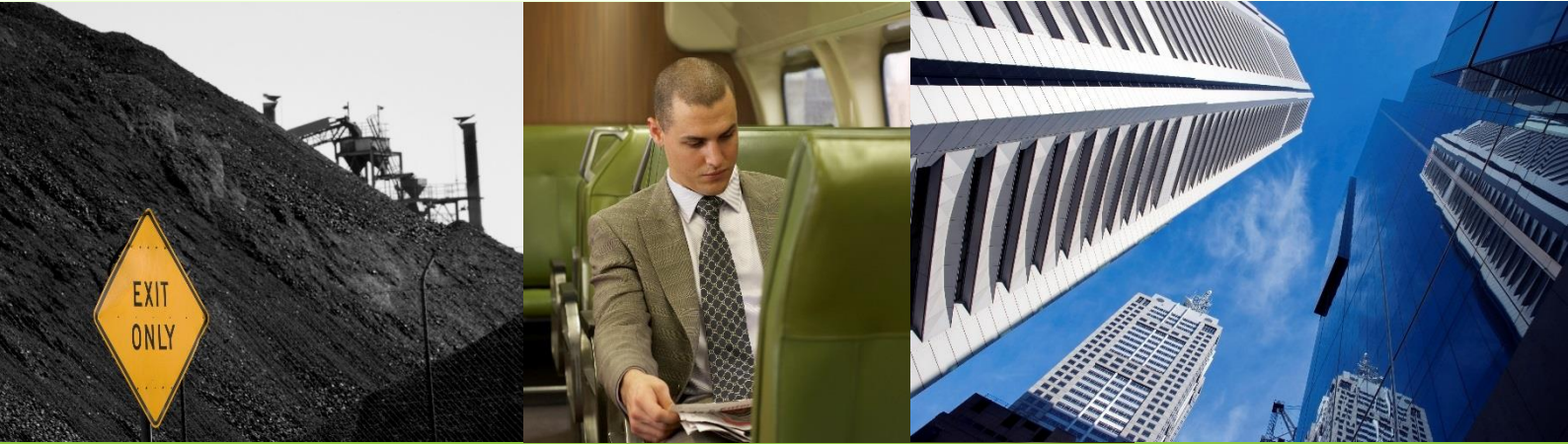


# Australian Cities Accounts

2012-13



February 2014



Independent insight.



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# PREFACE

## 1.1 About SGS Economics and Planning

SGS Economics and Planning is a member-governed college of professionals that exists to shape policy and investment decisions in favour of sustainable urban and regional development. Our vision is to be Australia's premier independent advisory firm in this field.

As a college of professionals, SGS Economics and Planning aspires to continuously learn and create new knowledge, to constructively contribute to policy debate and to offer real solutions to urban and regional issues. SGS Economics and Planning is independent, honest, thoughtful and innovative, committed to the public interest and committed to sustainability.

SGS Economics and Planning actively encourages greater understanding and debate on major public policy issues through a variety of educational and information channels. These include, regular free seminars on topical issues and the publication of our quarterly bulletin (Urbecon) and occasional research papers.

## 1.2 About this publication

Australian cities are orphans. Responsibilities for management of their economy (in terms of taxation, planning, infrastructure provision, regulation and economic development) falls between all tiers of government. Official statistics tend not to recognise the importance of cities, with economic data not published at that level, or when published are given a secondary importance. This is despite the fact that even during the mineral exploration boom, Australian cities have provided the bulk of growth in Australia's prosperity.

For the past five years SGS Economics & Planning have produced estimates of Gross domestic product for each major capital city and region across Australia. This is the third year the estimates have been published in this format. Our research into understanding the distribution of economic growth has filled a key void in economic policy.

For further information about the statistics contained within this publication please contact Mr Terry Rawnsley via email [Terry.Rawnsley@sgsep.com.au](mailto:Terry.Rawnsley@sgsep.com.au) or +61 3 8616 0331.

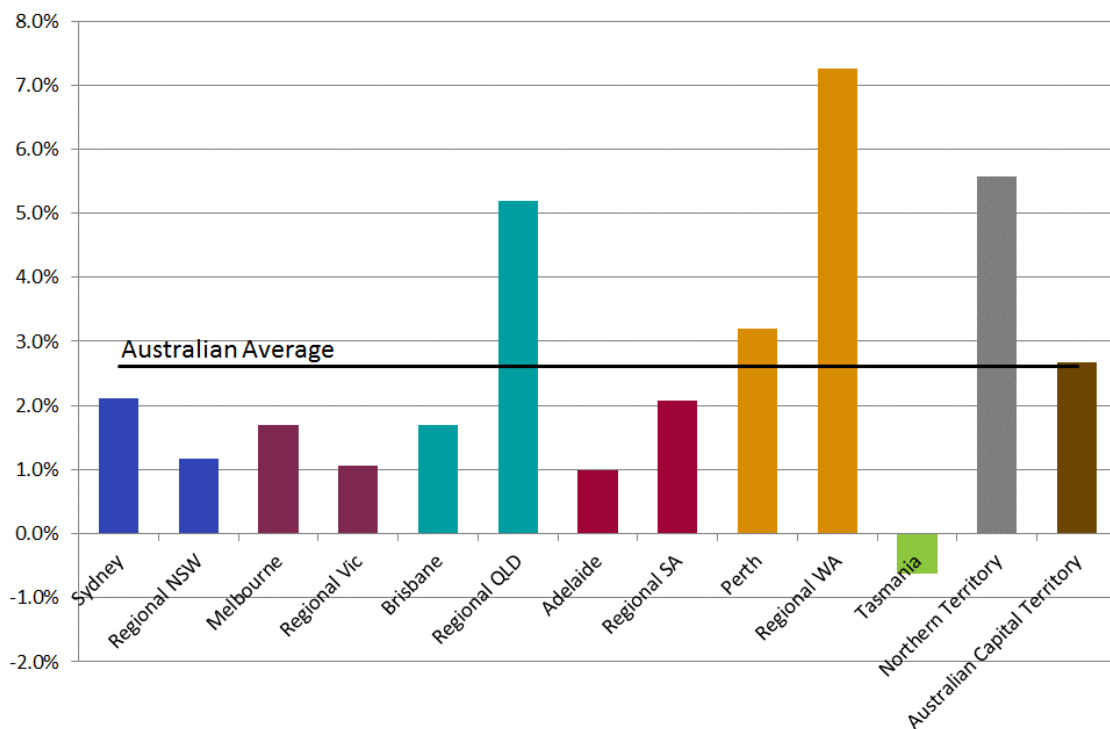
# 1 INTRODUCTION

The Australian Bureau of Statistics (ABS) *Australian National Accounts: State Accounts (Cat. No. 5220.0)* publication provides estimates of economic activity for each state and territory on an annual basis. Recent methodological advancements by the ABS have enabled SGS Economics and Planning (SGS) to develop estimates of economic activity for each major capital city and the regional balance section of the State. These statistics provide improved insights into the relative economic performance of each of Australia’s major capital cities (Sydney, Melbourne, Brisbane, Adelaide and Perth) over the past 20 years. They also highlight the productivity challenge facing our cities.

During the early 1980s, the economic structure of Australia was fairly homogeneous. Manufacturing was the primary income generator across most parts of the country. Of course, certain areas had specialisations in particular industries, for example, Agriculture and Mining in regional areas and advanced business services in the central core of our cities. Examining economic statistics at the national level would have provided a reasonable insight into the conditions across the whole of Australia.

The economic evolution of the past 30 years has resulted in a far more complex picture. The rise of knowledge intensive services, differentials in government policy and investment, the resources boom, the declining competitiveness of Manufacturing and other changes have created a patchwork economy. As shown in Figure 1 there is a very wide range of growth rates across the country. Regional Western Australia (7.3 per cent), Northern Territory (5.6 per cent), Regional Queensland (5.2 per cent) and Perth (3.2 per cent) were the strongest growing regions.

**FIGURE 1** 2012-13 GDP GROWTH RATES – VOLUME MEASURE



Source: Australian National Accounts: State Accounts, Cat. No. 5220.0 and SGS Economics & Planning

Tasmania (-0.6 per cent), Adelaide (1.0 per cent) and Regional Victoria (1.1 per cent) were the slowest growing regions. The largest economy in Australia, Sydney (2.1 per cent) had growth in line with its trend

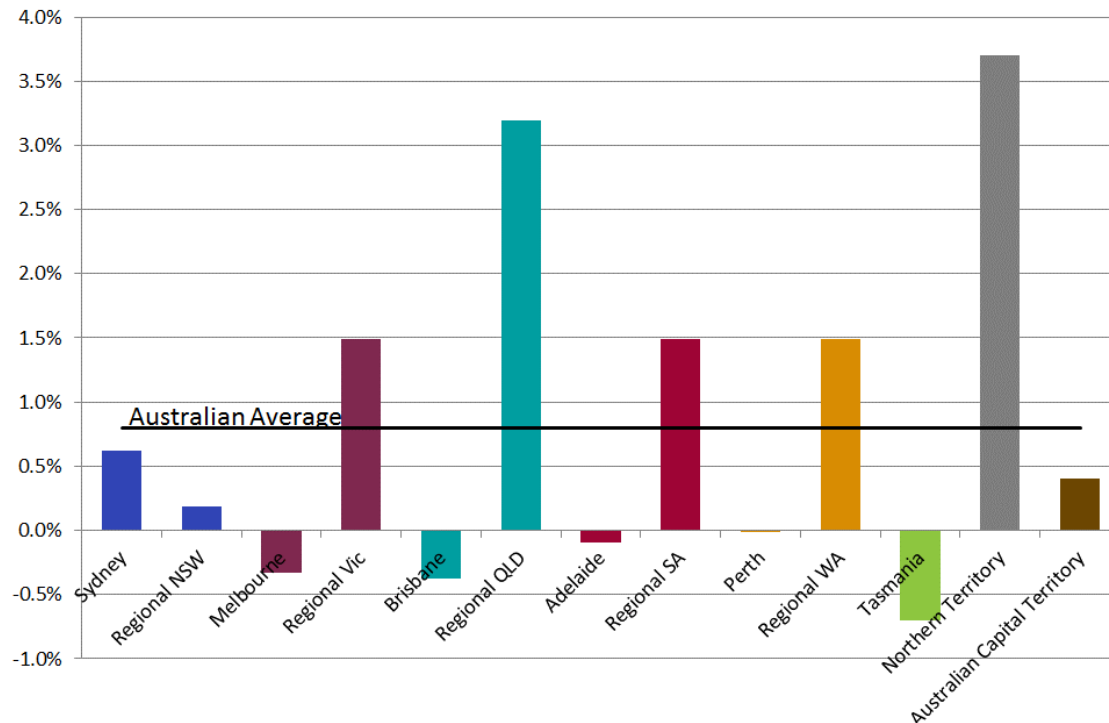
growth rate (2.2 per cent). The second largest, Melbourne (1.7 per cent) had growth well below trend growth (3.0 per cent).

**TABLE 1** GROSS DOMESTIC PRODUCT 2012-13

Region	GDP \$ Million	Annual Growth	Average Annual Growth 02-03 to 12-13	Share of GDP
Sydney	337,450	2.1%	2.2%	22.1%
Regional New South Wales	133,904	1.2%	1.6%	8.8%
Melbourne	263,740	1.7%	3.0%	17.3%
Regional Victoria	69,653	1.1%	1.2%	4.6%
Brisbane	136,238	1.7%	3.8%	8.9%
Regional Queensland	158,310	5.2%	4.1%	10.4%
Adelaide	69,548	1.0%	2.4%	4.6%
Regional South Australia	24,662	2.1%	2.5%	1.6%
Perth	134,327	3.2%	5.7%	8.8%
Regional Western Australia	118,672	7.3%	4.2%	7.8%
Tasmania	24,191	-0.6%	1.8%	1.6%
Northern Territory	19,860	5.6%	4.1%	1.3%
Australian Capital Territory	34,414	2.7%	3.1%	2.3%
Australia	1,524,969	2.6%	3.0%	100%

Source: Australian National Accounts: State Accounts, Cat. No. 5220.0 and SGS Economics & Planning

**FIGURE 2** 2012-13 GDP PER CAPITA GROWTH RATES – VOLUME MEASURE



Source: Australian National Accounts: State Accounts, Cat. No. 5220.0 and SGS Economics & Planning

Once accounting for population growth, four of the major capital cities Brisbane (-0.4 per cent), Melbourne (-0.3), Adelaide (-0.1 per cent) and Perth (-0.0) experienced an economic contraction during 2012-13. The regions which experienced high GDP per capita growth were driven by mining production. Sydney (0.6 per cent) was the only major city which had an increase in GDP per capita.

The overall strength and resilience of the economies of Australia's cities highlights the competitive advantages built up over the past three decades. However, each city must face a range of challenges to ensure on-going prosperity for their residents.

The remainder of this document is set out as follows:

- Section two provides a brief overview of the methodology
- Section three provides a summary of the relative performance of each region
- The following sections provide summary statistics on each major capital city
- The appendix provides further detail on the methodology.



## 2 METHODOLOGY

There are three approaches to measuring Gross Domestic Product (GDP):

- The Production approach (the sum of the gross value added for each of the industries and taxes less subsidies on products)
- The Expenditure approach (measures final expenditure on goods and services)
- The Income approach (sum of income generated by all factors of production).

At the Australian level, the Production, Expenditure and Income approaches are averaged by the ABS to produce GDP. However, at the State level a lack of data on trade between the States results in the Expenditure and Income approaches being combined and averaged with the Production approach. The hybrid Expenditure and Income estimates of Gross State Product (GSP) have been published since the 1990s. The Production approach has only been estimated and published as part of the *Australian National Accounts: State Accounts (Cat. No. 5220.0)* since 2007.

In developing the GDP<sup>1</sup> for each major capital city (as defined by the capital city statistical division), the Production approach is used, firstly because of the lack of data on interstate trade. In addition, the data available to calculate the Production approach is more robust (and hence requires fewer assumptions to be made) than that available for the Expenditure or Income approaches. For each industry, wherever possible, the same data sources that have been used to produce industry Gross value Added at the state level are used to produce industry Gross value Added at the city level. Some of these data sources include:

- Agricultural Commodities: Small Area Data, Australia (Cat. No. 7125.0)
- Manufacturing Industry, Australia (Cat. No. 8221.0)
- Regional Population Growth, Australia (Cat. No. 3218.0)
- Household Expenditure Survey, Australia (Cat No. 6530.0)
- Education and Training Experience (Cat. No. 6278.0)
- Labour Force, Australia, Detailed, Quarterly (Cat. No. 6291.0.55.003).

