Australia’s Big Government, by the Numbers

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## Executive summary

- This paper presents the most comprehensive historical estimates of the size of government in Australia.
- A variety of fiscal and non-fiscal indicators are used to trace the evolution of government size since the first quarter of the nineteenth century.
- Public sector size for all levels of Australian government at various points in time is as follows:

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<th>Taxation revenue as share of GDP</th>
<th>Expenditure as share of GDP</th>
<th>Primary legislation page count</th>
<th>Civilian government employment as share of population</th>
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<td>25,058</td>
<td>8.1</td>
<td>16.4</td>
</tr>
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</table>

Information in this table refers to all levels of government, except for legislation page count (commonwealth and state) and welfare payment recipients (commonwealth). Fiscal indicators refer to non-financial public sector, or similar coverage for earlier years of the time series. Welfare payment recipients comprise recipients of age pension, invalid/disability support pension and unemployment benefits in 2011.

- Given the well-established negative association between government size and growth in the empirical economics literature, Australian voters should carefully scrutinise social and other policy proposals (e.g., National Disability Insurance Scheme, Gonski, parental leave) that could systemically raise the size and scope of government.
1 Introduction

Largely as a consequence of policy design, rather than accident, the perennial sleeper issue of government size in Australia has become one of the most important topical themes in the 2013 federal election campaign.

After chastising the Howard government twelve months earlier about ‘reckless spending,’ the government led by Kevin Rudd expended approximately $79 billion on various Keynesian-inspired ‘fiscal stimulus’ measures from October 2008 to May 2009 to counteract a slowdown in economic activity.\(^1\) This general policy stance pursued during 2008-09, and several of the measures within it such as the ‘Building the Education Revolution’ school refurbishment program and home insulation subsidy program have been widely criticised, including on grounds of delivering insufficient value for money.\(^2\)

According to the government’s own estimates, from the final budget handed down by the Howard government to the time of the 2012-13 Mid-Year Economic and Fiscal Outlook (MYEFO), close to an additional $100 billion in payments have been made by the Rudd and Gillard governments.

Amidst weaker than expected economic activity and flagging consumer confidence translating into weaker than expected revenue growth (even in spite of the new carbon dioxide tax, plus a mining tax that has gathered little revenue), the expenditure strategies undertaken by the commonwealth government have resulted in multi-year budget deficits and increasing gross indebtedness to the tune of approximately $260 billion.

The government favours an extension to the existing national social welfare apparatus in the form of a National Disability Insurance Scheme (NDIS) as recommended by the Productivity Commission,\(^3\) and school funding methodology harmonisation recommended by a panel of inquiry headed by businessman David Gonski.\(^4\)

The Gillard government has also repeatedly expressed as meritorious the amount of its legislation passed through the Parliament.\(^5\) This record has been used to argue against claims that its minority party status in the House of Representatives has contributed to political instability.

A number of economic analysts and commentators have observed that recent expenditure, taxation and regulatory policies implemented by particularly, but not limited to, the commonwealth government bear important long run implications for growth in the size, if not scope, of the Australian public sector. Consistent with this, it has been pointed out by the critics of government policies that empirical studies overwhelmingly find a negative correlation between growth in government size and economic performance.

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\(^1\) Taylor and Uren, 2010, p. 249-250.
\(^2\) Davidson and de Silva, 2009; Humphreys, 2012; Kirchner, 2009; Kates, 2011; Makin, 2011; Novak, 2009.
\(^3\) Productivity Commission, 2011.
\(^4\) Department of Education, Employment and Workplace Relations, 2011.
\(^5\) For a critical perspective of such views, see Berg, 2011.
On the other hand some people and groups, including Treasurer Wayne Swan, the Australian Council of Trade Unions and left-wing think tanks, have discounted warnings surrounding the potentially adverse consequences of future growth in government. They have done so by drawing attention to Australia’s public sector size, which is relatively smaller than European nations, in order to justify a position that Australian government could, or should, be expanded with supposedly minimal harm ensuing from consequently greater taxation, spending or regulation.\(^6\)

Proponents of greater activity by governments also argue that the size of government is an inappropriate consideration from an economic performance perspective, and that the composition of spending or taxing (or, in simple terms, the ‘quality’ of such activities) have more profound economic implications than broader size measurements.\(^7\)

To establish how changes to the Australian public sector may affect economic performance over time, it is necessary to obtain a suitable measure, or suite of measures, of the size of government. Accordingly, this paper provides a profile of statistical indicators of public sector size and growth, drawing from a range of sources. For each indicator there will be a discussion of the theoretical rationale for their selection, and their statistical suitability as an appropriate measure of government size.

This enables a discussion of potential trends in the size of Australian governments in the future, drawing upon information currently available concerning the likely fiscal costs of big-ticket spending proposals such as the NDIS and Gonski school funding. It will be suggested that in the absence of these additional policies it is likely that the relative size of governments will increase, however the implementation of NDIS and Gonski will significantly increase governmental size even further.

From this analysis we are able to address the economic implications of an expansion in Australian public sector size, underpinning the importance of raising general public awareness of the implications of a growing government for future living standards.

### 2 Revenue and taxation measures

#### 2.1 Definition

A key activity of government is to acquire financial resources, known as revenues, from the private sector for varied purposes, which in turn effectively reallocate resources within the economy. There are in practice various ways in which modern governments may acquire their revenues.

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\(^6\) For example, the ACTU has claimed that ‘countries that have smaller tax-to-GDP ratios than Australia generally have rudimentary social support systems, with poor outcomes in areas of public spending like health and education.’ More recently a Fabian Society member stated ‘Australia’s tax burden could be increased ... to cover the NDIS, Gonski and more, and still see Australia with one of the lowest tax-to-GDP ratios in the OECD.’ ACTU, 2011, p. 9; Lelliott, 2013.

\(^7\) For example, the leftist academic Ian McAuley suggested that ‘what counts, rather than the “size” of government, are the uses to which public revenues are put and whether government services are provided efficiently.’ McAuley, 2012, p. 35.
Governments may impose a range of revenue raising instruments to collect monies for services provided, which appear at least on the surface to be indistinguishable from the market prices that private sector entrepreneurs charge for the provision of their goods and services. Specifically, they may impose fees or charges for services, prices (either at cost or less than cost) upon sales of goods and services undertaken by their entities, acquire income by virtue of their ownership, or rental, of non-financial assets, or attain incomes through their possession of financial assets.

As the fiscal history of Australia and other advanced economies attest, significant revenues have been generated from the sale of goods and services, such as energy, water or transport utilities, that are monopolistically provided by governments. These elements of revenue generation can be appropriately perceived as ensuing from ‘enforced exchanges’ between governments and affected private sector entities.  

Governments could also, through regulation, readily transform what might appear on the surface to be a voluntaristic relationship of revenue collection, arising from mutually agreeable exchanges of goods, services and assets, into a relationship informed by state compulsion. For example, governments may compulsorily acquire real, financial or other assets from private sector owners for the purpose of subsequently generating income streams for the state.

Furthermore, governments collect revenues as a result of certain regulatory activities which find no counterpart within the private sector. For example, seigniorage profits can be acquired from the monopolistic issuance by the government of notes and coins.

Governments may also collect revenues through the imposition of civil or criminal fines earned from individuals, businesses and other entities that violate existing laws and regulations. Indeed, such revenue streams have long represented a lucrative source of revenue for Australian governments at all levels.

In addition to the forms of revenue cited above, governments may also collect taxation revenue which is conveniently defined by the Australian Bureau of Statistics (ABS), following international government financial accounting conventions, as representing:

‘Revenue arising from compulsory levies imposed by government. There is usually no clear and direct link between payment of taxes and the provision of goods and services. Taxes are levied, inter alia, on incomes, wealth, production, sale and use of goods and services, and the performance of activities. The amount of tax revenue accruing in a period is the amount generated when the underlying transactions or events which give rise to the government’s right to collect the taxes occur in that period.’

Numerous scholars in the fields of public finance and political science have argued that the ability to impose taxation most unambiguously distinguishes government against all other institutions and entities compromising civil society. It is argued that this proposition implies revenue burdens should therefore form the basis of an appropriate indicator of the size of government.

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8 Wagner, op. cit.
10 ABS, Ibid, p. 35.
Joseph Schumpeter once wrote of the nature of taxation as follows:

‘[t]axes not only helped to create the state. They helped form it. The tax system was the organ of the development of which entailed the other organs. Tax bill in hand, the state penetrated the private economies and won increasing dominion over them. The tax brings money and calculating spirit into corners in which they do not dwell as yet, and thus becomes a formative factor in the very organism which has developed it.’\(^{11}\)

Public choice theorists Geoffrey Brennan and James Buchanan wrote that ‘[f]or the ordinary citizen, the power to tax is the most familiar manifestation of the government’s power to coerce. The power to tax involves the power to impose, on individuals and private institutions more generally, charges that can be met only by a transfer to government of economic resources, or financial claims to such resources – charges which carry with them effective powers of enforcement under the very definition of the taxing power.’\(^{12}\)

While some commentators claim that individuals or businesses statutorily liable to taxation voluntarily pay them and that some are, in fact, willing to contribute more to the public fisc, Charles Bastable alternatively suggested that ‘a tax is ‘compulsory.’ This does not mean that all tax revenue is paid unwillingly, but merely that the will of the payer is legally immaterial. The amount, the mode and time of levying, the persons affected are all determined by the sovereign or its delegate, and individual preferences or dislikes are allowed no place in the act.’\(^{13}\)

The array of taxes imposed by a government can be generally classified as either ‘direct’ or ‘indirect’ taxation. According to economist Anthony Atkinson the distinction between the two types of taxes historically rested upon administrative practices, whereby taxpayers paid some of their taxes directly to tax authorities whereas others were paid indirectly through the purchase of goods.\(^{14}\)

Atkinson refines this historical distinction to refer to direct taxes as being any which may be adjusted in accordance with the individual characteristics of the taxpayer, while indirect taxes are imposed upon transactions irrespective of the circumstances of buyers and sellers. Furthermore, this tax classification can be made without reference to the final incidence of taxation.

In a federal system of government, such as Australia, it is also important to establish the extent to which the different levels of government collect funds from the varied revenue instruments at their disposal. The interjurisdictional assignment of revenue and taxation powers affects the capacity of each level of government to finance the provision of public services in an autonomous, self-sufficient manner, with significant implications for the realisation of fiscal and political accountability to general taxpayers.

When making observations concerning government revenue or taxation over time it should also be considered that changes in these variables may reflect explicit policy decisions, such as alterations to

\(^{13}\) Bastable, [1892] 2003, p. 243.
\(^{14}\) Atkinson, 1977.
taxation rates or bases or substitutions between different forms of revenue raising instruments, in addition to fluctuations in the business cycle, all affecting the extent to which governments can acquire revenues from liable private sector entities.

It is possible to derive an approximate, albeit not statistically consistent, series of government revenue data stretching back to the early nineteenth century with data on revenue collections derived from a variety of secondary sources. Information concerning the sources used to derive time series for this and other key measures of relative government size are described in Appendix A.

2.2 Trends

The available data on total revenue collected by Australian commonwealth, state and local governments demonstrates significant growth in revenue takings particularly during the twentieth century, a trend which has persisted through the first decade of the twenty-first century.

Figure 1 shows the growth in revenues collected by governments, normalised by the size of the Australian population, since 1820.15

Revenues raised by colonial and local governments increased from about $3 per resident in 1820 to about $17 in 1900. Until the 1880s taxation (especially customs duties and excises) and land sales receipts represented the main source of revenues collected by colonial governments. However a decade later receipts on sales of Crown land had waned as a revenue source.

Colonial governments during the 1880s, such as South Australia and Tasmania, implemented new taxes on incomes and property. Nonetheless, tax revenue collections were surpassed by revenues from business undertakings as the major source of revenue in this period.

