

Economic performance of Australia's cities and regions

2018-2019
DEC 2019





Independent
insight.

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Introduction

About SGS Economics and Planning

SGS Economics and Planning (SGS) is a certified Benefit Corporation helping business and government make informed policy and strategy decisions for the public good. Our evidence-based insights help solve pressing social, economic and environmental issues and shape more sustainable cities and regions.

Our team is at the forefront of economic and social analysis, including research into economic clusters and links between urban amenity, economic growth and community wellbeing.

For the past nine years, we have published *Economic Performance of Australia's Cities and Regions* to fill a void in economic policy research. The publication and interactive map show small area estimates of Gross Domestic Product (GDP) of every major city and region in Australia.

About this publication

"Australian cities and regions are economic orphans. Responsibility for managing their economy - in terms of taxation, planning, infrastructure provision, regulation and economic development - fall between all tiers of government. There is little publicly available data that delves into more detail than state level. Our research into understanding the distribution of economic growth fills a void in economic policy research and highlight the productivity challenges facing Australia's city and region."

**SGS National Leader for Economic & Social Analysis
Terry Rawnsley.**



Economic Performance of Australia's Cities and Regions draws on research by SGS and data from the annual Australian Bureau of Statistics (ABS) Australian National Accounts: State Accounts (Cat. No. 5220.0). 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. Since the last release of *Economic Performance of Australia's Cities and Regions* in December 2018, the Australian Bureau of Statistics (ABS) has issued a new set of National and State Accounts (Cat. No. 5220.0). The ABS data contains a set of historical revisions, where the annual data is revised through the time series back to 1989-90.

Economic development is measured in terms of income and employment as well as improvements in education, health, culture, community wellbeing and the environment. Our research methodology recognises that economic development is a continuous process of growing an area's level of income and capital and how this income and capital are distributed among the community.

Economic Performance of Australia's Cities and Regions shows estimates of economic activity for each major capital city along with the regional balance of each 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, and the regional balance of each state, the Northern Territory, Tasmania and the Australian Capital Territory¹. Detailed Statistical Area 3² data provides a more comprehensive understanding of the economic performance at the small area level. Importantly, these statistics highlight the challenges facing Australia's cities and regions. This year's publication does not include a productivity analysis; we will release this analysis in a separate report in 2020.

Economic Performance of Australia's Cities and Regions has three sections:

- Section one compares the economic outcomes for each region.
- Section two provides an overview of the economic performance of each region.
- Section three describes our research methodology.

Key findings

During the early 1980s, the economic structure of Australia was reasonably homogeneous. Examining economic statistics at the national level would have provided reasonable insight into the conditions across Australia.

Since this time, the Australian economy has evolved and become complex. The rise of knowledge-intensive services, differentials in government policy and investment, the resources construction boom and bust, the declining competitiveness of manufacturing and other changes have created a fragmented economy.

This edition of *Economic Performance of Australia's Cities and Regions* shows an even more complex picture:

- The recent drought is impacting many rural economies. Falling agriculture production is directly affecting related industries such as manufacturing, wholesale trade, and transport and storage.
- The perennial underperforming economies of Adelaide and Tasmania have boomed over the past two to three years.
- The decline in the housing sector (in terms of construction and the wealth effect) has impacted some regions more than others. The local economies of residential growth corridors in South East Queensland, Sydney and Perth appear affected by the decline in the housing sector. However, the growth corridors in Melbourne look to have shrugged off the worst of the impacts.
- After growing in unison for much of the past five years, Sydney and Melbourne diverged in 2018-19. Sydney's GDP growth in 2018-19 has fallen below its ten-year average while Melbourne's growth continues to be well above the ten-year average. Despite this divergence, Sydney and Melbourne remain the drivers of the national economy. These two cities produced almost 75 per cent of national GDP growth.

Contact

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¹Based on the Australian Statistical Geography Standard boundaries.

²SA3s are defined by the ABS and represent regions of between approximately 30,000 and 130,00 people.

Overview



1.1 GDP Growth Rates

Australia's cities have displayed a level of strength and resilience, reflecting the competitive advantages built up over the last three decades. Although each city faces challenges to ensure the ongoing prosperity of its residents through long-term growth.

Some of these challenges are common to all cities (e.g. efficient provision of infrastructure, the attraction of skilled workers, industry development and ensuring liveability). However, other cities are unique due to industry-specific structures and other geographic factors.

As shown in Figure 1, there was a wide range of growth rates across the country. The regions with the most substantial growth were Melbourne (4.0 per cent), Tasmania (3.6 per cent), Adelaide (3.2 per cent) and Canberra (3.0 per cent).

Falls in agricultural production as a result of drought conditions saw Regional South Australia (-2.9 per cent), Regional Victoria (-1.4 per cent), Regional New South Wales (-0.3 per cent) all experienced a technical recession during 2018-19.

Regional Western Australia and Regional Queensland also saw substantial falls in agricultural production but avoided a technical recession due to increased mining production.

FIGURE 1: 2018-19 GDP GROWTH RATES – VOLUME MEASURE

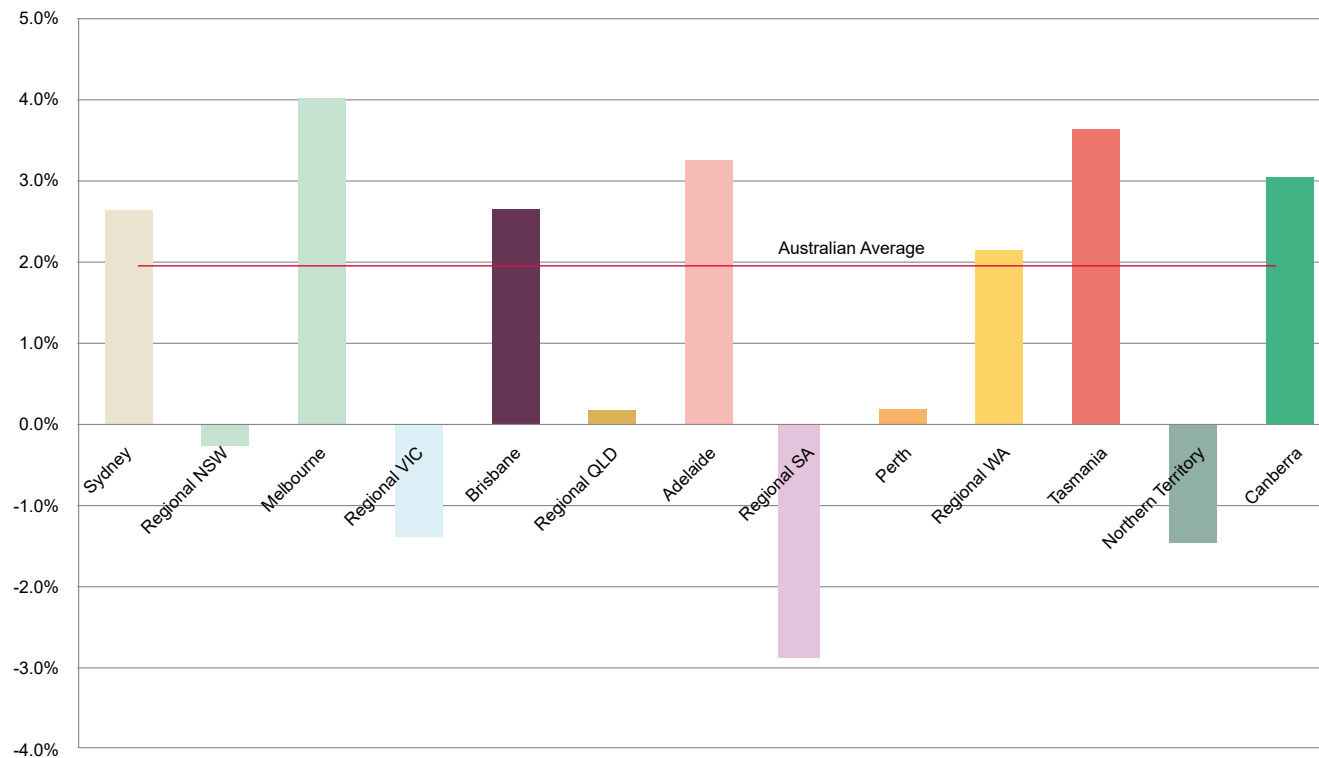




Table 1 presents the value of GDP, annual growth rate, the average annual growth rate for the last decade and the share of national GDP for each region.

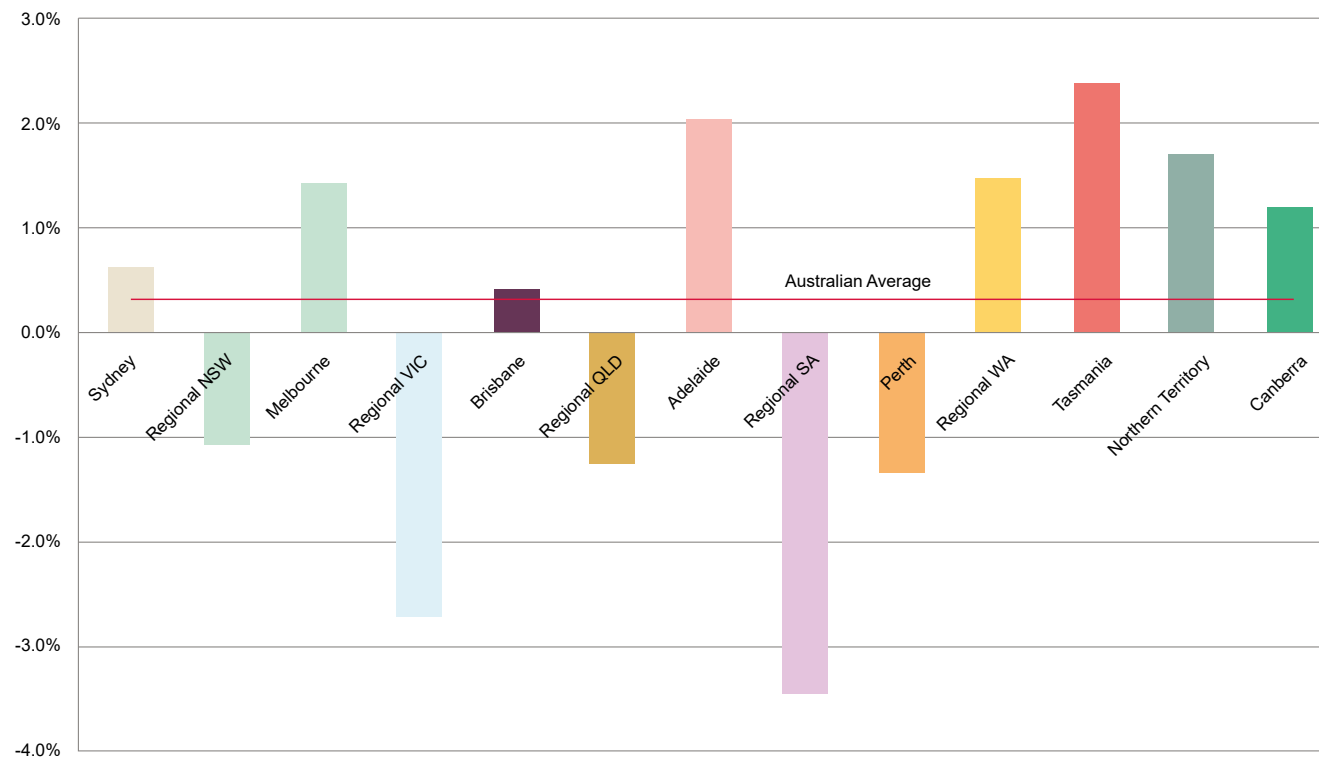
TABLE 1: GROSS DOMESTIC PRODUCT - VOLUME MEASURE 2018-19

Region	GDP Million	2018-19 Growth	Average Annual Growth 08-09 to 18-19	Share of GDP
Sydney	\$461,440	2.6%	2.7%	24.1%
Regional NSW	\$152,969	-0.3%	1.7%	8.0%
Melbourne	\$369,439	4.0%	3.0%	19.3%
Regional Victoria	\$76,640	-1.4%	0.8%	4.1%
Brisbane	\$177,006	2.6%	2.5%	9.3%
Regional QLD	\$180,038	0.1%	2.1%	9.7%
Adelaide	\$85,254	3.2%	1.8%	4.4%
Regional SA	\$22,736	-2.9%	0.0%	1.2%
Perth	\$146,880	0.1%	2.6%	7.8%
Regional WA	\$113,760	2.1%	4.9%	6.8%
Tasmania	\$31,819	3.6%	1.5%	1.7%
Northern Territory	\$26,109	-1.5%	2.5%	1.4%
Canberra	\$40,879	3.0%	2.9%	2.1%
Australia	\$1,884,969	1.9%	2.5%	100%

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

Figure 2 shows GDP growth in per capita terms. The regions with the most robust growth were Tasmania (2.3 per cent), Adelaide (2.0 per cent), Regional Western Australia (1.5 per cent) and Melbourne (1.4 per cent). Regional South Australia (-3.5 per cent) and Regional Victoria (-2.7 per cent) experienced the most significant declines in per capita GDP growth.

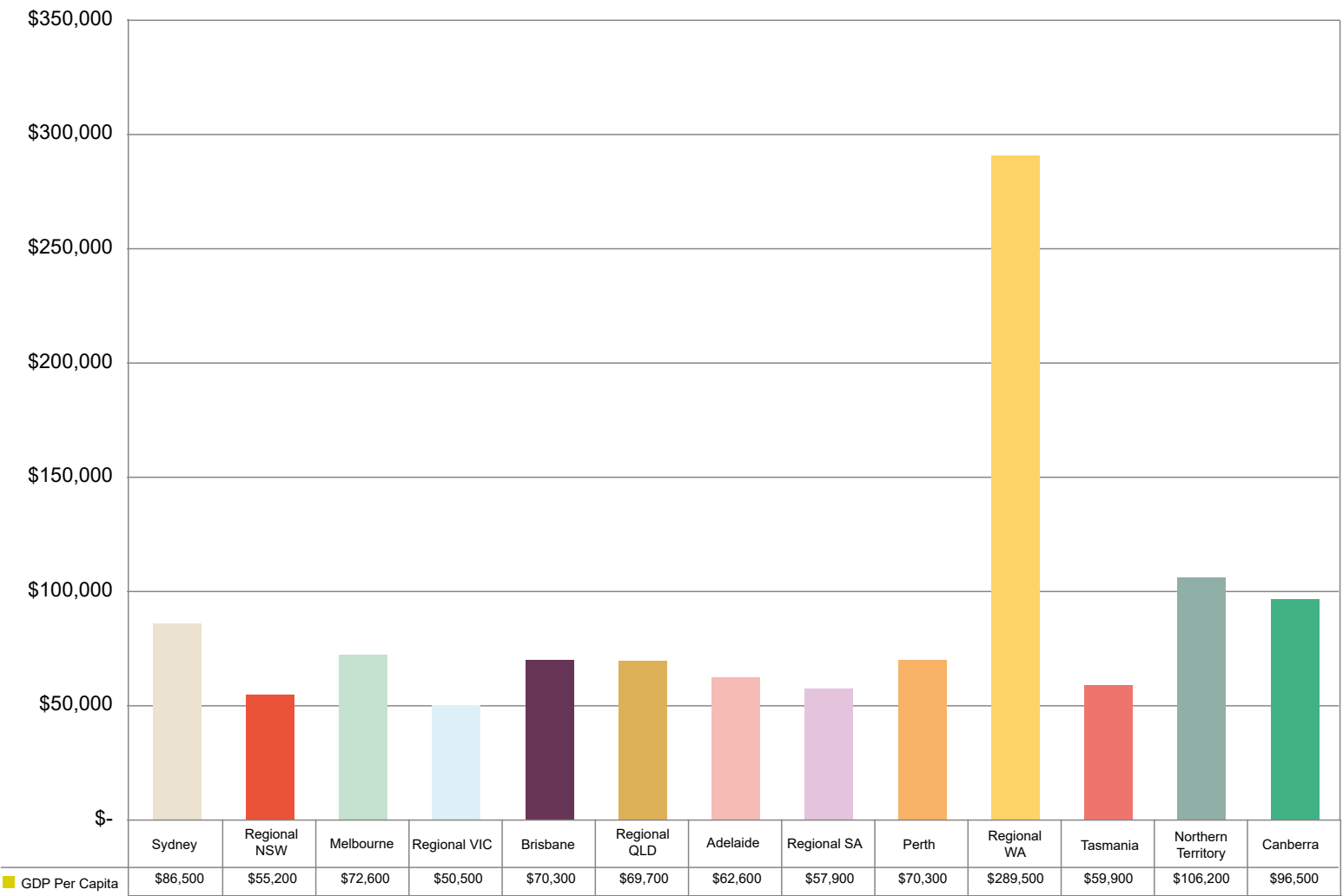
FIGURE 2: 2018-19 GDP PER CAPITA GROWTH RATES – VOLUME MEASURE



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

Figure 3 presents the level of GDP per capita. Regional Western Australia had by far the highest GDP per capita (\$289,500) which is driven by iron ore and other mineral production. In terms of the major capital cities, Sydney’s GDP per capita of \$86,500 was the highest, followed by Melbourne (\$72,600), Perth and Brisbane (both \$70,300) and Adelaide (\$62,600). Tasmania (\$59,900), Regional New South Wales (\$55,200), Regional Victoria (\$50,500) had the lowest GDP per capita.

FIGURE 3: 2018-19 GDP PER CAPITA– VOLUME MEASURE



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

1.2 Contribution to Growth

Table 2 presents each region's contribution to GDP growth for the 1990s, 2000s, 2010s, the most recent financial year and the whole period (1989-90 to 2018-19). This table demonstrates the importance of Australia's two largest cities, Sydney and Melbourne, to the national economy, and the variable contributions of the resource-reliant economies of Regional Western Australia and Queensland.

Sydney has traditionally been a significant driver of Australia's economy, accounting for 31.7 per cent of Australia's economic growth in the 1990s. This title was ceded to Melbourne in the 2000s with Melbourne accounting for 19.1 per cent of national growth and Sydney accounting for 16.8 per cent.

Sydney's economy has returned to its preeminent position in the last seven years, accounting for 26.3 per cent of growth since 2009-10, and 32.9 per cent in the most recent year.

Meanwhile, Melbourne has demonstrated increasing importance to Australia's economy, successfully transforming from a "rust belt" economy of the late 80s to a diversified economy today. This is illustrated through Melbourne's increasing contribution to national growth, from 13.9 per cent in the 1990s and 19.1 per cent in the 2000s, to 23.8 per cent since 2009-10. In 2018-19, Melbourne accounted for 39.8 per cent of national growth, the largest contributor.

Table 2 also illustrates the impact of the resources boom on Australia's economy. Perth's economy accounted for 5.9 per cent of GDP growth in the 1990s, increasing to 10.8 per cent in the 2000s and 8.0 per cent in the 2010s. Regional Western Australia showed a similar trend, from 4.1 per cent in the 1990s to 7.7 per cent in the 2000s, and 9.4 per cent in the 2010s.

TABLE 2: CONTRIBUTION TO GDP GROWTH – VOLUME MEASURE

Region	1990s	2000s	2010s	Most Recent Year	1989-90 2018-19
Sydney	31.7%	16.8%	26.3%	32.9%	23.1%
Regional NSW	9.2%	5.7%	5.2%	-1.2%	6.2%
Melbourne	13.9%	19.1%	23.8%	39.8%	20.1%
Regional Vic	9.2%	2.6%	1.3%	-3.0%	2.8%
Brisbane	9.7%	12.6%	9.0%	12.7%	10.6%
Regional QLD	9.5%	13.3%	8.8%	0.8%	11.1%
Adelaide	5.0%	4.1%	3.2%	7.5%	3.8%
Regional SA	1.0%	1.6%	-0.1%	-1.9%	0.7%
Perth	5.9%	10.8%	8.0%	0.5%	8.8%
Regional WA	4.1%	7.7%	9.4%	6.6%	7.8%
Tasmania	0.1%	1.6%	1.1%	3.1%	1.3%
Northern Territory	-0.5%	1.6%	1.5%	-1.1%	1.5%
Canberra	1.1%	2.4%	2.5%	3.4%	2.2%
Australia	100%	100%	100%	100%	100%

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

Table 3 presents the Statistical Area 3 (SA3) level of very large economies and their contribution to GDP growth. The selected SA3 represent almost half of the national GDP growth in 2018-19 and include the inner suburbs of the major cities, major suburban employment clusters and mining areas.

Melbourne City was the most significant contributor to national GDP growth with 12.4 per cent, followed by Sydney Inner City with 9.4 per cent.