Via the use of the implicit price deflation technique, the Chain Volume Measures of the industry Gross Value Added are converted into Current Prices. This method overcomes the non-additivity issue with the Chain Volume Measure and allows the aggregation of industry estimates of GVA to overall GDP. In order to maintain consistency with the wider National Accounts, the Production approach estimate of city GDP is benchmarked to the State GDP.

For deriving labour productivity, the estimates of hours worked are derived from *Information Paper: Implementing New Estimates of Hours Worked into the Australian National Accounts, 2006 (Cat. No. 5204.0.55.003)* which provides the total hours worked within the economy for 2004-05. The index of total hours worked from the *Australian System of National Accounts, 2010-11 (Cat. No. 5204.0)* has been used to advance the 2004-05 estimate for the years between 2005-06 and the most recent year. This Australian total hours worked figure has then been allocated for each industry in each capital city based on its share of total hours worked from the *Labour Force, Australia, Detailed, Quarterly (Cat. No. 6291.0.55.003)*.

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<sup>1</sup> GDP (Gross Domestic Product) refers to Australia, GSP (Gross State Product) refers to a State, while GCP (Gross City Product) refers to a city. However, for simplicity's sake in this paper all different measures are referred to as GDP.

Since the last edition of the Australian Cities Accounts a number of revisions have been made. These revisions flow from the incorporation of a new set of State Accounts<sup>2</sup> and other data sources. There have also been a number of methodological improvements focusing on:

- Incorporation of 2011 Census data published since the last edition
- Further improvements to the hours worked estimates used in industry gross value added and labour productivity estimates
- Refinement to the way Mining GVA is estimated in urban environments
- Changes to the method for estimating the population of capital cities and regional areas.

Other methodological areas which are the subject of ongoing research and development include:

- Create GDP estimates for smaller regions
- Development of a Supply Use Table to improve editing of the city GDP estimates
- Develop a Purchasing Power Parity to allow better comparisons between the relative size of each major capital city
- Extend revision analysis to understand the quality of the city GDP estimates
- Further analysis and development related to the city labour productivity estimates prior to 2000-01
- Development of multifactor productivity estimates for each state and city
- Incorporation of additional industry specific data sources as they become available.

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<sup>2</sup> Unlike Gross Domestic Product which is only usually open to revisions in the past three years, Gross State Product is open to revisions back to 1989-90.

# 3 CONTRIBUTION TO GDP GROWTH

Table 2 presents each region's contribution to growth in Australian GDP. The contribution for the 1990s, 2000s, the most recent financial year and the whole period is presented. During the 1990s, Sydney contributed 26.1 per cent of the growth in Australia's GDP, making it the largest driver of the national economy. Melbourne was the second largest contributor with 16.5 per cent, followed by Regional Queensland (10.8 per cent), Brisbane (10.0 per cent), Regional Western Australia (8.5 per cent) and Perth (7.4 per cent).

The 2000s saw some clear changes in the distribution of growth. Melbourne (18.5 per cent) overtook Sydney (17.9 per cent) as the main economic contributor to national GDP growth. Increased mineral production and exploration and related investment in Regional Queensland (14.0 per cent) and Regional Western Australia (7.5 per cent) increased their share of growth. The contributions of the remaining regions remained relatively unchanged.

**TABLE 2** CONTRIBUTION TO GDP GROWTH – VOLUME MEASURE

Region	1990s	2000s	Most Recent Year	Whole Period (1989-90 to 2012-13)
Sydney	26.1%	17.9%	17.9%	20.7%
Regional New South Wales	7.8%	3.1%	4.0%	5.6%
Melbourne	16.5%	18.5%	11.3%	17.3%
Regional Victoria	4.2%	2.4%	1.9%	2.9%
Brisbane	10.0%	11.9%	5.9%	10.4%
Regional Queensland	10.8%	14.0%	20.1%	12.6%
Adelaide	3.8%	4.5%	1.7%	4.0%
Regional South Australia	0.7%	1.3%	1.3%	1.0%
Perth	7.4%	13.7%	10.7%	11.5%
Regional Western Australia	8.5%	7.5%	20.6%	9.3%
Tasmania	1.2%	1.4%	-0.4%	1.1%
Northern Territory	1.0%	1.4%	2.7%	1.3%
Australian Capital Territory	1.9%	2.3%	2.3%	2.2%
<b>Australia</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Australian National Accounts: State Accounts, Cat. No. 5220.0 and SGS Economics & Planning

In the most recent year, Regional Western Australia (20.6 per cent) and Regional Queensland (20.1) were the largest economic contributors driven by mining and related construction projects. Sydney (17.9 per cent), (16.5 per cent) and Perth (10.7 per cent) and were also significant contributors. The Professional services<sup>3</sup> and Financial & insurance services industries were large contributors in both of the cities while

<sup>3</sup> This industry includes Scientific Research, Architectural & Engineering Services, Legal & Accounting Services, Advertising, Management Consulting and other Professional Services.

Mining was key in Regional Western Australia. Growth in Adelaide and Melbourne were both below their long term trends. This was due to weakness across the whole economy of those cities.

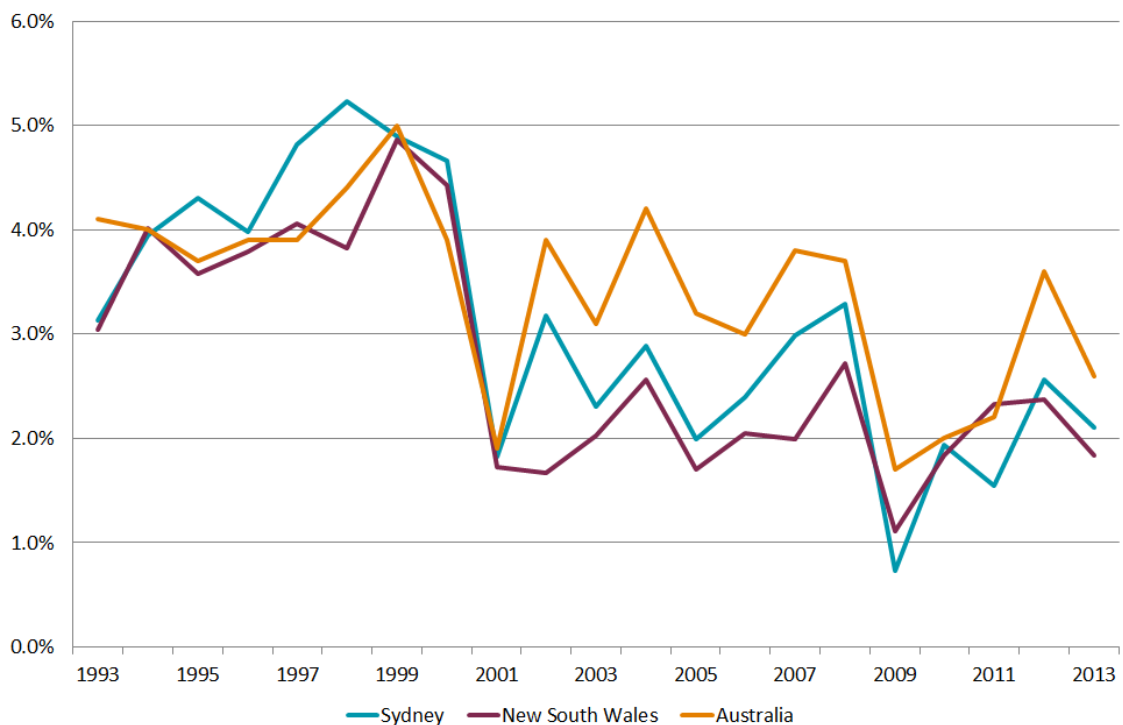
### 3.1 Sydney

Figure 3 presents the Volume measure (that is, after accounting for inflation) of GDP growth for Sydney, New South Wales and Australia. Sydney represents around 70 per cent of the New South Wales economy. As a result, the Sydney and New South Wales growth rates track very closely together. A few points of note in Figure 3 are:

- Leading into 1999-00 Sydney had a higher rate of growth than the rest of Australia
- Since 2000-01 Sydney’s growth underperformed relative to the rest of Australia
- The 2008-09 economic slowdown resulting from the Global Financial Crisis impacted Sydney more heavily than the rest of the Australia.

Over the past decade Sydney’s economy appears to have had the capacity to be able to grow around 2.2 per cent per year compared with a national capacity of around 3.0 per cent. Given the size of the Sydney economy this capacity constraint represents a real challenge for the national economy. However, the past few years have seen more positive signs in Sydney’s growth profile.

**FIGURE 3 SYDNEY GDP GROWTH - VOLUME MEASURE**



Source: Australian National Accounts: State Accounts, Cat. No. 5220.0 and SGS Economics & Planning

Economic growth can be driven by a number of factors including population growth. Figure 4 presents GDP growth per capita for Sydney, New South Wales and Australia. The overall pattern is similar to that of the Volume measure GDP growth rate, but Sydney’s relative performance is somewhat improved.

**FIGURE 4 SYDNEY GDP PER CAPITA GROWTH - VOLUME MEASURE**



Source: Australian National Accounts: State Accounts, Cat. No. 5220.0 and SGS Economics & Planning

The decade from 2000-01 could be described as Sydney’s ‘lost decade’. Sydney’s lost decade of economic prosperity has been related to a number of factors, all of which have contributed to a decline in Sydney’s competitiveness. One key factor has been a breakdown in the urban system of the city. This breakdown has included:

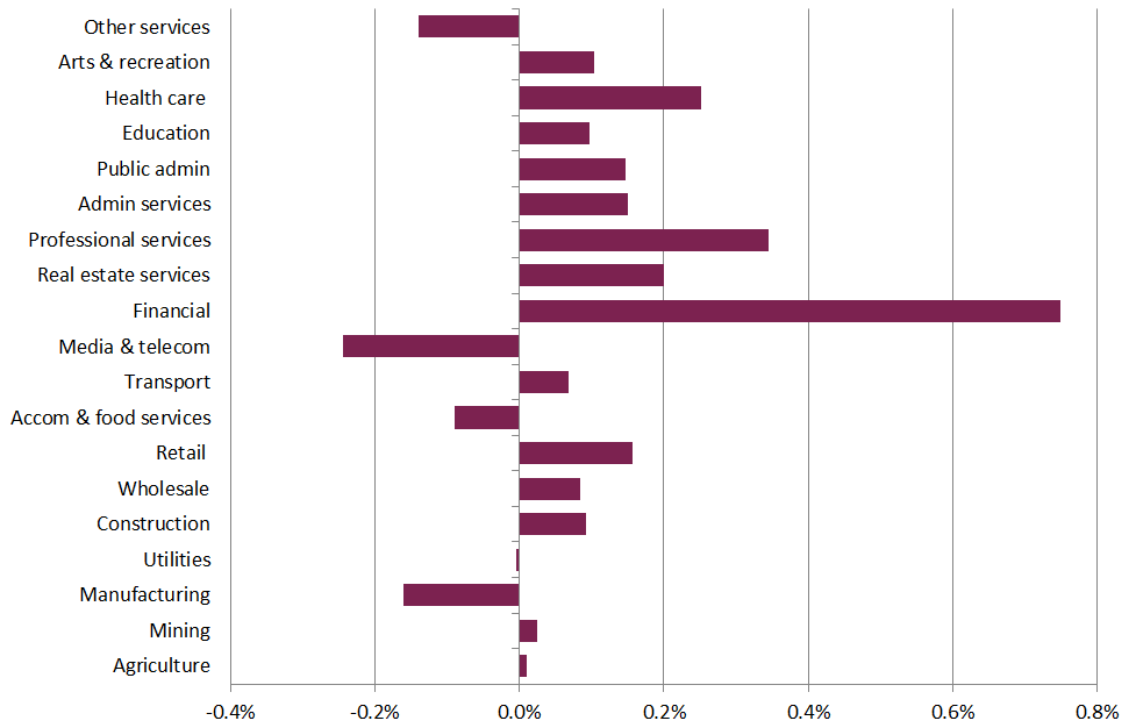
- Poor housing policies which have generated congestion and have also had a significant impact on affordability
- Lack of investment in transport capacity
- Limited opportunities for businesses to locate in strategic locations at affordable rents.

Figure 5 presents the industry contribution to Sydney GDP growth for 2012-13. Financial & insurance services (0.7 percentage points) was the largest contributor, followed by Professional services (0.3 percentage points) and Health Services (0.3 percentage points). A range of other industries made smaller contribution to growth.

As shown in Figure 6, the Professional services and Financial & insurance services industries represent 25.1 per cent of the economy of Sydney. This is up from 14.6 per cent in 1992-93. Another major change in the industry structure of Sydney over the same period is the decline in Manufacturing from 13.8 per cent to 6.4 per cent and Wholesale from 7.2 per cent to 4.9 per cent.

