

Flinders University
Australian Industrial
Transformation
Institute

**Impact of Covid-19 on the South Australian
economy and employment –
2020 to 2023**



Australian Industrial Transformation Institute in
collaboration with the National Institute for Economic
and Industry Research

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**Impact of COVID-19 on the South
Australian economy and
employment – 2020 to 2023**

Australian Industrial Transformation Institute

College of Business, Government and Law
Flinders University of South Australia

1284 South Road
Clovelly Park
South Australia 5042

www.flinders.edu.au/aiti

URL:<http://www.flinders.edu.au/aiti/>

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Key Findings and Broad Policy Implications

The impact of preventative measures to stop the spread of the novel Coronavirus are having significant negative impacts on economic activity and employment in South Australia. Mass closures and very high unemployment have occurred in a very short period of time. Past experience tells us that the scale of the economic stimulus and recovery packages will have a significant impact on the duration of the economic and jobs crisis.

- Gross State Product in South Australia will be 14.8 percent lower in the 2nd quarter of 2020 than it would be without the Coronavirus restrictions. This represents a 12.5 percent quarter over quarter reduction in South Australian Gross State Product.
- There will be a recovery in economic growth, but it will be slow; GSP will be 6.4 percent lower in the 2nd quarter of 2021 than otherwise expected.
- Significant negative GSP impacts will occur in the first and second quarter of 2020, with a reduction in Gross State Product of 1.9 percent in Q1 2020, and a further reduction of 14.6 percent in Q2 2020. A recovery will occur between Q3 2020 and Q1 2021, with GSP growth of 3 percent, 4.6 percent, and 2.7 percent respectively, after which GSP growth will return to the relatively normal levels of around 0.5 percent.
- Compared to the baseline forecast, the total number of jobs impacted by the restrictions will reach 144,700 during the 2nd quarter of 2020. This includes those retained on the JobKeeper scheme as unemployed. The trajectory of employment impact will be similar to that of the economic impact. Total employment is projected to decline by 72,000 people in the second quarter of 2020, and will quickly rebound, growing by 14,700 in Q3, and 22,700 in Q4. Over the medium term, the employment impact of COVID-19 will be around 47,000 fewer jobs than otherwise.
- Unemployment will increase from the baseline of 52,000 in Q2 2020 to 117,600, remaining relatively high over the medium term. By the end of 2023, unemployment will still be 38,100 people more than if there was no Coronavirus. This implies a peak unemployment rate of about 13.3% in Q2 2020, with a slow decline; remaining above 10% at the end of 2023.
- Interstate exports will fall by \$1.4 billion (18% of the value of South Australia's total domestic exports).
- Overseas exports will fall by \$0.97 billion (23.5% of the value of South Australia's total overseas exports).

COVID-19 and the measures necessary to tackle the crisis are having a profoundly negative impact on the South Australian economy and employment. This will continue to be felt over the next 4 years. Although a sharp decline and recovery is forecast between Q2 2020 and Q3 2020, employment levels do not return to where they were. Indeed, the overall level of employment will remain below the baseline measure, and below the level in Q1 2020 until at least 2024.

The additional income supplement provided to those on JobSeeker and the JobKeeper scheme in its entirety are expected to last for 6 months. It is clear from this analysis that there will be a need to support impacted workers and their families for longer than this. Equally, businesses, public sector organisations and NGO's will continue to be impacted over the medium term by the economic fall-out from COVID-19.

Accelerating the recovery from the economic and employment impacts of COVID-19 will require a commitment to sustained and smart investment in recovery. This could include a national economic recovery and stimulus plan that breathes life back into the Australian economy through

large scale investment in the modernisation of our physical and social infrastructure including schools, hospitals, universities and TAFE, and digital infrastructure including fibre to the premises. This is not only productivity enhancing but also one of the keys to the rapid growth of rewarding jobs. Accompanying this should be a national industry modernisation program that seeks to place South Australia and Australia at the forefront of the digital revolution and as one of the leaders in tackling great challenges like COVID-19.

A South Australian Economic Recovery and Jobs Plan should seek to leverage Federal Government investment in social and physical infrastructure projects. A central feature of the plan might be an Industry Transformation and Modernisation program and network of 'Industry Catapults' to accelerate industry and jobs growth and the uptake of advanced technologies, platforms and skills. One centrepiece of the plan might be a 'Manufacturing Recovery' program to diversify our manufacturing sector and strengthen supply chains capable of producing enough equipment during crises like COVID-19.

Bold action and unprecedented investment by government has been necessary to tackle the virus and support millions of Australians and businesses at this time of crisis. We now have an unemployment crisis. Business as usual will not be sufficient to avoid this being a long and protracted calamity for the State. High levels of public sector investment/stimulus will be necessary to work our way through this over the next few years. With historically low interest rates government has the ability to borrow very cheaply to help finance the recovery program.



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1 Introduction

1.1 Context

Actions necessary to contain the novel Coronavirus have resulted in a sharp decline in economic activity and escalating unemployment in many nations. Early evidence gathered by the ABS has provided a snapshot of sectoral job losses at the State and national level in Australia. This report summarises modelling on the impact of the virus on the South Australian economy and employment over the next few years. The modelling was undertaken by the National Institute of Economic and Industry Research for the Australian Industrial Transformation Institute.

The economic shock to the South Australian economy from the pandemic is vastly different to shocks experienced during the 1980s, 1990s and 2007-8. Given its origin and the different approaches to tackling Coronavirus adopted by impacted nations, the trajectory of the current crisis is difficult to predict. While easing of restrictions is likely over the short-term in some jurisdictions where the virus has been contained and suppressed, international movement will be severely limited until this is the norm. This will result in sustained negative impacts on international trade in services like higher education and inbound tourism from overseas.

Past experience of economic crises tells us that the scale of the economic stimulus and recovery packages will have a significant impact on the duration of the current recession and our ability to bring down very high rates of unemployment through various measures.

1.2 Novel Coronavirus

As the novel Coronavirus spread across the globe, countries implemented various measures aimed at reducing the local rate of infection. Australia and the South Australian government moved early to implement these measures. A timeline of the measures introduced for South Australia since the travel ban from China was announced on February 1st is shown below in Figure 1.

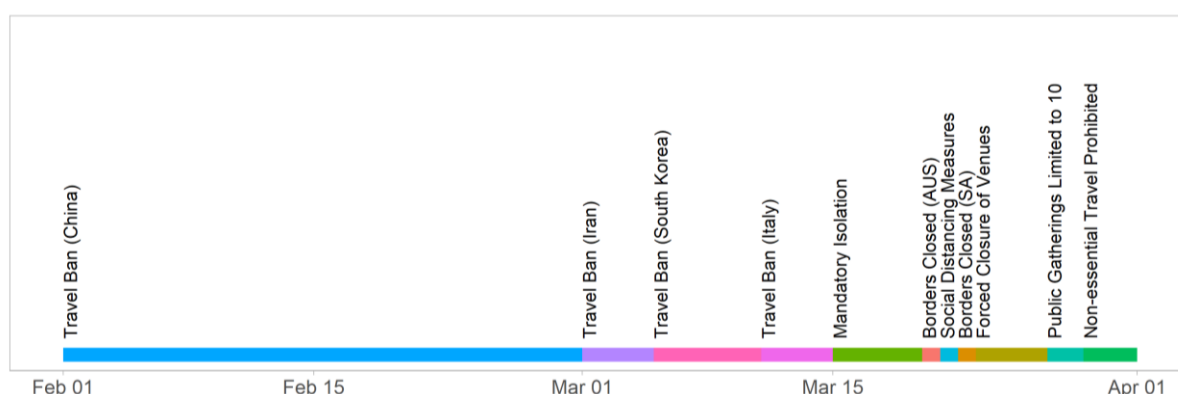


Figure 1: COVID-19 Prevention Measures

These measures have impacted the economy primarily through a reduction in consumption. This has propagated through the economy via a reduction in household and business spending – either households are not spending because they are unable to, due to the closure of businesses, or they are choosing to shop less. The impact on Government expenditure in South Australia is predicted to be neutral, with increased health expenditure of \$24m balanced by a

reduction in expenditure on teachers' wages, and tertiary education. There is also a reduction in demand for South Australia's interstate and overseas exports.

