. There are far more negative than positive forces. Clawing back a budget deficit of 4% of GDP requires that everyone bears some budget pain. This will be politically difficult, but the alternative is unsustainable budget deficits that will be even more painful to reverse in the future.

Appendix A: Detailed budget analysis

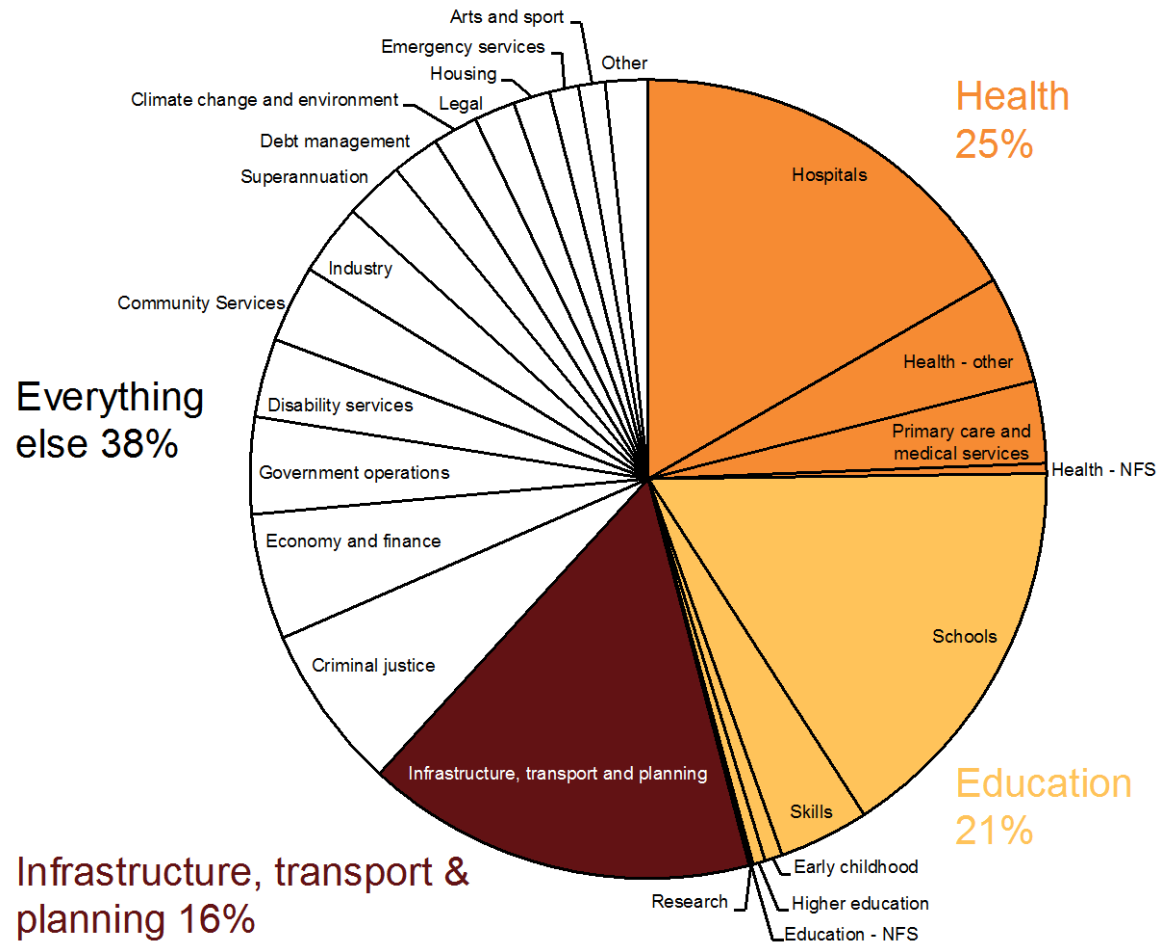
Figure 40: Commonwealth government expenditure by policy area, 2012-13
Per cent of total



Notes: Includes funds transferred to States. NFS = not further specified. 'Other' comprises all other expenditure not elsewhere included, including government operations, climate change and environment, communications, housing, disability services, criminal justice, water, legal, arts and sport, and emergency services. See Appendix B for further notes.

Source: Grattan analysis of Commonwealth budget papers 2012-13.

Figure 41: State government expenditure by policy area, 2012-13
Per cent of total



Notes: Based on NSW, Queensland and Victorian data. NFS = not further specified. 'Other' comprises all other expenditure not elsewhere included, including ageing and aged care, water, and employment. See Appendix B for further notes.

Source: Grattan analysis of State budget papers 2012-13.

Figure 42: Government expenditure, 2012-13

Expenditure category	Total Australian government expenditure (See figure 6)		Commonwealth expenditure (excluding transfers to States)		State expenditure (See figure 41)		Commonwealth expenditure (including transfers to States) (See figure 40)	
	\$bn	% of exp.	\$bn	% of exp.	\$bn	% of exp.	\$bn	% of exp.
Ageing and aged care services	12.95	2.6%	11.20	3.8%	1.75	0.8%	11.91	3.2%
Arts and sport	3.33	0.7%	1.10	0.4%	2.23	1.1%	1.10	0.3%
Climate change and environment	6.23	1.2%	2.41	0.8%	3.81	1.8%	2.59	0.7%
Communications	2.42	0.5%	2.42	0.8%	-	-	2.43	0.6%
Community Services	11.60	2.3%	5.12	1.7%	6.48	3.1%	5.18	1.4%
Criminal justice	15.20	3.0%	1.31	0.4%	13.89	6.7%	1.31	0.3%
Debt management	15.76	3.1%	11.78	4.0%	3.98	1.9%	11.79	3.1%
Defence - military capability	27.42	5.4%	27.42	9.2%	-	-	27.45	7.3%
Defence - military operations	1.34	0.3%	1.34	0.4%	-	-	1.34	0.4%
Defence - intelligence and national security	1.93	0.4%	1.93	0.7%	-	-	1.94	0.5%
Defence - other	0.16	<0.1%	0.16	0.1%	-	-	0.16	<0.1%
Disability services	7.34	1.5%	0.74	0.2%	6.60	3.2%	1.98	0.5%
Economy and finance	15.80	3.1%	5.22	1.8%	10.58	5.1%	5.47	1.5%
Education - early childhood	1.50	0.3%	-	-	1.50	0.7%	0.53	0.1%
Education - higher education	9.87	2.0%	8.83	3.0%	1.03	0.5%	8.85	2.4%
Education - tertiary NFS	0.61	0.1%	0.61	0.2%	-	0.0%	0.62	0.2%
Education - schools	42.35	8.4%	8.93	3.0%	33.42	16.1%	13.80	3.7%
Education - skills	9.31	1.8%	1.73	0.6%	7.59	3.7%	3.34	0.9%
Education - not further specified	0.20	<0.1%	0.02	<0.1%	0.18	0.1%	0.02	<0.1%
Emergency services	2.45	0.5%	0.02	<0.1%	2.44	1.2%	0.15	<0.1%
Employment	4.73	0.9%	3.95	1.3%	0.78	0.4%	3.95	1.1%

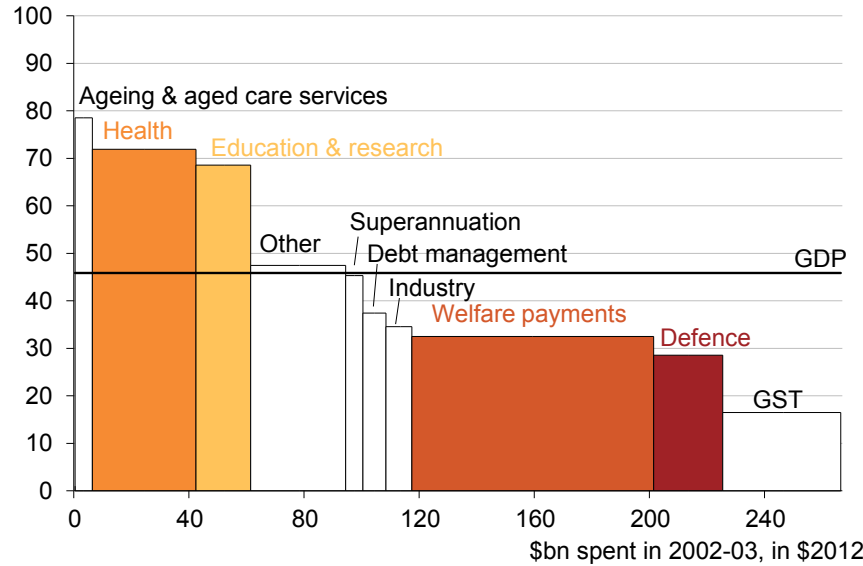
Budget pressures on Australian governments