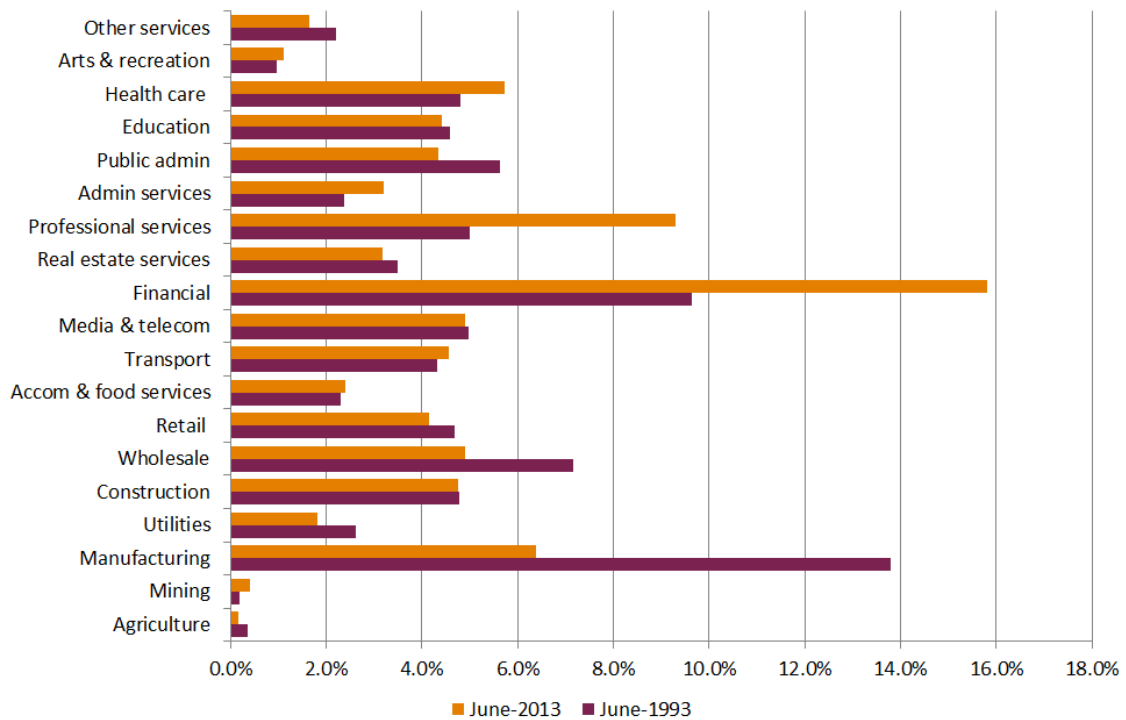
This changing industry structure also has spatial implications for Sydney. Around 40 per cent of Professional services income and over two thirds of Financial & insurance services income is concentrated in the City of Sydney, while Manufacturing is more concentrated in outer suburb locations. This further highlights the need to ensure the growth of the City of Sydney and highlights the economic and social divisions within the city.

**FIGURE 5 CONTRIBUTION TO SYDNEY GDP GROWTH 2012-13**



Source: SGS Economics & Planning

**FIGURE 6 SYDNEY INDUSTRY STRUCTURE<sup>4</sup>**



Source: SGS Economics & Planning

<sup>4</sup> As measured by industry gross value added share of total industry value added (excluding Ownership of dwellings).

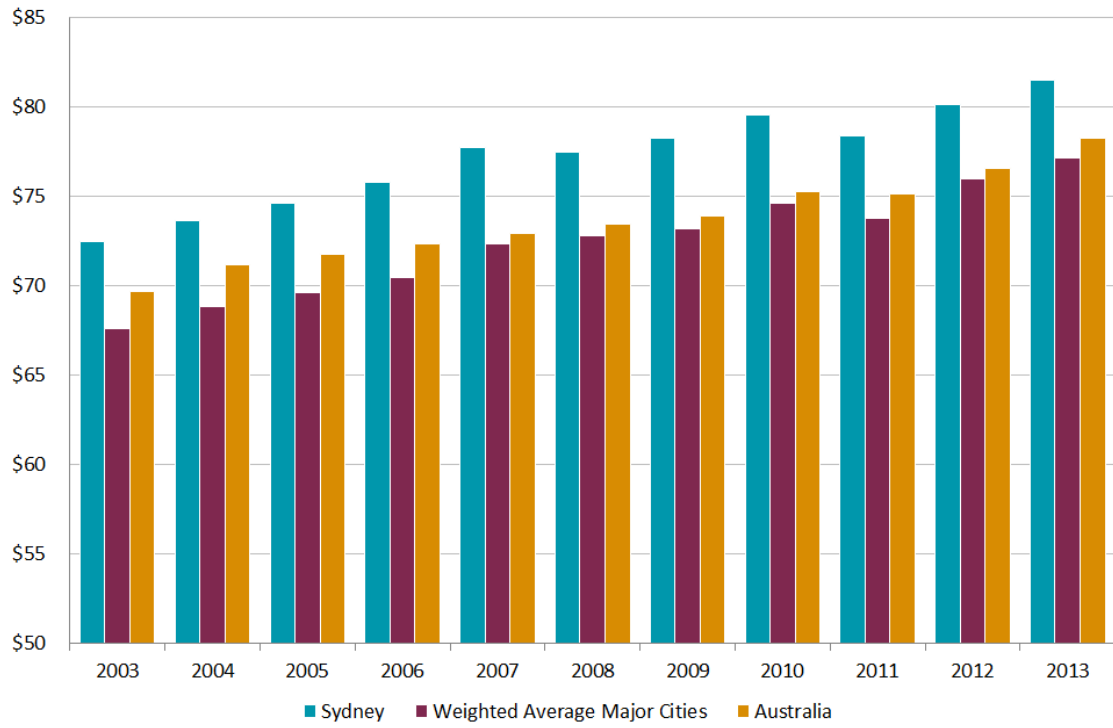
**TABLE 3** CONTRIBUTION TO SYDNEY GDP GROWTH – VOLUME MEASURE

Industry	2008-09	2009-10	2010-11	2011-12	2012-13
Agriculture, forestry & fishing	-0.1%	0.0%	0.0%	0.0%	0.0%
Mining	0.0%	0.3%	-0.2%	0.0%	0.0%
Manufacturing	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Electricity, gas, water & waste	0.1%	0.0%	0.0%	0.0%	0.0%
Construction	0.1%	0.0%	0.3%	0.1%	0.1%
Wholesale trade	0.0%	0.4%	0.1%	0.4%	0.1%
Retail trade	0.1%	0.1%	0.1%	0.0%	0.2%
Accommodation & food	-0.1%	0.1%	0.2%	0.0%	-0.1%
Transport, postal & warehousing	-0.2%	-0.1%	0.4%	0.2%	0.1%
Information media & telecommunications	-0.1%	0.1%	0.2%	0.1%	-0.2%
Financial & insurance	0.1%	-0.1%	-0.2%	0.9%	0.7%
Rental, hiring & real estate	0.4%	0.2%	-0.2%	0.1%	0.2%
Professional, scientific & technical	0.5%	0.7%	0.3%	0.6%	0.3%
Administrative & support	-0.7%	-0.3%	0.1%	0.0%	0.2%
Public administration & safety	0.0%	0.0%	0.3%	-0.2%	0.1%
Education & training	0.1%	0.1%	0.0%	0.1%	0.1%
Health care & social assistance	0.6%	0.1%	0.1%	0.1%	0.3%
Arts & recreation	0.1%	0.0%	0.0%	0.0%	0.1%
Other services	0.0%	-0.1%	-0.1%	0.1%	-0.1%
Ownership of dwellings	0.2%	0.1%	0.2%	0.1%	0.2%
Taxes less subsidies on products	-0.2%	0.0%	0.1%	0.1%	0.1%
Statistical Discrepancy	0.0%	0.0%	0.0%	0.0%	-0.1%
<b>Gross domestic product – Volume measure</b>	<b>0.7%</b>	<b>1.9%</b>	<b>1.6%</b>	<b>2.6%</b>	<b>2.1%</b>

Source: SGS Economics &amp; Planning

In terms of labour productivity (gross value added per hour worked), Sydney is the most productive of the major Australian capital cities. This is a reflection of two related factors. The first is the relative concentration of high labour productivity industries (Financial & Professional Services) located in Sydney. The second reflects the advantages, in terms of economies of scale and scope, which are offered to firms by the virtue of the size of the Sydney economy.

**FIGURE 7** LABOUR PRODUCTIVITY, SYDNEY



Source: SGS Economics & Planning



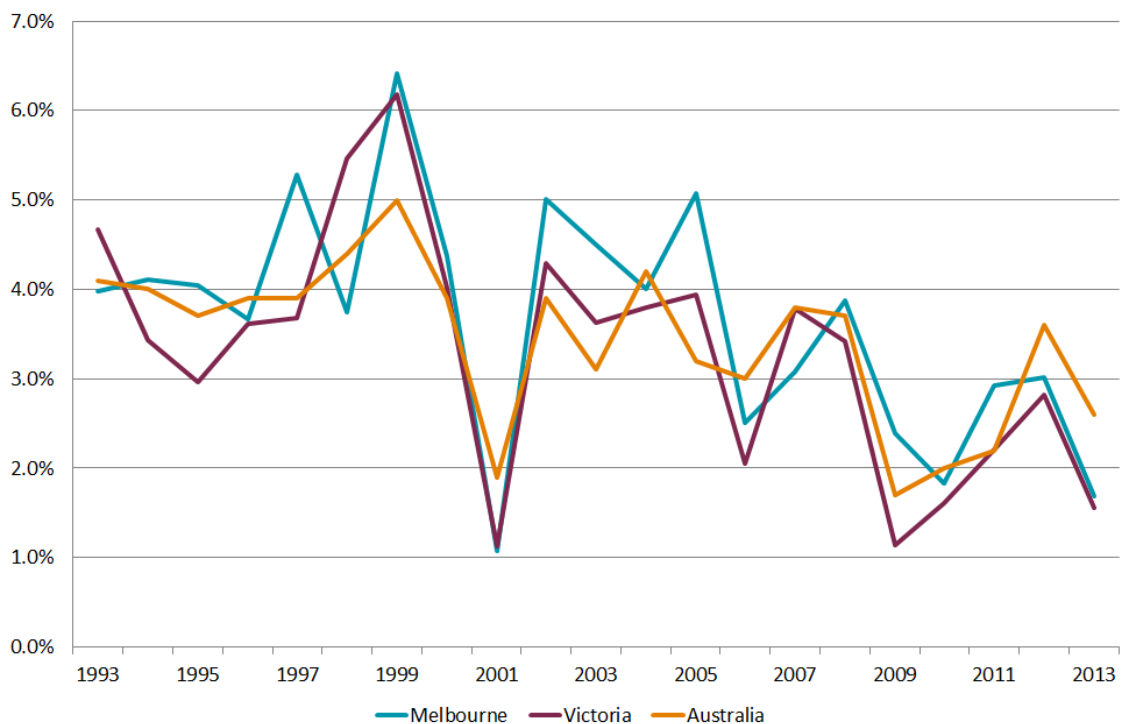
### 3.2 Melbourne

The points of interest in Figure 8 (which presents GDP growth for Melbourne, Victoria and Australia) are:

- Melbourne experienced a larger boom in 1999 and a larger bust in 2001 than the rest of Australia.
- This period was influenced by the introduction of the new taxation system which caused changes in consumption patterns to avoid the Good & Services Tax. 2001 was also the timing of the previous recession in the United States.
- The Melbourne growth rate during 2003-04 and 2004-05 was noticeably higher than Australia. This was driven by very strong growth in the Financial & insurance services industry.

Melbourne represents around 79 per cent of the Victorian economy. Although in some industries, such as Financial & insurance services, Professional services and Information media & telecommunications over 90 per cent of the economic activity takes places in Melbourne.

**FIGURE 8 MELBOURNE GDP GROWTH – VOLUME MEASURE**



Source: Australian National Accounts: State Accounts, Cat. No. 5220.0 and SGS Economics & Planning

Figure 9 presents economic growth per capita for Melbourne, Victoria and Australia. While the overall pattern is similar to the GDP growth, in three of the past five years GDP per capita has contracted in Melbourne.

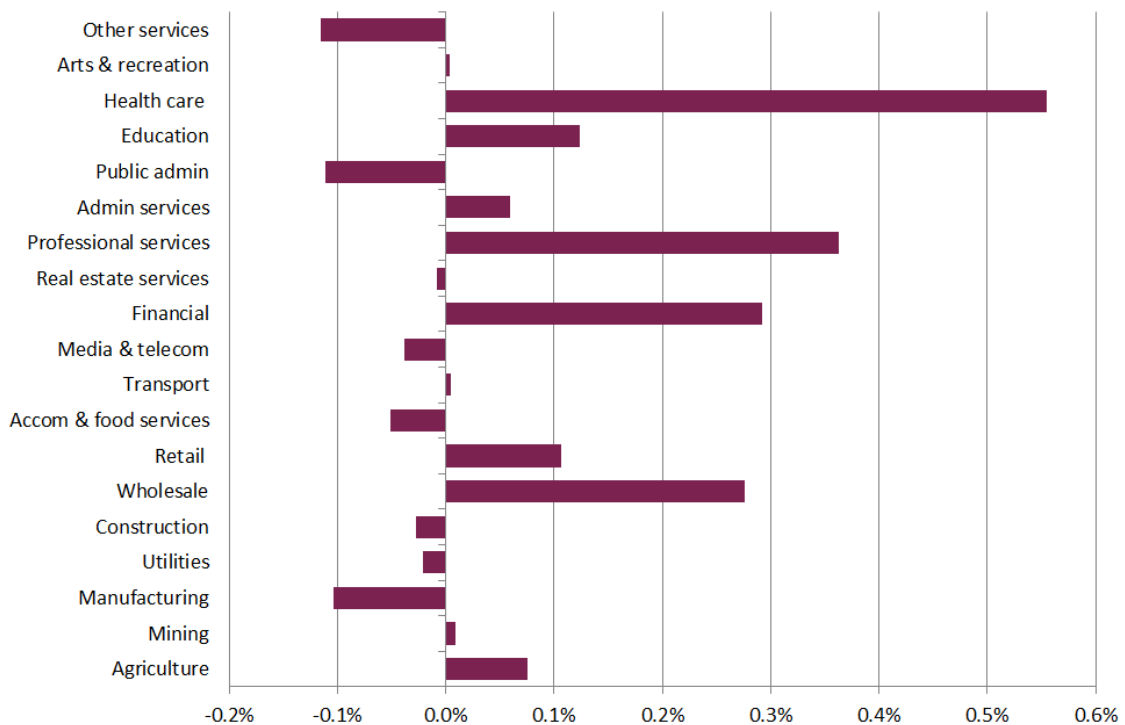
Figure 10 presents the industry contribution to Melbourne GDP growth for 2012-13. Other services, Public Administration and Manufacturing (-0.1 percentage points) all detracted from GDP growth during 2012-13. Health care 0.6 percentage points was the largest contributor to growth followed by Financial services, Professional services and Wholesale Trade.