Yarra and Port Phillip SA3s, which adjoin Melbourne City, contributed a further 4.0 per cent to GDP growth combined. The adjoining SA3s of Dandenong and Monash in Melbourne's south-east added a combined 3.5 per cent to GDP growth.

North Sydney- Mosman and Ryde- Hunters Hill, which form the northern section of Sydney's Global Economic Corridor, contributed a combined 2.4 per cent to Australia's GDP growth.

The two Pilbara SA3s in Western Australia combined to contribute 6.1 per cent to GDP. The QLD mining region of the Bowen Basin – North contributed 2.1 per cent to GDP growth in 2018-19.

TABLE 3: SA3 CONTRIBUTION TO 2018-19 GDP GROWTH – VOLUME MEASURE

State	Location	GDP 2018-19	Contribution to GDP Growth	Annual Growth	5 Yearly Growth
NSW	Sydney Inner City	\$140,035	9.4%	2.4%	3.3%
VIC	Melbourne City	\$109,166	12.4%	4.0%	4.6%
QLD	Brisbane Inner	\$44,676	4.2%	3.4%	3.3%
WA	Perth City	\$41,972	1.5%	1.3%	0.7%
WA	West Pilbara	\$28,870	1.1%	1.3%	2.9%
WA	East Pilbara	\$26,728	5.3%	7.0%	8.1%
SA	Adelaide City	\$21,289	1.5%	2.6%	2.7%
NSW	North Sydney- Mosman	\$21,619	1.5%	2.4%	4.7%
NSW	Ryde- Hunters Hill	\$19,399	0.9%	1.6%	5.0%
VIC	Port Phillip	\$18,989	2.1%	4.0%	4.1%
QLD	Bowen Basin- North	\$18,583	2.1%	4.0%	8.3%
NSW	Parramatta	\$17,475	0.8%	1.6%	1.6%
VIC	Monash	\$17,929	2.0%	3.9%	4.2%
VIC	Dandenong	\$16,706	1.5%	3.3%	3.4%
NSW	Newcastle	\$15,281	0.4%	0.9%	1.9%
VIC	Yarra	\$15,256	1.9%	4.3%	4.2%



1.3 Interest Rate Comparison

At the city level, there are limited policy levers available to manage the individual economies of Australia's cities in the short-term. At the national level, interest rates are used as a tool to help manage short term economic movements.

As the economy grows at a faster rate, interest rates are increased to ensure that the rate of growth does not become unmanageable. Conversely, a slowing economy would see interest rates cut to stimulate growth.

However, as shown above, the rates of growth across the country vary greatly, so setting a single interest rate for all regions is challenging. To highlight the economic divergence between regions, Table 4 presents a hypothetical situation where each region has its own central bank setting local interest rates. The weighted sum of all the rates is equal to the current Reserve Bank of Australia (RBA) target cash rate of 1.25 per cent as at the 30th of June 2019.

In this hypothetical situation, during 2018-19, ten regions would have seen a cut in their interest rates, one region would have remained unchanged and two regions would have increased interest rates.

Both Adelaide and Tasmania would have seen their interest rates increased by 0.25 percentage points in 2018/19 due to their higher GDP growth rates.

A hypothetical Reserve Bank of Sydney would have decreased interest rates from 2.75 per cent to 2.25 per cent in response to slowing economic growth in the City. Since 2015-16 the Reserve Bank of Sydney would have reduced rates by 1.5 percentage points. A Reserve Bank of Melbourne would have left rates unchanged at 2.5 per cent.

Apart from the Northern Territory, which would have had a 1.75 per cent reduction, all other regions would have had a 0.25 percentage point reduction in 2018/19.

Clearly policymakers do not have the ability to set different interest rates across the country, but this analytical exercise highlights how divergent economic growth has become in Australia's regions.



TABLE 4: HYPOTHETICAL REGIONAL INTEREST RATES – 30TH JUNE 2019

Region	Interest Rate 2015-16	Interest Rate 2016-17	Interest Rate 2017-18	Interest Rate 2018-19
Sydney	3.75%	3.50%	2.75%	2.25%
Regional NSW	0.25%	0.50%	0.50%	0.25%
Melbourne	2.25%	2.25%	2.50%	2.50%
Regional Victoria	0.25%	0.50%	0.50%	0.25%
Brisbane	0.25%	0.25%	0.50%	0.25%
Regional QLD	0.25%	0.25%	0.50%	0.25%
Adelaide	0.25%	0.25%	0.50%	0.75%
Regional SA	0.50%	1.00%	0.50%	0.25%
Perth	0.50%	0.25%	0.50%	0.25%
Regional WA	0.50%	0.25%	0.50%	0.25%
Tasmania	0.25%	0.25%	1.00%	1.25%
Northern Territory	3.50%	3.25%	2.00%	0.25%
Canberra	1.50%	2.00%	2.50%	2.25%
Australia	1.50%	1.50%	1.50%	1.25%

Source: SGS Economics & Planning and Reserve Bank of Australia

GDP by major capital city



Sydney

In terms of both share of the national economy and contribution to economic growth, Sydney is usually the most important city in Australia. However, the decade from 2000-01 could be described as Sydney's 'lost decade.' This period of relatively sluggish economic growth was the result of various factors, all of which contributed to a decline in Sydney's competitiveness over that period.



2.1 Sydney

In terms of both share of the national economy and contribution to economic growth, Sydney is usually the most important city in Australia. However, the decade from 2000-01 could be described as Sydney's 'lost decade'. This period of relatively sluggish economic growth was the result of various factors, all of which contributed to a decline in Sydney's competitiveness over that period. One key factor was the ineffective application of urban policy, including:

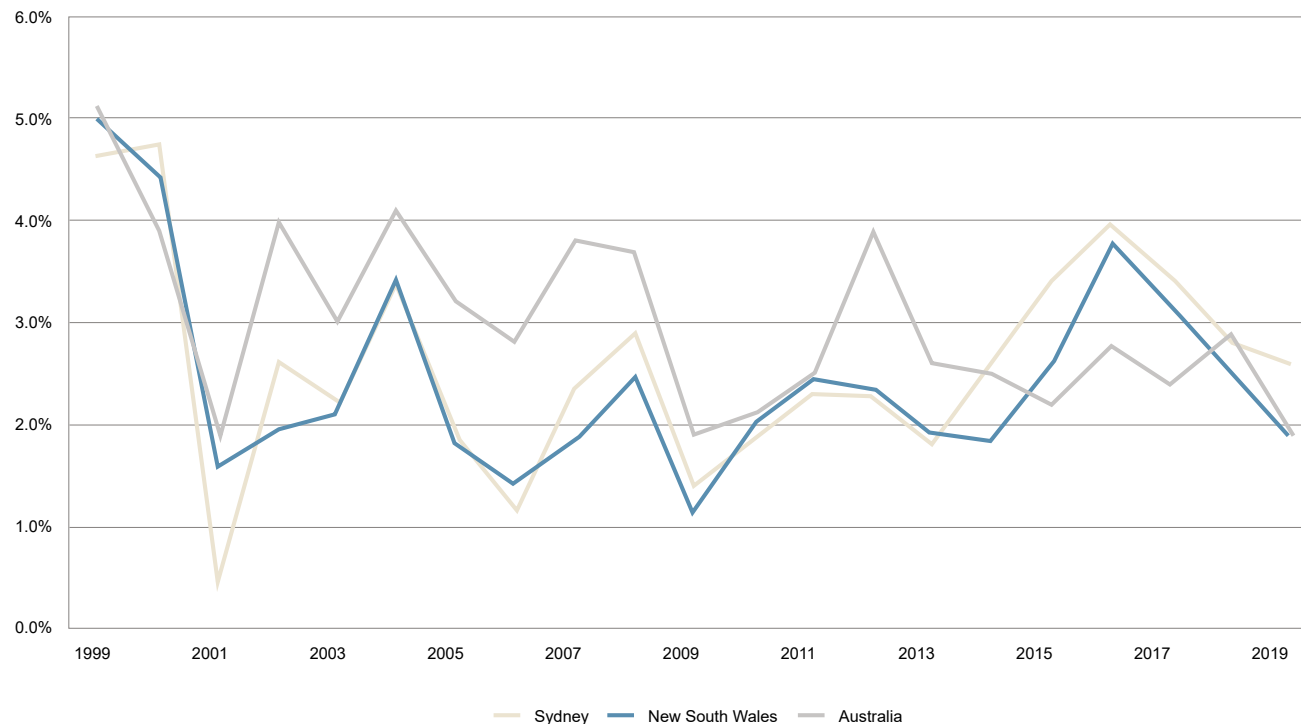
- Housing policies which generated congestion and had a significant impact on affordability
- Lack of investment in transport capacity
- The high cost of living driven by high housing costs

- Limited opportunities for businesses to locate in strategic locations at affordable rents.

Figure 4 presents the Volume measure (i.e. excluding inflation) of GDP growth for Sydney, compared to New South Wales and Australia. Sydney represents around 75 per cent of the New South Wales economy; and as a result, the Sydney and New South Wales growth rates track very closely together.

As shown in Figure 4, leading into 1999-00, Sydney had a higher rate of growth than the rest of Australia. Between 2000-01 and 2012-13, Sydney's growth underperformed relative to the rest of Australia, with the 2008-09 Global Financial Crisis impacting Sydney particularly hard. The last four years have seen Sydney's economy significantly outperform the rest of the country.

FIGURE 4: SYDNEY GDP GROWTH - VOLUME MEASURE



Sydney’s GDP growth slowed in 2018-19 to 2.6 per cent, the lowest rate of growth since 2012-13. Since Sydney’s GDP growth peaked in 2015-16 at 4.0 per cent, the following three years have seen a steady decline in the rate of growth in the Sydney economy.

Figure 5 presents the industry contributions to Sydney GDP growth for 2018-19. Professional services (0.4 percentage points) and financial and insurance services (0.4 percentage points) and were the largest most significant contributors to growth, following by health care (0.3 percentage points).

Agriculture, manufacturing, and accommodation and food services subtracted from GDP growth.

FIGURE 5: CONTRIBUTION TO SYDNEY GDP GROWTH 2018-19

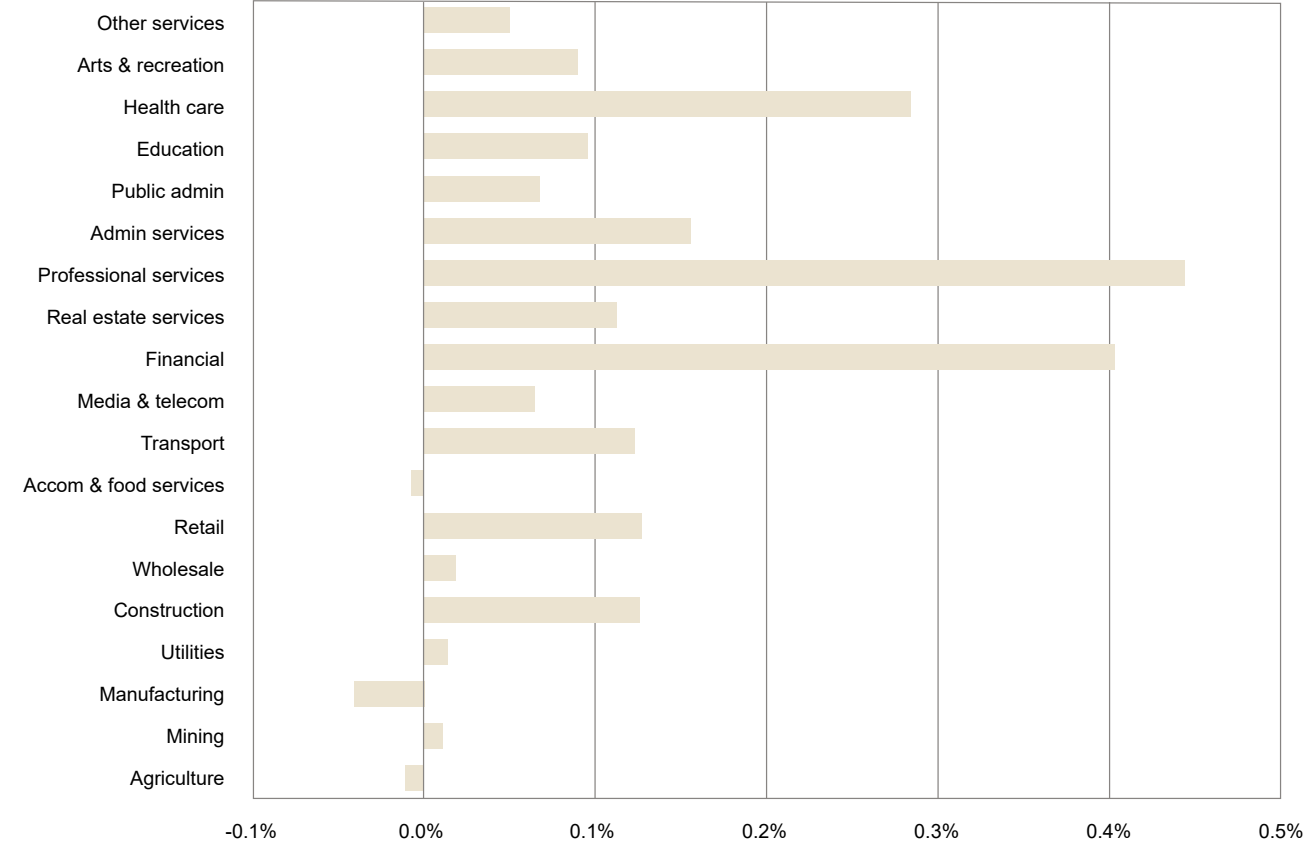


Figure 7 presents Sydney GDP growth rates at the SA3 level. Most SA3s in eastern Sydney had growth rates of between 2.0 and 2.5 per cent. Growth rates in western Sydney were lower, between 1.5 and 2.0 per cent.

Sydney Inner City (the largest SA3 in Sydney) had a growth rate of 2.4 per cent, well below the 3.3 per cent average growth rate over the past five years. This result was driven by slower growth in financial services and professional services.

In terms of contribution to growth, the three largest SA3 were Sydney Inner City (35.2 per cent), North Sydney Mosman (5.5 per cent) and Ryde – Hunters Hill (3.4 per cent). These three SA3 form Sydney's Global Economic Corridor.

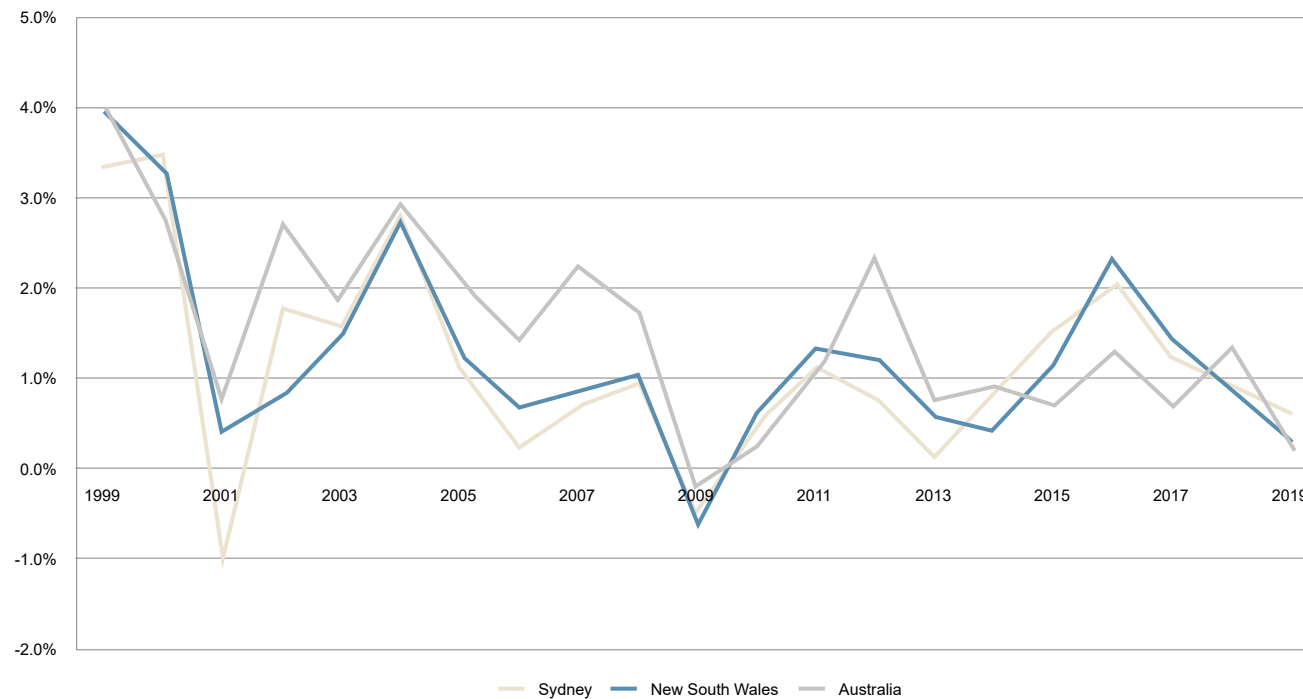
Economic growth is driven by a range of factors, including population growth. The GDP per capita measure is used to eliminate the impact of population increases on economic growth.

Figure 6 presents growth in Sydney's GDP per capita, again compared to New South Wales and Australia. The overall pattern is like that of the GDP growth rate. Sydney's GDP per capita growth rate was 0.6 per cent in 2018-19 compared to a national growth rate of 0.3 per cent.

Sydney's GDP per capita of \$86,500 is \$11,600 higher than the national average. Sydney's GDP per capita is \$31,300 higher than Regional NSW, the highest gap between the two regions on record.

In 1989-90, the gap between Sydney's GDP per capita and Regional NSW was \$19,600.