Expenditure category	Total Australian government expenditure (See figure 6)		Commonwealth expenditure (excluding transfers to States)		State expenditure (See figure 41)		Commonwealth expenditure (including transfers to States) (See figure 40)	
	\$bn	% of exp.	\$bn	% of exp.	\$bn	% of exp.	\$bn	% of exp.
Foreign affairs	6.77	1.3%	6.77	2.3%	-	-	6.78	1.8%
Government operations	10.73	2.1%	2.61	0.9%	8.13	3.9%	2.61	0.7%
Health - hospitals	38.05	7.5%	3.40	1.1%	34.65	16.7%	17.84	4.7%
Health - other	14.51	2.9%	5.47	1.8%	9.04	4.4%	5.93	1.6%
Health - pharmaceuticals	10.93	2.2%	10.93	3.7%	-	-	10.94	2.9%
Health - primary care and medical services	28.47	5.6%	21.58	7.3%	6.89	3.3%	21.76	5.8%
Health - not further specified	1.57	0.3%	0.71	0.2%	0.86	0.4%	0.71	0.2%
Health - private health insurance	4.67	0.9%	4.67	1.6%	-	-	4.67	1.2%
Housing	3.77	0.7%	0.65	0.2%	3.11	1.5%	2.38	0.6%
Immigration and customs	4.04	0.8%	4.04	1.4%	-	-	4.05	1.1%
Industry	17.12	3.4%	11.11	3.7%	6.01	2.9%	11.13	3.0%
Infrastructure, transport and planning	35.80	7.1%	2.85	1.0%	32.95	15.9%	6.37	1.7%
Legal	4.35	0.9%	0.91	0.3%	3.44	1.7%	1.10	0.3%
Research	5.11	1.0%	4.96	1.7%	0.15	0.1%	4.97	1.3%
Superannuation	13.19	2.6%	8.20	2.8%	4.99	2.4%	8.21	2.2%
Untied transfers to States	-	-	-	-	-	-	48.40	12.9%
Water	1.85	0.4%	0.77	0.3%	1.07	0.5%	1.11	0.3%
Welfare payments - disability	16.65	3.3%	16.65	5.6%	-	-	16.67	4.4%
Welfare payments - family support	26.14	5.2%	26.14	8.8%	-	-	26.17	7.0%
Welfare payments - seniors	36.62	7.3%	36.62	12.3%	-	-	36.66	9.7%
Welfare payments - carers	6.16	1.2%	6.16	2.1%	-	-	6.17	1.6%
Welfare payments - other	1.99	0.4%	1.99	0.7%	-	-	2.00	0.5%

Budget pressures on Australian governments

Expenditure category	Total Australian government expenditure (See figure 6)		Commonwealth expenditure (excluding transfers to States)		State expenditure (See figure 41)		Commonwealth expenditure (including transfers to States) (See figure 40)	
	\$bn	% of exp.	\$bn	% of exp.	\$bn	% of exp.	\$bn	% of exp.
Welfare payments - not further specified	6.80	1.3%	6.80	2.3%	-	-	6.81	1.8%
Welfare payments - workforce	16.90	3.3%	16.90	5.7%	-	-	16.92	4.5%
TOTAL	504.68	100.0%	297.13	100%	207.54	100%	376.27	100%

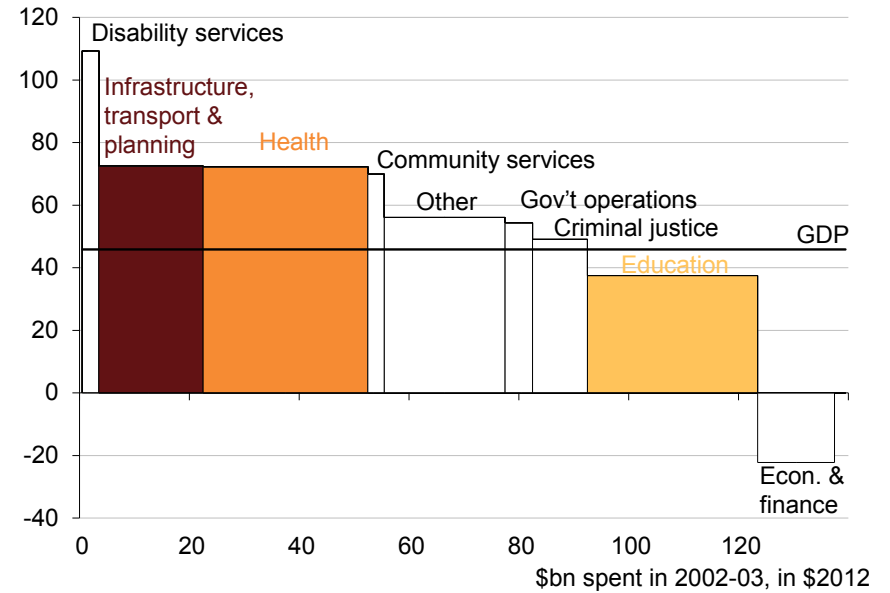
Figure 43: Change in Commonwealth government expenditure per cent change above CPI, 2002-03 to 2012-13



Notes: Categories shown are the largest expenditure categories for 2012-13. Includes transfers to States. 'Other' comprises all expenditure not elsewhere included, including (from largest to smallest) foreign affairs; infrastructure, transport and planning; economy and finance; community services; immigration and customs; employment; government operations; climate change and environment; communications; housing; disability services; criminal justice, water; legal; arts and sport; and emergency services. 'GST' comprises all untied transfers to States, which includes approx \$1.1bn in non-GST payments in 2012-13. See Appendix B for further notes.

Source: Grattan analysis of Commonwealth budget papers for 2002-03 and 2012-13.

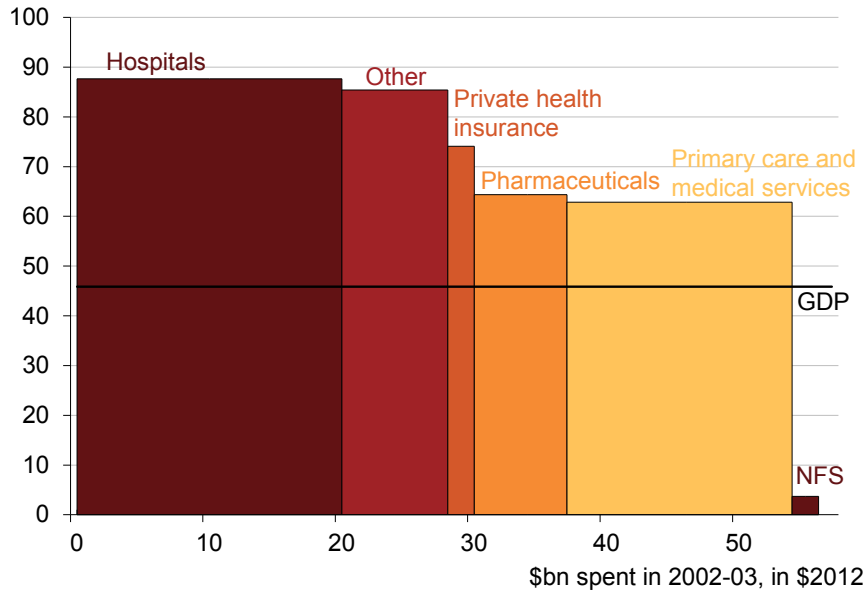
Figure 44: Change in State government expenditure per cent change above CPI, 2002-03 to 2012-13



Notes: Based on NSW, Queensland and Victorian data. Categories shown are the largest expenditure categories for 2012-13. 'Other' comprises all expenditure not elsewhere included, including (from largest to smallest) industry, debt management, climate change and environment, legal, housing, emergency services, arts and sport, ageing and aged care, water, superannuation and employment. See Appendix B for further notes.

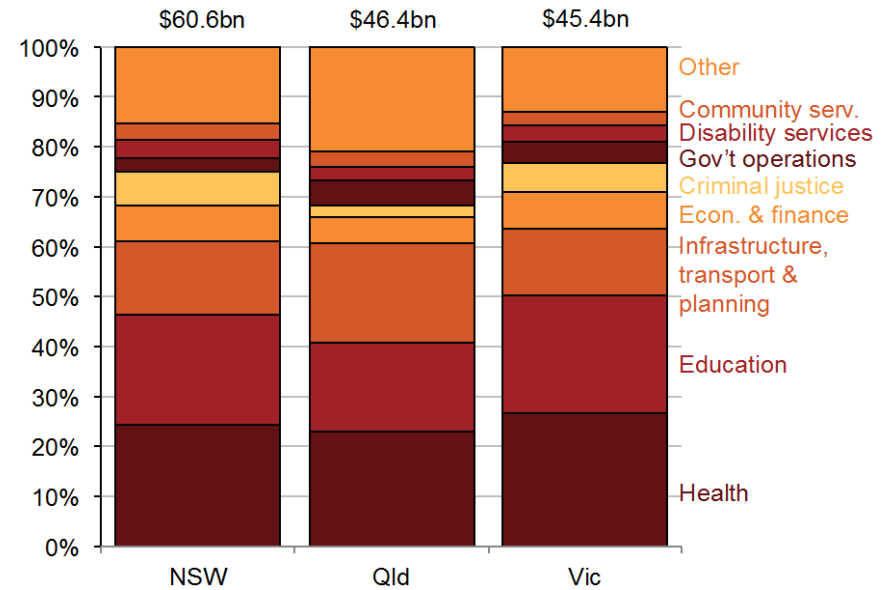
Source: Grattan analysis of State budget papers for 2002-03 and 2012-13.