**FIGURE 9 MELBOURNE GDP PER CAPITA GROWTH – VOLUME MEASURE**



Source: Australian National Accounts: State Accounts, Cat. No. 5220.0 and SGS Economics & Planning

**FIGURE 10 CONTRIBUTION TO MELBOURNE GDP GROWTH, 2012-13**

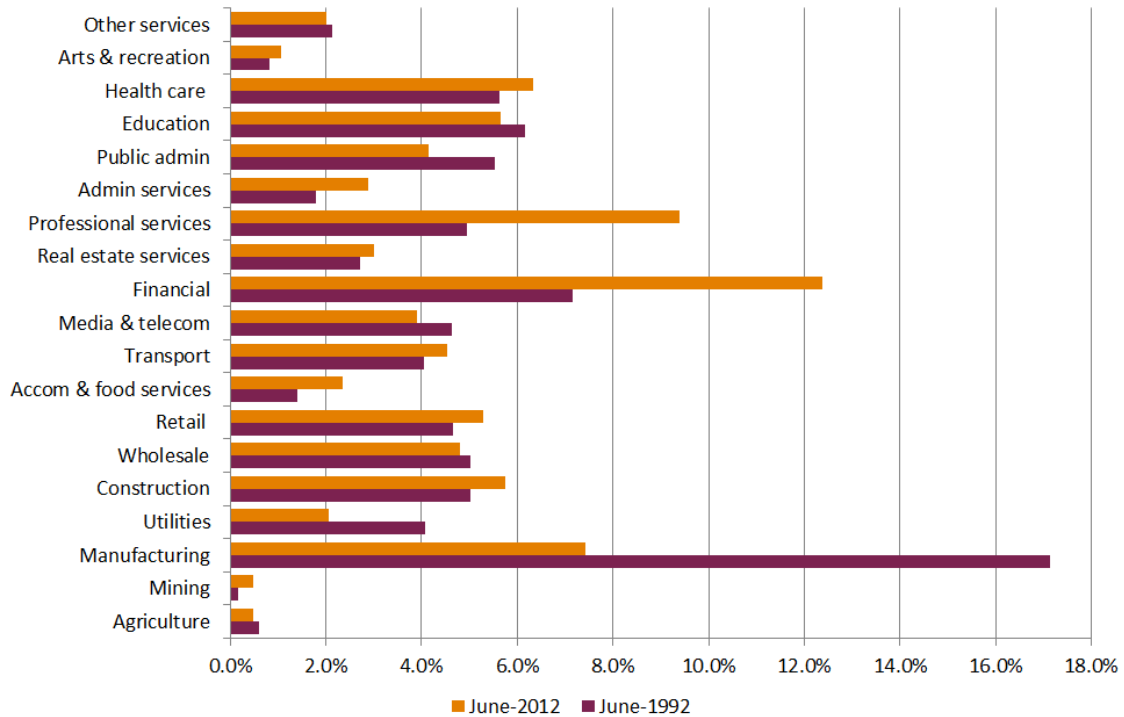


Source: SGS Economics & Planning

As shown in Figure 11, Professional services and Financial & insurance services represent 21.8 per cent of the economy of Melbourne. This is up from 12.1 per cent in 1992-93. Over the same period, the share of Manufacturing fell from 17.1 per cent to 7.4 per cent. The decline in Melbourne’s Manufacturing

industry over the past five years has seen Sydney emerge as the national number one industrial city. The value of Sydney’s Manufacturing industry was \$21.7 billion in 2012-13 compared to Melbourne’s \$18.9 billion.

**FIGURE 11 MELBOURNE INDUSTRY STRUCTURE**<sup>5</sup>



Source: SGS Economics & Planning

Over the same period, Melbourne has been slowly closing the gap on Sydney (in terms of the income generated) as the main hub for Professional and Financial services in Australia. A decade ago the value of these two industries was \$50 Billion higher in Sydney than in Melbourne. In 2012-13 the gap was \$25 billion.

Much of the growth in the Professional services and Financial & insurance services industries in Melbourne has been the result of investments made over the past two decades. Development of Southbank and Docklands provided the Central Business District with “Greenfields” to accommodate significant levels of new employment. Road projects, such as the Western Ring Road, CityLink and EastLink, helped to improve connectivity across the city.

These factors have produced agglomeration economies which enabled high productivity firms to flourish. However, this employment growth has absorbed /exceeded the public transport capacity to the City of Melbourne. Without additional transport investment, Melbourne appears to be following the trajectory of Sydney’s lost decade. Aside from the Regional Rail Link due for opening in 2016, Melbourne had no other significant transport improvement due to come on line this decade and no plans for additional rail capacity to the CBD.

The on-going decline of Manufacturing in Melbourne also has implications for the economy of the middle ring and outer suburbs. This, combined with the on-going concentration of economic activity in inner Melbourne highlights the economic and social divisions which could rapidly arise and have dire consequences for Melbourne.

<sup>5</sup> As measured by industry gross value added share of total industry value added (excluding Ownership of dwellings).

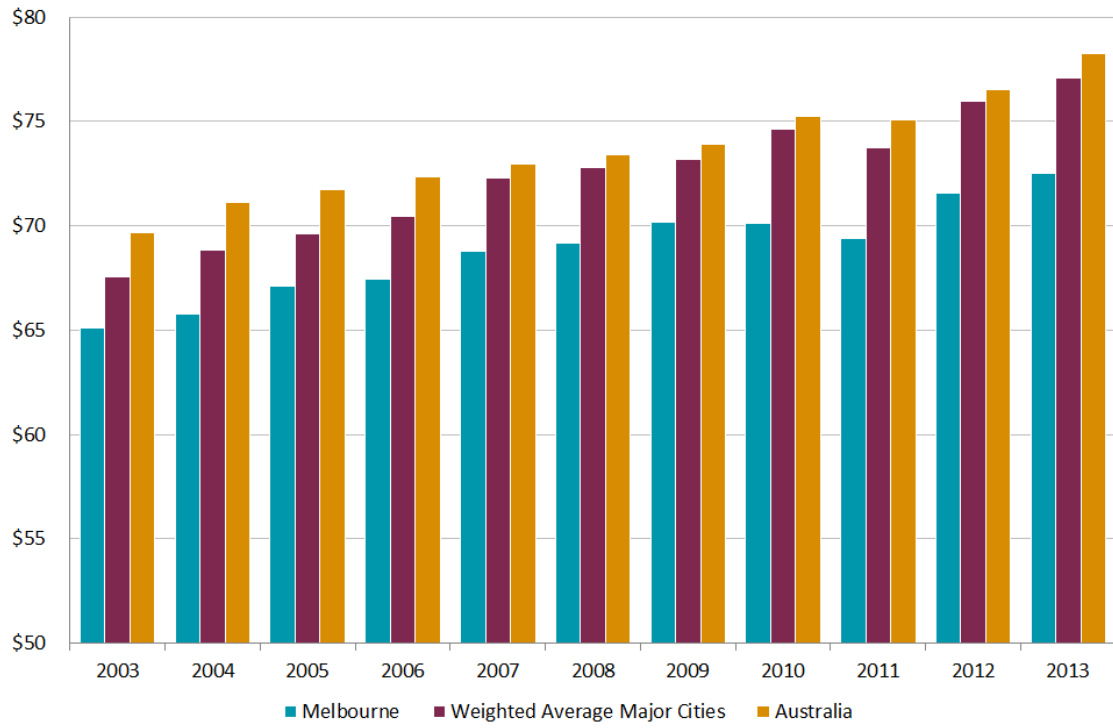
**TABLE 4 CONTRIBUTION TO MELBOURNE GDP GROWTH – VOLUME MEASURE**

Industry	2008-09	2009-10	2010-11	2011-12	2012-13
Agriculture, forestry & fishing	-0.1%	0.1%	0.1%	0.0%	0.1%
Mining	0.1%	0.3%	-0.3%	0.2%	0.0%
Manufacturing	-0.5%	0.1%	-0.1%	-0.3%	-0.1%
Electricity, gas, water & waste	0.1%	0.0%	0.1%	0.0%	0.0%
Construction	0.5%	-0.1%	0.1%	0.3%	0.0%
Wholesale trade	0.2%	0.1%	-0.4%	0.1%	0.3%
Retail trade	-0.1%	0.2%	-0.1%	0.3%	0.1%
Accommodation & food	0.2%	0.0%	0.1%	0.1%	-0.1%
Transport, postal & warehousing	-0.1%	-0.2%	0.0%	0.1%	0.0%
Information media & telecommunications	0.3%	-0.1%	0.1%	0.1%	0.0%
Financial & insurance	-0.5%	-0.1%	0.6%	0.6%	0.3%
Rental, hiring & real estate	0.2%	-0.2%	0.2%	0.2%	0.0%
Professional, scientific & technical	0.2%	0.8%	1.1%	0.4%	0.4%
Administrative & support	0.0%	-0.1%	0.1%	0.1%	0.1%
Public administration & safety	0.5%	-0.1%	0.1%	0.1%	-0.1%
Education & training	0.2%	0.1%	0.0%	0.1%	0.1%
Health care & social assistance	0.2%	0.5%	0.4%	0.1%	0.6%
Arts & recreation	0.1%	0.0%	0.1%	0.1%	0.0%
Other services	0.2%	-0.1%	0.1%	0.1%	-0.1%
Ownership of dwellings	0.3%	0.1%	0.2%	0.1%	0.2%
Taxes less subsidies on products	0.0%	0.0%	0.2%	0.2%	0.0%
Statistical Discrepancy	-0.1%	0.0%	-0.1%	0.1%	-0.1%
<b>Gross domestic product – Volume measure</b>	<b>1.9%</b>	<b>1.4%</b>	<b>2.7%</b>	<b>2.9%</b>	<b>1.6%</b>

Source: SGS Economics & Planning

After two years of falling labour productivity (gross value added per hour worked) 2011-12 saw a 1.4 per cent increase. Despite this increase, Melbourne is still below the weighted average for the major capital cities and Australia.

**FIGURE 12** LABOUR PRODUCTIVITY, MELBOURNE



Source: SGS Economics & Planning

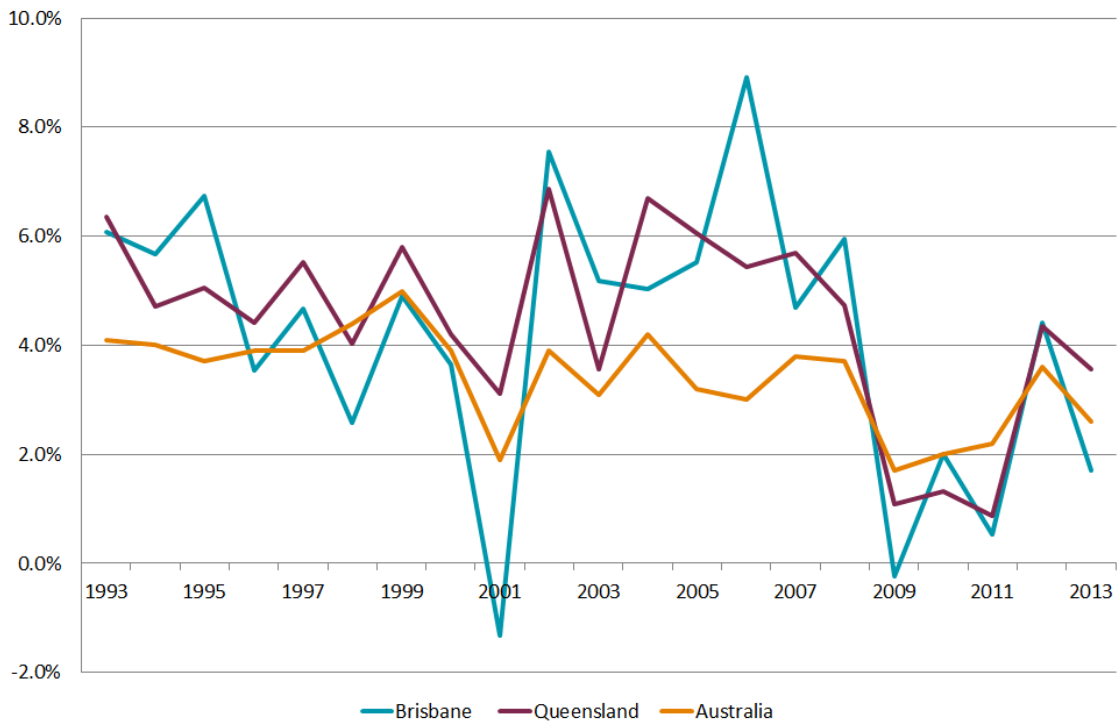
### 3.3 Brisbane

In 2012-13, the Brisbane economy accounted for 47.1 per cent of the Queensland economy. This was down from 49.4 per cent in 2002-03, as mineral production increased in Regional Queensland. This is the smallest share of all of the major capital cities.

Brisbane's GDP growth was higher than the national average during the early 1990s. It also experienced a more pronounced contraction around the time of the introduction of the Good & Services Tax. During the 2000s the exposure to the minerals boom has also ensured higher growth than the Australian average. The Global Financial Crisis saw a significant contraction in the economy of Brisbane. Brisbane's per capita GDP growth is presented in Figure 14.

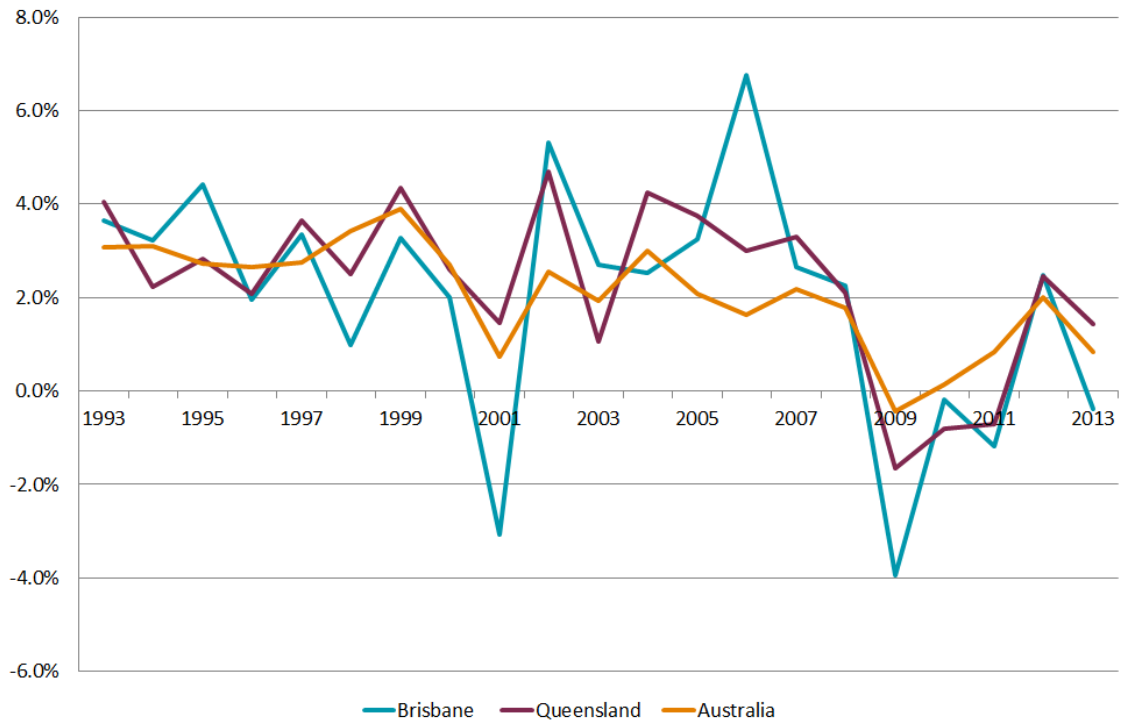
The 2011 floods significantly impacted on economic activity across Brisbane and disrupted mining operations in Regional Queensland. 2011-12 saw the economy rebound from the impacts of the flooding followed by a falloff in activity in 2012-13. GDP per capita has fallen in Brisbane in four of the past five years. In 2012-13, Brisbane GDP per capita is 3.3 per cent lower than the 2008-09 peak.