1.3 Historical Data

Before the crisis hit, the South Australian economy was underperforming relative to other States and Territories, and the Australian economy as whole.

1.3.1 Gross State Product

Figure 2 below shows the annual growth in Gross State Product in South Australia since 1990. The average growth over this period is about 2.0%. While this was exceeded in 2018, all other years since 2008 have been below the long-term average. GSP growth in 2019 totalled about 1.6%. This compares to the national average of around 3.0%.

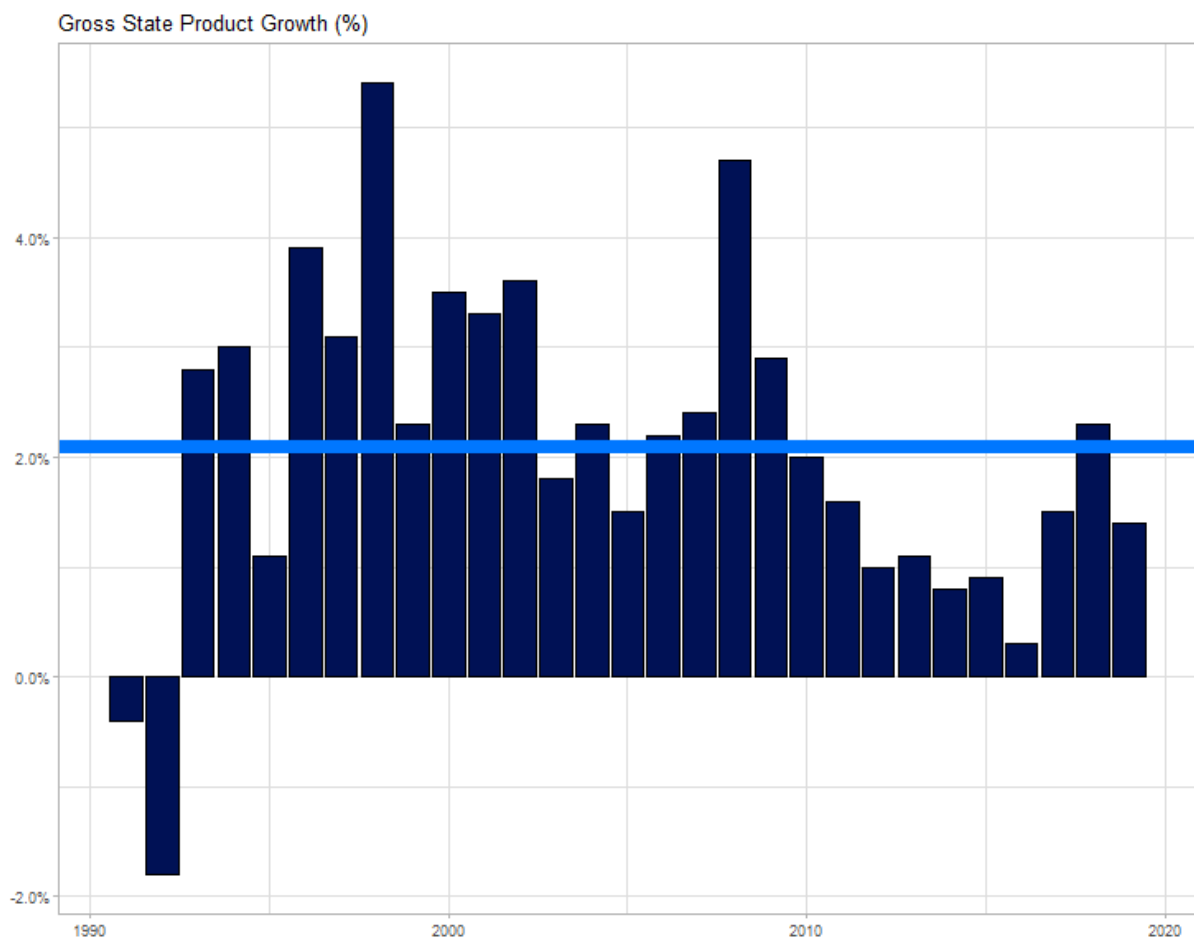


Figure 2: Gross State Product Growth (South Australia)

1.3.2 Employment

Total employment growth in South Australia has also lagged other regions. Figure 3 show total employment growth across all industries in South Australia since 2010. Over the last 10 years,



employment has decreased over the year a total of three times and was trending negative again for 2020.

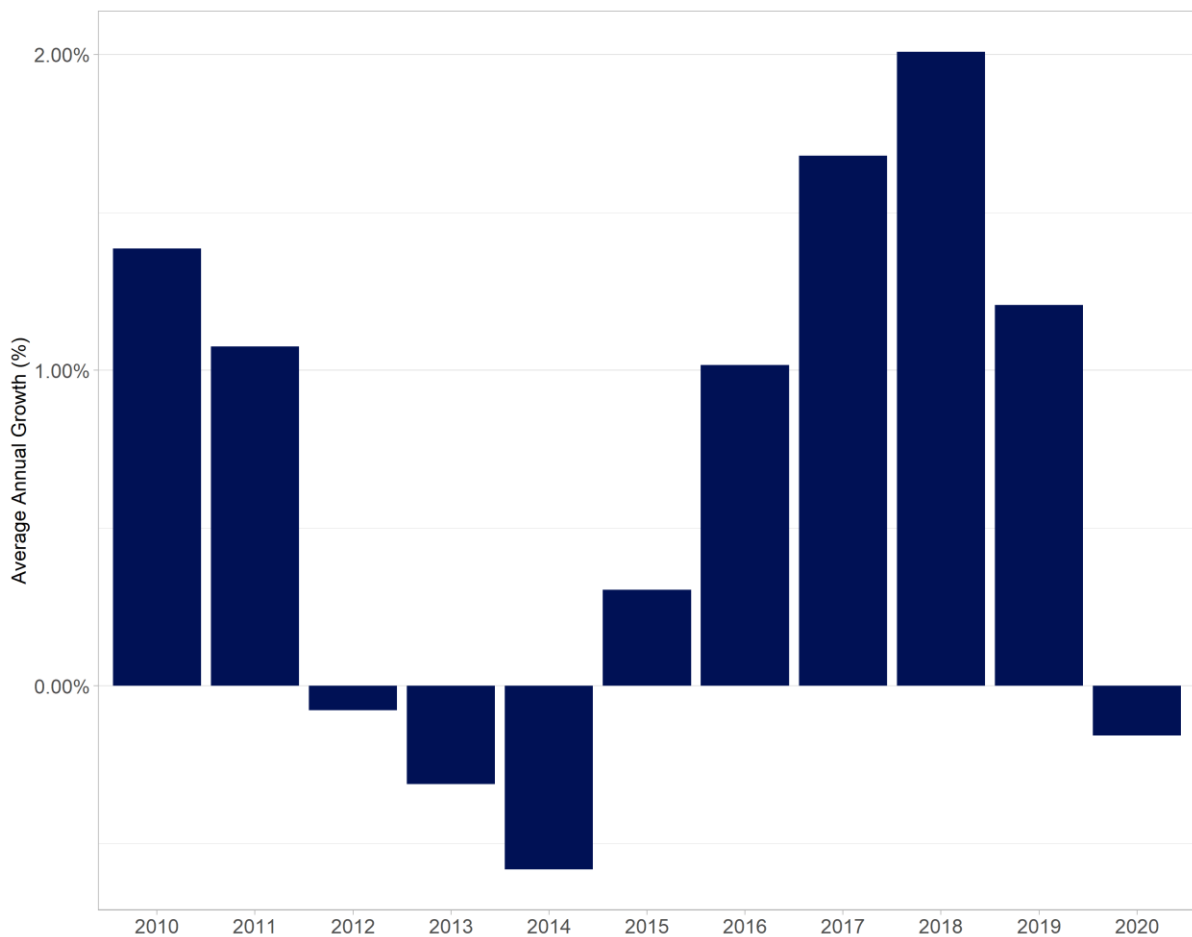


Figure 3: Total Employment Growth (South Australia)

This has translated into a higher level of unemployment, underemployment, and underutilisation in South Australia. As at February 2020, there are over 140,000 people in South Australia who are underutilised – that is unable to find employment or unable to find enough hours. This is made up of 88,000 people who are underemployed, and 52,500 people who are unemployed. Figure 4 shows the 10-year trend of the level of underemployment, underemployment, and underutilisation in South Australia. The gap between the underemployed and the unemployed has been increasing during that period, and hence the number of people who find themselves underutilised has also increased.

