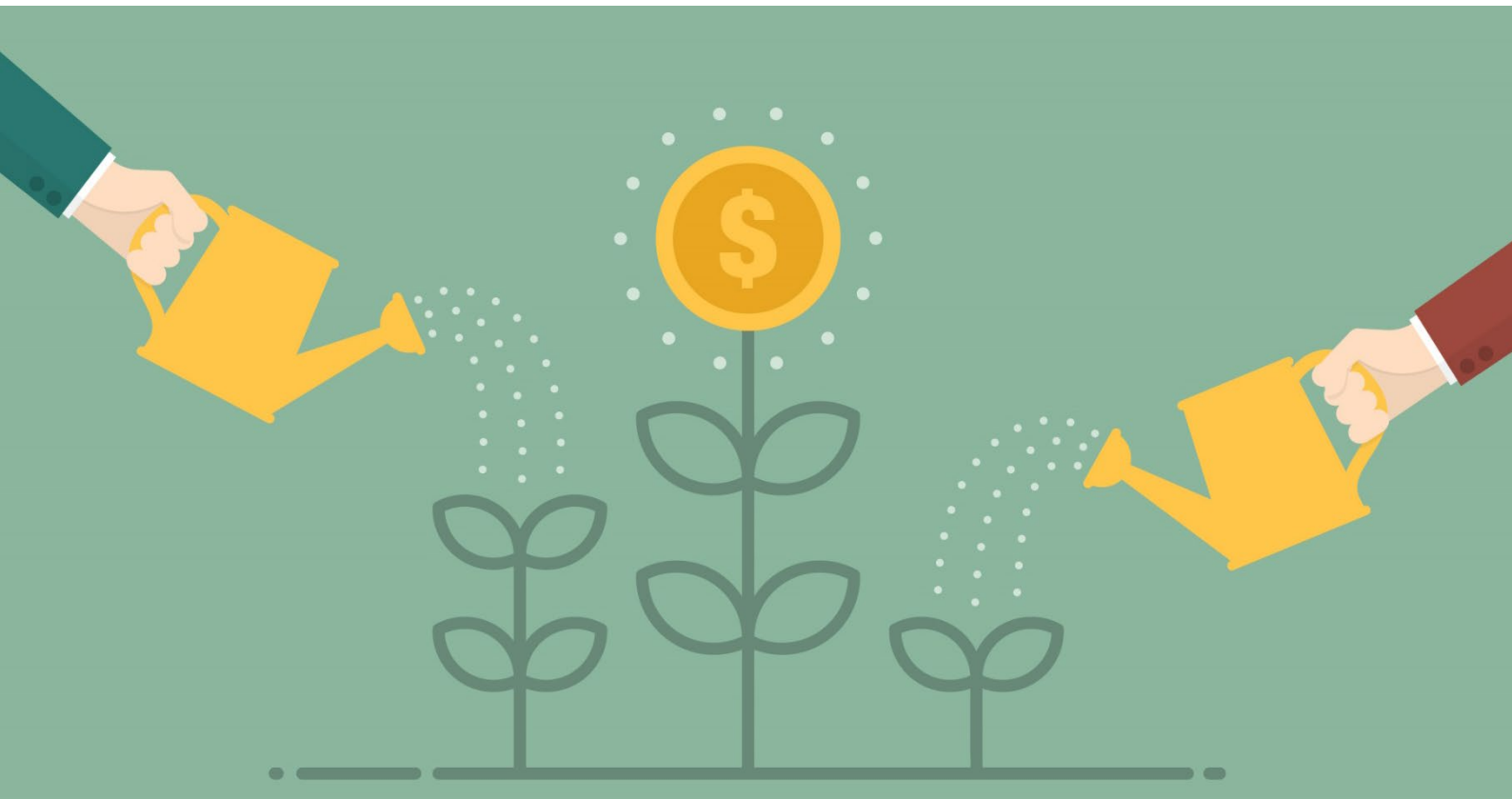




Victorian Economic Snapshot 2020

Quick Guide

Research Note
No. 3, April 2020

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Department of Parliamentary Services
Parliament of Victoria



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Executive Summary

Victorian Economic Snapshot 2020 provides a multi-perspective and historical overview of the Victorian economy. It is largely based on the most recent release of economic data published by the Australian Bureau of Statistics, covering the 2018/19 financial year.

Just as a person's health cannot be summed up by any single measurement, there is no single economic indicator that fully captures the 'health' of the Victorian economy.¹ The five headline indicators below provide a high-level view of economic growth, employment, inflation and population growth.

In isolation, however, these figures mean very little. To evaluate Victoria's performance, it must be benchmarked against something. A fair point of comparison might be the previous financial year, effectively asking whether Victoria performed better or worse than last year.

Table 1. Headline economic indicators, Victoria, FY 2017/18 vs. FY 2018/19

Headline indicator	Vic. 2017/18	Vic. 2018/19	
Real gross state product growth ²	3.4%	3.0%	▼
Average unemployment rate ³	5.6%	4.6%	▼
Consumer price index growth ⁴	2.3%	1.7%	▼
Wage price index growth ⁵	2.3%	2.6%	▲
Population growth ⁶	2.2%	2.1%	▼

To compare Victoria's FY 2018/19 performance against a different benchmark, please refer to the [interactive edition](#) of this publication.

¹ J. Stiglitz et al. (2018) *Beyond GDP: measuring what counts for economic and social performance*, Paris, OECD Publishing, p. 117, Recommendation 1.

² Derived from Australian Bureau of Statistics (2019) [Australian national accounts: state accounts, 2018–19](#), cat. no. 5220.0, Canberra, ABS, Table 1 (Gross state product: Chain volume measures ; Original).

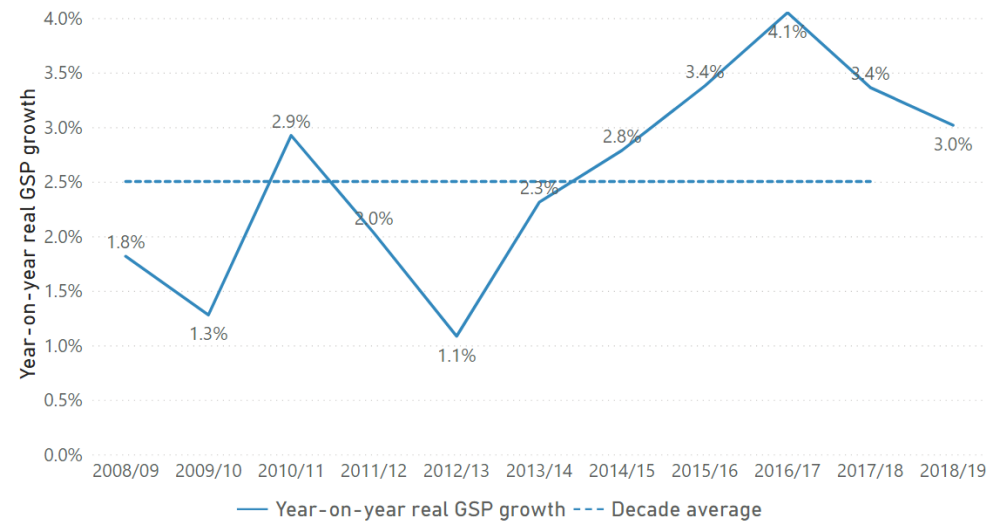
³ Derived from Australian Bureau of Statistics (2019) [Labour force, Australia, Oct 2019](#), cat. no. 6202.0, Canberra, ABS, Table 23 (Unemployed total ; Persons ; Original and Labour force total ; Persons ; Original).

⁴ Derived from Australian Bureau of Statistics (2019) [Consumer price index, Sep 2019](#), cat. no. 6401.0, Canberra, ABS, Table 1 (Index Numbers ; All groups CPI ; Original).

⁵ Derived from Australian Bureau of Statistics (2019) [Wage price index, Australia, Sep 2019](#), cat. no. 6345.0, Canberra, ABS, Table 2a (Financial Year Index ; Total hourly rates of pay excluding bonuses ; Private and Public ; All industries ; Original).

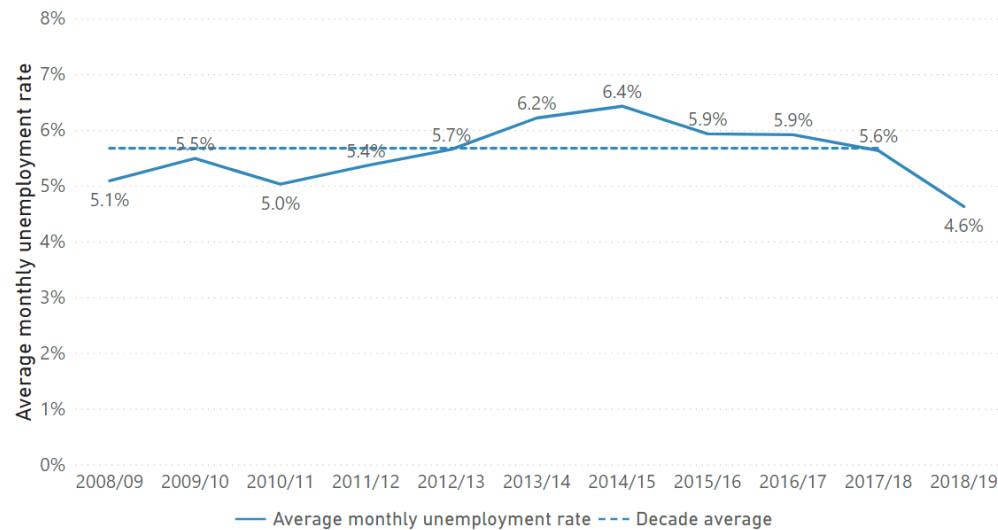
⁶ Derived from Australian Bureau of Statistics (2019) [Australian demographic statistics, Jun 2019](#), cat. no. 3101.0, Canberra, ABS, Table 4 (Estimated Resident Population ; Persons ; Original).

Figure 1. Real gross state product growth in Victoria, FY 2008/09 – FY 2018/19



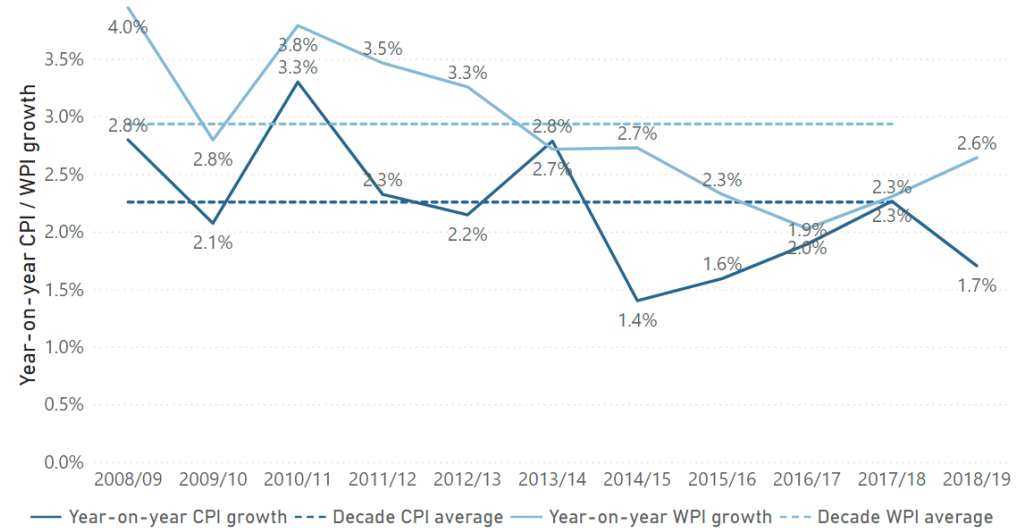
Source: Derived from ABS (2019) [Australian national accounts: state accounts, 2018–19](#), cat. no. 5220.0, Table 1 (Gross state product: Chain volume measures ; Original)

Figure 2. Unemployment in Victoria, FY 2008/09 – FY 2018/19



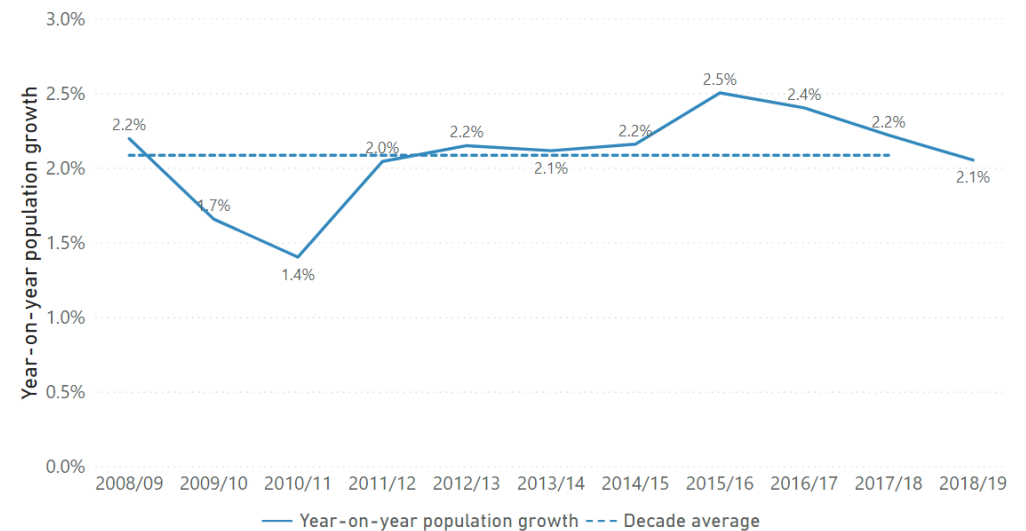
Source: Derived from ABS (2019) [Labour force, Australia, Oct 2019](#), cat. no. 6202.0, Table 23 (Unemployed total ; Persons ; Original and Labour force total ; Persons ; Original)

Figure 3. Inflation in Victoria, FY 2008/09 – FY 2018/19



Source: Derived from ABS (2019) [Consumer price index, Sep 2019](#), cat. no. 6401.0, Table 1 (Index Numbers ; All groups CPI ; Original) and ABS (2019) [Wage price index, Australia, Sep 2019](#), cat. no. 6345.0, Table 2a (Financial Year Index ; Total hourly rates of pay excluding bonuses ; Private and Public ; All industries ; Original)

Figure 4. Population growth in Victoria, FY 2008/09 – FY 2018/19



Source: Derived from ABS (2019) [Australian demographic statistics, Jun 2019](#), cat. no. 3101.0, Table 4 (Estimated Resident Population ; Persons ; Original)

Industry overview

Industry snapshot

Each Victorian industry has a unique impact on the Victorian economy. Not all these contributions can be measured directly, but some can. The table below uses the most recent available data to compare 18 Victorian industries across three attributes: real gross value added, employment and greenhouse gas emissions.

Table 2. Victorian industry contributions to real gross state product, employment and emissions

Industry	Real gross value added (\$ Millions) ⁷	Victorians employed (Q average) ⁸	Emissions (tonnes CO ₂ -e) ⁹
Accommodation and food services	9,019	212,121	1,224,750*
Administrative and support services	17,052	120,193	1,906,340
Agriculture, forestry and fishing	8,108	87,451	7,358,190
Arts and recreation services	5,059	76,459	-29,980
Construction	34,767	307,096	1,836,350
Education and training	23,339	278,291	1,224,750*
Electricity, gas, water and waste services	12,347	44,949	60,449,150
Financial and insurance services	47,783	126,128	469,050†
Health care and social assistance	35,742	436,111	1,224,750*
Information media and telecommunications	13,551	67,087	205,440
Manufacturing	30,559	277,653	6,053,380
Mining	5,238	15,964	2,682,160
Professional, scientific and technical services	34,825	313,488	239,870
Public administration and safety	20,079	181,099	1,906,340
Rental, hiring and real estate services	12,673	53,654	469,050†
Retail trade	21,199	348,347	1,587,130‡
Transport, postal and warehousing	20,436	173,547	6,071,300
Wholesale trade	19,115	111,299	1,587,130‡

* Combined total of Accommodation and food services (H), Education and training (P) and Health care and social assistance (Q) industries

† Combined total of Financial and insurance services (K) and Rental, hiring and real estate services (L)

‡ Combined total of Wholesale trade (F) and Retail trade (G) industries

Note that emissions associated with electricity are attributed to the state and industry that **produced** the electricity, not the state and industry that **consumed** the electricity. For example, if a Victorian power plant generated 1 MWh of energy, it might generate in the order of 820 kg of CO₂-equivalent emissions.¹⁰ Even if that energy was used to power a school or hospital in another state, the 820 kg of

⁷ FY 2018/19 estimate; ABS (2019) *Australian national accounts: state accounts, 2018–19*, op. cit., Table 3 (Industry gross value added: Chain volume measures ; Original ; Jun-2019).

⁸ FY 2018/19 estimate; Derived from Australian Bureau of Statistics (2019) *Labour force, Australia, detailed, quarterly, Nov 2019*, cat. no. 6291.0.55.003, Canberra, ABS, Table 05 (Employed total ; Original ; Aug-2018 – May-2019 average).

⁹ FY 2016/17 estimate; Commonwealth Department of the Environment and Energy (2019) *National inventory by economic sector*, Canberra, DoEE (Inventory Year 2017 ; Victoria ; Carbon dioxide equivalent).

¹⁰ Climate Council of Australia (date unknown), *Clean coal: factsheet*, Sydney, Climate Council, p. 2.

emissions would still be attributed to the state (Victoria) and industry (Electricity, gas, water and waste services) that produced the electricity.

A selection of key industries is contextualised on the following pages; for more options, please refer to the [interactive edition](#) of this publication.

Financial and insurance services

In FY 2018/19, the financial and insurance services industry contributed

\$47.8bn

to the Victorian economy.¹¹

This equates to about

10.7%

of real Victorian gross state product.¹²

The financial and insurance services industry employed

126,128

Victorians.¹³

This means the industry employs

3.6%

of Victorian workers, or

1 in 28.¹⁴

The finance, insurance, rental, hiring and real estate services industries are responsible for an estimated

469k tonnes

of greenhouse gas emissions per year (CO₂-equivalent).¹⁵

This equates to about

0.4%

of annual Victorian emissions.¹⁶

¹¹ ABS (2019) *Australian national accounts: state accounts, 2018–19*, op. cit., Table 3 (Industry gross value added: Chain volume measures ; Original ; Jun-2019).

¹² Derived from ibid. and Table 1 (Victoria ; Gross state product: Chain volume measures ; Original ; Jun-2019).

¹³ Derived from ABS (2019) *Labour force, Australia, detailed, quarterly, Nov 2019*, op. cit., Table 05 (Employed total ; Original ; Aug-2018 – May-2019 average).

¹⁴ Derived from ibid. and ABS (2019) *Labour force, Australia, Oct 2019*, op. cit., Table 23 (Labour force total ; Persons ; > Victoria ; Original ; Jul-2018 – Jun-2019 average).

¹⁵ DoEE (2019) *National inventory by economic sector*, op. cit. (Inventory Year 2017 ; Victoria ; Carbon dioxide equivalent).

¹⁶ Derived from ibid. and Commonwealth Department of the Environment and Energy (2019) *National greenhouse gas inventory - Kyoto Protocol classifications*, Canberra, DoEE (Inventory Year 2017 ; Victoria ; Carbon dioxide equivalent).

Health care and social assistance

In FY 2018/19, the health care and social assistance industry contributed

\$35.7bn

to the Victorian economy.¹⁷

This equates to about

8.0%

of real Victorian gross state product.¹⁸

The health care and social assistance industry employed

436,111

Victorians.¹⁹

This means the industry employs

12.4%

of Victorian workers, or

1 in 8.²⁰

The accommodation, food services, education and health services industries are responsible for an estimated

1.2m tonnes

of greenhouse gas emissions per year (CO₂-equivalent).²¹

This equates to about

1.1%

of annual Victorian emissions.²²

¹⁷ ABS (2019) *Australian national accounts: state accounts, 2018–19*, op. cit., Table 3 (Industry gross value added: Chain volume measures ; Original ; Jun-2019).

¹⁸ Derived from ibid. and Table 1 (Victoria ; Gross state product: Chain volume measures ; Original ; Jun-2019).

¹⁹ Derived from ABS (2019) *Labour force, Australia, detailed, quarterly, Nov 2019*, op. cit., Table 05 (Employed total ; Original ; Aug-2018 – May-2019 average).

²⁰ Derived from ibid. and ABS (2019) *Labour force, Australia, Oct 2019*, op. cit., Table 23 (Labour force total ; Persons ; > Victoria ; Original ; Jul-2018 – Jun-2019 average).

²¹ DoEE (2019) *National inventory by economic sector*, op. cit. (Inventory Year 2017 ; Victoria ; Carbon dioxide equivalent).

²² Derived from ibid. and DoEE (2019) *National greenhouse gas inventory - Kyoto Protocol classifications*, op. cit. (Inventory Year 2017 ; Victoria ; Carbon dioxide equivalent).

Electricity, gas, water and waste services

In FY 2018/19, the electricity, gas, water and waste services industry contributed

\$12.3bn

to the Victorian economy.²³

This equates to about

2.8%

of real Victorian gross state product.²⁴

The electricity, gas, water and waste services industry employed

44,949

Victorians.²⁵

This means the industry employs

1.3%

of Victorian workers, or

1 in 78.²⁶

The electricity, gas, water and waste services industry is responsible for an estimated

60m tonnes

of greenhouse gas emissions per year (CO₂-equivalent).²⁷

This equates to about

54.4%

of annual Victorian emissions.²⁸

²³ ABS (2019) *Australian national accounts: state accounts, 2018–19*, op. cit., Table 3 (Industry gross value added: Chain volume measures ; Original ; Jun-2019).

²⁴ Derived from ibid. and Table 1 (Victoria ; Gross state product: Chain volume measures ; Original ; Jun-2019).

²⁵ Derived from ABS (2019) *Labour force, Australia, detailed, quarterly, Nov 2019*, op. cit., Table 05 (Employed total ; Original ; Aug-2018 – May-2019 average).

²⁶ Derived from ibid. and ABS (2019) *Labour force, Australia, Oct 2019*, op. cit., Table 23 (Labour force total ; Persons ; > Victoria ; Original ; Jul-2018 – Jun-2019 average).

²⁷ DoEE (2019) *National inventory by economic sector*, op. cit. (Inventory Year 2017 ; Victoria ; Carbon dioxide equivalent).

²⁸ Derived from ibid. and DoEE (2019) *National greenhouse gas inventory - Kyoto Protocol classifications*, op. cit. (Inventory Year 2017 ; Victoria ; Carbon dioxide equivalent).

20-year industry trends

The key industries driving economic growth and employment in Victoria are not static. Twenty years ago, the manufacturing industry was the single largest contributor to gross state product, as well as the largest employer. It was responsible for 14 per cent of real gross state product,²⁹ 14 per cent of jobs³⁰ and eight per cent of emissions.³¹

Today, the Victorian economy is more heavily reliant on the health care and social assistance industry. It is now the state's largest employment sector³² and makes the second-largest contribution to real gross state product.³³ Financial and insurance services contribute more to real gross state product³⁴ but employ comparatively fewer Victorians than other sectors.³⁵

The ribbon charts on the following pages do two things at once:

- First, the width of each ribbon shows the relative size of the industry's contribution. When the ribbon widens, the industry's contribution grew. When the ribbon narrows, the industry's contribution shrank.
- Second, the ribbons are ordered top-to-bottom according to the industry's rank each year. Ribbons at the top made the largest contribution and ribbons at the bottom made the smallest contribution. When a ribbon's position changes between years, that means its rank amongst other industries changed.

For greater detail and historical data, please refer to the [interactive edition](#) of this publication.

²⁹ Derived from ABS (2019) [Australian national accounts: state accounts, 2018–19](#), op. cit., Table 3 (Industry gross value added: Chain volume measures ; Original) and Table 1 (Victoria ; Gross state product: Chain volume measures ; Original).

³⁰ Derived from ABS (2019) [Labour force, Australia, detailed, quarterly, Nov 2019](#), op. cit., Table 05 (> Victoria ; Employed total ; Original) and ABS (2019) [Labour force, Australia, Oct 2019](#), op. cit., Table 23 (Labour force total ; Persons ; > Victoria ; Original).

³¹ Derived from DoEE (2019) [National inventory by economic sector](#), op. cit. (Victoria ; Carbon dioxide equivalent) and DoEE (2019) [National greenhouse gas inventory - Kyoto Protocol classifications](#), op. cit. (Victoria ; Carbon dioxide equivalent).

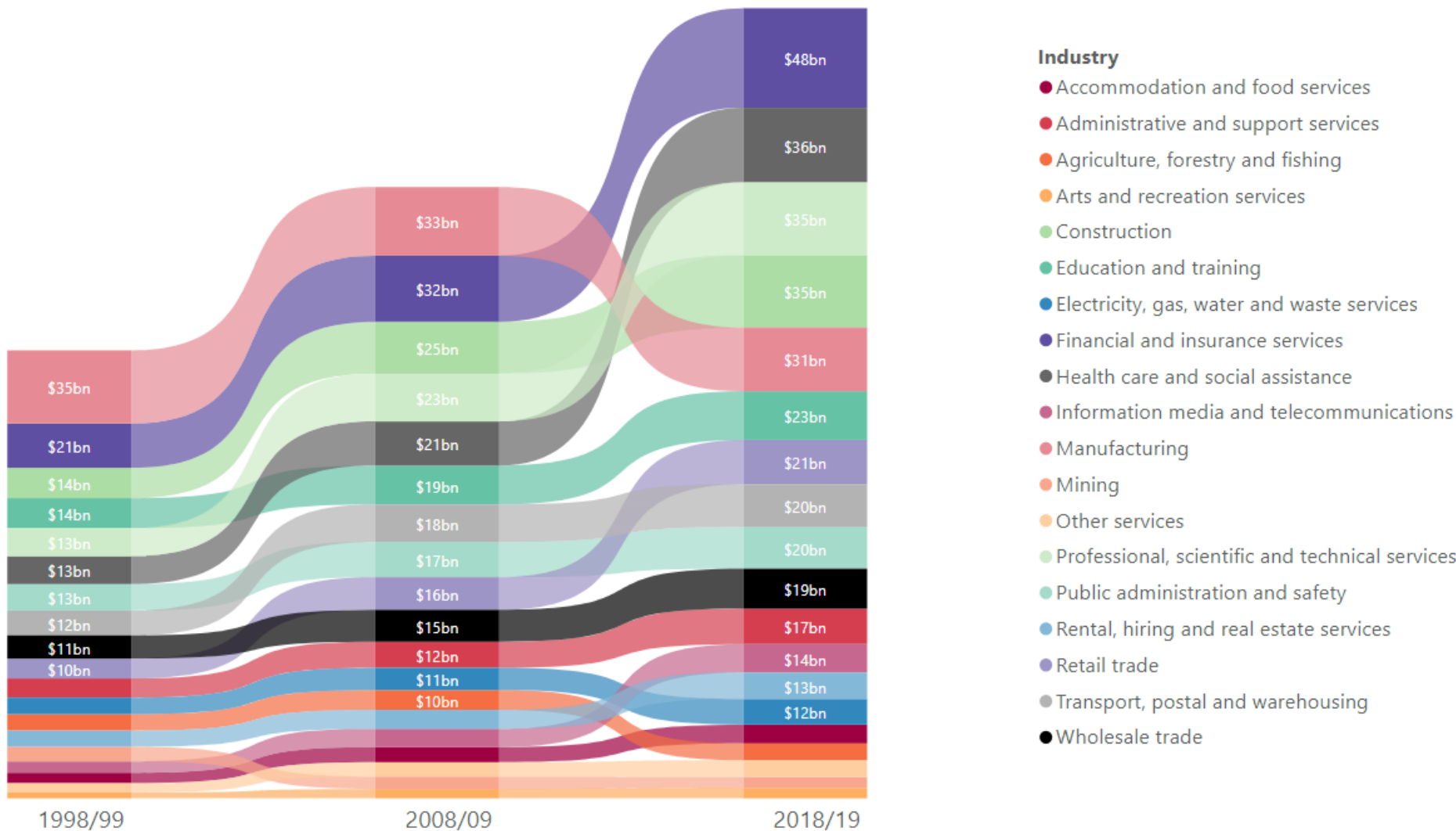
³² Derived from ABS (2019) [Labour force, Australia, detailed, quarterly, Nov 2019](#), op. cit., Table 05 (> Victoria ; Employed total ; Original).