**FIGURE 13** BRISBANE GDP GROWTH – VOLUME MEASURE



Source: Australian National Accounts: State Accounts, Cat. No. 5220.0 and SGS Economics & Planning

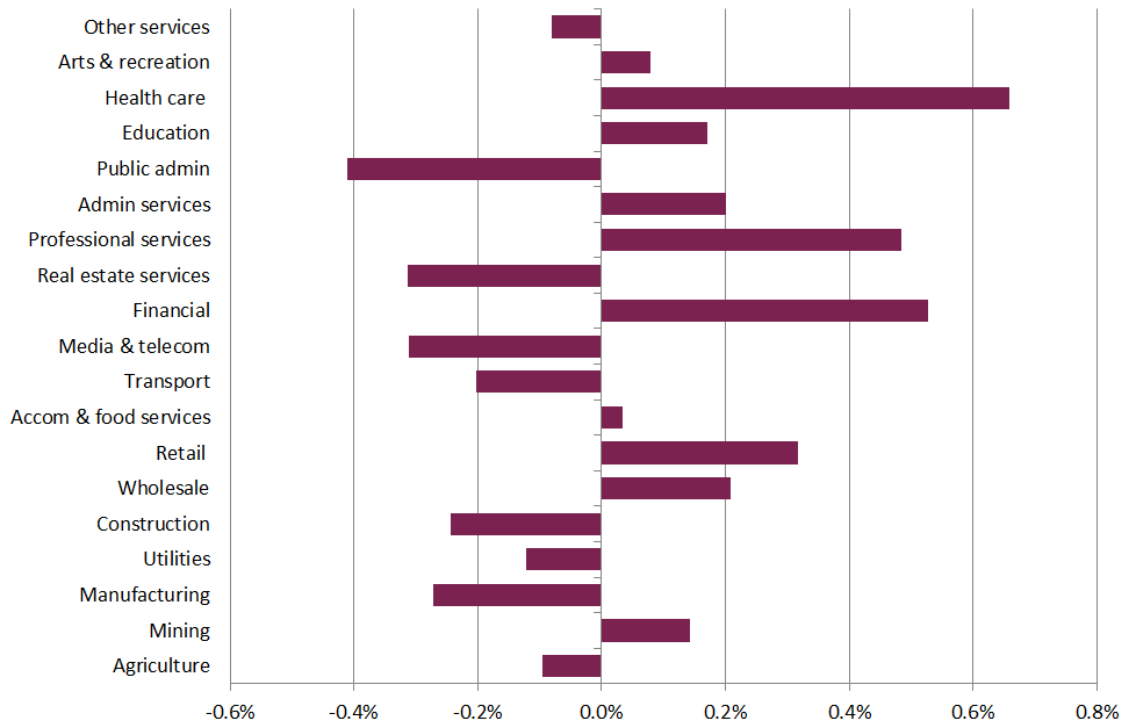
**FIGURE 14 BRISBANE GDP PER CAPITA GROWTH – VOLUME MEASURE**



Source: Australian National Accounts: State Accounts, Cat. No. 5220.0 and SGS Economics & Planning

As shown in Figure 15 a range of industries contributed to Brisbane’s growth with Health care (0.7 percentage points), Financial services and Professional services (both 0.6 percentage points) were the most significant industries. A whole host of industries detracted from growth during 2012-13 with Public Administration being the largest (-0.4 percentage points).

**FIGURE 15 CONTRIBUTION TO BRISBANE GDP GROWTH, 2012-13**

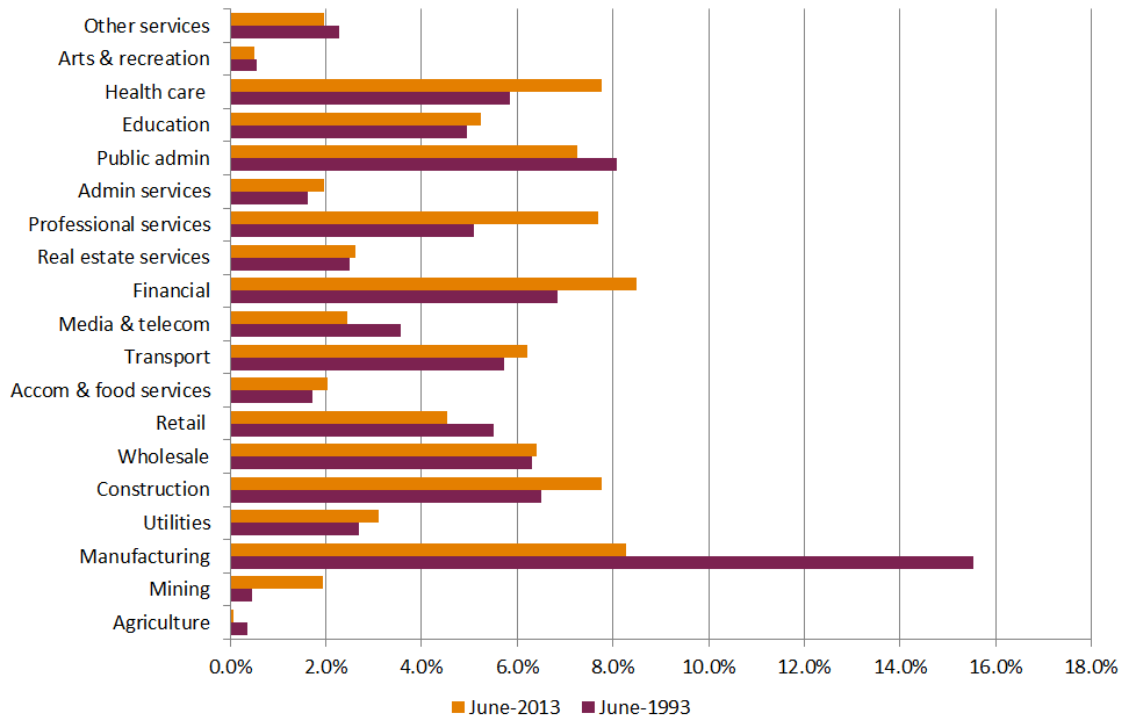


Source: SGS Economics & Planning

Manufacturing is still the largest industry in Brisbane with Financial & insurance services and Professional services close behind. The growth in Financial & insurance services and Professional services hasn't been as pronounced as in Sydney and Melbourne.

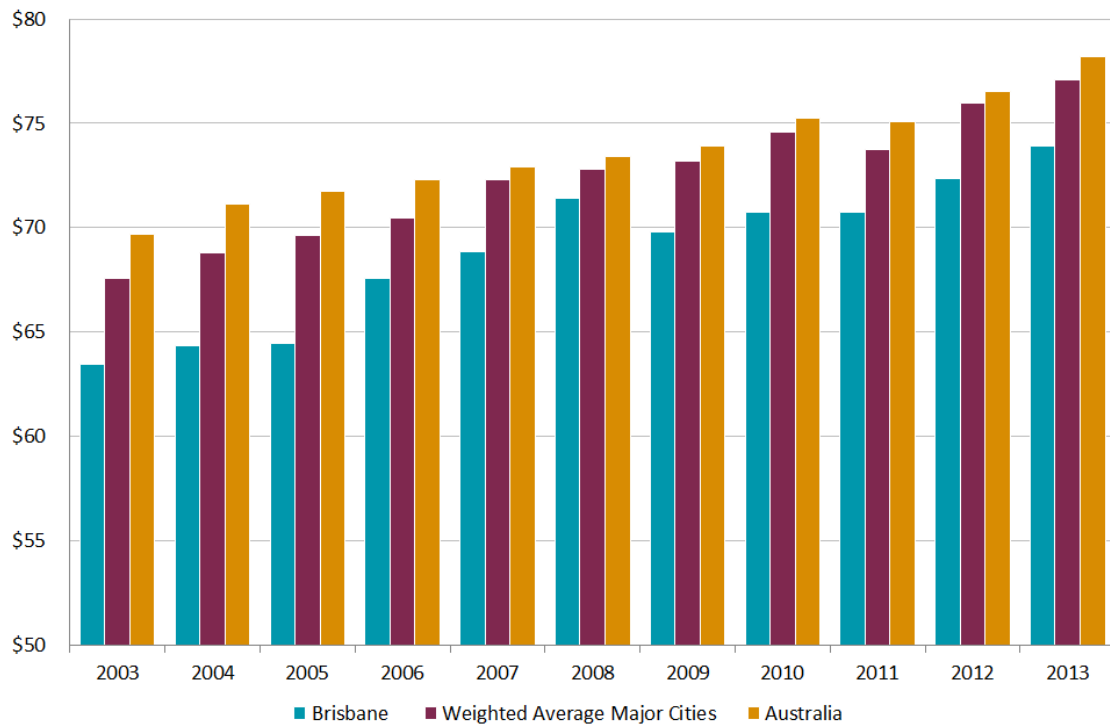


**FIGURE 16 BRISBANE INDUSTRY STRUCTURE<sup>6</sup>**



Source: SGS Economics & Planning

**FIGURE 17 LABOUR PRODUCTIVITY, BRISBANE**



Source: SGS Economics & Planning

<sup>6</sup> As measured by industry gross value added share of total industry value added (excluding Ownership of dwellings).

Labour productivity in Brisbane is lower than Australia as a whole and the weighted average of the major capital cities, but this gap has closed significantly over the past decade.

For so long, economic growth was fuelled by population migration, with people coming mostly from southern states attracted by employment opportunities. This migration pattern can no longer be relied upon to provide growth for Brisbane. Brisbane is also facing the challenge of adjusting to the fading impact of the mineral boom. Brisbane doesn't have the deep pool of export oriented Financial & Professional services found in Sydney and Melbourne on which to rely to drive forward prosperity.

The challenge for Brisbane is working to establish a competitive advantage for the city's continued development.

**TABLE 5** CONTRIBUTION TO BRISBANE GDP GROWTH – VOLUME MEASURE

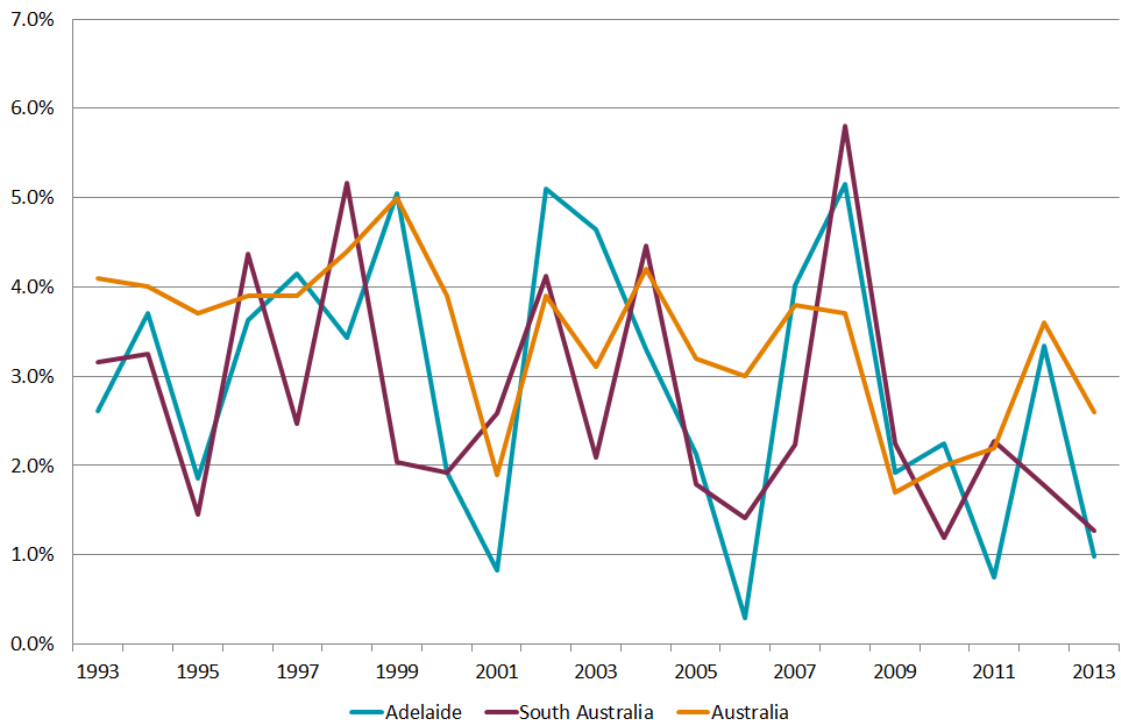
Industry	2008-09	2009-10	2010-11	2011-12	2012-13
Agriculture, forestry & fishing	-0.1%	0.0%	0.0%	0.1%	-0.1%
Mining	0.3%	0.5%	0.2%	0.1%	0.1%
Manufacturing	-2.6%	0.0%	-0.3%	0.7%	-0.3%
Electricity, gas, water & waste	0.2%	0.0%	0.1%	-0.1%	-0.1%
Construction	0.1%	0.6%	0.4%	0.3%	-0.2%
Wholesale trade	-0.1%	-0.2%	0.0%	0.8%	0.2%
Retail trade	-0.2%	-0.2%	0.3%	0.1%	0.3%
Accommodation & food	0.1%	-0.2%	0.0%	0.0%	0.0%
Transport, postal & warehousing	0.3%	-0.2%	0.7%	0.2%	-0.2%
Information media & telecommunications	0.2%	-0.3%	0.5%	0.0%	-0.3%
Financial & insurance	0.6%	-0.3%	-0.4%	0.4%	0.5%
Rental, hiring & real estate	-0.3%	0.1%	0.3%	0.2%	-0.3%
Professional, scientific & technical	0.2%	0.1%	-0.6%	0.4%	0.5%
Administrative & support	-0.3%	-0.2%	0.0%	-0.2%	0.2%
Public administration & safety	0.7%	-0.1%	0.2%	0.3%	-0.4%
Education & training	0.2%	0.1%	0.0%	0.1%	0.2%
Health care & social assistance	0.4%	0.6%	-0.3%	0.1%	0.7%
Arts & recreation	0.1%	0.2%	-0.1%	-0.1%	0.1%
Other services	0.1%	0.2%	-0.4%	0.3%	-0.1%
Ownership of dwellings	0.3%	0.1%	0.1%	0.1%	0.2%
Taxes less subsidies on products	-0.4%	0.3%	0.0%	0.2%	0.1%
Statistical Discrepancy	0.0%	0.0%	0.0%	0.2%	0.1%
<b>Gross domestic product – Volume measure</b>	<b>-0.2%</b>	<b>2.0%</b>	<b>0.5%</b>	<b>4.4%</b>	<b>1.7%</b>

Source: SGS Economics &amp; Planning

### 3.4 Adelaide

In most years, Adelaide (and South Australia) has experienced lower GDP growth than Australia. As with Brisbane, Adelaide exhibits more of a 'boom and bust cycle' than Sydney and Melbourne. The Reserve Bank of Australia attempts to smooth growth rates at the national level, however, these rates tend to be dominated by New South Wales and Victoria. As a result, Adelaide GDP growth rates can be more variable.