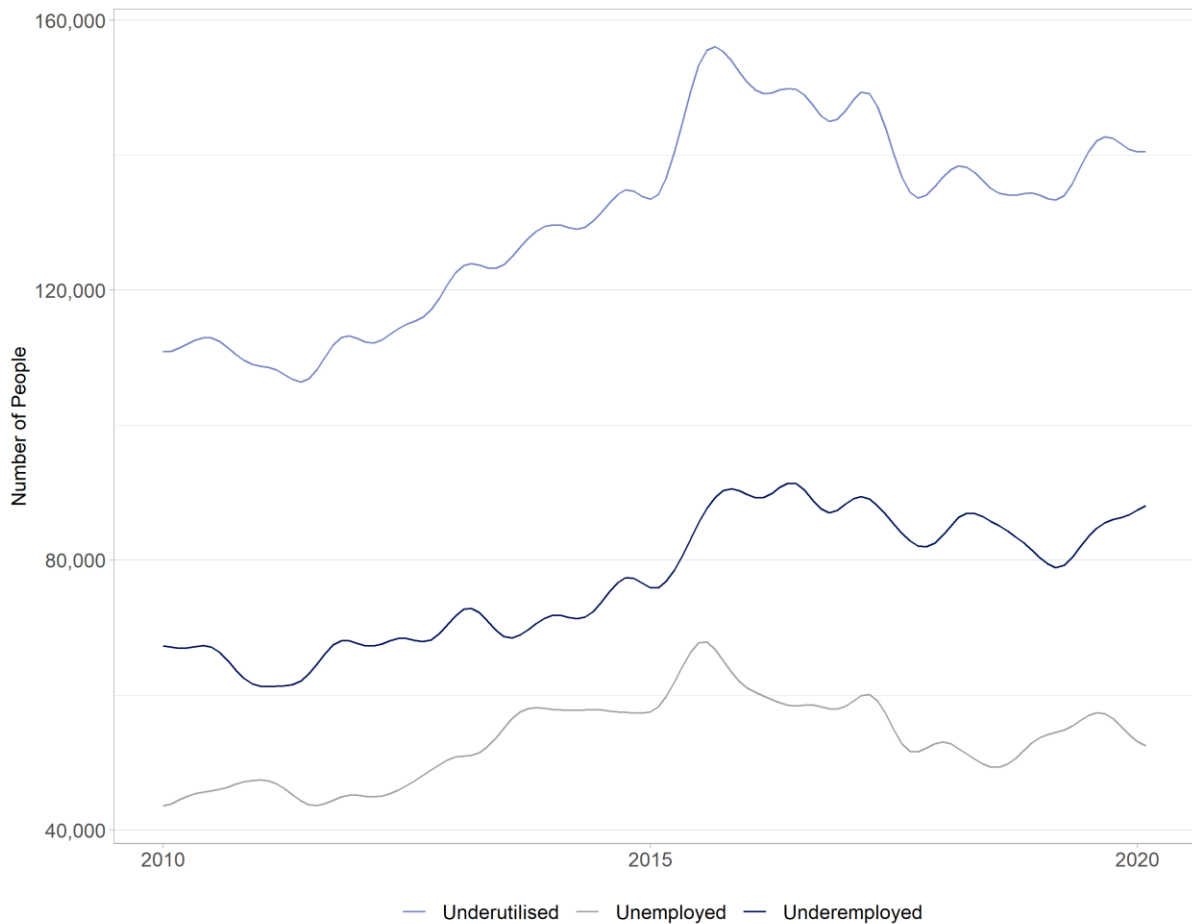


Figure 4: Underutilisation, Unemployment and Underemployment

The largest employing industries in South Australia are also those likely to be negatively impacted by the measures, including 2nd largest industry Retail Trade (88,700 people; 10.4%), 3rd largest Education and Training (77,260 people; 9.1%) and 6th largest Accommodation and Food Services (61,460 people; 7.2%),



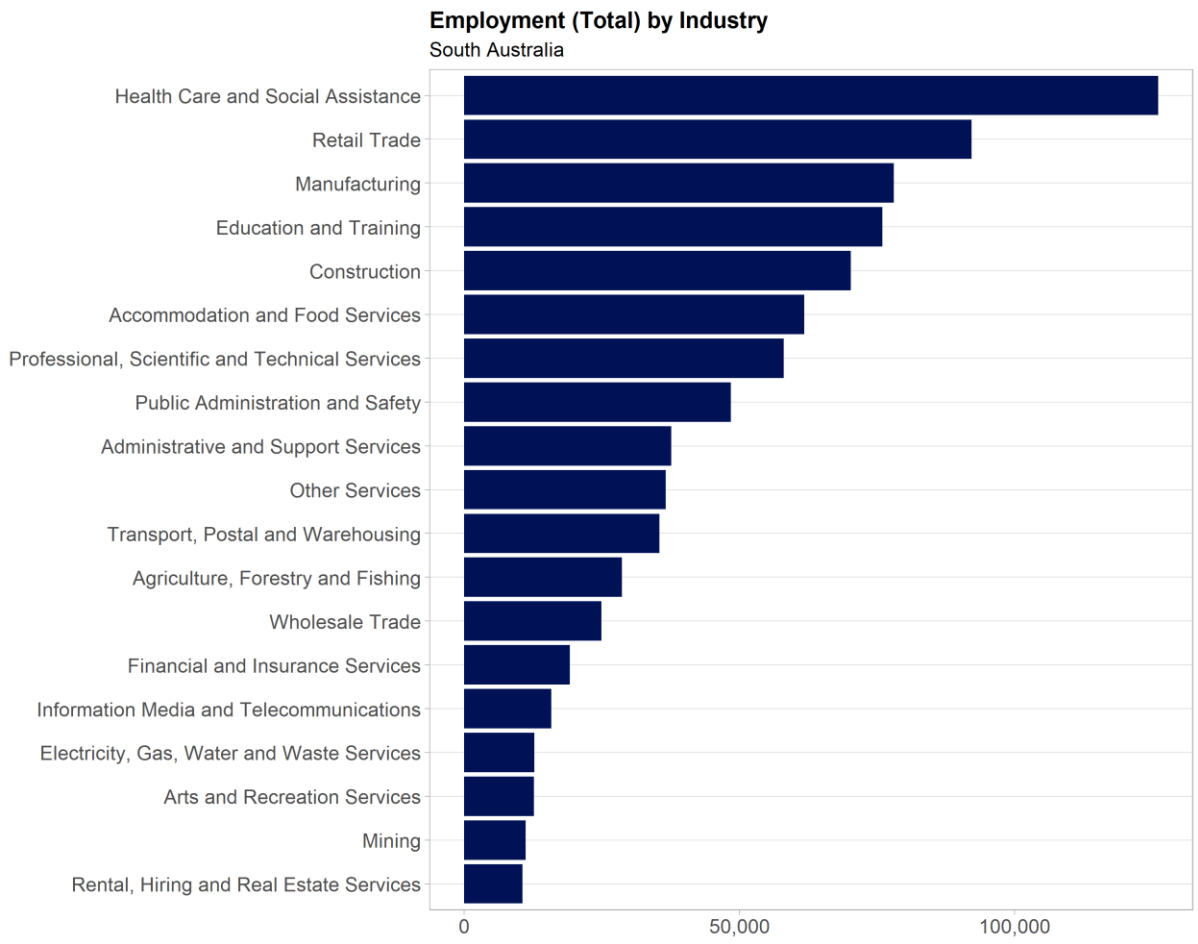


Figure 5: Total employment by industry (South Australia)

2 Economic Impact

The economic impact of COVID-19 will propagate through the economy via a demand shock. That is consumption by households and businesses have been reduced. Interventionist policies by the state and federal governments are aiming to reduce the impact of this negative shock, through direct stimulus, wage subsidies, and increased social security payments. In this section we summarise the results of modelling undertaken for the Australian Industrial Transformation Institute by the National Institute of Economic and Industry Research. A detailed description of the modelling methodology is presented in Appendix A.