³³ ABS (2019) [Australian national accounts: state accounts, 2018–19](#), op. cit., Table 3 (Industry gross value added: Chain volume measures ; Original).

³⁴ *ibid.*

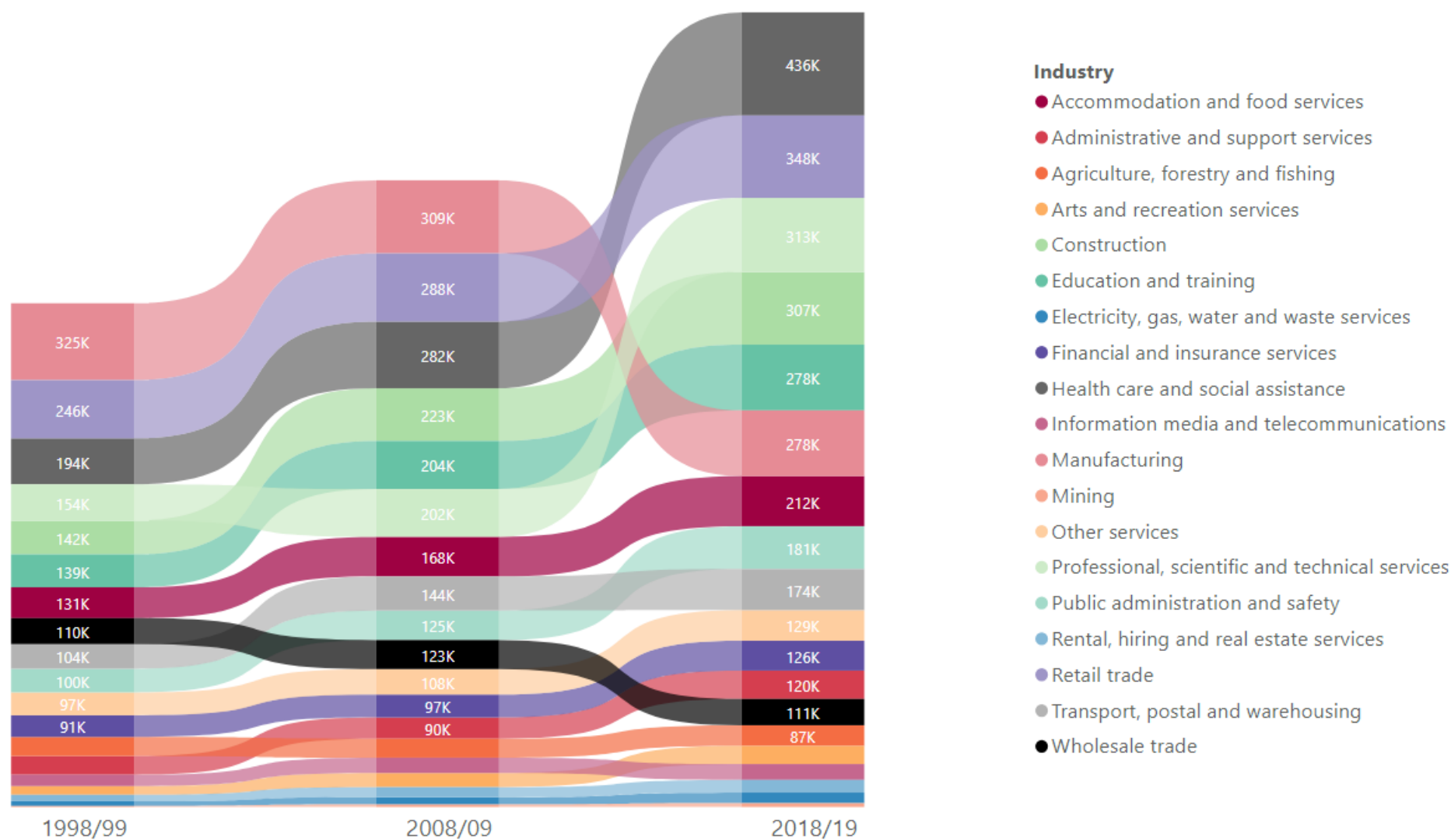
³⁵ Derived from ABS (2019) [Labour force, Australia, detailed, quarterly, Nov 2019](#), op. cit., Table 05 (> Victoria ; Employed total ; Original).

Figure 5. Real gross value added by Victorian industry, FY 1998/99 – FY 2018/19



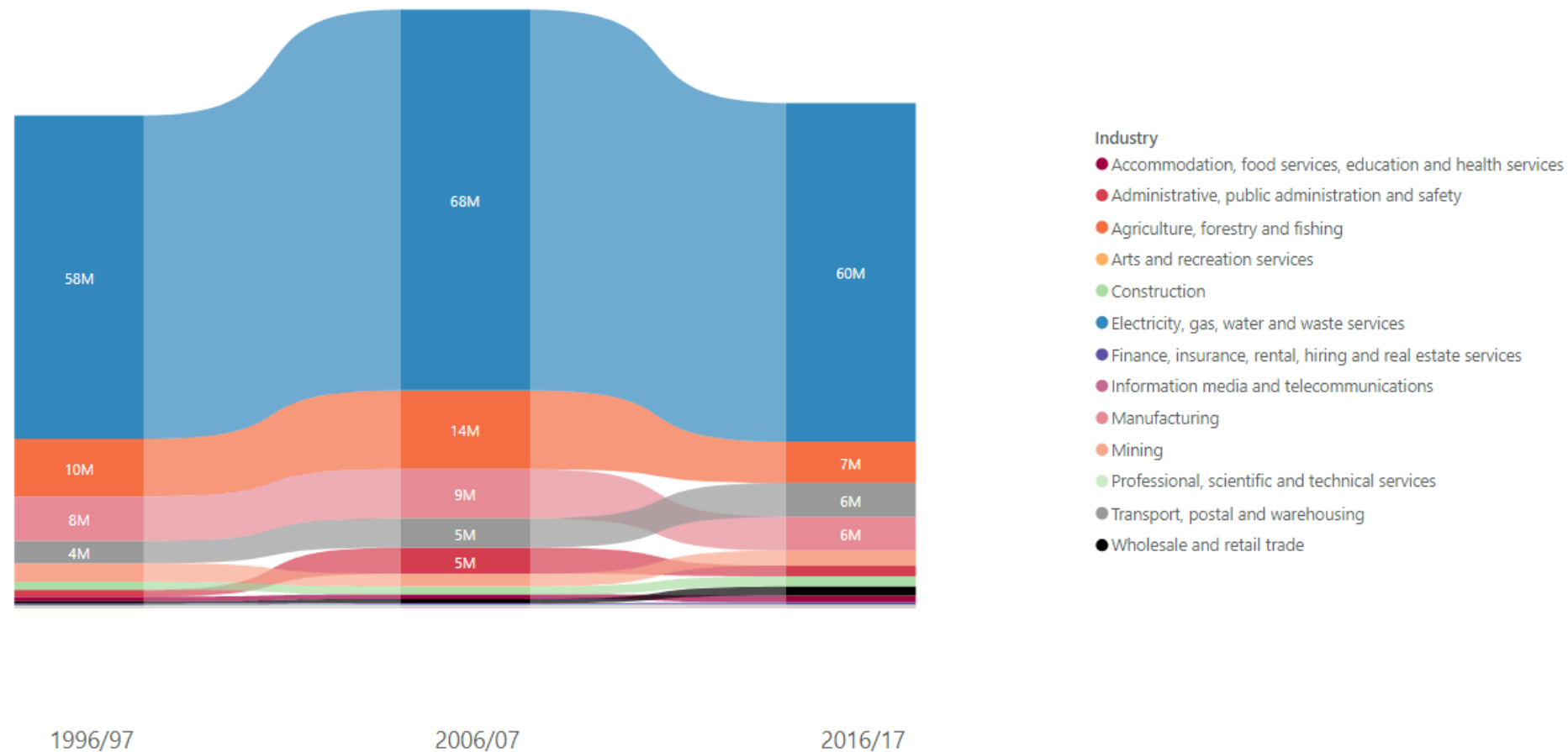
Source: ABS (2019) *Australian national accounts: state accounts, 2018–19*, cat. no. 5220.0, Table 3 (Industry gross value added: Chain volume measures ; Original)

Figure 6. Average employment by Victorian industry, FY 1998/99 – FY 2018/19



Source: Derived from ABS (2019) *Labour force, Australia, detailed, quarterly, Nov 2019*, cat. no. 6291.0.55.003, Table 05 (> Victoria ; Employed total ; Original)

Figure 7. Emissions by Victorian industry, FY 1996/97 – FY 2016/17 (tonnes CO₂-e)



Source: DoEE (2019) *National inventory by economic sector* (Victoria ; Carbon dioxide equivalent)

Economic activity

The Victorian state economy grew by 3.0 per cent in FY 2018/19, 0.4 points slower than the previous year.³⁶ Per capita economic growth was much more modest at 0.8 per cent, 0.3 points slower than the previous year.³⁷

The financial and insurance services industry continued to be the largest contributor to the economy, accounting for 11 per cent of real gross state product.³⁸ The health care and social assistance sector grew significantly, jumping from 7.4 per cent of real gross state product to 8.0 per cent.³⁹

The net government debt to nominal gross state product ratio (net debt to GSP ratio) increased from 4.6 per cent to 4.9 per cent.⁴⁰

Victorian exports grew by \$4.4 billion.⁴¹ Key export sectors include travel services (i.e. visitors coming to Victoria from overseas)⁴² and agriculture, forestry & fishing goods.⁴³ Victorian imports grew by \$9.1 billion.⁴⁴ Key import sectors include manufactured goods⁴⁵ and travel services (i.e. Victorians travelling abroad).⁴⁶

³⁶ Derived from ABS (2019) [Australian national accounts: state accounts, 2018–19](#), op. cit., Table 1 (Gross state product: Chain volume measures ; Original).

³⁷ Derived from *ibid.*, Table 1 (Gross state product per capita: Chain volume measures ; Original).

³⁸ Derived from ABS (2019) [Australian national accounts: state accounts, 2018–19](#), op. cit., Table 3 (Industry gross value added: Chain volume measures ; Original) and Table 1 (Victoria ; Gross state product: Chain volume measures ; Original).

³⁹ Derived from *ibid.*

⁴⁰ Derived from *ibid.*, Table 1 (Gross state product: Current prices ; Original) and Victorian Department of Treasury and Finance (1999–2019) [Financial report for the state of Victoria](#), Melbourne, DTF.

⁴¹ Derived from Australian Bureau of Statistics (2019) [International trade in goods and services, Australia, Nov 2019](#), cat. no. 5368.0, Canberra, ABS, Table 15a (Merchandise exports, FOB value) and Australian Bureau of Statistics (2019) [International trade: supplementary information, financial year, 2018–19](#), cat. no. 5368.0.55.003, Canberra, ABS, Table 3 (International trade in services, Credits, State by financial year).

⁴² ABS (2019) [International trade: supplementary information, financial year, 2018–19](#), op. cit., Table 3 (International trade in services, Credits, State by financial year).

⁴³ Commonwealth Department of Foreign Affairs and Trade (2019) [Trade statistical pivot tables](#), Canberra, DFAT, 'State by country and SITC pivot table 2008-09 to 2018-19' (Total exports).

⁴⁴ Derived from ABS (2019) [International trade in goods and services, Australia, Nov 2019](#), op. cit., Table 15b (Merchandise imports, Customs value ; Original) and ABS (2019) [International trade: supplementary information, financial year, 2018–19](#), op. cit., Table 4 (International trade in services, Debits, State by financial year).

⁴⁵ ABS (2019) [International trade in goods and services, Australia, Nov 2019](#), op. cit., Table 15b (Merchandise imports, Customs value ; Original).

⁴⁶ ABS (2019) [International trade: supplementary information, financial year, 2018–19](#), op. cit., Table 4 (International trade in services, Debits, State by financial year).

Nominal gross state product

Nominal gross state product (nominal GSP) is a broad measurement of a state's overall economic activity. It represents the monetary value of all finished goods and services produced within the state during the financial year. It is a way to measure the size of a state's economy, similar to the way gross domestic product (GDP) measures the size of a country's economy.⁴⁷

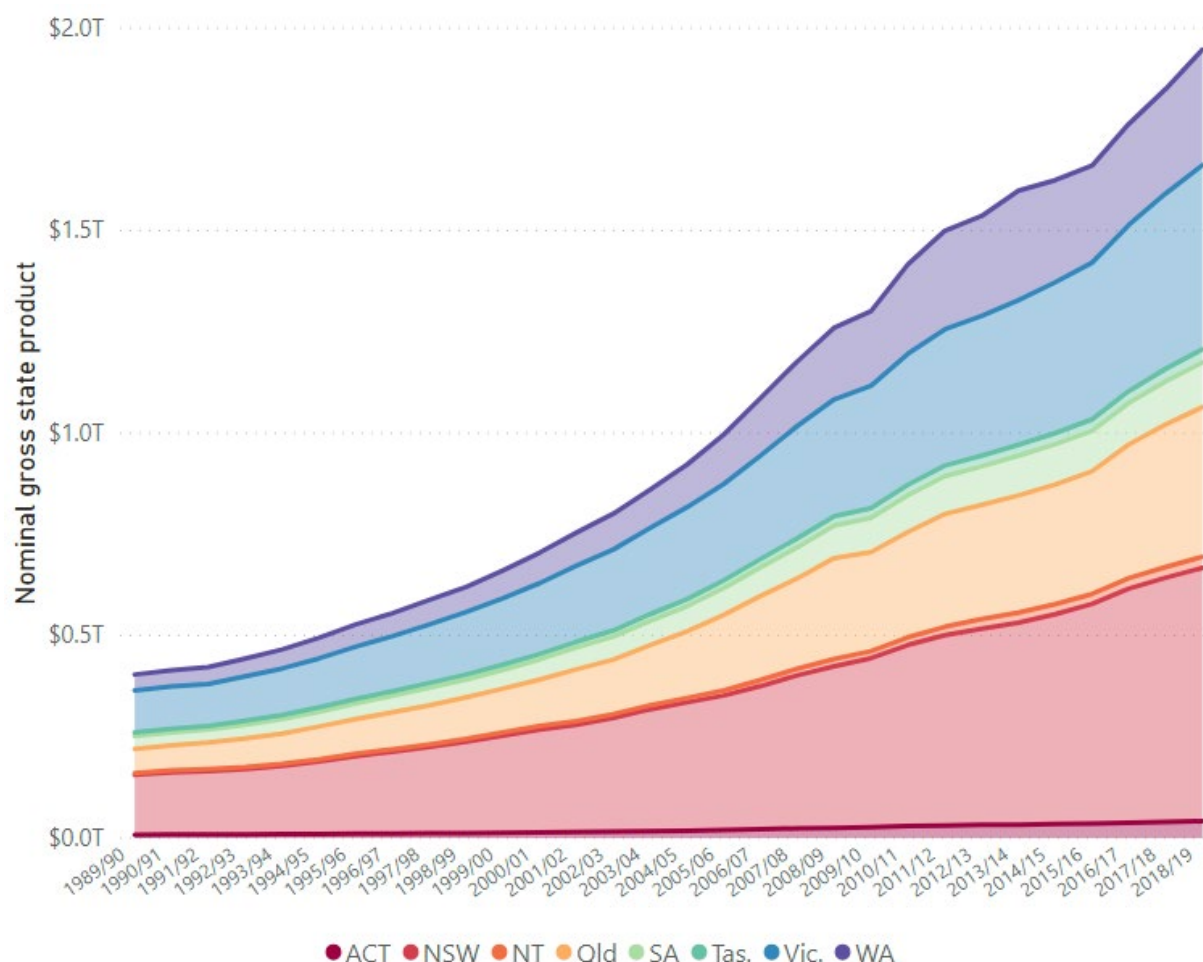
Suited for:

- Gauging the size of a state's economy

Not suited for:

- Gauging the shape or quality of a state's economy⁴⁸
- Comparing the performance of states that are not the same size
- Measuring activities that don't involve the exchange of money (e.g. unpaid domestic labour)⁴⁹

Figure 8. Nominal gross state product, FY 1989/90 – FY 2018/19



Source: ABS (2019) *Australian national accounts: state accounts, 2018–19*, cat. no. 5220.0, Table 1 (Gross state product: Current prices ; Original).

Note that different estimation methods are used at the national level than at the state level, so GSP results cannot be summed to produce an accurate GDP result.

⁴⁷ ABS (2019) *Australian national accounts: state accounts, 2018–19*, op. cit., Glossary ('Gross state product' and 'Gross domestic product').

⁴⁸ J. Stiglitz et al. (2018), op. cit., p. 18.

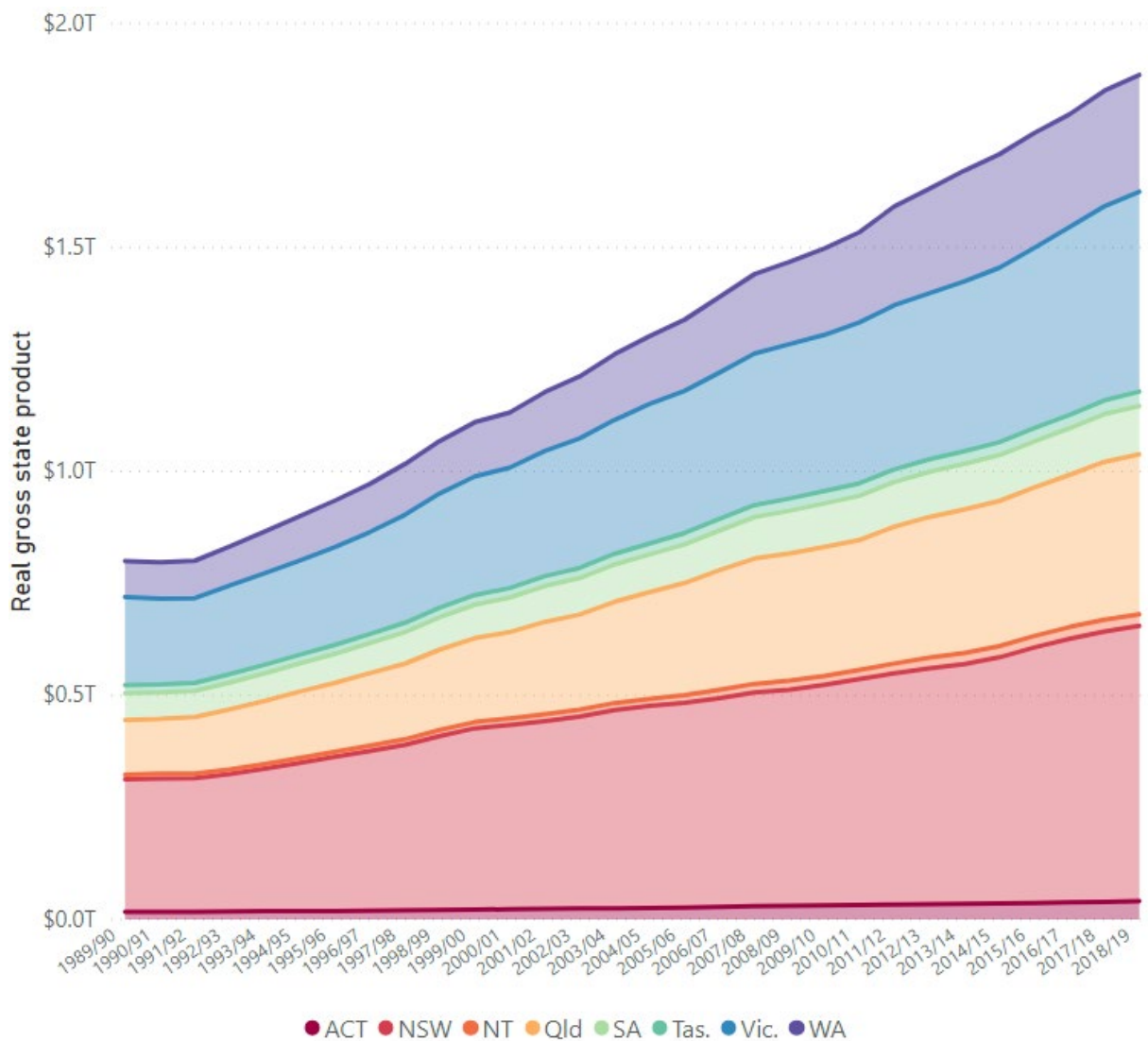
⁴⁹ N. Kishtainy (2017) *A little history of economics*, New Haven, Yale University Press, p. 208.

Real gross state product

Is Victoria's nominal gross state product getting larger because the economy is growing, or does it only seem that way because prices are increasing?

One way to separate economic growth from price increases is to calculate real gross state product. It's what the nominal GSP would have been if prices didn't change from year to year. It more directly reflects how much a state is producing, which is why economists typically assess economic growth in real terms rather than nominal.⁵⁰

Figure 9. Real gross state product, FY 1989/90 – FY 2018/19

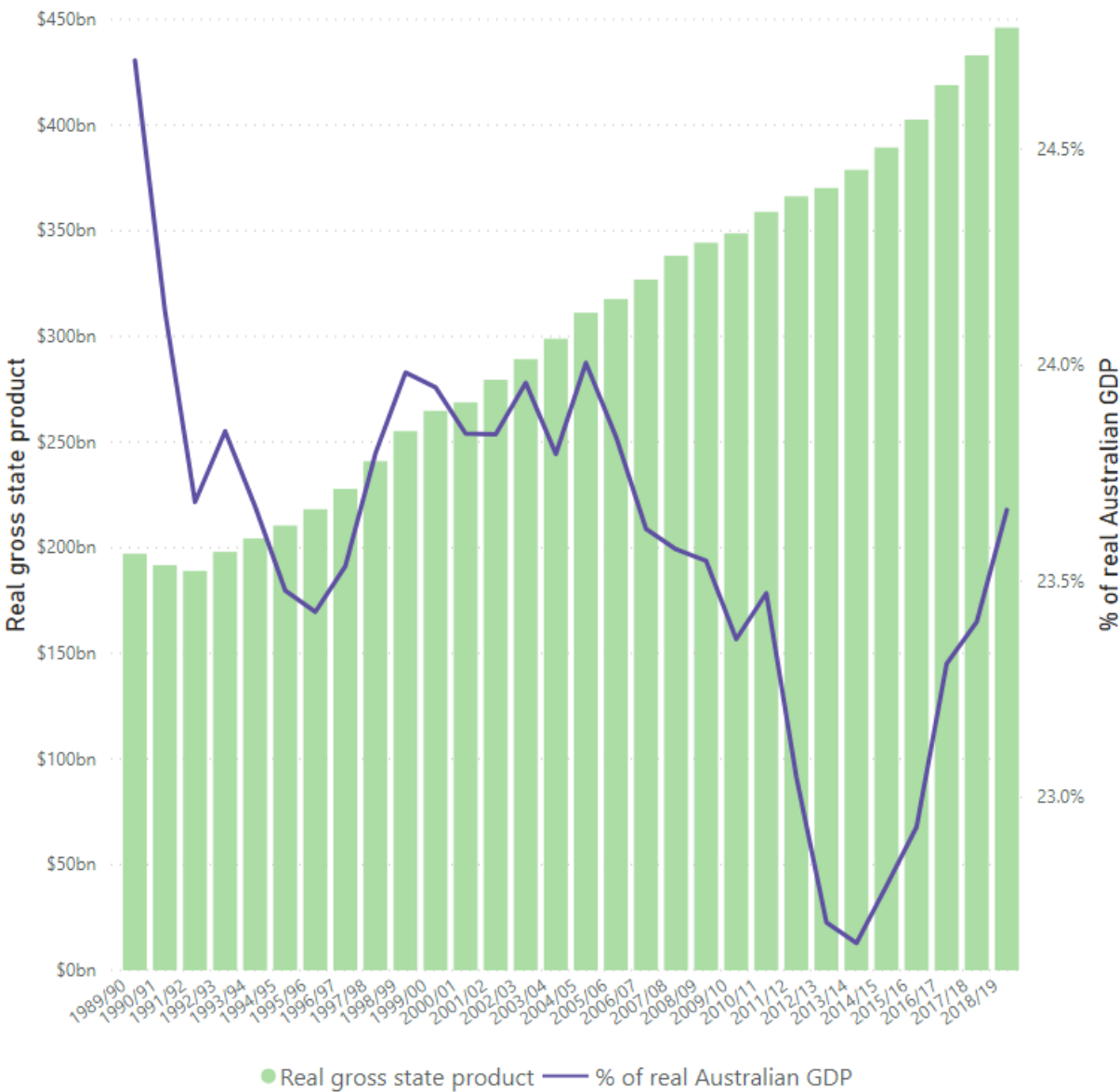


Source: ABS (2019) *Australian national accounts: state accounts, 2018–19*, cat. no. 5220.0, Table 1 (Gross state product: Chain volume measures ; Original). Note that different estimation methods are used at the national level than at the state level, so GSP results cannot be summed to produce an accurate GDP result.

⁵⁰ Reserve Bank of Australia (date unknown) 'Economic growth', RBA website.

In real terms, Victoria contributed \$446 billion to the Australian economy in FY 2018/19. This equates to 23.7 per cent of real GDP.⁵¹

Figure 10. Contribution of Victoria’s economy to real Australian GDP, FY 1989/90 – FY 2018/19



Source: Derived from ABS (2019) *Australian national accounts: state accounts, 2018–19*, cat. no. 5220.0, Table 1 (Gross state product: Chain volume measures ; Original and Gross domestic product: Chain volume measures ; Original).

⁵¹ Derived from ABS (2019) *Australian national accounts: state accounts, 2018–19*, op. cit., Table 1 (Gross state product: Chain volume measures ; Original and Gross domestic product: Chain volume measures ; Original).

Gross state product growth

A common way to evaluate real GSP performance is year-on-year growth, expressed as a percentage of the previous year's real GSP. Positive values indicate the economy grew during that year; negative values indicate the economy contracted.

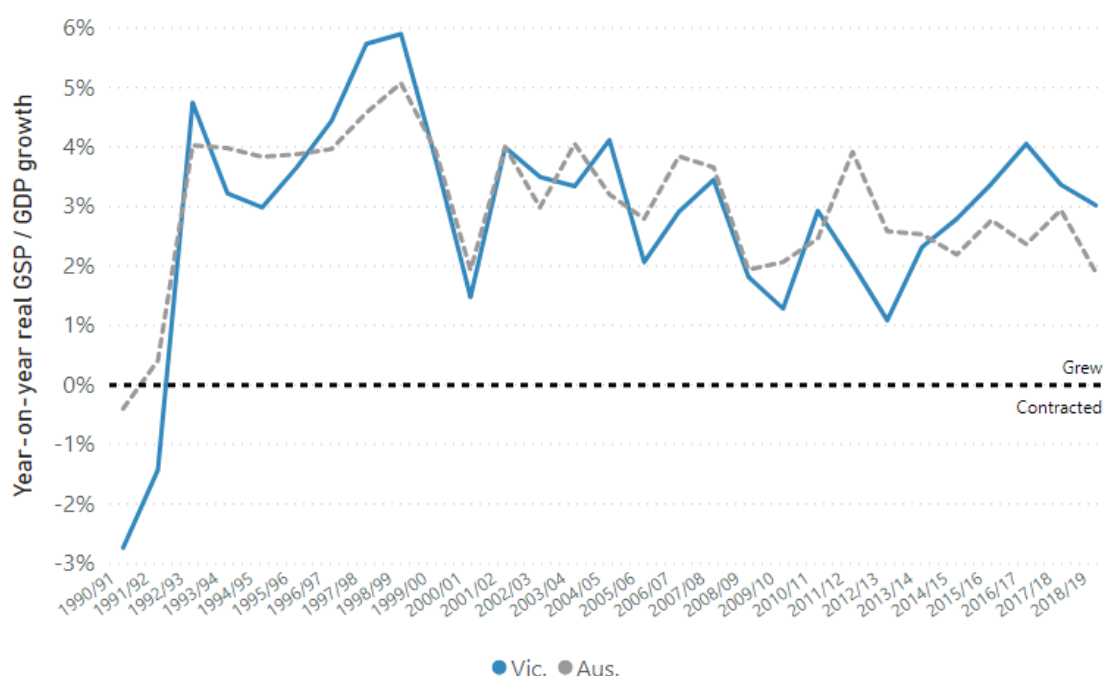
Table 3. Year-on-year real GSP / GDP growth, FY 2018/19

Location	FY 2017/18 (\$ Millions)	FY 2018/19 (\$ Millions)	Growth
New South Wales	603,143	614,409	1.9%
Victoria	432,993	446,079	3.0%
Queensland	352,248	357,044	1.4%
Western Australia	258,120	260,640	1.0%
South Australia	106,477	107,990	1.4%
Australian Capital Territory	39,686	40,879	3.0%
Tasmania	30,710	31,819	3.6%
Northern Territory	26,501	26,109	-1.5%
Australia	1,849,880	1,884,969	1.9%

Source: Derived from ABS (2019) *Australian national accounts: state accounts, 2018–19*, cat. no. 5220.0, Table 1 (Gross state product: Chain volume measures ; Original and Gross domestic product: Chain volume measures ; Original).