15 The admittedly subjective choice of 1820 as the first year in the historical data series presented in this paper is informed by two considerations. First, the quality of official fiscal data collected prior to this period was particularly questionable for reasons explained in Appendix A. Second, the 1820s witnessed a changing policy stance by British authorities to reduce their direct subsidies to the Antipodes thus encouraging much greater colonial self-determination in public financial management. Third, the 1820s were arguably a period characterised by the emergence of self-sustaining private sector activities in the agricultural sector (particularly wool production). Noel Butlin, 1994; McLean, 2013.
It was during the twentieth century, and especially since the 1970s, that government revenues dramatically increased to the record levels witnessed today. Nonetheless the post-war growth in revenue per capita prior to the Whitlam era is instructive in its own right. It took until the height of World War II (1943) and the centralisation of income taxing powers for Australian governments to break the $100 revenue per capita mark. However, less than a decade later (1951) the government’s revenue take per capita exceeded $200 and a year later exceeded $300.

From 1972 to 1976, coinciding roughly with the period in office for Labor Prime Minister Gough Whitlam, Australian commonwealth, state and local government revenue per capita grew from about $820 to about $1,600, more than doubling in magnitude during that relatively short time period.

During the first decade of the twenty-first century revenue per capita grew from about $15,500 in 2001 to about $21,100 in 2010. This trend, which occurred after a significant change in the tax mix towards indirect taxation of goods and services, represented an increase in revenue over the period by about 36 per cent, or three per cent on average each year.

Another measure of the size of government is the amount of total revenue collected by governments expressed as a proportion of gross domestic product (GDP). The current price GDP time series measure was drawn from the ‘MeasuringWorth’ project website, devised by a number of
economic historians for the purpose of providing a single online destination of historical economic aggregates for a range of countries.\(^{16}\)

The GDP series presented on MeasuringWorth is drawn from a range of sources, including from the ABS and its predecessor (Commonwealth Bureau of Census and Statistics) and from prominent Australian economic historians.

From financial years 1820 to 1860 GDP at factor cost (less indirect taxes plus subsidies) are derived by grossing up estimates of the value of selective industrial activities including pastoral and non-pastoral agriculture, mining, manufacturing, public services and construction, personal and other services and imputed housing rents.\(^{17}\)

From 1861 to 1900 estimates originally produced by Noel Butlin, and published in 1962, of Australian GDP at market prices (including indirect taxes less subsidies) were used.\(^{18}\) Mathew Butlin’s GDP at market prices series spanning from 1901 to 1948 was then used,\(^{19}\) followed by the ABS for the remainder of the years covered in this paper.\(^{20}\)

It is also important to note that the estimated GDP statistics used in this paper remain an intellectually contestable issue within the Australian economics literature. Economist Bryan Haig disputed Noel Butlin’s historical GDP estimates from 1861 on a number of grounds including the potential understatement of manufacturing output during the second half of the nineteenth century.\(^{21}\)

It is notable that a prominent historian of national accounting measurement, Angus Maddison, implicitly rejected most of Haig’s findings thereby retaining Butlin’s GDP estimates for the period 1861 to 1911 in his compilation of historical global growth statistics.\(^{22}\) While Maddison adopts Haig’s ‘better quality’ estimates pertaining to the succeeding period 1912 to 1939, Butlin’s estimates for this period are nonetheless retained in this paper since the main criticisms of the Butlin estimates do not relate directly to his current price GDP estimates.\(^{23}\)

In addition to these data selection issues, there is continued debate among economists concerning the most appropriate measure of national income for use in estimates of the relative size of government. These issues are canvassed in greater detail in Appendix B.

Figure 2 illustrates the long term growth trend in non-financial public sector revenues in Australia as a share of GDP.


\(^{17}\) Noel Butlin and Sinclair, 1986.

\(^{18}\) Noel Butlin, 1962.

\(^{19}\) Mathew Butlin, 1977; Noel Butlin, 1987.

\(^{20}\) ABS, 2001b, 2012c.

\(^{21}\) Haig, 2001.

\(^{22}\) Maddison, 2006.

\(^{23}\) Hutchinson, p. 2.


Revenues collected by the colonial governments, namely New South Wales and Van Diemen’s Land, continued to grow steadily through the period from the early 1820s until the 1840s, when an economic depression exacerbated by a decline in wool commodity prices led to a significant reduction in revenues as a share of the economy.

From that period revenues as a proportion of GDP remained relatively stable from the mid-1850s until the mid-1870s, with revenue increasing marginally thereafter during the 1880s. During the final decade of the nineteenth century colonial and local government revenue collections grew slightly from about 11 per cent of GDP in 1891 to about 13 per cent in 1900. Revenues from an array of government business undertakings began to increase significantly during this period, and colonial governments implemented new taxes on estates, land and general income.²⁴

As a result of the provisions of the Australian Constitution, including the transfer of customs and excise revenues from the colonies (states) to the commonwealth, the states’ revenues as a proportion of GDP fell from about 13 per cent in 1900 to about ten per cent two years later. Despite this initial reduction the states’ revenues gradually increased to reach a pre-World War II high of about 16 per cent during the early 1930s.

²⁴ Julie Smith, 1993.
The commonwealth acquired monopoly income taxing powers during World War II, and the utilisation of income taxes by the commonwealth contributed to increasing its revenue from about nine per cent of GDP in 1939 to 22 per cent by 1946. Despite the deprivation of revenue powers for the states, revenues collected by all levels of government still increased as a share of GDP from 22 per cent to 31 per cent over the same period.

Since World War II the commonwealth has collected the lion’s share of total revenue in Australia, including a short term spike in commonwealth revenue takings from about 19 per cent of GDP in 1972 to about 24 per cent in 1975 and 27 per cent three years later. On the other hand the states and local governments have seen the amount of revenue they collect, as a share of the economy, decline in the immediate period after World War II and stabilising at about ten per cent of GDP for the remainder of the twentieth century.

The apparent decline in revenue as a proportion of GDP during the first decade of the twenty-first century appears to be attributable to the relatively stronger growth in GDP than in revenue during this period, notwithstanding the less buoyant economic growth in the years immediately following the global financial crisis (GFC).

Taxation has long represented an important component of the overall revenue base of Australian governments, and thus similar measures with respect to taxation revenue collections can also be used to represent changes to the size of government over time.

Figure 3 provides information on the absolute amount of taxation and the amount of tax revenue collected per head of Australian population from 1820 to 2012. The historical trend of the growth in taxation revenue generally mirrors that for revenue collected by all Australian governments as a whole.
Figure 3: Total taxation revenue per capita, Australian governments, 1820 to 2012

Data expressed in terms of current prices. Structural breaks occur in the taxation revenue series in 1907, 1963 and 1999. Data in Figure expressed in linear scale.


Taxation revenue collections per head of population occurred during the nineteenth century, with taxes in nominal terms increasing from about $1 for each Australian in 1820 to $6 per head in 1900. This period was punctuated, especially during the second half of the century, by the introduction of direct taxes by the colonies, and the use of customs duties as ‘protective tariffs,’ particularly in southern colonies, to shield local manufacturing concerns from intercolonial and international import competition. Developments in tariff policy in particular were heavily criticised by economists and politicians of a free-trading persuasion, such as George Reid:

‘any community, whether young or old, which leaves enterprise as free and living as cheap as possible pursues a policy the most likely to promote both individual happiness and national greatness. I believe that any system which places enterprise in leading strings, in order that it may become bold and adventurous, which represses commerce in order that it may thrive, which tears Industry in its infancy from the generous breast of Nature to suckle it on duties of Customs, and compels it in youth to lean on crutches that it may become strong in mature age, is as disastrous in its consequences as it is contradictory in its principles.’

During the first fifty years of Federation the amount of taxation revenue collected per capita continued to rise, from $7 in 1901 to $143 in 1950. This period was highlighted by the development of tax concurrency across levels of government in the income and property tax fields, the Depression-era introduction of commonwealth sales tax and the monopolisation of income taxing powers during World War II.

25 Reid, 1875, p. 1.
Reflecting the trend in the absolute growth of taxation revenue, the level of taxation revenue collected per head of population has also increased rapidly over the past few decades, and especially since the 1970s.

Over the ten years to 1975 the amount of taxes collected from each Australian man, woman and child tripled from about $400 to $1,260. During the ten years thereafter taxation revenue per capita again tripled, to $4,170 per person in 1985. The slowing of taxation per capita growth since that period has been reflected in the fact that it had taken another twenty-five years, from 1985 to 2010, for overall taxation per capita to increase by a similar magnitude.

It is also possible to express the level of taxation revenues collected as a proportion of GDP on an annual basis, deriving some insight into the extent to which taxes absorb an economy’s productive capacity (Figure 4).

**Figure 4: Total taxation revenue as a proportion of gross domestic product, Australian governments, 1820 to 2012**


Despite tax revenue fluctuations, including as a consequence of periodic economic downturns, the overall experience of the nineteenth century was that of a taxation system which largely remained below five per cent of GDP.
By the turn of the century taxes collected by colonial and local governments, and the new commonwealth government, began to breach the five per cent of GDP barrier. It was not until the 1920s that taxation collections as a share of GDP escalated, partly reflecting the commonwealth estate duties, and entertainment and income taxes during and after World War I. A commonwealth sales tax and a raft of federal and state tax increases, introduced during the Great Depression, then led to a rise in the overall tax-to-GDP ratio from less than ten per cent in the mid-1920s to about 14 per cent by 1933.

World War II presented significant opportunities for Australian governments to impose a range of new, and increases to existing, taxes to finance the war effort. As discussed previously, the commonwealth also engendered a redesign to Australia’s tax assignment with its forcible acquisition of the income taxation system from the states.

These and other policies contributed to a doubling of the tax-to-GDP ratio over a ten-year period before and after World War II, from about 12 per cent in 1937 to about 23 per cent in 1947. While there was a trend reduction in taxation revenue as a share of GDP during the 1950s and early 1960s, with the tax-to-GDP ratio at under 20 per cent by 1962, governments did not completely reverse their pre-World War II taxation policy arrangements.

Since that period, taxation revenue as a proportion of GDP has generally continued to increase, with particularly strong increases from the early 1970s through to the late 1980s. Despite discernible fluctuations attributable to the 1990-91 recession and 2008-09 GFC, as well as taxation reform in 1999-2000 by commonwealth and state governments, the overall tax-to-GDP ratio tended, until recently, to stabilise over the last two decades albeit at historically high levels.

Underpinning the increasing tax share to GDP, especially during the twentieth century, were greater revenues collected from a large number of taxing bases exploited by governments (Figure 5).
Figure 5: Selected taxation revenue as a proportion of gross domestic product, Australian governments, 1850 to 2012


With the exception of customs duties, which have declined in importance as a source of revenue particularly since the 1970s, the GDP share of commonwealth taxes on incomes and on sales (including the goods and services tax (GST) introduced in 2000) have increased considerably during the post-World War II period despite occasionally significant fluctuations in revenue flows attributable to changes in the business cycle.

By contrast the major taxes collected by the states (including stamp duties, taxes on land and property and, since the early 1970s, payroll taxation) have remained relatively constant as a share of national income.

While the data presented in this paper thus far illustrate that the taxation burden, as a proxy for the size of the government, have increased over the long run, some have suggested that official statistics tend to understate the true extent of the aggregate amount of revenue and taxation collected by Australian governments.26

This understatement is due, in some part, to the notion that certain regulations force individuals or businesses to expend their own funds in certain ways which, in effect, act as taxes.

Since 1992 Australia has imposed a compulsory superannuation scheme requiring employers to contribute to superannuation funds on behalf of their employees. It is estimated that employers contributed about $82 billion to superannuation funds in 2011, although some of this amount was made voluntarily, either under salary sacrifice schemes or in excess of the compulsory nine per cent of employees’ salary threshold.

In 2000 the commonwealth government introduced a scheme obligating individuals and families to purchase private hospital insurance, and maintain their cover or pay a Medicare Levy Surcharge at the rate of one per cent of taxable income. In 2011 approximately $10 billion was paid through health insurance funds (excluding premium rebates).

The presence of public sector budgetary deficits has significant implications for the timing of tax payments, since a budget deficit today effectively represents future increases in tax liabilities necessary to meet the budgetary shortfall. According to the ABS, the cumulative budget deficit for commonwealth, state and local government general government sectors (including multijurisdictional sector) in 2011 was estimated at about $37 billion.