2.1 Gross State Product

Some industry sectors face a direct reduction in consumption, through either a reduction in the number of customers willing to make purchases, or as government policy dictates. Those industries directly impacted include Accommodation, Food and Beverage Services, Air and Space Transport, Creative and Performing Arts, and Sports and Recreation Services. A direct impact on one industry is an indirect impact on another industry through a reduction in demand for intermediate inputs. The value of the direct shock to the South Australian economy total almost \$5.1 billion. This flows through the economy to reduce Gross State Product by \$2.9 billion, a reduction of 13.0%. The industries with the largest reduction in their contribution to Gross State Product are Professional, Scientific and Technical Services (-\$475m; 47%), Food and Beverage Services (-\$390m; 66%), and Preschool and School Education (-\$345; 38.4%). Of these three industries, only Food and Beverage Services has been directly affected by the measures implemented, indicating the breadth and depth of the economic shock, and the size of the indirect impacts. The nadir for the level of Gross State Product and GSP growth will occur in Q2 2020.

Sixteen of the 86 industries analysed are forecast to increase their contribution to South Australia's Gross State Product, including Hospitals (\$156m; 18%), Telecommunication Services (\$1176, 39%), and Social Assistance Services (\$101m; 19%). Food Retailing is also forecast to increase its contribution by \$85m or 22%.

Figure 6 and Figure 7 below show the impact to South Australia's level of GSP and GSP growth over the next three years resulting from the COVID-19 economic shock. Despite a strong recovery in GSP growth between Q3 2020 and Q1 2021, the gap between the baseline Gross State Product and the projected is still prominent out to Q4 2023.



Quarterly Gross State Product impact

Shaded area represents forecast values

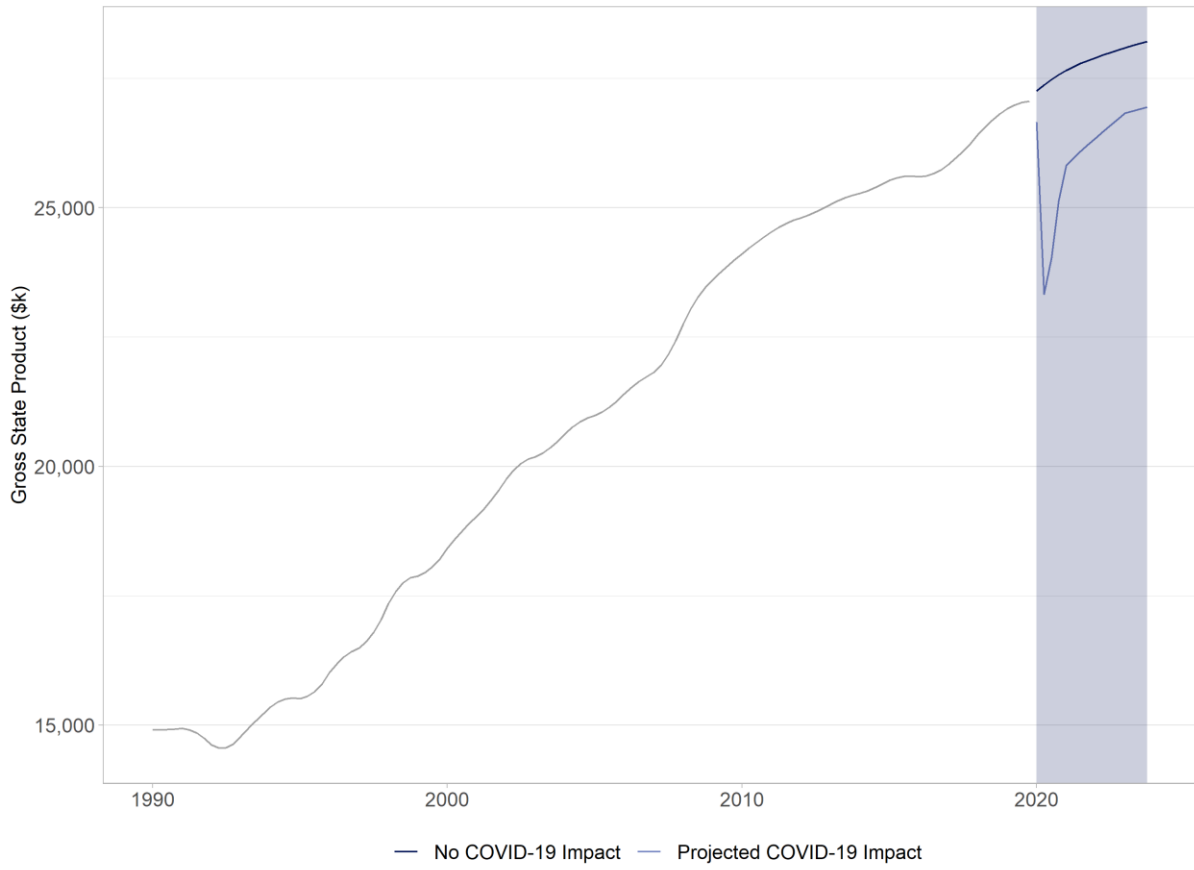


Figure 6: COVID-19 GSP (\$m) Impact South Australia

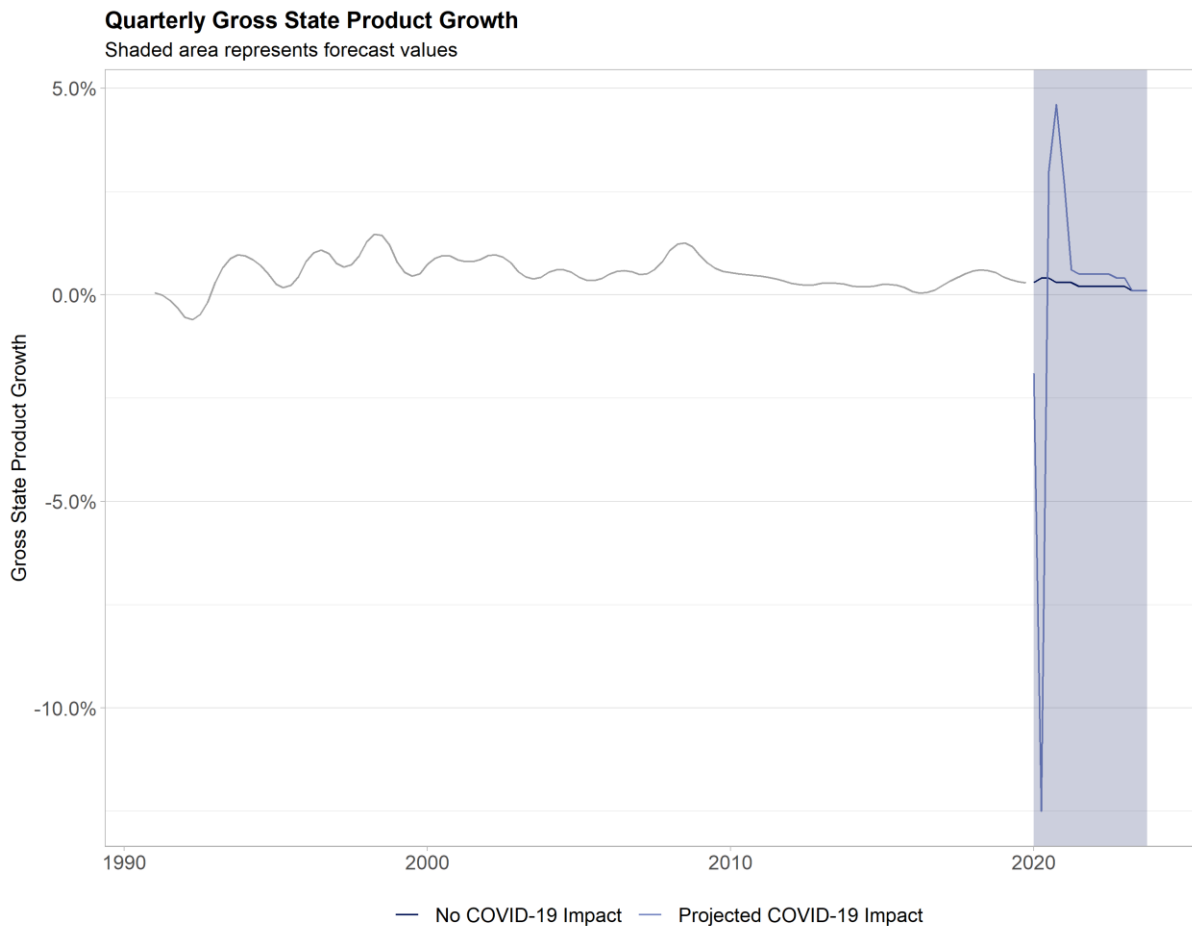


Figure 7: COVID-19 GSP (%) Impact South Australia

2.2 Employment

Overall, it is estimated that 61,000 people will lose their job in South Australia due to the Coronavirus, and the necessary measures put in place to reduce its spread. This modelling considers those covered by JobKeeper, but not working, as employed. The total number of jobs impacted may be as high as 110,000. There is a similar story with total employment as with the Gross State Product. Employment strongly rebounds in 2021, however the previous level of employment will not be returned till as far out as Q3 2024. This decline in employment will result in the unemployment rate increasing from a baseline of 5.8 percent in Q2 2020 to 13.3 percent. The high unemployment rate will continue out to Q4 2023, where it will reach 10.3%.