FIGURE 6: SYDNEY GDP PER CAPITA GROWTH – VOLUME MEASURE



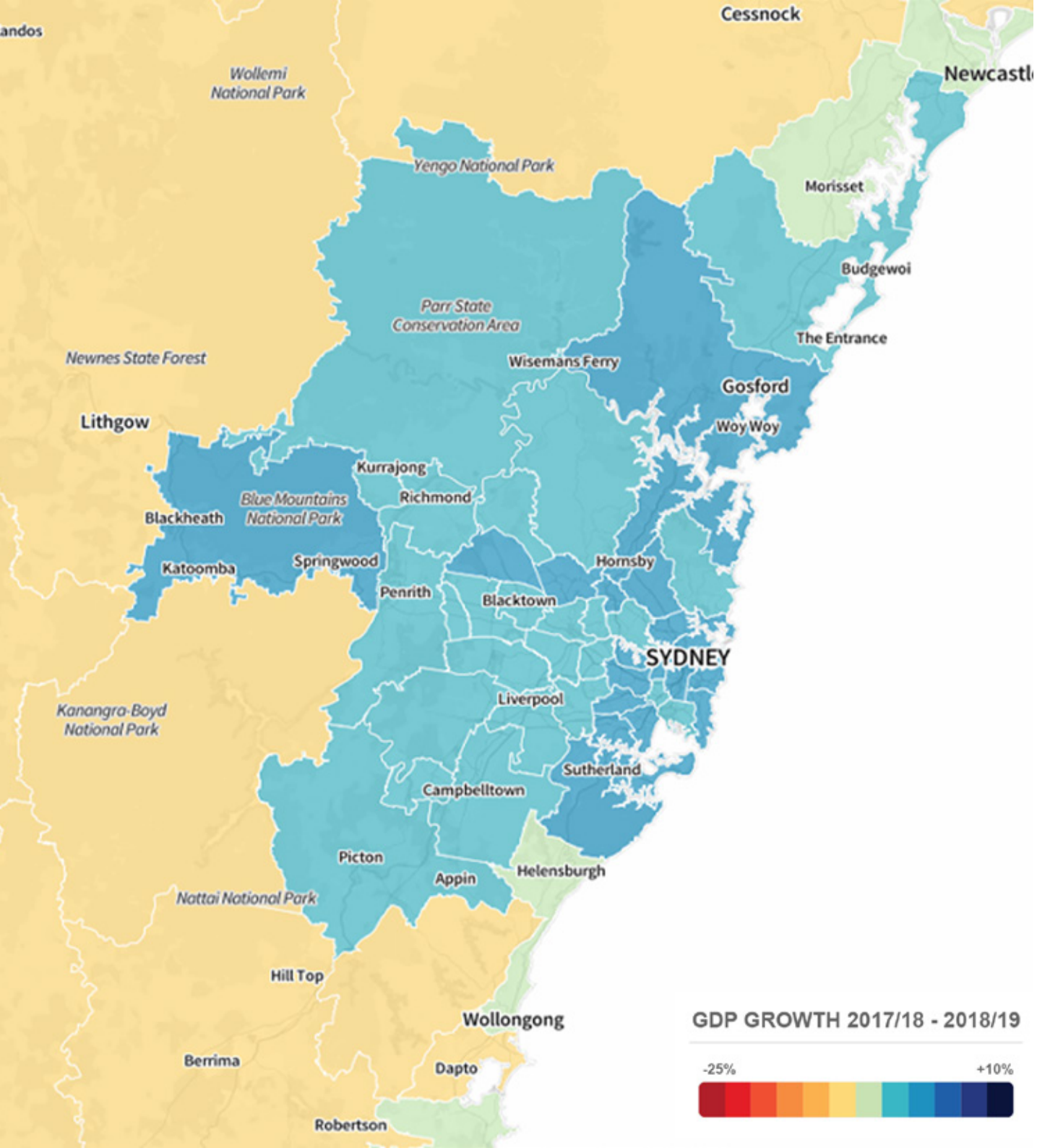


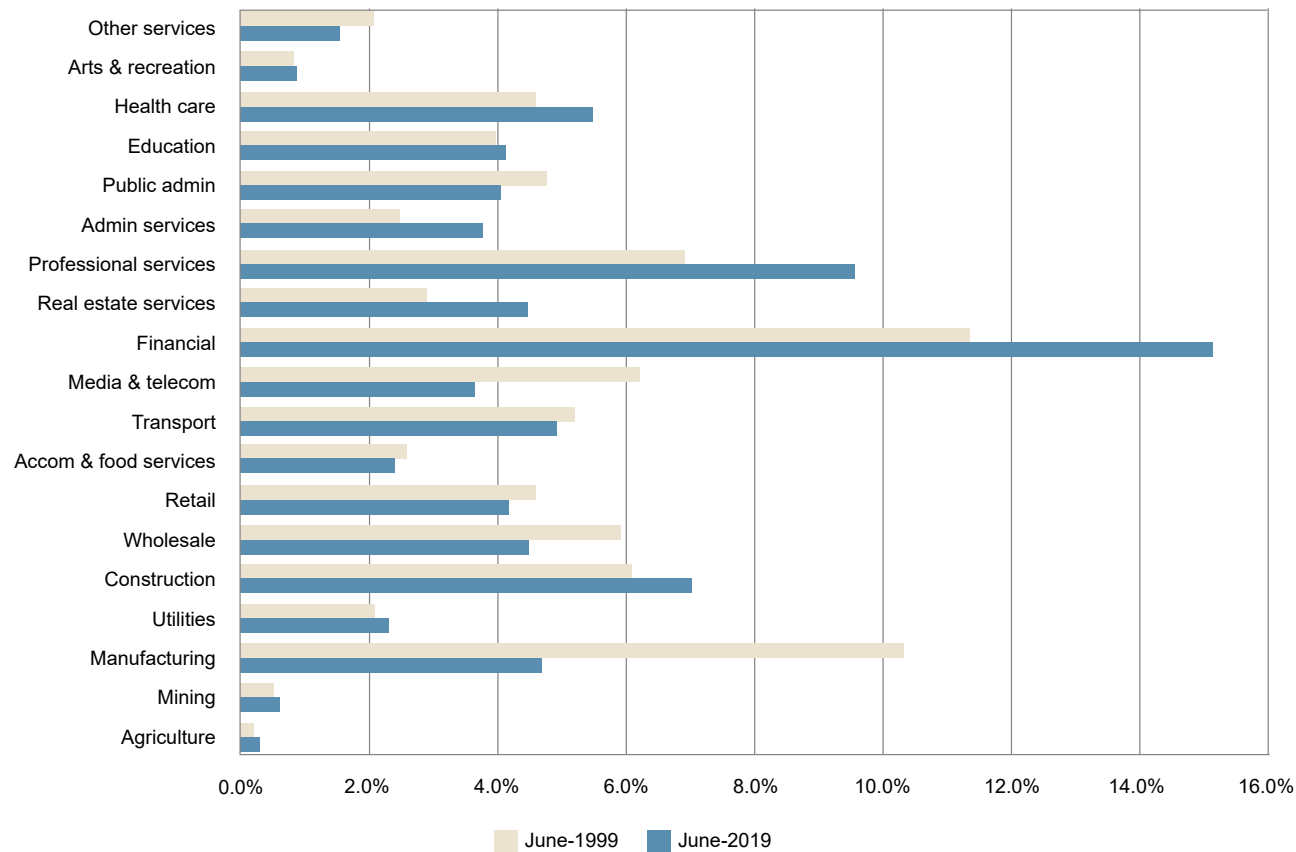
FIGURE 7: SYDNEY
SA3 GDP GROWTH -
VOLUME MEASURE

Source: SGS Economics & Planning

As shown in Figure 8, the financial and insurance services industries represent 15.1 per cent of the economy of Sydney – up from 11.3 per cent in 1998-99. Financial and insurance services is by far the largest industry in Sydney. Professional services, the second largest

industry, represented 9.1 per cent of Sydney's economy in 2018-19, compared to 6.9 per cent in 1998-99. Other major changes to the industry structure of Sydney over the same period include the decline in manufacturing from 10.3 per cent in 1998-99 to 4.7 per cent in 2018-19.

FIGURE 8: SYDNEY INDUSTRY STRUCTURE⁶



Source: SGS Economics & Planning

⁶As measured by industry Gross value added share of GDP (excluding Ownership of dwellings, Taxes less subsidies on products and Statistical discrepancy).

Melbourne

A success story over the last 25 years, Melbourne has successfully transitioned from an economy heavily reliant on a declining manufacturing sector to a diversified economy with significant growth in professional, and financial and insurance services industries. Much of the growth in these service industries in Melbourne has been the result of investments made over the past two decades.



2.2 Melbourne

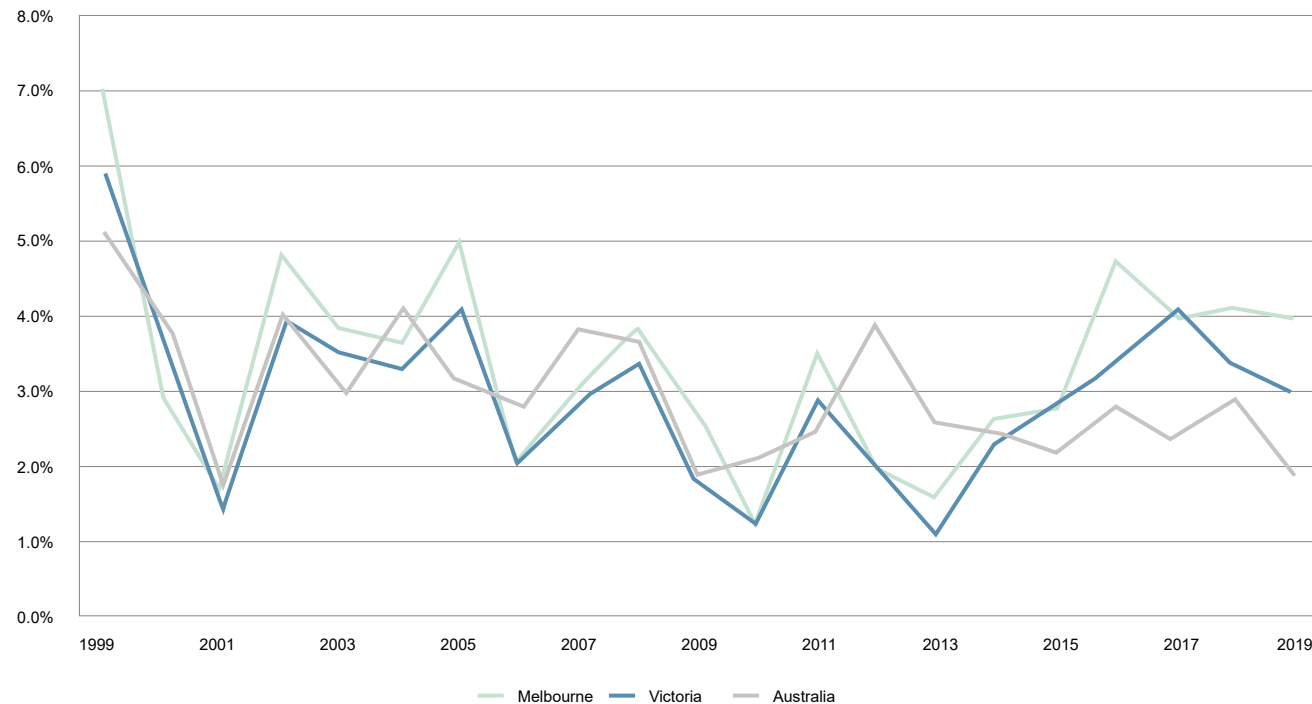
A success story over the last 25 years, Melbourne has successfully transitioned from an economy heavily reliant on a declining manufacturing sector to a diversified economy with significant growth in professional, and financial and insurance services industries. Much of the growth in these service industries in Melbourne has been the result of investments made over the past two decades.

The development of Southbank and Docklands provided Melbourne's Central Business District with brownfield sites 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 the public transport capacity to the Melbourne CBD.

Figure 9 compares the GDP growth for Melbourne with Victoria and Australia. Melbourne experienced a larger boom in 1999 and a larger bust in 2001 than the rest of Australia. During this period, there was also a global downturn, and the GST was introduced leading to changes in consumers' consumption patterns. Following this, Melbourne's growth between 2001-02 to 2004-05 was noticeably higher than Australia. This was as a result of very strong growth in the financial and insurance services industry in Melbourne.

FIGURE 9: MELBOURNE GDP GROWTH – VOLUME MEASURE



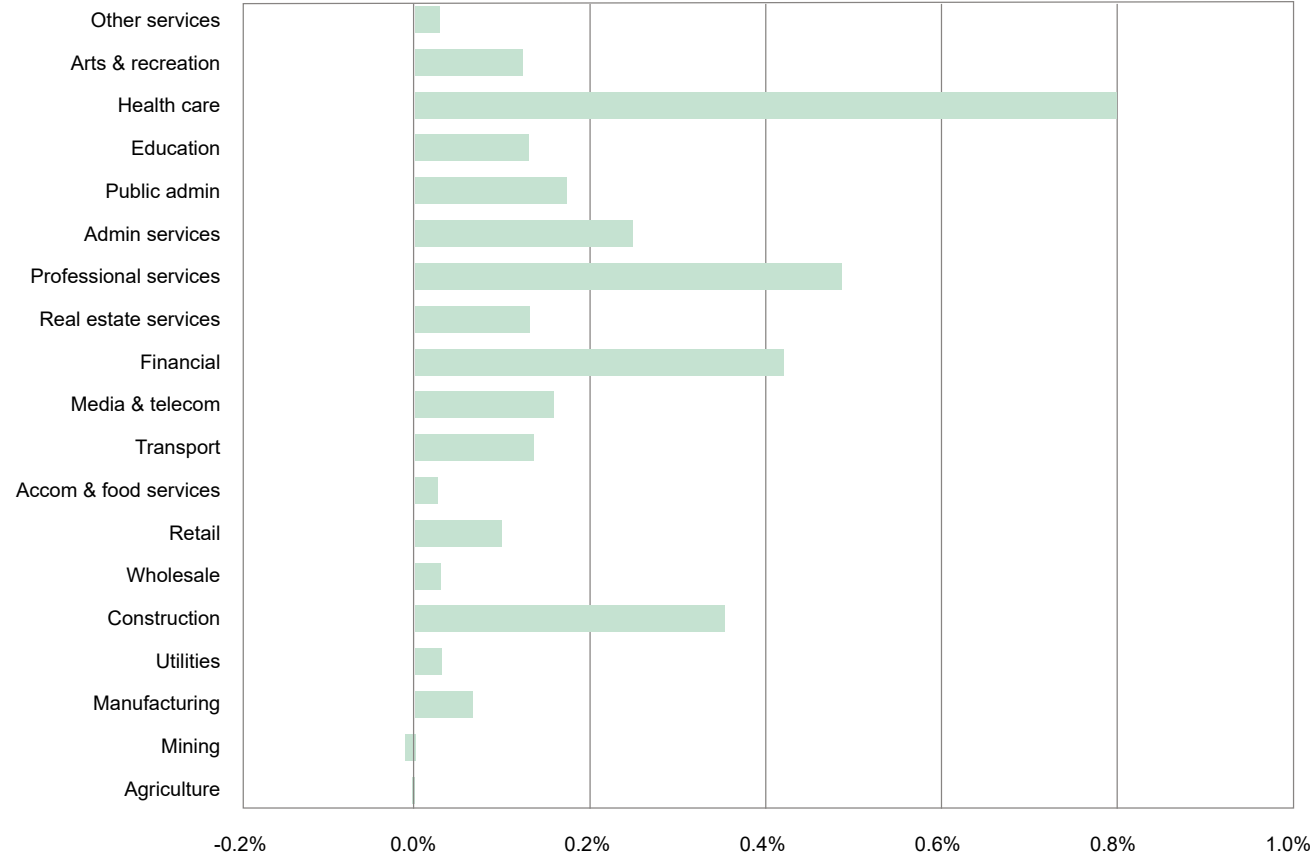
In 2018-19, Melbourne’s GDP growth was 4.0 per cent. Melbourne has outperformed the Australian economy over the past six years, with an average annual growth rate of 3.7 per cent, compared to 2.5 per cent for Australia.

Figure 10 presents the contribution to Melbourne GDP growth by industry for 2018-19. Health care (0.8 percentage points) was by far the most significant contributor to Melbourne’s GDP growth.

The health care industry contribution was highest on record – mostly due to more spending on hospitals and related services, the ongoing rollout of the NDIS and to a lesser extent, a strong performance from the biotech sector in Melbourne.

Professional services (0.5 percentage points), financial and insurance services (0.4 percentage points) and construction (0.4 percentage points) were significant contributors to Melbourne’s GDP growth.

FIGURE 10: CONTRIBUTION TO MELBOURNE GDP GROWTH, 2018-19



Source: SGS Economics & Planning

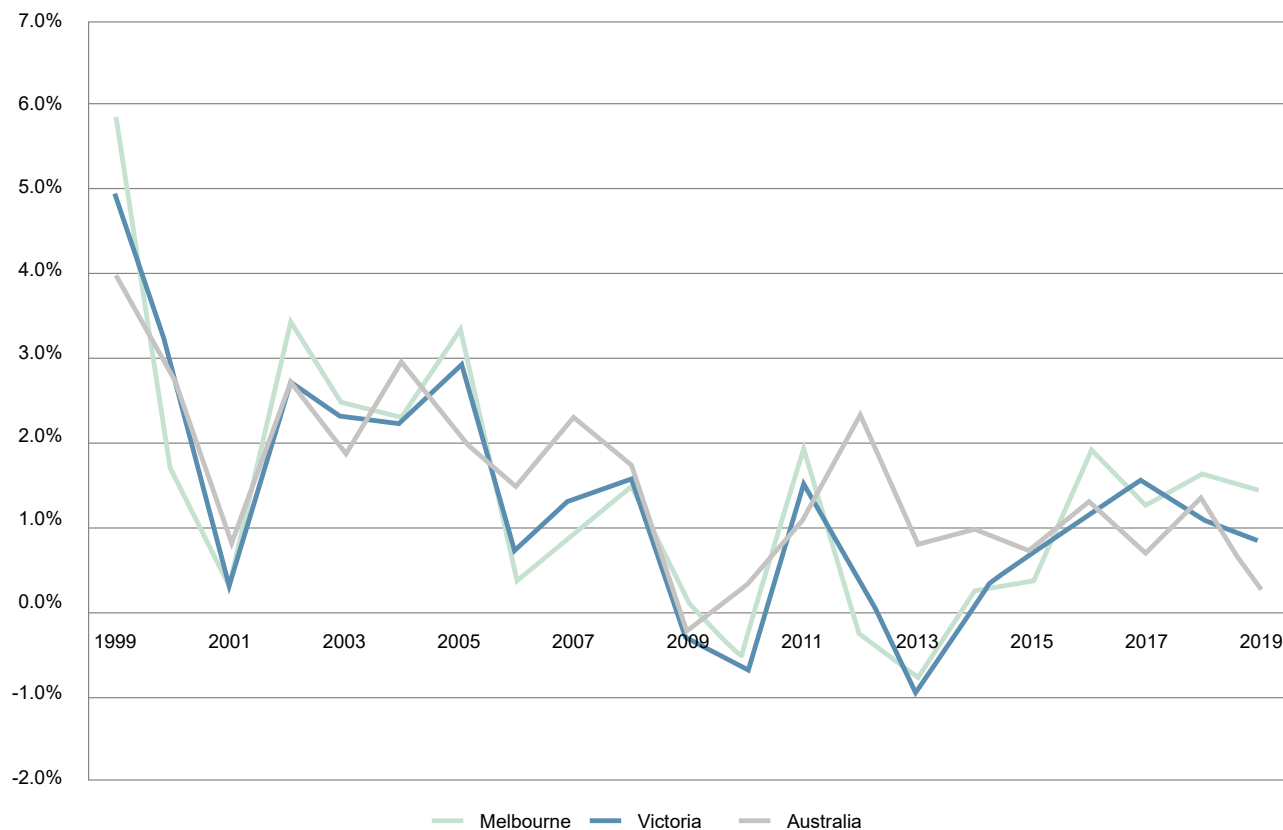
Figure 12 presents the GDP growth rates at the Statistical Area 3 (SA3) level. Melbourne City (the largest SA3 in Melbourne) had a growth of 4.0 per cent, which is in line the 4.0 per cent average growth rate over the past five years.

The inner city SA3s of Yarra (4.3 per cent), Stonnington West (4.3 per cent) and Port Phillip (4.0 per cent) all had GDP growth rates in 2018-19 higher than the average growth rate over the past five years.

In terms of contribution to growth, the three largest SA3s were Melbourne City (30.2 per cent), Port Phillip (5.1 per cent) and Monash (4.8 per cent).

Figure 11 presents per capita GDP growth for Melbourne, Victoria and Australia. After a period of GDP per capita contracting, the past six years have seen increasing growth in GDP per capita. In 2018-19 Melbourne's GDP growth was 1.4 per cent compared to a national per capita growth rate of 0.3 per cent.