Adding these three elements alone to the official taxation statistics shows that the aggregate tax burden in 2011 was equivalent to about 35 per cent of GDP, or roughly ten percentage points higher than the relevant figure cited above (Table 1). Even so, this figure arguably understates the true extent of the taxation burden as it excludes co-payments of various social services (e.g., education, health care), the provision of loans by governments, and the compliance costs of taxation.27

### Table 1: Adjusted taxation revenue as a proportion of gross domestic product, 2011

<table>
<thead>
<tr>
<th>Description</th>
<th>$ millions</th>
<th>Per cent of GDP</th>
</tr>
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<tbody>
<tr>
<td>Taxation revenue (official estimate)</td>
<td>357,917</td>
<td>25.6</td>
</tr>
<tr>
<td>plus Employers’ superannuation contributions</td>
<td>82,100</td>
<td>5.9</td>
</tr>
<tr>
<td>plus health insurance contributions</td>
<td>9,841</td>
<td>0.7</td>
</tr>
<tr>
<td>plus general government budget deficits</td>
<td>36,822</td>
<td>2.6</td>
</tr>
<tr>
<td>Taxation revenue (adjusted estimate)</td>
<td>486,680</td>
<td>34.8</td>
</tr>
</tbody>
</table>

**Source:** ABS, 2012b, c; AIHW, 2012; Greg Smith, 2007.

### 3 Expenditure measures

#### 3.1 Definition

The revenues acquired from individuals, households and businesses are dispensed by government towards maintaining a range of expenditure functions for, or on behalf of, members of the

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27 Greg Smith, Ibid.
community. The importance of this element of public sector activity is underlined by the following statement by Bastable: ‘[t]he question of the nature and amount of public outlays forms ... one of the cardinal branches of Finance.’\textsuperscript{28}

Consistent with this, a number of economists subscribe to the view that the most appropriate measure of the size of government is centred upon the level of expenditures undertaken. For example, Peacock and Wiseman hypothesised that temporary increases in government expenditure during periods of major crises, such as wars, would lead to permanently higher revenues later as the population demands the retention of the crisis-period spending:

‘[e]xpenditures which the government may have thought desirable before the disturbance, but which it did not then dare to implement, consequently become possible. At the same time, social upheavals impose new functions assumed in wartime (e.g., payments of war pensions, debt interest, reparation payments) and as the result of changes in social ideas. Wars often force the attention of governments and peoples to problems of which they were formerly less conscious – there is an “inspection effect,” which should not be underestimated.’\textsuperscript{29}

Barro suggested that an expenditure-induced government budget deficit would lead to lower private savings, as individuals expect higher taxes into the future to amortise the outstanding public indebtedness rendered by the additional current expenditure.\textsuperscript{30}

In the context of policy proposals to implement tax-and-expenditure limitations in the United States to ameliorate persistent governmental budget deficits, Friedman stated that ‘[t]he problem is not that we’re not taxing enough but that we’re spending too much.’\textsuperscript{31} Nutter also recommended the use of government expenditure on the basis that it provides a reflection of the extent to which a government possesses command over resources.\textsuperscript{32}

An important consideration when using public expenditure as a statistical measure of the size of government is that various components of expenditure simultaneously exist for various roles and functions and the fulfilment of numerous policy objectives. In turn, the various forms of government expenditure may have different, yet significant, implications for economic performance.

Economists have long acknowledged the existence of ‘public goods,’ which ‘though they may be in the highest degree advantageous to a great society, are, however, of such a nature that the profit could never repay the expense to any individual or small number of individuals, and which it therefore cannot be expected that any individual or small number of individuals should erect or maintain.’\textsuperscript{33}

Arising from the technical attributes of non-rivalry and non-excludability in consumption for public goods, it is commonly argued by economists that public goods should thus be coercively funded by

\textsuperscript{28} Bastable, op. cit, p. 38.
\textsuperscript{29} Peacock and Wiseman, 1961, p. xxxiv.
\textsuperscript{30} Barro, 1974.
\textsuperscript{31} Friedman, 1978.
\textsuperscript{32} Nutter, 1978.
\textsuperscript{33} Adam Smith, op. cit, p. 310.
government through the imposition of taxation and other revenues. The range of outputs that comprehensively satisfy the requirements of the public goods definition are relatively few in number, with national defence and law and order usually cited as cases of a reasonable approximation of a ‘pure’ public good that is, for all intents and purposes, fully non-rival and non-excludable in consumption.\(^{34}\)

In practice, most of the goods and services subject to ongoing governmental expenditure commitments have varying consumption rivalry and excludability characteristics, including as a consequence of technological advances and the deepening of private markets.\(^{35}\) These include so-called ‘merit goods,’ such as education and health care, which may be privately provided but are often subject to extensive public sector expenditure and provision due to their perceived socially desirable attributes.

By contrast to these ‘exhaustive’ expenditures, which directly absorb real resources that are otherwise used by the private sector,\(^ {36}\) governments also undertake expenditures in which cash and other resources are transferred between individuals, households or other entities typically in an attempt to redistribute incomes or achieve some other policy objective.

Further, a proportion of government expenditures are for items that are consumed and used over a limited period of time. By contrast other expenditures, known as capital expenditures, are undertaken by governments for the development and maintenance of long lived non-financial assets. These may include, for example, the construction of a road network, development of a public hospital, or the purchase of machinery and equipment in a government building.

It is possible to use official statistics on government expenditure by functional category to illuminate some of the expenditure distinctions outlined above. However the ability to robustly capture changes in expenditure by function, as is discussed below, may be compromised by occasional changes to statistical methodologies underpinning available data.

The ability to distinguish between various components of government expenditure has been aided further by the advent of national accounting standards during the twentieth century, which distinguish between government consumption expenditures, transfer payments and capital investment in non-financial assets. In addition, efforts to obtain estimates of governmental size using expenditure data should recognise the disaggregated nature of expenditures by the level of government which committed the usage of funds.

Notwithstanding the widespread use of expenditure measures in size of government indicators, the inclusion of government expenditure in estimates of GDP has been the subject of longstanding controversy among national accounting economists. A discussion of the conceptual treatment of

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\(^{34}\) A number of libertarians have challenged the notion of defence and law and order as public goods that should be subject to public sector provision, citing the possibility of private security services providing more efficient protection for community members. Molinari, [1849] 2009; Hoppe, 1999, 2003.

\(^{35}\) Foldvarya and Klein, 2003.

\(^{36}\) Tanzi and Schuknecht, 2000.
government expenditure in the national accounts, and the key issues this presents, is discussed in Appendix C.

3.2 Trends

The available data suggests that expenditure by Australian public sector entities, at the commonwealth, state and local government levels, have increased significantly in the long run.

Figure 6 illustrates trends in total expenditure relative to population size. Expressed in per capita terms nominal public expenditures rose from about $12 in 1820 to about $21 in 1900, and to about $24,000 by 2012.

Figure 6: Total expenditure per capita, Australian governments, 1820 to 2012

Data expressed in terms of current prices. Structural breaks occur in the expenditure series in 1907, 1963 and 1999. Data in Figure expressed in linear scale.


The range of activities colonial governments devoted their expenditures toward were already extensive by the mid-nineteenth century, but governments subsequently engaged in what had been famously described by Australian economic historian Noel Butlin as ‘colonial socialism,’ actively erecting public works, supporting continued immigration into Australia, and manipulating land settlements particularly in regional areas.

The colonies also increasingly subsidised education and erected schools, provided subsidies for hospitals and other health facilities, and increasingly devoted expenditures for the purposes of
promoting the welfare of the young, orphaned children and the elderly who lacked the financial means to care for their own needs.

From 1901 to the late 1930s, the commonwealth and state governments extended their range of welfare programs to counter a proliferation of perceived needs by various social groups, for example the introduction of *ad hoc* forms of food relief and other assistance to the unemployed during the Great Depression. The extension of the welfare state would continue during World War II, in the form of child endowments (1941), widows’ pensions (1942), funeral benefits for invalid and old-age pensioners (1943), and sickness and unemployment benefits (1944).

The extension in the scope of government presented by new forms of income and in-kind transfers to selected groups would help fuel the growth in commonwealth, state and local expenditure per capita from $23 in 1901 to $220 in 1945.

The amount of expenditure undertaken by Australian governments, with reference to the size of the population, has grown exponentially since the cessation of hostilities in World War II.

Despite a growing emphasis on economic reform from the 1980s, at the commonwealth level the scope of government expenditures, particularly in health and social welfare, expanded in recent decades. For example, in 1984 the Hawke government introduced Medicare, a taxpayer-financed system of health ‘insurance’ accessible to all Australians replacing the previous reliance on private health insurance supplemented by health care subsidies for low income earners.

Growth in expenditure at the state and local levels of government has also grown strongly during the post-war period, even if the model of colonial socialism that characterised nineteenth century Australian economic development had waned in its influence. This growth has been driven, in no small part, by increasing expenditures on social services funded by commonwealth government conditional grants.

Australian government expenditures have also shown a general tendency to trend increase over time when expressed as a proportion of GDP (Figure 7).

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37 There have been some notable exceptions to this rule, including the efforts of former Premiers Joh Bjelke-Petersen (Queensland), Thomas Playford (South Australia) and Eric Reece (Tasmania) in promoting private sector activity through a mix of industry subsidies and direct infrastructure provision.
Figure 7: Total expenditure as a proportion of gross domestic product, Australian governments, 1820 to 2012


From the 1820s to the 1850s, expenditures by the colonial governments were trending down as a proportion of GDP, including as the private sector gradually assumed increasingly prevalent roles in overall economic activity. In addition, the response by governments to the depression of the 1840s was to significantly reduce existing expenditures in order to maintain sustainable budgetary settings.

During the second half of the nineteenth century, total government spending increased from four per cent of GDP in 1850 to about 16 per cent in 1900. As described above, governments actively developed public infrastructures such as railways and telegraphs, and increased postal and other communication services, in efforts to support private sector development. With a deficiency of taxation and other revenues, governments extensively sought borrowings from major international financial centres to finance these additional expenditures.

Due in part to the formation of the commonwealth government in 1901, total Australian public sector expenditures continued to increase during the first half of the twentieth century, despite periodic reductions in spending during the mid-1920s and immediate period after the Great Depression.

The period during World War II coincided with a significant increase in total government expenditure, rising from about 23 per cent in 1938 to 49 per cent during the height of the conflict in
1943. A major contributing factor toward this increase was the significant expansion in military capital to sustain Australia’s war effort, as well as a raft of new social programs. The years immediately following World War II were characterised by a relative reduction in the importance of governmental activity in the Australian economy as military and other war-related expenditure commitments were reduced.

However, the momentum towards relatively smaller government was reversed during the early 1970s as a consequence of the extensive social policy programs implemented by the Whitlam government from 1972 to 1975.

In 1972, representing the fiscal year prior to the election of the Whitlam government, total Australian government expenditures represented about 27 per cent of GDP with commonwealth spending at about 19 per cent of GDP. By 1976, total public sector expenditure increased to about 33 per cent with the expenditure-to-GDP ratio of the commonwealth government at about 26 per cent. During this period state and local expenditures also increased by about three per cent of GDP.

The expenditure initiatives of the Whitlam government were not reversed in their entirety by successive governments. Successive governments from the late 1970s to the 1990s introduced additional social security benefit schemes together with new and additional spending commitments in the areas of education, health, environment, recreation and culture. These activities ensured that the amount of governmental expenditure as a proportion of GDP continued to increase, albeit at a slower rate of growth compared to the Whitlam period.

Relative to the size of the overall economy, spending by public sector entities during the first decade of the twenty-first century had declined, as the rate of expenditure growth slowed and as GDP increased substantially during the final years of a fifteen-year period of strong growth, known as the ‘Great Moderation.’

Since 2008, this trend towards a decline in the relative economic importance of governmental spending was reversed, as commonwealth, state and local public sectors engaged in Keynesian-style fiscal stimulus in an attempt to counter the economic contraction posed by the GFC.

It is possible to use available data sources to highlight trends in the composition of public sector expenditures such as, for example, investment expenditures by governments on fixed assets (Figure 8). The available data reveals a general decline in the relative importance of public sector investment expenditure, both as a share of total government spending and total investment spending, during the post-World War II period.
Figure 8: Public gross fixed capital formation as a proportion of total expenditure and total gross fixed capital formation, Australian governments, 1861 to 2012

Data expressed in terms of current prices. Structural breaks occur in the expenditure series in 1907, 1963 and 1999. Figures do not include defence expenditures.