Figure 45: Change in total government health payment expenditure by sub-category, 2002-03 to 2012-13 per cent change above CPI



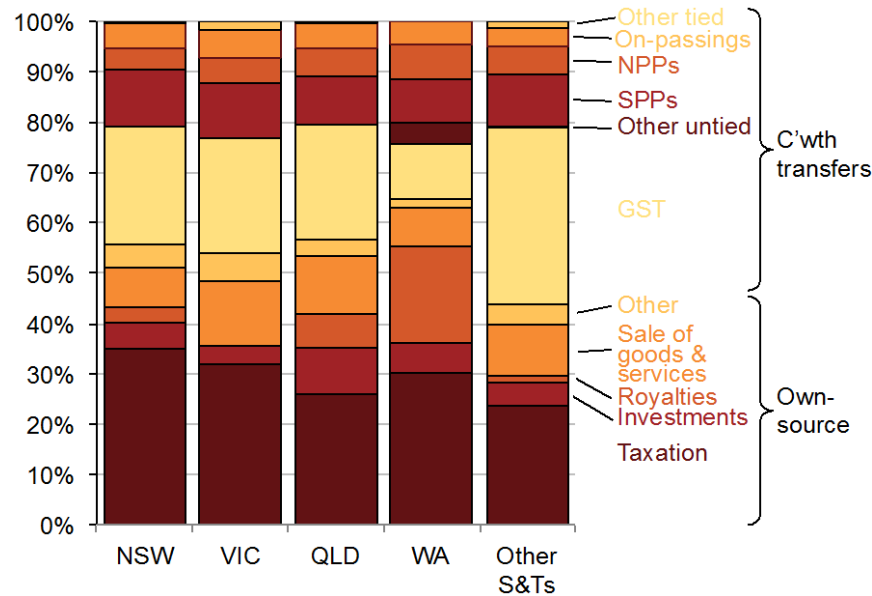
Notes: 'Other' comprises health workforce capacity; medical research; mental health; population health; community health; and preventative health. 'NFS' is expenditure that is not further specified.
 Source: Grattan analysis of Commonwealth, state and territory budget papers for 2002-03 and 2012-13.

Figure 46: State and Territory expenditures by policy area \$ billion, 2012-13



Note: 'Other' comprises all other expenditure not elsewhere included, including industry, debt management, climate change and environment, legal, housing, arts and sport, emergency services, ageing and aged care, water, superannuation and employment. See Appendix B for further notes.
 Source: Grattan analysis of State budget papers 2012-13.

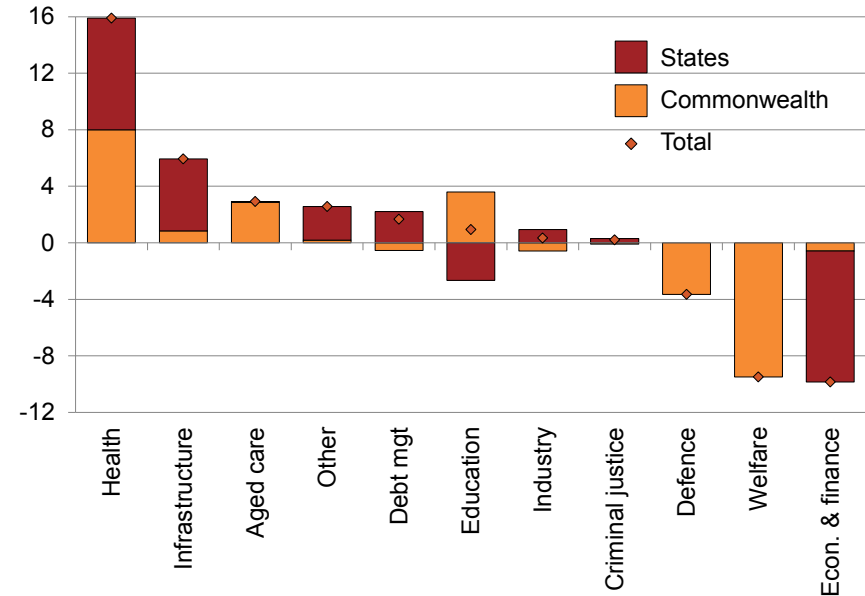
Figure 47: State and Territory revenues by source
\$ billion, 2012-13



Notes: 'Own-source taxation' includes gambling, land, insurance, vehicle, payroll and stamp duties. 'Investments' include interest income, dividends, and tax-equivalent payments from State entities. 'Other own-source' includes fines, fees, grants from entities other than the Commonwealth, and other revenue not elsewhere included. 'Other untied grants from the C'wth' are mostly royalty payments to WA.

Source: Grattan analysis of State budget papers for 2012-13.

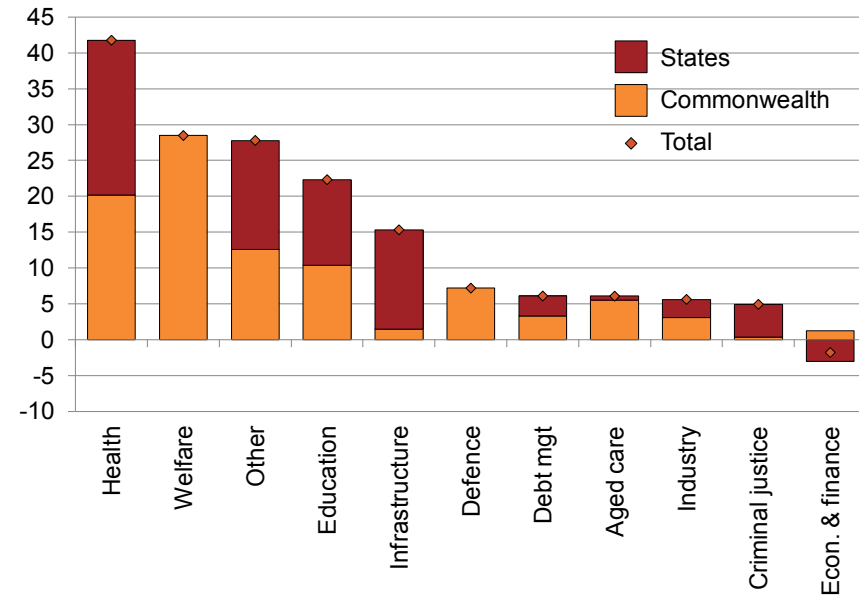
Figure 48: Change in Australian government expenditure by policy area and level of government, relative to GDP growth
\$bn change relative to GDP growth, 2002-03 to 2012-13



Notes: 'Infrastructure' is infrastructure, transport and planning. Categories shown are the 10 largest expenditure categories for 2012-13. 'Other' comprises all expenditure not elsewhere included, including (from largest to smallest) community services, government operations, superannuation, disability services, emergency services, foreign affairs, climate change and environment, employment, legal, immigration and customs, arts and sport, housing, communications, and water. See Appendix B for further notes.

Source: Grattan analysis of Commonwealth and State budget papers for 2002-03 and 2012-13.

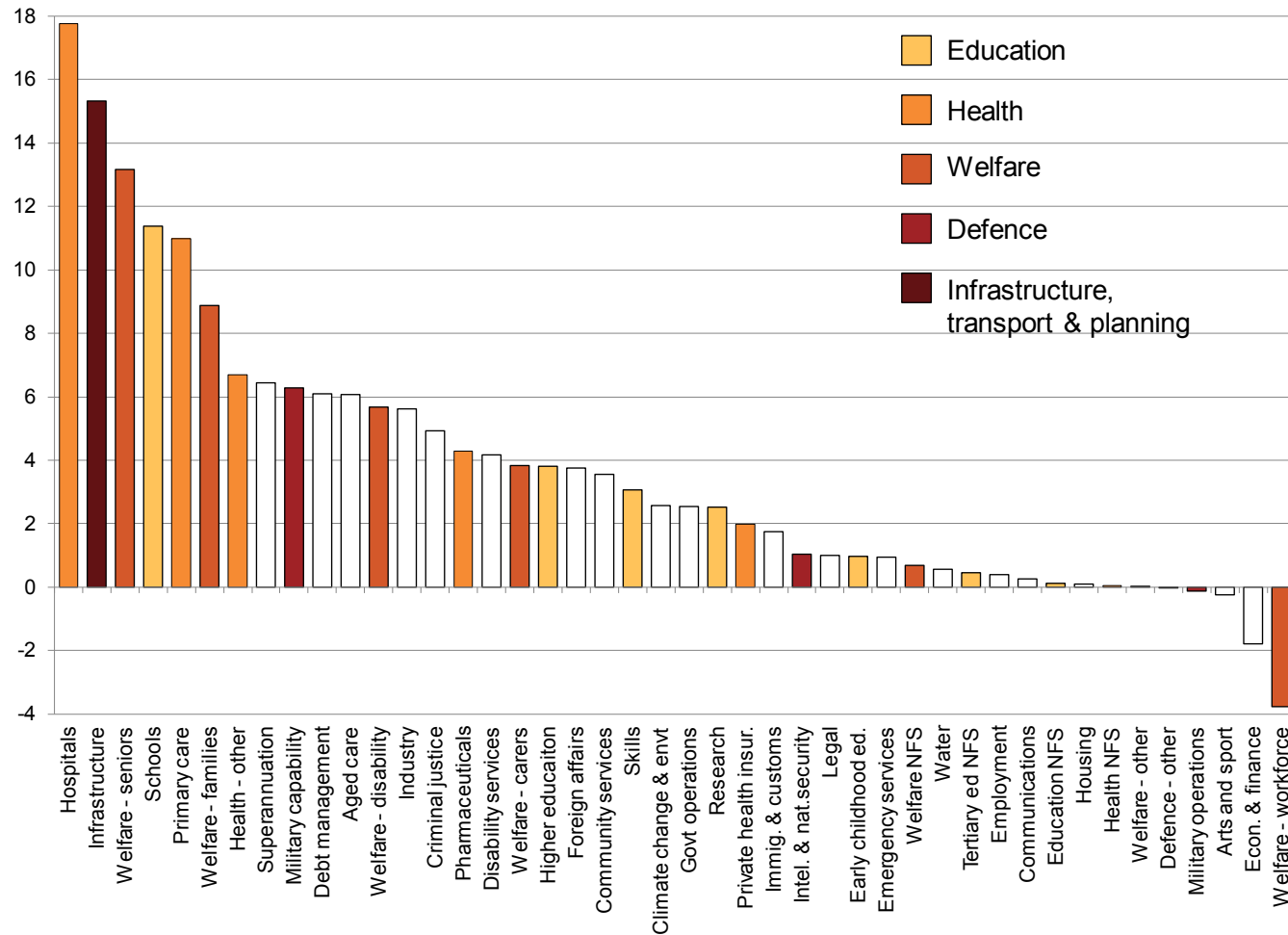
Figure 49: Change in Australian government expenditure by policy area and level of government, relative to CPI growth
 \$bn change relative to CPI growth, 2002-03 to 2012-13



Notes: 'Infrastructure.' is infrastructure, transport and planning. Categories shown are the 10 largest expenditure categories for 2012-13. 'Other' comprises all expenditure not elsewhere included, including (from largest to smallest) community services, government operations, superannuation, disability services, emergency services, foreign affairs, climate change and environment, employment, legal, immigration and customs, arts and sport, housing, communications, and water. See Appendix B for further notes.