Victorian economic growth has outpaced Australian real GDP growth for the last five financial years (FY 2014/15 onward).⁵²

Figure 11. Year-on-year Victorian real GSP growth and Australian real GDP growth, FY 1990/91 – FY 2018/19



Source: Derived from ABS (2019) *Australian national accounts: state accounts, 2018–19*, cat. no. 5220.0, Table 1 (Gross state product: Chain volume measures ; Original and Gross domestic product: Chain volume measures ; Original).

⁵² Derived from ABS (2019) *Australian national accounts: state accounts, 2018–19*, op. cit., Table 1 (Gross state product: Chain volume measures ; Original and Gross domestic product: Chain volume measures ; Original).

Gross state product per capita

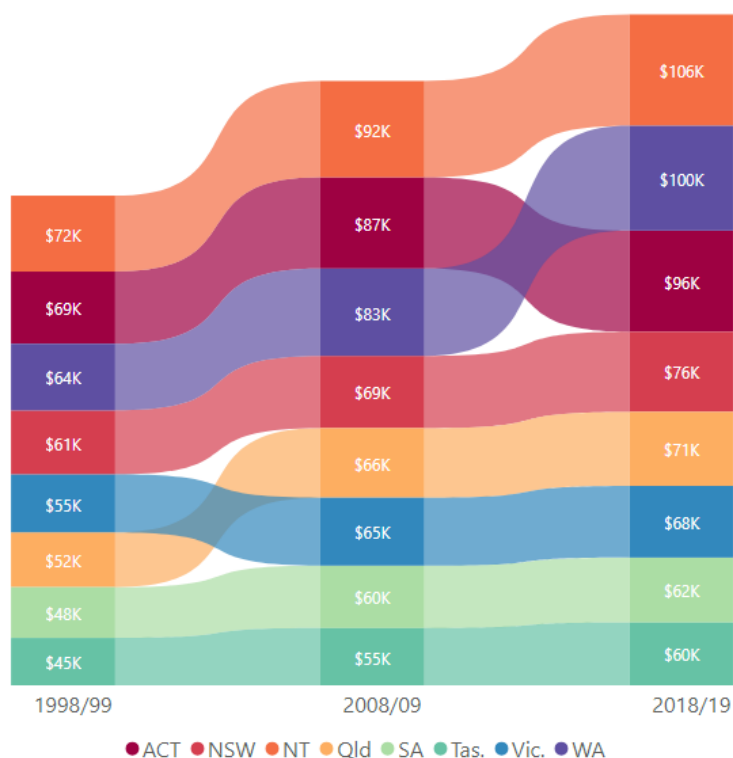
Is Victoria's real GSP the second-largest in Australia⁵³ due to strong economic performance, or is it due to Victoria's relatively large population?⁵⁴

When states vary considerably in size, a direct comparison of their real GSPs is of limited usefulness. One way to level the playing field is by comparing growth rates (see previous page). Another option is to adjust for population. **Gross state product per capita** measures a state's economic activity per resident.⁵⁵

Evaluating the states' economic performance in this way leads to some surprising insights. While the Northern Territory is the smallest Australian economy in real terms,⁵⁶ it actually has the highest GSP per capita.⁵⁷ Victoria, in contrast, has a larger state economy⁵⁸ but a much lower GSP per capita.⁵⁹

The ribbon chart below ranks each state and territory by real GSP per capita. When a state or territory changes position from year to year, that means it has changed rank.

Figure 12. Real gross state product per capita, FY 1998/99 – FY 2018/19



Source: Derived from ABS (2019) *Australian national accounts: state accounts, 2018–19*, cat. no. 5220.0, Table 1 (Gross state product: Chain volume measures ; Original and Gross domestic product: Chain volume measures ; Original).

⁵³ ABS (2019) *Australian national accounts: state accounts, 2018–19*, op. cit., Table 1 (Gross state product: Chain volume measures ; Original).

⁵⁴ ABS (2019) *Australian demographic statistics, Jun 2019*, op. cit., Table 4 (Estimated Resident Population ; Persons ; Original).

⁵⁵ N. Kishtainy (2017), op. cit., p. 141.

⁵⁶ ABS (2019) *Australian national accounts: state accounts, 2018–19*, op. cit., Table 1 (Gross state product: Chain volume measures ; Original).

⁵⁷ *ibid.*, Table 1 (Gross state product per capita: Chain volume measures ; Original).

⁵⁸ *ibid.*, Table 1 (Gross state product: Chain volume measures ; Original).

⁵⁹ *ibid.*, Table 1 (Gross state product per capita: Chain volume measures ; Original).

Emissions intensity

One way to measure an economy's efficiency is to weigh its real GSP against its greenhouse gas emissions. Emissions intensity (EI) gauges a state's carbon footprint in proportion to the size of its economy. It is typically expressed in kilograms of greenhouse gas emissions per dollar of real GSP.⁶⁰ Emissions intensity is one of the indicators reported by the Department of Environment, Land, Water and Planning (DELWP) in the annual [Victorian greenhouse gas emissions report](#) required under Part 6 of the [Climate Change Act 2017](#).

Table 4. Emissions intensity by state, FY 2016/17

Location	Real GSP / GDP (\$ Million) ⁶¹	Emissions (tonnes CO ₂ -e) ⁶²	Emissions intensity (kg CO ₂ -e per \$ GSP) ⁶³
New South Wales	588,454	128,870,230	0.22
Victoria	418,885	111,218,770	0.27
Queensland	339,652	161,200,770	0.47
Western Australia	251,941	86,420,560	0.34
South Australia	104,125	22,072,380	0.21
Australian Capital Territory	38,280	1,262,190	0.03
Tasmania	29,685	1,192,880	0.04
Northern Territory	25,977	16,532,370	0.64
Australia	1,797,041	530,840,900	0.30

Note: emissions associated with electricity are attributed to the state that **generated** the electricity, not the state that **consumed** it. There is a lag of approximately 2 years for Australian emissions data.⁶⁴

The emissions estimation techniques employed by the Commonwealth Department of the Environment and Energy (DoEE) are under continuous improvement.⁶⁵ This sometimes prompts the revision of historical estimates, which can result in discrepancies depending on when the data was retrieved. For example, the Victorian Greenhouse Gas Emissions Report 2019 reports Victoria's net emissions in 2017 as 110.3 Mt CO₂-e;⁶⁶ however, the most current estimate from DoEE at time of writing was 111.2 Mt CO₂-e.⁶⁷

⁶⁰ Climate Council of Australia (2015) 'What's the difference between absolute emissions and emissions intensity?', Climate Council website.

⁶¹ ABS (2019) [Australian national accounts: state accounts, 2018–19](#), op. cit., Table 1 (Gross state product: Chain volume measures ; Original).

⁶² DoEE (2019) [National greenhouse gas inventory - Kyoto Protocol classifications](#), op. cit. (Carbon dioxide equivalent).

⁶³ Derived from ibid. and ABS (2019) [Australian national accounts: state accounts, 2018–19](#), op. cit., Table 1 (Gross state product: Chain volume measures ; Original).

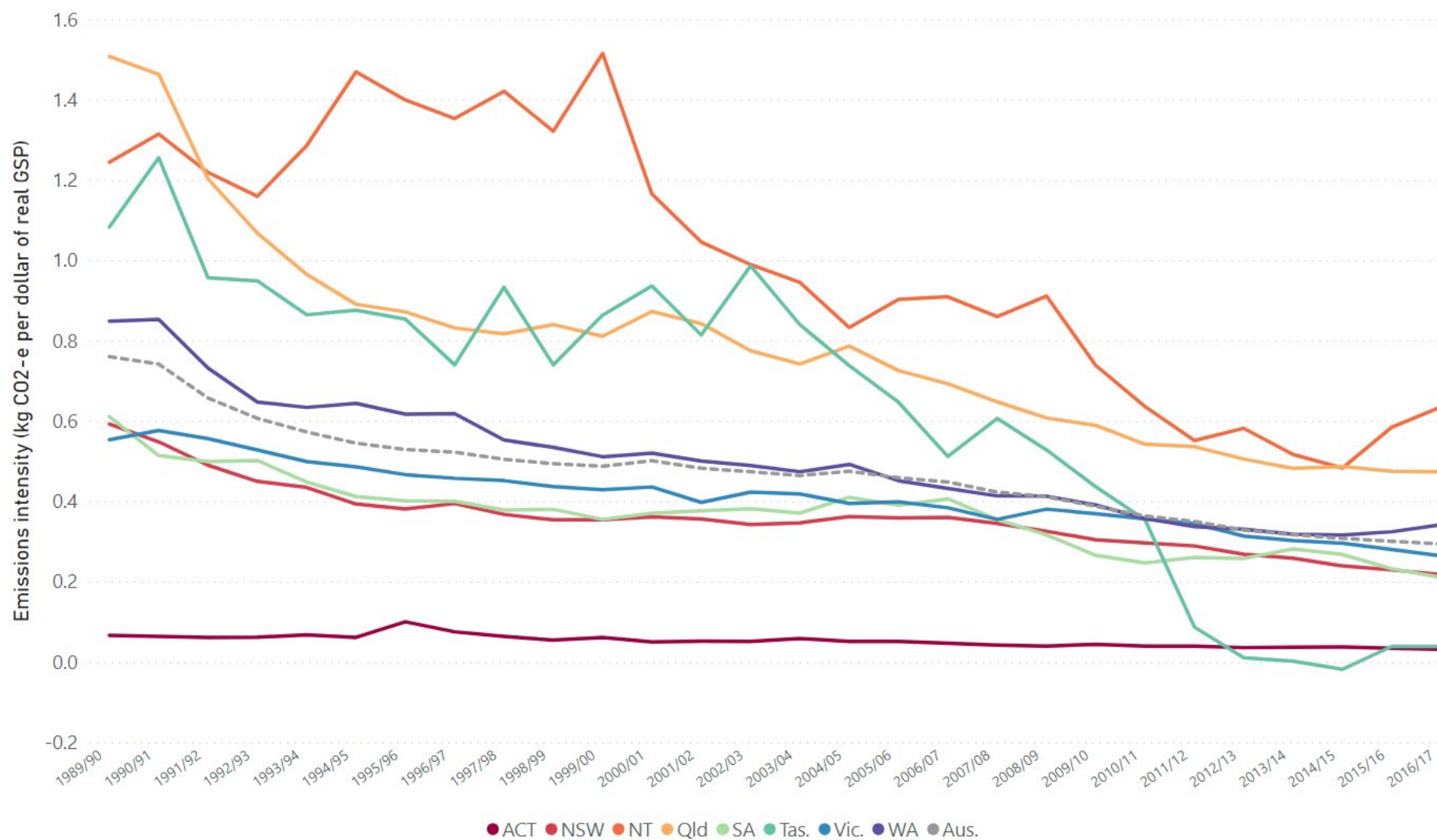
⁶⁴ Victorian Department of Environment, Land, Water and Planning (2019) 'Greenhouse gas emissions in Victoria', DELWP website.

⁶⁵ Commonwealth Department of the Environment and Energy (2019) [National inventory report 2017, vol. 2](#), Canberra, DoEE, p. 328.

⁶⁶ Victorian Department of Environment, Land, Water and Planning (2019) [Victorian Greenhouse Gas Emissions Report 2019](#), Melbourne, DELWP, p. 3.

⁶⁷ DoEE (2019) [National greenhouse gas inventory - Kyoto Protocol classifications](#), op. cit. (Carbon dioxide equivalent).

Figure 13. Emissions intensity by state, FY 1989/90 – FY 2016/17



Source: Derived from DoEE (2019) *National greenhouse gas inventory - Kyoto Protocol classifications* (Carbon dioxide equivalent) and ABS (2019) *Australian national accounts: state accounts, 2018–19*, cat. no. 5220.0, Table 1 (Gross state product: Chain volume measures ; Original).

Emissions intensity by industry

A state's emissions intensity is shaped by industry in two ways:

First, it depends on the emissions intensity of each individual industry—how efficiently each industry can add value to the economy without generating emissions.

Second, it depends on the relative balance of industries within the economy. A state economy dominated by high-emission industries will have a higher overall emissions intensity than one that relies primarily on low-emission industries.

To reduce emissions intensity, a state could improve the emissions intensity of its key industries, reduce its economic dependence on high-emission industries, or a combination of both.

Table 5. Victorian emissions intensity by industry, FY 2016/17

Industry	Emissions (tonnes CO ₂ -e) ⁶⁸	Real gross value added (\$ Millions) ⁶⁹	Emissions intensity (kg CO ₂ -e per \$ GVA) ⁷⁰
Accommodation, food services, education and health services	1,224,750	61,021	0.02
Finance, insurance, rental, hiring and real estate services	469,050	57,128	0.01
Wholesale and retail trade	1,587,130	38,999	0.04
Administrative, public administration and safety	1,906,340	34,121	0.06
Professional, scientific and technical services	239,870	31,727	0.01
Construction	1,836,350	31,078	0.06
Manufacturing	6,053,380	30,187	0.20
Transport, postal and warehousing	6,071,300	19,961	0.30
Electricity, gas, water and waste services	60,449,150	12,347	4.90
Information media and telecommunications	205,440	12,259	0.02
Agriculture, forestry and fishing	7,358,190	9,637	0.76
Mining	2,682,160	4,961	0.54
Arts and recreation services	-29,980	4,569	-0.01

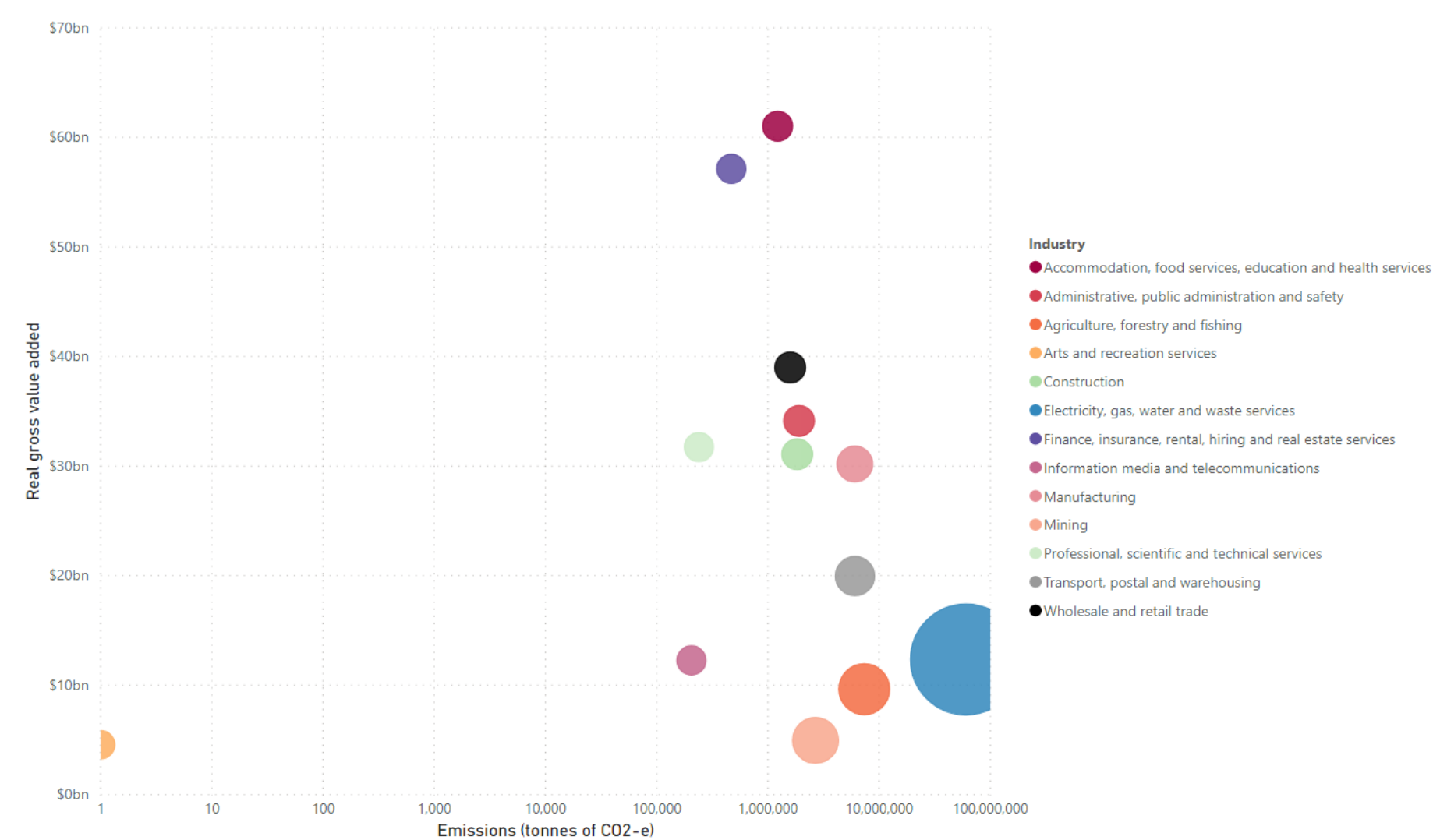
The chart on the next page plots each Victorian industry's contribution to real GSP against its greenhouse gas emissions. Industries are ranked top to bottom by gross value added (largest at the top), and right to left by emissions (largest at the right). The size of the dot indicates emissions intensity (small dots indicate lower emissions per dollar; large dots indicate higher emissions per dollar).

⁶⁸ DoEE (2019) *National inventory by economic sector*, op. cit. (Victoria ; Carbon dioxide equivalent).

⁶⁹ Derived from ABS (2019) *Australian national accounts: state accounts, 2018–19*, op. cit., Table 3 (Industry gross value added: Chain volume measures ; Original).

⁷⁰ Derived from ibid. and ABS (2019) *Australian national accounts: state accounts, 2018–19*, op. cit., Table 3 (Industry gross value added: Chain volume measures ; Original).

Figure 14. Victorian emissions vs. real gross value added by industry, FY 2016/17



Source: Derived from DoEE (2019) [National inventory by economic sector](#) (Victoria ; Carbon dioxide equivalent) and ABS (2019) [Australian national accounts: state accounts, 2018–19](#), cat. no. 5220.0, Table 3 (Industry gross value added: Chain volume measures ; Original).
Note that negative values have been plotted as 1, as a logarithmic scale was used.

Net government debt to GSP ratio

The net government debt to GSP ratio compares what a state owes with what it produces. High ratios can indicate a state is at risk of defaulting on its debt but can also reflect the role government plays in stimulating economic activity during periods of slow growth or recession. It can also affect the interest rates creditors are willing to offer the state for future lending.⁷¹

Economists have competing ideas about the optimal levels of debt-to-GSP ratios for government which are shaped by their understandings of what degree of deficit spending can safely stimulate the economy. In the *Budget Update 2019/20*, the Andrews Government committed to stabilise net debt at 12 per cent of GSP over the medium term.⁷²

Table 6. Victorian net government debt to GSP ratio, FY 1992/93 – FY 2018/19

FY	General gov't sector net debt (\$ Millions) ⁷³	Nominal GSP (\$ Millions) ⁷⁴	Debt to GSP ratio ⁷⁵
1992/93	18,400	110,018	16.7
1993/94	19,200	115,230	16.7
1994/95	19,700	120,893	16.3
1995/96	13,500	128,618	10.5
1996/97	8,400	135,886	6.2
1997/98	8,900	144,388	6.2
1998/99	5,000	154,101	3.2
1999/00	4,000	164,120	2.4
2000/01	3,300	174,822	1.9
2001/02	2,432	187,761	1.3
2002/03	2,110	199,871	1.1
2003/04	1,600	212,936	0.8
2004/05	1,811	227,126	0.8
2005/06	1,769	238,280	0.7
2006/07	2,037	255,153	0.8
2007/08	2,150	277,206	0.8
2008/09	5,292	288,425	1.8
2009/10	7,964	302,231	2.6
2010/11	11,837	323,540	3.7
2011/12	15,237	336,457	4.5
2012/13	19,822	344,644	5.8
2013/14	21,175	357,366	5.9
2014/15	22,327	372,481	6.0
2015/16	22,309	386,929	5.8
2016/17	15,762	410,175	3.8
2017/18	20,003	432,993	4.6
2018/19	22,407	454,590	4.9

⁷¹ W. Kenton (2019) 'Debt-to-GDP ratio definition', Investopedia website.

⁷² Victorian Parliamentary Budget Office (2020) 'Budget update 2019–20 – independent snapshot', PBO website.

⁷³ DTF (1999–2019), op. cit.

⁷⁴ ABS (2019) *Australian national accounts: state accounts, 2018–19*, op. cit., Table 1 (Gross state product: Current prices ; Original).

⁷⁵ Derived from ibid. and DTF (1999–2019), op. cit.

International trade

Balance

The balance of trade is the difference between the value of a state or country's imports and exports. Negative values indicate more was imported than exported (trade deficit); positive values indicate more was exported than imported (trade surplus).⁷⁶ Economists sometimes use the balance of trade to measure the relative strength of the economy, although the balance can be shaped by many factors including exchange rates, inflation, the stage of the business cycle or a state's economic strengths and aims at a particular time.

In FY 1998/99, Australia recorded a deficit of \$14.3 billion—meaning Australia imported \$14.3 billion more than it exported. Twenty years later, the situation has changed considerably. In FY 2018/19, the balance of Australian trade recorded a trade surplus of \$61.3 billion—meaning Australia exported \$61.3 billion more than it imported. This is due in large part to the mining boom in Western Australia, which alone ran a trade surplus of \$125 billion.⁷⁷

Both Victoria and New South Wales have recorded trade deficits every year since FY 1998/99—meaning they import more than they export. In FY 2018/19, their trade deficits were \$56 billion and \$69 billion, respectively.⁷⁸

Table 7. International trade balances, FY 2018/19

Location	Imports (\$ Millions) ⁷⁹	Exports (\$ Millions) ⁸⁰	Balance (\$ Millions) ⁸¹
Australian Capital Territory	2,740	2,322	-418
New South Wales	164,111	95,402	-68,709
Northern Territory	2,461	10,161	7,700
Queensland	63,970	101,932	37,962
South Australia	13,520	15,321	1,801
Tasmania	2,121	4,808	2,687
Victoria	110,357	54,476	-55,881
Western Australia	43,794	168,866	125,072
Australia	408,234	469,574	61,340

⁷⁶ W. Kenton (2019) 'Balance of trade', Investopedia website.

⁷⁷ Derived from ABS (2019) *International trade in goods and services, Australia, Nov 2019*, op. cit., Table 15a (Merchandise exports, FOB value ; Original) and Table 15b (Merchandise imports, Customs value ; Original), and ABS (2019) *International trade: supplementary information, financial year, 2018–19*, op. cit., Table 3 (International trade in services, Credits, State by financial year) and Table 4 (International trade in services, Debits, State by financial year).

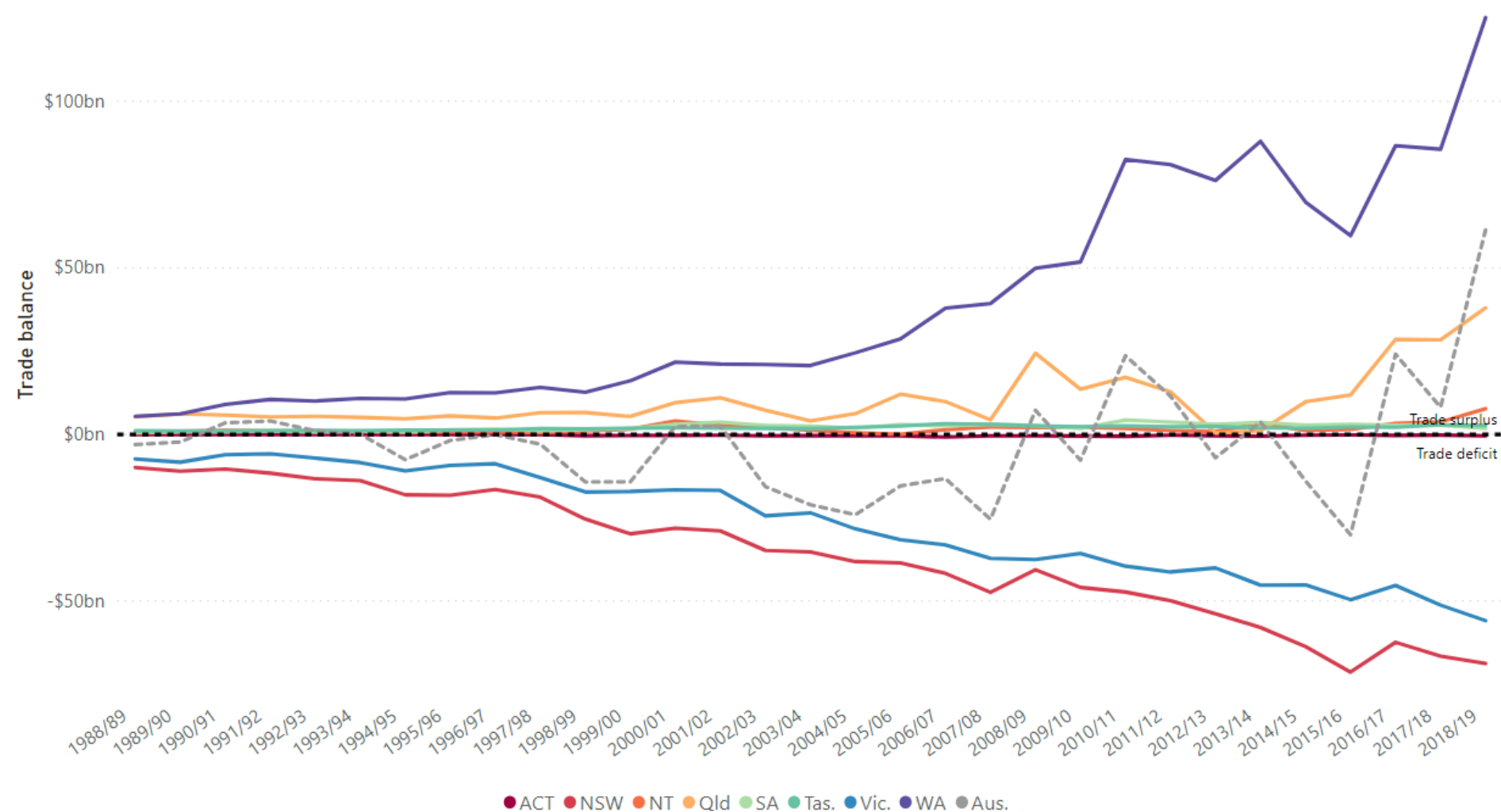
⁷⁸ Derived from *ibid*.

⁷⁹ Derived from ABS (2019) *International trade in goods and services, Australia, Nov 2019*, op. cit., Table 15b (Merchandise imports, Customs value ; Original) and ABS (2019) *International trade: supplementary information, financial year, 2018–19*, op. cit., Table 4 (International trade in services, Debits, State by financial year).

⁸⁰ Derived from ABS (2019) *International trade in goods and services, Australia, Nov 2019*, op. cit., Table 15a (Merchandise exports, FOB value ; Original) and ABS (2019) *International trade: supplementary information, financial year, 2018–19*, op. cit., Table 3 (International trade in services, Credits, State by financial year).

