

COVID-19 Economic Assessment

Introduction

Leading industry research company IBISWorld has published an in-depth breakdown of the effects of the COVID-19 pandemic on every subdivision in the economies of Australia and New Zealand. This report, compiled by a team of senior industry analysts, classifies the level of disruption for each subdivision, and provides analysis on the key factors that will determine performance over 2019-20, 2020-21 and beyond.

The worsening COVID-19 outbreak during 2020 has had a significant and growing impact on domestic and international supply chains. Australia and New Zealand have been significantly disrupted by social distancing measures, which have curtailed economic activity. Overall, the virus' impact on the Australian and New Zealand economies is expected to be negative, potentially leading to the lowest GDP growth in Australia since 1991-92.

'IBISWorld has classified the degree of impact for each subdivision as moderate, high or very high. The level of disruption depends on the degree of exposure to international trade, and the impact on business and consumer confidence,' said Senior Industry Analyst Matthew Reeves.

COVID-19 is expected to disrupt Australian firms both directly through quarantine measures, and indirectly through supply chain disruption. Key factors of disruption include demand for exports from key trading partners such as China and South Korea, port closures in affected countries, the global consumer demand environment, and supply chain disruptions both at home and overseas. Secondary effects on consumer sentiment and business confidence have also been felt in China, Australia and New Zealand. In some cases, disruptions across industries in other countries have curtailed demand for Australian and New Zealand exports. Consumer spending and confidence have been particularly hampered in the countries that have been most severely affected by COVID-19, including China, South Korea, Italy and the United States.

Some subdivisions are expected to outperform during the COVID-19 pandemic. State and federal governments, and non-government health organisations have stressed the importance of regular hand washing and cleaning of frequently used and touched objects and surfaces. This factor has driven demand for sanitary and cleaning products. Demand for some subdivisions, such as the Grocery, Liquor and Tobacco Product Wholesaling subdivision, has increased due to the COVID-19 outbreak. Similarly, operators throughout the food, beverage, sanitary and cleaning product supply chains have seen a significant increase in demand for products. Other industries have suffered direct negative effects, but have also seen positive offsets, such as rising demand for repairs and maintenance services replacing new purchases.

Ratings methodology

Exposure ratings are determined by assessing an industry's reliance on international trade, supply chain risks and other industry-specific factors. Ratings are assigned in comparison with the rest of the economy. While almost all industries are experiencing dramatic effects due to COVID-19, IBISWorld's ratings system will result in some industries being deemed to have lower exposure to COVID-19.

Code	Title	Australia Impact	New Zealand Impact	Code	Title	Australia Impact	New Zealand Impact
Agriculture, Fishing and Forestry				Transport, Postal and Warehousing			
A01	Agriculture	High	Very High	I46	Road Transport	Very High	Very High
A02	Aquaculture	Moderate	N/A	I47	Rail Transport	Very High	High
A03	Forestry and Logging	Very High	Very High	I48	Water Transport	Very High	Very High
A04	Fishing, Hunting and Trapping	Very High	Very High	I49	Air and Space Transport	Very High	Very High
A05	Agricultural, Forestry and Fishing Support Services	Moderate	High	I50	Other Transport	Very High	Very High
Mining				I51	Postal and Courier Pick-up and Delivery Services	High	High
B06	Coal Mining	Very High	Very High	I52	Transport Support Services	Very High	Very High
B07	Oil and Gas Extraction	Very High	Very High	I53	Warehousing and Storage Services	High	High
B08	Metal Ore Mining	High	Very High	Information Media and Telecommunications			
B09	Non-Metallic Mineral Mining and Quarrying	High	Moderate	J54	Publishing	High	High
B10	Exploration and Other Mining Support Services	Very High	High	J55	Motion Picture and Sound Recording Activities	Very High	Very High
Manufacturing				J56	Broadcasting (Except Internet)	High	High
C11	Food Product Manufacturing	Very High	Very High	J57	Internet Publishing and Broadcasting	High	Moderate
C12	Beverage Manufacturing	High	High	J58	Telecommunications Services	Moderate	Moderate
C13	Textile, Leather, Clothing and Footwear Manufacturing	Very High	High	J59	Internet Service Providers, Web Search Portals and Data Processing Services	High	High
C14	Wood Product Manufacturing	High	Very High	J60	Library and Other Information Services	Moderate	Moderate
C15	Pulp, Paper and Converted Paper Product Manufacturing	High	Moderate	Financial and Insurance Services			
C16	Printing	Moderate	Moderate	K62	Finance	Moderate	Moderate
C17	Petroleum and Coal Product Manufacturing	Very High	N/A	K63	Insurance and Superannuation Funds	Moderate	Moderate
C18	Basic Chemical and Chemical Product Manufacturing	High	Moderate	K64	Auxiliary Finance and Insurance Services	Moderate	Moderate
C19	Polymer Product and Rubber Product Manufacturing	Moderate	Moderate	Rental, Hiring and Real Estate Services			
C20	Non-metallic Mineral Product Manufacturing	High	N/A	L66	Rental and Hiring Services	Very High	Very High
C21	Primary Metal and Metal Product Manufacturing	High	High	L67	Property Operators and Real Estate Services	Very High	Very High
C22	Fabricated Metal Product Manufacturing	High	High	Professional, Scientific and Technical Services			
C23	Transport Equipment Manufacturing	Moderate	High	M69	Professional, Scientific and Technical Services	High	High
C24	Machinery and Equipment Manufacturing	High	High	M70	Computer System Design Services	Moderate	High
C25	Furniture and Other Manufacturing	Moderate	Moderate	Administrative and Support Services			
Electricity, Gas, Water and Waste Services				N72	Administrative Services	Very High	High
D26	Electricity Supply	High	High	N73	Building Cleaning, Pest Control and Other Support Services	High	High
D27	Gas Supply	Moderate	Moderate	Public Administration and Safety			
D28	Water Supply, Sewerage and Drainage Services	Moderate	Moderate	O76	Defence	Moderate	Moderate
D29	Waste Collection, Treatment and Disposal Services	High	High	O77	Public Order, Safety and Regulatory Services	Moderate	Moderate
Construction				Education and Training			
E30	Building Construction	High	High	P80	Preschool and School Education	Moderate	High
E31	Heavy and Civil Engineering Construction	Moderate	Moderate	P81	Tertiary Education	High	High
E32	Construction Services	Moderate	High	P82	Adult, Community and Other Education	Moderate	Moderate
Wholesale Trade				Health Care and Social Assistance			
F33	Basic Material Wholesaling	High	Moderate	Q84	Hospitals	Moderate	Moderate
F34	Machinery and Equipment Wholesaling	Moderate	Moderate	Q85	Medical and Other Healthcare Services	High	High
F35	Motor Vehicle and Motor Vehicle Parts Wholesaling	High	High	Q86	Residential Care Services	High	High
F36	Grocery, Liquor and Tobacco Product Wholesaling	High	Moderate	Q87	Social Assistance Services	Moderate	High
F37	Other Goods Wholesaling	High	Very High	Arts and Recreation Services			
Retail Trade				R89	Heritage Activities	Very High	High
G39	Motor Vehicle and Motor Vehicle Parts Retailing	Moderate	Moderate	R90	Creative and Performing Arts Activities	Very High	Very High
G40	Fuel Retailing	High	High	R91	Sports and Recreation Activities	Very High	Very High
G41	Food Retailing	Moderate	High	R92	Gambling Activities	Very High	High
G42	Other Store-Based Retailing	Very High	Very High	Personal Services			
Accommodation and Food Services				S94	Repair and Maintenance	Moderate	Moderate
H44	Accommodation	Very High	Very High	S95	Personal and Other Services	Moderate	High
H45	Food and Beverage Services	Very High	Very High				

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A01 Agriculture: High..... 9

A02 Aquaculture: Moderate..... 9

A03 Forestry and Logging: Very High..... 10

A04 Fishing, Hunting and Trapping: Very High 10

A05 Agricultural, Forestry and Fishing Support Services: Moderate 10

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B06 Coal Mining: Very High..... 11