FIGURE 11: MELBOURNE GDP PER CAPITA GROWTH – VOLUME MEASURE



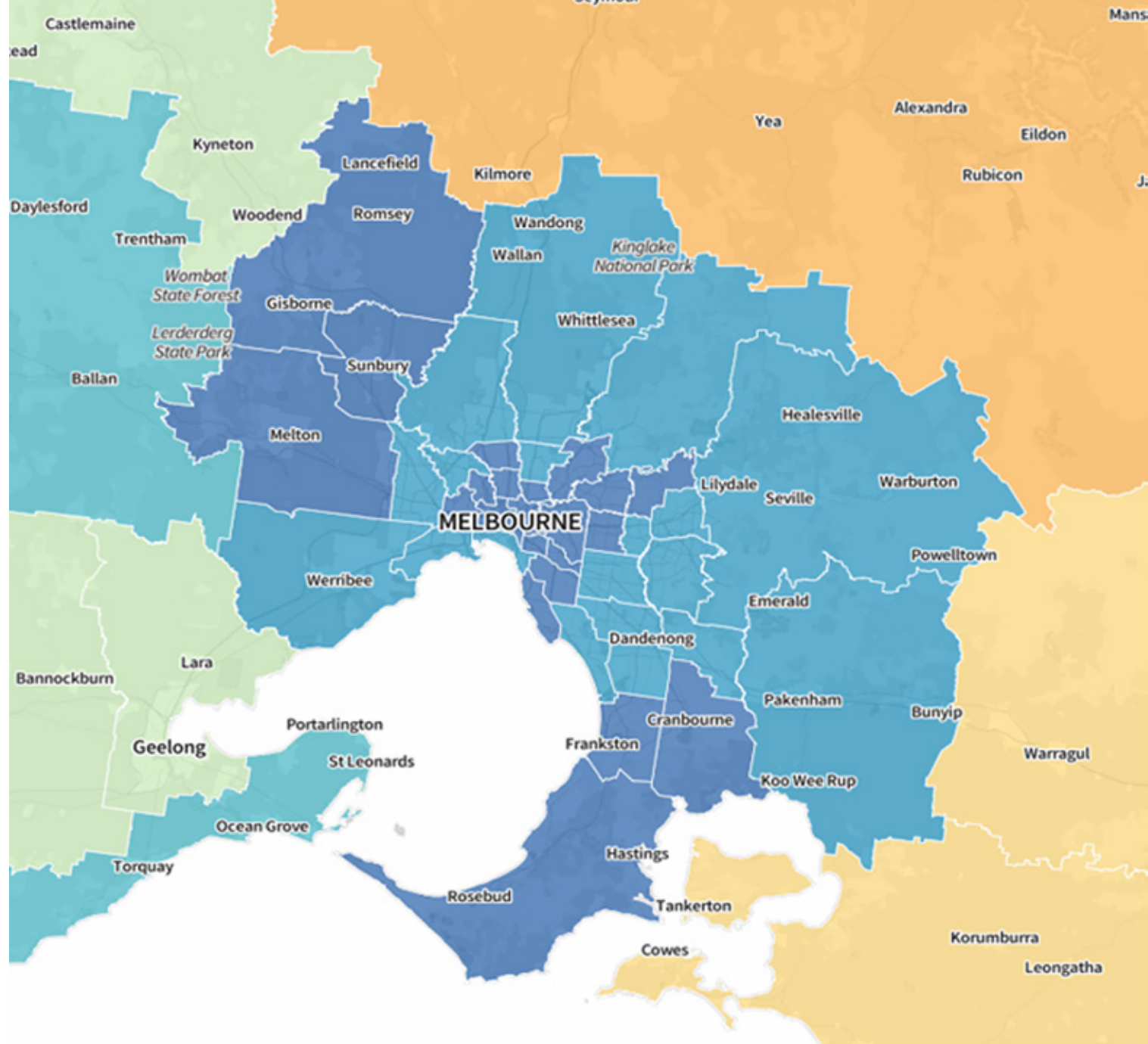
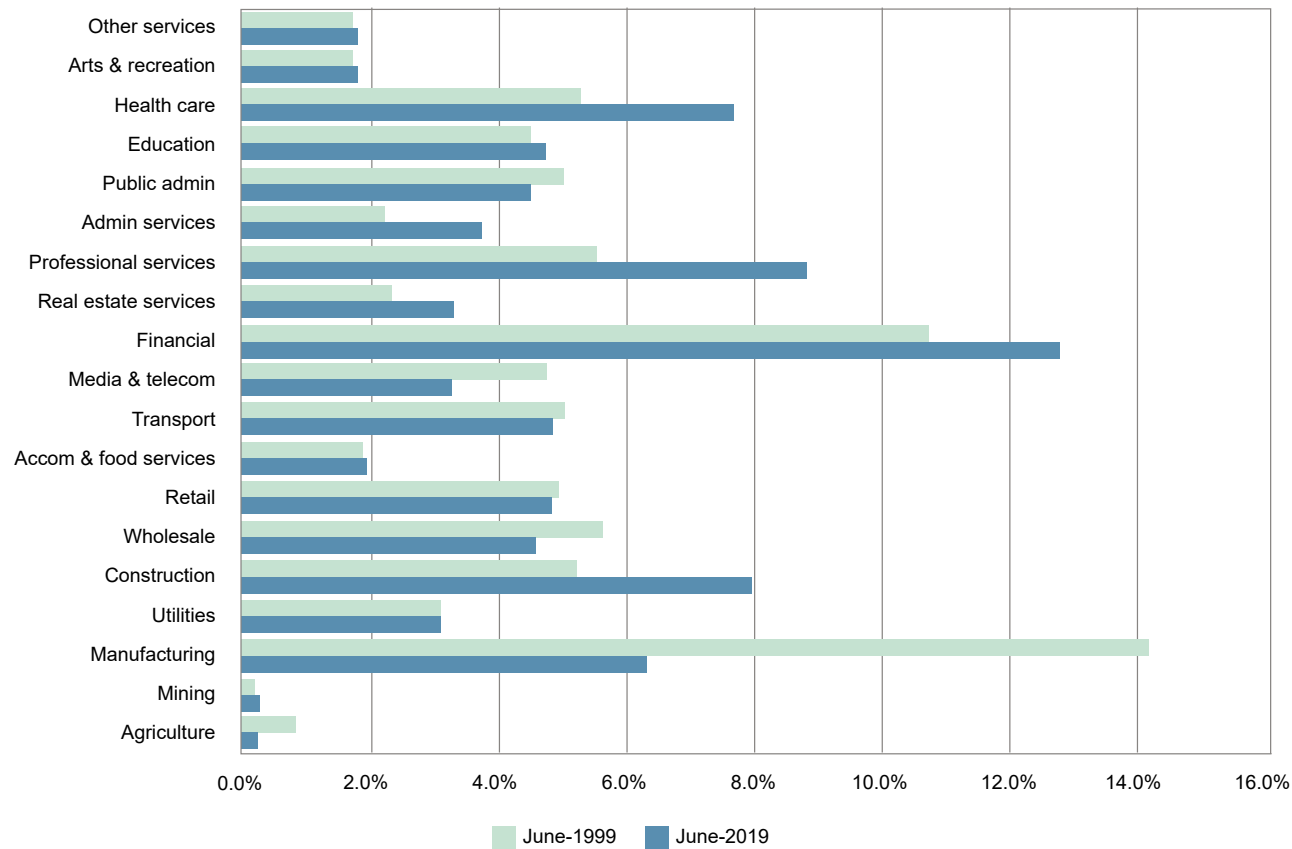


FIGURE 12:
MELBOURNE SA3 GDP
GROWTH - VOLUME
MEASURE

Source: SGS Economics & Planning

GDP GROWTH 2017/18 - 2018/19



FIGURE 13: MELBOURNE INDUSTRY STRUCTURE⁷

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

As shown in Figure 13, financial and insurance services, the largest industry in Melbourne, represents 12.7 per cent of the economy – up from 10.7 per cent in 1998-99. Professional services, the second largest industry, represented 8.8 per cent of the economy in 2018-19. This is compared to 5.5 per cent in 1998-99.

Construction (7.9 per cent) and health care (7.6 per cent) have also significantly increased their share of the Melbourne economy between 1998-99 and 2018-19.

Over the same period, manufacturing declined from 14.1 per cent in 1998-99 to 6.3 per cent in 2018-19.

⁷As measured by industry Gross value added share of GDP (excluding Ownership of dwellings, Taxes less subsidies on products and Statistical discrepancy)

Brisbane

For an extended period, economic growth in Brisbane has been fuelled by population migration, with people from the southern states drawn to employment opportunities, cheaper housing and an attractive lifestyle. The challenge for Brisbane is to establish a competitive advantage, in addition to population growth, to ensure the city's continued development. Unlike Sydney and Melbourne, Brisbane does not have a deep pool of export-oriented financial and insurance services and professional services firms. Therefore, a more diversified industrial makeup will be needed to overcome the downturn in mining.



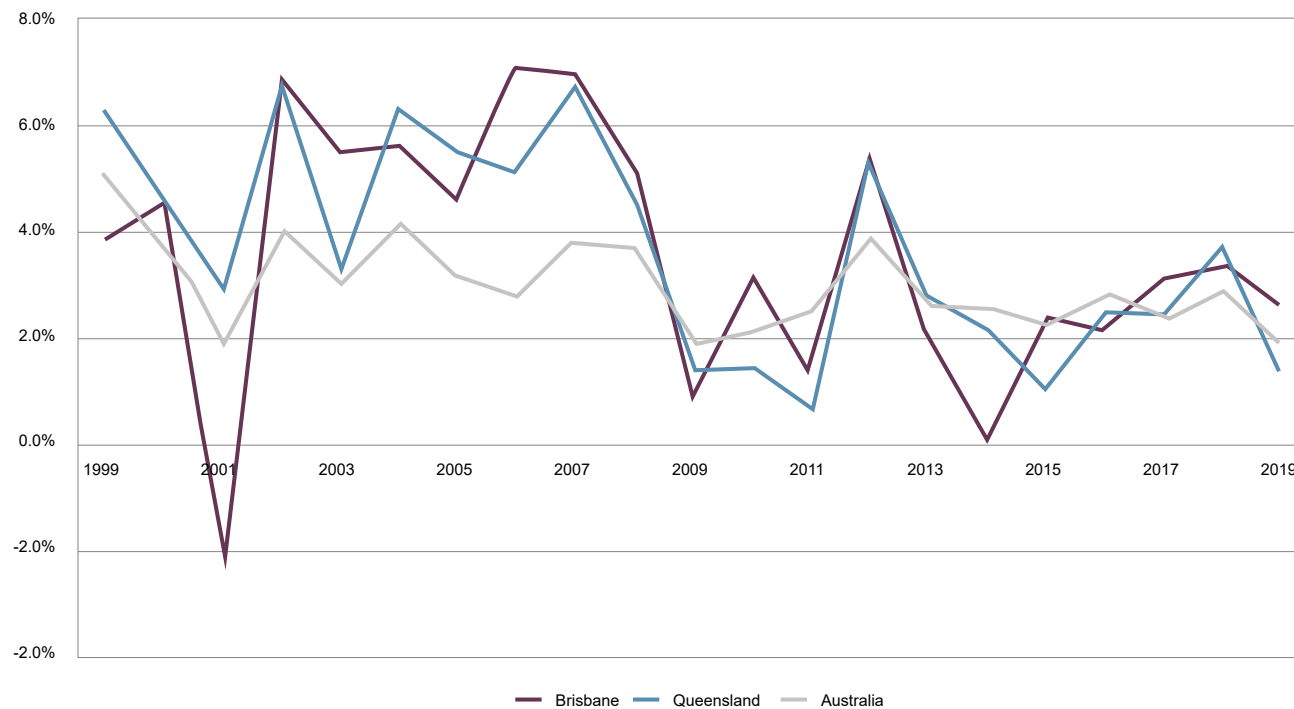
2.3 Brisbane

For an extended period, economic growth in Brisbane has been fuelled by population migration, with people from the southern states drawn to employment opportunities, cheaper housing and an attractive lifestyle. The challenge for Brisbane is to establish a competitive advantage, in addition to population growth, to ensure the city's continued development. Unlike Sydney and Melbourne, Brisbane does not have a deep pool of export-oriented financial and insurance services and professional services firms. Therefore, a more diversified industrial makeup will be needed to overcome the downturn in mining.

In 2018-19, the Brisbane economy accounted for around half of the Queensland economy. This is the smallest share of all the major capital cities and is the result of a more dispersed population and significant mineral production in Regional Queensland.

Figure 14 shows that Brisbane experienced a more pronounced contraction around the time of the introduction of the GST (2001) than Queensland and Australia, but GDP growth was higher than the national average during the mid 2000s. During the 2000s, Brisbane's exposure to the minerals boom ensured growth higher than the Australian average.

FIGURE 14: BRISBANE GDP GROWTH – VOLUME MEASURE



Brisbane’s GDP growth has also displayed significant volatility, with drops in growth experienced in 2008-09 (during the global financial crisis), and in 2010-11 (as a result of the major floods in Queensland).

After several years of trending upwards, Brisbane GDP growth slowed in 2018-19 to 2.6 per cent.

Figure 15 shows that growth in GDP per capita for Brisbane exhibited a very similar trend to growth in GDP. In 2018-19, Brisbane’s GDP per capita grew by 0.4 per cent, slightly above the 0.3 per cent national average.

FIGURE 15: BRISBANE GDP PER CAPITA GROWTH – VOLUME MEASURE

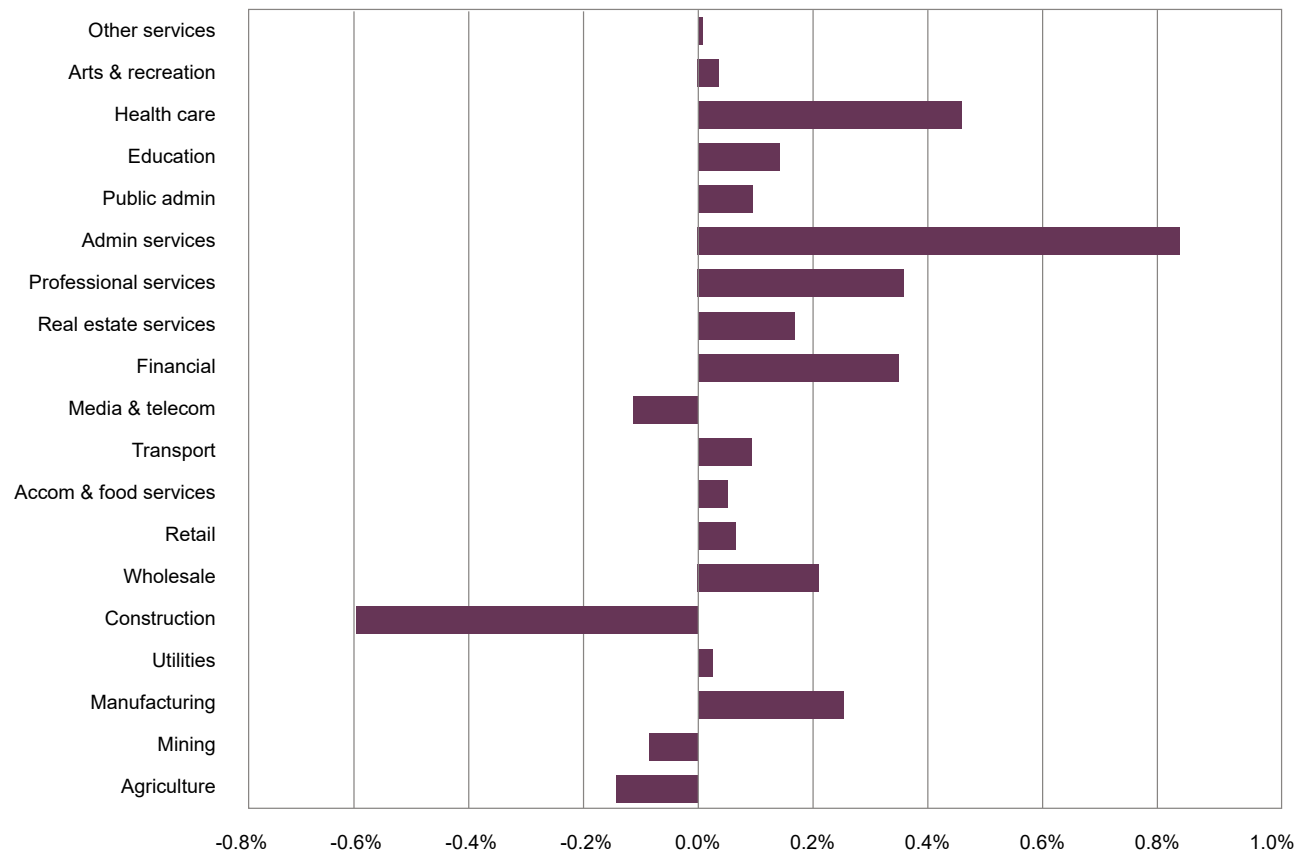


Source: Australian National Accounts: State Accounts, Cat. No. 5220.0 and SGS Economics & Planning

As shown in Figure 16, the largest contributor to Brisbane's growth in 2018-19 was administrative services (0.8 percentage points). This was followed by health care (0.5 percentage points), professional services and financial services (both 0.4 percentage points).

Construction subtracted 0.6 percentage points from Brisbane GDP growth. This followed a strong year for construction (driven by apartment development) in 2017-18. However, the last year has seen the number of apartments constructed return to lower levels.

FIGURE 16: CONTRIBUTION TO BRISBANE GDP GROWTH, 2018-19



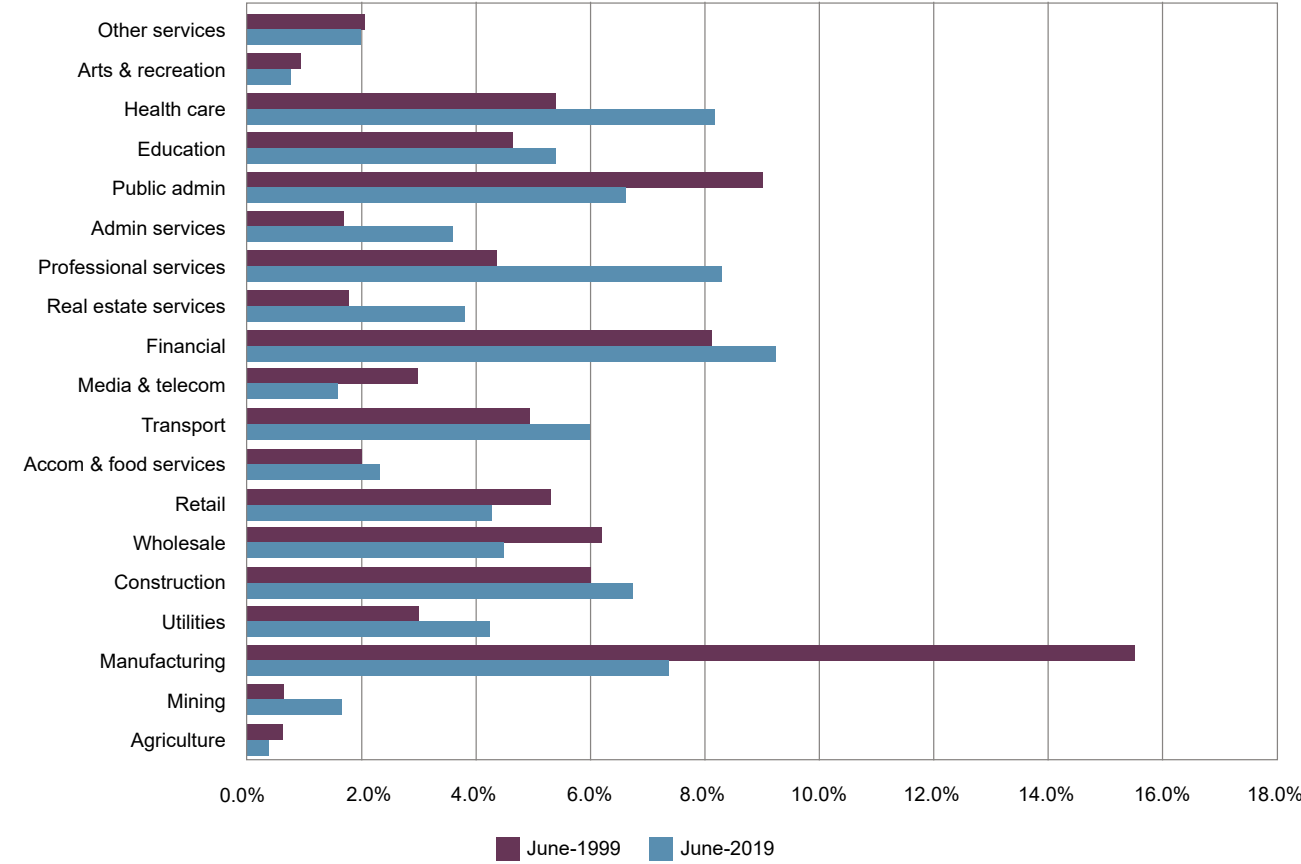
Source: SGS Economics & Planning

Figure 17 shows that in 2018-19, financial and insurance services (9.2 per cent) was the largest industry in Brisbane, followed by professional services (8.3 per cent) and health care (8.1 per cent). As with the other cities, manufacturing’s share of the economy has declined, from 15.5 per cent in 1998-99 to 7.4 per cent in 2018-19.

Figure 18 presents the GDP growth rates at the Statistical Area 3 (SA3) level.

In terms of contribution to Brisbane’s GDP growth, the three largest SA3s were Brisbane Inner (31.0 per cent), Nundah, a large SA3 incorporating Brisbane Airport (7.5 per cent), and Brisbane Inner – North (6.6 per cent).

FIGURE 17: BRISBANE INDUSTRY STRUCTURE⁸



Source: SGS Economics & Planning

⁸As measured by industry Gross value added share of GDP (excluding Ownership of dwellings, Taxes less subsidies on products and Statistical discrepancy).