⁸¹ Derived from ABS (2019) *International trade in goods and services, Australia, Nov 2019*, op. cit., Table 15a (Merchandise exports, FOB value ; Original) and Table 15b (Merchandise imports, Customs value ; Original), and ABS (2019) *International trade: supplementary information, financial year, 2018–19*, op. cit., Table 3 (International trade in services, Credits, State by financial year) and Table 4 (International trade in services, Debits, State by financial year).

Figure 15. International trade balances, FY 1998/99 – FY 2018/19



Source: Derived from ABS (2019) *International trade in goods and services, Australia, Nov 2019*, cat. no. 5368.0, Table 15a (Merchandise exports, FOB value ; Original) and Table 15b (Merchandise imports, Customs value ; Original), and ABS (2019) *International trade: supplementary information, financial year, 2018–19*, cat. no. 5368.0.55.003, Table 3 (International trade in services, Credits, State by financial year) and Table 4 (International trade in services, Debits, State by financial year)

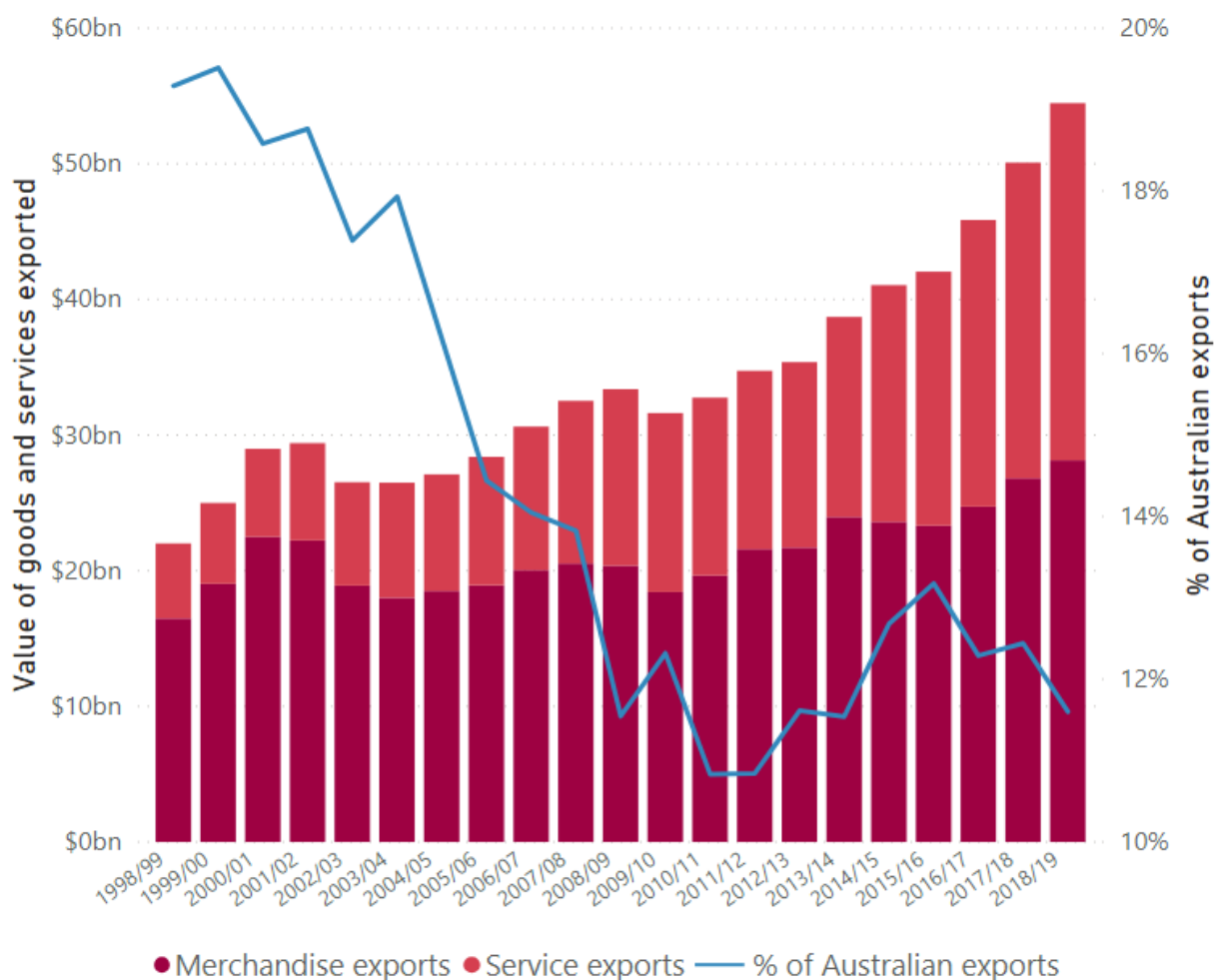
Exports

Australian exports have increased significantly over the last 20 years, growing from \$114 billion in FY 1998/99 to nearly \$470 billion in FY 2018/19. About a third of FY 2018/19 merchandise exports came from Western Australian alone.⁸²

Victorian exports grew from \$22 billion to \$54 billion during this period. Despite this, Victorian exports have comprised a shrinking portion of Australian exports over time, as other states' exports have grown faster. In FY 1998/99, Victorian exports accounted for almost 20 per cent of Australian exports, but this has been reduced to less than 12 per cent in FY 2018/19.⁸³

Victoria is a significant provider of international services, accounting for \$26 billion of Australia's \$97 billion international service exports.⁸⁴ Turn to the [International services trade](#) section of this publication to see what kinds of services make up this total.

Figure 16. Victoria's contribution to Australian exports, FY 1998/99 – FY 2018/19



Source: Derived from ABS (2019) [International trade in goods and services, Australia, Nov 2019](#), cat. no. 5368.0, Table 15a (Merchandise exports, FOB value) and ABS (2019) [International trade: supplementary information, financial year, 2018–19](#), cat. no. 5368.0.55.003, Table 3 (International trade in services, Credits, State by financial year).

⁸² Derived from ABS (2019) [International trade in goods and services, Australia, Nov 2019](#), op. cit., Table 15a (Merchandise exports, FOB value) and ABS (2019) [International trade: supplementary information, financial year, 2018–19](#), op. cit., Table 3 (International trade in services, Credits, State by financial year).

⁸³ Derived from *ibid*.

⁸⁴ Derived from ABS (2019) [International trade: supplementary information, financial year, 2018–19](#), op. cit., Table 3 (International trade in services, Credits, State by financial year).

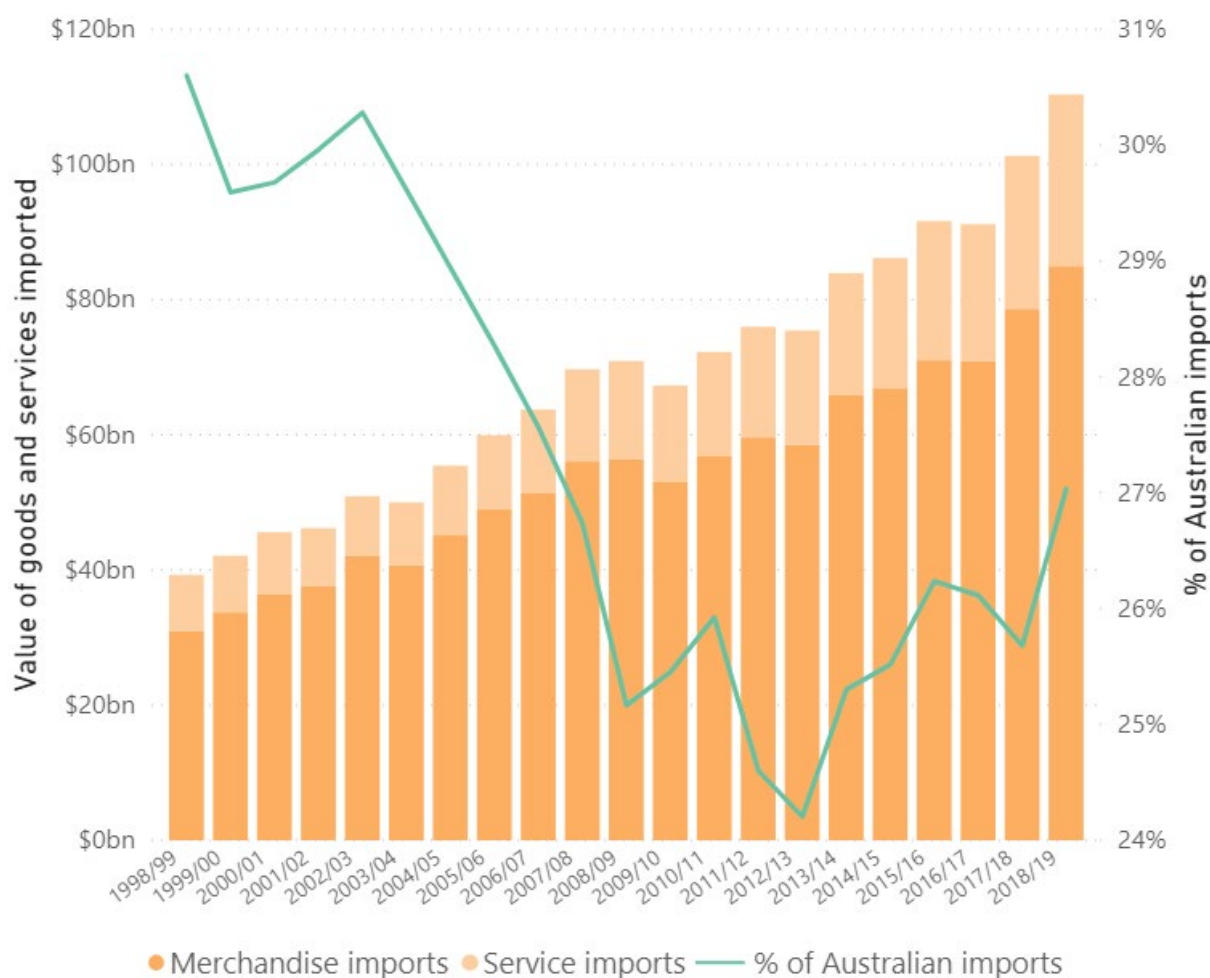
Imports

Australian imports have increased significantly over the last 20 years, growing from \$128 billion in FY 1998/99 to \$408 billion in FY 2018/19.⁸⁵

Victorian imports have grown from \$39 billion to \$110 billion in the same period. This pace is slightly slower than the rest of Australia, resulting in Victoria's share of Australian imports decreasing from 31 per cent in FY 1998/99 to 27 per cent in FY 2018/19.⁸⁶

Merchandise imports comprised \$85 billion (75 per cent) of Victoria's total imports in FY 2018/19.⁸⁷ Turn to the [International merchandise trade](#) section of this publication to see what kinds of goods Victoria imports.

Figure 17. Victoria's contribution to Australian imports, FY 1998/99 – FY 2018/19



Source: Derived from ABS (2019) [International trade in goods and services, Australia, Nov 2019](#), cat. no. 5368.0, Table 15b (Merchandise imports, Customs value ; Original) and ABS (2019) [International trade: supplementary information, financial year, 2018–19](#), cat. no. 5368.0.55.003, Table 4 (International trade in services, Debits, State by financial year).

⁸⁵ Derived from ABS (2019) [International trade in goods and services, Australia, Nov 2019](#), op. cit., Table 15b (Merchandise imports, Customs value ; Original) and ABS (2019) [International trade: supplementary information, financial year, 2018–19](#), op. cit., Table 4 (International trade in services, Debits, State by financial year).

⁸⁶ Derived from *ibid*.

⁸⁷ Derived from ABS (2019) [International trade in goods and services, Australia, Nov 2019](#), op. cit., Table 15b (Merchandise imports, Customs value ; Original).

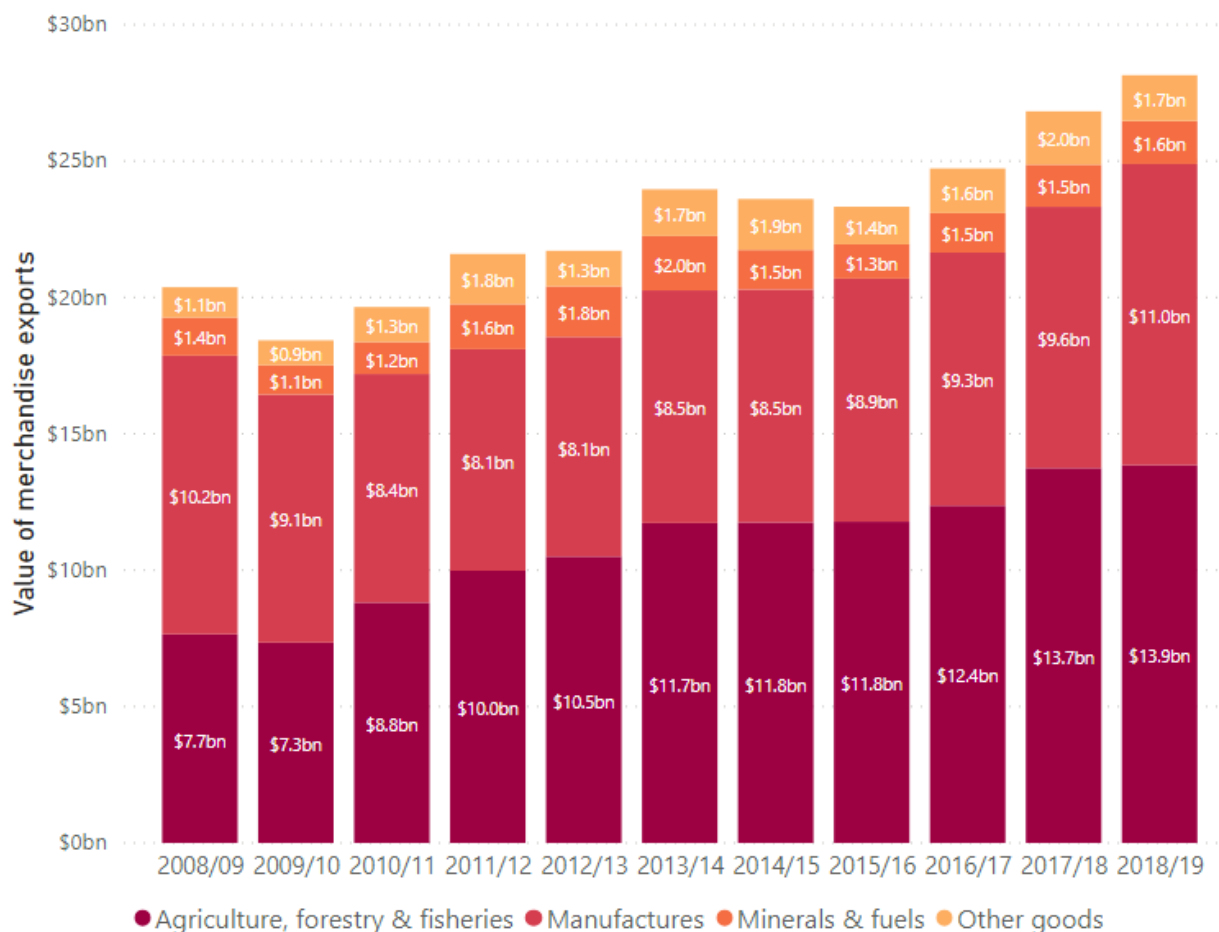
International merchandise trade

Exports

The federal Department of Foreign Affairs and Trade (DFAT) publishes merchandise export data categorised according to the United Nations' Standard International Trade Classification (SITC).⁸⁸ While the timeframe is shorter than most ABS datasets (11 years), it is still a useful window into what commodities are key to the Victorian export industry.

Ten years ago, manufactured goods dominated Victorian merchandise exports. Since then, the agriculture, forestry & fisheries sector has become Victoria's largest source of merchandise exports.⁸⁹

Figure 18. Victorian merchandise exports by sector, FY 2008/09 – FY 2018/19



Source: DFAT (2019) *Trade statistical pivot tables*, 'State by country and SITC pivot table 2008-09 to 2018-19' (Total exports)

In FY 2008/09, Victoria's largest individual export commodity was passenger motor vehicles, which comprised nearly \$1.7 billion of Victoria's exports. In FY 2018/19, fresh, chilled or frozen non-beef meat (\$2.1 billion) and wool (\$2.0 billion) were major drivers of the Victorian export market.⁹⁰

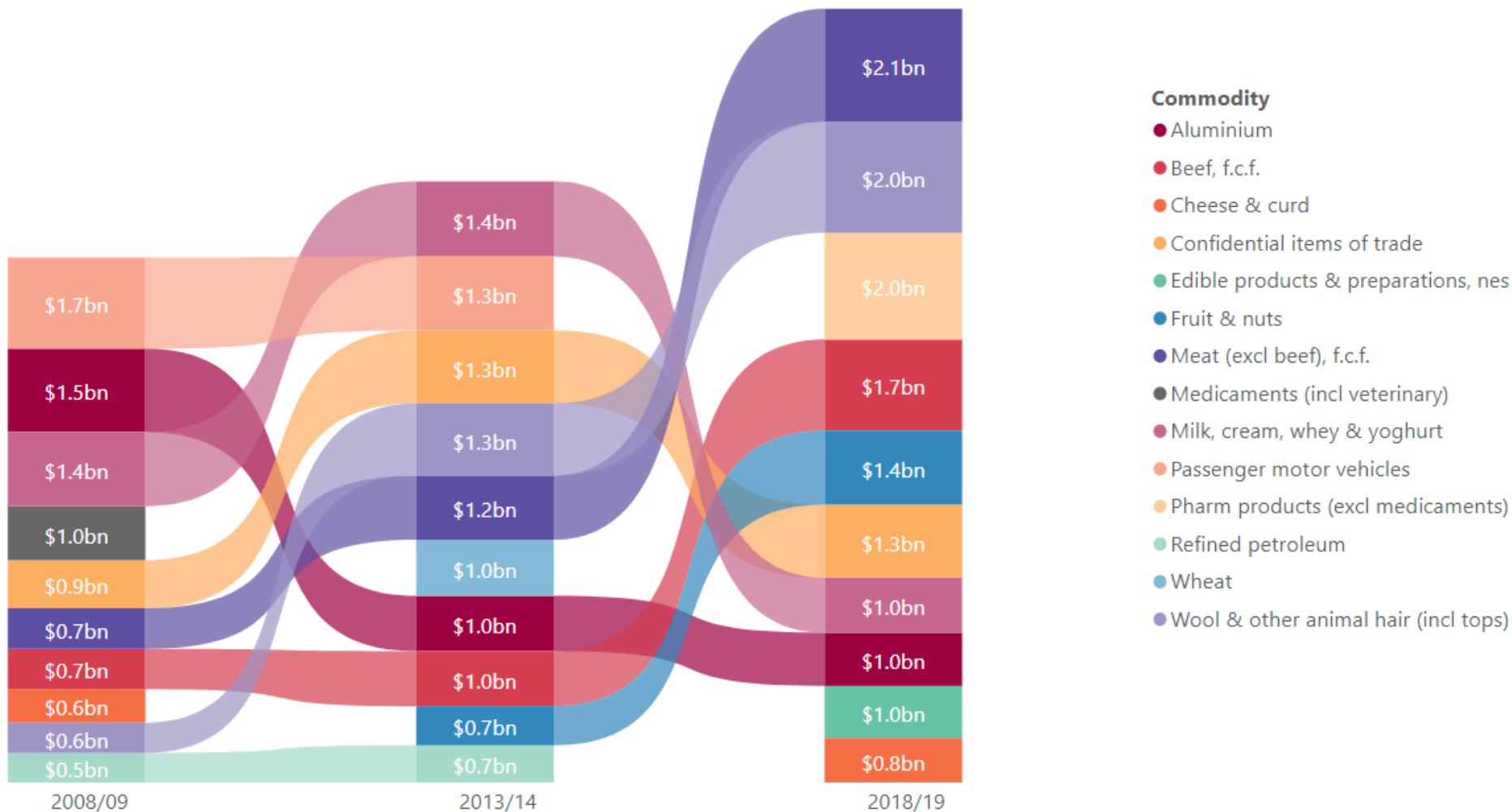
The ribbon chart on the following page shows Victoria's top ten individual export commodities at three points in time, ranked by export value. For greater detail, please refer to the [interactive edition](#) of this publication.

⁸⁸ DFAT (2019) *Trade statistical pivot tables*, op. cit. (Total exports).

⁸⁹ *ibid.*

⁹⁰ *ibid.*

Figure 19. Top ten Victorian export commodities, FY 2008/09 – FY 2018/19

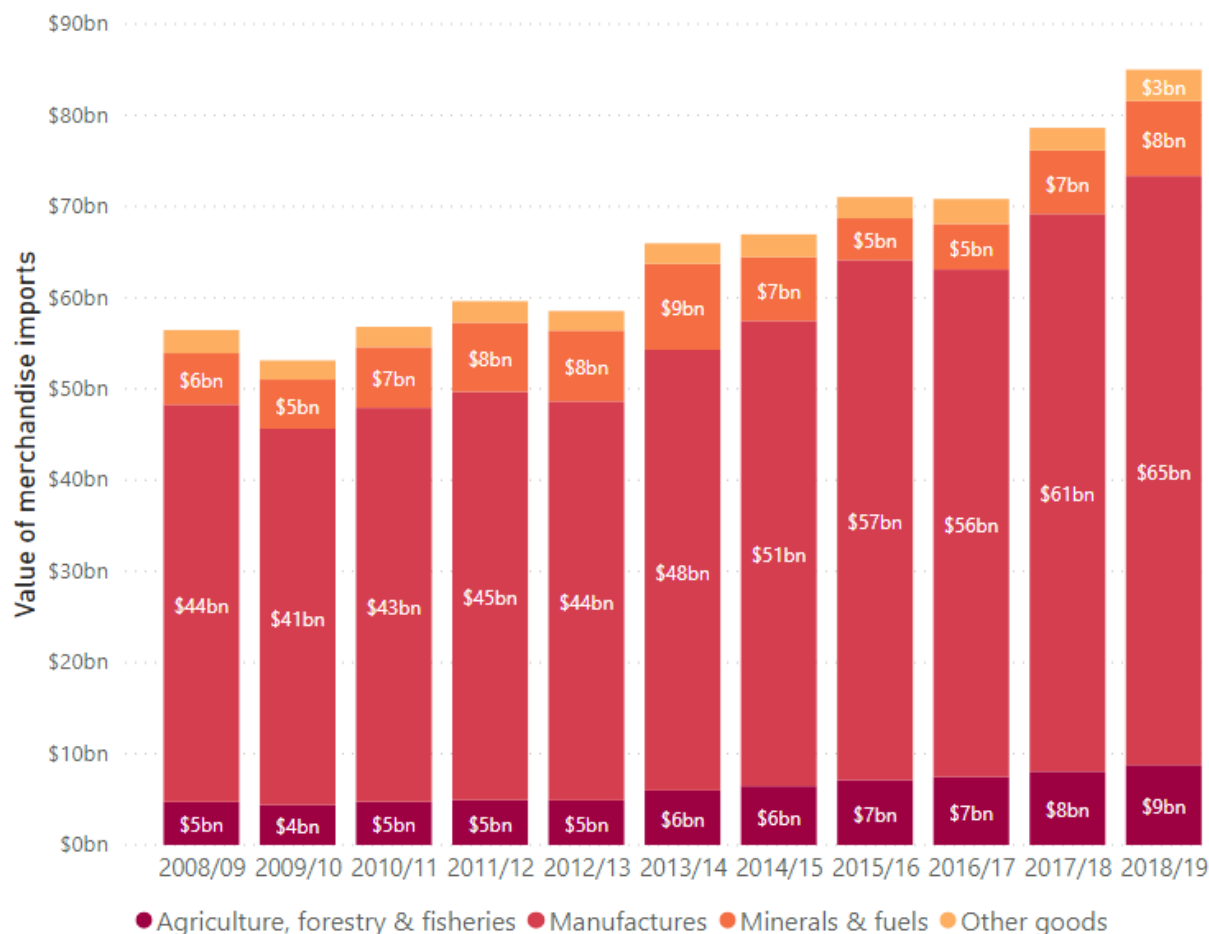


Source: Derived from DFAT (2019) [Trade statistical pivot tables](#), 'State by country and SITC pivot table 2008-09 to 2018-19' (Total exports)

Imports

For the last ten years, manufactured goods have dominated the merchandise import market, accounting for more than three-quarters of the goods imported into Victoria.⁹¹

Figure 20. Victorian merchandise imports by sector, FY 2008/09 – FY 2018/19



Source: DFAT (2019) [Trade statistical pivot tables](#), 'State by country and SITC pivot table 2008-09 to 2018-19' (Total imports)

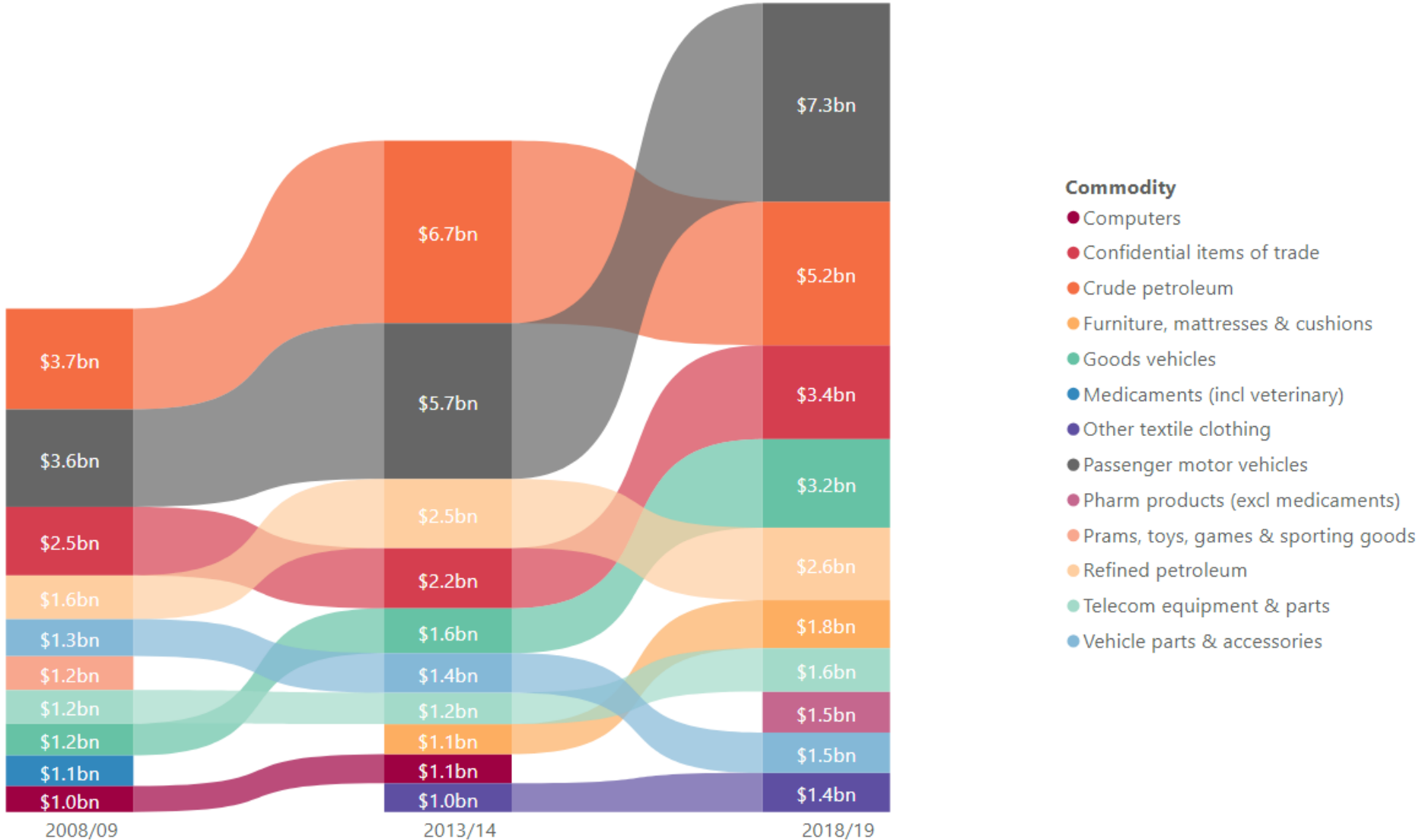
The most important individual commodities within Victorian imports are passenger motor vehicles (\$7.3 billion in FY 2018/19) and crude petroleum (\$5.2 billion in FY 2018/19).⁹²

The ribbon chart on the following page shows the top ten individual import commodities at three points in time, ranked by import value. For greater detail, please refer to the [interactive edition](#) of this publication.