B07 Oil and Gas Extraction: Very High..... 11

B08 Metal Ore Mining: High..... 11

B09 Non-Metallic Mineral Mining and Quarrying: High 12

B10 Exploration and Other Mining Support Services: Very High..... 12

Manufacturing..... 13

C11 Food Product Manufacturing: Very High 13

C12 Beverage Manufacturing: High..... 14

C13 Textile, Leather, Clothing and Footwear Manufacturing: Very High..... 15

C14 Wood Product Manufacturing: High 15

C15 Pulp, Paper and Converted Paper Product Manufacturing: High 16

C16 Printing (Including the Reproduction of recorded media): Moderate 16

C17 Petroleum and Coal Product Manufacturing: Very High 16

C18 Basic Chemical and Chemical Product Manufacturing: High 17

C19 Polymer Product and Rubber Product Manufacturing: Moderate 18

C20 Non-metallic Mineral Product Manufacturing: High 18

C21 Primary Metal and Metal Product Manufacturing: High..... 18

C22 Fabricated Metal Product Manufacturing: High 19

C23 Transport Equipment Manufacturing: Moderate 19

C24 Machinery and Equipment Manufacturing: High 19

C25 Furniture and Other Manufacturing: Moderate 20

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D29 Waste Collection, Treatment and Disposal Services: High 21

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O77 Public Order, Safety and Regulatory Services: Moderate	38
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P82 Adult, Community and Other Education: Moderate.....	40
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Agriculture, Forestry and Fishing 45

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C14 Wood Product Manufacturing: Very High 50

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C16 Printing: Moderate 51

C18 Basic Chemical and Chemical Product Manufacturing: Moderate 51

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C22 Fabricated Metal Product Manufacturing: High 52

C23 Transport Equipment Manufacturing: High..... 52

C24 Machinery and Equipment Manufacturing: High 52

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N72 Administrative Services: High	67
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O77 Public Order, Safety and Regulatory Services: Moderate.....	68
Education and Training	68
P80 Preschool and School Education: High.....	68
P81 Tertiary Education: High	68
P82 Adult, Community and Other Education: Moderate.....	69
Health Care and Social Assistance	70
Q84 Hospitals: Moderate.....	70
Q85 Medical and Other Healthcare Services: High.....	70
Q86 Residential Care Services: High	70
Q87 Social Assistance Services: High.....	70
Arts and Recreation Services	71
R89 Heritage Activities: High.....	71
R90 Creative and Performing Arts Activities: Very High.....	71
R91 Sports and Recreation Activities: Very High.....	71
R92 Gambling Activities: High.....	71
Personal Services	72
S94 Repair and Maintenance: Moderate	72
S95 Personal and Other Services: High	72

Australia

Agriculture, Forestry and Fishing

A01 Agriculture: High

The COVID-19 outbreak is expected to significantly affect the Agriculture subdivision in Australia due to the export-oriented nature of many agricultural industries and their downstream markets. Although Australia's agricultural production more than satisfies domestic demand, economic disruption in downstream markets poses a risk to agriculture firms. For example, sales of fruit and vegetables have shifted to retail and wholesale markets as demand from food-service industries has declined. Smaller producers that normally sell their produce to food-service businesses and at fresh produce markets could encounter difficulty in accessing retail and wholesale markets, which typically favour large-scale producers. However, these pressures are anticipated to ease as the government lifts restrictions on movement and gatherings across Australia. In addition, falling incomes both locally and globally are anticipated to place downward pressure on some agricultural commodity prices over the medium term, presenting a threat to subdivision operators. For example, global demand for cotton and wool is anticipated to decline as retail sales fall, which will likely negatively affect prices and therefore revenue generated by Australian growers.

Disruption to global economic activity due to the COVID-19 outbreak is expected to negatively affect demand for Australian agricultural exports. Agricultural exporters also face risks from declining air cargo traffic, which has raised freight costs for highly perishable goods. In April 2020, the Federal Government announced a \$110.0 million freight subsidy to reduce shipping costs and support exporters. These flights have since commenced, delivering Australian produce to several countries, mainly in Asia. The NSW Government has also announced a \$140.0 million support package for agricultural firms affected by the summer 2020 bushfires. These measures, along with other federal and state government stimulus measures, are anticipated to provide significant support to operators across the Agriculture subdivision.

The COVID-19 outbreak has had mixed effects on export markets for Australian meat and dairy products. Sheep, beef and dairy cattle farmers have benefited from strong domestic retail demand for lamb, beef and dairy products, which has partly offset declining demand from the food-service sector. Over the first half of 2019-20, exports of beef and lamb to China surged from a high base following an outbreak of African swine fever that cut China's pig herd in half. However, demand for these products has subsequently fallen due to the reduction in economic activity related to the COVID-19 outbreak. Trade tensions between Australia and China are also affecting agricultural exports, with China limiting beef imports and imposing heavy tariffs on Australian barley in May 2020. These measures are expected to negatively affect prices received for Australian produce in other export markets.

A02 Aquaculture: Moderate

The Aquaculture subdivision is expected to be moderately affected by the COVID-19 outbreak. While seafood exports to China have been increasing, this trend has largely come from the Fishing industry, with Aquaculture industry exports accounting for less than 5% of all seafood exports by value. Furthermore, while China accounts for 46.7% of revenue generated from Aquaculture industry exports, total imports are only expected to account for 3.0% of domestic demand. However, declining domestic demand from the food-service sector has placed downward pressure on seafood prices, negatively affecting revenue. Aquaculture producers without established links to processors or retailers face moderate risks from reduced demand and prices. For example, oyster farmers in South Australia have reported difficulty getting their product to market as demand from food-service businesses has contracted. Salmon producer Huon Aquaculture has reduced its targeted harvest due to lower demand, but anticipates demand to recover in the next financial year. Nevertheless, a deep and prolonged economic downturn would likely affect seafood firms that have high export exposure to virus-affected countries.

A03 Forestry and Logging: Very High

The COVID-19 outbreak is expected to significantly affect the Forestry and Logging industry. Port closures in China and other ongoing disruption to supply chains halted demand for timber in China in February 2020, with shipments already in port unable to be unloaded as dock workers were placed in quarantine. Port activity has subsequently resumed, supporting exports of Australian timber products. Lower global economic activity is anticipated to affect demand for timber, creating a global oversupply and placing downward pressure on the domestic price of timber. Anticipated declines in new house construction are also forecast to negatively affect timber demand and prices. However, the Federal Government is currently considering potential grants for home renovations, which would likely boost demand for timber products.

In April 2020, the NSW Government announced a \$140.0 million package for agricultural sector firms affected by the summer 2020 bushfires. This funding is expected to support forestry businesses, which were heavily affected by the bushfires and have faced falling demand due to the COVID-19 outbreak. The Victorian Government has extended Regional Forest Agreements covering native forest logging until 2030, which has allowed harvesting activity to continue in the state.

A04 Fishing, Hunting and Trapping: Very High

The Fishing industry is the only industry included in this subdivision, and the COVID-19 outbreak has already had a substantial negative effect on industry revenue. China banned seafood imports in late January 2020 in response to the outbreak. However, China has recently resumed accepting some seafood imports. Seafood exports account for over half of the Fishing industry's revenue. Approximately 45 % of industry export revenue is generated from China, with a further 11 % coming from Hong Kong. As a result, many operators have already started feeling the effects of the ban. Rock lobsters are the largest export item, with over 95 % of the catch in Western Australia and South Australia usually destined for China and other Asian countries, while 99 % of Queensland's coral trout is exported to China. Reduced demand from export markets and food-service businesses has significantly affected rock lobster sales, with prices falling as producers attempt to sell their catch to other domestic markets. Nevertheless, the Federal Government's freight subsidy is supporting continued rock lobster exports. In addition, exports to other markets, which account for approximately 13 % of Fishing industry's revenue, are expected to decline due to COVID-19's global economic disruption. Overall, as fresh fish and seafood items are highly perishable, reduced demand and freight availability have significantly affected commercial fishing operations.

The COVID-19 outbreak has also had a significant effect on seafood demand and prices, as falling demand from restaurants and other food-service establishments has placed significant downward pressure on prices. In April 2020, Coles announced that it would sell sashimi-grade tuna typically used by fine-dining restaurants for half the price it would normally cost at such restaurants. This trend exemplifies the substantial shift in demand and prices for the Fishing industry's produce as a result of COVID-19. However, demand is expected to partly recover as government restrictions on movement and gatherings are gradually eased across Australia.

A05 Agricultural, Forestry and Fishing Support Services: Moderate

Weaker global economic activity is expected to contribute to an oversupply of timber. As a result, logging and timber processing activity is anticipated to decline, limiting demand for forestry support services. Demand for other agricultural support services, such as shearing and cropping, will also depend on primary producing and growing activities. The COVID-19 outbreak is forecast to only lightly affect cropping activity over the short term, as producers will likely proceed with harvesting crops as normal. Cropping activity would only be significantly affected if farmers reduce future plantings. A similar trend is anticipated for cotton ginning. Farms will still process current cotton crops in the short term, but may reduce future plantings as global economic disruption will likely reduce global demand for cotton over the medium term.