Data is also available providing details of government expenditure classified by functional category, although inconsistencies in the classification of expenditures over time render it impossible to provide a reliably consistent time series for all kinds of spending over a particularly lengthy period of time.

Figure 9 provides detailed information on the amount of total expenditure by governments, by major functional category, from 1962. It illustrates, on the one hand, the continuing relative increases in commonwealth, state and local expenditures, as a share of GDP, towards education, health care, social security and welfare, and public order and safety and, on the other, modest declines in defence and transport expenditures.
Figure 9: Total expenditure by functional category as a proportion of gross domestic product, Australian governments, 1962 to 2012


As discussed in Appendix A, the data presented in this section is reasonably comprehensive in scope in that it incorporates expenditures by government entities not directly funded through the budget process, including government trading enterprises (GTEs) whose activities are largely funded through charges imposed on the use of goods and services provided.

Notwithstanding this, official expenditure statistics tend to understate the true level of expenditure by public sector entities. For example, governments may provide ‘tax expenditures’ that reduce the amount of tax payable by certain segments of the community. Some economists contend that tax expenditure effectively acts as a spending measure and, to some extent, is applied as substitutes for direct expenditure financed through government budgets.

The commonwealth and six state governments (excluding Tasmania and the Australian Capital Territory) provided estimates of tax expenditures in 2011. Despite the problems of a lack of consistency in the type and scope of tax expenditures quantified, the amount of tax expenditures disclosed by governments totalled about $133 billion – equivalent to about 11 per cent of GDP. The inclusion of tax expenditures to the official estimate of government expenditure would imply that total adjusted expenditure would approximate 48 per cent of GDP.

Information sourced from government budget papers and tax expenditure statements.
4 Regulatory measures

4.1 Definition

In addition to acquiring revenue to subsequently expend upon a range of functions and activities, governments influence economic activities and outcomes by imposing rules, edicts or commands (enforced by the use of penalties) that control the behaviour and conduct of individuals, firms and other economic agents within the private sector. These rules are commonly referred to as ‘regulation.’

A number of scholars have argued that a consideration of legislative activities, required to sanction the use of regulation in modern democratic polities, is an important aspect of governmental activity that requires due consideration in any analysis of government size and growth.

Economic historian Robert Higgs has pointed out that ‘high levels of governmental taxing, spending, and employment derive from but are not themselves the essence of Big Government; the essence is a wide scope of effective authority over economic decision-making. Authority comes first: no authority, then no taxing, spending, or employment. Authority arises from executive orders, statutes, court decisions, and the directives of regulatory agencies.’

Similarly, Stephen Kirchner explains that ‘[a]cts of parliament are among the most important outputs of the political process. New … government policy initiatives and programs typically require enabling legislation, so the growth in federal legislation serves as a proxy for growth in government and may capture elements of both size and scope of government.’

Since the publication of an influential study by Posner, there has been growing recognition within the economics literature that governments may substitute regulation for revenue-raising and thus rendering the apparent fiscal size of government smaller than it would have been if they chose to fulfil all of their policy objectives through revenues. As discussed more recently by Brennan and Kliemt:

‘[t]hose who are at the helm of the ship of state can pursue their aims, ends or values by means of rule fixing or by revenue raising and allocation. For them, the regulatory and fiscal options become substitutes in the pursuit of their own gubernatorial ends. To the extent that there is a relationship between imposing regulations and tax revenue foregone this will possibly put a check on regulatory activities. Vice versa, the expectation of enhanced tax revenues will provide an incentive to deregulate spheres that have been regulated or to enact beneficial GDP-enhancing, rather than harmful, regulations.’

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39 These exclude the spontaneously-ordered rules and norms as adhered to by individuals and other participants within civil society in the guise of informal regulations, such as customs, conventions and traditions, and forms of more formal self-regulatory conduct that are conducive to mutually beneficial interactions between individuals and groups without recourse to government intervention.
40 Higgs, 1987, p. 32.
41 Kirchner, 2012, p. 376.
There are a number of ways in which regulation can be categorised. They may be classified as either ‘economic’ regulations, which directly affect private sector decision-making in markets such as pricing, competition or entry and exit, or ‘social’ regulations which purport to protect broader community interests in areas including health and safety, environmental amenity and social cohesion.  

Another method by which regulations may be categorised is with respect to the legal instrument in which they are established. The more explicit forms of regulation are specified in ‘black letter’ laws such as primary and subordinate legislations, meanwhile ‘grey letter’ laws or quasi-regulations also exist including ordinances, administrative decisions or guidelines and policies.

It is notable that the extent of regulatory activity by governments is not necessarily limited to these forms of instruments, but can extend into areas of ‘quasi-regulation’ such as industry codes of practice, guidance notes, standards, industry-government co-regulatory agreements, accreditation and licensing schemes.

An important, but underappreciated, element of government regulation practiced in Australia and other countries includes moral suasion by politicians to influence the behaviour of market participants, including threats of future regulation if desired practices or standards are not adhered to. Such practices could also be construed as a form of (albeit implicit) regulation by government of private sector economic activities.

While a limited number of studies have sought to quantify the financial or economic costs of regulatory activity undertaken in Australia, the expansive nature of regulation and the indirect manner in which it affects relative prices throughout the economy has made it difficult to reliably measure these impacts on a regular or consistent basis.

Given these difficulties, analysts have been forced to resort to indirect measures of regulatory burden which may not necessarily relate to the economic consequences of regulatory edicts in force. A strategy regularly employed in the literature to establish the size of government, as reflected in regulation, is to count the amount of primary or secondary legislation passed by parliaments usually on an annual basis, and the total number of pages of all Acts passed therein (further details discussed in Appendix A).

However, certain criticisms have been levelled against the use of such a measure as a proxy for the amount and growth of regulation.

There is no necessarily unambiguous relationship between the number of pages of ‘black letter’ regulation, enacted or already in force, and the number and extent of regulatory obligations that economic agents need to comply with. This is because a legislative page count does not necessarily reveal the actual degree of prescription exuded by regulation, nor does it entail any information concerning the extent of practical enforcement of regulatory impositions.

Indeed, it is conceivable that lengthy, but well-drafted, legislation could, in some circumstances, reduce compliance burdens by clearly explaining regulatory obligations to affected parties and providing greater certainty by limiting the discretion of regulators.46

In addition, comparability of the number of pages of primary legislation passed or assented is compromised by the manner in which Acts are published. This is because publishing standards, including font size and formatting style, for legislation tend to vary by jurisdiction and, furthermore, these may change over time.47

4.2 Trends

Figure 10 illustrates the observed trend in the number of pages of primary legislation passed or assented since the first year of self-government for the colonies (except for Tasmania) and the two territories and the establishment of the commonwealth government.

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46 Productivity Commission, 2006, op. cit.
47 Mulligan and Schleifer, 2003, suggest that the estimation of the number of kilobytes of unannotated legislation may be a feasible alternative measure of the extent of the regulatory burden. While this approach would control for variations in legislative publication standards, it is not possible to pursue this approach for this study due to the existence of archive legislation for a number of states in hard-copy form only.
Notwithstanding infrequent instances in which Victoria enacted consolidated versions of existing legislation, such as corporate governance and health Acts, the commonwealth and individual state governments generally did not enact, or have passed under Royal Assent, primary legislation averaging over 1,000 pages on an annual basis prior to the 1960s.

Notwithstanding this apparent parsimony in the body of legislation, governments from the mid-nineteenth century had become increasingly active in using regulations to pursue a wide array of economic and social policy objectives.

The evolution of Australian labour market regulation is an interesting case in point. In response to the often strident, and sometimes violent, advocacy of trade unions for more favourable working conditions the colonial governments became involved in establishing legislation regulating the conduct of economic relationships between employees and employers.

The colony of Victoria established the *Supervision of Workrooms and Factories Act* in 1873, which set out minimum hours of work for women and children, as well as standards for cleanliness of working conditions in manufacturing establishments. Following an inquiry which found a lack of enforcement...
of the regulatory standards, the Victorian Solicitor-General Alfred Deakin introduced a *Factories and Shops Act* in 1885 setting even tighter limitations on the conditions of work.\(^\text{48}\)

These increases in regulations upon the labour market were insufficient to placate the demands of unions and community advocates including ‘anti-sweating leagues,’ which demanded further legislative amendments to quell manufacturing ‘sweatshops’ in which it was claimed companies exploited workers during the course of the production process.\(^\text{49}\) In response to those concerns, the Victorian government amended the *Factories and Shops Act* in 1896 to establish a regime of minimum wages and an administrative apparatus of industry-based wages boards to negotiate industrial changes.

Arguably the most durable element of the ‘Australian Settlement’ remains the stringent system of labour market regulation, the basic elements of which were established by the colonies in the nineteenth century and adopted by the commonwealth during the twentieth and twenty-first centuries.

In 1904, the commonwealth introduced the *Conciliation and Arbitration Act* establishing the institutional machinery of the commonwealth government’s formative involvement in labour market regulation. A Conciliation and Arbitration Court was afforded both arbitral and judicial powers, so that it could make an award specifying wages and conditions in settlement of an interstate dispute as well as interpret and enforce awards (including sanctions) where necessary.

Following this, and as part of a ‘New Protection’ policy plan, the Deakin federal government introduced an *Excise Tariff (Agricultural Machinery)* Act in 1906 under which an excise upon Australian manufactured agricultural machinery, at half the rate of the customs tariff, was to be imposed. The Act outlined that the excise would not be imposed upon manufacturers paying ‘fair and reasonable’ wages.

The Conciliation and Arbitration Court, presided over by Mr Justice Henry Bournes Higgins, ruled in 1907 that a Mr Hugh Victor McKay, the owner of an agricultural harvesting machinery concern, was obliged to pay his employees a ‘fair and reasonable wage’ of 42 shillings per week that guaranteed them a standard of living which was reasonable for ‘a human being in a civilised society.’ While the constitutionality of the *Excise Tariff (Agricultural Machinery)* Act was successfully challenged in the High Court, the commonwealth maintained, and indeed consolidated, its regulatory presence over the labour market.\(^\text{50}\)

The commonwealth government, during its first fifty years of existence, also formulated regulatory roles including, but not limited to, the supply of money and credit (notably extinguishing the issuance of notes by state governments and private trading banks in 1910), the regulation of financial intermediaries, corporate governance, transportation and communications, immigration, and the control over marketing and export of agricultural, natural resources and other products.

\(^{48}\) CBCS, 1925.


\(^{50}\) Plowman, 1992.
While not necessarily reflected in the flow of legislation enacted or assented, the onset of World War II in 1939 led to a substantial increase in government control over most aspects of economic production, distribution and exchange: ‘from an economic system in which private enterprise was dominant, although subject to a considerable degree of public control, we have moved into a system which, if judged by its legal framework, appears to be a planned economy, with economic freedom restricted to much narrower limits.’

The ‘octopus of control’ extended to the limitation of profits by private enterprise, the organisation of industry to sustain the war effort, rationing of consumer goods and centralised agricultural organisation. Tighter capital controls were also put in place in order to ease the ability of governments to divert resources towards their defence expenditures.

In spite of the rollback of the wartime regulatory controls encouraging renewed private sector investment and economic activity, since the 1950s there has been a general tendency by governments to significantly increase each year the number of pages of legislation enacted or assented. During the 1960s, the average annual number of pages of primary legislation passed or assented was in the order of 4,800 pages, increasing to 26,700 during the 2000s.

The post-1960s trend of growing regulation is attributable, at least in part, to government policy responses to environmental and social issues which gained political prominence. Writing during the 1990s, Australian constitutional academic Suri Ratnapala stated ‘the last two decades have witnessed the rise of a new wave of regulation with causes such as gender equity, multiculturalism, environmentalism and political correctness.’ Australian governments increasingly imposed such legislation in accordance with their acceptance of international treaty obligations.

While the objectives of economic reforms pursued by governments since the 1980s were aimed at according greater opportunities for market forces to spontaneously influence resource allocations, government tended to enact new, or reconfigure existing, economic regulations rather than abolishing them altogether.