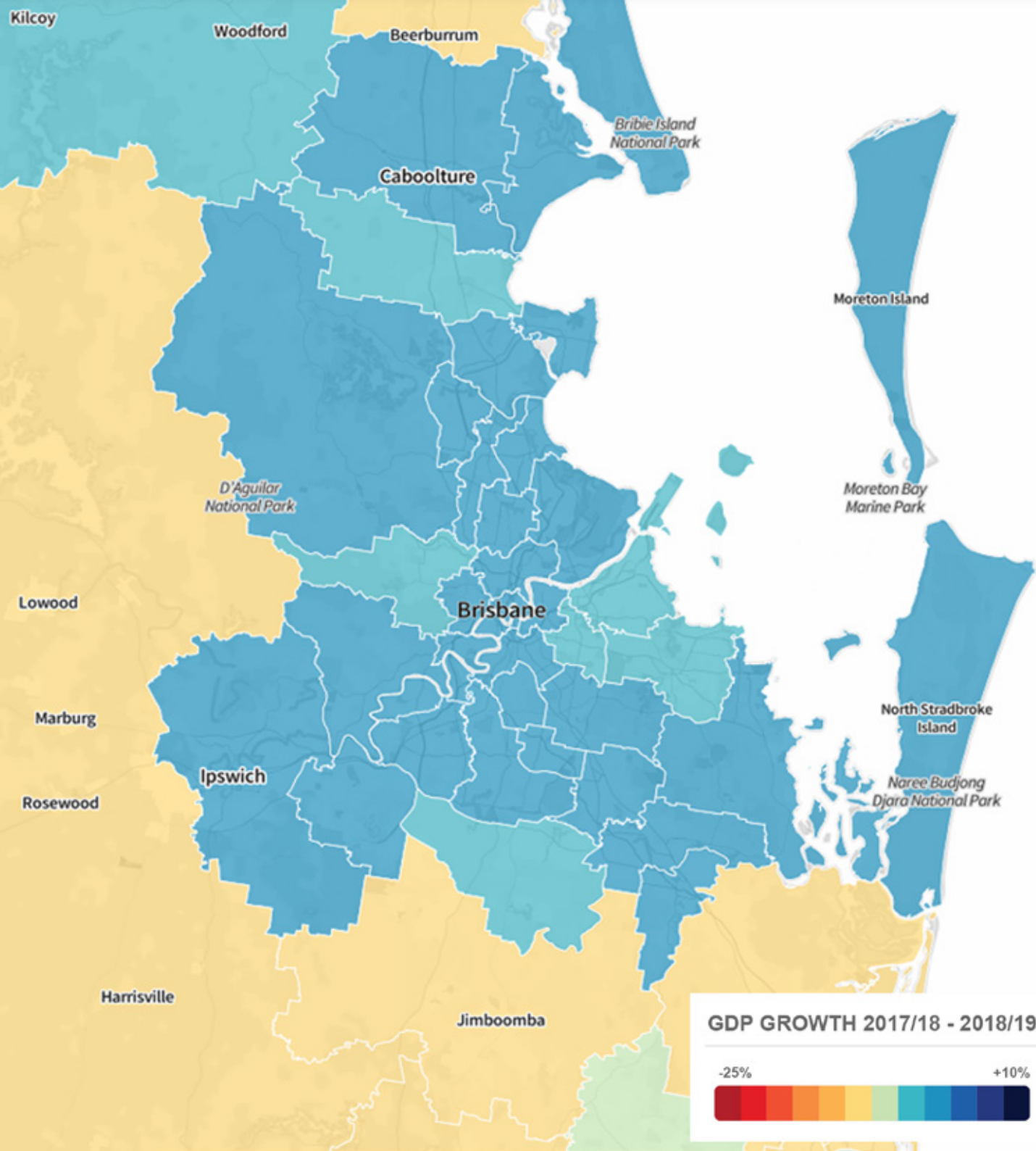


FIGURE 18: BRISBANE
SA3 GDP GROWTH -
VOLUME MEASURE

Source: SGS Economics & Planning

Adelaide

After being a perennial underperformer economically over the past decades, the South Australian capital has experienced a boom over the past three years and outperformed national growth. In 2018-19, Adelaide's GDP grew by 3.2 per cent, compared to the national GDP growth rate of 1.9 per cent.



2.4 Adelaide

After being a perennial underperformer economically over the past decades, the South Australian capital has experienced a boom over the past three years and outperformed national growth. In 2018-19, Adelaide's GDP grew by 3.2 per cent, compared to the national GDP growth rate of 1.9 per cent (see Figure 19).

FIGURE 19: ADELAIDE GDP GROWTH – VOLUME MEASURE



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

As shown in Figure 21, health care (1.2 percentage points) made by far the most significant contribution to GDP growth in 2018-19.

Construction (0.5 percentage points) also made a significant contribution to growth in 2018-19. At the other end of the spectrum, retail, wholesale, utilities, manufacturing, mining and agriculture all reduced Adelaide's GDP by around 0.1 percentage points each.

As shown in Figure 22, health care is now the largest industry in Adelaide, accounting for 11.2 per cent of the city's GDP in 2018-19. Due to Adelaide's ageing population, this sector has become increasingly important in recent years.

Manufacturing has significantly decreased its share of Adelaide's GDP over the past two decades, from 15.9 per cent to 5.6 per cent of GDP. Manufacturing was once Adelaide's largest contributor to GDP, but is now Adelaide's seventh-largest industry.

FIGURE 20: ADELAIDE GDP PER CAPITA GROWTH – VOLUME MEASURE



FIGURE 21: CONTRIBUTION TO ADELAIDE GDP GROWTH, 2018-19

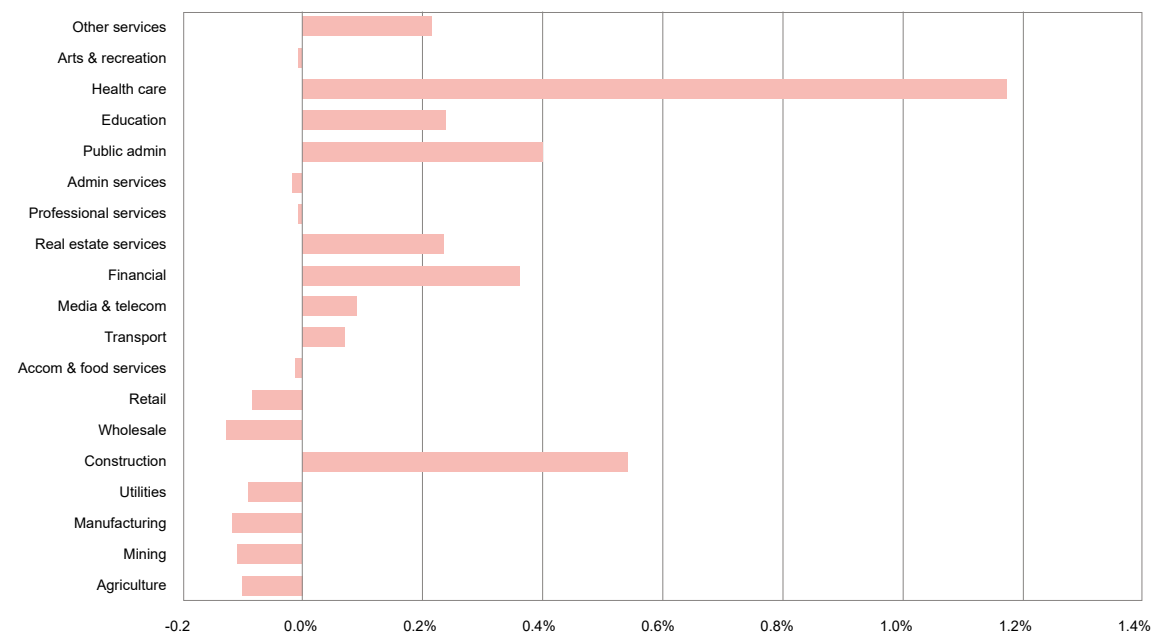
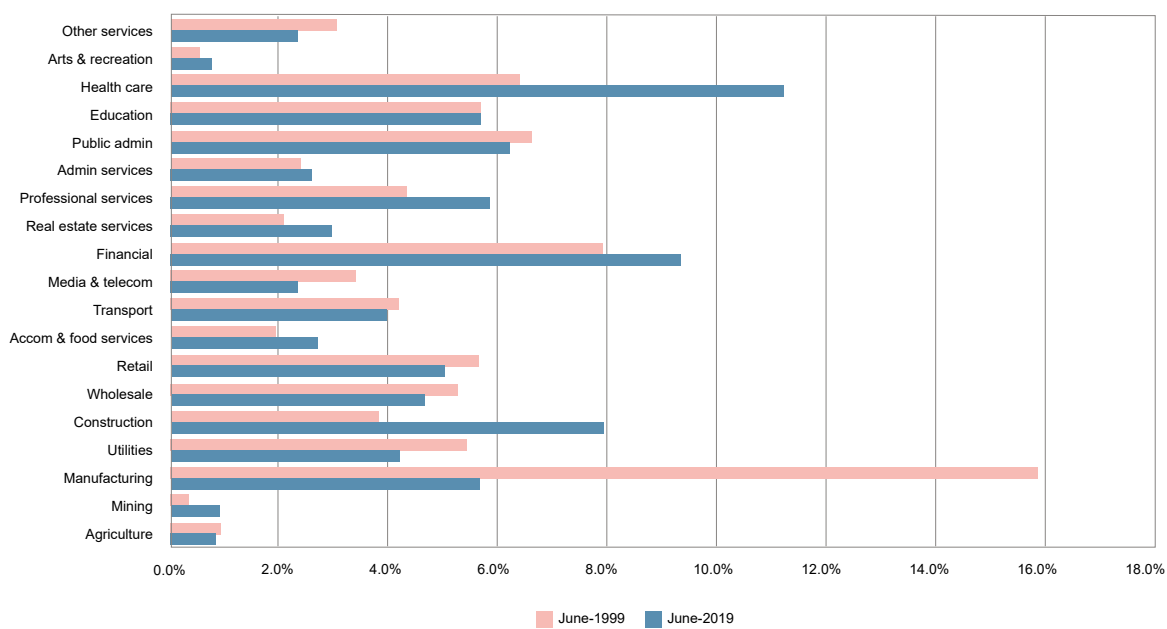


FIGURE 22: ADELAIDE INDUSTRY STRUCTURE⁹



Source: SGS Economics & Planning

⁹As measured by industry Gross value added share of GDP (excluding Ownership of dwellings, Taxes less subsidies on products and Statistical discrepancy).

Adelaide International
Bird Sanctuary
National Park-
Winaityinaityi Pangkara
National Park

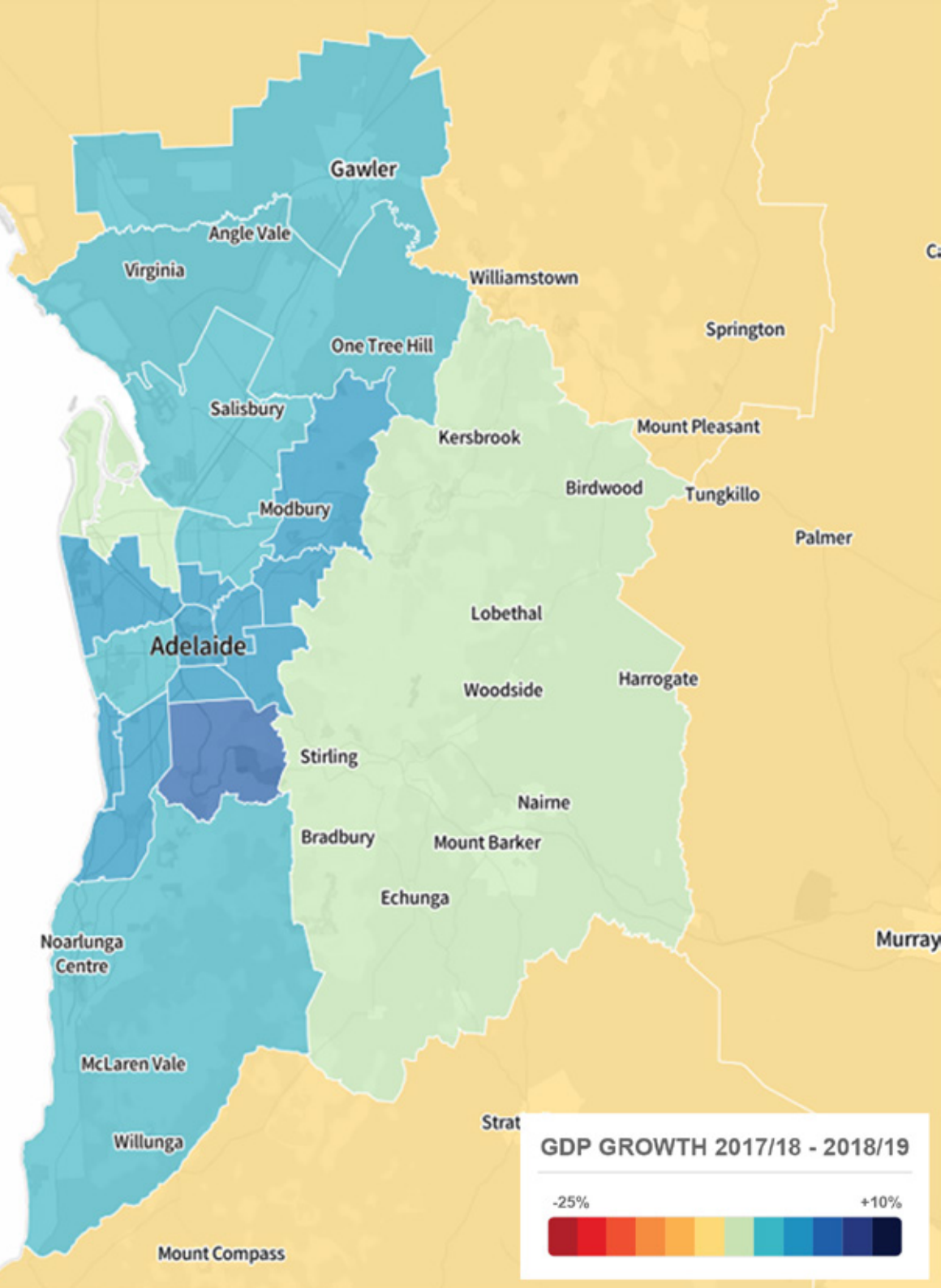


FIGURE 23:
ADELAIDE SA3
GDP GROWTH -
VOLUME MEASURE

Source: SGS Economics & Planning

Perth

The impact of the end of the mining boom on Perth's economy has been equally profound. Perth was in a recession during 2016-17, with a decline of 2.9 per cent in GDP. This is significantly larger than the 1.8 per cent decline that Perth experienced during the last national recession in 1990-91.



2.5 Perth

Figure 24 shows the effect of mining on Perth's economy with the city's GDP significantly outperforming the national average from 2000-01 to 2013-14. The impact of the end of the mining boom on Perth's economy has been equally profound. Perth was in a recession during 2016-17, with a decline of 2.9 per cent in GDP. This is significantly larger than the 1.8 per cent decline that Perth experienced during the last national recession in 1990-91.

The challenge for Perth going forward will be to find alternative sources of economic growth now that the mining boom – which led the city's economy for the past decade- is over. The economic slowdown is compounded by the flight of skilled labour, as many workers formerly employed in mining-related jobs migrate to the eastern seaboard in search of new employment.

In 2018-19 Perth's GDP grew by 0.1 per cent. There has been almost no growth in the economy of over the past five years. The size of the Perth economy is virtually the same in 2018-19 as it was in 2013-14.

FIGURE 24: PERTH GDP GROWTH – VOLUME MEASURE

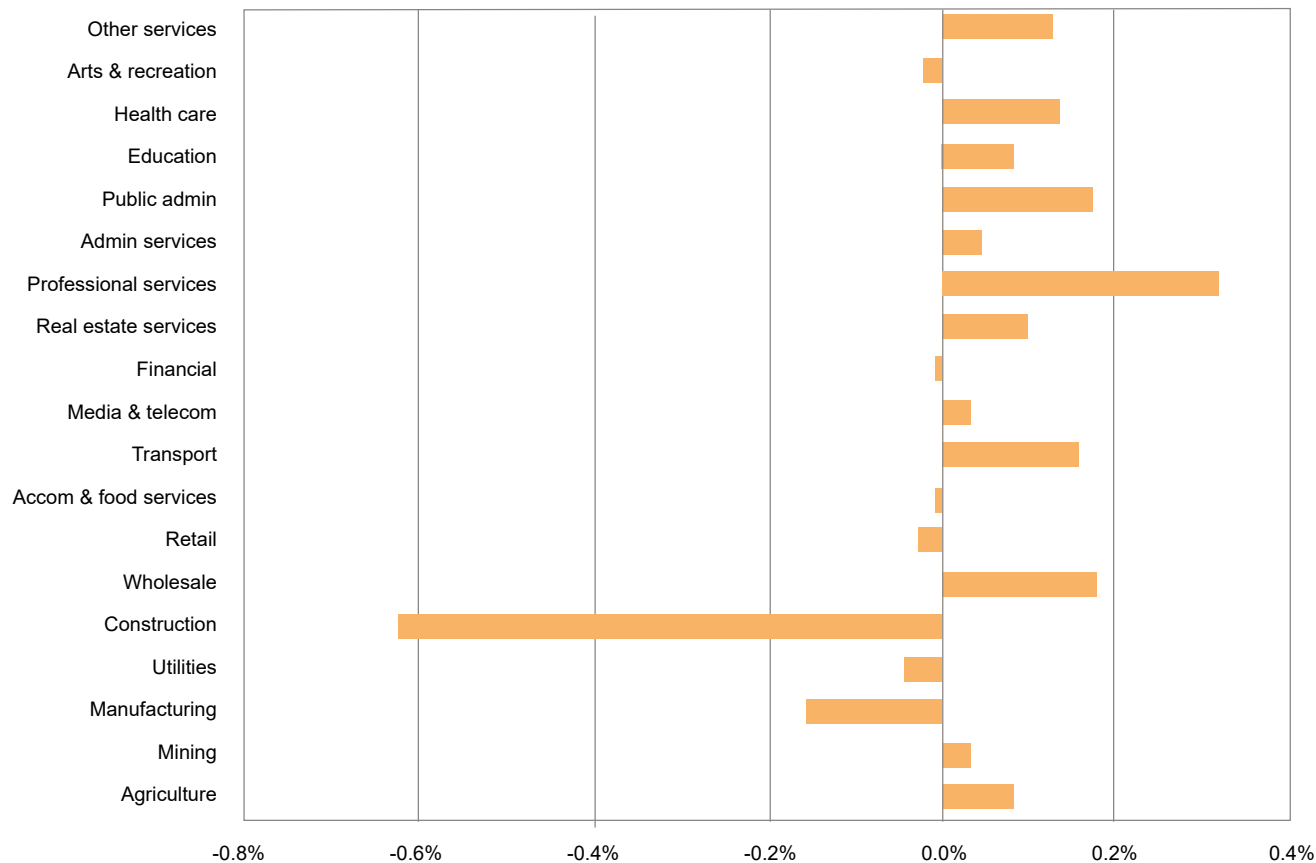


Construction gross value added fell 5.9 per cent as a result of ongoing falls in housing construction. As a result, construction subtracted 0.8 percentage points from the GDP growth. Manufacturing subtracted 0.2 percentage points from the GDP growth. Professional services (0.3 percentage points) made the most significant positive contribution to GDP growth.

The GDP growth rates at the Statistical Area 3 (SA3) level are shown in Figure 26. A number of suburban SA3 saw a decline in GDP during 2018-19. These include Cockburn, Gosnells Kwinana and Serpentine – Jarrahdale.

Perth City grew at 1.3 per cent, which contributed 61.1 percentage points to Perth's GDP growth. Belmont- Victoria Park (10.4 percentage points) and Canning (9.6 percentage points) also made large contributions to Perth's GDP growth.