⁹¹ DFAT (2019) [Trade statistical pivot tables](#), op. cit. (Total imports).

⁹² *ibid.*

Figure 21. Top ten Victorian import commodities, FY 2008/09 – FY 2018/19



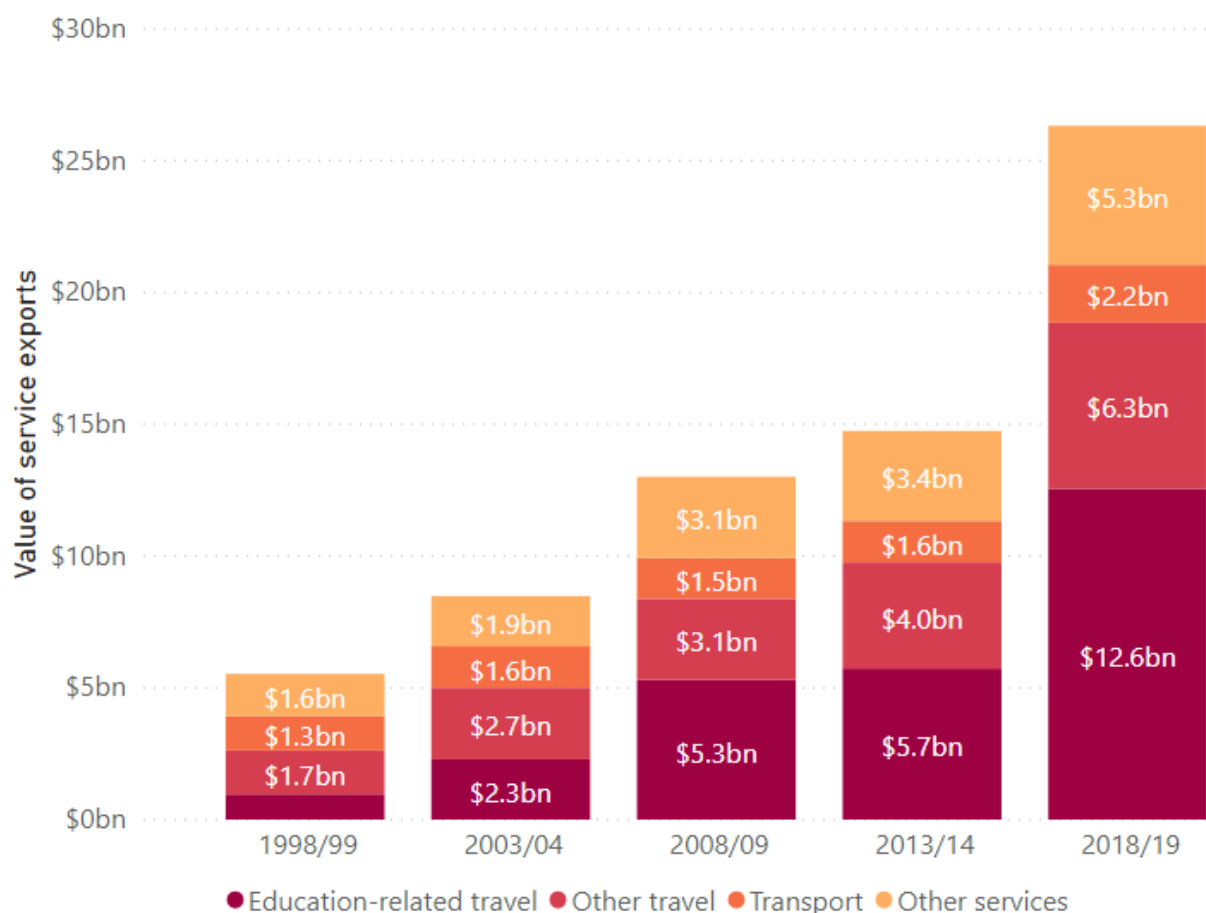
Source: Derived from DFAT (2019) [Trade statistical pivot tables](#), 'State by country and SITC pivot table 2008-09 to 2018-19' (Total imports)

International services trade

Exports

Victorian service exports have grown significantly in the last 20 years, from \$5.5 billion in FY 1998/99 to \$26.3 billion in FY 2018/19. This is mostly due to growth in travel services, which currently account for about 72 per cent of Victorian service exports.⁹³

Figure 22. Victorian service exports by sector, FY 1998/99 – FY 2018/19



Source: ABS (2019) *International trade: supplementary information, financial year, 2018–19*, cat. no. 5368.0.55.003, Table 3 (International trade in services, Credits, State by financial year)

In FY 2018/19, education-related travel was Victoria’s largest service export market.⁹⁴ Valued at \$12.6 billion, this sector includes fees and living expenses of foreign students studying in Australia.⁹⁵

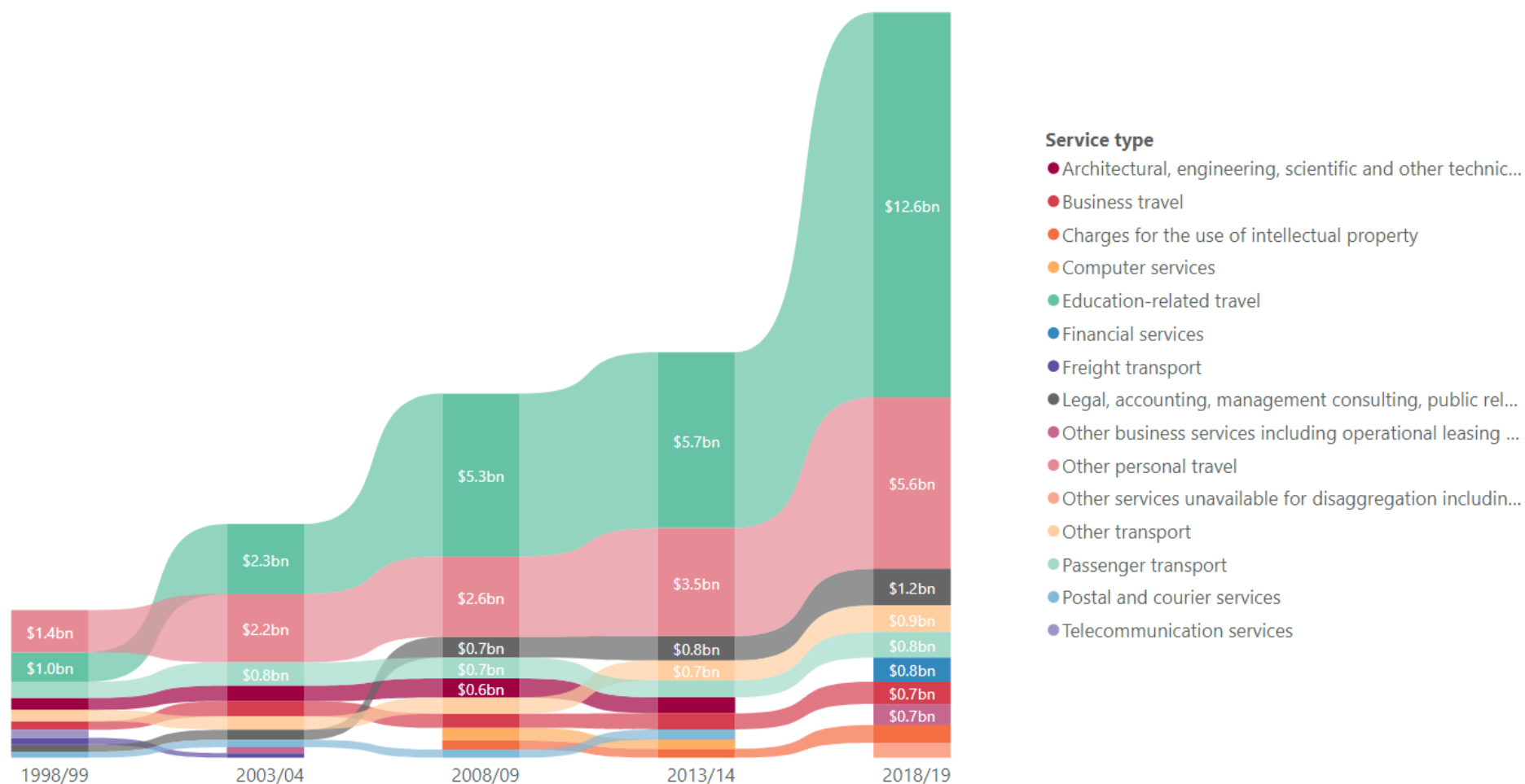
The ribbon chart on the following page shows the top ten individual export service types at three points in time, ranked by export value. There are some gaps in the source data due to the commercially sensitive nature of the information. Only service types with a full dataset are presented here. Service types without a full dataset were aggregated together for inclusion in this publication. For greater detail, please refer to the [interactive edition](#) of this publication.

⁹³ Derived from ABS (2019) *International trade: supplementary information, financial year, 2018–19*, op. cit., Table 3 (International trade in services, Credits, State by financial year).

⁹⁴ *ibid.*

⁹⁵ Commonwealth Department of Foreign Affairs and Trade (date unknown) *Analysis of Australia’s Education exports*, Canberra, DFAT, p. 1.

Figure 23. Top ten Victorian service export types, FY 1998/99 – FY 2018/19

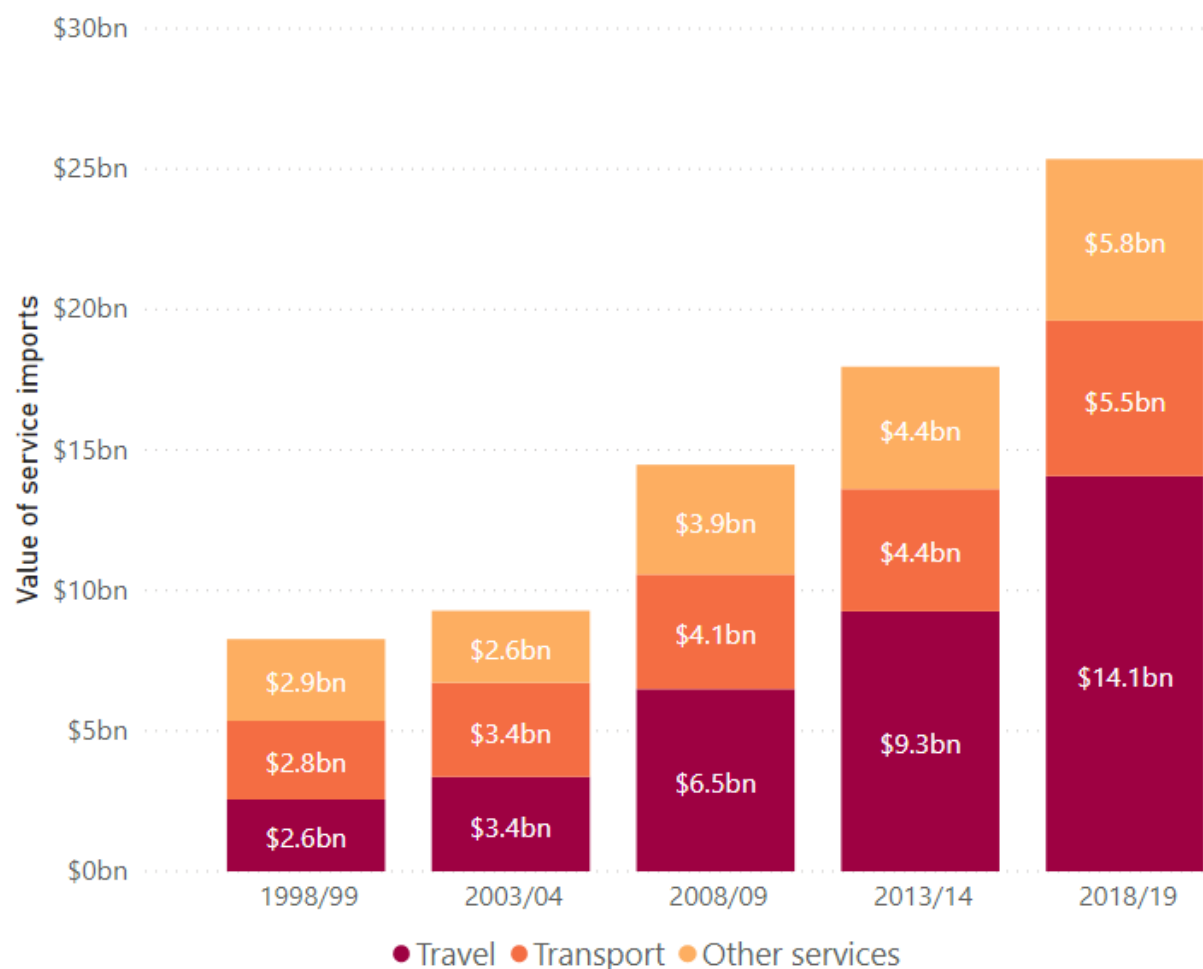


Source: ABS (2019) [International trade: supplementary information, financial year, 2018–19](#), cat. no. 5368.0.55.003, Table 3 (International trade in services, Credits, State by financial year)

Imports

Victorian service imports have grown steadily over the last 20 years, from \$8.3 billion in FY 1998/99 to \$25.4 billion in FY 2018/19. This is mostly due to growth in travel services, which currently account for about 56 per cent of Victorian service imports.⁹⁶

Figure 24. Victorian service imports by sector, FY 1998/99 – FY 2018/19



Source: ABS (2019) [International trade: supplementary information, financial year, 2018–19](#), cat. no. 5368.0.55.003, Table 4 (International trade in services, Debits, State by financial year)

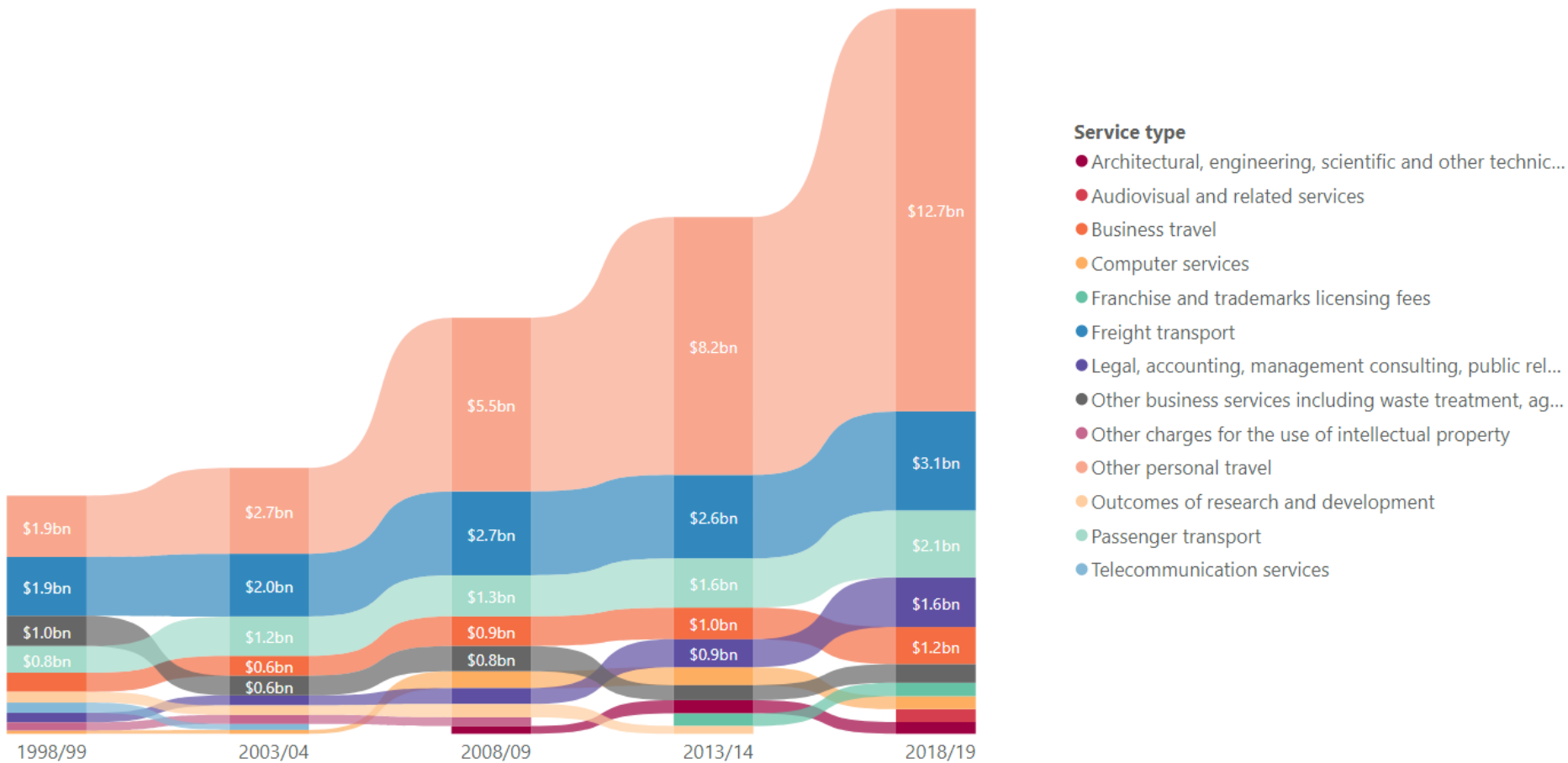
Key sectors within the Victorian service import market are non-education-related personal travel at \$12.7 billion (i.e. Victorians travelling abroad for a holiday) and freight transport at \$3.1 billion.⁹⁷

The ribbon chart on the following page shows the top ten individual import service types at three points in time, ranked by import value. There are some gaps in the source data due to the commercially sensitive nature of the information. Only service types with a full dataset are presented here. Service types without a full dataset were aggregated together for inclusion in this publication. For greater detail, please refer to the [interactive edition](#) of this publication.

⁹⁶ Derived from ABS (2019) [International trade: supplementary information, financial year, 2018–19](#), op. cit., Table 4 (International trade in services, Debits, State by financial year).

⁹⁷ *ibid.*

Figure 25. Top ten Victorian service import types, FY 1998/99 – FY 2018/19



Source: ABS (2019) *International trade: supplementary information, financial year, 2018–19*, cat. no. 5368.0.55.003, Table 3 (International trade in services, Debits, State by financial year)

International merchandise trade partners

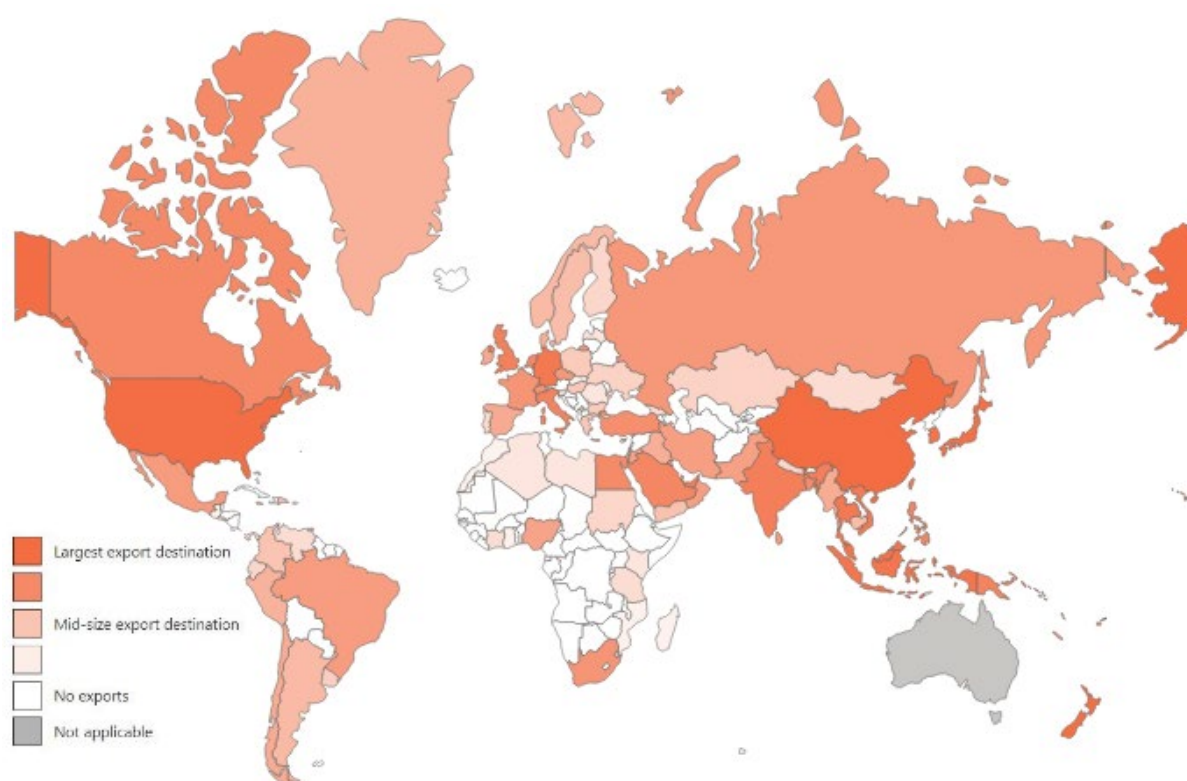
Exports

Thirty years ago, most Victorian merchandise exports went to Japan (21 per cent), USA (9 per cent), New Zealand (7 per cent), Hong Kong (6 per cent), South Korea (6 per cent) and China (5 per cent).⁹⁸

In FY 2018/19, China was by far the biggest recipient of Victorian merchandise exports (23 per cent), followed by the USA (16 per cent), New Zealand (8 per cent), Japan (8 per cent) and Singapore (4 per cent).⁹⁹

Due to size limitations, some export destinations have been excluded from the map below. For all export destinations, please refer to the [interactive edition](#) of this publication.

Figure 26. Victorian merchandise exports by destination, FY 2018/19



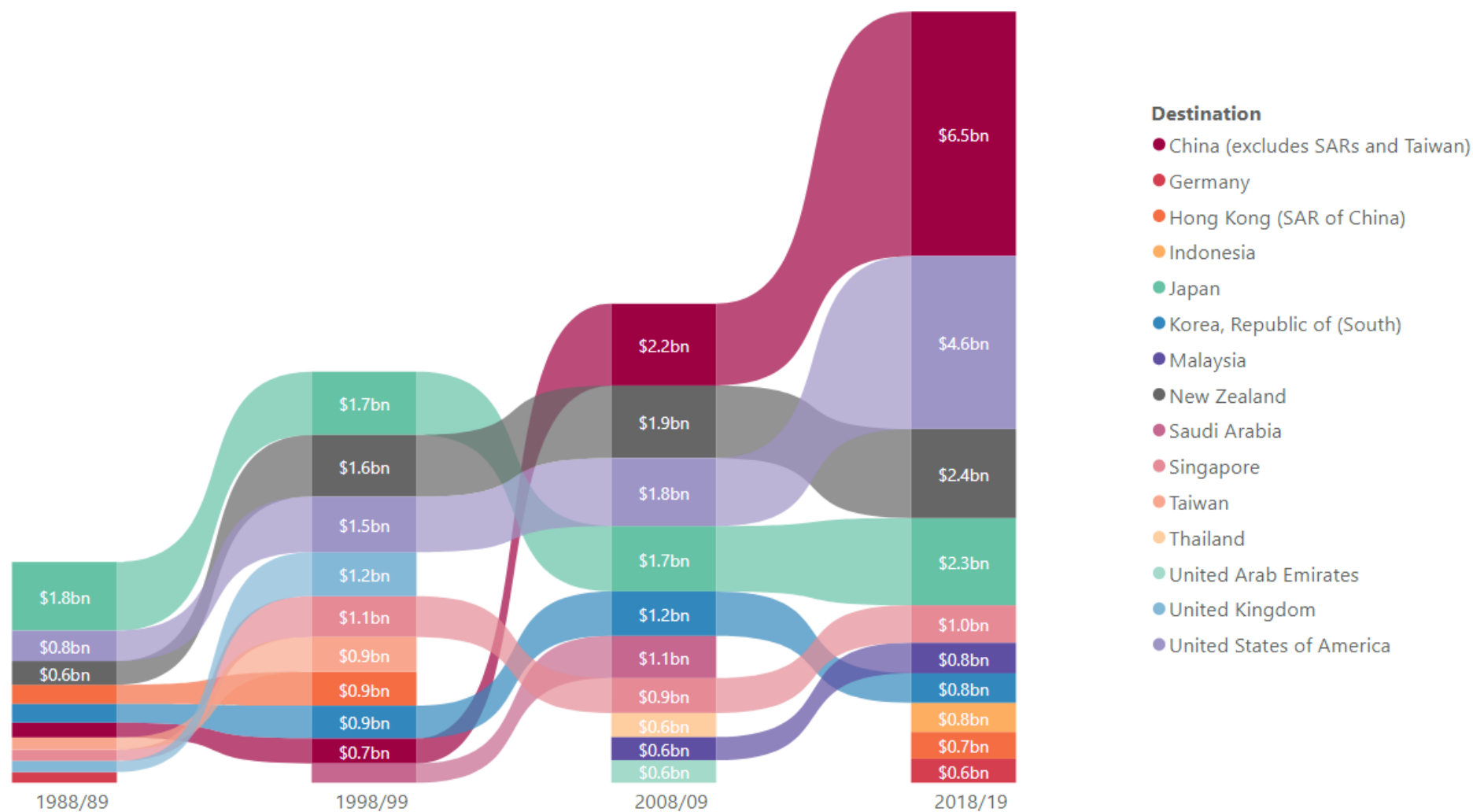
Source: Derived from ABS (2019) *International trade in goods and services, Australia, Nov 2019*, cat. no. 5368.0, Table 36b (Merchandise exports, FOB value ; Original)

The ribbon chart on the following page shows the top ten export destinations at four points in time, ranked by export value. For greater detail, please refer to the [interactive edition](#) of this publication.

⁹⁸ Derived from ABS (2019) *International trade in goods and services, Australia, Nov 2019*, op. cit., Table 36b (Merchandise exports, FOB value ; Original) and Table 15a (Merchandise exports, FOB value ; Original).

⁹⁹ Derived from *ibid.*

Figure 27. Top ten Victorian merchandise export destinations, FY 1988/89 – FY 2018/19



Source: Derived from ABS (2019) *International trade in goods and services, Australia, Nov 2019*, cat. no. 5368.0, Table 36b (Merchandise exports, FOB value ; Original)

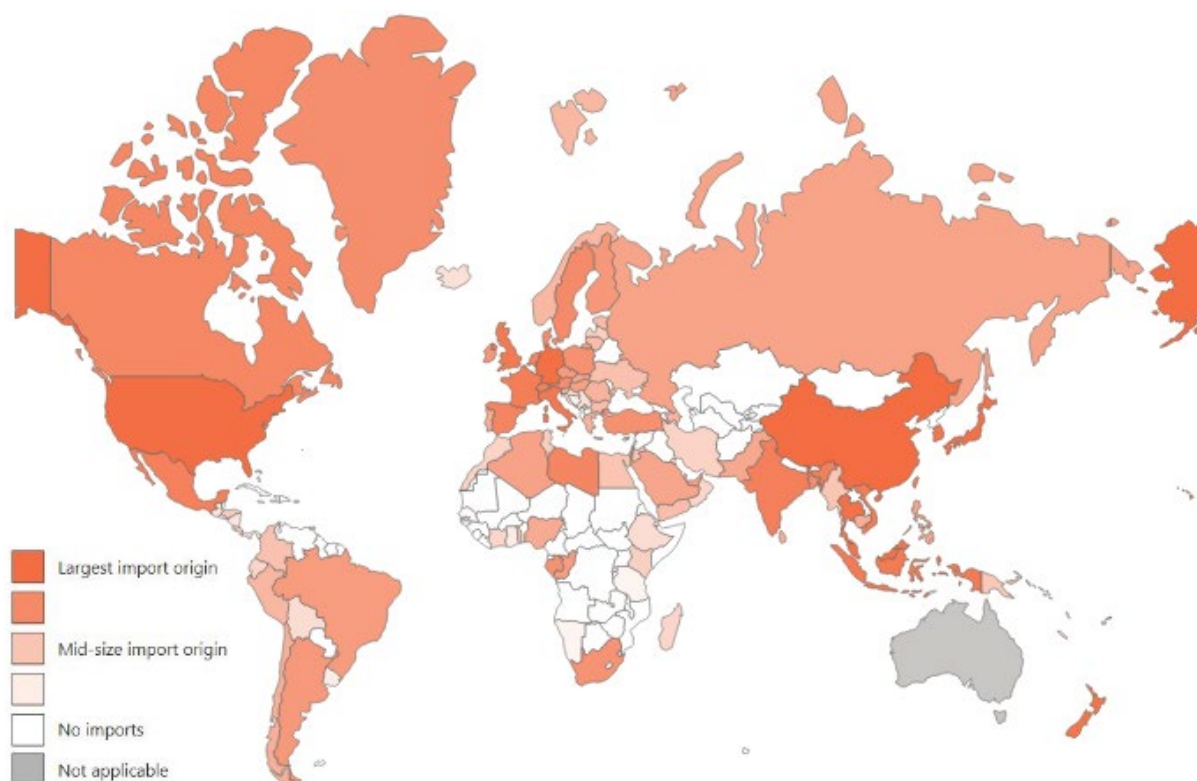
Imports

Thirty years ago, most Victorian merchandise imports came from USA (21 per cent), Japan (20 per cent), Germany (8 per cent), the UK (8 per cent) and Taiwan (5 per cent). Imports from China represented less than 3 per cent of Victorian merchandise imports.¹⁰⁰

In FY 2018/19, the largest share of Victoria's merchandise imports came from China (27 per cent), followed by the USA (11 per cent), Germany (6 per cent), Japan (6 per cent) and Thailand (5 per cent).¹⁰¹

Due to size limitations, some import origins have been excluded from the map below. For all import origins, please refer to the [interactive edition](#) of this publication.