**FIGURE 18** ADELAIDE GDP GROWTH – VOLUME MEASURE

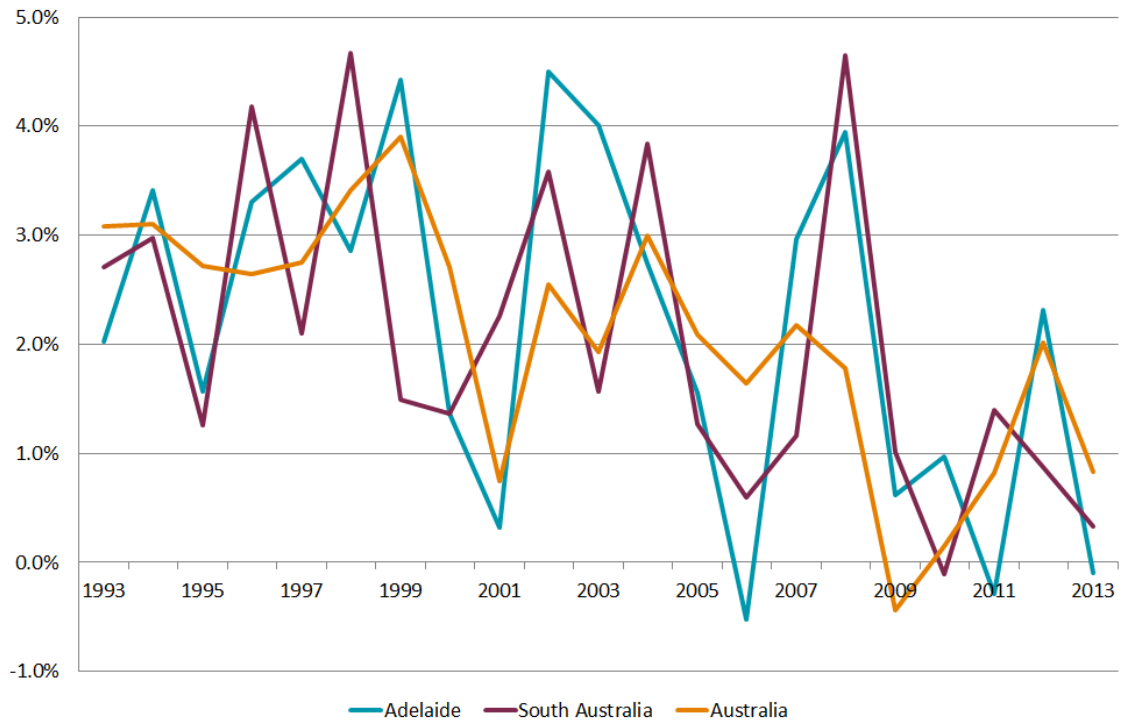


Source: Australian National Accounts: State Accounts, Cat. No. 5220.0 and SGS Economics & Planning

Health & community services (0.4 percentage points), Wholesale trade (0.4 percentage points) and Professional services (0.3 percentage points) contributed positively to GDP growth during 2012-13. In the most recent year, a range of industries detracted from GDP growth in Adelaide.

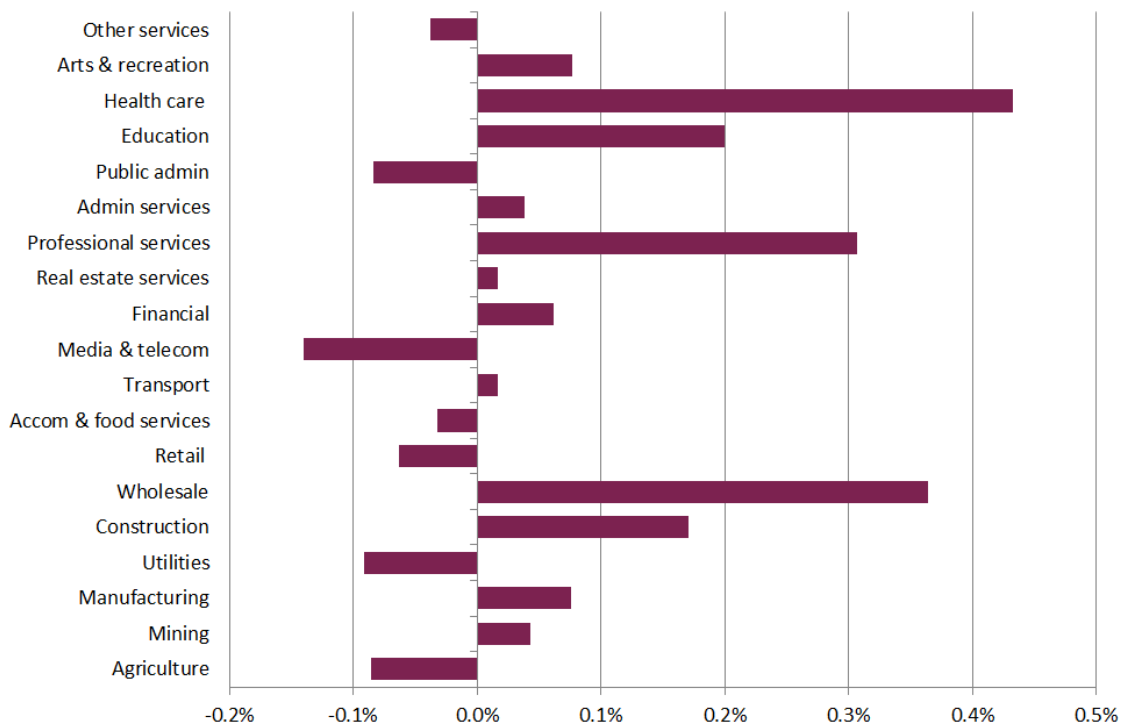
Due to recent growth, the Health care industry has overtaken Manufacturing to be the second largest industry. Financial & insurance services is the largest income generating industry in the economy of Adelaide (Figure 21).

**FIGURE 19 ADELAIDE GDP PER CAPITA GROWTH – VOLUME MEASURE**



Source: Australian National Accounts: State Accounts, Cat. No. 5220.0 and SGS Economics & Planning

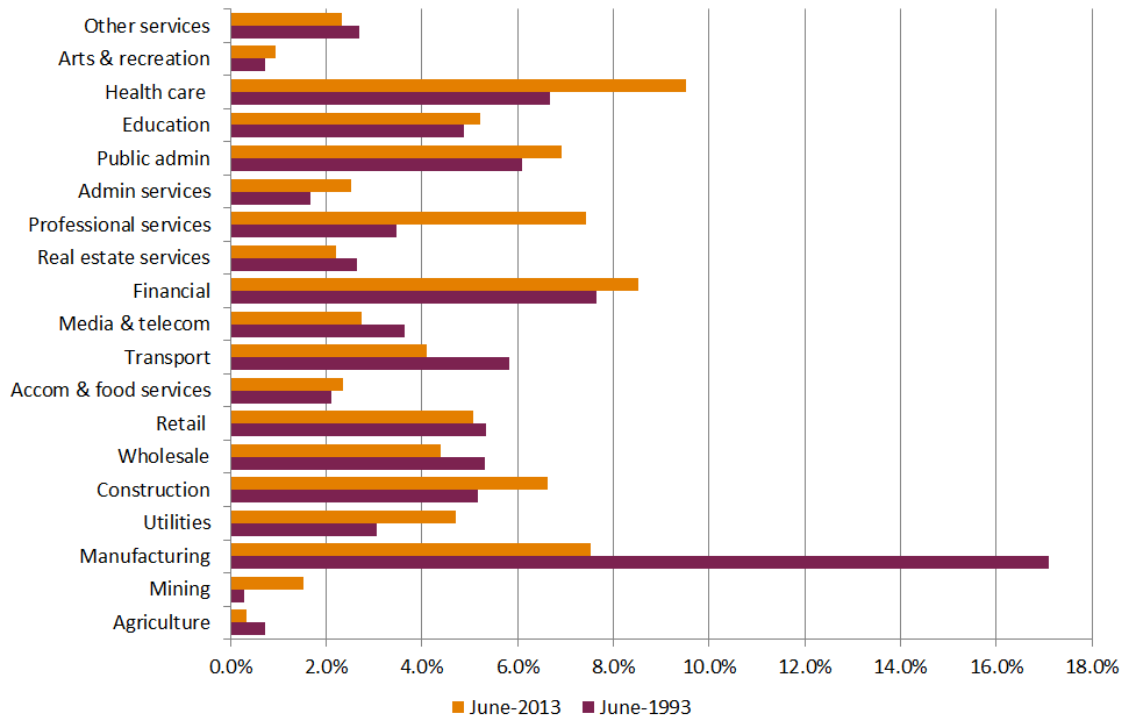
**FIGURE 20 CONTRIBUTION TO ADELAIDE GDP GROWTH, 2012-13**



Source: SGS Economics & Planning

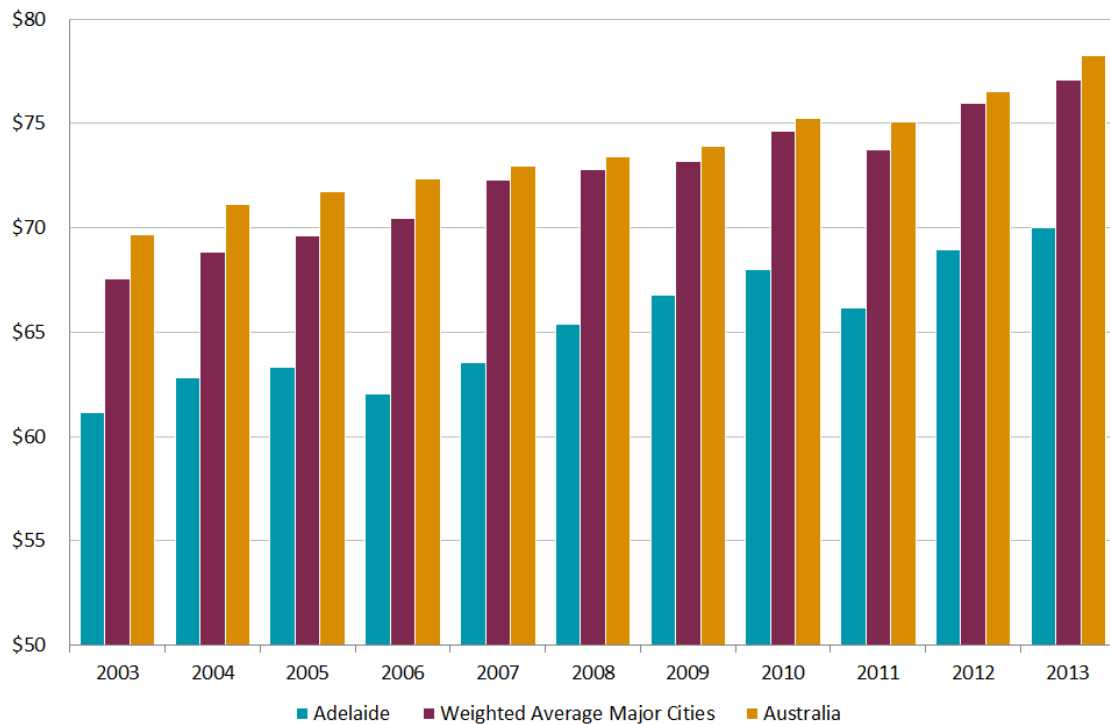
Labour productivity in Adelaide is the lowest of the major capital cities, which is heavily influenced by the industry composition of the economy. Adelaide has a lower percentage of higher productivity industries.

**FIGURE 21 ADELAIDE INDUSTRY STRUCTURE<sup>7</sup>**



Source: SGS Economics & Planning

**FIGURE 22 LABOUR PRODUCTIVITY, ADELAIDE**



Source: SGS Economics & Planning

<sup>7</sup> As measured by industry gross value added share of total industry value added (excluding Ownership of dwellings).

Adelaide is faced with a number of structural challenges which do not have a clear solution. The ongoing decline of Manufacturing, a population which is ageing more rapidly than other cities and a shallow pool of export oriented knowledge intensive services will constrain growth over the coming years. The weakness in the economy will continue the long term trend of the migration of skilled labour (in particular those in younger age groups) to elsewhere in Australia.