Mining

B06 Coal Mining: Very High

The COVID-19 outbreak is expected to significantly disrupt demand for the Coal Mining subdivision. Most black coal mined in Australia is exported, with China and Japan the largest markets, accounting for approximately 50 % of exports. While operators in the Coal Mining subdivision continued to produce while lockdowns were in place, quarantine measures throughout the global economy are expected to disrupt supply chains, hinder manufacturing activity and reduce demand for coal. As a result, global demand for black coal from Australia is anticipated to decline in 2019-20, causing export prices to fall. Since February 2020, the prices of high-quality thermal coal from New South Wales and coking coal from Queensland have fallen by over 25 %. Consequently, revenue in the Coal Mining industry is expected to fall by 11.7 % in 2019-20. Some countries, such as China, may also seek to increase reliance on their own coal production to stimulate their economy amid a downturn caused by COVID-19. Chinese coal production peaked in March 2020, as the country sought to secure its energy supply while battling the COVID-19 outbreak. On 18 April, the China Coal Transport & Distribution Association called for a 10 % reduction in production volumes to support coal prices and combat an oversupply of coal in the market.

In April, the International Energy Agency predicted that global demand for coal would fall by 8.0 % in 2020. Reduced global manufacturing activity could potentially intensify a supply glut, further weighing on coal prices. Australian exporters have limited capacity to redirect sales to alternative markets, particularly given the ongoing shift towards renewable energy sources. Over the long term, a significant decline in oil prices associated with the COVID-19 outbreak may cause demand for coal to decline, as oil and coal are partial substitutes in energy generation. Despite the global economy being anticipated to recover as the effects of COVID-19 fade, oil prices may remain low for an extended period. The OPEC+ agreement to curtail oil production from 1 May is anticipated to provide some support for oil prices. Despite this, reduced demand due to COVID-19 is expected to continue weighing on oil prices.

B07 Oil and Gas Extraction: Very High

The Oil and Gas Extraction subdivision is expected to be heavily affected by the COVID-19 outbreak. A slowdown in global economic activity is anticipated to reduce demand for both crude oil and natural gas. The subdivision is heavily exposed to export markets, with exports accounting for over 80 % of revenue in a typical year. As a result, weakening global demand due to the COVID-19 outbreak has weighed heavily on prices. Due to falling prices, revenue in the Oil and Gas Extraction industry is anticipated to fall by 8.2 % in 2019-20. In response to price weakness, many industry firms are anticipated to significantly reduce capital expenditure and delay investment decisions for new projects. For example, on 27 March, Woodside Petroleum announced a 50 % reduction in the forecast total expenditure for 2020.

Declining demand for oil led to a breakdown in negotiations between OPEC and Russia. In early March, both Saudi Arabia and Russia announced plans to significantly increase oil output, amid declining demand due to COVID-19. Oil prices have since heavily declined, which is expected to significantly undermine the performance of major oil and gas extraction firms in Australia. On 12 April, OPEC+ agreed to a staged reduction in oil production, starting with a two-month reduction of approximately 10 % (9.7 mb/d) from 1 May. Despite some countries not meeting their reduction targets, OPEC's oil production fell to its lowest level in May 2020 since 2002. With further production cuts expected in June, the agreement is anticipated to provide some support for oil prices in the short term. However, global oil prices will likely remain under pressure due to subdued demand caused by the COVID-19 outbreak.

B08 Metal Ore Mining: High

The Metal Ore Mining subdivision is expected to be highly affected by COVID-19. Demand for industrial commodities such as iron ore, copper, mineral sands and nickel is projected to be subdued. The disruption of global supply chains is expected to exert downward pressure on manufacturing activity over the

second half of 2019-20, lowering prices for these commodities. For example, revenue in the Copper Ore Mining industry is anticipated to decline by 7.7 % in the current year, as output and copper prices decline. Furthermore, lower steel manufacturing output is forecast for China, which accounts for over 80 % of Australia's iron ore exports. As a result, revenue for the Iron Ore Mining industry is anticipated to fall by 8.7 % in 2019-20. Despite demand being projected to weaken, global iron ore prices rose by almost 25 % in May, due to supply disruptions in Brazil, the world's second largest iron ore producing country. The COVID-19 outbreak is projected to constrain Brazilian iron ore supply, which may provide some relief for Australian iron ore producers over the year. Declining global vehicle sales are anticipated to constrain demand for aluminium, negatively affecting some operators in the subdivision, such as bauxite miners. In April 2020, new vehicle sales in Australia fell by almost 50 % compared with sales in April 2019. In contrast, precious metals producers will likely benefit from growing investor demand for safe-haven assets. The price of gold rose to over \$1,700 USD per ounce in April and May, its highest level since early 2013. This is expected to provide a major benefit to Australian gold miners. As a result, revenue for the Gold Ore Mining industry is anticipated to increase by 4.7 % in 2019-20. Lower oil prices will likely exert downward pressure on operating costs, assisting the viability of metal ore miners.

B09 Non-Metallic Mineral Mining and Quarrying: High

The Non-Metallic Mineral Mining and Quarrying subdivision is expected to be highly affected by COVID-19. Exports of some commodities, such as lithium, will likely be disrupted by the closure or reduced output of factories across the globe. Other industries in this subdivision, such as the Gravel and Sand Quarrying industry, have a primarily domestic focus and are therefore less likely to be directly affected by international trade conditions. However, a slowdown in domestic construction activity, particularly in the residential sector, is anticipated to affect demand for some operators in the subdivision. Operators in this subdivision that have a domestic focus may benefit from domestic spending on infrastructure projects or initiatives to support residential construction activity, as federal and state governments seek to support economic activity. For example, the Victorian Government announced a \$2.7 billion infrastructure package and assembled the Building Victoria's Recovery Taskforce to support activity in the construction sector during the COVID-19 outbreak and encourage economic activity. The Diamond and Gemstone Mining industry may benefit from investors seeking to move wealth from risky assets, such as stocks, to alternative stores of wealth, such as diamonds. Weak oil prices are expected to exert downward pressure on operating costs, assisting the viability of firms in this subdivision.

B10 Exploration and Other Mining Support Services: Very High

COVID-19 is expected to have a major impact on mineral and petroleum exploration firms. Fluctuations in the global prices of commodities such as oil, natural gas and iron ore are expected to significantly affect this subdivision. In the short term, a decline in commodity prices may discourage mining firms from investing in exploration. Major oil and gas producers are anticipated to reduce capital expenditure in response to weak prices. These cuts may also include reducing expenditure on exploration, which could significantly affect demand for the subdivision. Contract mining service providers may be hindered in the short term as large mining firms curtail output due to low prices or place some mines into care and maintenance. As a result, revenue in the Mining Support Services industry is expected to decrease by 10.7 % in 2019-20.

Falling global oil prices are expected to significantly discourage new petroleum exploration expenditure, which may have a large impact on petroleum exploration firms. The extent of this damage depends on how long oil prices remain low, which will be determined by the output of foreign oil producers, such as Saudi Arabia and Russia. On 12 April, OPEC+ agreed to reduce oil production from 1 May, which is anticipated to provide some support for oil prices in the short term. In May, despite some countries not meeting their reduction targets, OPEC oil production fell to its lowest level since 2002. Despite further cuts being expected in June, ongoing weakness in prices may further reduce expenditure on exploration activities and reduce demand for the subdivision. Economic activity is anticipated to increase as the government relaxes lockdown restrictions, creating more stable demand conditions. This factor may support greater activity in the subdivision. However, businesses are anticipated to remain cautious until the COVID-19

outbreak is resolved.

Manufacturing

C11 Food Product Manufacturing: Very High

The COVID-19 outbreak has had a substantial impact on the Food Product Manufacturing subdivision in Australia. This impact has been both positive and negative. A large proportion of the subdivision's products is exported, particularly to China. Global travel restrictions have caused significant logistical challenges. The flow-on effects of government measures to slow the spread of the virus have also affected demand from domestic and overseas markets.