Figure 28. Victorian merchandise exports by destination, FY 2018/19



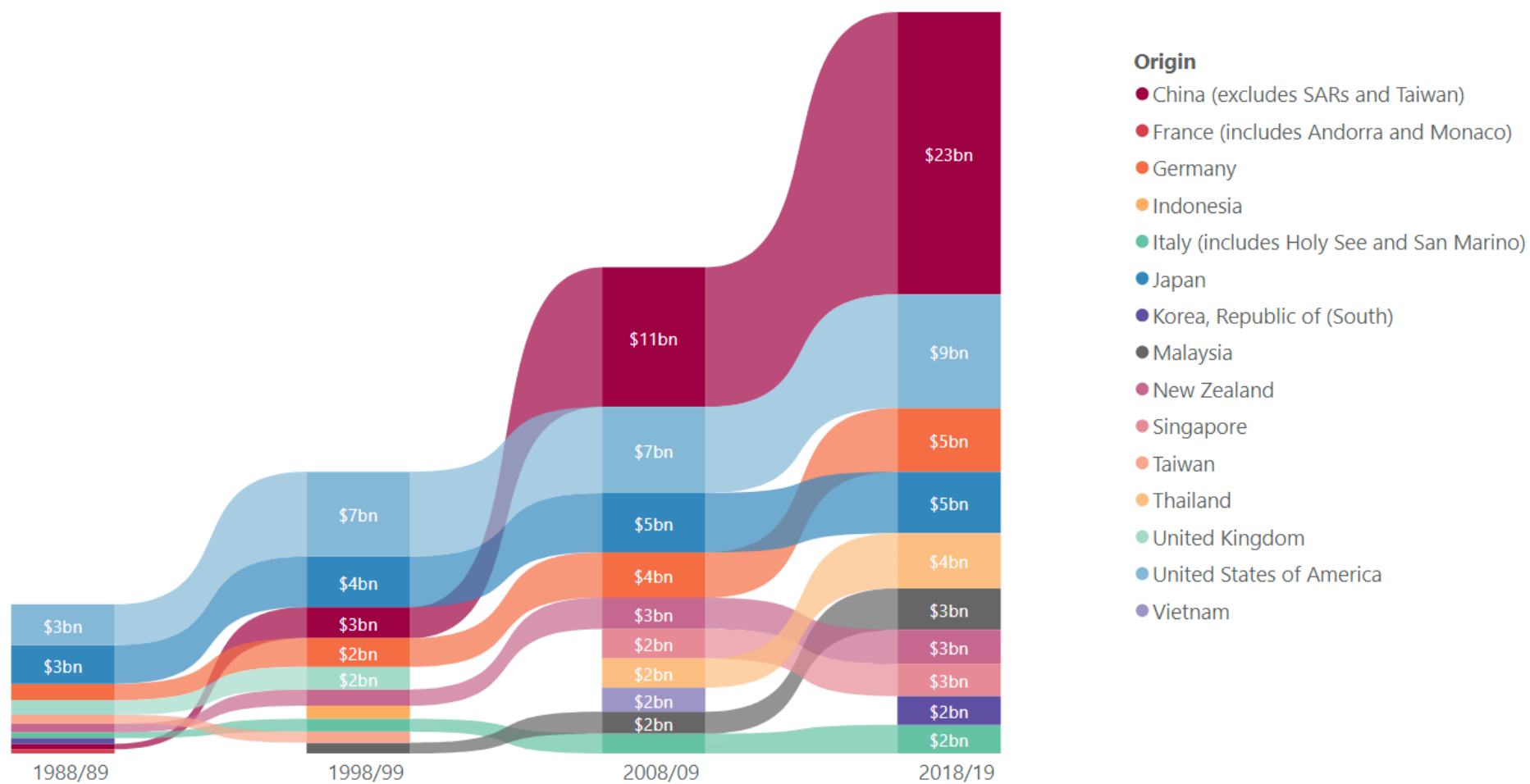
Source: Derived from ABS (2019) *International trade in goods and services, Australia, Nov 2019*, cat. no. 5368.0, Table 37b (Merchandise imports, Customs value ; Original)

The ribbon chart on the following page shows the top ten import origins at four points in time, ranked by import value. For greater detail, please refer to the [interactive edition](#) of this publication.

¹⁰⁰ Derived from ABS (2019) *International trade in goods and services, Australia, Nov 2019*, op. cit., Table 37b (Merchandise imports, Customs value ; Original) and Table 15a (Merchandise imports, Customs value ; Original).

¹⁰¹ Derived from *ibid.*

Figure 29. Top ten Victorian merchandise import origins, FY 1988/89 – FY 2018/19



Source: Derived from ABS (2019) *International trade in goods and services, Australia, Nov 2019*, cat. no. 5368.0, Table 37b (Merchandise imports, Customs value ; Original)

Labour force

The average monthly unemployment rate in Victoria was 4.6 per cent in FY 2018/19, 1.0 point lower than the previous year.¹⁰² Unemployment was lowest in Warrnambool and South West Victoria (3.2 per cent) and highest in Melbourne West (6.2 per cent).¹⁰³

On average, it took an unemployed Victorian about 13 weeks to find a job in FY 2018/19—nearly two weeks fewer than the previous year.¹⁰⁴ Durations varied significantly across the state, from just seven weeks in Bendigo to 30 weeks in Warrnambool and South West Victoria.¹⁰⁵

The health care and social assistance industry continued to employ the largest share of Victorians, equating to about one in eight Victorian workers. The retail trade sector continues to be critical as well, employing one in ten Victorian workers.¹⁰⁶

Unemployment

The ABS categorises someone as unemployed if they were:

- aged 15 or over,
- not engaged in economic work,
- actively looking for work, and
- available to start work

during a given Labour Force Survey reference week.¹⁰⁷

They define the labour force as those aged 15 or over who are either employed (engaged in economic work) or unemployed. The **unemployment rate** measures the portion of the labour force that are unemployed.

Suited for:

- Gauging how many people are ready to start work, but just need a job

Not suited for:

- Gauging whether people are working enough hours to get by
- Measuring activities that don't involve the exchange of money (e.g. unpaid domestic labour)¹⁰⁸

¹⁰² Derived from ABS (2019) [Labour force, Australia, Oct 2019](#), op. cit., Table 23 (Unemployed total ; Persons ; Original and Labour force total ; Persons ; Original).

¹⁰³ Derived from Australian Bureau of Statistics (2019) [Labour force, Australia, detailed - electronic delivery, Oct 2019](#), cat. no. 6291.0.55.001, Canberra, ABS, Table 2 (Unemployed total ; Persons ; Original and Labour force total ; Persons ; Original).

¹⁰⁴ Derived from *ibid.*, Table 14c (Median duration of job search ; Original).

¹⁰⁵ Derived from *ibid.*, Table 16c (Median duration of job search ; Original).

¹⁰⁶ Derived from ABS (2019) [Labour force, Australia, detailed, quarterly, Nov 2019](#), op. cit., Table 05 (Employed total ; Original) and ABS (2019) [Labour force, Australia, Oct 2019](#), op. cit., Table 23 (Labour force total ; Persons ; Original).

¹⁰⁷ Australian Bureau of Statistics (2018) [Labour statistics: concepts, sources and methods, Feb 2018](#), cat. no. 6102.0.55.001, Canberra, ABS, pp. 35-37.

¹⁰⁸ *ibid.*, p. 38.

The monthly unemployment rate in Victoria ranged from 4.0 per cent to 5.1 per cent in FY 2018/19, with an average value of 4.6 per cent.¹⁰⁹ Unemployment was 0.4 points higher in the Greater Melbourne area than in the rest of Victoria.¹¹⁰

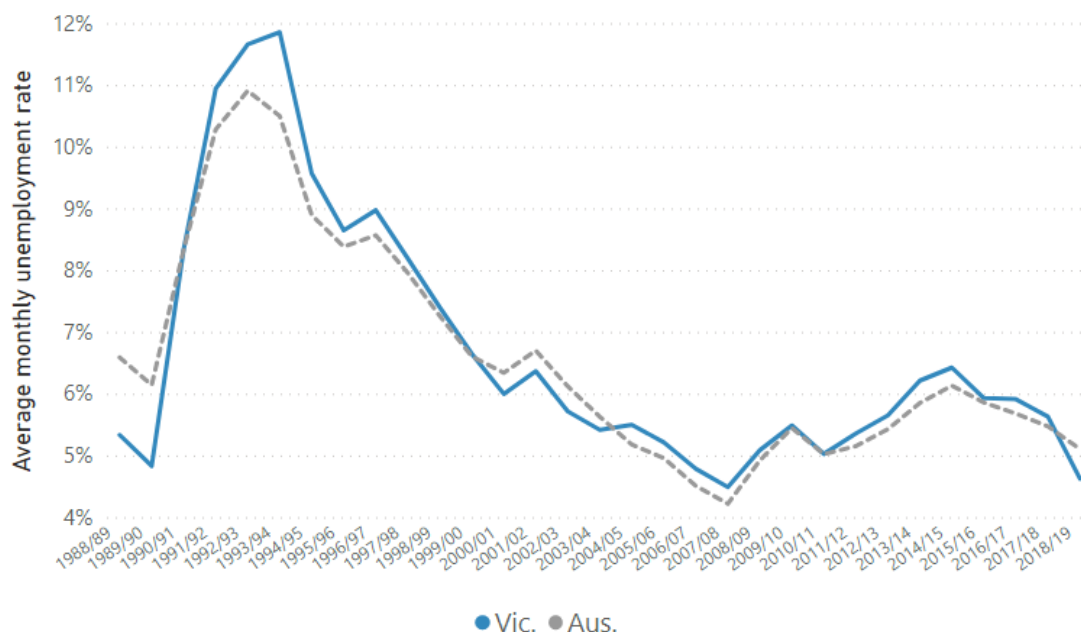
Table 8. Average of monthly unemployment rates by state/territory, FY 2018/19

Location	Range of monthly rates (per cent)	Average rate (per cent)	Capital city (per cent)	Rest of state (per cent)
Australian Capital Territory	2.3 – 4.7	3.6	-	-
New South Wales	4.0 – 4.8	4.4	4.2	4.9
Northern Territory	3.7 – 5.2	4.5	-	-
Queensland	5.6 – 6.7	6.1	6.2	6.0
South Australia	5.2 – 6.8	5.8	5.8	5.8
Tasmania	5.0 – 7.2	6.3	6.5	6.2
Victoria	4.0 – 5.1	4.6	4.7	4.3
Western Australia	5.3 – 7.4	6.1	6.3	5.4
Australia	4.7 – 5.5	5.1	-	-

Source: Derived from ABS (2019) *Labour force, Australia, detailed - electronic delivery, Oct 2019*, cat. no. 6291.0.55.001, Table 2 (Unemployed total ; Persons ; Original and Labour force total ; Persons ; Original)

Since FY 2004/05, Victoria's average monthly unemployment rate has been consistently higher than Australia's (although only marginally so in FY 2009/10 and FY 2010/11). The most recent financial year marks the first time in 14 financial years that the average Victorian rate was below the average Australian rate.¹¹¹

Figure 30. Average monthly Victorian and Australian unemployment rates, FY 1988/89 – FY 2018/19



Source: Derived from ABS (2019) *Labour force, Australia, detailed - electronic delivery, Oct 2019*, cat. no. 6291.0.55.001, Table 2 (Unemployed total ; Persons ; Original and Labour force total ; Persons ; Original)

¹⁰⁹ Derived from ABS (2019) *Labour force, Australia, detailed - electronic delivery, Oct 2019*, op. cit., Table 2 (Unemployed total ; Persons ; Original and Labour force total ; Persons ; Original).

¹¹⁰ Derived from *ibid.*

¹¹¹ Derived from *ibid.*

The ABS publishes monthly unemployment rates for individual labour markets within Victoria. These results are derived from a small sample of respondents in each area and can be easily skewed (high sampling variability).¹¹² This variability is reduced somewhat when the monthly results are averaged into a single financial year result.

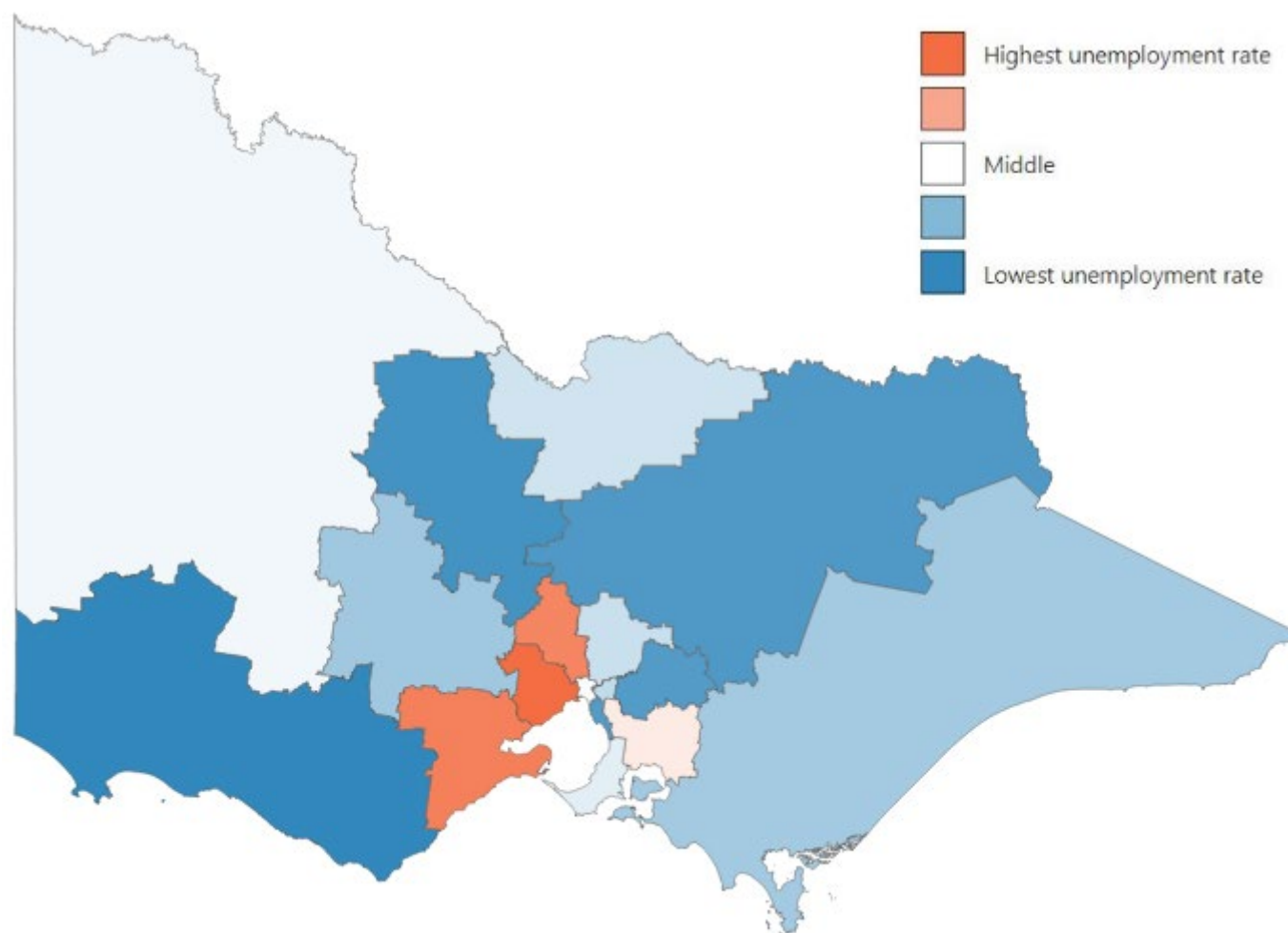
Table 9. Average of monthly unemployment rates by Victorian labour market, FY 2018/19

Location	Range of monthly rates (per cent)	Average rate (per cent)
Greater Melbourne	4.0 – 5.3	4.7
Melbourne - Inner	2.9 – 6.7	4.7
Melbourne - Inner East	3.0 – 5.8	4.2
Melbourne - Inner South	1.8 – 5.3	3.4
Melbourne - North East	3.3 – 5.6	4.3
Melbourne - North West	4.2 – 8.1	6.0
Melbourne - Outer East	2.1 – 4.0	3.4
Melbourne - South East	4.0 – 6.4	4.9
Melbourne - West	4.5 – 8.7	6.2
Mornington Peninsula	2.9 – 6.5	4.5
Rest of Vic.	3.3 – 4.8	4.3
Ballarat	1.7 – 7.6	4.0
Bendigo	0.9 – 5.2	3.3
Geelong	3.4 – 8.1	6.0
Hume	2.0 – 5.0	3.4
Latrobe - Gippsland	2.0 – 5.5	4.0
Shepparton	1.5 – 8.0	4.3
Victoria - North West	2.8 – 6.5	4.6
Warrnambool and South West	1.5 – 5.5	3.2

Source: Derived from ABS (2019) *Labour force, Australia, detailed - electronic delivery, Oct 2019*, cat. no. 6291.0.55.001, Table 16 (Unemployed total ; Persons ; Original and Labour force total ; Persons ; Original)

¹¹² ABS (2019) *Labour force, Australia, detailed - electronic delivery, Oct 2019*, op. cit., Table 16 (Unemployed total ; Persons ; Original and Labour force total ; Persons ; Original).

Figure 31. Average of monthly unemployment rates by Victorian labour market, FY 2018/19

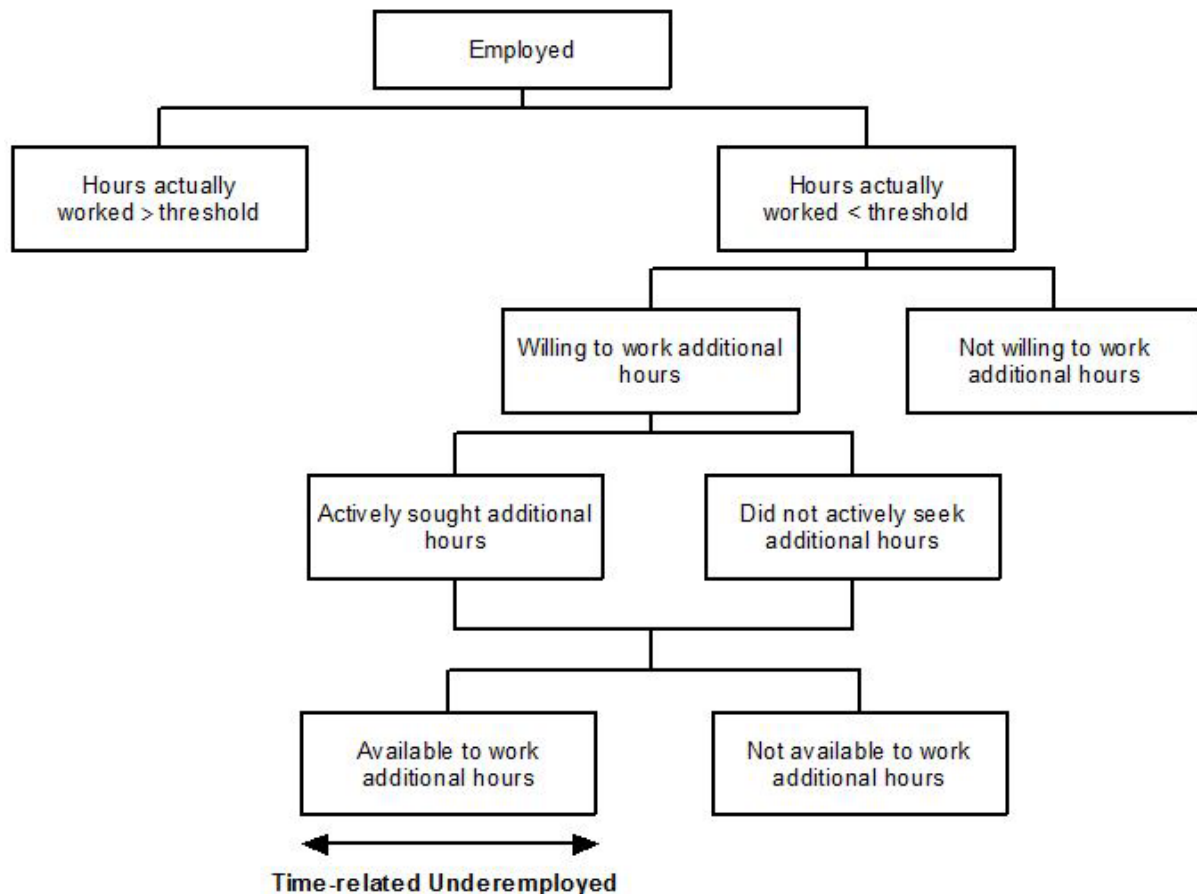


Source: Derived from ABS (2019) [Labour force, Australia, detailed - electronic delivery, Oct 2019](#), cat. no. 6291.0.55.001, Table 16 (Unemployed total ; Persons ; Original and Labour force total ; Persons ; Original)

Underemployment and underutilisation

The unemployment rate calculation is black-and-white: a person either worked during the survey reference period, or they didn't. To evaluate the grey area, the ABS also measures underemployment. Someone is classified as underemployed if they were employed but worked fewer hours than they wanted (and were capable of working).¹¹³

Figure 32. Time-related underemployment measured by the Australian Bureau of Statistics



Source: ABS (2018) *Labour statistics: concepts, sources and methods, Feb 2018*, cat. no. 6102.0.55.001, Figure 7.2

This captures a range of situations, such as:

- a part-time worker who wanted more rostered hours
- a freelance worker who had a gig during the reference period, but wanted to work more
- an otherwise unemployed jobseeker who worked an odd job during the reference period.

The **underemployment rate** measures the portion of the labour force that are underemployed.

¹¹³ ABS (2018) *Labour statistics: concepts, sources and methods, Feb 2018*, op. cit., p. 80.

Table 10. Average of monthly underemployment rates by state/territory, FY 2018/19

Location	Range of monthly rates (per cent)	Average rate (per cent)
Australian Capital Territory	5.1 – 8.2	6.2
New South Wales	7.2 – 8.0	7.7
Northern Territory	3.2 – 6.3	5.0
Queensland	7.8 – 9.6	8.8
South Australia	8.4 – 9.8	9.0
Tasmania	9.0 – 10.6	9.9
Victoria	7.4 – 9.0	8.2
Western Australia	8.5 – 10.1	9.2
Australia	7.8 – 8.8	8.3

Source: Derived from ABS (2019) *Labour force, Australia, Oct 2019*, cat. no. 6202.0, Table 23 (Underemployed total ; Persons ; Original and Labour force total ; Persons ; Original).

If a person is either unemployed or underemployed, that means they had capacity to work more than they did during the reference period. It can be helpful to report on these groups together, as underemployed workers 'are often competing with the unemployed for available jobs'.¹¹⁴ The ABS refers to this group as underutilised.¹¹⁵

The **underutilisation rate** measures the portion of the labour force that are unemployed or underemployed. The underutilisation rate is the sum of the unemployment rate and the underemployment rate.

Table 11. Average of monthly unemployment, underemployment and underutilisation rates by state/territory, FY 2018/19

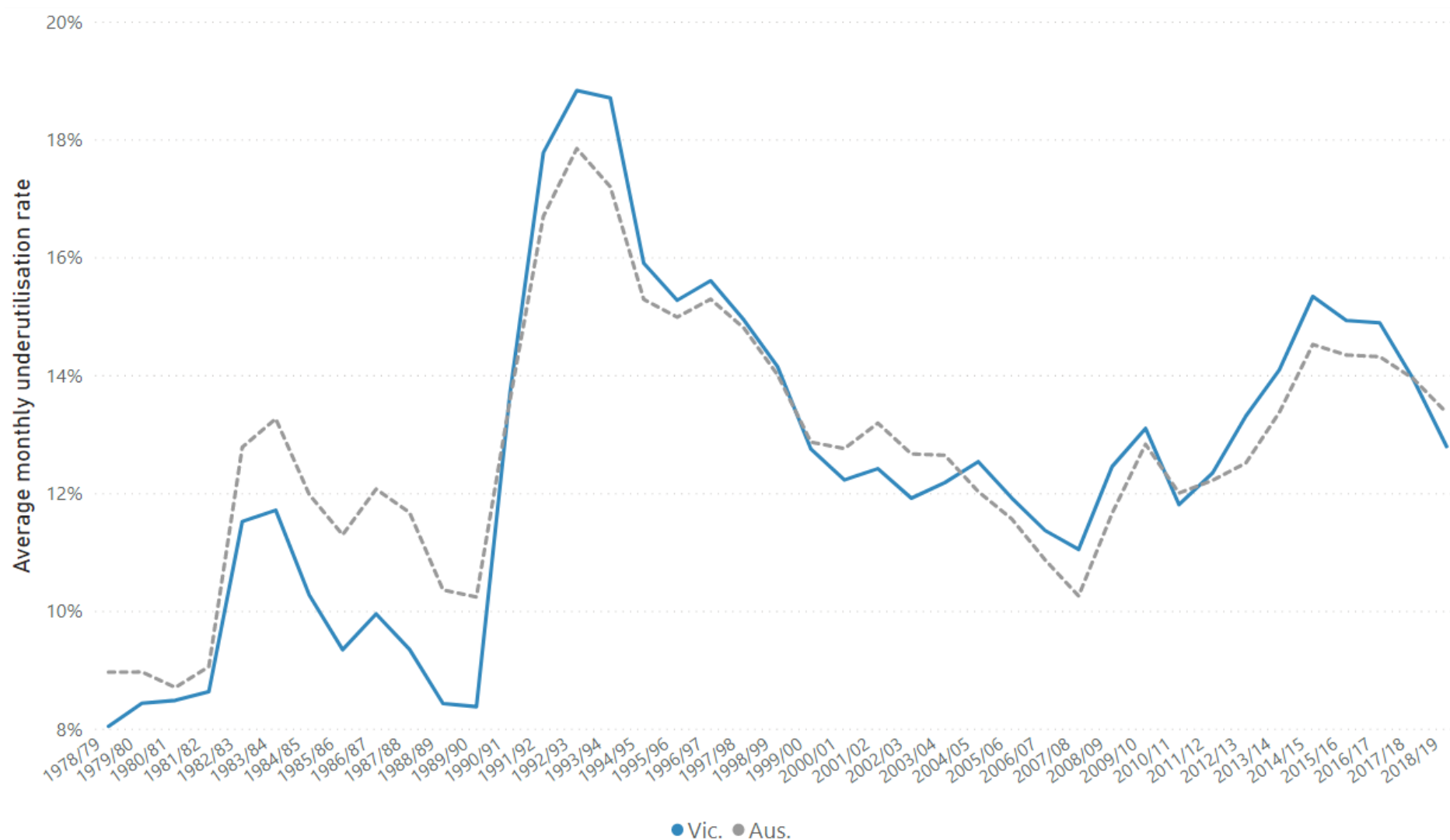
Location	Unemployment (per cent)	Underemployment (per cent)	Underutilisation (per cent)	Range of monthly rates (per cent)
Australian Capital Territory	3.6	6.2	9.8	7.4 – 10.7
New South Wales	4.4	7.7	12.1	11.8 – 12.8
Northern Territory	4.5	5.0	9.5	7.1 – 10.9
Queensland	6.1	8.8	14.9	13.9 – 15.7
South Australia	5.8	9.0	14.8	14.1 – 16.3
Tasmania	6.3	9.9	16.2	15.1 – 17.2
Victoria	4.6	8.2	12.8	11.9 – 13.6
Western Australia	6.1	9.2	15.4	14.3 – 17.1
Australia	5.1	8.3	13.4	12.7 – 14.0

Source: Derived from ABS (2019) *Labour force, Australia, Oct 2019*, cat. no. 6202.0, Table 23 (Unemployed total ; Persons ; Original, Underemployed total ; Persons ; Original and Labour force total ; Persons ; Original).