Source: Grattan analysis of Commonwealth and State budget papers for 2002-03 and 2012-13

Figure 50: Change in Australian government expenditure by policy sub-category, relative to CPI growth
 \$bn change relative to CPI growth, 2002-03 to 2012-13



Notes: 'Infrastructure' is infrastructure, transport and planning. See Appendix B for further notes.

Source: Grattan analysis of Commonwealth and State budget papers for 2002-03 and 2012-13.

Appendix B: Budget analysis approach

This note applies to the data presented in Figures 4, 6-11, 14-15, 17-18 and 40-49, and the accompanying text.

B.1 Expenditure analysis methodology

The data in this paper represents our best efforts to date in breaking down budget expenditure by policy area. Our approach has been to categorise all general government expenditure listed in the Portfolio Budget Statements (for the Commonwealth), and equivalent budget documents for the States, using budgeted figures for 2002-03 and 2012-13.

Our expenditure categories differ from those used in the ABS Government Finance Statistics (GFS), which are used to develop the 'expenses by function' data published in the Commonwealth budget,⁹⁶ and equivalent State government papers in their Uniform Presentation Frameworks. See Section B.2 below for a further explanation of our categorization approach.

Assumptions and caveats are as follows:

- The expenditure analysis is based on Commonwealth, NSW, Victorian and Queensland budget data. Other State and Territory expenditures for each category are assumed to be proportionate to the included States as a percentage of each State or Territory's total expenditure. We believe this is a reasonable approximation. In 2012-13, NSW, Victoria and

Queensland together comprise 74 per cent of State and Territory expenditure. With the addition of Commonwealth expenditure, the analysis includes 91 per cent of Australian government expenditure.

- Determining total government expenditure in Australia is complicated by federal financial relations, which involves transfers of funds from the Commonwealth to the States. We have removed the double-counting of expenditure that would result from simple addition of jurisdiction totals. For all charts showing combined Commonwealth and State expenditure:
 - Commonwealth transfers to States (approx. \$79bn in 2012-13) have been included as State expenditures only.
 - Some funding (approx. \$11bn in 2012-13) is also paid by the Commonwealth 'through' the States to other entities (mostly non-government schools and local governments). This is sometimes known as 'on-passings'. As States have no discretion over this funding, it is classified as Commonwealth expenditure in this paper, and is also removed from the total expenditure from each State where the published total includes on-passings.

In both cases, we have used Commonwealth figures for transfer amounts for consistency.

- The analysis includes all non-capital (recurrent) expenditure listed in the budget papers. It does not include capital

⁹⁶ Refer to Budget Paper 1, Statement 6: Expenses and Net Capital Investment.

expenditure. Capital expenditure is relatively small; in 2012-13 it is approximately \$8bn for the Commonwealth (mostly in defence), and \$29bn for States. The distinction between capital and non-capital expenditure in the budget papers is partly an accounting issue; a lot of expenditure that would be considered 'capital' in everyday discussion (e.g. Commonwealth funding for university buildings) comes from the government in the form of recurrent grants that are not classified as capital in the budget papers. This expenditure is included in this analysis, as it appears as recurrent spending.

- For each jurisdiction, our expenditure data sums to a figure greater than the published expenditure total. This is because our data includes some transfers between agencies in the same jurisdiction that cannot be identified from publicly available information. The majority of the difference between our data and the published budget totals is accounted for by these transfers. Each jurisdiction lists the total amount of these transfers; once these are subtracted from our totals, and on-passings are accounted for, the difference between the published totals and our totals are small as a proportion of the published expenditure total:

- Commonwealth	2002-03 – 2.4%	2012-13 – 2.2%
- NSW	2002-03 – 0.6%	2012-13 – 6.4%
- Queensland	2002-03 – 4.2%	2012-13 – 3.2%
- Victoria	2002-03 – 3.6%	2012-13 – 6.8%

In each case, the unidentified transfers have been spread

across all categories, in proportion to the size of the categories. In other words, the share of expenditure for each category derived from the decomposed data has been applied to the published budget total for that jurisdiction.

B.2 Expenditure categorisation

While the vast majority of expenditure is straightforward to categorise, there will always be a few items that could legitimately be included in more than once place. A good example is spending on police forces, which could be placed either in 'emergency services' or 'criminal justice' – we have chosen the latter, and applied it consistently to all jurisdictions across time.

We have not used Government Finance Statistics (GFS) expenditure categories. GFS categories do not provide sufficient detail in some areas, and classification of expenditure is not always transparent, or consistent over time and between jurisdictions. For example, in 2002-03 Youth Allowance payments to students were classified as welfare expenditure; in 2012-13 they are classified as education expenditure. We have consistently applied our policy categorisations across jurisdictions and across years to the greatest extent possible, within the limitations of the way data is presented in the budget papers.

Figure 48 provides descriptions of the types of expenditure included in each category. The list is illustrative rather than comprehensive. The operational costs of departments have been included in the relevant category.

Figure 51: Description of expenditure categories

Category	Commonwealth	States and Territories
Ageing and aged care services	Home-based, residential and flexible care for the aged	Home-based, residential and flexible care for the aged
Arts and sport	Arts and sports programs; expenses for national museums, galleries and libraries	Arts and sports programs; expenses for state museums, galleries, libraries and sports facilities
Climate change and environment	Climate change and environmental protection programs and agencies; natural resource management; Bureau of Meteorology	Climate change and environmental protection programs and agencies; parks and wildlife
Communications	ABC, SBS, communications regulation and programs	ICT industry programs
Community services	Community care and support services, including for veterans, children, and indigenous Australians. Excludes services specifically for the aged and people with disability, and housing expenditure	Child protection and out-of-home care; community care and support services; Indigenous support services; support for specific groups including women, youth and veterans. Excludes services specifically for aged and people with disability, and housing expenditure
Criminal justice	Australian Federal Police (AFP) and other criminal justice agencies	Police forces; crime prevention; corrections and custodial services
Debt management	Cost of government debt	Cost of government debt
Defence - military capability	Defence personnel, equipment, and general operational costs	n/a
Defence - military operations	Specific military operations	n/a
Defence - intelligence and national security	Department of Defence spending on intelligence capabilities; ASIO; ASIC; some AFP and other security agencies	n/a
Defence - other	Some veterans' support services; Australian War memorial	n/a
Disability services	Community care, services and support for people with disability. Excludes most disability services expenditure, which is transferred to States. Excludes employment services for people with disability.	Supported accommodation and services for people with disability.
Economy and finance	Australian Tax Office; Australian Securities and Investments Commission, policy and budget advice in the Department of the Treasury and Department of Finance and Deregulation	Economic, financial, regulatory and insurance services and advice to government; revenue collection.

Budget pressures on Australian governments

Category	Commonwealth	States and Territories
Education - early childhood	Access to early childhood education; excludes child care subsidies	Early childhood education and development services, where separately identifiable from schools
Education - schools	General funding to non-government schools; funding for specific programs in government and non-government schools. Excludes general funding for government schools, which is transferred to States.	General funding to government and non-government schools; curriculum and assessment services.
Education - skills	Apprenticeships; funding for specific programs.	Funding to TAFEs; other vocational education expenses.
Education - higher education	Funding to universities for teaching costs and associated programs; loan programs (HELP).	Funding for health-related teaching and research
Education - tertiary not further specified	Nation Building Fund – Education Investment Fund special account; tertiary ABSTUDY	n/a
Education - not further specified	Education support for children of veterans	Departmental expenses not elsewhere included
Emergency services	Emergency and disaster management	Fire and rescue services; emergency preparedness and management
Employment	Employment services and programs; workplace safety and insurance; entitlements and redundancy schemes; industrial relations programs and agencies.	Workcover, long service leave and workers' compensation agencies; industrial relations.
Foreign affairs	Diplomacy, consular services, development assistance (AusAID)	n/a
Government operations	Operating costs, salaries and entitlements for Parliament; agencies with functions across government, including the ABS, ANAO, DPMC, APSC; payments and services for local governments and Territories.	Operating costs, salaries and entitlements for Parliament; shared services functions; agencies with functions across government, including DPC, audit and ombudsman's offices; public service commissions.
Health - hospitals	Hospital services for veterans; blood and organ donation agencies. Excludes general funding for hospitals, which is transferred to States.	Inpatient hospital services and emergency health services
Health - private health insurance	Private health insurance rebates and associated expenses	n/a
Health - pharmaceuticals	Pharmaceutical Benefits Scheme; veterans' pharmaceutical services; other pharmaceuticals and aids and appliances programs.	n/a