In the areas of competition, financial and labour markets, governments invariably imposed complex legislation including on an increasingly harmonised basis between the commonwealth and states. Since 2007 the commonwealth has pursued an objective of enshrining a ‘seamless national economy’ across numerous areas of occupational licensing and business regulation, in which the states are to vest policy responsibility for ensuring harmonised regulations to the commonwealth, with the states retaining residual responsibilities of regulatory administration.

The growth in the complexity of Australian regulation is proxied by the number of pages per item of primary legislation passed or enacted each year (Figure 11). The Figure illustrates the significant increase in regulatory complexity since the 1970s.

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Figure 11: Number of pages per primary legislation, Australian commonwealth and state governments, 1824 to 2012

Data for states refer to the average number of pages per primary legislation passed or assented by all eight states and territories. Commonwealth data for 1902 refers to both 1901 and 1902.

Source: Berg, 2008; government legislation and legislation websites.

In terms of the evolution of subordinate legislation in Australia, Berg and Kirchner confirmed that subordinate legislation in the commonwealth and state broadly had paralleled the increase in total legislation observed over the past four decades. 54

There has been a paucity of information concerning the quantity of regulation imposed by urban and regional councils and shires. In a recent analysis of the amount of regulation imposed on businesses, the Productivity Commission found significant differences in the numbers of local laws administered by selected capital city local governments and the number of pages associated with those laws. 55

5 Other measures

5.1 Public sector employment

Another aspect of public sector activity is the role of government as an absorber of resources which would otherwise be available for use by private sector entities. Of particular interest to researchers is the utilisation by governments of labour resources.

54 Berg, 2008; Kirchner, 2011.
In similar fashion to the use of regulatory indicators, consideration of government employment may conveniently abstract away from the practical problems associated with any attempt to measure public sector size using fiscal variables. However there are a number of issues that need to be taken into account when determining the numbers of people employed by governments.

One factor relates to the distinction between civilian staff, largely employed within the administrative apparatus of government, and the numbers of defence force personnel for the purposes of the security of a country and engagement in conflicts overseas. In terms of the latter, a further distinction can be made between permanent defence force personnel, and civilians who enlist themselves onto defence force reserves waiting for active engagement when required.

Another key consideration is that estimates of the size of employment by governments may be influenced by the statistical coverage of the public sector more generally. As discussed by Barnard et al., potentially relevant statistical boundaries for public sector employment could range between a ‘narrow’ limit, restricted to public servants subject to public service legislation, or a broad coverage incorporating staffing numbers in all institutions for which government authority is required to approve appointments of senior personnel.\(^\text{56}\)

It could be argued that even the broader conception of public sector employment described by Barnard et al. understates the extent of influence or command by governments over labour resources in an economy.

Staff operating within the private sector may effectively produce or provide goods and services for, or on behalf of, governments as a result of contract or grant arrangements entered into with public sector agencies or other entities. As described by David Smith, ‘there are numerous private sector consultants (including many economists) working on government projects, who are only a paper transaction away from being government employees.’\(^\text{57}\) In addition to this, and as noted above, private sector entities tend to be encumbered by commonwealth, state or local government regulations, ensuring that government objectives are satisfied without recourse to explicit public funding.

As noted above, official labour market census data for the nineteenth century was categorised on the basis of occupational, rather than sectoral, status (Table 2). The available data suggests that the numbers of people employed in explicitly identified government occupations grew considerably since the early 1860s, with significant increases particularly in NSW, Victoria and South Australia.

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\(^{56}\) Barnard et al., 1977.  
\(^{57}\) David Smith 2006, p. 59-60.
Table 2: Civilian personnel working in selected public sector occupations, Australian colonies, number

<table>
<thead>
<tr>
<th></th>
<th>NSW</th>
<th>Vic</th>
<th>Qld</th>
<th>WA</th>
<th>SA</th>
<th>Tas</th>
<th>Total</th>
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<td>1861</td>
<td>1,752</td>
<td>273</td>
<td>822</td>
<td>1,010</td>
<td>3,774</td>
<td>230</td>
<td>7,861</td>
</tr>
<tr>
<td>1871</td>
<td>3,472</td>
<td>1,646</td>
<td>1,495</td>
<td>615</td>
<td>4,150</td>
<td>432</td>
<td>11,810</td>
</tr>
<tr>
<td>1881</td>
<td>5,486</td>
<td>1,401</td>
<td>1,871</td>
<td>627</td>
<td>3,995</td>
<td>483</td>
<td>13,863</td>
</tr>
<tr>
<td>1891</td>
<td>7,261</td>
<td>2,265</td>
<td>1,911</td>
<td>963</td>
<td>6,431</td>
<td>483</td>
<td>19,314</td>
</tr>
</tbody>
</table>

1861 and 1871 Census data for Victoria includes defence personnel, while data for Western Australia for both periods excludes females. 1871 Census data for Western Australia and Tasmania is for 1870.


The available data on civilian public sector employment from 1901 to 2010, classified on a sectoral basis, also reveals a general trend of increasing numbers of personnel employed by all levels of government (Figure 12).

Figure 12: Total civilian public sector employment, Australian governments, 1901 to 2012

Civilian public sector employment data from 1901 to 1949 adjusted to include public hospital and university employment by state governments.

Source: ABS, 2007, 2009b, 2010d; ABS and CBCS, various years, Year Book Australia; Barnard et al., 1977; Foster, 1996.

The growth rate of public sector employment remained reasonably stable during the pre-World War II period, notwithstanding a reduction in personnel by all levels of government of about 13 per cent between 1930 and 1932 as governments sought to reduce their expenditures in response to the Great Depression.
During World War II there was a significant increase in commonwealth civilian employment, rising from 66,700 people in 1938 to a wartime peak of 227,100 in 1943 – an increase of about 240 per cent over the period. State government employment also increased, whilst the total numbers of local government personnel declined from 52,000 people in 1938 to 41,000 people in 1943.

Governments, particularly at the commonwealth and state levels, privatised a range of public sector assets from the 1980s as part of a broader program of reforms to enhance Australia’s economic performance. This had the effect of reducing public sector employment particularly as GTEs, or selected operational functions undertaken by these entities, were divested to the private sector.

As a consequence of such initiatives, total civilian public sector employment declined from a then-record high of about 1.8 million people in 1986 to about 1.6 million a decade later. This was equivalent to a reduction in government employees by some 11 per cent. The numbers of people employed by commonwealth, state and local governments further declined to about 1.5 million by 1999.  

This trend decline had been reversed during the first decade of the twenty-first century, as Australian governments again increased their employment levels to reach a new post-Federation high of about 1.8 million people in 2012. Most of the increase has been attributed to state and local governments, whilst the overall numbers of civilian staff employed by the commonwealth had fallen slightly over the course of the decade.

It is possible to complement the above analysis by identifying changes in public sector employment as a proportion of either the total or working-age population (Figure 13).

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58 However, as indicated above in relation to the growth of regulation, governments invariably imposed additional regulations upon privatised entities to maintain, at least indirect, control of some aspects of their operations and performance.
Figure 13: Total civilian public sector employment as a proportion of total population and working-age population, 1901 to 2012

Total population data as at 31 December of each year (and December quarter from 2006 to 2011). Total working-age population data as at 30 June of each year (and June quarter from 2007 to 2011). Civilian public sector employment data from 1901 to 1949 adjusted to include public hospital and university employment by state governments.


Expressed as either a proportion of total or working-age populations, Australian civilian public sector employment increased in trend terms from the early 1930s to the 1970s. By 1986 employment by all levels of government reached a peak of about 11 per cent and 17 per cent for total population and working-age population respectively. This had been followed by considerable reductions in the public sector employment share, to eight per cent of total population and 12 per cent of the working-age population in 2010.

In addition to civilian employees, the commonwealth government since Federation has employed defence force personnel to protect Australia from external aggression and wage military campaigns in international theatres of conflict. Figure 14 provides information, where available, on the numbers of Australian permanent army, navy and air force personnel since the early twentieth century.

The data illustrates the significant escalation of defence personnel during World War II, and to a lesser extent the Korean and Vietnam wars, and the subsequent reduction in defence numbers upon the end of each military campaign. In recent years there has been a modest increase in defence...
personnel attributable to campaigns being waged in conjunction with international forces in Iraq and Afghanistan.

**Figure 14: Permanent Australian defence force personnel, 1907 to 2012**

Personnel employed by the Army National Service between 1965 and 1974 included in total. 

**Source:** ABS, 2001b; Commonwealth Department of Defence, various years, Annual Reports; McKernan, 1987.

In addition to the direct employment of civilian and non-civilian staff, governments maintain contractual relationships with non-government entities (including for-profit and not-for-profit organisations) to provide various goods and services on their behalf. These arrangements, in turn, provide opportunities for the service delivery entity to employ labour in order to fulfil their contractual obligations.

The Productivity Commission noted that not-for-profit (NFP) organisations actively provide a wide array of education, health, welfare and cultural services on behalf of governments. As a consequence of this service delivery role, in which governments ‘purchase’ selective services from NFPs, NFP organisations received public funding in the order of $26 billion in 2006-07, representing a third of total NFP revenues. 59

In addition to selective purchaser-provider arrangements with the private sector, Australian governments have also more broadly fostered the creation of subsidised and regulated ‘quasi-markets’ entailing significant service delivery functions undertaken by private sector organisations.

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An example of this was the establishment of Job Services Australia (formerly the Job Network) by the Howard commonwealth government in 1998, in which private, non-profit and government organisations were contracted by the commonwealth to provide various employment services and labour market programs, including for the unemployed.  

Australian governments have also contracted private sector entities to design, build, operate, manage and finance new economic and social infrastructure in what are commonly referred to as ‘public-private partnerships’ (PPPs). It has been estimated that 39 PPP projects totalling approximately $17 billion were contracted with private entities in Australia between 2000 and 2006, with such arrangements accounting for about five per cent of public infrastructure investment in 2006-07.

The commonwealth and state governments (except Tasmania and the Australian Capital Territory) maintain databases containing information on contractual arrangements they enter into with the private sector for the provision of a wide array of goods and services. It is estimated that, for contracts commenced between 1 July 2009 and 30 June 2010, governments expended approximately $23.4 billion on outputs from the private sector (including capital projects).

In the modern democratic state numerous individuals and organisations, irrespective of the nature of their financial relationships with government, also seek to influence governmental policies in an effort to fulfil their specific objectives.

Industry associations, formed to promote the interests of their members within a given industry, often lobby governments concerning public policies that affect the economic or financial viability of the industry concerned. According to Australian market research organisation IBISWorld, during 2012 there over 2,000 industry associations nationally employing about 27,100 people, with a significant proportion of industry association staff directly involved in representing industry concerns to commonwealth, state and local governments.

In addition, individuals or organisations may be engaged to lobby politicians and their staff, or senior public sector officials, in relation to specific policy concerns or issues on behalf of their clients. The commonwealth and the six state governments maintain a formal register of lobbyists, which indicate that 2,070 people in 840 consulting or other businesses were professionally engaged to lobby government representatives as at November 2011.

Another consequence of the growth of the Australian public sector is the emergence of a number of employees within the private sector who undertake work on behalf of their clients to manage compliance with government regulations.

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60 Julie Novak, 2003.
61 Chan et al., 2009.
62 Information sourced from commonwealth and state-territory public sector tendering websites.
63 IBISWorld, 2012.
64 Information sourced from commonwealth and state-territory lobbyist register websites.
Australian economist Alex Robson calculated the size of Australia’s ‘tax army’ – an estimate of lawyers and accountants, and Australian Taxation Office staff – whose primary task is to either assist private sector clients in managing the compliance obligations of taxation laws or administer and enforce these laws.\textsuperscript{65} Using a slight variation of Robson’s methodology, it is possible to compare the size of the ‘tax army’ against the ‘real army’ of Australian permanent army personnel (Figure 15).

\textbf{Figure 15: Australian ‘real army’ versus ‘tax army’, 2002 and 2012}

Taxation army estimated as ten per cent of total lawyers, 25 per cent of accountants and all ATO officers. Real army estimated as all permanent Australian army personnel.


Notwithstanding that the estimated size of the tax army for financial year 2010 is more than double that of Australia’s permanent armed forces, the tax army excludes those private sector businesses that play a role as effective taxation collection agents on behalf of governments, say, with respect to the GST or selective other taxes, and compulsory financial obligations such as superannuation contributions.