¹¹⁴ P. Vandenbroek (2018) 'Underemployment statistics: a quick guide', Research Paper, Canberra, Australian Parliamentary Library, p. 2.

¹¹⁵ ABS (2018) *Labour statistics: concepts, sources and methods, Feb 2018*, op. cit., p. 82.

Figure 33. Average monthly Victorian and Australian underutilisation rates, FY 1988/89 – FY 2018/19



Source: Derived from ABS (2019) [Labour force, Australia, Oct 2019](#), cat. no. 6202.0, Table 23
(Unemployed total ; Persons ; Original, Underemployed total ; Persons ; Original and Labour force total ; Persons ; Original).

Labour force participation

Another way to analyse labour dynamics is by working out what portion of the adult population (aged 15 and older) was part of the labour force. The participation rate measures the proportion of adults who work or are looking for work.

Reasons an adult might not be part of the labour force include:

- studying full-time
- homemaking / raising children full-time
- discouraged job seekers
- unable to work due to disability
- retired.¹¹⁶

In FY 2018/19, 65.9 per cent of adult Victorians were part of the labour force. This roughly matches the Australian participation rate. The participation rate was 6.1 points higher in the Greater Melbourne area than in the rest of Victoria.¹¹⁷

Table 12. Average of monthly unemployment rates by state/territory, FY 2018/19

Location	Range of monthly rates (per cent)	Average rate (per cent)	Capital city (per cent)	Rest of state (per cent)
Australian Capital Territory	68.9 – 71.0	70.0	-	-
New South Wales	64.6 – 66.4	65.3	67.6	60.8
Northern Territory	71.2 – 76.7	73.6	-	-
Queensland	64.9 – 66.4	65.7	67.4	64.1
South Australia	61.7 – 63.9	62.8	63.6	59.9
Tasmania	60.0 – 61.3	60.6	63.1	58.6
Victoria	65.0 – 66.8	65.9	67.3	61.2
Western Australia	68.1 – 68.8	68.4	68.2	69.1
Australia	65.3 – 66.3	65.7	-	-

Source: Derived from ABS (2019) *Labour force, Australia, detailed - electronic delivery, Oct 2019*, cat. no. 6291.0.55.001, Table 2 (Labour force total ; Persons ; Original and Civilian population aged 15 years and over ; Persons ; Original)

¹¹⁶ ABS (2018) *Labour statistics: concepts, sources and methods, Feb 2018*, op. cit., p. 38.

¹¹⁷ Derived from ABS (2019) *Labour force, Australia, detailed - electronic delivery, Oct 2019*, op. cit., Table 2 (Labour force total ; Persons ; Original and Civilian population aged 15 years and over ; Persons ; Original).

Job search duration

The Reserve Bank of Australia recognises three main types of unemployment:¹¹⁸

- **Cyclical unemployment**, which occurs during economic downturns. Businesses respond to declining demand for goods and services by laying off existing workers or hiring fewer new workers. This commonly results in medium-term unemployment (one to 12 months).
- **Structural unemployment**, which occurs when jobseekers are not well-matched to the jobs that are available in terms of skills, experience or location. This can result in long-term unemployment (more than 12 months).
- **Frictional unemployment**, which occurs when people move in and out of the labour force, or when workers change jobs. This form of unemployment is generally short-term (one month or less).

It isn't possible to measure these types of unemployment directly. However, the ABS does collect data on how long it takes for jobseekers to find a job. This provides an indirect way to evaluate which type of unemployment is prevalent in an area.

For example, a region with high unemployment but relatively short job search durations may be facing a lot of frictional unemployment—perhaps due to declining job stability. In contrast, a region with long job search durations may face a different set of challenges, such as retraining jobseekers or remediating the economic and social impacts of long-term unemployment.

Table 13. Average of monthly median job search duration (weeks) by state/territory, FY 2018/19

Location	Range of monthly medians (weeks)	Average duration (weeks)	Capital city (weeks)	Rest of the state (weeks)
Australian Capital Territory	7 – 18	11	-	-
New South Wales	9 – 25	15	13	19
Northern Territory	4 – 22	10	-	-
Queensland	9 – 27	18	15	21
South Australia	12 – 27	20	20	24
Tasmania	14 – 28	21	21	22
Victoria	8 – 15	13	12	14
Western Australia	10 – 22	17	16	20
Australia	9 – 21	15	-	-

Source: Derived from ABS (2019) *Labour force, Australia, detailed - electronic delivery, Oct 2019*, cat. no. 6291.0.55.001, Table 16c (Median duration of job search ; Original)

¹¹⁸ Reserve Bank of Australia (date unknown) 'Unemployment: its measurement and types', RBA website.

The ABS publishes monthly median job search durations for individual labour markets within Victoria. These results are derived from a small sample of respondents in each area and can be easily skewed (high sampling variability).¹¹⁹ This variability is reduced somewhat when the monthly results are averaged into a single financial year result.

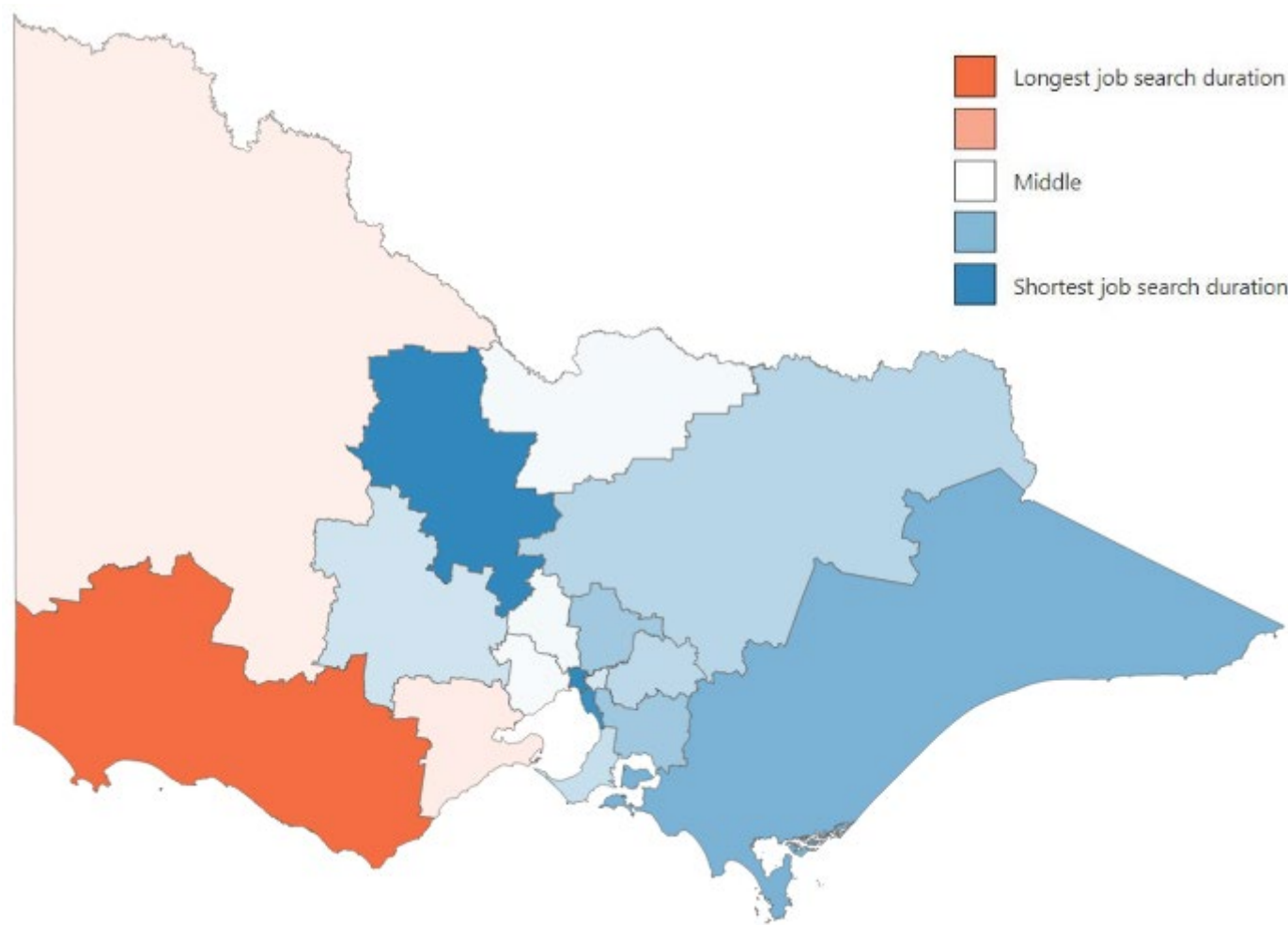
Table 14. Average of monthly median job search durations by Victorian labour market, FY 2018/19

Location	Range of monthly medians (weeks)	Average duration (weeks)
Greater Melbourne	7 – 16	12
Melbourne - Inner	3 – 11	7
Melbourne - Inner East	4 – 39	16
Melbourne - Inner South	4 – 18	8
Melbourne - North East	8 – 19	13
Melbourne - North West	4 – 32	18
Melbourne - Outer East	4 – 35	15
Melbourne - South East	7 – 24	13
Melbourne - West	5 – 26	18
Mornington Peninsula	4 – 35	15
Rest of Vic.	9 – 20	14
Ballarat	2 – 70	16
Bendigo	3 – 13	7
Geelong	5 – 35	20
Hume	1 – 63	14
Latrobe - Gippsland	4 – 23	11
North West	1 – 37	20
Shepparton	1 – 57	18
Warrnambool and South West	1 – 174	30

Source: Derived from ABS (2019) *Labour force, Australia, detailed - electronic delivery, Oct 2019*, cat. no. 6291.0.55.001, Table 16c (Median duration of job search ; Original)

¹¹⁹ ABS (2019) *Labour force, Australia, detailed - electronic delivery, Oct 2019*, op. cit., Table 16c (Median duration of job search ; Original).

Figure 34. Average of monthly median job search durations by Victorian labour market, FY 2018/19



Source: Derived from ABS (2019) [Labour force, Australia, detailed - electronic delivery, Oct 2019](#), cat. no. 6291.0.55.001, Table 16c (Median duration of job search ; Original)

Inflation

Prices in Victoria grew by 1.7 per cent in FY 2018/19, 0.6 points slower than the previous year. If a Victorian spent \$100 on typical household goods and services in FY 2017/18, they would have to spend about \$102 to get the same goods and services in FY 2018/19.¹²⁰ The price of healthcare increased by 3.1 per cent, while the cost of communication services grew 4.3 per cent cheaper.¹²¹

Wages in Victoria grew by 2.6 per cent in FY 2018/19, 0.3 per cent faster than the previous year. If a Victorian earned \$100 in FY 2017/18, they would earn about \$103 doing the same job in FY 2018/19.¹²² Public sector wages grew faster than private sector wages (2.5 per cent growth vs. 3.3 per cent growth, respectively).¹²³

The wage price index grew faster than the consumer price index, which means wages grew faster than prices. This resulted in real wage growth of 0.9 per cent against the previous year.¹²⁴

Consumer price index

The Consumer Price Index (CPI) is a measure of the change in retail prices of a fixed 'basket' of goods and services representative of household consumption expenditure. For practical reasons, the CPI 'basket' cannot include every item a household might need, but instead covers basic commodity groups such as food, housing, transportation and healthcare. It is not a true cost-of-living index (for example, it does not capture interest paid on mortgages¹²⁵ or the cost of land¹²⁶), but it is nevertheless often used as a proxy measure.¹²⁷

Great for:

- Comparing prices across time in a given location

Not suited for:

- Comparing prices between locations¹²⁸
- Measuring the day-to-day cost of living

¹²⁰ Derived from ABS (2019) [Consumer price index, Sep 2019](#), op. cit., Table 1 (Index Numbers ; All groups CPI ; Original).

¹²¹ Derived from *ibid.*, Table 5 (Index Numbers ; Melbourne ; Original).

¹²² Derived from ABS (2019) [Wage price index, Australia, Sep 2019](#), op. cit., Table 2a (Financial Year Index ; Total hourly rates of pay excluding bonuses ; Private and Public ; All industries ; Original).

¹²³ Derived from *ibid.*, Tables 3a and 4a (Financial Year Index ; Total hourly rates of pay excluding bonuses ; Victoria ; All industries ; Original).

¹²⁴ Derived from ABS (2019) [Consumer price index, Sep 2019](#), op. cit., Table 1 (Index Numbers ; All groups CPI ; Original) and ABS (2019) [Wage price index, Australia, Sep 2019](#), op. cit., Table 1 (Financial Year Index ; Total hourly rates of pay excluding bonuses ; Private and Public ; All industries ; Original).

¹²⁵ R. Holden (2018) '[Vital signs: why we distrust the consumer price index](#)', The Conversation, 9 November.

¹²⁶ J. Greber (2017) '[CBA says house prices are the 'massive flaw' in the inflation data](#)', Australian Financial Review, 20 April.

¹²⁷ Australian Bureau of Statistics (2017) [A guide to the consumer price index: 17th series](#), cat. no. 6440.0, Canberra, ABS, p. 3, section 2.8.

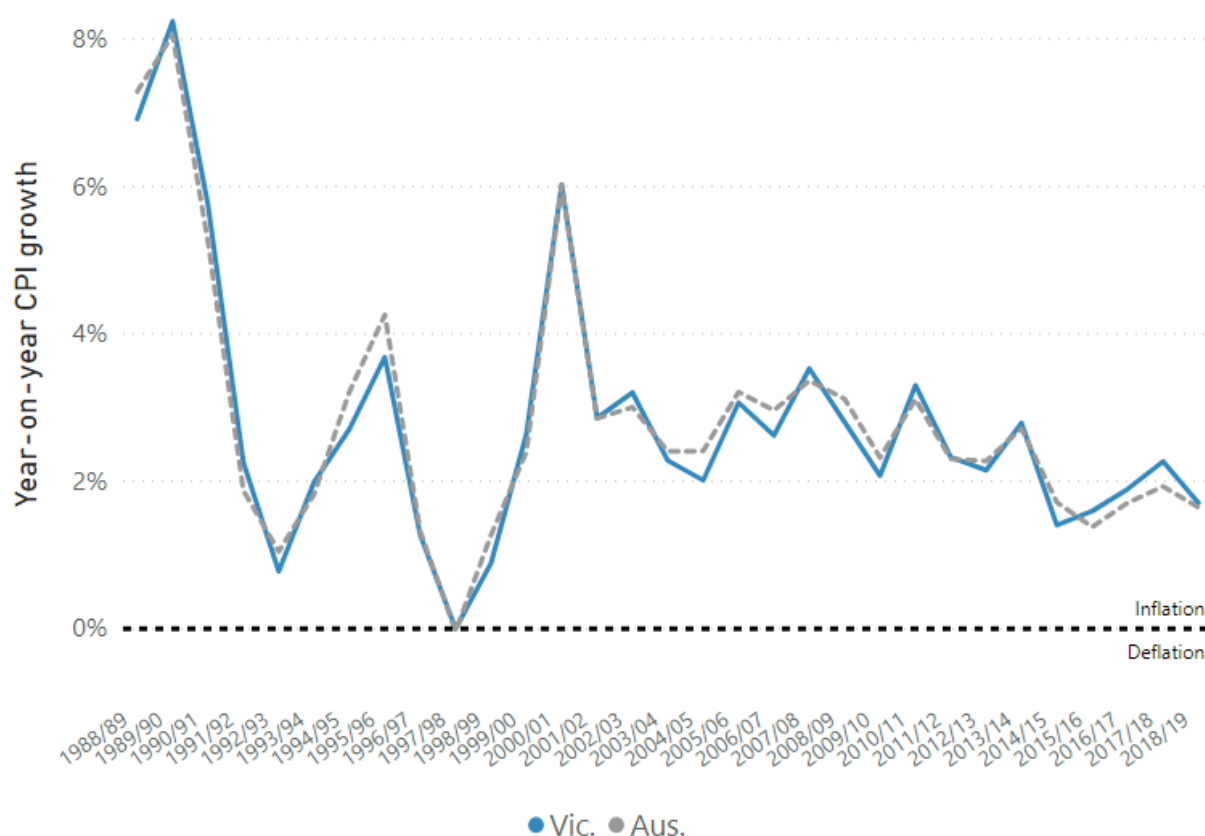
¹²⁸ *Ibid.*, p.2, section 2.4.

Table 15. Year-on-year CPI growth, FY 2018/19

Location ¹²⁹	CPI growth (per cent)
Australian Capital Territory	2.1
New South Wales	1.7
Northern Territory	0.9
Queensland	1.6
South Australia	1.5
Tasmania	2.5
Victoria	1.7
Western Australia	1.3
Australia	1.6

Source: Derived from ABS (2019) *Consumer price index, Sep 2019*, cat. no. 6401.0, Table 1 (Index Numbers ; All groups CPI ; Original)

Figure 35. Year-on-year Victorian and Australian CPI growth, FY 1988/89 – FY 2018/19



Source: Derived from ABS (2019) *Consumer price index, Sep 2019*, cat. no. 6401.0, Table 1 (Index Numbers ; All groups CPI ; Original).

¹²⁹ Consumer price index data is only collected in capital cities; however, ABS research has demonstrated that 'price movements (as distinct from price levels) are similar across regions', meaning Victorian price movements are similar to Melbourne price movements. For this reason, capital city data has been reported in this paper to represent each state. Refer to ABS (2017) *A guide to the consumer price index: 17th series*, op. cit., p. 12, section 3.8.

Wage price index

Like the CPI, the Wage Price Index (WPI) is a measure of the change in wages paid for a fixed 'basket' of jobs. Not every job can be included in this 'basket', but it nevertheless provides a general picture of how quickly wages are growing (or shrinking).

Great for:

- Comparing wages across time in a given location

Not suited for:

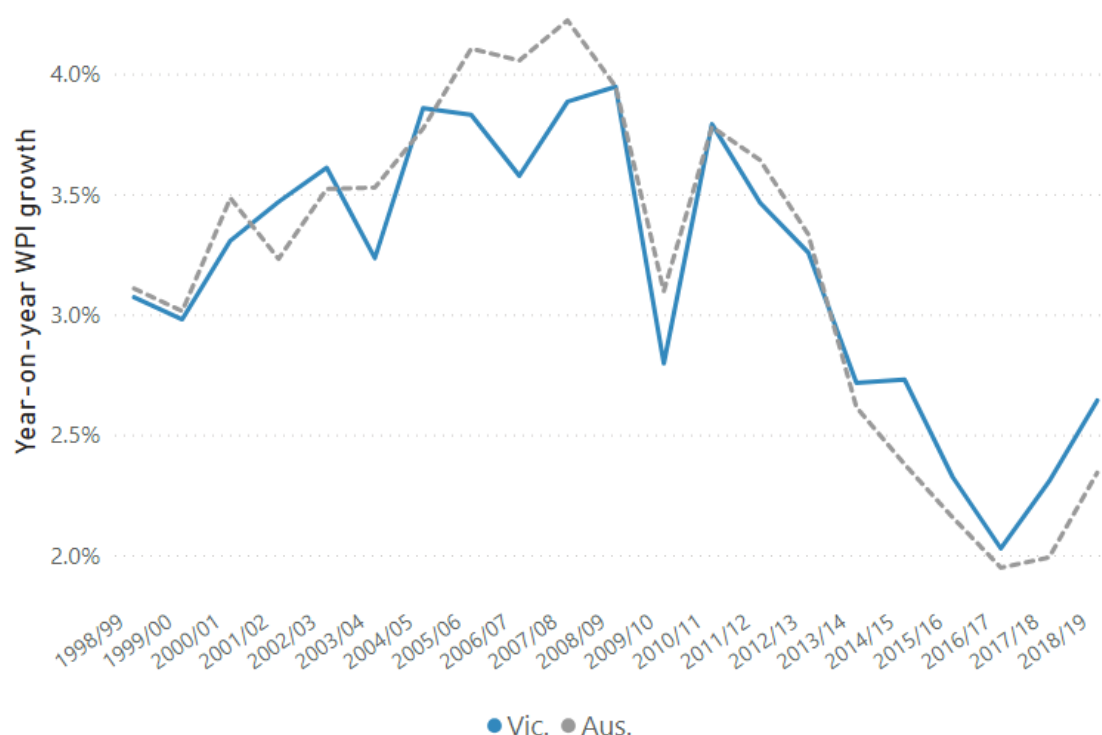
- Comparing wages between locations

Table 16. Year-on-year WPI growth, FY 2018/19

Location	WPI growth (per cent)
Australian Capital Territory	2.1
New South Wales	2.4
Northern Territory	2.1
Queensland	2.3
South Australia	2.2
Tasmania	2.6
Victoria	2.6
Western Australia	1.6
Australia	2.3

Source: Derived from ABS (2019) *Wage price index, Australia, Sep 2019*, cat. no. 6345.0, Table 2a (Financial Year Index ; Total hourly rates of pay excluding bonuses ; Private and Public ; All industries ; Original)

Figure 36. Year-on-year Victorian and Australian WPI growth, FY 1998/99 – FY 2018/19



Source: Derived from ABS (2019) *Wage price index, Australia, Sep 2019*, cat. no. 6345.0, Table 2a (Financial Year Index ; Total hourly rates of pay excluding bonuses ; Private and Public ; All industries ; Original)

Real wage growth

If prices and wages go up at the same time, what is the net effect? Is it harder or easier to get by?

There is no single definitive way to answer questions like these, but one imperfect option is to adjust WPI growth for CPI growth to arrive at **real wage growth**.¹³⁰ This is sometimes referred to as purchasing power. When wages go up faster than prices do, the purchasing power of a wage increases. On the other hand, when prices go up faster than wages do, the purchasing power of a wage decreases.

Note that real wage growth estimates rely on the CPI, so they are subject to the same shortcomings as that index.¹³¹

Over the last 20 years, Victoria has seen year-on-year real wage growth ranging from 2.2 per cent (FY 1998/99) to -2.7 per cent (FY 2000/01), at an average of about 0.6 per cent growth per year.¹³²

In the last few years, Victorian wages grew in lockstep with prices (0.1 per cent real wage growth in FY 2016/17 and 0.0 per cent in 2017/18). In the most recent financial year, Victorian wage growth outpaced price growth (0.9 per cent real wage growth in FY 2018/19).¹³³

Table 17. Year-on-year real wage growth, FY 2018/19

Location	Wage growth (per cent)	Price growth (per cent)	Real wage growth (per cent)
Australian Capital Territory	2.1	2.1	-0.1
New South Wales	2.4	1.7	0.8
Northern Territory	2.1	0.9	1.2
Queensland	2.3	1.6	0.6
South Australia	2.2	1.5	0.6
Tasmania	2.6	2.5	0.0
Victoria	2.6	1.7	0.9
Western Australia	1.6	1.3	0.3
Australia	2.3	1.6	0.7

Source: Derived from ABS (2019) *Consumer price index, Sep 2019*, cat. no. 6401.0, Table 1 (Index Numbers ; All groups CPI ; Original) and ABS (2019) *Wage price index, Australia, Sep 2019*, cat. no. 6345.0, Table 1 (Financial Year Index ; Total hourly rates of pay excluding bonuses ; Private and Public ; All industries ; Original).

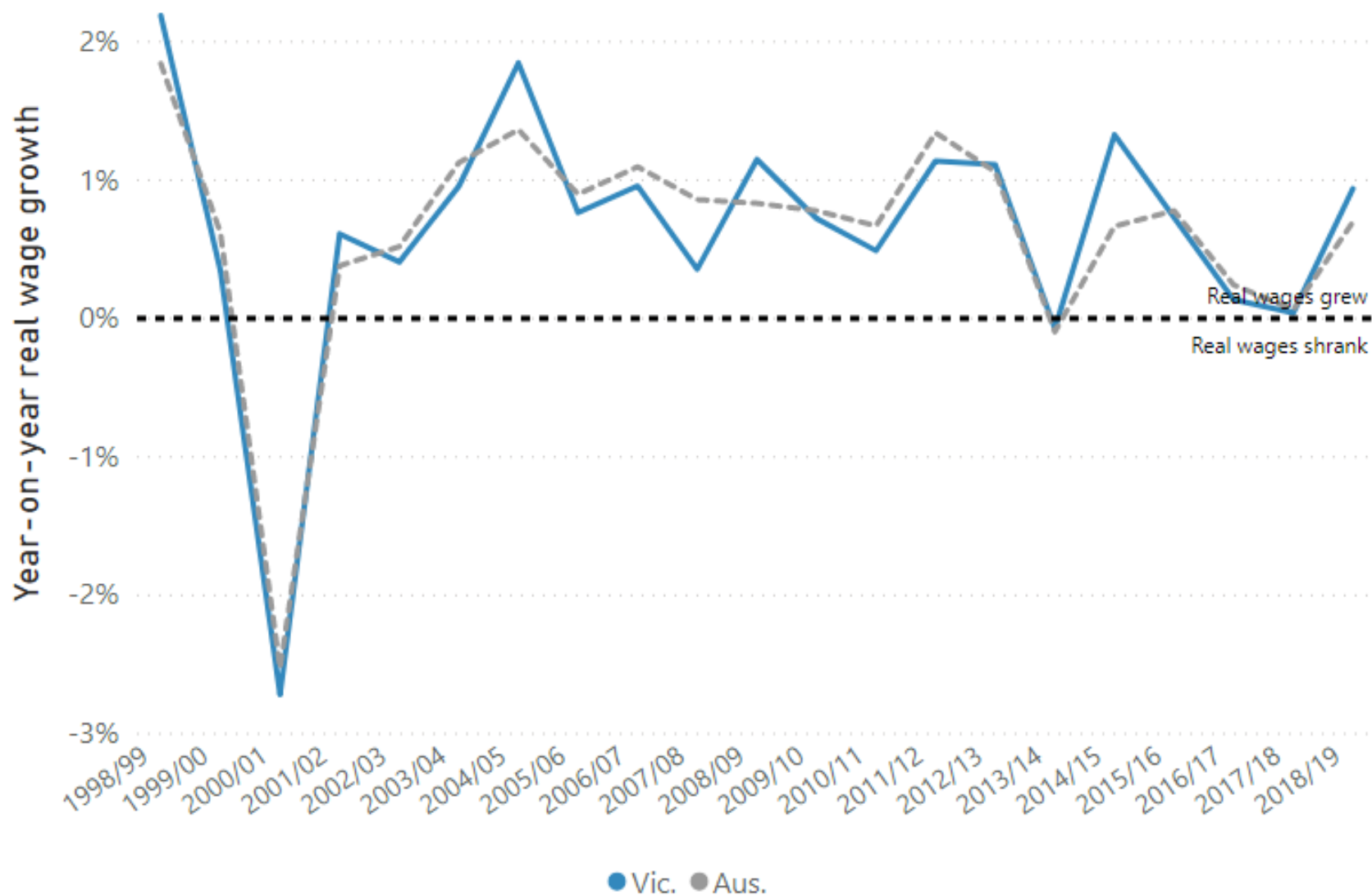
¹³⁰ The Treasury (2017) *Analysis of wage growth, November 2017*, Canberra, the Treasury, p.7.