Government restrictions limiting establishments to only selling takeaway meals has severely reduced demand from hospitality businesses. Processors have had to sell redirected produce to the retail market at heavily discounted prices. Since May 11, state and territory governments have begun loosening restrictions on the food-service sector's ability to trade. From the beginning of June, these businesses have been allowed to offer limited on-premise dining in all states and territories. This factor will provide a small boost to food product manufacturers that supply these businesses. However, limits on patron numbers are expected to discourage many owners from reopening as it is not deemed profitable.

Exporters in this subdivision were negatively affected by the initial COVID-19 outbreak in China, which is a key export market for many food product manufacturers. Demand for food products such as beef, lamb, dairy, flour and grain all declined due to the closure of food-service businesses as the country entered quarantine. This factor affected supply, as many products became stuck in ports with no one to unload them.

China imported a record 55,000 tonnes of beef from Australia in March. However, this figure includes shipments that had previously been diverted to other nations while ports were closed. In April, China imported approximately 23,800 tonnes of beef, about 15 % more than the same time last year.

While meat processors are no longer dealing with supply chain issues in China, other issues have emerged. On May 12, the Chinese Government announced an import ban on meat from four meat processors owned by JBS, Kilcoy Pastoral Company, Dinmore and Northern Cooperative Meat Company. This action occurred after the Australian Government called for an independent investigation into the origins of COVID-19. Meat from these facilities account for around one-third of exports to China. Consequently, this ban could substantially affect revenue for the Meat Processing industry, depending on how long it continues.

In late January, the Chinese Government temporarily banned seafood imports. China is the largest market for Australian seafood and particularly for premium produce such as rock lobster and abalone. Seafood processors that export fresh seafood to China have since been left with excess stock. Seafood processors that offload their excess stock domestically are projected to cause local seafood prices to decline in the short term. Prices received by the upstream Fishing and Aquaculture industries have fallen by one-third for seafood such as lobsters, scallops and prawns.

COVID-19 has since spread globally, with affected countries shutting down their economies to slow the spread of the virus. This factor is further suppressing demand, especially for products destined for food-service sectors in countries such as the United States. In April, beef exports to the United States were about 28 % below levels in April 2019, as most beef is used to produce burger patties. However, even for export markets that have continued to demand Australian produce, local businesses have had difficulty exporting their goods. This difficulty has largely been due to travel restrictions by governments around the world, including Australia. These restrictions have reduced the number of commercial flights, which are a key mode of transport for subdivision goods.

The Federal Government announced a freight assistance package worth a \$110.0 million dollars at the start of April to help exporters of perishable goods, such as dairy and seafood. This package has allowed firms to reopen export channels to key markets affected by disruptions to global freight movements,

including China, Japan, Hong Kong and Singapore. Some passenger planes that are not in use are now being fully deployed as cargo planes. On April 16, it was announced that 500 tonnes of rock lobster would be sent to China from Western Australia on 18 flights supported by the assistance package.

The COVID-19 outbreak is anticipated to most significantly affect food manufacturers that depend on the local food-service sector or overseas markets. Businesses that earn up to \$50 million will be eligible for three-year government guaranteed loans of up to \$250,000. Most Australian food manufacturers earn less than \$5 million per year and therefore qualify for this scheme. Additionally, many businesses will be eligible for the Federal Government's JobKeeper wage subsidy program if they can show that their annual revenue has fallen by at least 30%. This subsidy allows employers to retain more of their staff, despite revenue declines. Despite this program, many businesses have had to let go of staff or cut their hours significantly.

However, it is not all bad news for Australian food manufacturers. Domestic demand has increased for many food products due to consumer stockpiling behaviour. Strong demand for products such as pasta, meat, frozen vegetables, pasta sauce, baked beans, canned spaghetti and milk has resulted in major supermarkets only recently lifting purchase limits that were placed on these items back in March. This trend is expected to boost the performance of relevant industries, such as the Milk and Cream Processors, and Fruit and Vegetable Processors industries. Infant formula has also been a strong seller, with Bubs Australia recording a 34.0% increase in local sales during the March quarter. Furthermore, in a sign that consumers in China are starting to once again demand high-quality foreign produce, Bubs' sales in China increased by 104.0% over the same period, although from a lower base. A weaker Australian dollar is also helping local food produce exports, improving the price competitiveness of Australian goods in overseas markets.

C12 Beverage Manufacturing: High

The COVID-19 outbreak has substantially affected this subdivision in several ways. In positive terms, alcohol sales in Australia surged in March 2020. According to the ABS, revenue for liquor retailing increased by approximately 40% in March. Retail trade data indicated that beer sales were up by 36.0% compared with the same time last year. Additionally, retail wine sales were up by 39.0% and spirit sales by 30.0%, compared with the same period. However, preliminary data from the industry appears to show that sales in April were about 15% below the same time last year. This represents a decline of approximately 35% from the previous month.

Other beverage manufacturers have also endured negative effects related to the COVID-19 outbreak. Coca-Cola Amatil (CCA) has withdrawn its earnings guidance for fiscal year 2020. Sales volumes in April declined by about 33% across the whole company compared with the same time last year. In Australia, this translated to a decline of 55% in its on-the-go channel. CCA's on-the-go channel accounted for approximately 40% of the company's sales by volume in 2019. Retail sales have also declined, with grocery and sales falling by about 10%, and convenience and petroleum sales falling by 20%. Concerns relating to a lack of artificial sweeteners appear to be abating, as China has reopened its manufacturing plants.

Wine producers are also taking a massive hit from COVID-19. In 2018-19, China was the largest consumer of Australian wine products, at 36.6% of export revenue. Events in China are being cancelled and postponed, limiting wine consumption. Exports of wine to China declined by 14% over the first four months of 2020 compared with the same period in 2019. Exports of wines to other international markets are expected to benefit from a weaker Australian dollar in 2019-20. For example, wine exports to the United Kingdom rose by 3% over January to April 2020, compared with the same period in 2019. However, demand is forecast to fall as discretionary incomes decline, particularly at the premium end of the market. Wine sales are also anticipated to continue falling over the short term, while restrictions on group dining remain in place. However, wine is not perishable and wine manufacturers do not have any immediate need to redistribute their products. Domestic cellar door sales have also been severely affected by COVID-19, as the number of international tourists has declined significantly. Some operators are turning to virtual wine tasting events in an attempt to boost sales. Producers of wine and other alcoholic beverages have also taken a hit to profitability, partly due to a significant decline in sales to the hospitality sector.

State and territory governments moving to open up cafes, restaurants, pubs and bars, will support this subdivision. Beer manufacturer Lion announced that it was sending 75,000 litres of beer to the Northern Territory following the government's announcement that it was reopening pubs on May 15. Wine producer Accolade Wines announced that it will replace for free all its wines that are sold in venues around Australia over the first month of trading.

C13 Textile, Leather, Clothing and Footwear Manufacturing: Very High

COVID-19 has already had a significant influence on the Textile, Leather, Clothing and Footwear Manufacturing subdivision. This subdivision involves significant international trade and supply disruptions have substantially affected the subdivision. For example, the Leather and Leather Substitute Product Manufacturing industry is heavily export-oriented, as many leather manufacturers outsource initial hides and skins to China for further processing. Tanned hides return to Australia in the form of uncut hides or manufactured products, such as jackets or shoes.

Constrained logistics, travel restrictions and a shortage of labour in China initially made it difficult for tanneries to deliver goods. In addition, declining consumer demand has negatively influenced the Leather and Leather Substitute Product Manufacturing industry. COVID-19 has prevented people from travelling and shopping, weakening demand for leather products such as shoes and bags. In Australia, an absence of tourists buying luxury retail items has caused demand to fall for leather and leather substitute products.

Demand has been further affected as the COVID-19 outbreak has spread across Europe. Demand from Italy and Spain collapsed as tanning operations closed due to wider government shutdowns. As a result, leather prices crashed and many Australian producers were faced with the prospect of dumping their unwanted supplies in landfill. Hide prices are yet to recover, as tanneries are only slowly reopening.

Similarly, a significant proportion of clothing and footwear products are imported from China, potentially affecting domestic supply. Larger manufacturers can potentially source clothing and footwear from other manufacturing nations such as Bangladesh, Vietnam and India. Despite supply disruptions, a decline in consumer sentiment and rising unemployment following the COVID-19 outbreak, combined with low wage growth over the past five years, will likely have more severe long-term effects on the subdivision.