FIGURE 25: CONTRIBUTION TO PERTH GDP GROWTH, 2018-19



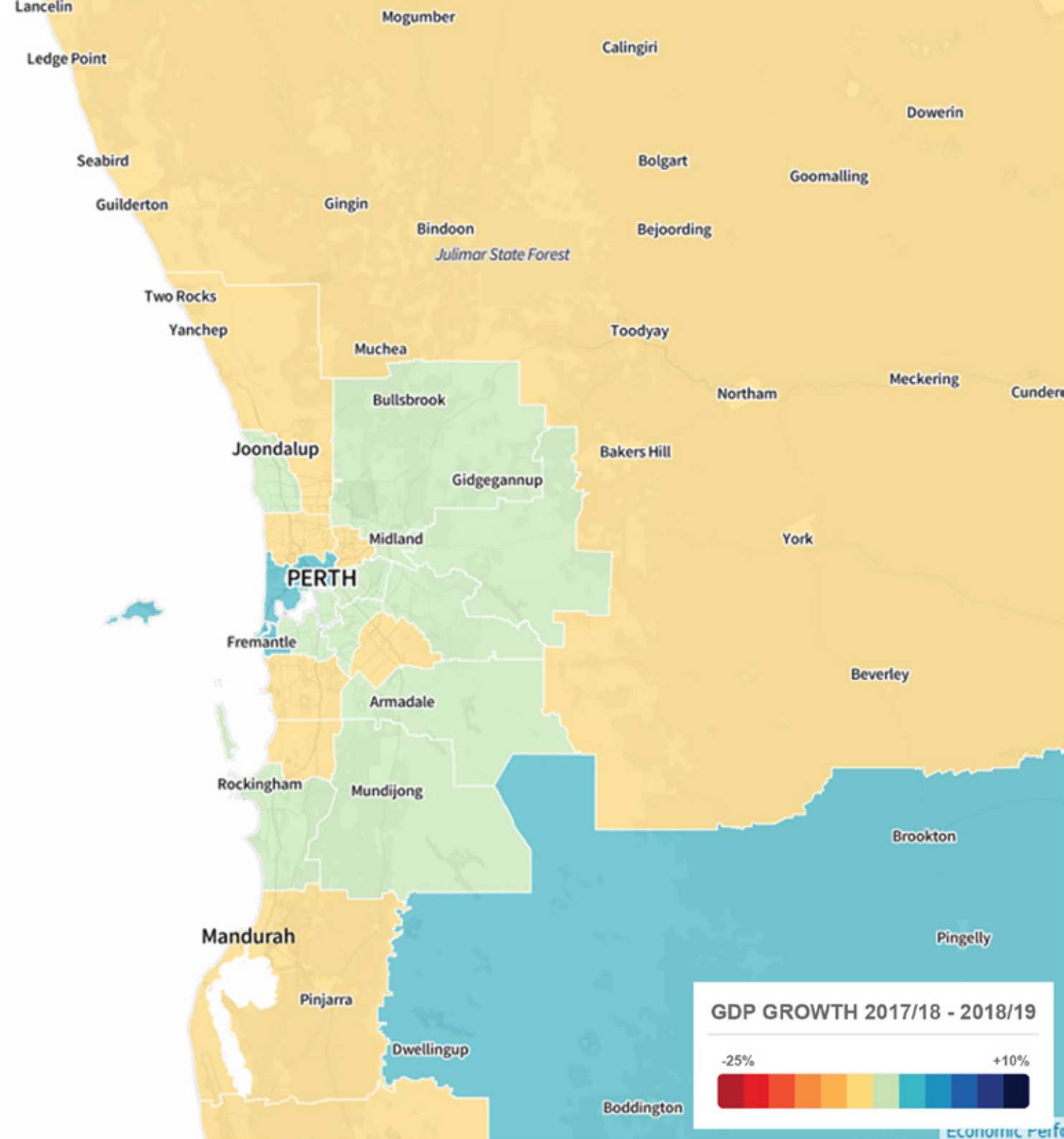


FIGURE 26: PERTH
SA3 GDP GROWTH -
VOLUME MEASURE

Source: SGS Economics & Planning

Figure 27 presents the GDP per capita growth rate for Perth. During the early 2010s, the spillover of mining construction and ongoing increases in the volume of iron ore produced in Regional Western Australia drove growth in Perth's GDP per capita.

In 2016-17, Perth experienced the largest decline in GDP per capita on record (-3.7 per cent). After a small rebound in GDP growth in 2017-18, Perth saw a reduction in GDP per capita growth 2018-19.

FIGURE 27: PERTH GDP PER CAPITA GROWTH – VOLUME MEASURE

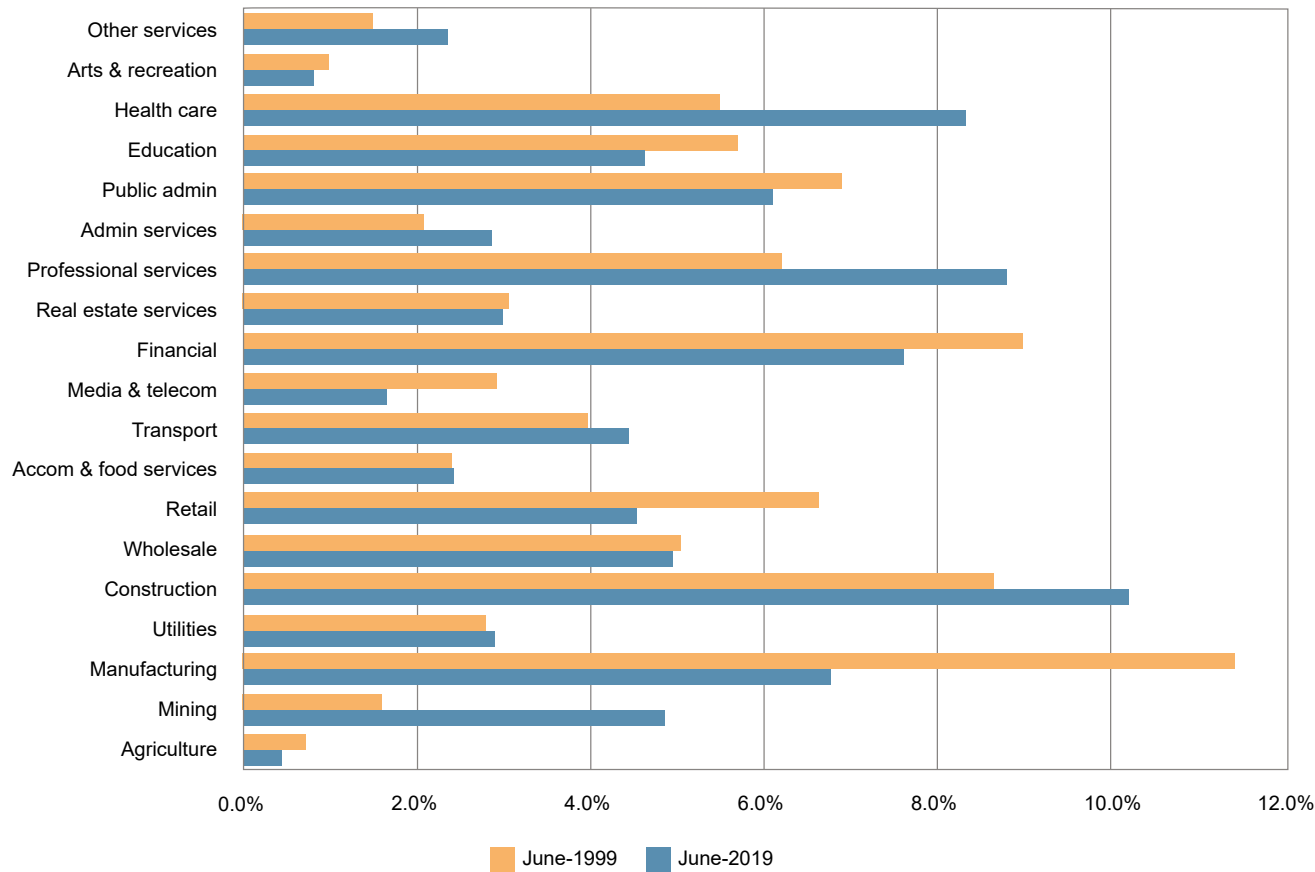


Source: Australian National Accounts: State Accounts, Cat. No. 5220.0 and SGS Economics & Planning

Figure 28 presents the industry share of the Perth economy in 1998-99 and 2018-19. Over this period, manufacturing’s share of GDP fell from 11.4 per cent to 6.8 per cent while professional services and health care grew significantly.

In 2018-19, construction was the largest industry (10.2 per cent). Professional services (8.8 per cent) and financial services (7.6 per cent) were also large industries in Perth.

FIGURE 28: PERTH INDUSTRY STRUCTURE¹⁰



Source: SGS Economics & Planning

¹⁰As measured by industry Gross value added share of GDP (excluding Ownership of dwellings, Taxes less subsidies on products and Statistical discrepancy).

Canberra

Canberra's GDP growth tends to track the national average less closely than other capital cities. This is due to its small size and the fact that its largest industry, public administration, is less dependent on overall economic conditions than other cities.



2.6 Canberra

Canberra’s GDP growth tends to track the national average less closely than other capital cities. This is due to its small size and the fact that its largest industry, public administration, is less dependent on overall economic conditions than other cities.

Figure 29 shows Canberra’s GDP growth rate over the last 20 years. Cuts to the public service saw Canberra’s GDP growth rate fall to just 0.9 per cent in 2013-14. This was the lowest growth rate since 1996, which was the last time there were major cuts to the public service.

Over the past four years, economic activity has surged. In 2018-19 Canberra’s GDP growth rate was 3.0 per cent.

As shown in Figure 30, the highest contribution to the growth rate was public administration- Canberra’s largest industry. This contribution from public administration in 2018-19 follows two years of almost no growth in that industry. Health care (0.5 percentage points) and construction (0.4 percentage points) also made a significant contribution to GDP growth in 2018-19.

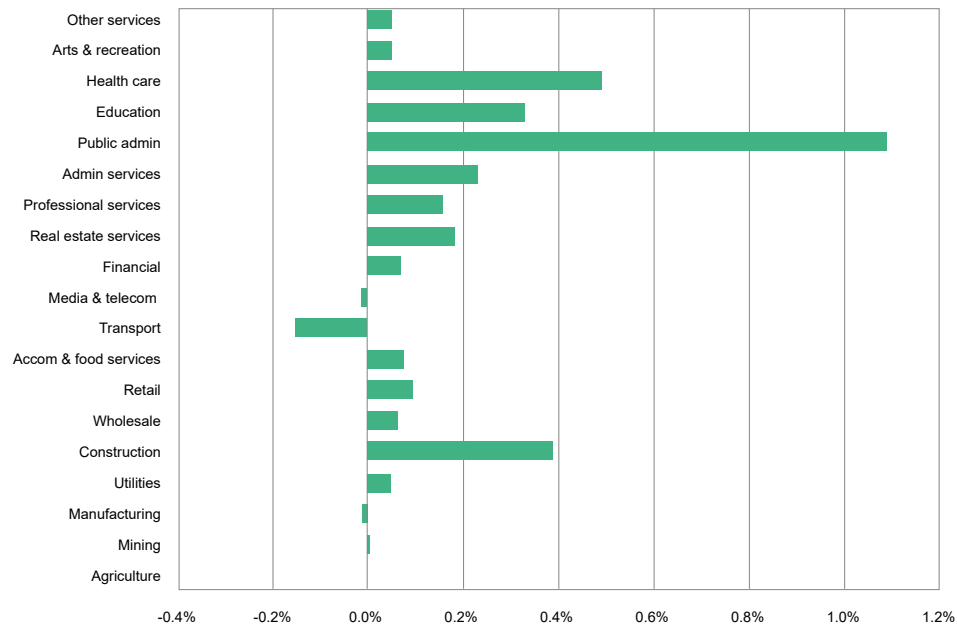
Figure 31 presents the industry share of Canberra’s economy. The most substantial difference over the past twenty years is the increase in public administration, which grew from 23.8 per cent in 1998-99 to 27.1 per cent in 2018-19 and health care, which increased from 6.7 per cent to 10.9 per cent.

FIGURE 29: CANBERRA GDP GROWTH – VOLUME MEASURE

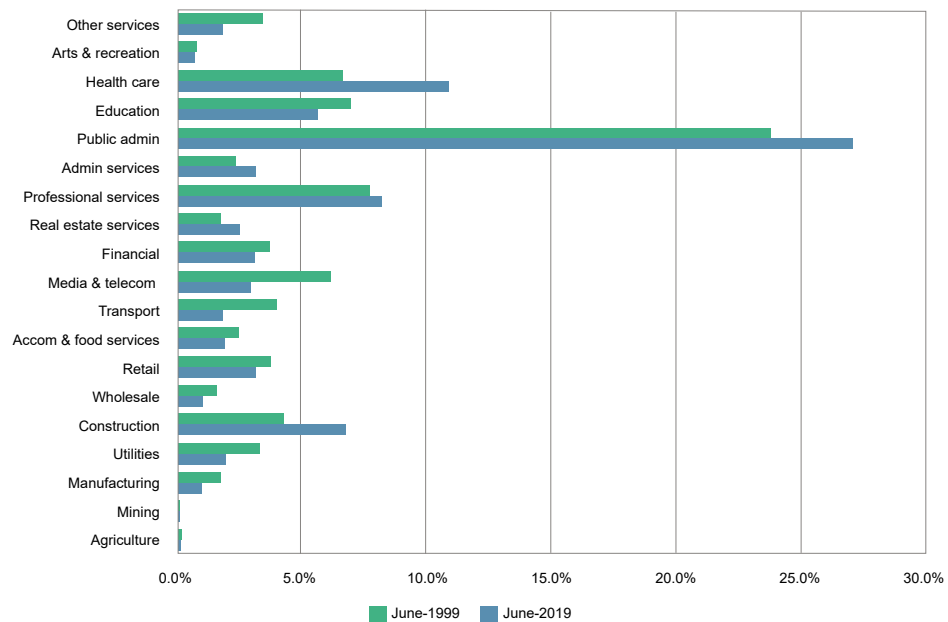


Source: Australian National Accounts: State Accounts, Cat. No. 5220.0

FIGURE 30: CONTRIBUTION TO CANBERRA GDP GROWTH, 2018-19



Source: Australian National Accounts: State Accounts, Cat. No. 5220.0

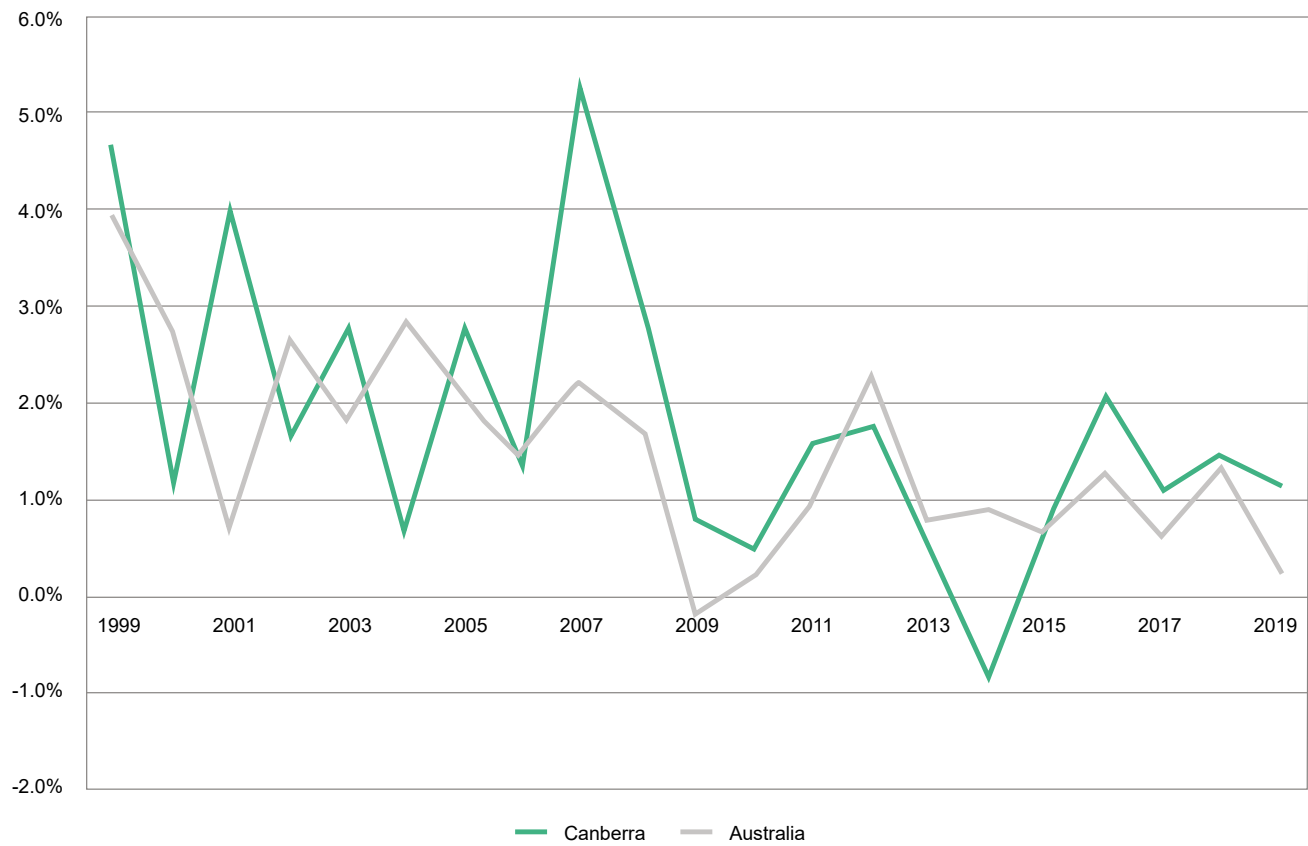
FIGURE 31: CANBERRA INDUSTRY STRUCTURE¹¹

Source: Australian National Accounts: State Accounts, Cat. No. 5220.0

¹¹As measured by industry Gross value added share of GDP (excluding Ownership of dwellings, Taxes less subsidies on products and Statistical discrepancy).

Figure 32 presents the GDP per capita growth rate for Canberra. In 2018-19, Canberra’s GDP per capita growth rate was 1.2 per cent, compared to the national average of 0.3 per cent.

FIGURE 32: CANBERRA GDP PER CAPITA GROWTH – VOLUME MEASURE



Source: Australian National Accounts: State Accounts, Cat. No. 5220.0

Tasmania

For most of the last 10 years, Tasmania's economy has grown more slowly than the national average. However, in the last two years, Tasmania's GDP growth has boomed. The 3.6 per cent GDP growth in 2018-19 was the most robust growth since 2003-04.



2.7 Tasmania

For most of the last 10 years, Tasmania’s economy has grown more slowly than the national average (see Figure 34). Between 2009-10 and 2016-17, Tasmania’s GDP growth was well below the national average.

However, in the last two years, Tasmania’s GDP growth has boomed. The 3.6 per cent GDP growth in 2018-19 was the most robust growth since 2003-04.

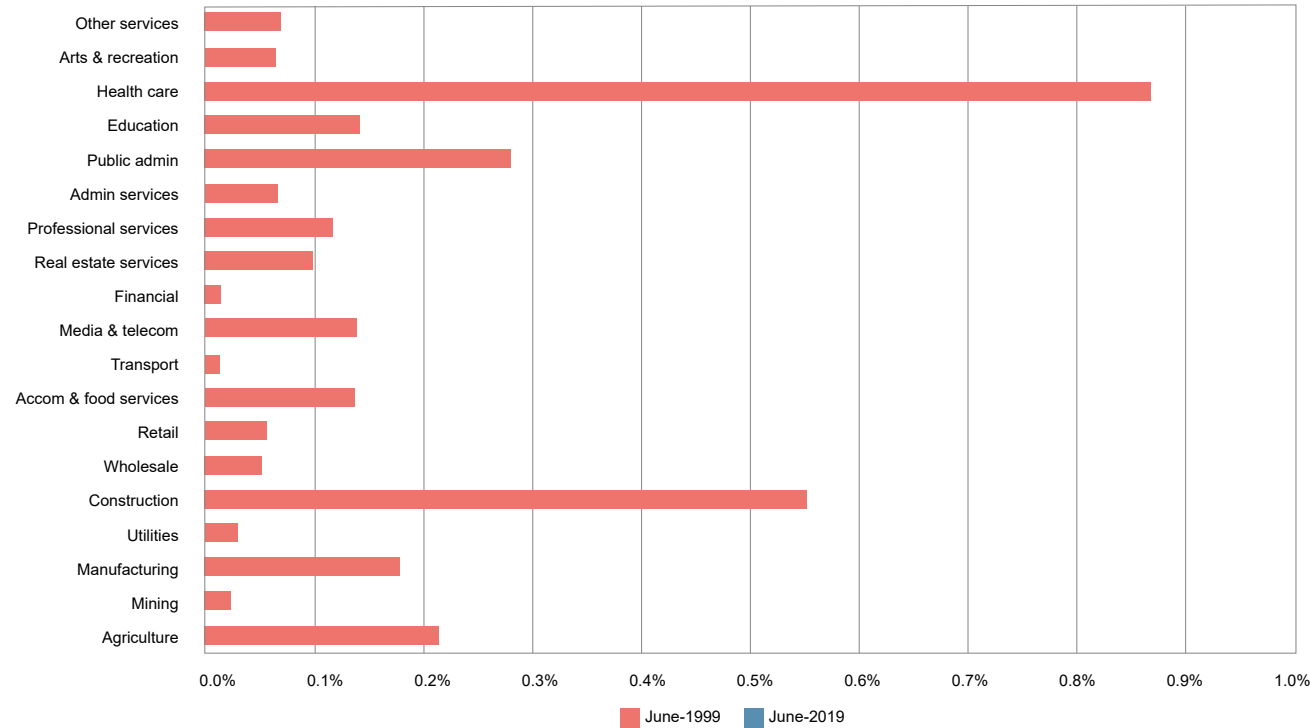
There was a broad base growth profile across a range of industries. In 2018-19, health care (0.9 percentage points) and construction (0.6 percentage points) were the largest contributors to Tasmania’s GDP growth.

The breakdown of each industry’s contribution to Tasmanian economic growth is shown in Figure 33. Every single industry contributed positively to economic growth in Tasmania in 2018-19, even manufacturing and agriculture which have contracted in many other regions.