Estimated total employment impact

Shaded area represents forecast values

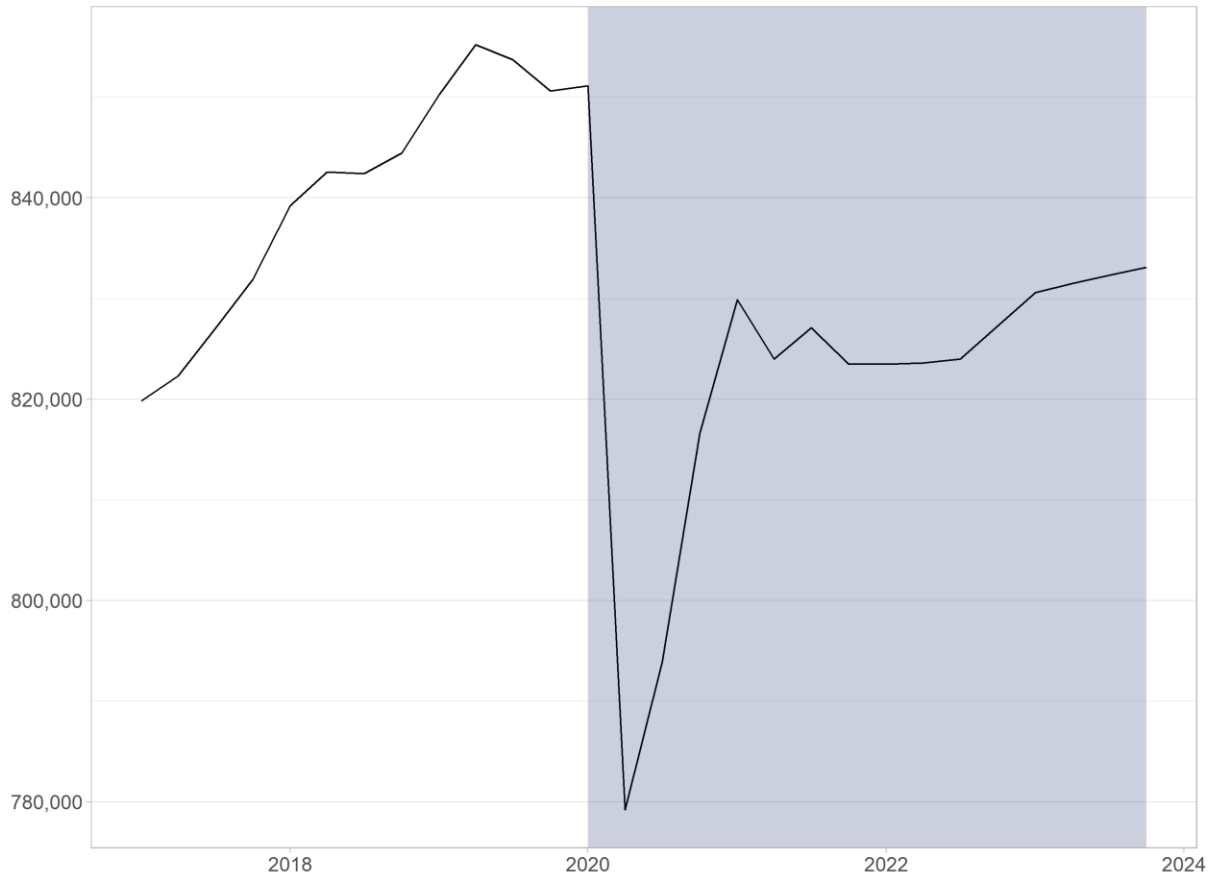


Figure 8: Total Employment Impact (South Australia)

2.2.1 Employment by industry

Most industries impacted will realise a contraction in the level of employment. Those with the biggest negative impact are Accommodation and Food Services, and Education and Training. On a per industry basis, the changes to the level of employment are shown below ranked by relative percentage change and show the change in *measured employment*, that is the total employment change, minus those whose jobs have been lost but positions have been retained under the JobKeeper scheme. Figure 9 highlights the difference between current employment, and projected employment. These changes are summarised below in Table 1. At the sub-division industry level, there are some industries which are impacted *directly* such as Food and Beverage Services, and other industries which are only impacted *indirectly*. The projected employment impact by industry subdivision for directly impacted industry subdivisions is shown in Figure 10. The largest negative impacts by industry subdivision are shown in Figure 11 and the largest

positive impacts by industry subdivision are shown in Figure 12. A summary of all industry subdivision impacts is provided in Appendix B.