The Federal Government's stimulus measures will be of significant help for this subdivision. The JobKeeper wage subsidy and small business loans will be crucial for these businesses to stay afloat and retain their employees. In addition, over 130 clothing and textile manufacturers have offered to pivot production towards personal protective equipment, such as scrubs, gowns and masks. In response, the Therapeutic Goods Administration has loosened regulations to allow these businesses to produce items that aren't on the Australian Register of Therapeutic Goods.

C14 Wood Product Manufacturing: High

COVID-19 is projected to have a significant effect on the Wood Product Manufacturing subdivision. While supply from China will be significantly disrupted over the short term, industries will likely source wood products from other countries that export wood products, such as Malaysia and Indonesia. Wood products in the Australian market could face significant supply disruption if Indonesia's timber sector is ordered to shut down. However, supply chain problems caused by COVID-19 are anticipated to have a more severe effect on log exporters, as warehouses and factories overseas cannot start production. If factories remained closed, log exporters will be forced to reduce their harvesting rates. Reduced demand from China and Japan has also negatively affected wood chipping operations.

Local demand for this subdivision has been sustained by the Construction division in Australia, which continues to operate as an essential service. This factor has had positive flow-on effects for the subdivision. However, demand from construction firms already appears to be waning. Dwelling commencements are expected to decline by 16.6 % during 2019-20, resulting in reduced demand for subdivision products. AKD Softwoods, one of the largest players in the subdivision, has halted milling operations at four of its sites in

anticipation of a substantial decline in orders from the construction sector from the second half of May. As a result, 800 of its employees have been forced to take leave.

Businesses in this subdivision, including many major players, will be able to benefit from changes to the instant asset write-off scheme. The government has increased the threshold from \$30,000 to \$150,000, and businesses earning up to \$500 million are now eligible to use it. However, at this stage, these new provisions will only remain until 30 June 2020.

C15 Pulp, Paper and Converted Paper Product Manufacturing: High

This subdivision has been heavily influenced by the COVID-19 outbreak, as demand for products has varied substantially. While household stockpiling behaviour prior to the official social distancing restrictions created excess demand for some subdivision products, this trend has now abated. Supermarkets initially had difficulties maintaining adequate supplies of toilet paper and other sanitary paper products. Supermarkets therefore limited customers to a certain amount of toilet paper per transaction to cope with the recent spike in demand. Local sanitary paper product manufacturer ABC Tissue Products reported a 15.0% increase in demand over the two weeks through 12 March 2020. At the beginning of April, Woolworths announced that toilet paper sales were up by 45% compared with the same period in 2019, and supply had increased by 70%. Woolworths also revealed that paper towel sales were up by 60% and tissue sales were up by 80% compared with 2019. As many households have potentially overstocked on sanitary paper products, excess supply may result in a demand deficit.

Manufacturers of paper and paperboard products that target food and beverage manufacturers have had mixed results. Firms that manufacture products used to package certain goods sold in supermarkets have benefited from consumer stockpiling behaviour. However, operators that focus on the food services sector have not been as fortunate. Reduced demand from cafes and other takeaway outlets has affected sales for these companies. As a result, Detmold Group is now pivoting production away from the industry and is instead manufacturing facemasks. Over the next twelve months, the company will produce 100 million surgical and respiratory masks for the national stockpile, and 45 million for the SA Government. The company will hire 160 new employees for these new operations.

The country's gradual return to work will stimulate demand for meals purchased outside the home during work hours. Food-service outlets will also have greater flexibility to operate. Consequently, demand is anticipated to rise for manufacturers in this subdivision that supply cafes and restaurants. However, demand will not likely to return to pre-COVID-19 levels until 2021-22.

Some companies in the subdivision haven't been able to benefit from increased demand or by manufacturing new items. The government's changes to depreciation deduction rules and the instant asset-write off threshold will help these firms manage reduced demand or higher input prices.

C16 Printing (Including the Reproduction of recorded media): Moderate

COVID-19 is projected to have a moderate effect on the Printing industry. The subdivision conducts a low level of international trade, as transporting printed products across long distances is inefficient and costly due to the low per-unit value and high cumulative weight of large paper shipments. While Australia imports recorded media from China, supply chain disruptions are unlikely to affect domestic supply, as digital media sales have surpassed physical media sales since 2013. However, reduced discretionary spending is expected to affect downstream demand for finished products.

C17 Petroleum and Coal Product Manufacturing: Very High

This subdivision is made up of the Petroleum Refining and Petroleum Fuel Manufacturing industry and Lubricants and Other Petroleum Product Manufacturing industry. The COVID-19 outbreak is expected to significantly affect revenue for this subdivision, largely due to falling demand for aviation fuel due to widespread travel restrictions. Interstate travel restrictions are unlikely to be lifted until July, when

governments enter Step three of the re-opening process. However, international travel restrictions are likely to remain in place for the foreseeable future. Additionally, many individuals are working from home and reducing other non-essential travel, which has constrained demand for automotive fuel.

Falls in the world price of crude oil have exacerbated recent revenue declines. In late April, US oil price futures traded negative for the first time in history, and are trading just above US\$30.0 a barrel in early June. In addition, production among OPEC countries has fallen to the lowest level since 2002. While many international refineries are based the Asia-Pacific region, logistics disruptions related to COVID-19 will also affect this subdivision. Most domestic refined petroleum product imports are sourced from Singapore, Japan and South Korea.

Alimentation Couche-Tard of Canada has withdrawn its takeover offer for major player Caltex, attributing its decision to the financial downturn. Government support for players in this subdivision, including Caltex and other major players such as BP and Viva Energy, mainly comes through JobKeeper payments. However, as these companies earn over \$1 billion in annual revenue, they will have to demonstrate a 50 % decline in revenue due to COVID-19 to qualify.

C18 Basic Chemical and Chemical Product Manufacturing: High

COVID-19 is anticipated to heavily influence the Basic Chemical and Chemical Product Manufacturing subdivision. While some chemical manufacturers have benefited from lower crude oil prices, disruptions in global supply chains have affected many manufacturers. A considerable proportion of imports from this subdivision are derived from China.

China is the main manufacturer of both ready-made pesticides and the active ingredients that form the base of pesticide products formulated in Australia. Disruption in the Chinese manufacturing supply chain has already resulted in some shortages, which could potentially affect the Agriculture subdivision when these firms start planting Australian winter crops. For example, significant supply shortages of glyphosphate in China have already been announced. Australia sources between 70 % and 80 % of its year-round supply of this herbicide from China. However, Australian fertiliser and explosives manufacturer Incitec Pivot has announced that it has increased production of fertiliser due to increasing demand from the agriculture sector following improved rainfall. Production over the first half of financial year 2020 was up 47 % compared to the prior corresponding period.

The Pharmaceutical Product Manufacturing industry is export-oriented, with revenue derived from exports anticipated to total \$6.0 billion in 2019-20. Of this figure, approximately half is derived from exports of non-prescription pharmaceuticals, such as vitamins and dietary supplements. The COVID-19 outbreak has increased demand for vitamins and dietary supplements in China. However, travel bans on Chinese tourists are anticipated to cause a temporary decline in demand from Chinese tourists stocking up on vitamins before returning to their home country. Pharmaceutical product manufacturers have also faced short-term volatility due to supply chain disruptions related to COVID-19, with difficulties exporting products to China.

Domestically, fears related to COVID-19 have prompted consumers to panic purchase over-the-counter medicines, such as paracetamol and cold medicine. Demand for pharmaceuticals manufacturing products is anticipated to rise over the short term, as both consumers and healthcare providers require medicine supplies. India and some European countries banned exports of certain medicines following supply shortages. This factor, along with other disruptions caused by COVID-19, has resulted in shortages of over 600 medicines in Australia. In recognition of the heightened strain on the industry, the ACCC has granted a conditional interim authorisation for the Biosimilar Medicines Association and Medicines Australia, and their members to work together to supply essential medicines during the pandemic.

Revenue for the Soap and Cleaning Compound Manufacturing industry is expected to increase substantially due to the outbreak. Both individuals and commercial cleaners have been purchasing higher volumes of soap and cleaning compounds in an attempt to slow the spread of COVID-19. Many supermarkets and pharmacies reported selling out of hand sanitiser and household cleaning products in March and April.

Demand for commercial cleaning services will likely remain high as businesses aim to ensure a healthy workplace for workers and customers.