Per capita growth rates in Tasmania, shown in Figure 35, show less of a gap with Australia compared to overall GDP figures, with growth rates tending to move in line with Australia’s growth.

In 2018-19, the GDP per capita growth in Tasmania was 2.3 per cent compared to the Australian growth rate of 0.3 per cent- the largest gap between Tasmania and Australian GDP per capita growth rate since 1991-92.

FIGURE 33: CONTRIBUTION TO TASMANIAN GDP GROWTH, 2018-19



Manufacturing's share of the Tasmanian economy has fallen from 11.3 per cent of GDP in 1998-99 to 5.9 per cent in 2018-19. Health care grew from 7.8 per cent of GDP in 1998-99 to 12.3 per cent in 2018-19. Several other industries, noticeably agriculture and construction, have shown modest growth in their share of the economy.

The regional cities section of this report contains an analysis of Hobart and Launceston GDP growth rates.

FIGURE 34: TASMANIA GDP GROWTH – VOLUME MEASURE



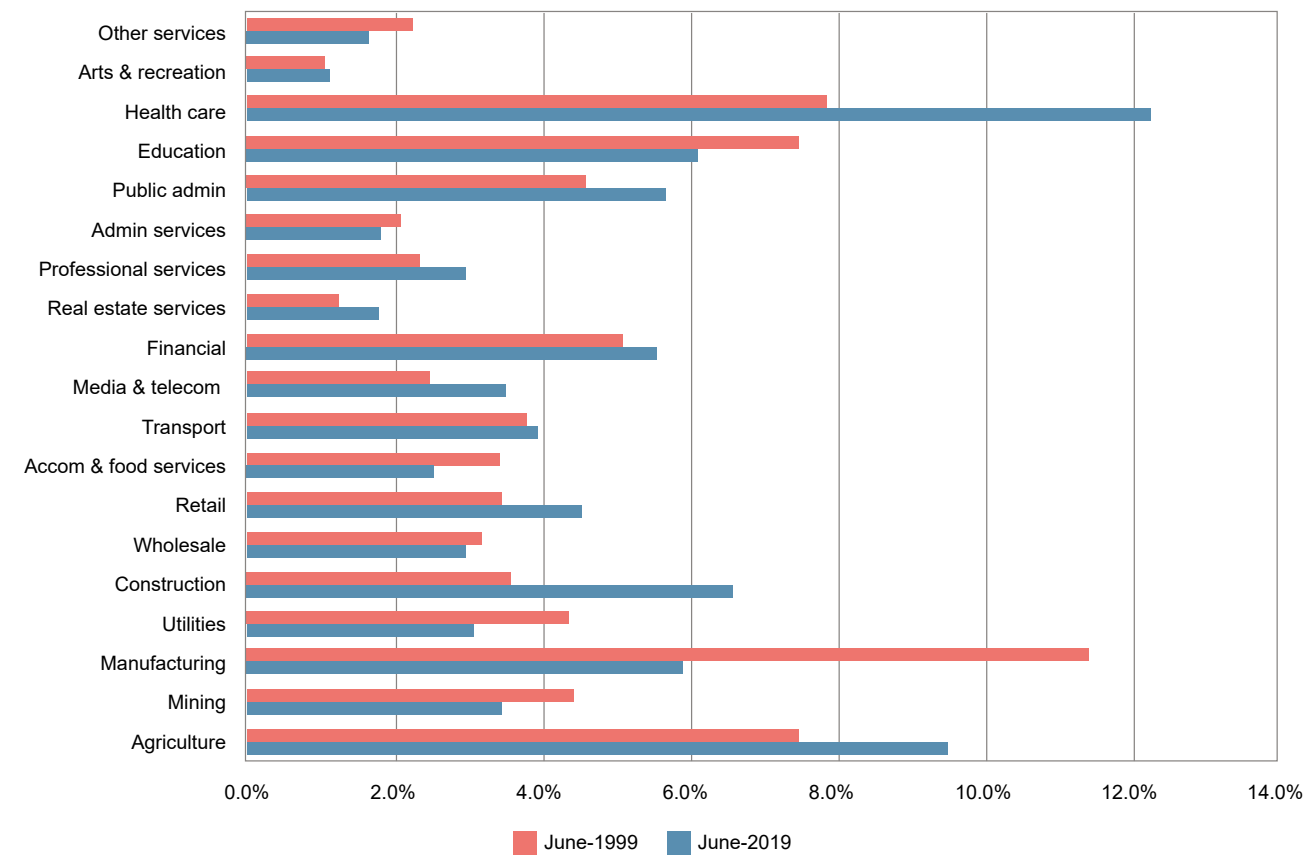
Source: Australian National Accounts: State Accounts, Cat. No. 5220.0

FIGURE 35: TASMANIA GDP PER CAPITA GROWTH – VOLUME MEASURE



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

FIGURE 36: TASMANIAN INDUSTRY STRUCTURE¹²



Source: Australian National Accounts: State Accounts, Cat. No. 5220.0

¹²As measured by industry Gross value added share of GDP (excluding Ownership of dwellings, Taxes less subsidies on products and Statistical discrepancy).

Regional analysis

While the focus of this report has been on the major capital cities, there are also major economic changes in Regional Australia. This section provides a snapshot of some of these changes.



2.8 Regional Analysis

While the focus of this report has been on the major capital cities, there are also major economic changes in Regional Australia. This section provides a snapshot of some of these changes.

Regional New South Wales

As shown in Figure 37, the economy of Regional New South Wales contracted in 2013-14 (-0.4 per cent), experienced very weak growth in 2014-15 and then boomed in 2015-16. Since then, the GDP growth rate has been in steady decline. In 2018-19, Regional New South Wales was in recession with GDP falling by 0.3 per cent.

FIGURE 37: REGIONAL NSW GDP AND GDP PER CAPITA GROWTH

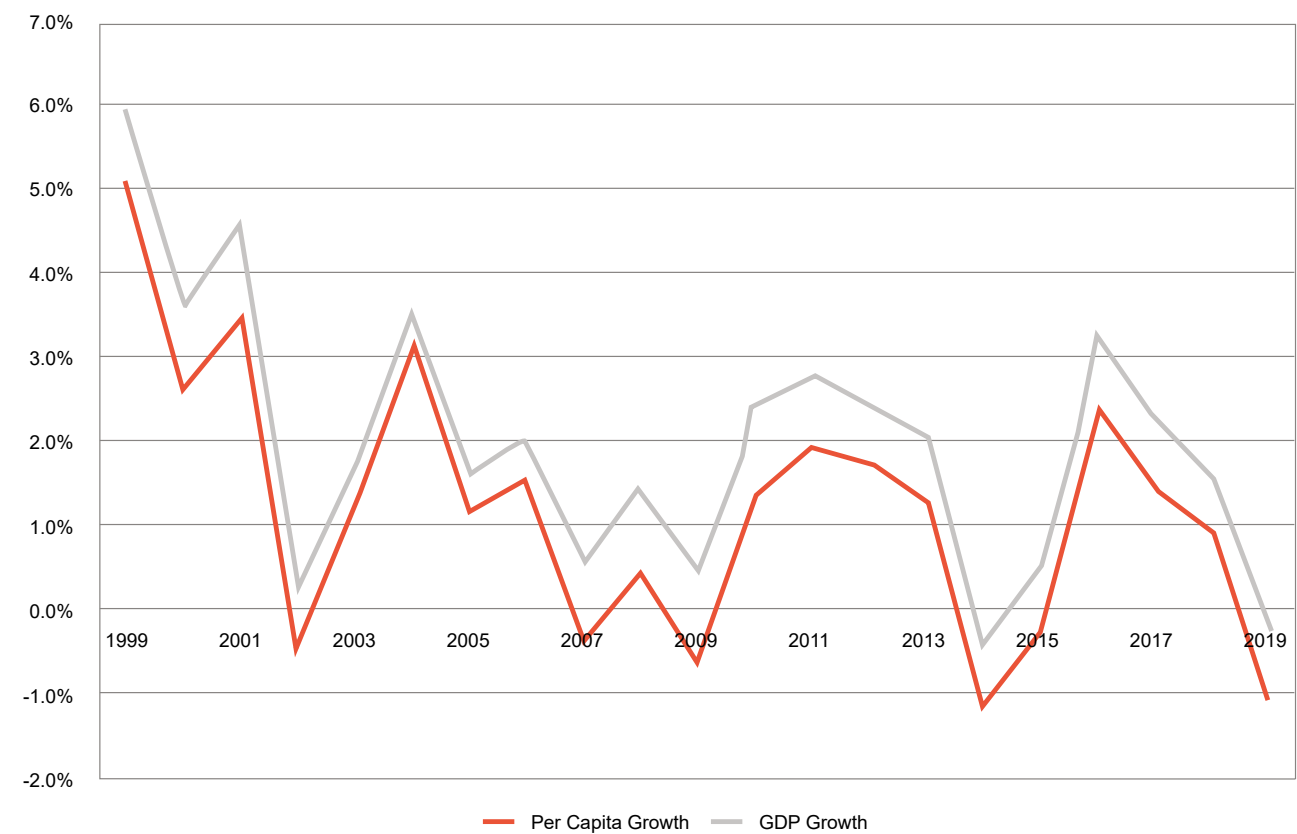
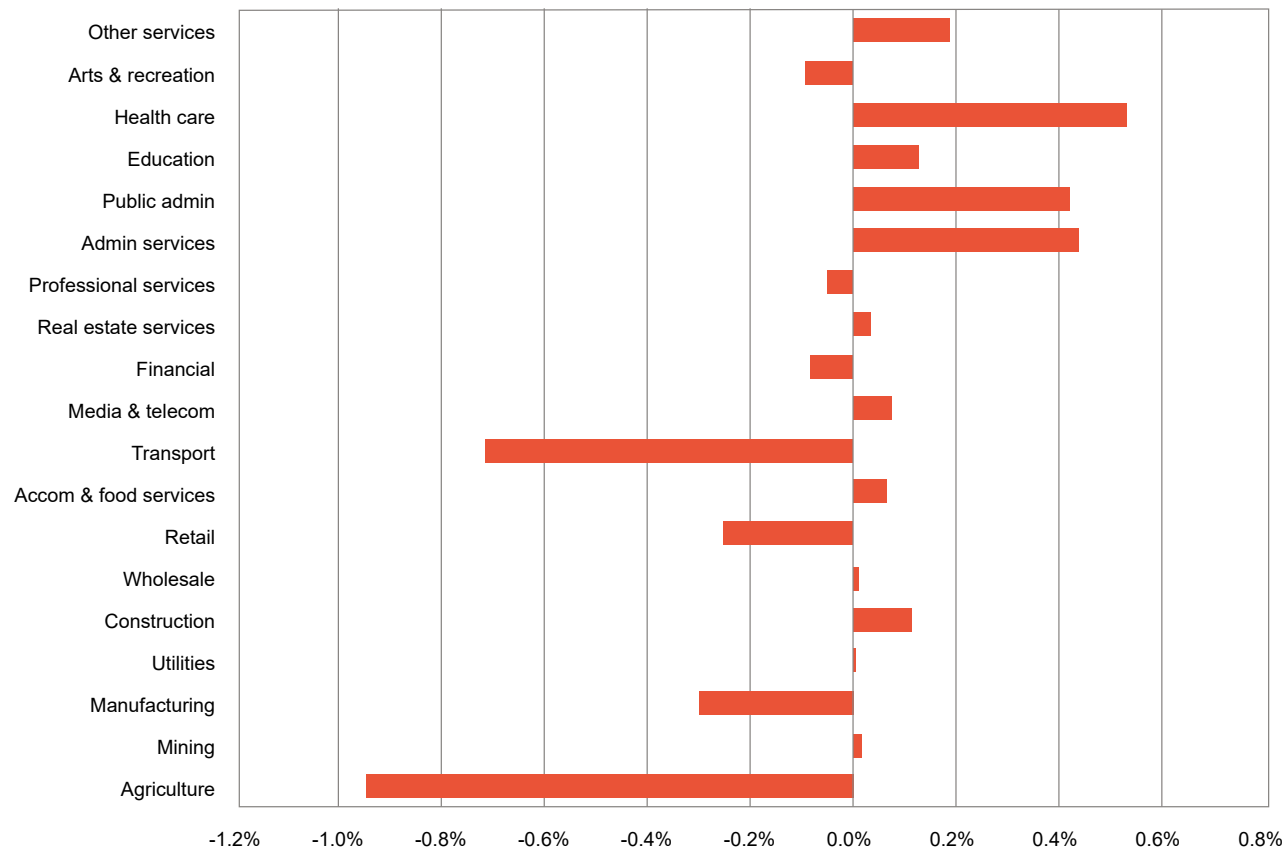


FIGURE 38: CONTRIBUTION TO REGIONAL NSW GDP GROWTH, 2018-19



Source: SGS Economics & Planning

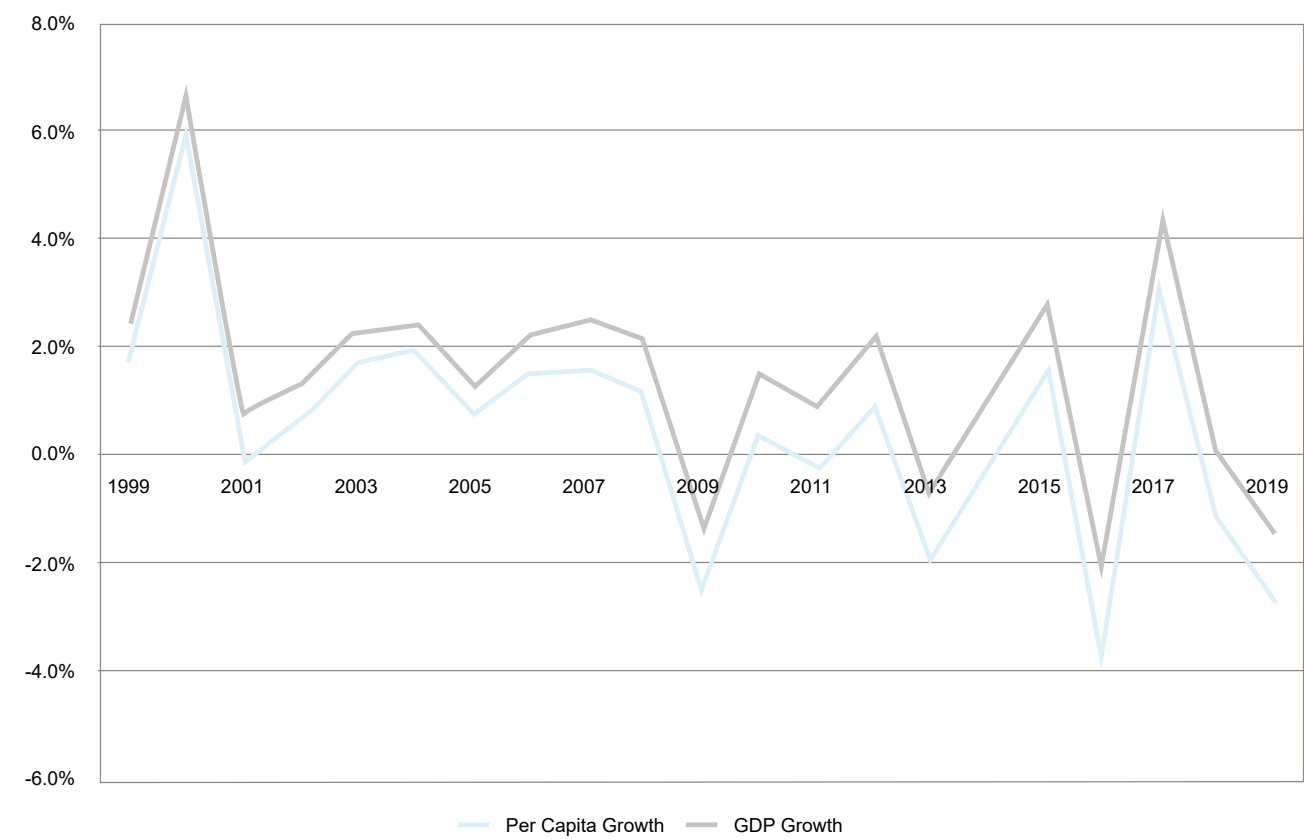
This decline was driven by contractions in agriculture (1.0 percentage points) and transport (0.7 percentage points). Since 2016-17 the impact of the drought has seen agricultural production fall by almost 20 per cent. The fall in transport is related to less agricultural products requiring transportation.

Health care (0.5 percentage points), administrative services and public administration (both 0.4 percentage points) were the main contributors to GDP growth.

Regional Victoria

As shown in Figure 39, there has been a decline in Regional Victoria’s GDP in three of the past ten years, and a decline in GDP per capita in six of the past ten years. The most recent year saw a large decline in Regional Victoria GDP of 1.4 per cent.

FIGURE 39: CONTRIBUTION TO REGIONAL NSW GDP GROWTH, 2018-19

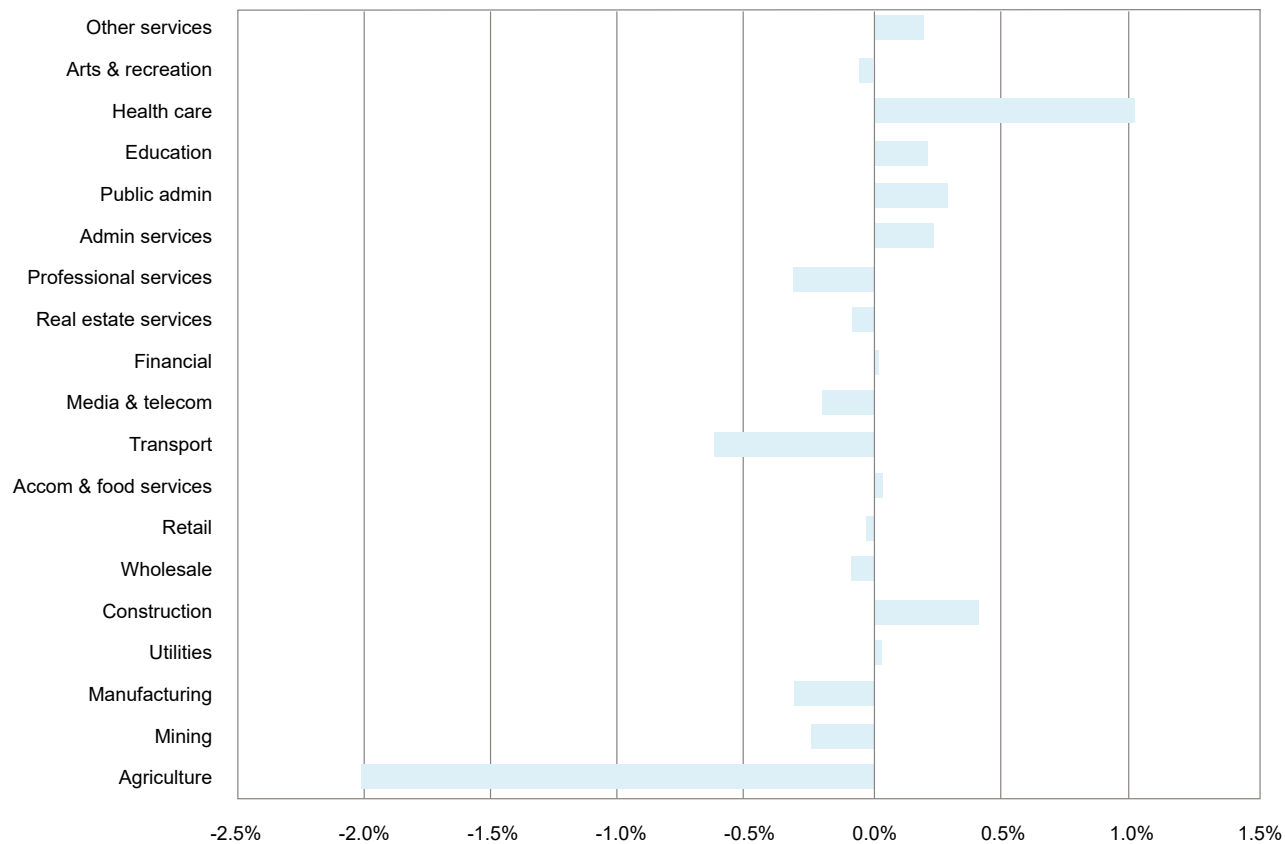


Source: SGS Economics & Planning

Figure 40 shows that agriculture had by far the largest impact on Regional GDP growth, subtracting 2.0 per cent from GDP. Since 2015-16 the impact of the drought has seen agricultural production fall by over 25 per cent. The fall in transport (-0.6 percentage points) was related to less agricultural products requiring transportation.

Health care (1.0 percentage points) had the most significant positive impact on the economy of Regional Victoria.