¹³¹ R. Holden (2018), op. cit. and J. Greber (2017), op. cit.

¹³² Derived from ABS (2019) *Consumer price index, Sep 2019*, op. cit., Table 1 (Index Numbers ; All groups CPI ; Original) and ABS (2019) *Wage price index, Australia, Sep 2019*, op. cit., Table 1 (Financial Year Index ; Total hourly rates of pay excluding bonuses ; Private and Public ; All industries ; Original).

¹³³ Derived from ibid.

Figure 37. Year-on-year Victorian and Australian real wage growth, FY 1998/99 – FY 2018/19



Source: Derived from ABS (2019) [Consumer price index, Sep 2019](#), cat. no. 6401.0, Table 1 (Index Numbers ; All groups CPI ; Original) and ABS (2019) [Wage price index, Australia, Sep 2019](#), cat. no. 6345.0, Table 1 (Financial Year Index ; Total hourly rates of pay excluding bonuses ; Private and Public ; All industries ; Original).

Inflation examples

Sometimes the simplest way to show the impact of inflation is by example. The table below estimates how much the prices of 12 types of household goods and services have changed over the last 20 years in Victoria. For example, the first row can be read as, 'If a Victorian spent \$100 on alcohol and tobacco in FY 1998/99, they would have to spend about \$284 to get the same goods and services in FY 2018/19.'

Table 18. Examples of price inflation in Victoria between FY 1998/99 and FY 2018/19

Type of expenditure	Price in 1998/99	Price in 2018/19
Alcohol and tobacco	\$100	\$284
Clothing and footwear	\$100	\$94
Communication	\$100	\$90
Education	\$100	\$259
Food and non-alcoholic beverages	\$100	\$170
Furnishings, household equipment and services	\$100	\$113
Health	\$100	\$230
Housing	\$100	\$218
Insurance and financial services	\$100	\$131
Recreation and culture	\$100	\$118
Transport	\$100	\$154
General household goods and services	\$100	\$168

Source: Derived from ABS (2019) *Consumer price index, Sep 2019*, cat. no. 6401.0, Table 5 (Index Numbers ; Melbourne ; Original).

Similar estimates are available for wages in the private and public sectors. For example, the first row of the table below can be read as, "If a Victorian earned \$100 in a private sector job in FY 1998/99, they would earn about \$186 doing the same job in FY 2018/19."

Table 19. Examples of wage inflation in Victoria between FY 1998/99 and FY 2018/19

Employment sector	Wages in 1998/99	Wages in 2018/19
Private	\$100	\$186
Public	\$100	\$194
General employment	\$100	\$187

Source: Derived from ABS (2019) *Wage price index, Australia, Sep 2019*, cat. no. 6345.0, Tables 2a, 3a and 4a (Financial Year Index ; Total hourly rates of pay excluding bonuses ; Victoria ; All industries ; Original).

To adjust the parameters of these calculations (e.g. date range and starting price/wage), please refer to the [interactive edition](#) of this publication.

Population

The population of Victoria grew by 2.1 per cent in FY 2018/19, 0.1 points slower than the previous year.¹³⁴

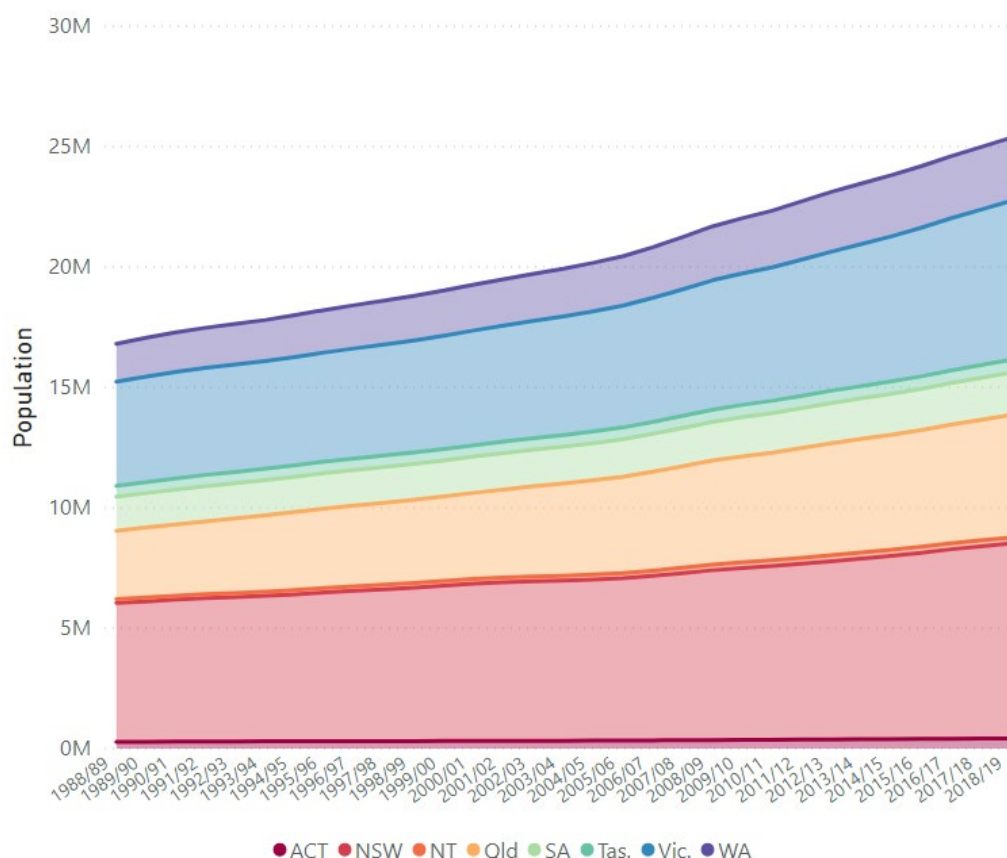
Births and deaths accounted for a net increase of 37,000 Victorians in FY 2018/19. Overseas migration resulted in a net increase of 83,000 Victorians, and interstate migration resulted in a net increase of 12,000 Victorians.¹³⁵

Population

The Australian population has grown by two-thirds in the last 40 years, from 15 million people in FY 1980/81 to 25 million people in FY 2018/19.¹³⁶

With approximately eight million residents, New South Wales is the most populous state. About one in three Australians lives in New South Wales. Victoria ranks second with 6.6 million residents (one in four Australians), followed by Queensland with 5.1 million (one in five Australians).¹³⁷

Figure 38. Population of Australian states and territories, FY 1988/89 – FY 2018/19



Source: ABS (2019) *Australian demographic statistics, Jun 2019*, cat. no. 3101.0, Table 4 (Estimated Resident Population ; Persons ; Original).

¹³⁴ Derived from ABS (2019) *Australian demographic statistics, Jun 2019*, op. cit., Table 4 (Estimated Resident Population ; Persons ; Original).

¹³⁵ Derived from *ibid.*, Table 2 (Natural increase, net overseas migration and net interstate migration ; Original).

¹³⁶ *ibid.*, Table 4 (Estimated Resident Population ; Persons ; Original).

¹³⁷ *ibid.*

Population growth

Population growth stimulates the economy in several ways:

- Greater demand for goods and services
- New jobs created to produce goods and provide services

Of all Australian states and territories, Victoria had the fastest population growth in FY 2018/19.¹³⁸

Table 20. Year-on-year population growth, FY 2018/19

Location	FY 2017/18 population	FY 2018/19 population	Growth (per cent)
New South Wales	7,980,168	8,089,526	1.4
Victoria	6,462,019	6,594,804	2.1
Queensland	5,009,424	5,095,100	1.7
Western Australia	2,594,181	2,621,680	1.1
South Australia	1,736,527	1,751,693	0.9
Tasmania	528,298	534,281	1.1
Australian Capital Territory	420,379	426,709	1.5
Northern Territory	247,058	245,869	-0.5
Australia	24,982,688	25,364,307	1.5

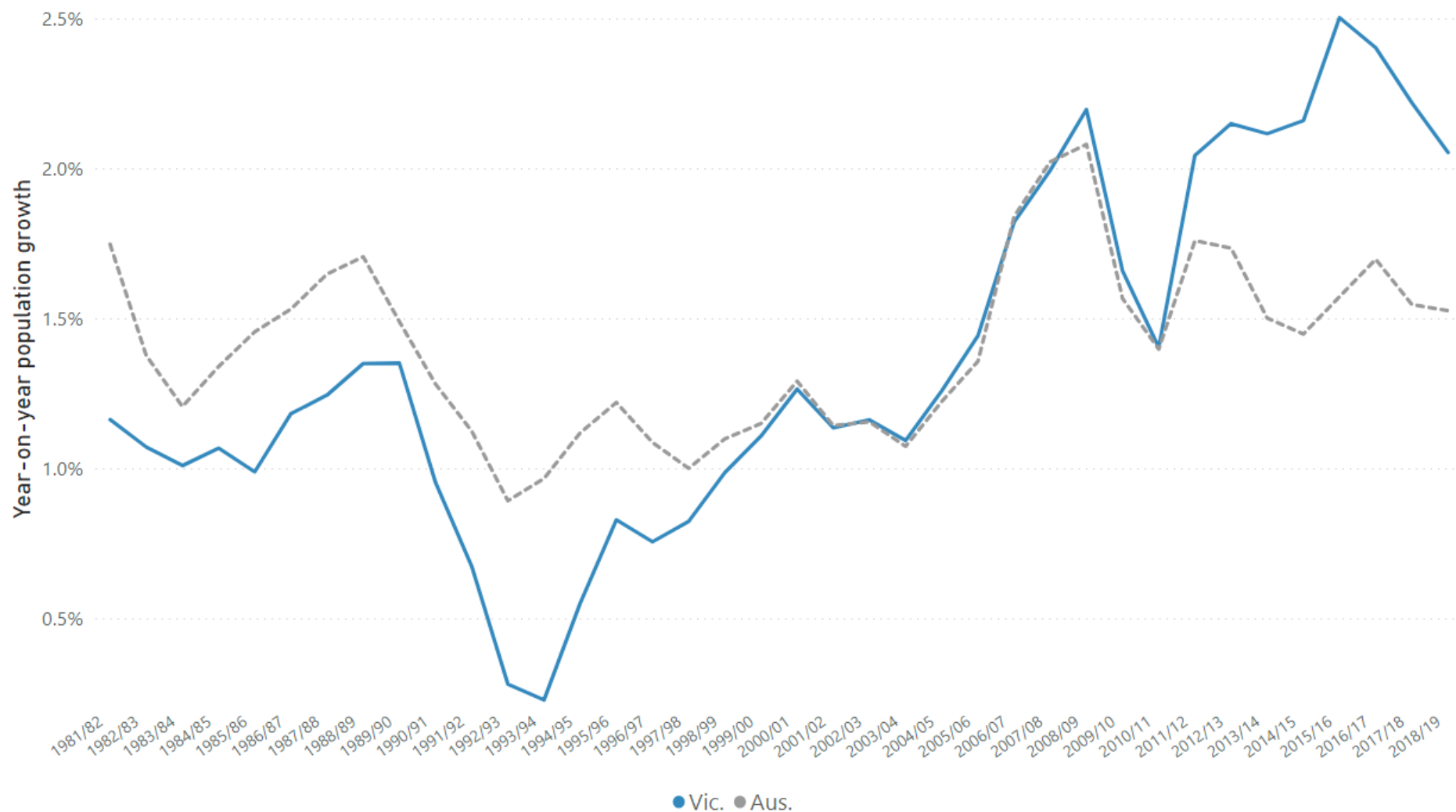
Source: Derived from ABS (2019) [Australian demographic statistics, Jun 2019](#), cat. no. 3101.0, Table 4 (Estimated Resident Population ; Persons ; Original)

Victoria has experienced the fastest population growth in the country every year for the last six years. This is a relatively recent phenomenon—in fact, Victoria's annual population growth was slower than the broader Australian growth rate every single year of the 1980s and 1990s. Victoria then spent a decade in near lockstep with the general Australian growth rate, but began to outpace it from FY 2011/12.¹³⁹

¹³⁸ Derived from ABS (2019) [Australian demographic statistics, Jun 2019](#), op. cit., Table 4 (Estimated Resident Population ; Persons ; Original).

¹³⁹ Derived from *ibid.*

Figure 39. Year-on-year Victorian and Australian population growth, FY 1981/82 – FY 2018/19



Source: Source: Derived from ABS (2019) [Australian demographic statistics, Jun 2019](#), cat. no. 3101.0, Table 4 (Estimated Resident Population ; Persons ; Original)

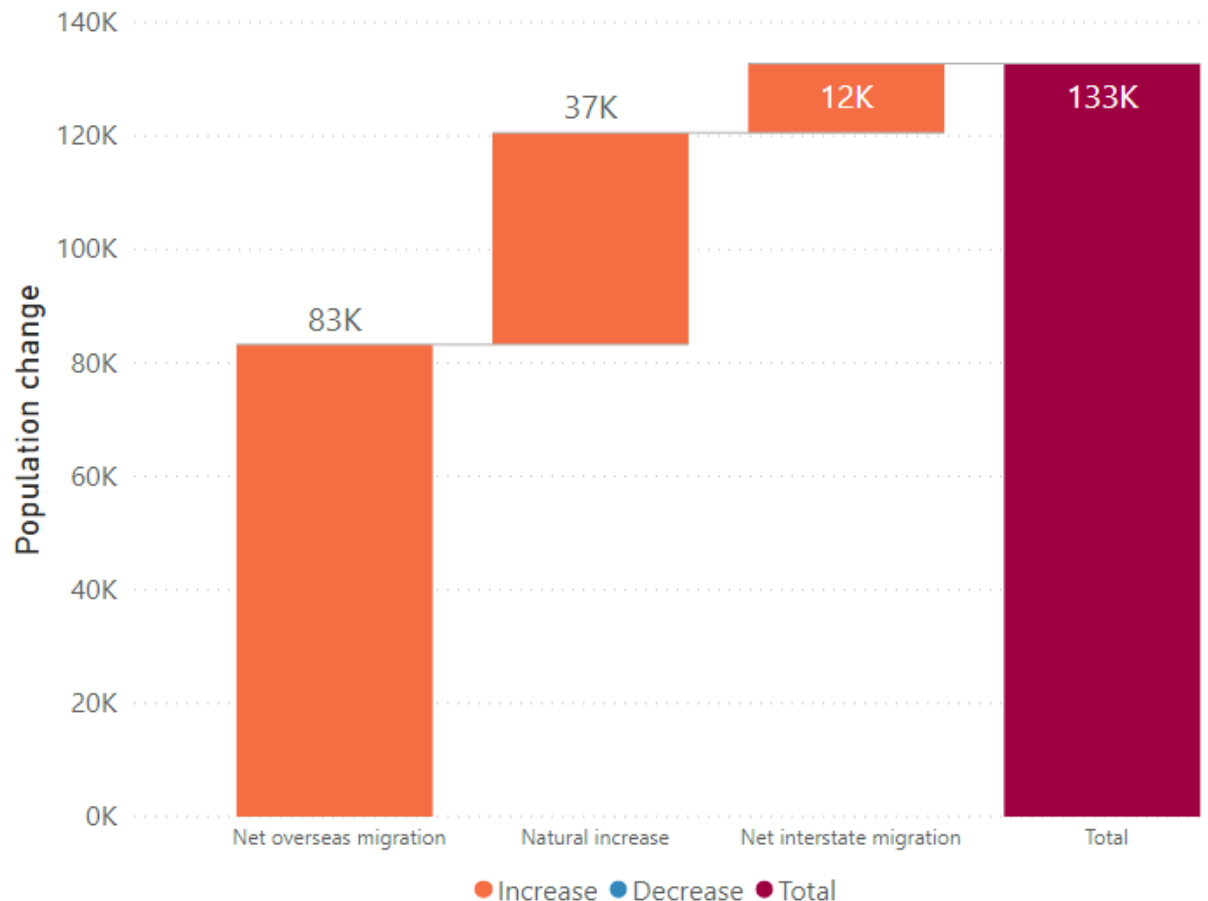
Drivers of population growth

A state or territory's population can grow in three ways:

- Births and deaths (natural increase/decrease)
- people moving between states and territories (interstate migration)
- people moving to and from another country (overseas migration)

The waterfall chart below reports the net impact of each of these drivers.

Figure 40. Drivers of population change in Victoria, FY 2018/19

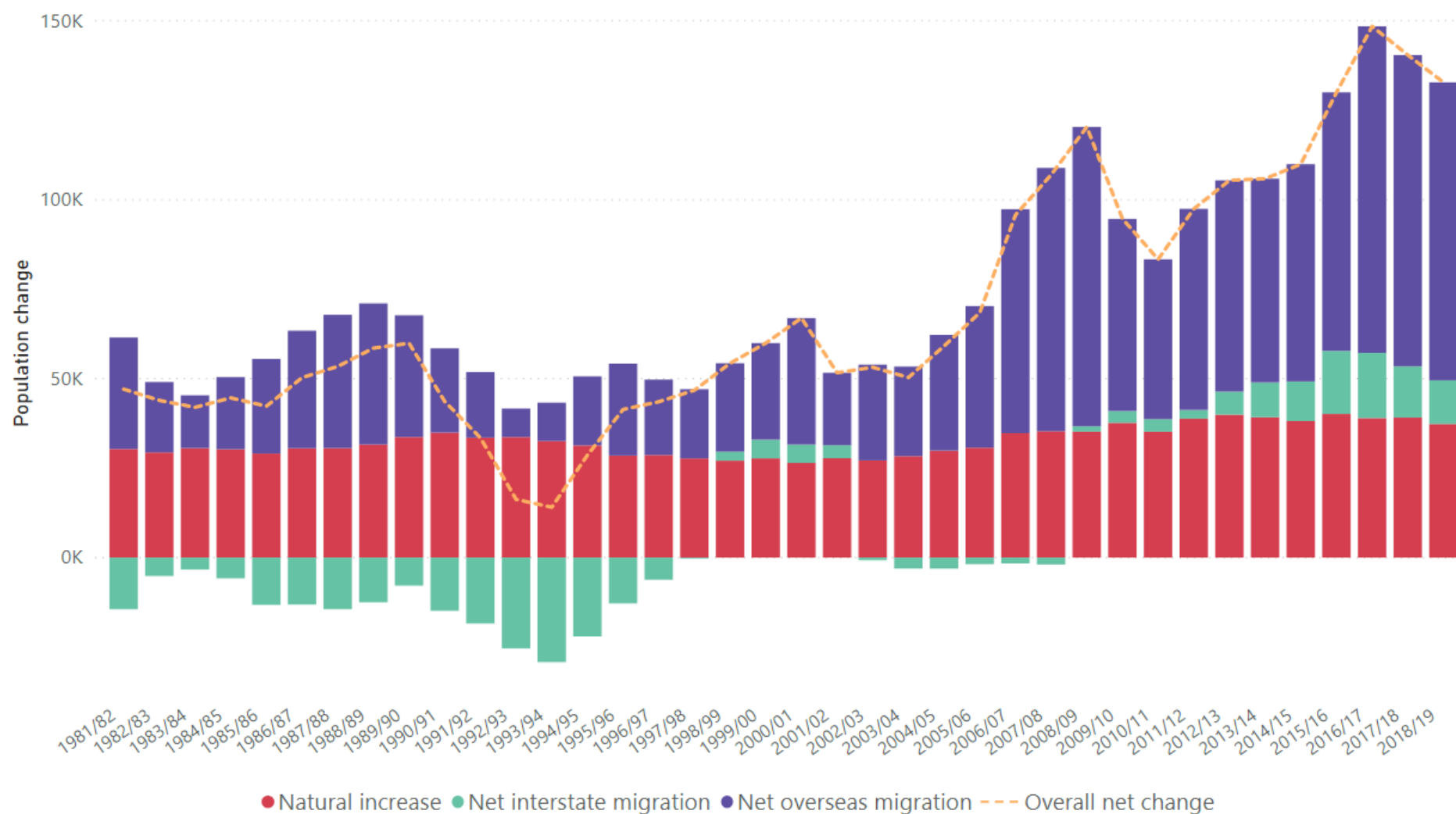


Source: ABS (2019) *Australian demographic statistics, Jun 2019*, cat. no. 3101.0, Table 2 (Natural increase, net overseas migration and net interstate migration ; Original).

Net overseas migration has been the largest driver of Victorian population growth every financial year since FY 2004/05. Historically, the net effect of Victorian births and deaths has been relatively steady, ranging from increases of 26 to 40 thousand people per financial year. Net interstate migration had a negative effect through the 1980s and early 1990s, which was seen most clearly in FY 1993/94 (net loss of 29 thousand people). This trend has reversed in the most recent decade; Victoria has experienced net gains through interstate migration every financial year since FY 2008/09.¹⁴⁰

¹⁴⁰ Derived from ABS (2019) *Australian demographic statistics, Jun 2019*, op. cit., Table 2 (Natural increase, net overseas migration and net interstate migration ; Original).

Figure 41. Drivers of population change in Victoria, FY 1981/82 – FY 2018/19



Source: Derived from ABS (2019) [Australian demographic statistics, Jun 2019](#), cat. no. 3101.0, Table 2 (Natural increase, net overseas migration and net interstate migration ; Original).
 Note that population components prior to September 2016 will not sum to total population growth due to intercensal differences.
 Components for September 2016 onwards will sum to total population growth as the intercensal difference for this period will not be known until after the 2021 Census.

Calculation notes

In order to produce financial year results, the source data was aggregated in several ways. For example, the FY 2018/19 consumer price index result was generated by averaging the four quarterly results from FY 2018/19. The aggregation methods used in this publication are summarised in the table below:

Indicator	Publication frequency	Aggregation method used to produce FY result
Consumer price index	Quarterly	Average ¹⁴¹
Emissions	Annual	N/A
General government sector net debt	Annual	N/A
Gross state product	Annual	N/A
Gross value added	Annual	N/A
Industry employment	Quarterly	Average
Job search duration	Monthly	Average
Merchandise imports / exports	Monthly	Sum
Participation rate	Monthly	Average
Population	Quarterly	Q4 result used as FY result
Population change	Quarterly	Sum
Service imports / exports	Annual	N/A
Underemployment rate	Monthly	Average
Underutilisation rate	Monthly	Average
Unemployment rate	Monthly	Average
Wage price index	Annual	N/A

Year-on-year growth rates were calculated from the FY results as:

$$\frac{\text{Result} - \text{Previous result}}{\text{Previous result}} \times 100\%$$

For further detail regarding calculation methods, please refer to the [interactive edition](#) of this publication.

Section-specific data and calculation notes

Executive Summary

Decade averages in the [Executive Summary section](#) were calculated by averaging each of the ten annual results between FY 2008/09 and FY 2017/18.

Net government debt to GSP ratio

In order to trend debt to GSP ratios over time, government sector net debt results were tabulated from the series of financial reports held in the [Victorian Parliamentary Library's collection](#). When figures conflicted, the more recent result was used. The most recent available GSP results from the ABS were also used, which may result in discrepancies against the net debt to GSP ratios published in the annual reports from DTF.

¹⁴¹ ABS (2017) [A guide to the consumer price index: 17th series](#), op. cit., p. 12, section 3.8.

International trade

To calculate total export and import volumes, the merchandise trade volumes were added to the services trade volumes, consistent with the methodology employed by DFAT in their publication [Australia's trade by state and territory](#).¹⁴²

Each state's total exports were calculated as:

$$\text{International merchandise exports (\$)} + \text{International services trade credits (\$)}$$

Each state's total imports were calculated as:

$$\text{International merchandise imports (\$)} + \text{International services trade debits (\$)}$$

Each state's trade balance was calculated as:

$$\text{Total exports (\$)} - \text{Total imports (\$)}$$

DFAT advises caution when comparing states and territories on the basis of trade data. Merchandise imports are attributed to the state in which the goods were released from Customs, but that may not reflect the state in which those goods were ultimately sold or consumed. For example, merchandise imported by a national distributor located in Victoria would be credited with the full value of the imported merchandise, even if the merchandise is later distributed across other states to be sold to consumers. In contrast, services imports are attributed to the actual state of consumption.¹⁴³

¹⁴² Commonwealth Department of Foreign Affairs and Trade (2019) [Australia's trade by state and territory 2017–18](#), Canberra, DFAT, p. 31.

¹⁴³ *ibid.*, p. 5.

International services trade

Within the ABS international services trade data, there are some gaps due to the commercially sensitive nature of the information. For example, export results (service trade credits) for the Construction sector and for the Personal, cultural and recreational services sector were not published for FY 2006/07 and FY 2009/10. However, the volume contributions of these missing sectors were still included in the state totals.¹⁴⁴

In order to plot an unbroken series, the missing sectors have been aggregated together for reporting purposes. In the example above, the missing sectors are combined into a single entity labelled 'Other services unavailable for disaggregation including construction, personal, cultural and recreational services'. In years where the individual sector results were available, they were added together to produce a single result. In years where the individual sector results were not published, the result was produced by adding all the other sectors and deducting it from the state total.

Sample calculation for FY 2005/06 (individual sector results available):

Construction services import volume: **\$9 million**

Personal, cultural and recreational services import volume: **\$101 million**

Aggregated result used in this publication: $\$9 + \$101 = \textbf{\$110 million}$

Sample calculation for FY 2006/07 (individual sector results not published):

Total services import volume: **\$10,574 million**

Sum of all other sectors: **\$10,480 million**

Derived result used in this publication: $\$10,574 - \$10,480 = \textbf{\$94 million}$

¹⁴⁴ ABS (2019) *International trade: supplementary information, financial year, 2018–19*, Table 3 (International trade in services, Credits, State by financial year).

Real wage growth¹⁴⁵

Real wage growth calculations rely on CPI and WPI results. Below are reference values for Victoria used in the sample real wage calculation:

	Average CPI ¹⁴⁶	WPI ¹⁴⁷
FY 2017/18	112.725	128.5
FY 2018/19	114.65	131.9

If a Victorian worker earned \$10,000 in FY 2017/18, it's possible to calculate how much that wage could buy in FY 2018/19. This is often referred to as purchasing power. The formula is:

$$\text{Starting wage} \times \frac{\text{Ending CPI}}{\text{Starting CPI}}$$

In this example, the expression evaluates as:

$$\$10,000 \times \frac{114.65}{112.725} \approx \$10,171$$

That means \$10,000 from FY 2017/18 has a purchasing power equivalent to \$10,171 in FY 2018/19; or, put another way, a worker who earned \$10,000 in FY 2017/18 would have to earn \$10,171 in FY 2018/19 to be able to buy the same goods and services. The question, then, is whether wages grew to match or exceed this. The formula is:

$$\text{Starting wage} \times \frac{\text{Ending WPI}}{\text{Starting WPI}}$$

In this example, the expression evaluates as:

$$\$10,000 \times \frac{131.9}{128.5} \approx \$10,265$$

This means the worker's real wages grew by \$93 (\$10,265 – \$10,171). This can be represented as a growth rate by dividing the result by the starting wage of \$10,000:

$$\frac{\$93}{\$10,000} \times 100\% \approx 0.9\%$$

Rolling up all these calculations into a single calculation results in the following formula for real wage growth:

$$\left(\frac{\text{Ending WPI}}{\text{Starting WPI}} - \frac{\text{Ending CPI}}{\text{Starting CPI}} \right) \times 100\%$$

¹⁴⁵ Formulas and sample calculations in this section adapted from CPWR – The Center for Construction Research and Training (2013) *The construction chart book, 5th edition*, Silver Spring, CPWR, p. 57.

¹⁴⁶ Derived from ABS (2019), *Consumer price index, Sep 2019*, op. cit., Table 1 (Index Numbers ; All groups CPI ; Original).

¹⁴⁷ ABS (2019), *Wage price index, Australia, Sep 2019*, op. cit., Table 1 (Financial Year Index ; Total hourly rates of pay excluding bonuses ; Private and Public ; All industries ; Original).

Inflation examples

Inflated prices were calculated from the FY CPI averages as:

$$\text{Starting price} \times \frac{\text{Ending CPI}}{\text{Starting CPI}}$$

Inflated wages were calculated from the FY WPI results as:

$$\text{Starting wage} \times \frac{\text{Ending WPI}}{\text{Starting WPI}}$$

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