5.2 Government dependency

The growth of the Australian public sector has been associated with an increase in the numbers of individuals, households and other groups who depend upon government payments to provide a source, and in some instances the primary source, of income received.

\textsuperscript{65} Robson 2005.
Figure 16 provides a measure of the numbers of people directly reliant upon government payments for their primary source of income. This Figure includes civilian public sector workers and recipients of unemployment benefits and Age and Disability Support Pensions.

**Figure 16: Numbers of Australians receiving government payments, 1901 to 2011**

Civilian public sector workers and welfare recipients receiving government payments as their primary source of income. Civilian public sector workers include individuals employed by commonwealth, state and local governments. Welfare recipients comprise individuals in receipt of Age and Disability Support Pensions and unemployment benefits. Total population data as at 31 December of each year (and December quarter from 2006 to 2011).

**Source:** ABS, 2007, 2008, 2009b, 2010d, 2012a; ABS and CBCS, various years, Year Book Australia; Barnard et al., 1977; Daniels, 2006, 2009, 2011; Dickey and Suthern, 1987; Foster, 1996.

In general terms dependency on government payments steadily increased throughout the first six decades of the twentieth century, followed by a significant increase during the 1970s primarily attributable to a significant increase in unemployment as the Australian economy was affected by stagflationary pressures during that period.

Whilst the proportion of government dependents to the total population has tended to stabilise since the 1980s, it is notable that the reduction in the numbers of civilian public sector workers (attributable in part to privatisation and other public sector reforms) tended to be offset by strong growth in the numbers of people reliant upon welfare payments for their income.

The ABS State Accounts provide detailed information on the sources of incomes and payments by households in each state, enabling a comparison between the amount of income (and other current) taxes households pay and the social security payments they receive. In 2012 households in all states,
except South Australia and Tasmania, paid more on average in taxes than they received in welfare payments (Figure 17).

Figure 17: Comparison of taxes paid and welfare payments received, Australian states, 1990 to 2012

Data expressed in financial year terms. Taxes include income tax plus other current taxes on income, wealth, etc. Welfare payments include social assistance cash benefits and workers’ compensation.

Source: ABS, 2012b.

5.3 Government ministries and agencies

Insights into the changing profile of public sector size and scope in Australia can also be obtained from an analysis of the number, and responsibilities, of ministers of state and government administrative entities.

Figure 18 provides details on the numbers of ministers of state appointed by commonwealth and state governments, as determined by statutory variations to relevant legislation, since 1901.
Notwithstanding periodic statutory variations in the total numbers of ministers there was a significant increase in state government ministries from the mid-1970s to early 1980s, partly reflecting a growth in political concern at the state level with respect to social policy issues. By way of examples, during this period Victoria established an immigration and ethnic affairs ministry whilst Queensland added community and welfare services, aboriginal affairs and regional affairs to their list of ministerial responsibilities.

Statutory increases in the numbers of ministers at the commonwealth level have also occurred during the twentieth century, but tended to be less frequent than that exercised by the states, particularly in recent years. The number of ministers increased from 11 in 1939 to 19 in 1941, on account of new responsibilities in defence support and the wartime regulation of the economy, while the numbers of commonwealth ministers rose from 30 in 1999 to 42 the following year.

The National Archives of Australia maintains electronic copies of administrative arrangements orders instigated by successive commonwealth governments since 1901, providing detailed information on the number of commonwealth government departments and their functions. This information excludes the numerous agencies, boards, committees and other bodies within the portfolios of given departments.

Figure 19 illustrates the numbers of departments maintained by the commonwealth government, illustrating growth in total department numbers from Federation to the early 1970s and subsequent years.

Source: Kirchner, 2011; ABS, various years, state Year Books; ABS, various years, Year Book Australia; state government parliamentary websites.
consolidation of departments into larger entities responsible for policy and program delivery functions.

**Figure 19: Number of commonwealth government departments, 1901 to 2012**

Changes to the size of the public sector in Australia are also attributable to the number of policy decisions made by governments during a given period of time.

It is possible to derive, for the commonwealth government, a data series of the number of policy decisions made within a given financial year (Figure 20). This series comprises taxation, expenditure and capital investment budget policy decisions by the government, and is a ‘gross’ measure insofar as it incorporates increases and decreases in financial resources accompanying those decisions. It is not possible to estimate the number of policy decisions made by state and territory governments given the lack of consistent information provided in budget papers.

The number of policy decisions made each year from 2001 to 2007, corresponding with the period of the Howard government, increased significantly in trend terms. Under the Rudd and Gillard governments there has been considerable variation in policy decisions on an annual basis, albeit without a return to pre-2001 levels. It is also notable that the Rudd government made a twenty-first century high of about 1,420 decisions in a 2009 financial year highlighted by the GFC.

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66 The data presented here varies from a paper prepared by Commonwealth Treasury officials in 2008. The Treasury paper excluded efficiency improvements in departments, compliance measures and indirect savings. See Laurie and McDonald, 2008. It is not possible to estimate the number of policy decisions made by state and territory governments given the lack of consistent information provided in budget papers.
6 Conclusion

While the information presented is largely of an indicative nature only, this paper nonetheless provides the most comprehensive account, to date, of various measures of public sector size in Australia. In a number of instances, the data presented in this chapter have been derived from primary information sources and, in others, statistical deficiencies or data gaps have been addressed through the use of alternative secondary sources of information.

Despite the pervasive role of governments and the implied influence of their interventions in shaping economic outcomes, the task of measuring the size of the public sector remains the subject of intense debate in the economics literature. In part, these controversies are derived from the inherent difficulties associated with reducing governmental activity into a quantifiable, yet empirically tractable, form.

These difficulties are as apparent for Australia as they are for other countries. At the outset, the Australian public sector is structured such that three levels of government – the commonwealth, state and territory, and local governments – simultaneously undertake the roles, functions and activities of the public sector as a whole.
Adding to the complications of accurately measuring the size of government is that a number of roles have been assigned to it over a lengthy period of time. In summary, the public sector allocates and redistributes economic resources, produces and provides goods and services, employs resources, owns assets, controls institutions, borrows funds, attempts to stabilise economic fluctuations, and regulates the conduct of businesses and individuals. Further, measures of government size are compromised by changes in the roles and functions of governments over the long run.

Measuring the size of government in the long run is hampered by practical issues concerning the availability and quality of data. For example, according to Kirchner ‘historical data on Australian public finances are of poor quality and subject to numerous methodological breaks that make meaningful comparisons over time difficult.’

More generally concerns about the conceptual validity of conventional measurements of public sector size have been canvassed, with some economists suggesting that measures of government size should ideally account for the effect of interventions upon changes in relative prices.

While available data to quantify changes in the size and growth of governments are subject to consistency, data quality and other statistical and methodological caveats, the choice has been made in this paper to present the available information on a ‘warts and all’ basis with some statistical adjustments made where applicable.

The clear suggestion that can be drawn from the available measures is that governments in Australia have grown in size over the long run and especially since the second half of the twentieth century.

If projections provided by official and non-official sources are of any guide, it is likely that the relative size of the Australian public sector will continue to grow in the absence of policy correctives. To a not insignificant degree these prospective trends will be informed by structural ageing of the population, particularly affecting the levels of social and welfare expenditures to be committed by governments at all levels.

Various proxy measures of the size of government have been applied by researchers in numerous empirical studies over the past three decades and, with the aid of improvements in empirical techniques, have been shown to identify a robust, but negative, statistical association between governmental size and economic performance. To the extent that such findings translate to Australia, and indeed they are highly likely to do so, it is imperative that the general public carefully and critically scrutinise policy proposals which will effectively extend relative public sector size,

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68 Kirchner, 2011, p. 3.
69 Brennan and Pincus, 1983.
71 For a contemporary discussion of the key issues in the empirical estimation of relationships between government size and economic performance, see Bergh and Henrekson, 2010.
especially with regard to their potential impacts on material living standards for themselves, their children and grandchildren.
Appendix A: Summary of statistics and data sources for selected government size measures

A.1 Revenue and taxation

Revenue data from calendar year 1820 to financial year 1982 was drawn from a compilation of statistics published in recognition of Australia’s bicentenary in 1988.\textsuperscript{72}

From calendar year 1820 to financial year 1900 the six colonial governments, and local government instrumentalities contained therein, raised all of the government revenue collected in Australia. All calendar year data was converted into financial year data by taking the average of the relevant two calendar years. From financial year 1901 commonwealth consolidated revenue fund receipts were added to derive figures for total revenue of all Australian governments. Data was presented in calendar year terms from 1802 to 1849 inclusive, and in financial year terms thereafter.

The early colonial data is somewhat unreliable with, for instance, revenue data missing in some years, while Barnard indicates there is a break in the series between 1906 and 1907 although the nature of this statistical break is unspecified.\textsuperscript{73}

The data prior to 1963 relate only to the budget transactions of governments as specifically authorised by parliaments or local government authorities. In effect, these ‘current revenues’ exclude revenues acquired by semi-governmental authorities or through special accounts under treasurers’ control.\textsuperscript{74} This reflects the manner in which the former Commonwealth Bureau of Census and Statistics (CBCS) collected government financial data during this period.

The data for commonwealth and state-local revenue to 1962 also excludes the proceeds of long-term borrowings. Another feature of the revenue data from 1901 to 1962, inclusive, is that it excludes ‘unrequited’ intergovernmental financial transfers between levels of government affecting recipients’ consolidated revenue or loan funds.\textsuperscript{75}

A structural break appears in the revenue data from 1963 due to substantial revisions in data collection methodology by the ABS. From this point, transactions for all public authorities of each government are recorded on an integrated basis, with no distinctions made between current and loan funds, in an effort to eliminate double-counting. Intergovernmental transfers, other than for goods and services, between all funds are netted out from the total revenue figure from 1963.\textsuperscript{76}

\textsuperscript{72} Barnard, 1987; Noel Butlin et al., 1987.
\textsuperscript{73} Barnard, 1986. For a general discussion of the difficulties of early NSW colonial governments in tendering official statistical returns see Forster, 1985.
\textsuperscript{74} Barnard, 1985; Vamplew, 1987.
\textsuperscript{75} Barnard, ibid.
\textsuperscript{76} Barnard, 1987, op. cit.
In addition the data from 1963 are prepared on a national accounting basis, with changing classifications of sources of funds including the treatment of surpluses of government trading enterprises.\(^{77}\)

From 1983 to 1995, data for commonwealth and state-local non-financial public sector revenue was supplied by an online historical statistics database maintained by the Reserve Bank of Australia, with information, in turn, drawn from ABS government finance statistics (GFS).\(^{78}\)

The non-financial public sector is defined in the Foster series as the general government sector (including central borrowing authorities) plus government trading enterprises. Revenues raised by other financial enterprises operated by the government are excluded from the series from 1963 to 1995.\(^{79}\)

From 1996 to 2010, total revenue data for the non-financial public sector (including the ‘multi-jurisdictional’ sector comprising mainly universities) were obtained from the published ABS GFS series.\(^{80}\) The public sector coverage of the data for this period of time is similar to that presented by Foster.

It should be noted that, since 1996, the ABS has separately classified the multi-jurisdictional sector alongside commonwealth, state and local governments. Previously the financial transactions undertaken by this sector were incorporated within state and local general government sector statistical classifications.\(^{81}\)

This classification change implies that, while revenues acquired by the multi-jurisdictional sector remain incorporated in total revenue across the time series, the amount of revenue collected by state and local government appears smaller from 1997 as a consequence of the exclusion of multi-jurisdictional sector revenues from the state-local figures.

The introduction of accrual accounting of government financial statistics from 1998-99 presents another structural break compared with previous data constructed using cash accounting methods.

While it may be possible to use the supplementary GFS cash flow data subsequently presented by the ABS to correct for the structural break, important disaggregated revenue and taxation data are unavailable on a cash accounting basis. In light of this, the approach taken in this paper is to utilise the accrual accounts even though this presents another structural break in the time series data.