Budget pressures on Australian governments

Category	Commonwealth	States and Territories
Health - primary care and medical services	Medicare benefits, other programs supporting medical services	Primary and community-based services
Health - other	Health workforce capacity, medical research, mental, population, community and preventative health	Mental, population, community and preventive health; rehabilitation services
Health - not further specified	Some health department expenses not elsewhere included; Nation Building Fund – Health and Hospitals special account	Some health department expenses not elsewhere included
Housing	Affordable housing, Defence home loans, indigenous housing First Home Saver Accounts. Excludes majority of affordable housing funding, which is transferred to States.	Housing assistance; social housing; indigenous housing; First Home Owner Grants; rates rebates.
Immigration and customs	Visas and migration; asylum seeker management and detention; quarantine and export services, settlement services	n/a
Industry	Funding and support services to industry, including fuel tax credits and rebates, and R&D tax credits; subsidies to particular industries, including agriculture, coal, renewable energy and automotive.	Funding and support services to industry; subsidies to particular industries; rural and regional economic development; investment facilitation and attraction.
Infrastructure, transport and planning	Building Australia Fund; roads funding; aviation and maritime programs and agencies; local infrastructure projects	Road transport; public transport; public works; planning and land management. Includes funding for Queensland flood reconstruction.
Legal	Courts, commissions and tribunals; legal services to government.	Courts, commissions and tribunals; legal services to government; legal aid; related programs and agencies for fair trading, state trustees, liquor and gaming regulation and licensing, and privacy.
Research	Funding to universities for research expenses; other research agencies e.g. CSIRO, ARC. Excludes medical research via the NHMRC.	Funding to research agencies
Superannuation	Public sector superannuation payments and administration; low income super contribution; other superannuation programs and agencies	Public sector superannuation payments and administration
Untied transfers to States	GST; royalty payments to WA and NT.	n/a
Water	Regional and urban water	Water and sewerage
Welfare payments - disability	Disability Support Pension; disability payments for veterans; Mobility Allowance; related program support and other expenses	n/a

Category	Commonwealth	States and Territories
Welfare payments - family support	Family Tax Benefit Parts A and B; Child Care Benefit; Child Care Rebate; Paid Parental Leave; Schoolkids Bonus; Baby Bonus; related program support and other expenses	n/a
Welfare payments - workforce	Newstart Allowance; Youth Allowance; Parenting Payments; Austudy; related program support and other expenses	n/a
Welfare payments - seniors	Age Pension; Widow Allowance; Seniors Supplement; Wife Pension (Age); related program support and other expenses	n/a
Welfare payments - carers	Carer Payment; Wife Pension (DSP); related program support and other expenses	n/a
Welfare payments - other	War & Defence Widows Pension and related veterans' compensation; related program support and other expenses	n/a
Welfare payments - not further specified	Income support pensions for veterans not elsewhere included; delivery expenses not elsewhere included (Centrelink and DHS)	n/a

B.3 Revenue analysis methodology

Revenue analysis uses budgeted revenue data from all jurisdictions for 2002-03 and 2012-13. It does not require the adjustments outlined above as we have adopted the revenue categories used by government.

We have removed the double-counting of revenue that would result from simple addition of jurisdiction totals. For all figures showing combined Commonwealth and State revenue, funds collected by the Commonwealth and then transferred to the States have been counted as Commonwealth revenues only unless otherwise noted.

B.4 GDP growth relative to CPI

In the expenditure growth charts like Figure 7, we use a measure of GDP growth as a point of comparison for spending growth. This GDP measure is deflated by the CPI deflator. The purpose of this conversion is to allow the reader to interpret categories that exceed the line as increasing in share of the economy *in nominal terms*, while still allowing a rough comparison of spending categories across time.

In reality, the prices of various spending categories do not follow the CPI, and so we should only use the CPI-adjusted spending as a guide to real spending changes.

B.5 Future budget pressures

The assumptions underpinning Figure 1 and the associated text are as follows:

Figure 52: Estimates of effects on future government budget balances

Component	Size of effect (per cent of GDP)	Basis for estimate	Discussion in report
Forecast surplus 2015-16	1.0%	Grattan Institute analysis of nominal budget forecasts in Commonwealth and State budget papers. Assumed annual 5.5% nominal growth in GDP 2013 to 2016.	Section 7.2
Signature initiatives	0.5% to 1.0%	ALP commitments (better schools, and disability insurance) estimated to cost nominal \$17 billion by 2020 (0.7% of GDP). Possible responses to future challenges (increases to Newstart and jobseeker Youth Allowance, and restoring defence spending) estimated to cost nominal \$8 billion (0.3% of GDP) LNP commitments (paid parental leave, carbon direct action, abolishing the carbon price, and abolishing the mining tax) estimated to cost nominal \$10 billion by 2020 (0.4% of GDP). Possible responses to future challenges (disability insurance, increases to Newstart and jobseeker Youth Allowance, and restoring defence spending) estimated to cost nominal \$17 billion by 2020 (0.7% of GDP)	Section 7.2

Component	Size of effect (per cent of GDP)	Basis for estimate	Discussion in report
Health costs	2.0%	<p>Over the last decade, health costs have increased more quickly than national output – health spending now forms a larger portion of GDP than before. This appears to be a feature of rich countries with ageing populations. Health is a luxury good—one that forms a larger percentage of consumption as incomes rise.⁹⁷ As a country becomes richer, its citizens prefer another year of life to another proverbial sports car.</p> <p>On nominal terms, the increase in health spending grew in share of GDP by about 1 per cent. However, the price of minerals increased much faster than the price of health, and so minerals production grew its share of GDP in nominal terms. If economy-wide prices had increased at the same rate as health prices, health share of GDP would have increased by almost 2 per cent.</p> <p>For the coming decade, we do not expect another large terms of trade boom, and so expect economy-wide and health prices to be roughly matched. However, we also expect the trends in real health spending to continue. For this reason, we expect government health spending to increase in share of GDP by about 2 per cent.</p>	Section 7.3
Higher welfare costs	0.5% to 2.0%	<p>Decreases in inequality per dollar spent on welfare were higher in Australia than in any other OECD country.⁹⁸ We assume that this high level of targetting continues, and that the cost of decreasing inequality scales with GDP. This gives us a price of decreasing inequality in terms of welfare budget. Assuming that the counterfactual Gini index grows at the same rate as the last decade, this gives an increase in inequality, which is multiplied by the price in terms of welfare spending to arrive at a number of around 2 per cent of GDP. However, under a progressive taxation system and increasing incomes at the top, some of the decreases in inequality will be had by the tax system. Therefore we project a cost of 0.5% GDP as a sensible baseline. As a check, this is similar in magnitude to the increase in Age Pension expenditure as a share of GDP over the last decade that is not explained by CPI or ageing (Section 4.4).</p>	Section 7.4

⁹⁷ Hall and Jones (2007)

⁹⁸ OECD (2008); Greenville et al (2013)

Budget pressures on Australian governments

Component	Size of effect (per cent of GDP)	Basis for estimate	Discussion in report
Company tax below forecast	0.5%	According to the Treasury's review of forecasting methodology and performance, ⁹⁹ the errors in forecasting company tax revenues with perfect foresight about macroeconomic conditions were about \$7bn a year for the last five years, or around half a per cent of GDP. This is likely due to poor forecasting of the accelerated depreciation granted to mines, and the immediate write-down of over-burden removal. That is, the last few years has seen a disconnect between pre-tax profits and tax revenues. We expect the Treasury to incorporate these past errors in future forecasts of company tax revenue.	Sections 5.4, 7
MRRT & ETS below forecast	0.5% to 1.0%	Carbon price revenues are likely to collect around \$5.3 billion per year (0.3 per cent of GDP) less than current forecasts from 2015-16 onwards. These forecasts assume a traded price of \$29/tonne from 2015-16. But current European prices (to which the Australian scheme is now linked) are around \$6/tonne. If carbon prices stay around this level, then revenue for 2015-16 will be approximately \$1.4bn rather than the \$6.7bn in current forecasts. Current forecasts assume the MRRT will raise around \$5 billion in 2013-14, and similar amounts in future. In fact, it may well collect almost no revenue. Reported revenues in the first six months of operation are close to zero. Collections will depend on minerals prices, and many expect that future minerals prices will be at or below the levels of the last six months.	Section 5.6
Potential terms of trade fall	1.0% to 2.0%	We extended the McDonald et al. ¹⁰⁰ model of structural budget position to include more recent data. This suggests there is currently a cyclical surplus or between 1 and 2 per cent of GDP—depending on the assumption of the level of “structural” terms of trade. A reversal of the cycle (which would almost certainly occur due to a sharp fall in the terms of trade) would decrease government revenue by this cyclical amount.	Section 6.1
General assumption	0	We assume that all other revenues and costs grow proportionately with GDP	n/a
Total decline in budget position	4.0% to 8.0%	n/a	n/a

⁹⁹ Chessell et al (2012)

¹⁰⁰ McDonald et al (2010)

Appendix C: A bluffer's guide to budgets

C.1 General economic and financial terms

Gross domestic product, or GDP is a measure of the size of a country's economy. In 2012-13, Australia's GDP is forecast to be approximately \$1,520 billion or \$1.5 trillion.¹⁰¹

Inflation measures how much prices have increased over time. It is often measured by the change in the **Consumer Price Index (CPI)** that tracks the prices of what a typical household buys.

As a result of inflation, a loaf of bread costs more today than several years ago. Consequently, \$1 today buys less than \$1 bought in 2000. **Nominal prices** are the prices you see in the shop at the time. **Real prices** remove the effects of inflation so that a dollar has a constant value – it buys the same number of loaves of bread in any year. Real prices provide more meaningful comparisons of spending in different years. Real prices are often expressed in dollar values for a particular year, e.g. 2012 dollars.

In the context of budgets, **nominal spending** is the amount listed in the budget papers each year. **Real spending** removes the effect of inflation so we can compare how spending has actually changed. For example, if government purchases medicines that increase in price by 3 per cent each year, and government spending increases at 3 per cent per year, government buys the same amount of medicine every year. While its nominal spending grows at 3 per cent each year, its real spending is constant.