FIGURE 40: CONTRIBUTION TO REGIONAL VICTORIA GDP GROWTH, 2018-19

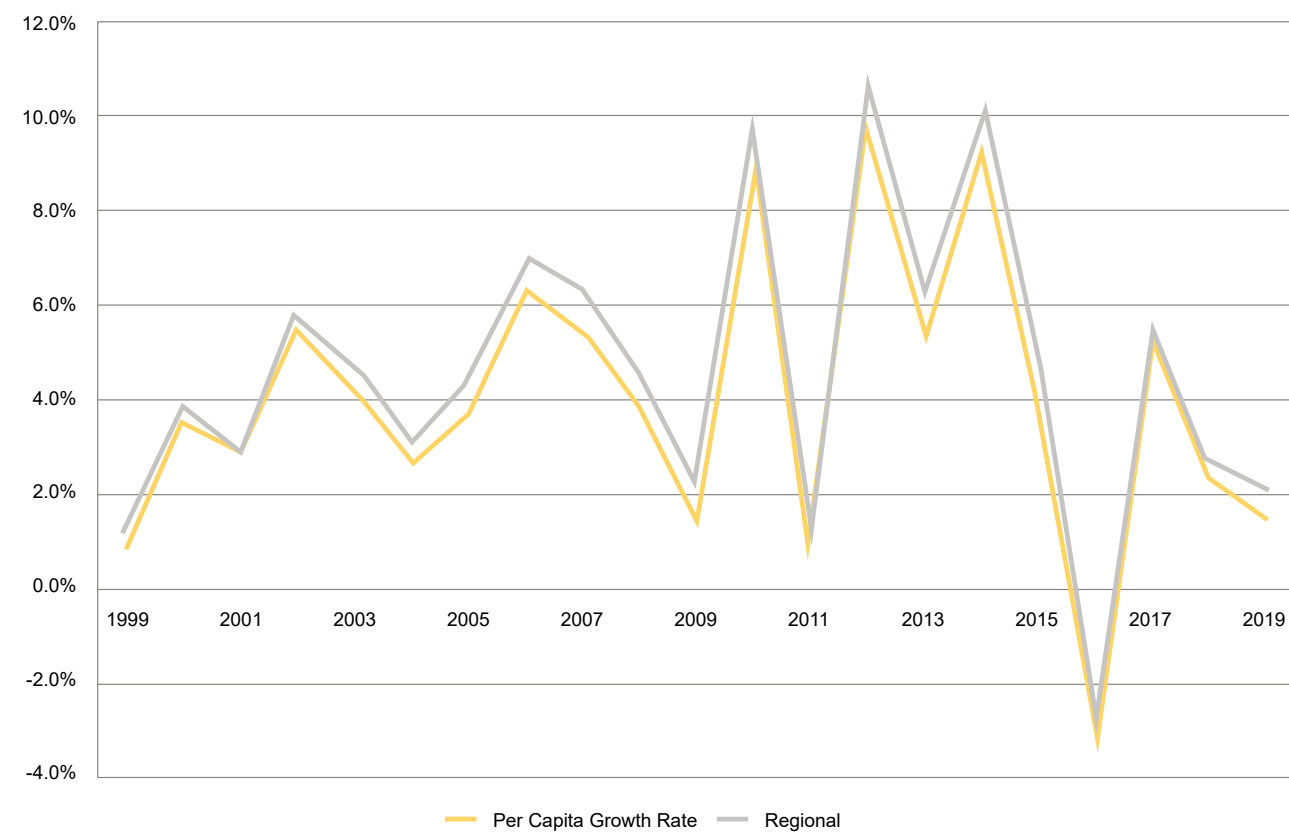


Source: SGS Economics & Planning

Regional Western Australia

Regional Western Australia’s GDP growth slowed in 2018-19 to 2.1 per cent. This rate of growth is well below the level seen during the height of the mining construction boom, which sometimes exceeded 10 per cent per annum.

FIGURE 41: REGIONAL WA GDP AND GDP PER CAPITA GROWTH

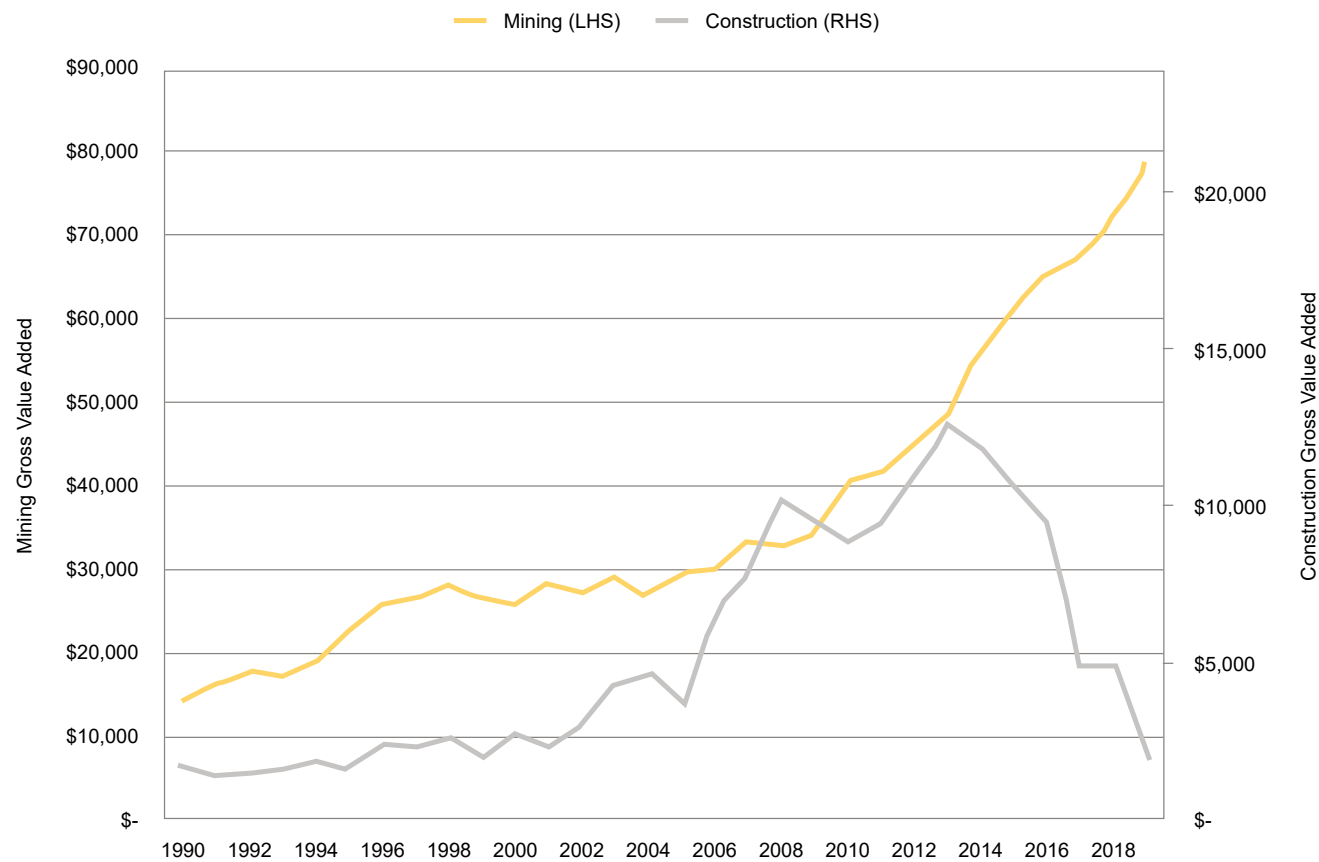


Source: SGS Economics & Planning

Figure 42 shows that GVA of the construction and mining industries in Regional Western Australia. The value added from construction is back at levels not seen since before the start of the mining boom in 2003-04.

Figure 42 also provides a sense of the scale of the mining construction boom in Regional Western Australia and the rapid rise in mining production.

FIGURE 42: REGIONAL WA CONSTRUCTION & MINING GVA (\$ MILLIONS)



Source: SGS Economics & Planning

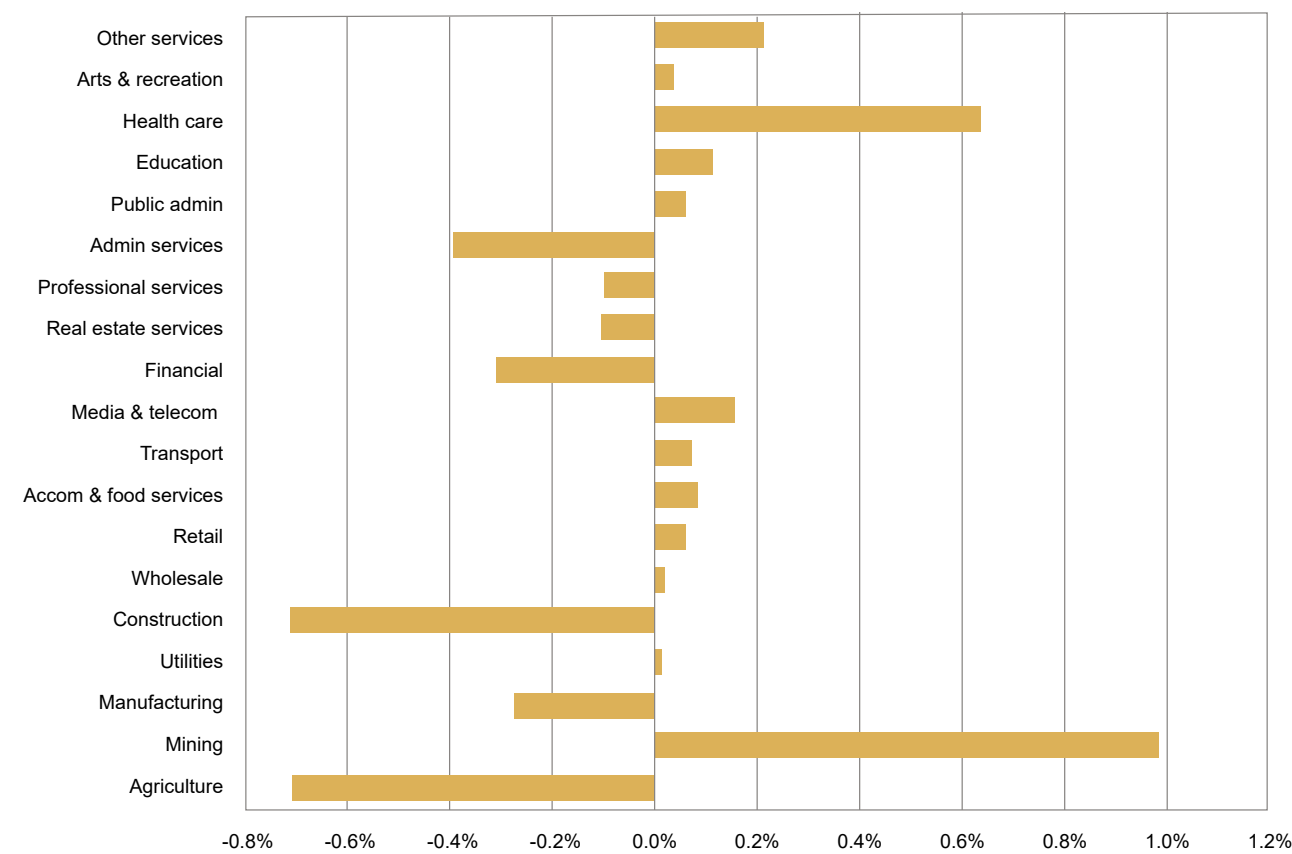
Regional Queensland

Regional Queensland saw GDP growth of 0.1 per cent in 2018-19. This was the lowest growth since 2014-15 when there was a 0.4 per cent decline.

As shown in Figure 43, mining (1.0 percentage points) and health care (0.6 percentage points) made significant positive contributions to GDP growth.

Drought conditions in parts of Regional Queensland saw agricultural subtract 0.7 percentage points from GDP growth. The end of the construction of a number of large-scale mining projects contributed to a significant fall in construction (0.7 percentage points).

FIGURE 43: CONTRIBUTION TO REGIONAL QLD GDP GROWTH, 2018-19



Source: SGS Economics & Planning



Regional Cities

Presented in Table 5 is the GDP growth rates for a selection of cities across regional Australia. For smaller economies, the year on year growth can be volatile, so some caution should be used in concluding the results.

Hobart is booming with a growth rate of 4.3 per cent. The main drivers for growth were construction (on the back of a strong property market) and health care. Launceston's GDP growth rate of 3.0 per cent in 2018-19 continued its recent trend of strong economic growth.

The Gold Coast and Sunshine Coast appear to be suffering from the impacts of the property downturn over the past two years. The construction, real estate services and financial and insurance industries all fell during 2018-19.

The other cities in Regional Queensland also saw the impact of the property downturn, but given these cities have seen property prices declining for longer, the impact was less intensive in 2018-19.

The Gladstone economy contracted due to the end of the construction of large-scale mining projects. Toowoomba was impacted by lower agricultural production and the flow-on impact on the local economy.

Drought conditions also impacted Wagga Wagga (-2.5 per cent) and Orange (-1.1 per cent).

Bendigo saw above-average growth during 2018-19 as a result of growth in health care and education. Ballarat saw weakness across a range of industries during 2018-19.

Geelong's GDP growth was in line with recent years. Growth was held back by weakness in transport and storage due to a fall in a number of commodities being handled by the Port of Geelong. For example, the amount of fertiliser handled by the Port of Geelong was down 20 per cent in 2018-19 and "Other Dry Bulk" is down 10 per cent¹³.

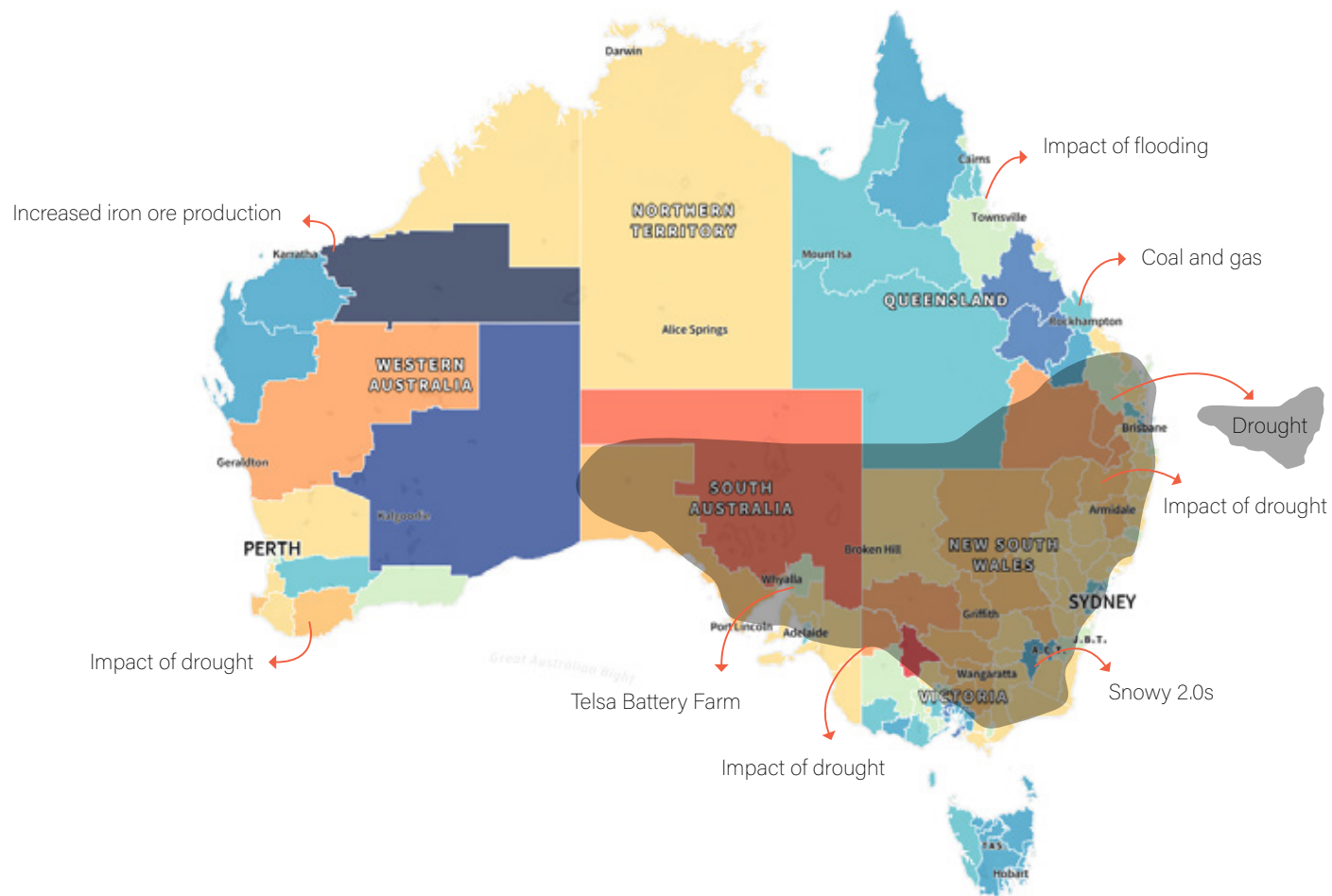
TABLE 5: REGIONAL CITY¹⁴ GDP & GROWTH RATES – VOLUME MEASURE

State	Location	GDP 2018-19	Annual Growth	5 Yearly Growth
QLD	Gold Coast	\$ 35,272	-0.5%	1.3%
	Sunshine Coast	\$ 18,269	-0.8%	1.3%
	Cairns	\$ 14,164	0.9%	1.6%
	Townsville	\$ 12,003	0.6%	0.7%
	Toowoomba	\$ 9,414	-0.3%	1.9%
	Mackay	\$ 8,649	0.6%	2.7%
	Rockhampton	\$ 7,065	0.9%	2.1%
	Gladstone	\$ 5,904	-0.6%	1.4%
TAS	Hobart	\$ 15,062	4.3%	3.0%
	Launceston	\$ 5,295	3.0%	3.0%
VIC	Geelong	\$ 11,540	0.8%	0.9%
	Ballarat	\$ 5,899	0.0%	0.9%
	Bendigo	\$ 5,239	1.9%	1.4%
NSW	Newcastle	\$ 15,281	0.9%	1.9%
	Wollongong	\$ 7,438	0.7%	2.7%
	Wagga Wagga	\$ 5,809	-2.5%	1.2%
	Orange	\$ 4,238	-1.1%	1.3%

Source: SGS Economics & Planning

¹³<https://geelongport.com.au/port-operations/trade-statistics/>

¹⁴All locations are based on SA3 except for Gold Coast, Sunshine Coast, Hobart and Geelong which are based on the larger Statistical Area 4.



The small area GDP estimates are available via the accompanying interactive map. Some of the items of interest that can be explored include:

- The East Pilbara's GDP was up 8.4 per cent due to increased mineral production.
- The south west of Western Australia was impacted by drought. The Wheat Belt – South did see GDP growth, but this was due to mineral production offsetting falls in agricultural production.
- The Mid North SA3 in South Australia, home to the Hornsdale Power Reserve (which includes the Tesla Battery), saw GDP growth of 0.9 per cent due to increased power generation activity. This offset falls in agricultural production.
- North Western Victoria has been heavily impacted by drought conditions. As has New South Wales and South East Queensland.
- The commencement of the construction of the Snowy 2.0 has helped to boost GDP growth in the Tumut – Tumbarumba SA3 to 3.7 per cent.
- The Bowen Basin's GDP growth of 4.8 per cent was driven by increased mining production.
- Flooding in February 2019 adversely impacted on agricultural production in the Charters Towers SA3. Re-construction in Townsville though, after the flood, has provided a boost to the local economy.

Methodology



There are three approaches to measuring Gross Domestic Product:

- **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; and
 - **The Income Approach:** sum of income generated by all factors of production.
- 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); and
 - Labour Force, Australia, Detailed, Quarterly (Cat. No. 6291.0.55.003).

At the Australian level, the Production, Expenditure and Income approaches are averaged by the ABS to produce an estimate of 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 GDP¹⁵ estimates for each major capital city (as defined by the capital city statistical divisions), the Production approach is used. This is used firstly because of the lack of data on interstate trade, and secondly, because 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:

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 taken 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, 2018-19 (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)*.

¹⁵GDP (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.

3.1 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 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 and fishing industry.

This method would be unlikely to capture head office operations of agriculture, forestry and 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 and 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 and 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 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 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 valued 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 and fishing industry in each State. The Capital City share of agriculture, forestry and fishing industry Gross value added is used to split the value of Taxes less subsidies on products in 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 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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