Finally, the sum of commonwealth, state and local revenues do not necessarily equal the separately calculated figures for total revenue, due in part to transfers within the respective public sectors.\(^{82}\)

\(^{77}\) Barnard, 1985, op. cit.
\(^{78}\) Foster, 1996.
\(^{79}\) Ibid, p. 70.
\(^{81}\) ABS, 1998, Ibid.
\(^{82}\) There may also be statistical adjustments or errors not accounted for or corrected in the time series presented in the data sources.
This adds a further level of complexity with regard to the interpretation of the time series data presented.

Data on the amount of taxation revenue acquired by Australian governments were derived from similar sources as for total revenue, with an exception for the period 1820 to 1849 in which calendar year data for New South Wales and Van Diemen’s Land (Tasmania) were drawn from a working paper prepared by Noel Butlin and others.\(^{83}\) There were no separately identified taxation revenue data for Western Australia and South Australia, and thus tax collections in these two jurisdictions are subsumed within the total revenue data referred to above.

Barnard represents the major secondary source of taxation revenue data for the period spanning the financial years 1850 to 1982, with taxation including collections credited to consolidated revenue funds as well as credits to special funds in the form of ‘earmarked’ taxes. The structural breaks that applied to the total revenue data series also apply to the tax data series.

An important issue relates to the treatment of regulatory fees and fines in the estimation of aggregate taxation revenue. From 1963 to 1982 taxation excludes fees, fines and some miscellaneous taxes.\(^{84}\) However the series provided by Foster from 1983 to 1995 provided a combined figure for taxes, fees and fines. In effect the Foster series slightly overstates the amount of taxation raised by commonwealth, state and local governments.

The ABS data series for 1996 and 1997 also included fees and fines, however from 1998 all fines were reclassified as ‘other current revenue’ whereas fines were reclassified in the following manner:

‘[g]overnments may regulate certain activities by issuing licenses for which fees are payable. If the issue of such licenses involves little or no work by the government then the revenues raised are deemed to be taxation revenue. However, if the government uses the issue of licenses to exercise some regulatory function, such as checking the competency or qualifications of a would-be licensee, then the revenues raised are deemed to be revenues from the sale of services by government unless they are clearly out of all proportion to the costs of providing the services.’\(^{85}\)

While the differences in methodology concerning the treatment of fees and fines across the sources used in this chapter poses another level of inconsistency for the time series of taxation revenue data, a lack of precision in the time series classification of revenue data prevents further adjustments to the historical series in order to provide greater data consistency.

It is possible to provide a detailed breakdown of Australian taxation by level of government and type of tax instrument used by governments. Further details are provided within the main body of this paper.

\(^{83}\) Whereas Noel Butlin et. al., 1986, provide a disaggregated revenue series that allows for the identification of taxation revenue (mainly customs, excises and taxes on sales of goods), total revenue figures were instead drawn from the subsequent contribution by these authors in the edited Vamplew compilation of Australian economic statistics.

\(^{84}\) Barnard, 1986, op. cit. It is unclear if, or to what extent, revenue from fees and fines were removed from the taxation data prior to 1963.

\(^{85}\) ABS, 2005.
Finally, it should be reiterated that annual data for Australian government revenue and taxation has not been compiled on a consistent basis of time. In general terms, but with some exceptions at the state and local levels, data were compiled on a calendar year basis (i.e., year ended 31 December) during the nineteenth century, whereas data during the twentieth and twenty-first centuries were collected on a financial year basis (i.e., year ended 30 June).

Due to the fragmentary nature of data collection during the early colonial period, and later during the First and Second World Wars, revenue and taxation data for some years only refer to a portion of a year or, in others, for a longer period of time (for example, eighteen months). This may have implications for the comparability of the time series statistics.

A.2 Expenditure

During the early 1800s, the NSW colonial government gradually developed sophisticated public financial management systems, whereby expenditure was channelled through specific funds for earmarked purposes such as the maintenance of gaols and police services. Aggregate public expenditure gradually increased as new colonies were established in Van Diemen’s Land (Tasmania), Western Australia and South Australia.

Data for the calendar years 1820 to 1849 (converted into financial year data by taking the average of the relevant two calendar years) were derived from the works of Australian economic historian Noel Butlin. However, it appears to be generally agreed that these early colonial public finance estimates, at least up to the late 1810s or even in some circumstances beyond that period, should ‘be treated with a good deal of suspicion.’ In particular discrepancies between official estimates, including on the matter of bills drawn in the colonies and honoured by the British Treasury, allude to potential problems of double-counting within the available data sources.

Data for total expenditure by all levels of government on a financial year basis from 1850 to 1982, albeit with state and local government data missing in various years, are provided by statistical compilations prepared by economic historian Alan Barnard.

Until 1962, expenditures only refer to those recorded within, or between, consolidated revenue or loan funds as authorised by parliaments or local government authorities. Throughout the Barnard series commonwealth payments to or for the states are excluded from the total expenditure figures presented.

From 1963, expenditures provided by Barnard were devised on a national accounting basis, and include data on net spending by all authorities (including semi-government entities) pertaining to each level of government.

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87 Noel Butlin 1994, p. 61.
89 Barnard, 1986, Ibid.
From 1983 to 1995, ABS data on outlays by the general government sector and non-financial sector GTEs, as reported by Foster, are included in the expenditure time series. 90 From 1996 ABS government finance statistics data on spending by the non-financial public sector, including on an accrual accounting basis from 1999, are used to complete the time series into the first decade of the twenty-first century. 91 Aggregate government expenditures used in the constructed series included recurrent spending on goods and services and transfer payments to individuals, and gross fixed capital formation.

In a similar fashion concerning revenue statistics, the ABS separately classified the multi-jurisdictional sector (mainly comprising universities) alongside the commonwealth, state and local public sectors since financial year 1996. Whilst spending by the multi-jurisdictional sector remain included within total expenditure, the amount of expenditure attributable to the state-local public sector appears smaller due to the separation of spending undertaken by multi-jurisdictional sectoral entities.

A.3 Regulation

Recent analyses of the amount of regulation imposed by Australian governments, most notably Berg and Kirchner, 92 has drawn from commonwealth and state legislation websites which provide information about the amount of primary legislation passed or assented during each calendar year, and the average number of pages for each legislative item.

This chapter augments these earlier analyses by updating data on the number of pages of legislation passed or assented to 2012, as well as including archived data relating to the numbers of pages legislation passed by each colonial legislature from the period of self-government within each jurisdiction respectively. Excluded from this data series are information on the amount of imperial legislation in force from European settlement in 1788 until the twentieth century.

Data on the number of pages of primary legislation for the commonwealth since 1901, and the six state governments from the 1950s or 1960s until the late 2000s, was provided by Chris Berg. For this paper, data for the states was subsequently updated to 2012 drawing upon state legislation websites while information concerning the two territories (pertaining to their periods of self-government) was collected from various sources.

Information was also backdated to the greatest extent possible. The historical coverage of the legislation websites varies across jurisdictions, necessitating that the requisite information also be drawn from available library or other archives.

Information for Queensland and Tasmania prior to the 1960s, and that for the Northern Territory prior to 2005, was manually calculated drawing upon hard-copies of available legislation (comprising months of tabulation work). For some years information providing details of all legislation passed or assented was unavailable.

90 Foster, 1996, op. cit.
92 Berg, 2008; Kirchner, 2012.
The legislation subject to the page counting process included new Acts passed or assented in each year, as well as amendments to existing legislation and consolidated Acts (given the likelihood that consolidated legislation would contain both old and new regulatory provisions). Consideration of these forms of primary legislation contributes to the observed variations in the number of pages counted on an annual basis.

Information was also acquired from these sources with regard to the number of Acts of Parliament passed or assented each year, which is used in this paper to provide time series statistical information about the number of pages per item of primary legislation passed or assented.

A.4 Public sector employment

The availability of civilian public sector employment data during the colonial era is relatively sparse and subject to intercolonial variation in reporting methods.

In 1861, and roughly every ten years thereafter until Federation, the six colonies undertook census surveys of the demographic, social and economic characteristics of their populations. The data collected included information of the number of people employed by various occupational classifications. This was drawn from the Historical Census and Colonial Data Archive, an online portal of census publications and reports maintained by the Australian National University.93

The colonial era data reported in this section were restricted to persons employed under general government occupations, and other clearly identified public sector occupations such as policing and justice. However this understates the total numbers of people employed by the colonial public sectors, to the extent that personnel worked under generic occupations fully funded or partially subsidised by governments which were not explicitly identified in the census reports.

By contrast, employment data for the twentieth and twenty-first centuries are reported on a sectoral basis, more effectively capturing public sector employment of people working within various government trading enterprises (GTEs). Barnard et al. provided a comprehensive time series of public sector employment estimates for commonwealth, state and local governments from Federation, as at 30 June of each year as far as practicable.94 The coverage of data provided by these authors is reasonably comprehensive, as it included all staff subject to government appointment including in a range of GTEs.

Notwithstanding a number of limitations concerning data availability and time period applicable to data elements in the series, a shortcoming of the Barnard series is that it excluded public hospital and university employment. To correct for the exclusion of these types of employment attributable to state governments, data on employment in public hospitals and university teaching and

94 Barnard et al., 1977.
professional staff, derived from the CBCS/ABS ‘Year Book Australia’ series, are included back into the Barnard series.95

From 1950 to 1994, data on commonwealth, state and local employment was sourced from Foster’s compilation of Australian historical data published by the Reserve Bank of Australia.96 From 1995 public employment data was sourced directly from the ABS.97 The data sources include total civilian employment by governments, including in public hospitals and tertiary education institutions.

95 This data is in itself affected by variations in coverage over time. Hospital employment data initially covered government as well as other hospitals available to the general public, whilst university employment initially included professorial and lecturing staff only. This coverage was gradually altered so as to incorporate employment in government funded and managed public hospitals and all teaching and professional (excluding administrative) university staffing.
96 Foster, 1996.
Appendix B: The effect of alternative income measures on government size fiscal indicators

Although there are numerous issues concerning the validity of deflating fiscal measures of government size by gross domestic product (GDP), including the fact that fluctuations in the business cycle can affect revenue collections (and government spending) as well as private sector components of GDP, there is a view expressed by some economists that GDP at factor cost is a preferred variant of national income measures that should be used when comparing public sector fiscal indicators against the prevailing level of economic activity.98

One reason for this is that changes in estimates of GDP at market prices are sensitive to changes in the tax mix imposed by policymakers. An increase in reliance upon indirect taxes on goods and services flowing through to final prices as paid by consumers can lead, ceteris paribus, to an increase in market price-GDP, even if underlying output has not changed. By contrast, GDP at factor cost excludes indirect taxes, and government subsidies which may reduce market prices, from the estimation framework.

The following Table provides a hypothetical example as to how the mix of indirect taxes and subsidies could affect GDP estimates, and assessments of the relative size of government.

Table B.1: Distinction between GDP at market prices and GDP at factor cost

<table>
<thead>
<tr>
<th></th>
<th>Jurisdiction A</th>
<th>Jurisdiction B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total taxation ($b)</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Direct taxation ($b)</td>
<td>10</td>
<td>90</td>
</tr>
<tr>
<td>Indirect taxation ($b)</td>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>Public sector expenditure ($b)</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Subsidies ($b)</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>GDP at factor cost ($b)</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>GDP at market prices ($b)</td>
<td>270</td>
<td>180</td>
</tr>
<tr>
<td>Total taxation / public sector expenditure as share of GDP (at factor cost) (per cent)</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Total taxation / public sector expenditure as share of GDP (at market prices) (per cent)</td>
<td>37</td>
<td>56</td>
</tr>
</tbody>
</table>

GDP at market prices defined as GDP at factor cost plus indirect taxes less subsidies.