¹⁰¹ Treasury (2012) MYEFO

A **price deflator** converts nominal values into real values, and is based on a measure of inflation. The nominal price divided by the price deflator is the real price.

Production is how much is produced in an economy. **Economic growth** measures the increase in production from time to time.

Productivity measures how much is produced by a given input. **Labour productivity**, for example, measures how much is produced per hour worked. **Capital productivity** measures how much is produced for every dollar invested. **Productivity growth** measures how much more is produced with the same inputs.

The labour force **participation rate** is the proportion of working-age adults (16 years and older) who are either working or looking for work. The **labour force** includes the unemployed, but not people who are retired, institutionalised, or at home caring for children.

Australia, like most developed countries, has an **ageing population**. People are living longer on average, so a greater proportion of the population is older. This **demographic change** is likely to have big effects on society over time, affecting participation rates, tax collection, and government spending, particularly health and aged pensions

The **Organisation for Economic Co-operation and Development (OECD)** is a Paris-based think-tank whose members and funders are rich countries. It includes most

developed countries.

C.2 Macroeconomics

Many measures of economic activity – such as GDP, unemployment and interest rates -- move in cycles. During a boom, economic output increases, unemployment drops, and interest rates typically rise. Conversely, during busts, unemployment increases, interest rates fall, and GDP growth slows (or becomes negative). This is known as the **economic cycle**.

The **terms of trade** is the ratio of export prices to import prices for a country. Crudely, it measures the tonnes of coal Australia must export in order to import a plasma-screen TV. When terms of trade rise, Australia earns more plasma screen TVs per tonne of coal. If terms of trade fall, Australia would need to export more tonnes of coal to buy the same number of televisions.

From the mid-2000s, increased international demand for Australian minerals raised their price relative to other goods. Mining became very profitable. More mines were dug, increasing employment in the mining sector, as well as related industries (such as construction). Increasing demand for Australian minerals contributed to the rise in the value of the Australian dollar. These effects together are known as the **mining boom**.

The **global financial crisis (GFC)** is a common term for the financial crisis of 2007-08, which led to the 2008-12 global recession. Australia fared considerably better than most of the developed world during and after the crisis, but even so, economic growth slowed and government budgets were placed

under greater pressure than in earlier years.

C.3 Budgets

C.3.1 Revenue

Revenue is all money the government collects. It is made up of:

- Taxes, including:
 - **Income taxes** – taxes paid by individuals on their earnings
 - **Company tax** – taxes paid by companies on their profits. When firms purchase new equipment, they are not generally allowed to deduct the entire cost from their revenues all at once. Instead, they allocate a portion of the investment to each year of its useful life. For some types of asset, Australian tax rules allow **accelerated depreciation**: firms can claim a greater share of the initial investment cost each year than the usual portion. This means that firms claim the cost of the capital more quickly, and so the firm's cost of investing decreases. Because firms pay less tax while they are claiming this greater portion of costs, accelerated depreciation reduces government revenues in the short term.
 - **Sales taxes** – such as the Goods and Services Tax
 - **Excises** – sales taxes levied on a particular product, such as fuel, cigarettes, or alcohol.
 - **Customs duties** - taxes on imported items, including

- clothing and cars
- Other taxes, including **resource rent taxes** ('mining taxes') and **carbon pricing**.
- Sale of goods and services
- Income received from investments, such as dividends from government-owned companies, and interest.
- **Royalties** – In Australia, states own resources and mining companies purchase them. Royalty revenues are the sales of these minerals to mining companies. Royalties are generally levied either as a fixed rate per tonne, or as a percentage of the total value.
- Grants from other levels of government

C.3.2 Expenditure

Expenditure is all money the government spends. It includes:

- Payments to individuals, such as the Age Pension and unemployment benefits.¹⁰²
- Transfers to other levels of government

¹⁰² These payments are sometimes called 'transfers' or 'welfare transfers'. This report uses 'transfers' to refer to payments by the Commonwealth to the states; welfare transfers are called 'payments' or 'benefits' to avoid confusion.

- Purchases of goods and services. This includes purchase of physical goods as needed, as well as the purchase of services from many different entities. For example, a government might purchase job retraining services from a private company or not-for-profit organisation rather than employ staff directly to deliver the training.
- Salaries and other expenses for employees, including front-line staff such as teachers and nurses as well as administrative staff.

C.4 Terms used in the budget papers

Commonwealth and State governments in Australia each publish a collection of documents every year in May or June that set out the government's economic and fiscal plans for the next year. These are generically called the **budget papers**.

Since economic conditions change through the year, governments also update their estimates of revenue and expenses late in the year. The Commonwealth update is called the **Mid-Year Economic and Fiscal Outlook (MYEFO)**. They also publish an updated set of figures before each election in the **Pre-election Fiscal Outlook (PEFO)**. State governments publish equivalent documents under different names.

Budget papers generally contain figures for revenue and expenditure for the previous financial year, the current financial year (sometimes called the **budget year**), and the next three financial years. This three-year period is called the **forward years** and the figures are known as the **forward estimates**.

Figures for the previous, current and next financial year are generally presented as **estimates**. Sometimes figures for the past year are presented as **actual** figures and the current year as **budgeted** figures. The figures for the final two years of the forward estimates are generally presented as **projections**.

Government expenses and revenues vary with the economic cycle. During a boom, profits and incomes increase, resulting in more taxes being paid; unemployment also falls, reducing expenses. During a bust, the opposite happens. The **cyclical balance** component of the budget is the proportion of revenues and expenses that occur due to the economic cycle. Once we subtract this from the cash balance, we arrive at the **structural balance**. Determining the cyclical balance depends on modelling assumptions about the relationship between the economic cycle, expenses, and revenues.

C.6 Surplus, deficits and debt

A **budget deficit** occurs when a government collects less in revenues than it spends in any given year. A **budget surplus** occurs when revenues are greater than expenditures in a year. **Government debt** is the total debt that a government owes, and may come from governments running deficits several years in a row. **Gross debt** is the total amount of debt the government has. **Net debt** is the gross debt minus the value of assets the government owns (such as the Future Fund).

C.7 Federal financial relations

In Australia, the Commonwealth government collects most of the taxes, while State governments deliver most of the services. To

correct this imbalance, the Commonwealth transfers money to the States in several ways:

- Some funding, such as the money collected via the GST, is given to States as **untied funding**. It can be spent however the State chooses.
- Most of the rest of the funding is given to the States as **tied funding**. This funding is given to the States on the condition that they use it for a particular purpose. There are two types of tied funding: **Specific Purpose Payments (SPPs)** are relatively large amounts of money to be spent in general areas, such as schools or housing. **National Partnership Payments (NPPs)** are smaller amounts of money more closely tied to a particular policy goal, such as improving literacy and numeracy, or mental health reform.
- A small amount is paid by the Commonwealth ‘through’ the states to other bodies, mostly non-government schools and local governments. States do not control how this money is spent; they just pass it on to the Commonwealth-identified recipient. These payments are sometimes known as **on-passings**.

In this report, we use the term ‘**transfers**’ to refer to untied and tied funding from the Commonwealth to the States. Where we present combined Commonwealth and state expenditures, these transfers are treated as state expenditure unless otherwise specified. On-passings are always treated as Commonwealth expenditure.

References

- ABS (2006) *ANZSCO - Australian and New Zealand Standard Classification of Occupations, First Edition, Revision 1*, catalogue number 1220.0, Australian Bureau of Statistics
- ABS (2007) *Data Cube Employee Earnings Time Series*, catalogue number 6310.0, Australian Bureau of Statistics
- ABS (2008) *Population Projections, Australia, 2006 to 2101*, catalogue number 3222.0, Australian Bureau of Statistics
- ABS (2011) *Household Income and Income Distribution, Australia, 2009-10*, catalogue number 6523.0, Australian Bureau of Statistics
- ABS (2012a) *Average Weekly Earnings, Australia, May 2012*, catalogue number 6302.0, Australian Bureau of Statistics
- ABS (2012b) *Australian National Accounts: State Accounts, 2011-12*, catalogue number 5220.0, Australian Bureau of Statistics
- ABS (2012c) *Australian System of National Accounts, 2011-12*, catalogue number 5204.0, Australian Bureau of Statistics
- ABS (2012d) *Taxation Revenue, Australia, 2010-11*, catalogue number 5506.0, Australian Bureau of Statistics
- ABS (2012e) *Census of Population and Housing, 2011*, Australian Bureau of Statistics
- ABS (2012f) *Labour Force, Australia, Detailed, Dec 2012*, catalogue number 6291.0.55.001 and 6291.0.55.003, Australian Bureau of Statistics
- ABS (2013a) *Consumer Price Index, Australia, Dec 2012*, catalogue number 6401.0, Australian Bureau of Statistics
- ABS (2013b) *Selected Living Cost Indexes, Australia, Dec 2012*, catalogue number 6467.0, Australian Bureau of Statistics
- ABS (2013c) *Australian Demographic Statistics, Sep 2012*, catalogue number 3101.0, Australian Bureau of Statistics
- AIHW (2010) *Health system expenditure on disease and injury in Australia, 2004-05*, Health and welfare expenditure series no. 36, catalogue number HSE 87, Australian Institute of Health and Welfare
- AIHW (2012) *Health expenditure Australia 2010-11*, Health and welfare expenditure series no. 47, catalogue number HWE 56, Australian Institute of Health and Welfare
- Alvaredo F, Atkinson AB, Piketty T and Saez E (2013) *The World Top Incomes Database*, accessed 3 April 2013 from <http://topincomes.g-mond.parisschoolofeconomics.eu/>
- APRA (2013) *Statistics: Annual Superannuation Bulletin June 2012*, Australian Prudential Regulation Authority, accessed 15 April 2013 from <http://www.apra.gov.au/Super/Publications/Pages/annual-superannuation-publication.aspx>