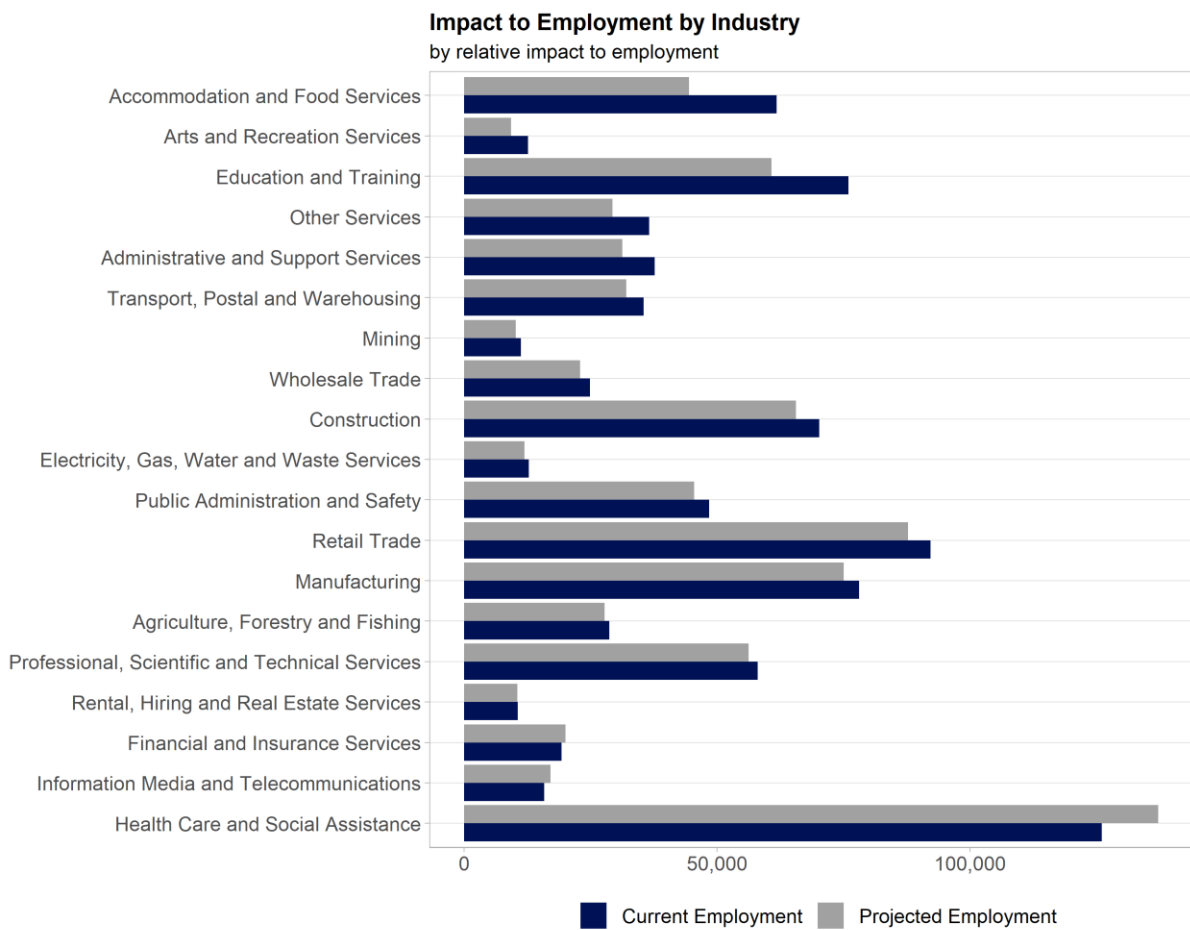


Figure 9: Shifts in Employment by Industry



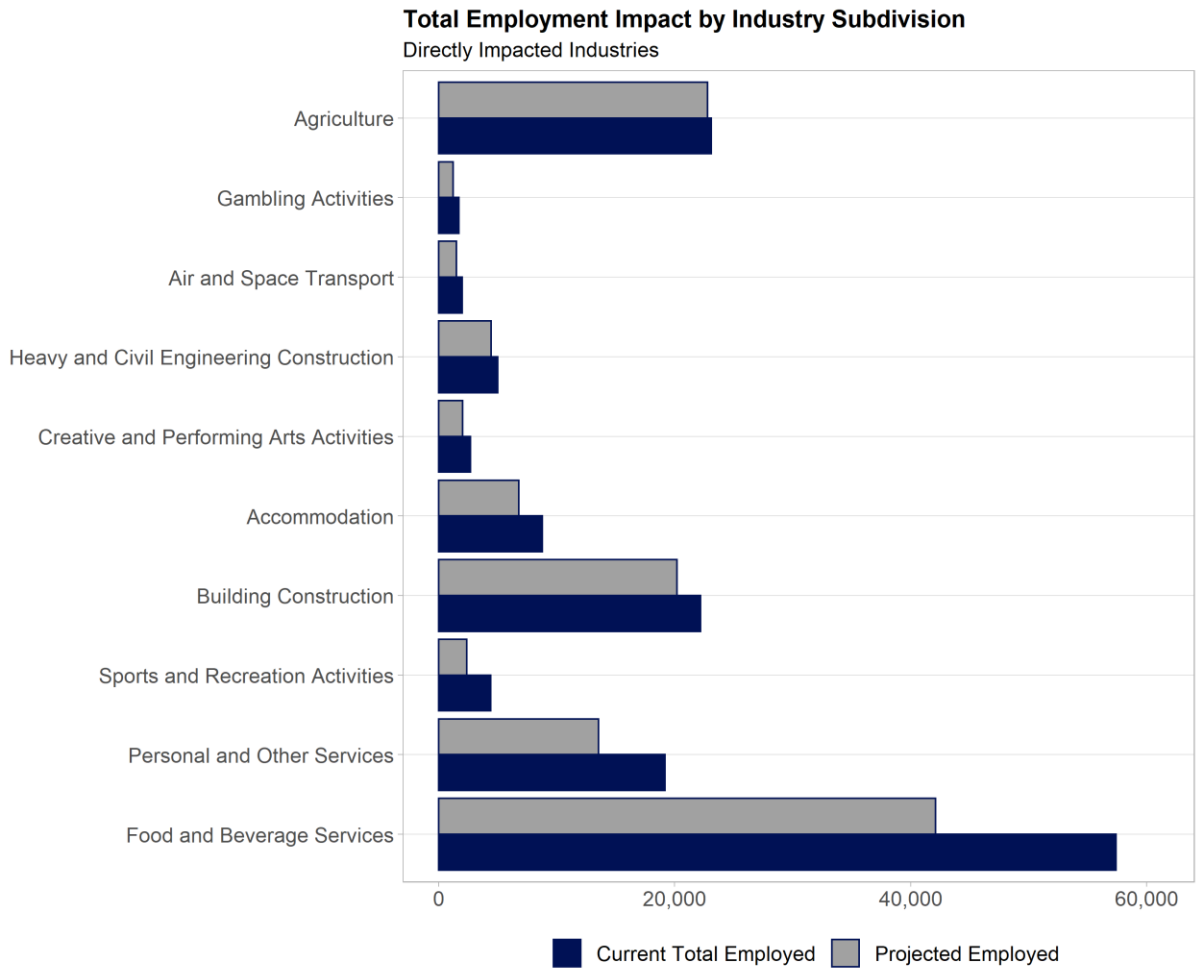


Figure 10: Employment Impact in Directly Impacted Industry Subdivisions

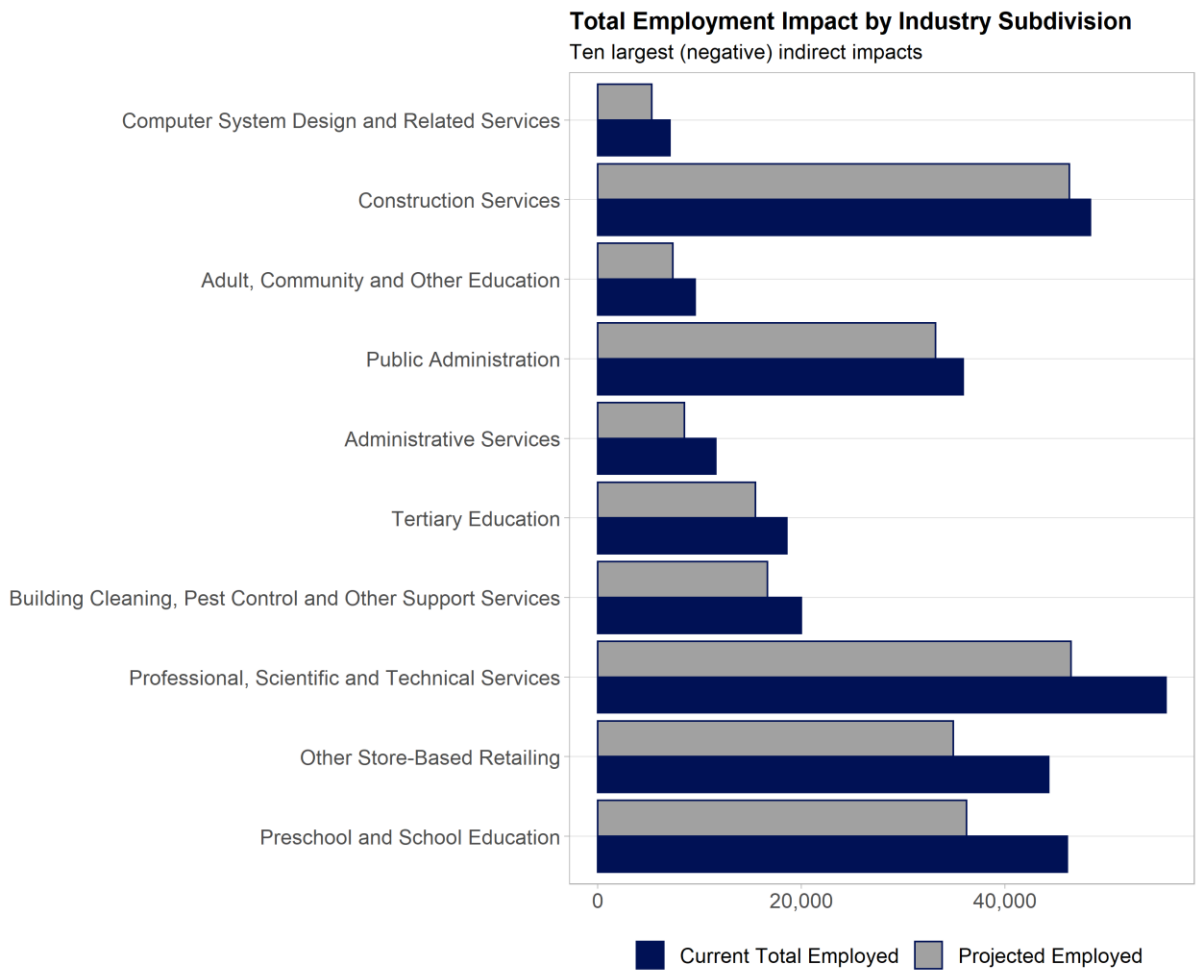


Figure 11: Negative Employment Impact in Indirectly Impacted Industry Subdivisions (Top 10)