C19 Polymer Product and Rubber Product Manufacturing: Moderate

The spread of COVID-19 is anticipated to have a moderate effect on the Polymer Product and Rubber Product Manufacturing subdivision, as these firms manufacture products for a range of markets, including manufacturers, wholesalers, retailers and construction companies. Demand has substantially increased for manufacturers of protective equipment, such as gloves. The Glove Company, a firm based in New South Wales, tripled its monthly sales in March. In addition, consumer and industrial product packaging manufacturer Pact Group has announced that they are moving into manufacturing hand sanitiser. The company plans to produce two million units per month.

Demand for many plastic products has undergone a resurgence, as previously discouraged items such as disposable coffee cups, shopping bags and takeaway meal packaging are viewed as more hygienic. For this reason, some major countries have suspended bans of single-use plastic bags and containers. In Australia, demand for takeaway meals has also accelerated.

Some manufacturers import packaging supplies from China and other nearby nations with low-cost manufacturing costs. The COVID-19 outbreak could potentially lead to a temporary shortage in packaging supplies, components and tools due to factory closures in China and other countries. However, as this subdivision relies on other markets, declining demand from other markets due to COVID-19 could cause demand to fall for this subdivision's products.

C20 Non-metallic Mineral Product Manufacturing: High

COVID-19 is expected to significantly affect this subdivision. Its greatest risk comes from reduced demand from the construction sector due to increasing economic uncertainty. As a result, cement and plaster product manufacturer Boral Ltd has withdrawn its 2020 financial year earnings guidance. It has also announced a reduction in capital expenditure of between 15% and 20% over the second half of 2019-20. Furthermore, James Hardie has announced the closure of its formwork manufacturing facility in Cooroy, QLD. This closure is one of three of the company's plants that it is closing globally as demand has dramatically shrunk. However, the company is also shifting its New Zealand fibre cement manufacturing business to two facilities in Australia. Dwelling commencements are already expected to have declined in March and April, likely resulting in a weak performance across this subdivision over the remainder of 2019-20.

While the subdivision is exposed to moderate import penetration, manufacturers import from several different countries. While concrete product manufacturers import substantial volumes from China, industry operators have significant manufacturing capacities in neighbouring countries, such as Indonesia and Thailand, which could readily supply the Australian market. Supply from Indonesia could potentially be compromised if the outbreak situation becomes more severe in the country. However, as China is gradually re-opening their economy, supply concerns will become less of an issue.

If government infrastructure projects are brought forward due to the downturn associated with COVID-19, businesses in this subdivision will benefit. The Federal Budget, originally due in May, has been deferred until October. Announcements may therefore not be made until the budget is released. State governments may also expand spending in this area.

C21 Primary Metal and Metal Product Manufacturing: High

This subdivision is expected to be substantially disrupted by COVID-19, with the outbreak leading to reduced global manufacturing activity. Industries in this subdivision derive most of their production inputs domestically, and therefore have a lower risk of production disruption due to insufficient supply from overseas. This subdivision's output is used in a range of manufacturing applications. Due to the severity of

global supply chain disruptions and demand contractions, demand for this subdivision's output is expected to fall. For example, production of copper tubes, steel pipes and steel would decline amid a recession in global manufacturing. Australia's largest steel manufacturer BlueScope Steel announced in April that it was reducing its capital expenditure for the second half of financial year 2020 by 17%. Copper prices fell to a three-year low in early March due to weaker demand. Similarly, demand and prices for nickel have also declined significantly since the start of the year. However, on 14 April 2020, copper futures prices reached a four-week high due to a slowdown in supply and increasing sentiment regarding demand conditions in China. Prices continued to rise during the late April and May. Ongoing declines in the price of oil are expected to exert downward pressure on operating costs, providing some relief for firms in this subdivision. This subdivision will also benefit from any government stimulus spending on infrastructure.

C22 Fabricated Metal Product Manufacturing: High

This subdivision is expected to be significantly affected by COVID-19. This industry has a low reliance on imported inputs and is therefore well equipped to maintain production amid faltering economic activity outside Australia. In addition, industries in this subdivision typically face strong import competition from manufacturers in Asia. If the COVID-19 outbreak curtailed output across Asian factories, some Australian producers may benefit from enhanced export opportunities as global markets seek out alternative suppliers. However, as the outbreak continues to affect the local economy, demand for the subdivision's products is expected to fall. Players in affected industries will be able to use various government stimulus measures, such as the accelerated depreciation allowances and the higher instant asset write-off threshold, to support their business. On the other hand, some manufacturers in this subdivision, such as Victoria-based Almec, have pivoted towards manufacturing medical equipment required to treat COVID-19.

C23 Transport Equipment Manufacturing: Moderate

Transport equipment manufacturers are expected to be moderately affected by COVID-19. Many of their customers are from the government sector, which purchase equipment for public transport and the military. This encompasses all three arms of the military, land vehicles, naval ships and aircraft. The Australian Government's contract for nine anti-submarine warfare frigates is keeping operations open at the Adelaide's Osborne Naval Shipyards. As the project ramps up, employment is set to increase from 700 to 1,000 by the end of the year. This factor is expected to have positive flow-on effects for employment in other related industries. At the start of May, ASX-listed Austal Ltd was awarded a \$324 million Federal Government contract to build six patrol boats. This is the largest contract in the company's history.

Industries that are more exposed to aircraft manufacturing will suffer negative effects due to the downturn associated with COVID-19. Travel restrictions and other government measures limiting transport activity have affected demand for air travel services. World air travel, both domestic and international, has slumped to low levels. Even as the government lifts restrictions, international and domestic travel will most likely be among the last areas to return to normal. The latest guidance from the Federal Government suggests that domestic interstate travel will likely not recommence until July. International travel is not expected to resume for the remainder of 2020.

Manufacturers of transport equipment typically rely on both domestic and imported inputs for production. Supply chain disruptions in Asia will likely hinder some manufacturers in this sector, as supply of some production inputs becomes limited. In particular, specialised components may be difficult to source from alternative suppliers in the short term. When the COVID-19 outbreak passes, some firms in this subdivision may seek to diversify their supply chains to multiple regions in an effort to reduce exposure to future supply shocks.

C24 Machinery and Equipment Manufacturing: High

This subdivision is expected to be disrupted by supply chain shocks, which will likely have a significant effect on revenue and profit. Many industries in this subdivision rely heavily on components manufactured

in Asian economies. The closure of factories in China's Hubei province reduced the supply of electrical components, disrupting multiple supply chains in this subdivision. As China's production facilities open back up, supply pressures will ease. However, if similar COVID-19 outbreaks occur in other Asian economies such as Vietnam, the supply disruption for manufacturers in this subdivision would be extensive and prolonged. Australian manufacturers in this subdivision would have a limited capacity to benefit from weakened import competition, as any outbreak that significantly reduced foreign manufacturing would almost certainly also reduce local manufacturing activity. The lower price of oil is expected to exert downward pressure on operating costs, assisting the viability of firms in this subdivision. This subdivision is anticipated to suffer substantially from wider impacts across the domestic and global economies. Demand for machinery from the mining and construction sectors is expected to fall significantly as these businesses postpone or cut back on projects.

The COVID-19 outbreak is also expected to have significant short-term and long-term effects on the Medical and Surgical Equipment Manufacturing industry. The industry heavily relies on imports, which account for close to 75% of domestic demand. Global supply chain disruptions have occurred as many countries have scrambled for supplies, meaning that local manufacturers have had to step up their capabilities. Med-Con is the only Australian manufacturer of surgical face masks. The company has an annual production capacity of two million. They have now expanded their operations to produce 50 million masks over the next 12 months. Medical device manufacturer ResMed has announced plans to triple its production of ventilators. The company signed a contract with the Federal Government to provide 5,500 ventilators for the national stockpile. To date, over 3,000 ventilators have been completed. Furthermore, the Federal Government has tasked a consortium of local businesses with manufacturing a further 2,000 ventilators for the national stockpile.

C25 Furniture and Other Manufacturing: Moderate

This subdivision will likely be moderately disrupted by COVID-19. Most industries in this subdivision rely primarily on locally sourced inputs for production, reducing exposure associated with supply shocks in Asia. However, firms in this subdivision will likely be hindered by weakening consumer sentiment, which could lead consumers to postpone large expenses, such as furniture, mattresses or jewellery. However, sales of desks and chairs have increased as many employees are working from home and children are studying from home. This trend has benefited some local manufacturers. Toy manufacturers will also likely benefit from the outbreak, as families are stuck indoors for extended periods of time. Similarly, firms that manufacture sporting goods suitable for backyards, such as basketball hoops, may also benefit.