- Argus D (2013) 'Cut welfare "to protect our future", says Don Argus', *The Australian*, 23 Feb 2013
- Australian Capital Territory Government (various years) *Territory Budget Papers 2002-03 to 2012-13*, Treasury, ACT, accessed April 2013 from http://apps.treasury.act.gov.au/budget/budget_2012-13
- Australian Government Actuary (2012) *National Disability Insurance Scheme Costings – Review by the Australian Government Actuary*, Australian Government Actuary, accessed April 2013 from <http://www.treasury.gov.au/Access-to-Information/DisclosureLog/2012/National-Disability-Insurance-Scheme-Costings>
- Australian Greens (2013) 'Greens will move Bill to lift Newstart \$50/week, costed at \$2b a year', Australian Greens, 7 January 2013, accessed April 2013 from <http://greens.org.au/content/greens-will-move-bill-lift-newstart-50week-costed-2b-year-0>
- Bishop J, Kent C, Plumb M and Rayner V (2013) 'The resources boom and the Australian economy: a sectoral analysis', Reserve Bank of Australia Bulletin, accessed 10 April 2013 from <http://www.rba.gov.au/publications/bulletin/2013/mar/5.html>
- Blöndal J.R, Bergvall D, Hawkesworth I and Deighton-Smith R (2008) 'Budgeting in Australia' *OECD Journal on Budgeting*, 8(2) p 1-64
- Buchanan J and Wagner R (1977) *Democracy in Deficit: The Political Legacy of Lord Keynes*, Academic Press
- Carling R (2012) *Australia's Future Fiscal Shock*, Centre for Independent Studies, accessed April 2013
- Chessell D, Crone P, Edey M and Williams L (2012) *Review of Treasury macroeconomic and revenue forecasting*, The Treasury, Australia
- Cowan S (2013) *Target30 – towards smaller government and future prosperity*, Centre for Independent Studies
- Daley J, McGannon C, and Ginnivan L (2012a) *Game-changers: Economic reform priorities for Australia*, Grattan Institute
- Daley J, McGannon C, and Ginnivan L (2012b) *Game-changers: Economic reform priorities for Australia: Supporting analysis*, Grattan Institute
- D'Ambrosio C (2003) 'How much should the government spend?' *Review of Income and Wealth* Vol 47, No.3, 399-404
- DEEWR (2013) *Better Schools: A National Plan for School Improvement – Frequently Asked Questions*, Department of Education, Employment and Workplace Relations, Australia, accessed April 2013 from <http://betterschools.gov.au/frequently-asked-questions>
- De Grauwe, P and Ji Y (2013) 'Panic-driven austerity in the Eurozone and its implications' <http://www.voxeu.org/article/panic-driven-austerity-eurozone-and-its-implications>
- Deloitte Access Economics (2012) *Budget Monitor: Prospects for the Australian Budget 2012-13 to 2015-2016*, Issue 82, Deloitte Access Economics

- Deloitte Access Economics (2013) 'Risks around Australia's fiscal position', Report prepared for the Business Council of Australia, accessed March 2013 from <http://www.bca.com.au/Content/102108.aspx>
- DIISRTE (2012) *uCube - Higher Education Statistics*, Department of Industry, Innovation, Science, Research and Tertiary Education, accessed January 2013 from <http://www.highereducationstatistics.deewr.gov.au/Default.aspx>
- Drummond M (2009) 'Critique of the 2007 paper by Anne Twomey and Glenn Withers titled Australia's Federal Future: A report for the Council for the Australian Federation', accessed 15 April 2013 from <http://members.webone.com.au/%7EemarkId/PubPol/GSR/TW2007.html>
- Economist (2010) 'Reinhart and Rogoff under attack', accessed 10 April 2013 from http://www.economist.com/blogs/buttonwood/2010/07/debt_ratios_and_growth
- Eltham B (2011) 'A close look at Abbott's Direct Action plan' *The Drum*, 21 July 2011
- Eslake S (2011) 'Commodity prices' Paper presented to the International Conference of Commercial Bank Economists, accessed April 2013 from <http://grattan.edu.au/publications/news-and-opinion/post/commodity-prices1/>
- Eslake S and Walsh M (2011) *Australia's Productivity Challenge*, Grattan Institute
- Eyraud L and Lusinyan L (2011) *Decentralizing spending more than revenue: does it hurt fiscal performance?*, International Monetary Fund working Paper, accessed 22 January 2013 from <http://www.imf.org/external/pubs/cat/longres.aspx?sk=25266.0>
- FaCS (2003) *FaCS Annual Report 2002-03*, Department of Family and Community Services, Australia, accessed January 2013 from <http://resources.fahcsia.gov.au/annualreport/2003/>
- FaHCSIA (2012) *FaHCSIA Annual Report 2011-2012*, Department of Families, Housing, Community Services and Indigenous Affairs, Australia, accessed January 2013 from http://www.fahcsia.gov.au/sites/default/files/documents/10_2012/fahcsia-2011-12-annual-report_0.pdf
- Feldstein M (1997), 'How big should government be?' *National Tax Journal*, 50, 197-214.
- Finnis J (1980) *Natural law and natural rights*, Clarendon Press
- Flyvbjerg B (2009) 'Survival of the unfittest: why the worst infrastructure gets built — and what we can do about it', *Oxford Review of Economic Policy*, 25(3), p 344-367.
- Freestone O, Gaudry D, Obeyesekere A and Sedgwick M (2011) 'The rise in household saving and its implications for the Australian Economy', *Economic Roundup*, Issue 2, The Treasury, Australia
- Gillard J and Garrett P (2013) 'Resourcing All Our Kids, Classrooms and Teachers for the Future', Media release, 14 April 2013, accessed April 2013 from <http://www.pm.gov.au/press-office/resourcing-all-our-kids-classrooms-and-teachers-future>

- Goldman Sachs Equity Research (2013) *Iron Ore: The end is nigh-er than we thought*
- Greenville J, Pobke C and Rogers N (2013) *Trends in the Distribution of Income in Australia*, Productivity Commission Staff Working Paper
- Gruen D (2012) 'The importance of productivity', Productivity Commission - Australian Bureau of Statistics Productivity Perspectives Conference, accessed 14 April 2013 from <http://www.treasury.gov.au/PublicationsAndMedia/Speeches/2012/Productivity-and-Structural-Change>
- Hall RE and Jones CI (2007) The value of life and the rise in health spending. *The Quarterly Journal of Economics*, 122(1), 39-72.
- Hardy P, Kamener L and Karotie L (2011) 'European Fiscal Consolidation: Four factors that will support success', BCG Perspectives, accessed 10 April 2014 from https://www.bcgperspectives.com/content/articles/public_sector_management_two_speed_economy_european_fiscal_consolidation_four_factors
- Harmer J (2009) *Pension Review Report*, Department of Families, Housing, Community Services and Indigenous Affairs, Australia, accessed April 2013 from http://www.fahcsia.gov.au/sites/default/files/documents/05_2012/pensionreviewreport.pdf
- Hendon T, Ash M, and Pollin R (2013) 'Does high public debt consistently stifle economic growth? A critique of Reinhart and Rogoff'. PERI Working Paper 322, April 2013.
- IMF (2012) *World Economic Outlook Database, October 2012*, International Monetary Fund, accessed January 2013 from <http://www.imf.org/external/pubs/ft/weo/2012/02/weodata/index.aspx>
- Jensen B, Reichl J and Kemp A (2011) "The Real Issue in School Funding: An Analysis of Increasing Government School Expenditure and Declining Performance" *Australian Economic Review*, Vol 44 Issue 3 pp 321-329
- Jensen B, Hunter A, Sonnemann J and Burns T (2012) *Catching up: learning from the best school systems in East Asia*, Grattan Institute.
- Kamener L and Tan S (2012) 'Strategies for taming government deficits', BCG Perspectives, accessed 10 April 2013 from https://www.bcgperspectives.com/content/articles/public_sector_lean_strategies_for_taming_government_deficits/
- Karvelas P (2010) 'Coalition MPs prepare revolt on paid parental leave plan', *The Australian*, 6 August 2010
- Kecmanovic M and Wilkins R (2011) *Accounting for salary sacrificed components of wage and salary income*, HILDA project discussion paper series, No 3/11
- Kotlikoff LJ (1984) 'Economic impact of deficit financing', *IMF Staff Papers*, 33, pp. 549-581
- Leighton WA and Lopez EJ (2013) *Madmen, intellectuals and academic scribblers: the economic engine of political change*, Stanford University Press
- Lelong C and Currie J (2013) 'Iron age continues until structural oversupply in 2014' Goldman Sachs Commodities Research