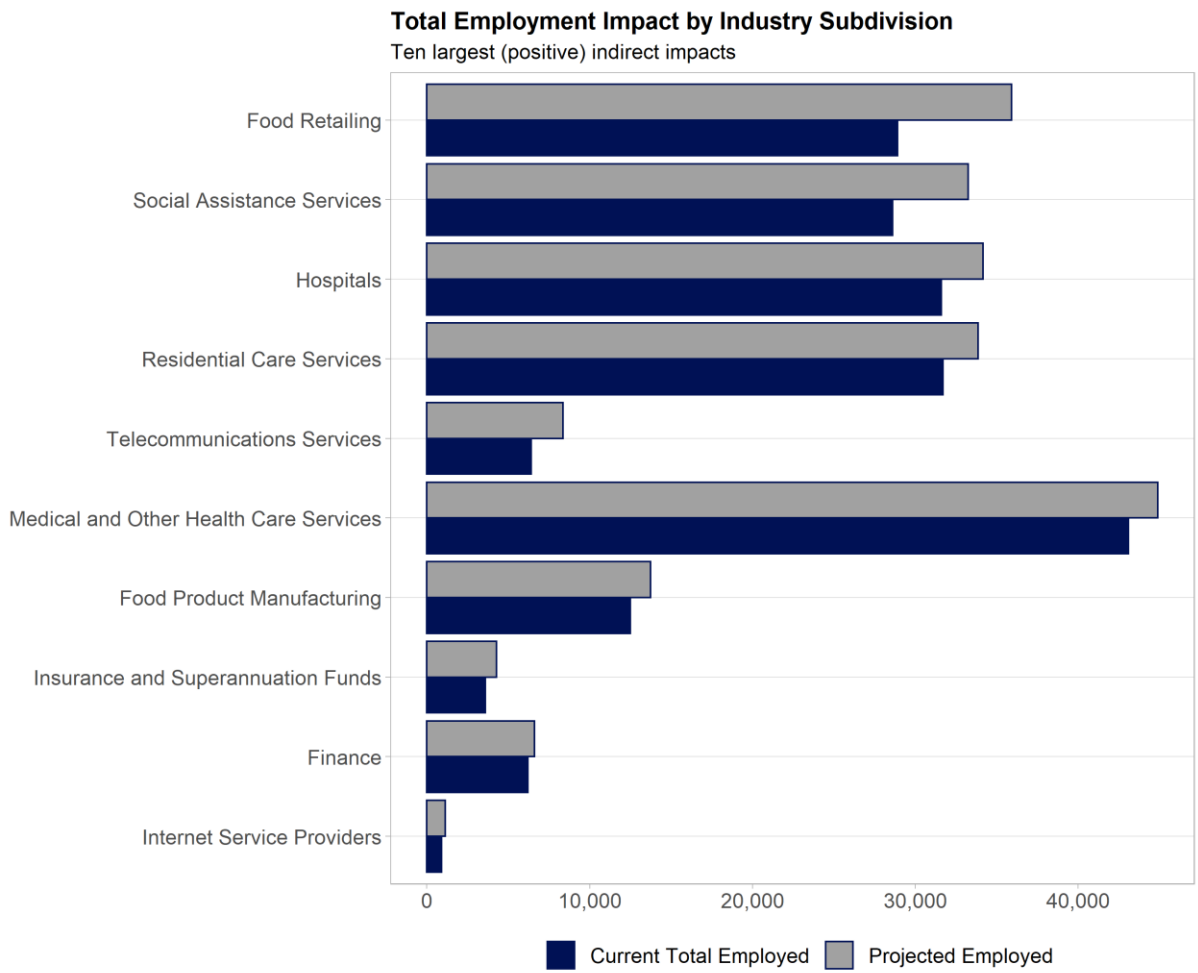


Figure 12: Positive Employment Impact in Indirectly Impacted Industry Subdivisions (Top 10)

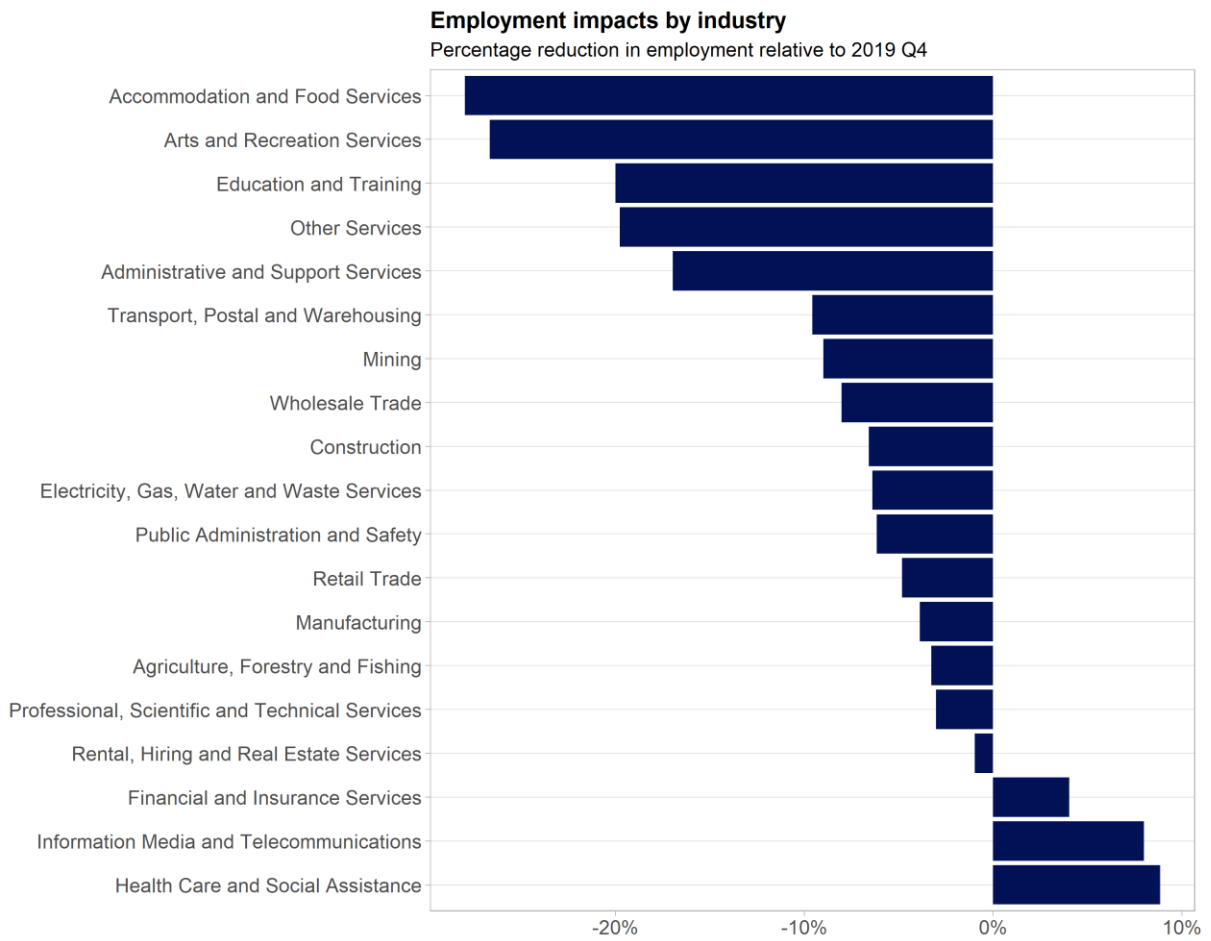


Figure 13: Relative Employment Impact (Industry)



Table 1: Employment Impacts

Industry	Current Employment	Total Impact
Accommodation and Food Services	61,754	-17,279
Education and Training	75,951	-15,189
Other Services	36,612	-7,239
Administrative and Support Services	37,658	-6,392
Construction	70,206	-4,628
Retail Trade	92,191	-4,453
Transport, Postal and Warehousing	35,473	-3,399
Arts and Recreation Services	12,682	-3,381
Manufacturing	78,063	-3,023
Public Administration and Safety	48,426	-2,983
Wholesale Trade	24,925	-2,002
Professional, Scientific and Technical Services	58,028	-1,760
Mining	11,222	-1,009
Agriculture, Forestry and Fishing	28,701	-939
Electricity, Gas, Water and Waste Services	12,766	-816
Rental, Hiring and Real Estate Services	10,638	-103
Financial and Insurance Services	19,241	776
Information Media and Telecommunications	15,842	1,267
Health Care and Social Assistance	126,027	11,141

Appendix A: Modelling Assumptions

Given the gross domestic product and gross state product outcomes, the parameters that will determine the change in employment relative to change in gross product are:

- the elasticity of hours worked with respect to the real hourly wage, or the small business employment generation potential parameter;
- the elasticity of hours worked with respect to change in industry gross product, or the productivity suppression parameter; and
- the elasticity of employment with respect to changes in hours worked, or the job sharing parameter.