Electricity, Gas, Water and Waste Services

D26 Electricity Supply: High

The downturn in global economic conditions is expected to lead to a reduction in thermal coal prices as well as the world price of crude oil. These commodities are key inputs in the Fossil Fuel Electricity Generation industry. As a result, these trends are expected to reduce the operating costs for fossil fuel generators and lead to a decline in the electricity service price. This trend is expected to reduce revenue across the subdivision, as electricity generators will be forced to accept lower prices for their product. Additionally, the expected slowdown in Australia's manufacturing sector is expected to reduce demand for electricity, further contributing to a decline in the electricity service price and reducing subdivision revenue.

While declines in the electricity service price are expected to contribute to declining revenue and profitability in Australia's Wind and Other Electricity Generation industry, the reduction in input costs is expected to improve the competitiveness of Australia's fossil fuel generators, and slow the country's transition towards renewable energy sources. While electricity generated from renewable sources does not require fuel costs, the costs of construction can be significant. The decline in the electricity service price is expected to reduce returns on investment for renewable electricity projects, and contribute to increased demand for fossil fuel electricity.

On 11 May, the AEMC announced that the planned implementation of a five-minute settlement rule would be delayed due to concerns regarding energy security caused by the COVID-19 pandemic. This rule would align operational dispatch and financial settlements at five minutes, rather than the current 30 minutes. This rule change was likely to benefit renewable generators with installed battery capacity.

Overseas manufacturers feature heavily in the supply chain of many companies operating in the Wind and Other Electricity Generation industry and the Solar Electricity Generation industry. Disruptions to these supply chains caused by the COVID-19 outbreak are likely to reduce the ability of operators to carry out capacity upgrades, construct new projects, or source parts necessary for maintenance.

D27 Gas Supply: Moderate

The downturn in global economic conditions as a result of the ongoing COVID-19 pandemic is expected to reduce demand for natural gas. Australia exports most of its domestically produced natural gas. Reduced demand from exports markets is expected to contribute to an oversupply of natural gas in the domestic market, and a steep drop in domestic prices. The largest domestic market for natural gas is the Australian manufacturing sector, which accounts for approximately 60 % of industry revenue. Households represent the second largest market for natural gas supply, making up approximately one-quarter of industry revenue. The slowdown of the manufacturing sector due to reduced demand and social distancing restrictions is expected to substantially constrain demand from this market. While demand from households is likely to increase due to growth in the number of people working from home, this demand is unlikely to fully offset the reduced demand from the manufacturing sector and from exports. The expected drop in natural gas prices is anticipated to contribute to a steep fall in industry revenue over the course of the pandemic.

D28 Water Supply, Sewerage and Drainage Services: Moderate

The Water Supply, Sewerage and Drainage Services subdivision is expected to be minimally affected by the ongoing COVID-19 virus pandemic. Most services provided by the subdivision are considered essential, and are expected to continue as normal. In Western Australia, the state government has passed measures that disallow subdivision operators from cancelling services to households suffering financial hardship due to the COVID-19 outbreak. A significant economic downturn is likely to lead to a sharp rise in the national unemployment rate, and could lead to a spike in the number of households unable to pay utility bills, reducing industry revenue. Additionally, the decline in business confidence as a result of the outbreak will likely cause private capital expenditure to decline, and lead to upgrade and expansion projects being cancelled.

D29 Waste Collection, Treatment and Disposal Services: High

The ongoing COVID-19 pandemic is expected to have a high impact on the Waste Collection, Treatment and Disposal Subdivision. The virus is expected to result in a sharp increase in demand for hazardous waste disposal services. Hospitals and other medical facilities will likely require an increase in hazardous waste collection services, to properly dispose of contaminated personal protective equipment and items such as bed linen. Waste that could potentially be contaminated with the virus must be disposed of as clinical waste.

However, the slowdown in the domestic economy is expected to have a negative impact on the subdivision. Manufacturers and retailers make up a substantial source of demand for waste collection services. The closure of companies across the economy is expected to result in a decline in commercial waste, contributing to a fall in subdivision revenue. However, on the 8 May, the Federal Government announced its 3-Step Framework for a COVIDSafe Australia, which outlined the process of easing restrictions. However, the speed at which this framework is implemented has differed between the various states and territories. All states and territories have implemented step one, which is expected to lead to an improvement in business activity. Demand for commercial waste services is therefore expected to rise. However, an anticipated decline in household incomes will likely result in subdued demand for manufacturers and retailers, which

will correspondingly limit demand for subdivision services.

Construction

E30 Building Construction: High

The spread of COVID-19 is anticipated to highly affect the building construction industries. International trade is not applicable to building construction industries, as they exclusively operate domestically. However, building construction is highly labour-intensive, and relies heavily on contract labourers. Building construction firms also require equipment and materials. Firms may experience delays in completing projects if supply chains are disrupted. Lower interest rates are anticipated to stimulate demand for some building construction. However, reduced foreign investment in projects may negatively affect the subdivision. Low oil prices may lower operating costs for some firms, assisting business viability. Weak demand for new housing is also anticipated to negatively affect residential building construction industries, as many people are electing to delay purchasing or moving into new homes. A survey conducted by Master Builders Australia revealed that over 70% of respondents reported major declines in planned projects, with residential building firms among the most affected. The Federal Government's three-step plan to ease restrictions is not anticipated to significantly affect this sector's activities, as these businesses have been able to operate throughout lockdown conditions. However, the easing of restrictions may boost demand for new buildings from other sectors.

E31 Heavy and Civil Engineering Construction: Moderate

The COVID-19 outbreak is anticipated to have a moderate effect on heavy and civil engineering industries. Firms that primarily service resource developments are exposed to declining mining activity due to reduced global demand for minerals such as iron. Many heavy and civil engineering projects depend on public funding. Consequently, these firms are less vulnerable to declines in demand from downstream sectors. Heavy and civil engineering construction industries are labour-intensive and often use contract labourers. These firms also require equipment and machinery. Disruptions in the equipment supply chain would negatively affect the subdivision. However, this may be partially offset by a decline in oil prices, which have somewhat reduced operating costs. The Federal Government and the Master Builders Association of the ACT have identified construction, specifically of infrastructure, as an industry that could be ramped up to help create jobs.

E32 Construction Services: Moderate

The spread of COVID-19 is anticipated to have a moderate effect on construction services. These services are not exposed to international trade and focus entirely on the domestic market. Operators in these industries require materials such as nails, screws, adhesives, concrete, steel and timber, and equipment. In addition, these industries are highly labour-intensive. Any disruption in materials or labour supply has the potential to negatively affect the subdivision. Operators that service construction firms are anticipated to fare better than operators that service consumers, as negative consumer sentiment is discouraging people from having expensive, discretionary work done, such as painting and decorating services. Furthermore, operators that service infrastructure or institutional building construction firms are anticipated to fare better than those that service residential building construction firms, largely due to weak demand for new housing. Many of these firms have been able to operate throughout lockdown conditions. However, the Federal Government's three-step plan to ease restrictions will likely boost demand for construction services by improving the financial situations of downstream consumers and businesses.

Wholesale Trade

F33 Basic Material Wholesaling: High

The COVID-19 outbreak is anticipated to have a high impact on the Basic Material Wholesaling subdivision. Foreign metal and mineral buyers represent 51.2% of the market for the Metal and Mineral Wholesaling industry, with a large proportion of these buyers being in China. Reduced construction activity limits demand for minerals such as iron, which is anticipated to have a significant negative effect on this industry.

Wholesalers of wool and cereal grains also rely heavily on demand from export markets. Wool wholesalers often act as trading agents, facilitating international trade. China receives approximately two-thirds of Australia's wool exports, which are then used in textile manufacturing. Weak manufacturing activity in China during early 2020 is anticipated to have a strong negative effect on the Wool Wholesaling industry. Italy also represents a significant market for Australian exported wool.

Export markets account for approximately 56% of revenue for the Cereal Grain Wholesaling industry, with many wholesalers acting as exporters. However, adverse rainfall conditions over the past five years and the 2019-20 bushfire season have negatively affected the upstream Grain Growing industry, reducing exports over the period. China accounts for approximately 49% of Australian grain exports. Consequently, shipping and logistics delays could negatively affect demand for grain exports.

F34 Machinery and Equipment Wholesaling: Moderate

The COVID-19 outbreak is anticipated to moderately affect the Machinery and Equipment Wholesaling subdivision. Machinery and equipment wholesaling firms provide the mining sector with construction equipment, and mining and industrial machinery. Consequently, wholesalers of these products are exposed to declines in demand from mining industries that rely heavily on export activity. Firms that primarily service infrastructure markets are anticipated to perform well, as the Federal Government has identified infrastructure construction as a sector that can be ramped up to bolster the economy.