- Loughnane B (2013) *Our Plan: Real Solutions for all Australians*, Liberal-National Coalition.
- Loughnane B (2010) *The Coalition's Plan for Real Action for Australia's Future*, Liberal-National Coalition.
- Macfarlane IJ (2006) 'Economic News: Do We Get Too Much of It?', Notes for a Talk to the Australian Financial Review Leaders' Luncheon, 28 April 2006, accessed January 2013 from <http://www.rba.gov.au/speeches/2006/sp-gov-280406.html>
- McDonald T, Yan YH, Ford B and Stephan D (2010) 'Estimating the structural budget balance of the Australian Government', Economic Roundup (3), Australian Treasury, accessed March 2013 from <http://archive.treasury.gov.au/contentitem.asp?NavId=016&ContentID=1881>
- McDonald T and Morling S (2011) 'The Australian Economy and the Global Downturn Part 1: Reasons For Resilience, Treasury Economic Roundup 2, accessed April 2013 from <http://www.treasury.gov.au/PublicationsAndMedia/Publications/2011/Economic-Roundup-Issue-2/Report/The-Australian-economy-and-the-global-downturn-Part-1-Reasons-for-resilience>
- Megalogenis (2012) 'How the language of shock-jocks came to drive political debate' The Australian, 18 August 2012
- New South Wales Government (multiple years) *State Budget Papers 2002-03 to 2012-13*, The Treasury, NSW, accessed April 2013 from http://www.budget.nsw.gov.au/2012-13_budget_papers
- Northern Territory Government (multiple years) *Territory Budget Papers 2002-03 to 2012-13*, Department of Treasury and Finance, NT, accessed April 2013 from <http://www.treasury.nt.gov.au/BudgetAndFinance/prevbudget/Pages/default.aspx#1213>
- Norton A (2013) *Mapping Australian higher education, 2013 version*, Grattan Institute
- OECD (2008) *Growing Unequal? Income distribution and poverty in OECD countries*, OECD Publishing
- OECD (2012a) *Economic Outlook*, Volume 2012 Issue 2, OECD Publishing
- OECD (2012b) *Education at a Glance*, OECD Publishing
- OECD (2013) *StatExtracts: Social and Welfare Statistics*, accessed April 2013 from <http://stats.oecd.org>
- Parkinson M (2012) 'Challenges and opportunities for the Australian economy', Speech to the John Curtin Institute of Public Policy, Breakfast Forum, Perth, 5 October 2012, accessed January 2013 from <http://treasury.gov.au/PublicationsAndMedia/Speeches/2012/Challenges-and-opportunities-for-the-Aust-economy>
- Philips B and Nepal B (2012) *Going without: Financial hardship in Australia*, NATSEM report prepared for Anglicare Australia, Catholic Social Services Australia, The Salvation Army, UnitingCare Australia, accessed April 2013 from <http://www.natsem.canberra.edu.au/publications/?publication=going-without-financial-hardship-in-australia>
- Productivity Commission (2005) *Economic Implications of an Ageing Australia*, Research Report, Productivity Commission

Queensland Government (multiple years) *State Budget Papers 2002-03 to 2012-13*, Queensland Treasury and Trade, accessed April 2013 from <http://budget.qld.gov.au/current-budget/budget-papers/index.php>

Rawls J (1971) *A theory of justice*, Clarendon Press

RBA (2013), *Chart Pack: The Australian Economy and Financial Markets*, Reserve Bank of Australia, accessed April 2013 from <http://www.rba.gov.au/chart-pack/>

Reinhart CM and Rogoff KS (2009) *This time is different: Eight centuries of financial folly*. Princeton University Press

Reinhart CM, Reinhart VR and Rogoff KS (2012) 'Public debt overhangs: advanced-economy episodes since 1800', *The Journal of Economic Perspectives*, 26(3), 69-86.

Sen A (2009) *The idea of justice*, Belknap Press

Seniors Card (2003), 'Welcome to Seniors Card', accessed April 2013 from <http://www.seniorscard.com.au/>

Silver N (2013) 'What is driving growth in government spending' Five ThirtyEight, accessed 9 April 2013 from <http://fivethirtyeight.blogs.nytimes.com/2013/01/16/what-is-driving-growth-in-government-spending/>

South Australian Government (multiple years) *State Budget Papers 2002-03 to 2012-13*, Department of Treasury and Finance, SA, accessed April 2013 from <http://www.treasury.sa.gov.au/budget/previous-budgets/2011-12>

Stockdale A (2012) 'An interview with a former Treasurer of Victoria' BCG Perspectives, accessed 15 April 2013 from https://www.bcgperspectives.com/content/interviews/public_sector_cost_efficiency_asset_optimization_alan_stockdale_finding_opportunity_in_crisis/

Stockman DA (1986) *The triumph of politics: why the Reagan revolution failed*, Harper & Row

Summerfield M, Dunn R, Freidin S, Hahn M, Ittak P, Kecmanovic M, Li N, Macalalad N, Watson N, Wilkins R and Wooden M (2011) *HILDA User Manual – Release 10*, Melbourne Institute of Applied Economic and Social Research, University of Melbourne.

Summers L, and DeLong JB (2012) 'Fiscal Policy in a Depressed Economy', Brookings Papers on Economic Activity, p 233-297, accessed 14 April 2013 from http://www.brookings.edu/~media/Projects/BPEA/Spring_2012/2012a_DeLong.pdf

Swan W (2013) 'Interview with Matt Winkler, Q&A Bloomberg Economic Summit', accessed 14 April 2013 from <http://www.treasurer.gov.au/wmsDisplayDocs.aspx?doc=transcripts/2013/032.htm&pageID=003&min=wms&Year=&DocType=2>

Swoboda K (2012) *Minerals Resource Rent Tax: changes to revenue and expenditure estimates*, Parliament of Australia, Parliamentary Library, accessed January 2013 from http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/BudgetReview201213/MRRT

- Tanzi V and Schuknecht L (2000) *Public spending in the 20th century* (Cambridge University Press)
- Tasmanian Government (multiple years) *State Budget Papers 2002-03 to 2012-13*, Department of Treasury and Finance, Tasmania, accessed April 2013 from <http://www.treasury.tas.gov.au/domino/df/df.nsf/v-budget-budget-papers/0>
- Tingle L (2012) 'Great Expectations: Government, entitlement and an angry nation' Quarterly Essay 48
- Treasury (multiple years) *Budget Papers 2002-03 to 2012-13*, The Treasury, Australia, accessed April 2013 from http://budget.gov.au/past_budgets.htm
- Treasury (multiple years) *Mid-year economic and fiscal outlook (MYEFO) 2008-09 to 2012-13*, The Treasury, Australia, accessed April 2013 from http://budget.gov.au/past_budgets.htm
- Treasury (2002) *Intergenerational Report 2002-03*, The Treasury, Australia, accessed April 2013 from <http://www.budget.gov.au/2002-03/bp5/html/index.html>
- Treasury (2009) *Updated economic and fiscal outlook (UEFO), February 2009*, The Treasury, Australia, accessed January 2013 from <http://www.budget.gov.au/2008-09/content/uefo/html/index.htm>
- Treasury (2010a) *Intergenerational Report 2010*, The Treasury, Australia, accessed April 2013 from http://archive.treasury.gov.au/igr/igr2010/report/pdf/IGR_2010.pdf
- Treasury (2010b) *Australia's future tax system: Report to the Treasurer*, The Treasury, Australia, accessed January 2013 from <http://www.taxreview.treasury.gov.au/>
- Treasury (2010c) *Pre-election economic and fiscal outlook (PEFO), 2010*, The Treasury, Australia, accessed January 2013 from <http://archive.treasury.gov.au/contentitem.asp?ContentID=1858>
- Treasury (2012) *GST Distribution Review: Final Report* The Treasury, Australia, accessed January 2013 from <http://www.gstdistributionreview.gov.au>
- Treasury (2013) *Tax Expenditures Statement 2012*, The Treasury, Australia, accessed April 2013 from <http://www.treasury.gov.au/PublicationsAndMedia/Publications/2013/Tax-Expenditures-Statement-2012>
- Tulip P and Wallace S (2012) 'Estimates of uncertainty around the RBA's forecasts', Reserve Bank of Australia, accessed March 2013 from <http://www.rba.gov.au/publications/rdp/2012/pdf/rdp2012-07.pdf>
- Twomey A and Withers G (2007) *Federalist Paper 1: Australia's Federal Future*, Council for the Australian Federation, accessed 15 April 2013 from <http://www.caf.gov.au/Documents/AustraliasFederalFuture.pdf>
- Vamplew W (ed) (1987), *Australians: Historical Statistics*, Fairfax, Syme & Weldon Associates

- Victorian Government (multiple years) *State Budget Papers 2002-03 to 2012-13*, Department of Treasury and Finance, Victoria, accessed April 2013 from <http://budget.vic.gov.au/CA2579B200132B63/pages/victorian-state-budget-2012-13>
- Veldhuis N, Clemens J, and Palacios M (2011) 'Budget Blueprint: How lessons from Canada's 1995 budget can be applied today' *Studies in Budget and Tax Policy*, Fraser Institute, accessed 15 April 2013 from <http://www.fraserinstitute.org/uploadedFiles/fraser-ca/Content/research-news/research/publications/BudgetBlueprint.pdf>
- Western Australian Government (multiple years) *State Budget Papers 2002-03 to 2012-13*, Department of Treasury, WA, accessed April 2013 from <http://www.ourstatebudget.wa.gov.au/>
- Whiteford P (2010) 'The Australian Tax-Transfer System: Architecture and Outcomes' *The Economic Record* Vol 86, No 275, 528–544
- Whiteford P (2011) 'Will the budget slow the growth of disability support pension numbers' *Inside Story* 12 May 2011. Accessed 18 March 2013 from <http://inside.org.au/growth-of-disability-support-pension-numbers/>
- Whiteford P (2013) *Australia: inequality and prosperity and their impacts in a radical welfare state*, HC Coombs Policy Forum
- Wilkinson W (2009) 'Thinking clearly about economic inequality', Policy Analysis no. 640, Cato Institute, accessed April 2013 from <http://www.cato.org/publications/policy-analysis/thinking-clearly-about-economic-inequality>
- Winship S (2013) 'Overstating the costs of inequality', *National Affairs* (15), accessed April 2013 from <http://www.brookings.edu/~media/Research/Files/Articles/2013/03/overstating%20inequality%20costs%20winship/overstating%20inequality%20costs%20winship.pdf>