**TABLE 6 CONTRIBUTION TO ADELAIDE GDP GROWTH – VOLUME MEASURE**

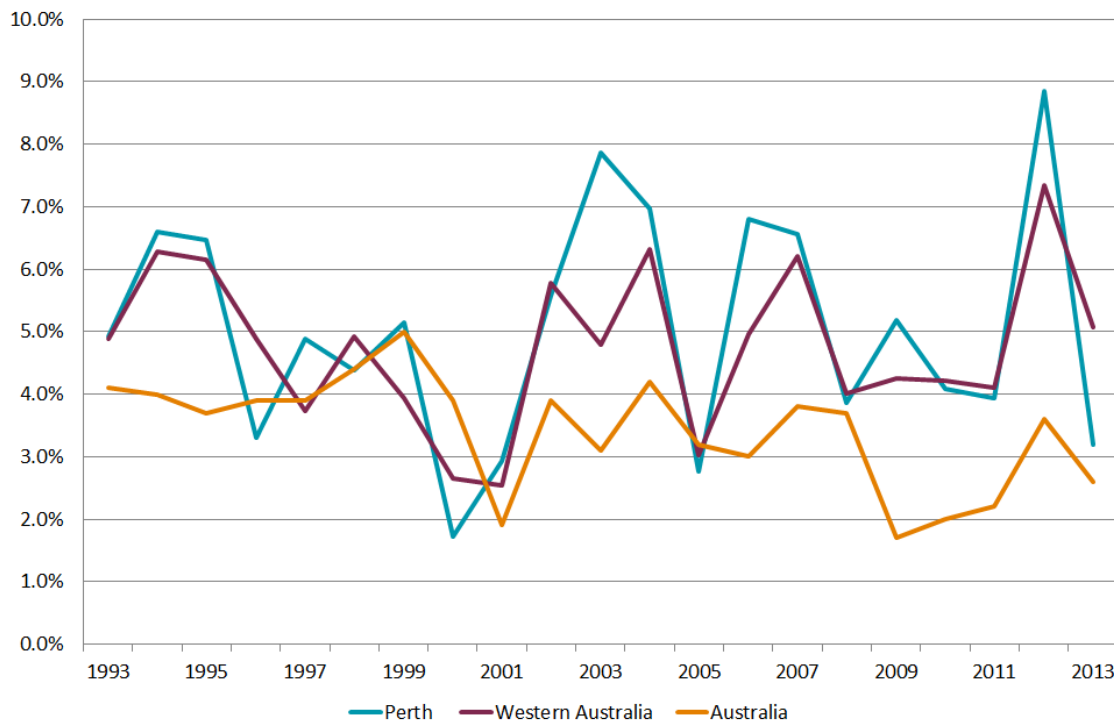
<b>Industry</b>	<b>2008-09</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>
Agriculture, forestry & fishing	-0.2%	0.1%	0.0%	0.0%	-0.1%
Mining	0.2%	0.5%	-0.3%	0.4%	0.0%
Manufacturing	-0.5%	0.1%	0.4%	-0.1%	0.1%
Electricity, gas, water & waste	0.1%	-0.1%	0.0%	0.0%	-0.1%
Construction	0.8%	0.2%	-0.2%	0.3%	0.2%
Wholesale trade	0.2%	-0.5%	0.4%	-0.2%	0.4%
Retail trade	0.4%	-0.1%	0.0%	-0.1%	-0.1%
Accommodation & food	0.0%	0.0%	-0.4%	0.5%	0.0%
Transport, postal & warehousing	-0.2%	0.2%	0.1%	0.2%	0.0%
Information media & telecommunications	-0.2%	0.1%	0.1%	0.0%	-0.1%
Financial & insurance	0.2%	0.1%	-0.1%	0.5%	0.1%
Rental, hiring & real estate	-0.3%	0.3%	-0.2%	0.2%	0.0%
Professional, scientific & technical	0.5%	0.6%	0.3%	0.2%	0.3%
Administrative & support	-0.4%	0.0%	0.0%	0.1%	0.0%
Public administration & safety	0.5%	-0.3%	0.2%	0.4%	-0.1%
Education & training	0.1%	0.1%	0.0%	0.1%	0.2%
Health care & social assistance	0.2%	0.1%	0.4%	0.3%	0.4%
Arts & recreation	0.1%	-0.2%	0.0%	-0.2%	0.1%
Other services	-0.2%	0.3%	-0.1%	-0.1%	0.0%
Ownership of dwellings	0.2%	0.0%	0.1%	0.1%	0.1%
Taxes less subsidies on products	0.0%	0.0%	-0.1%	0.2%	0.0%
Statistical Discrepancy	0.1%	-0.4%	0.1%	0.7%	0.0%
<b>Gross domestic product – Volume measure</b>	<b>1.9%</b>	<b>2.2%</b>	<b>0.8%</b>	<b>3.3%</b>	<b>1.0%</b>

Source: SGS Economics & Planning

### 3.5 Perth

As with Brisbane and Adelaide, there have been considerable movements in GDP growth in Perth over the past decade. In 2002-03, Perth GDP growth was 7.9 per cent (more than double the Australian average). In 2004-05, GDP growth had fallen to 2.8 per cent below the national average of 3.2 per cent.

**FIGURE 23 PERTH GDP GROWTH – VOLUME MEASURE**

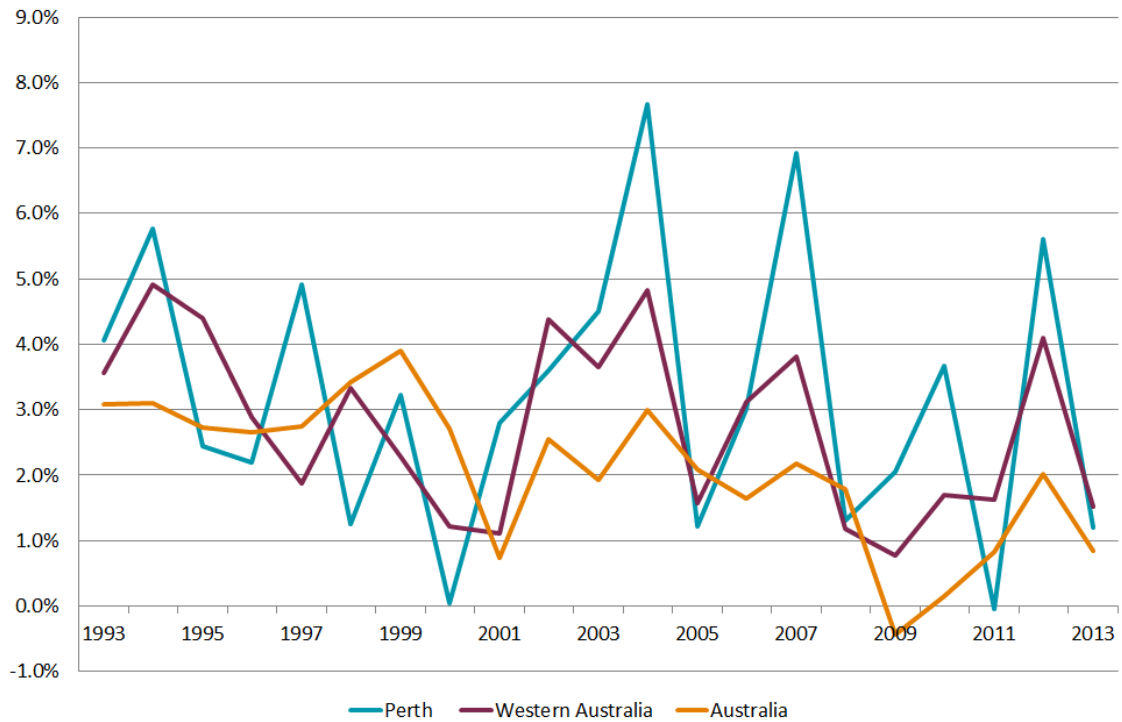


Source: Australian National Accounts: State Accounts, Cat. No. 5220.0 and SGS Economics & Planning

Figure 24 presents the GDP per capita growth rate for Perth. In the most recent year, the impact of ongoing increases in the volume of iron ore produced in Regional Western Australian has driven the higher growth in the Western Australian GDP per capita growth. Perth has experienced GDP per capita growth only slightly above the national average. In 2012-13, Perth represented 57.0 per cent of the Western Australian economy. This reflects the rapid expansion in mineral production (and associated construction and support services) in Regional Western Australia.



**FIGURE 24 PERTH GDP PER CAPITA GROWTH – VOLUME MEASURE**

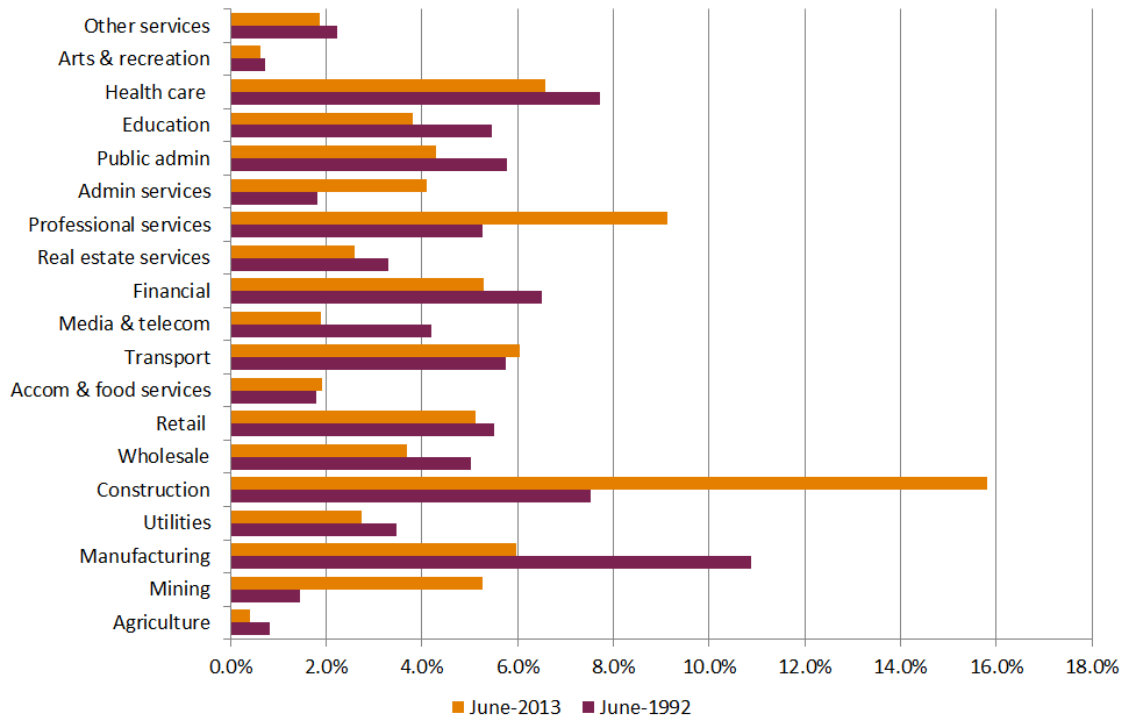


Source: Australian National Accounts: State Accounts, Cat. No. 5220.0 and SGS Economics & Planning

Figure 25 presents the industry share of the Perth economy. Construction is the largest industry (15.8 per cent). However, given the difficulties fully accounting for Fly In Fly Out workers who live in Perth but travel to Regional Western Australia for employment, some caution should be exercised when interpreting these estimates. Professional services (9.1 per cent), Health care (6.6 per cent) Manufacturing (6.0 per cent), Transport & storage (6.4 per cent) and Financial & insurance (5.3 per cent) are also large industries in Perth.

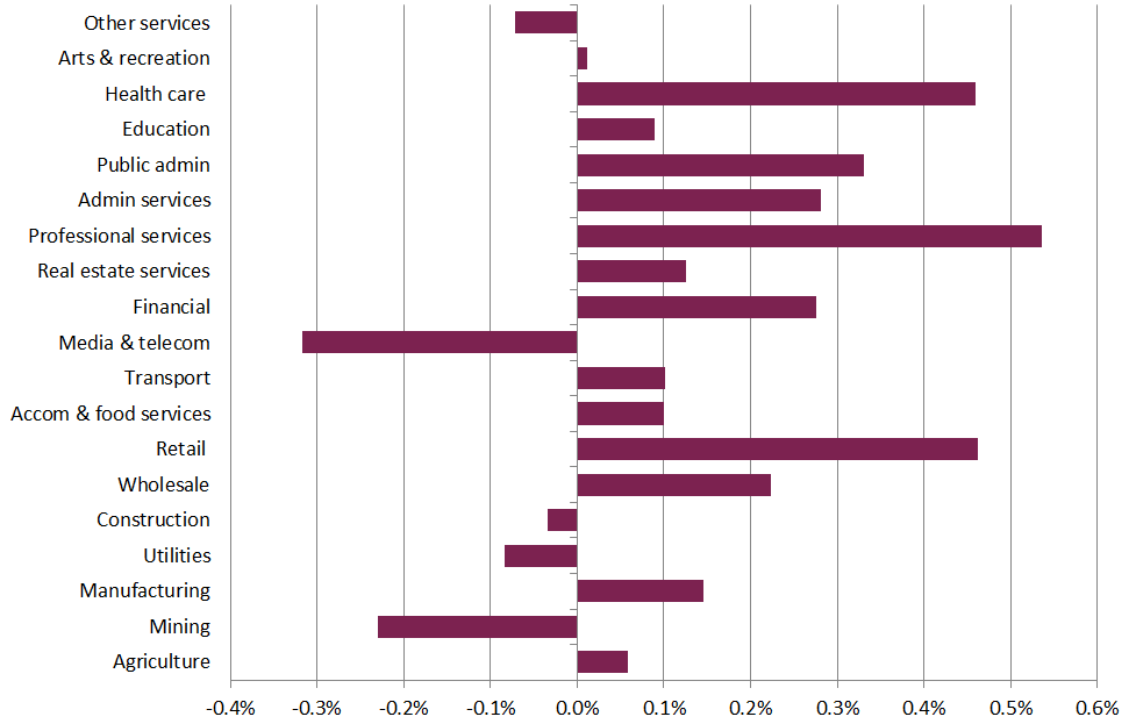
Growth in Perth was broad based with Professional services, Health care and Retail trade (all 0.5 percentage points) all contributing significantly. Information Media and Mining were the only two industries which detracted from GDP growth in Perth.