From 1820 to 1860, calendar year estimates of GDP at factor cost are derived by grossing up estimates of the value of selective industrial activities including pastoral, mining, manufacturing, public services and construction, personal and other services and imputed housing rents. From 1861 to 1939, a similar approach to GDP estimation is undertaken albeit with more detailed factor cost estimates spanning a wider range of industries.99

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From 1939 to 1949, estimates by the CBCS of ‘national income,’ reflecting a summation of factor returns but excluding taxes and subsidies and depreciation, are incorporated in the series used in this paper, 100 whereas from 1950 to 1959 estimates of GDP at factor cost published by the RBA are used. 101

From 1960 time series estimates approximating GDP at factor cost (labelled as ‘total factor income,’ or the sum of compensation of employees, gross operating surplus and gross mixed income) were sourced from the latest edition of the ABS compilation of national accounts, providing estimates on a consistent methodological basis. 102

Figure B.1 compares the public sector expenditure-to-GDP ratio using GDP at market prices (as used in the main body of this paper) and GDP at factor cost. In general terms estimates for the size of government using GDP at market prices tend to consistently understate the alternative GDP factor cost estimates by a few percentage points, with much larger variations exhibited during the first half of the twentieth century.

100 Noel Butlin, 1987, Ibid.
101 Foster, 1996.
102 ABS, 2012b.
Figure B.1: Total expenditure as a proportion of gross domestic product, Australian governments, 1820 to 2012


Appendix C: National accounting treatment of public expenditures

The treatment of government expenditures in national accounting frameworks has represented a contentious issue, at least since the earliest manifestations of national accounts produced by government statistical agencies from the early to mid-twentieth century.

While there remains debate about the extent to which GDP may be regarded as a measure of welfare,\textsuperscript{103} GDP is conventionally recognised as an aggregate measure of the market value of final goods and services produced within an economy during a given time period. As noted by Stiglitz et al. the aggregation of final outputs using market prices is important since market prices are assumed to reflect marginal valuations by individuals concerning the outputs produced.\textsuperscript{104}

However the extensive provision of largely non-marketed goods and services by governments, which are invariably provided to consumers at zero or subsidised cost, in modern economies poses numerous challenges to the conceptual and empirical integrity of GDP as conventionally measured.

The prevailing view is that spending on outputs by public sector entities represents an addition to national output and should thus be incorporated into various measures of GDP. While recognising that transfer payments, such as old-age pensions, should be excluded to avoid double counting of expenditures, John and Ursula Hicks argued that remaining expenditures by governments should be included in the GDP measure:

‘[t]he protection of life and limb is presumably a part of final output, so is the use of the roads for pleasure purposes. How do we draw the line between the value of these services and the value of those services which ought to be deducted? The division seems to be entirely arbitrary. Consequently, if we want to measure something and not arrive at a figure for the national income which is what it is just because we say it is, it seems better to disregard this productive utilisation of public services, and to regard them (by definition) as being reckoned entirely into final output.’\textsuperscript{105}

In support of the contention that government outputs should be valued at factor costs, Hicks stated that ‘unless we have any reason to suppose that the public services are produced under diminishing costs, we can take their average costs of production as a rough estimate (a lower limit) of their marginal utilities. The public services should thus be valued at cost.’\textsuperscript{106}

Similarly, Colm suggested that ‘money valuations do not have the same significance in the various sectors of the social product. In the exchange sector they are determined by prices that represent the supply-demand relationship. In the realm of public activity they are determined by costs. Here we assume that the political bodies that appropriate the money consider government services at least worth their cost.’\textsuperscript{107}

\textsuperscript{103} Nordhaus and Tobin, 1972; Waring, 1988.
\textsuperscript{104} Stiglitz et al., 2009.
\textsuperscript{105} Hicks and Hicks 1939, p. 150.
\textsuperscript{106} Hicks 1940, p. 116.
\textsuperscript{107} Colm 1937, p. 184.
The US Department of Commerce was an early adopter of national income accounting estimates, and had consistently included government expenditures at cost within their measurements. This approach was undertaken on the basis that the purchases of goods and services could be constructed as final purchases:

‘individuals, non-profit institutions serving individuals, and general government are ultimate buyers in the sense that they do not buy for resale in the market. Accordingly, their purchases are not elements of cost in the value of other output produced for the market. Hence there is a presumption that their purchases should be regarded as final products in any measure which purports to give a complete accounting of the entire output of the nation.’

Further, this view rested on the presumption that consumers elected to obtain certain goods and services through collective rather than private action, and that funded government services typically cannot be resold.

The inclusion of government expenditures in GDP is also supported by some economists in that its inclusion would provide for a comprehensive indicator of economic activity, enabling policymakers to more effectively engage in macroeconomic management.

Since the emergence of Keynesian demand-deficiency theories from the 1930s, the conventional view in macroeconomic theory and policy is that any reductions in private sector consumption, investment and net exports (all measured at market prices) should be offset by increases in government expenditure (measured at factor cost) to maintain macroeconomic stability. This argument implies, inter alia, that government outputs not only affect economic performance in exactly the same way as privately provided goods but that factor cost evaluation is analogous to a market price evaluation under competitive conditions.

In contrast to such views, a number of economists have propounded the alternative suggestion that governmental expenditures should instead be excluded from the estimation of national output.

In a critical review of national income statistics produced by the United States National Bureau of Economic Research, Paton stated ‘[t]he treatment of government as an industry adding to national income seems ... to be essentially unreasonable. The value of the service of government in a broad sense is of course incalculable; but to assume that payments made by the government (in its various branches) as wages, salaries, pensions, and interest measure the value product of government is quite fantastic. Government is not a “source of production” (except in so far as the state enters into industrial activity). It is rather an agency which directs the expenditure of a considerable part of the income originating in the various branches of industry. That is, through the tax power the state effects a partial redistribution of income.’

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108 Gilbert et al., 1948, p. 183.
110 Paton, 1923, p. 806.
One of the leading figures in the development of national income accounting during the twentieth century, Simon Kuznets, initially perceived most government outputs as being intermediate inputs used by the private sector and thus should not be included in GDP measures, which seek to quantify the aggregate market values of final outputs produced. In critiquing national accounts methodology prepared by the United States Department of Commerce implying that most government purchases should be classified as final outputs for inclusion in GDP, Kuznets stated:

‘[a]t all times a major proportion of government activity is devoted not to the provision of services to ultimate consumers (education, health, etc.), but either to services to business (all types of economic legislation, administration, and adjudication) or to the maintenance of internal peace of external security. The latter is not a direct service to consumers: it is rather an antecedent and indispensable cost of maintaining society at large – a condition of economic production rather than an activity directly yielding final economic goods.’

Therefore classifying intermediate outputs provided by governments in national output aggregates would, according to Kuznets, entail a process of duplication that is unwarranted from a methodological standpoint.

In any case, complications arose when attempting to impute an appropriate value for government goods and services for inclusion in national accounts:

‘[h]aving identified the final product of governmental activity we find difficulty in valuing a large part of it – direct services to individuals – in a way comparable to privately produced services. For the latter, market prices to ultimate purchasers are a determining factor in individuals' choices. For public services no such yardstick is available. We know what they cost the government; we do not know what they are worth to the individuals who consume them.’

Kuznets nominated an exception to this treatment of government expenditures under circumstances in which a nation is in a state of war, as was the case for Western countries during World War II. During such a period all economic activities, regardless of the sector in which they are undertaken, may be presumed to become subordinate to national efforts for survival and war effort success:

‘most government activities are designed to preserve and maintain the basic social framework and are thus a species of repair and maintenance which cannot in and of itself produce net economic returns. Yet at certain junctures in the life of a country, e.g. in times of a crucial war, this interpretation may seem inadequate: it suggests the subordination of a life and death struggle to the flow of goods to individuals, and thus denies that at such times individuals’ current welfare may be less important than survival of the social framework. The argument would lead toward temporary recognition of success in war and preservation of a country’s social framework as a purpose at least equal in importance to welfare of individuals. The result would be to recognize all goods flowing into the armed conflict as final products; and to include in national income not only consumers’ outlay and net output of government ... , but also all expenditures of government on war purposes.’

111 Kuznets, 1948a, p. 156.
112 Kuznets, 1948b, p. 11.
114 Kuznets, 1951, p. 184.
Buchanan and Forte endorsed Kuznets' general position that funding for, and provision of, public sector services which are not subject to direct consumer charges should be excluded from national accounts to avoid the quantitative overestimation of aggregate output. This includes instances in which the supply of publicly provided goods is constrained for whatever reason:

‘[t]he legitimacy of extending the exclusion even to these cases can, perhaps, best be shown by analogy. There are many “free” goods in nature that are strictly limited in supply. The sun shines only four hours per day on the average in some communities; clearly, “welfare” could be increased by more sunshine. But no effort is made to place a positive value on sunshine because no market transaction can produce more of the output. Instead, we assume implicitly that the adjustment processes of the economy act as to take the differential availability of such “free” goods into account. Publicly supplied but limited goods and services seem no different. If the individual secures the enjoyment of these goods without direct charge and cannot resell them through some sort of a market transaction, no value should be included in national output estimates.’\textsuperscript{115}

The American economist Randall Holcombe supported the proposition that government output should be excluded from GDP: ‘[t]he first reason is that national income accounting conventions value private sector output at its market value, and if government output is valued using the same standard, it should also be included at its market value, which is zero. The second reason is that government output is almost always an intermediate good, and intermediate goods are not included in GDP.’\textsuperscript{116}

A significant implication of the inclusion of public sector spending in national income accounts, according to Holcombe, is that it generates a bias in public policy favouring a larger size of government. This is because increasing government expenditures, effectively treated as final outputs and counted at factor cost, will lead to an increase in GDP, even if the rising public spending and the coercive means of financing it displaces productive private sector activities.

Cowen conveys a similar objection to the conventional treatment of governmental expenditures in national accounts:

‘when it comes to national income accounting, and measuring GDP, we are valuing every one of these different expenditures at $1. In our measurements, we are assuming that the quality, importance, and efficacy of government stays constant as the size of government grows. ... The larger the role of government in the economy, the more the published figures for GDP growth are overstating improvements in our living standard.’\textsuperscript{117}

A number of economists have attempted to resolve the problems posed here through the simple means of excluding government expenditures from the national accounts. In the Australian context Wolfgang Kasper removed public administration, defence and community services from the official GDP statistics to produce a time series for ‘private domestic product’ (PDP), showing that PDP had been growing below trend during the mid-1980s.\textsuperscript{118}

\textsuperscript{115} Buchanan and Forte, 1961, p. 116.
\textsuperscript{116} Holcombe, 2004b, p. 394.
\textsuperscript{117} Cowen, 2011, p. 26, 28.
\textsuperscript{118} Kasper, 1986.
More recently, the American economist Robert Higgs removed government purchases from US real GDP to derive a ‘gross domestic private product’ (GDPP) series. ¹¹⁹ This alternative series illustrated that US GDPP has been effectively static since the GFC.

A number of libertarians, most notably Murray Rothbard, have attempted to provide alternative measures of aggregate output that depict governmental activities as harmful detractions from productive economic activities undertaken by the private sector:

‘[s]pending only measures value of output in the private economy because that spending is voluntary for services rendered. In government, the situation is entirely different: government acquires its money by coercion, and its spending has no necessary relation to the services that it might be providing to the private sector. There is no way, in fact, to gauge these services. Furthermore, every government-conscripted dollar deprives the citizen of expenditures he would rather have made. It is therefore far more realistic to make the opposite assumption, ... that all government spending is a clear deprivation upon, rather than an addition to, private product and private output.’¹²⁰

Consistent with this view, Rothbard provides an alternative income accounting methodology that derives a measure of ‘private product remaining in private hands’ (PPR), by deducting both ‘income originating’ within all government entities as well as the ‘depreations’ of total government expenditures or revenue receipts (whichever is higher) from official estimates of GDP at market prices (including taxes less subsidies).

Figure C.1 provides an adaptation of Rothbard’s methodology for Australia using the historical national accounts series provided by the ABS. The level of PPR is significantly lower than of GDP between financial years 1960 and 2012, with the proportion of PPR to GDP declining from 70 per cent to 61 per cent over the period. This finding suggests that the relative burdens exerted by government depredations upon the private sector have increased over time.

¹¹⁹ Higgs, 2012.
¹²⁰ Rothbard 1975, p. 296.
Figure C.1: Measures of national output including and excluding ‘government depredations’, 1960 to 2012

Data expressed in terms of current prices. ‘Gross private product’ (GPP) defined as GDP less gross operating surpluses of general government and government trading enterprises. ‘Private product remaining with producers’ defined as GPP less ‘government depredations’ (total government expenditure or revenue plus interest received, whichever is higher). Series excludes incomes payable by public non-financial corporations.

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