SME employment generation potential

The hours worked-real wage elasticity measures the sensitivity of hours worked to real wages. A value of 1.0 means a 1 per cent reduction in the real wage rate would result in a 1 per cent gain in hours worked. If the parameter equals zero, there is no impact on hours worked. The modelled parameter has been adjusted to consider the \$20 billion investment by the Commonwealth Government's business income scheme, representing 8 percent of national wage and salary costs. The program accordingly has the potential to offset at least some of the direct impact of hours lost from the social distancing measures. Based on the historical data, an elasticity of -0.6 is reasonable. However, with the introduction of the JobKeeper scheme, businesses can continue paying employees who would otherwise be stood down. Since all businesses are not eligible for this scheme, the value of the wage elasticity is assumed to be -0.1

The productivity suppression parameter

The value of the elasticity of hours worked with respect to the change in industry gross product (or sales) determines the extent that a loss in sales is translated into a loss in measured hours of work. A value of 0.0 for this parameter means that a loss of sales, no matter how large, does not impact on the hours of work. Employees are simply transferred to other activities unconnected to the support of current sales. A value of 1.0 means that the percentage fall in hours of work will be the same as the fall in sales. With a value of 0.0, the impact of the decline in sales is absorbed by a fall in productivity, whereas a value of 1.0 means that productivity is unaffected by a fall in sales, and the full impact of a fall in sales is a fall in hours of work.

Most businesses are subject to short-run economies of scale, which means that productivity increases when output expands and declines when output contracts. In part this is due to part of the labour employed being assigned to overhead functions not related to short-run variations in output. The JobKeeper payment scheme however allows for businesses to retain staff using internal cash flow. Hence the value of this parameter is set at 0.9.

The job sharing parameter

The job sharing parameter is the elasticity of the change in employment with respect to change in hours of work available. A value of 0.0 means that given the fall in hours of work available, the hours of work are shared between existing employees, albeit at the same dollar per hour of work. An elasticity value of 1.0 means that there is no job sharing.

The historical record suggests a value for this parameter in the vicinity of 0.75. However the scale of the negative shock and the JobKeeper payment scheme significantly reduces the incentive to job share. Hence, this parameter is set at 0.9 for the impact modelling.



Appendix B: Industry Subdivision Impacts

Subdivision	Impact on Employment	Current Employment	Projected Employment
Food and Beverage Services	-15,278	57,400	42,122
Preschool and School Education	-9,880	46,100	36,220
Other Store-Based Retailing	-9,376	44,300	34,925
Professional, Scientific and Technical Services (Except Computer System Design and Related Services)	-9,309	55,800	46,491
Personal and Other Services	-5,667	19,200	13,534
Building Cleaning, Pest Control and Other Support Services	-3,325	20,000	16,675
Tertiary Education	-3,096	18,600	15,504
Administrative Services	-3,067	11,600	8,533
Public Administration	-2,718	35,900	33,183
Adult, Community and Other Education	-2,213	9,600	7,387
Construction Services	-2,079	48,400	46,321
Sports and Recreation Activities	-2,028	4,400	2,372
Building Construction	-2,006	22,200	20,194
Accommodation	-2,001	8,800	6,799
Computer System Design and Related Services	-1,760	7,100	5,340
Road Transport	-1,668	22,700	21,032
Motor Vehicle and Motor Vehicle Parts Retailing	-1,612	9,900	8,288
Repair and Maintenance	-1,572	14,900	13,328
Transport Equipment Manufacturing	-1,234	5,300	4,066
Basic Material Wholesaling	-729	5,300	4,571
Beverage and Tobacco Product Manufacturing	-683	6,400	5,717
Creative and Performing Arts Activities	-672	2,700	2,028
Primary Metal and Metal Product Manufacturing	-625	5,400	4,775
Metal Ore Mining	-561	8,000	7,439
Heavy and Civil Engineering Construction	-544	5,000	4,457
Machinery and Equipment Wholesaling	-541	7,700	7,159
Other Goods Wholesaling	-515	1,400	885
Air and Space Transport	-481	2,000	1,520
Fuel Retailing	-468	4,100	3,632
Motion Picture and Sound Recording Activities	-463	3,600	3,137
Gambling Activities	-460	1,700	1,240
Fabricated Metal Product Manufacturing	-383	3,600	3,217
Transport Support Services	-355	4,000	3,645

Subdivision	Impact on Employment	Current Employment	Projected Employment
Electricity Supply	-334	5,400	5,066
Rail Transport	-312	2,300	1,988
Auxiliary Finance and Insurance Services	-305	6,900	6,595
Agriculture	-305	23,100	22,796
Wood Product Manufacturing	-302	4,000	3,698
Warehousing and Storage Services	-299	3,100	2,801
Defence	-297	2,100	1,803
Motor Vehicle and Motor Vehicle Parts Wholesaling	-291	1,300	1,009
Furniture and Other Manufacturing	-265	4,200	3,935
Waste Collection, Treatment and Disposal Services	-247	2,900	2,653
Printing (including the Reproduction of Recorded Media)	-238	3,600	3,362
Aquaculture	-230	900	670
Rental and Hiring Services (except Real Estate)	-226	1,700	1,475
Heritage Activities	-222	1,900	1,678
Non-Metallic Mineral Product Manufacturing	-207	3,300	3,093
Publishing (except Internet and Music Publishing)	-177	2,900	2,723
Water Supply, Sewerage and Drainage Services	-170	2,900	2,730
Textile, Leather, Clothing and Footwear Manufacturing	-166	2,800	2,634
Library and Other Information Services	-157	1,800	1,643
Fishing, Hunting and Trapping	-147	2,700	2,553
Exploration and Other Mining Support Services	-145	1,000	855
Agriculture, Forestry and Fishing Support Services	-141	1,200	1,059
Non-Store Retailing and Retail Commission Based Buying	-126	1,000	875
Forestry and Logging	-117	1,000	883
Postal and Courier Pick-up and Delivery Services	-107	4,600	4,493
Pulp, Paper and Converted Paper Product Manufacturing	-91	1,000	909
Machinery and Equipment Manufacturing	-79	6,700	6,621
Polymer Product and Rubber Product Manufacturing	-78	1,400	1,322
Internet Publishing and Broadcasting	11	0	11
Public Order, Safety and Regulatory Services	31	12,000	12,031



Subdivision	Impact on Employment	Current Employment	Projected Employment
Property Operators and Real Estate Services	123	8,600	8,723
Basic Chemical and Chemical Product Manufacturing	131	1,400	1,531
Grocery, Liquor and Tobacco Product Wholesaling	153	5,700	5,853
Internet Service Providers, Web Search Portals and Data Processing Services	227	900	1,127
Finance	415	6,200	6,615
Insurance and Superannuation Funds	666	3,600	4,266
Food Product Manufacturing	1,233	12,500	13,733
Medical and Other Health Care Services	1,794	43,100	44,894
Telecommunications Services	1,963	6,400	8,363
Residential Care Services	2,147	31,700	33,847
Hospitals	2,550	31,600	34,150
Social Assistance Services	4,650	28,600	33,250
Food Retailing	7,003	28,900	35,903

Australian Industrial Transformation Institute
College of Business, Government and Law
Flinders University
GPO Box 2100
Adelaide SA 5001
P: 08 8201 5083
E: aiti@flinders.edu.au