**FIGURE 25 PERTH INDUSTRY STRUCTURE<sup>8</sup>**



Source: SGS Economics & Planning

**FIGURE 26 CONTRIBUTION TO PERTH GDP GROWTH, 2012-13**



Source: SGS Economics & Planning

<sup>8</sup> As measured by industry gross value added share of total industry value added (excluding Ownership of dwellings).

**TABLE 7 CONTRIBUTION TO PERTH GDP GROWTH – VOLUME MEASURE**

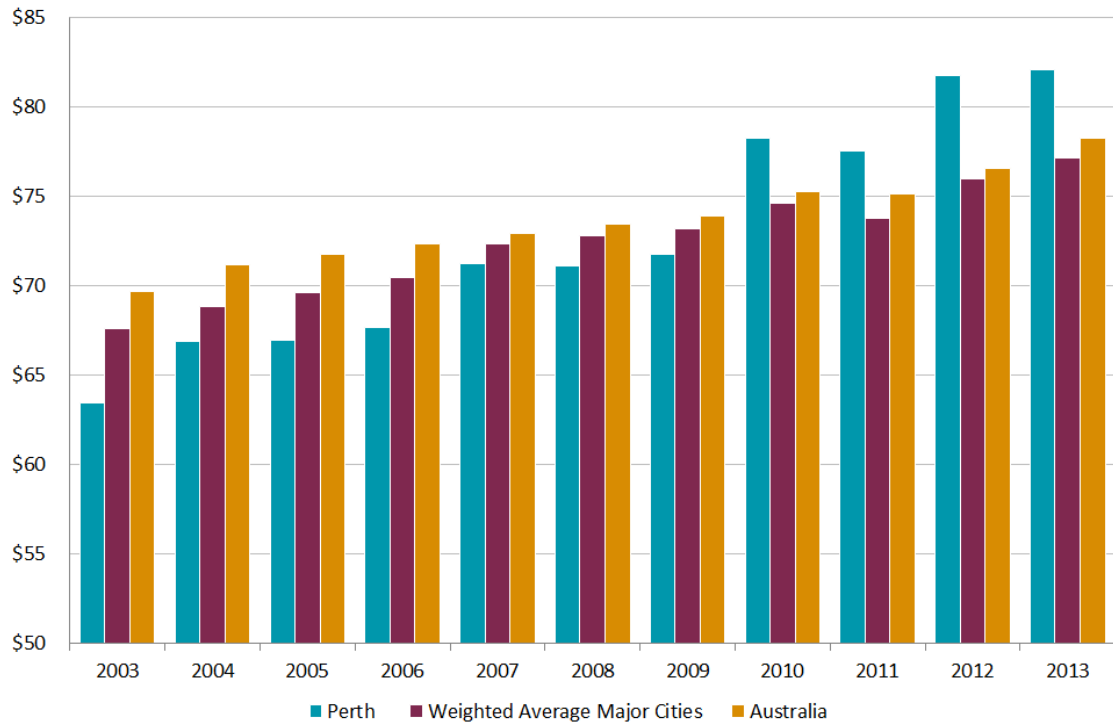
Industry	2008-09	2009-10	2010-11	2011-12	2012-13
Agriculture, forestry & fishing	0.0%	0.1%	0.0%	-0.2%	0.1%
Mining	0.3%	2.9%	-0.8%	1.3%	-0.2%
Manufacturing	0.5%	0.0%	0.4%	0.3%	0.1%
Electricity, gas, water & waste	0.1%	0.1%	0.3%	0.3%	-0.1%
Construction	1.8%	-0.3%	0.5%	2.8%	0.0%
Wholesale trade	0.0%	0.1%	0.0%	0.3%	0.2%
Retail trade	0.2%	0.1%	0.0%	0.4%	0.5%
Accommodation & food	0.1%	-0.2%	0.2%	0.2%	0.1%
Transport, postal & warehousing	0.1%	-0.2%	0.5%	0.4%	0.1%
Information media & telecommunications	-0.2%	0.3%	0.1%	0.2%	-0.3%
Financial & insurance	-0.1%	-0.1%	0.2%	0.0%	0.3%
Rental, hiring & real estate	0.3%	-0.1%	0.2%	0.5%	0.1%
Professional, scientific & technical	0.9%	0.7%	1.1%	0.2%	0.5%
Administrative & support	0.1%	-0.2%	0.5%	0.1%	0.3%
Public administration & safety	0.4%	-0.2%	0.3%	0.0%	0.3%
Education & training	0.2%	0.1%	0.0%	0.1%	0.1%
Health care & social assistance	0.3%	0.6%	0.3%	0.0%	0.5%
Arts & recreation	0.0%	0.1%	0.1%	0.0%	0.0%
Other services	-0.1%	-0.1%	0.1%	0.3%	-0.1%
Ownership of dwellings	0.4%	0.1%	0.2%	0.3%	0.3%
Taxes less subsidies on products	-0.2%	0.1%	-0.2%	0.3%	0.2%
Statistical Discrepancy	-0.1%	0.0%	0.1%	-0.5%	0.2%
<b>Gross domestic product – Volume measure</b>	<b>5.2%</b>	<b>4.1%</b>	<b>3.9%</b>	<b>7.2%</b>	<b>3.2%</b>

Source: SGS Economics & Planning

Figure 27 presents the labour productivity for Perth. In 2000-01 the city was well below the weighted average of the major capital cities. The last three years have seen strong growth in labour productivity resulting in Perth overtaking the weighted average of the major capital cities. This has been due to growth in a range of high Labour productivity industries in Perth.

Perth's exposure to the Mining boom means that a key challenge for the city is to effectively manage economic and population growth. Recent investments in public transport capacity will serve Perth well, as Professional services employment continues to grow in central Perth. Continuing investment and improvements to central Perth will improve connectivity and amenity which will aid in attracting additional high productivity employment to the city.

**FIGURE 27** LABOUR PRODUCTIVITY, PERTH



Source: SGS Economics & Planning

# 4 INDUSTRY METHODS

The gross value added for each industry for Australia is derived in the annual supply and use tables using the double deflation technique. That is, subtracting estimates of intermediate input from estimates of output. Where possible the same data has been used in estimating State level industry gross value added. The details of this estimation method are outlined in [Information paper: Gross State Product using the Production approach GSP\(P\)](#). In estimating the Capital City level industry gross value added, where possible, the same data sources have been used. The following section provides a summary of the data sources used to estimate gross value added for each industry. A quality assessment is also provided.

## Agriculture, forestry and fishing

### Method

*Australian National Accounts: State Account (cat. no. 5220.0)* provides a measure of gross value added for the Agriculture, forestry & fishing industry in State. Data from the *Agricultural Commodities: Small Area Data, Australia, 2006-07 (cat. no. 7225.0)* provides information on the gross value of agricultural production within Capital City and Balance of the State.

The share of the gross value of agricultural production within Capital City is used to allocate the State gross value added figure to Capital City for 2006-07. The Capital City share is altered in every other year using the hours worked from the *Labour Force, Australia, Detailed, Quarterly (cat. no. 6291.0.55.003)*.

### Quality

The most reliable estimate would be for 2006-07, with the estimates based on the labour force survey being a slightly lower quality. The 2006-07 share based on the *Agricultural Commodities: Small Area Data, Australia* publication is 8.5 per cent and the *Labour Force, Australia, Detailed, Quarterly* estimate is 8.3 per cent. This indicates that the labour force survey is a good proxy of economic activity in the Agriculture, forestry & fishing industry.

This method would be unlikely to capture head office operations of Agriculture, forestry & fishing firms located in Capital Cities. This would have a very small downward bias on the estimates. Due to the relatively small size of the industry in the Capital City (0.2 per cent in 2006-07), it would have little impact on the quality of Capital City's GDP.

## Mining

### Method

The gross value added per hour worked (labour productivity) for the Professional, scientific & technical services industry is multiplied by the total hours worked in the Mining industry in the Capital City. This is done as much of the Mining activity in the Capital City is often related to head office operations. The Professional, scientific & technical services gross value added per hour worked is thought to reflect the type of activities carried out by head office operations.

### Quality

Due to the conceptual issues with measuring mining production associated with city based workers and lack of data the Mining estimates of gross value added are considered to be of a very low quality. The method would not account for direct mining operations (quarries, sands etc) which take place in the

Capital City. This could have a very small downward bias on the estimates. Due to the relatively small size of the industry in Capital Cities (between 0.1 per cent and 0.4 per cent) it would have little impact on the quality of the Capital City's gross domestic product.

## **Manufacturing**

### **Method**

Data from the *Manufacturing Industry, State and Australian Capital Territory (cat. no. 8221.1.55.001)* publication provides information on the sales income share between Capital City and the Balance of State for 2001-02. *Manufacturing Industry, Australia, 2006-07 (cat. no. 8221.0)* provides the sales income split for 2006-07.

The share of the income within Capital City and the Balance of State is used to allocate the State gross value added figure to Capital City for 2001-02 and 2006-07. The Capital City share is altered in every other year using the movements in hours worked from the *Labour Force, Australia, Detailed, Quarterly (cat. no. 6291.0.55.003)* publication.

### **Quality**

The most reliable estimate would be for 2001-02 and 2006-07 with the estimates based on the labour force survey of a slightly lower quality. The 2001-02 income share for the Capital City is 69.8 per cent and the labour force hours worked is 72.8 per cent. The 2006-07 income share for the Capital City is 68.6 per cent and the labour force hours worked is 70.3 per cent. This indicates that the labour force survey is a reasonably good proxy of economic activity in the Manufacturing industry. The availability of detailed Manufacturing industry statistics data for 2001-02 and 2006-07 makes the estimates of Capital City's industry gross value added of a good quality.

## **Electricity, gas, water and waste services**

### **Method**

National gross value added for the two digit industry subdivisions from *Australian System of National Accounts (cat. no. 5204.0)* and the Census two digit industry subdivision place of work data is used to estimate an average gross value added per worker. The Census place of work data for Capital City and the Balance of State is then applied to these averages. The share of the total estimated gross value added is applied to the *Australian National Accounts: State Account (cat. no. 5220.0)* gross value added for the Electricity, gas, water & waste services for State. This produces an estimate for 2005-06 for Capital City and Balance of State gross value added for this industry. Population growth is then used to create a time series for industry gross value added.

### **Quality**

The quality for the Electricity, gas, water & waste services industry estimates would have to be seen as low. The lack of data is the key issue. The conceptual issue of splitting gross value added between generators / water treatment plants and distribution networks is also challenging. The industry is estimated to represent around 2.0 per cent of a city's gross domestic product.

## **Education and training**

### **Method**

The Australian Bureau of Statistics publication, *Australian National Accounts: National Income, Expenditure and Product (cat. no. 5206.0)* provides a measure of gross value added for the Education industry in Australia. *Government Finance Statistics, Education, Australia (cat. no. 5518.0.55.001)* is used to split the national estimates of Education gross value added into School & Post School Education.

*Australian National Accounts: State Account (cat. no. 5220.0)* provides a measure of gross value added for the Education industry in each State. The *Survey of Education and Training (cat. no. 6278.0)* provides data on people with education qualifications, and estimates of school aged population taken from *Population by Age and Sex, Regions of Australia (cat. no. 3235.0)* are used to allocate the State estimate of education by level to the capital city.

### **Quality**

Given the detailed level of data being used and the fairly straightforward nature of the delivery of education and training services (in a spatial sense) lead to the quality of this industry estimated being classed as good.

## **Ownership of dwellings**

### **Method**

Average rents in Capital City and Balance of the State are derived from the *Housing Occupancy and Costs, Australia, 2005-06 (cat. no. 4130.0)* publication and combined with population data to estimate the share of Ownership of dwellings for the two areas. This is then applied to the Ownership of dwellings gross value added from the *Australian National Accounts: State Account (cat. no. 5220.0)*.

### **Quality**

The quality of the available data and the clear conceptual boundaries lead to the quality of this industry estimate being classed as good.

## **All other industries**

### **Method**

In the absence of any data which would allow the share between the Capital City and Balance of the State to be estimated, the hours worked from the *Labour Force, Australia, Detailed, Quarterly (cat. no. 6291.0.55.003)* is used. The industries which this method is applied to are:

- Construction
- Wholesale trade
- Retail trade
- Accommodation & food services
- Arts & recreation services
- Other services

For some industries one adjustment is made to the hours worked share. The hours worked are weighted by an average wage rate for Capital City and Balance of the State from the Census. This accounts for different economic structures within each industry in the Capital City and Balance of the State. For example, in Financial & insurance services the type of activities (from basic banking operations up to hedge funds) is much wider than in Balance of the State (where basic banking operations are the most common activities). The industries which this method is applied to are:

- Information media & telecommunications
- Financial & insurance services
- Rental, hiring & real estate services
- Professional, scientific & technical services
- Public administration and safety
- Health care and social assistance

## Quality

The quality of the various industry estimates would vary and should be treated with some caution but in aggregate the method should provide a good estimate of a Capital City's gross domestic product.

## Taxes less subsidies on products

### Method

*Australian National Accounts: State Account (cat. no. 5220.0)* provides a measure of Taxes less subsidies on products for the Agriculture, forestry & fishing industry in each State. The Capital City share of Agriculture, forestry & fishing industry gross value added is used to split the value of Taxes less subsidies on products this industry. The residual of the State Taxes less subsidies on products is then split using the total industry value added (excluding Ownership of dwellings) for Capital City and the Balance of State.

## Quality

This method should produce reasonable estimates of the split between Capital City and Balance of the State for Taxes less subsidies on products.

## Aggregation of industry estimates to Gross domestic product

Via the use of the implicit price deflation technique, the chain volume measures of industry gross value added are converted into current prices. This method overcomes the non-additivity issue with the chain volume measure and allows the aggregation of industry estimates of gross value added to overall gross domestic product. In order to maintain consistency with the wider National Accounts, the Production approach estimate of Capital City gross domestic product is benchmarked to State gross state product. An industry weighted GDP implicit price deflator is created to for the Capital City and Balance of State.



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SGS Economics and Planning is at the forefront of Economic and Social Research and Analysis. We are at the cutting edge of research into economic clusters and the links between urban amenity, economic growth and community wellbeing.

Our approach is underpinned by the recognition that economic development is a continuous process of growing an area's level of income and capital and how these are distributed amongst the community.

Typically measured in terms of income and employment, economic development is also measured by improvements in education, health, culture, community wellbeing and the environment.