The containment effort is anticipated to boost demand for the Medical and Scientific Wholesaling industry. Scientific researchers studying the virus, and hospitals testing and treating patients require specific equipment and instruments. Consequently, rising requirements for specialised tools are anticipated to boost demand for this industry.

F35 Motor Vehicle and Motor Vehicle Parts Wholesaling: High

The COVID-19 outbreak is anticipated to have a high effect on the Motor Vehicle and Motor Vehicle Parts Wholesaling subdivision. Passenger vehicles have not been manufactured in Australia since 2017. As a result, wholesalers purchase all passenger vehicles from overseas. Disruptions to manufacturing activities in major vehicle-producing countries such as Japan, South Korea, Germany and the United States are expected to significantly inhibit wholesalers' ability to source vehicles. Negative consumer sentiment is expected to weaken retail demand for new vehicles and therefore weaken demand for new vehicle wholesalers. However, consumers will still need parts for existing vehicles, maintaining demand for retailers and servicers that acquire parts from wholesalers.

Motor Vehicle New Parts Wholesaling firms also source a significant proportion of products from the United States, China, Japan and Thailand. Reduced global manufacturing activity and logistic delays are anticipated to negatively affect wholesalers' ability to source parts.

The three-step plan to ease restrictions is anticipated to boost consumers' movement and use of vehicles, driving demand for new cars and parts from retailers. This demand is anticipated to flow through to wholesalers.

F36 Grocery, Liquor and Tobacco Product Wholesaling: High

The COVID-19 outbreak is anticipated to highly affect the Grocery, Liquor and Tobacco Product Wholesaling subdivision. Over the first several weeks of the lockdown, many consumers bought large quantities of non-perishable items including pasta, canned foods and other pre-packaged items. This behaviour significantly increased demand for operators in the Soft Drink and Pre-Packaged Food Wholesaling industry. Major supermarkets Coles and Woolworths had reported empty shelves due to consumers stockpiling goods and increasingly shifting to cooking at home rather than eating out. Supermarkets are anticipated to rely heavily on wholesalers to source highly sought-after products. However, easing restrictions have reduced the strain on the grocery supply chain, as consumers have largely ceased stockpiling activity. In addition, the gradual opening of cafes and restaurants across states and territories is anticipated to boost demand for food wholesalers from the food service sector, while moderating demand from supermarkets.

F37 Other Goods Wholesaling: High

The COVID-19 outbreak is anticipated to highly affect the Other Goods Wholesaling subdivision. Wholesalers of textile products, clothing, footwear, paper products, furniture and floor coverings, jewellery and watches, kitchen and diningware, and recreational goods source many of their products from overseas markets. In particular, the Knitted Product Manufacturing industry exhibits the highest exposure to imports from China of all Australian manufacturing industries. Consequently, logistical delays and reduced manufacturing activity in China are anticipated to strongly inhibit wholesalers' ability to source low-cost goods. A weak retail environment has also negatively affected demand for wholesalers over March and April. Restrictions on non-essential shopping are being eased under the Federal Government's three-step plan. This change is anticipated to boost demand from the downstream retail sector. However, demand from retailers will likely remain weak as high unemployment and declining incomes discourage consumers from shopping.

Retail Trade

G39 Motor Vehicle and Motor Vehicle Parts Retailing: Moderate

COVID-19 is expected to have a moderate effect on Australia's Motor Vehicle and Motor Vehicle Parts Retailing subdivision. In value terms, China, the United States and Germany make up over 50.0% of imported motor vehicle parts in Australia. The temporary closure of many motor vehicle and motor vehicle parts manufacturing facilities in these countries is anticipated to disrupt supply lines and potentially raise the price of aftermarket components. Furthermore, declines in consumer sentiment associated with the COVID-19 outbreak suggest that some consumers may delay major purchases, including cars and motorcycles, causing subdivision demand to fall slightly.

G40 Fuel Retailing: High

The Fuel Retailing industry is the sole industry in this subdivision. Due to the outbreak of COVID-19, global manufacturing activity and motor vehicle travel has fallen, placing downward pressure on global demand for crude oil and resulting in a decline in petrol prices in Australia. Furthermore, lower global tourism activity has reduced oil consumption by airlines, further decreasing global demand for crude oil. As a result, global oil prices have declined significantly over the first three months of 2020. In April 2020, US crude oil prices became negative due to limited storage capacities and weak demand globally, which led to a significant sell-off of crude oil. However, OPEC+ reached an agreement to reduce crude oil production by approximately 10% (9.7 mb/d), which will come into effect on 1 May 2020. This is expected to provide relief to oil prices and place upward pressure on domestic retail fuel prices in the short-term. Prices in the Fuel Retailing industry are anticipated to follow similar trends to those of global oil prices. Although petrol prices are expected to decline in the short-term, the severity of price falls will likely be moderated by decreasing oil production. Overall, falling petrol prices are anticipated to reduce industry revenue but have

little effect on profit. Although over 55.0% of refined petroleum sold in Australia is imported, the impact on supply chains is expected to be light.

G41 Food Retailing: Moderate

The Food Retailing subdivision will likely be moderately affected by COVID-19, but report a minimal overall change in revenue. Weakened demand globally is expected to encourage meat and produce exporters (at the manufacturing level, such as the Meat Processing industry) to divert stock to the domestic market. Consequently, supply will likely increase for fresh food retailing industries. Although particular products may have limited availability, Australia produces approximately three times more food than it consumes. Therefore, no immediate or ongoing food shortages are likely. Consumers stockpiling canned goods in anticipation of a severe pandemic is expected to boost short-term demand for food retailers. Due to concerns of shortages, retailers have also reported increased demand for products such as toilet paper, slightly boosting expenditure at supermarkets. Overall, fresh food prices are expected to decline modestly, unless retailers do not pass on lower costs to consumers.

G42 Other Store-Based Retailing: Very High

The Other Store-Based Retailing subdivision is expected to be highly affected by the COVID-19 outbreak. The Federal Government restricted all non-essential services and activities from 23 March 2020. As a result, many non-essential retail stores have closed due to these restrictions. Although some retailers will still be able to operate through online retail channels, many smaller stores without online retail capabilities will be forced to temporarily cease trading. Employee numbers and wage costs are expected to fall, as many non-essential retailers reduce staff as stores are unable to open for a prolonged period.

However, the Federal Government has provided assistance to retail businesses affected by COVID-19. On 22 March 2020, the second stage of the stimulus package was announced, providing up to \$100,000 to small and medium sized enterprises (SMEs) and not-for-profits that employ people with an annual wage of \$20,000 or more. This is expected to boost cash flow for SME retailers, allowing businesses to pay fixed operating costs and retain staff during the downturn period. Additionally, on 30 March 2020, the Federal Government implemented the JobKeeper payment scheme, which aims to support staff retention for businesses affected by COVID-19. This scheme will provide fortnightly payments to significantly affected businesses of up to \$1,500 per eligible employee for a maximum of six months. This payment is expected partially offset the drop in employee numbers from affected businesses in the Other Store-Based Retailing subdivision, as operators can keep paying employees while stores are temporarily closed.

On 8 May 2020, the Federal Government announced a 3-Step Framework for a COVIDSafe Australia, which provides guidance to state governments on how to loosen restrictions. The Federal Government expects states to lift most restrictions by July 2020. All states have begun to initiate step one of the framework. As a result, retail stores and shopping centres have started to reopen, with store managers developing COVIDSafe plans to minimise risk of infection. This change is expected to provide relief to bricks-and-mortar retail stores and support a gradual rebound in retail sales.

Supply disruptions related to COVID-19 will likely have a significant impact on the Other Store-Based Retailing subdivision, as only a small proportion of subdivision products are produced domestically. Supply from the United States, Europe and Asia is expected to be significantly disrupted in the short-term, as manufacturers have had to temporarily shut down or reduce productivity over the outbreak period. For example, a significant proportion of electronics products sold in Australia are imported from China. Supply will therefore likely be affected for industries such as the Computer and Software Retailing industry, the Domestic Appliance Retailing industry and the Electrical and Lighting Stores industry. Other industries are generally more diversified regarding the origin of imported products. Despite supply disruptions, declining consumer sentiment following the COVID-19 outbreak is expected to most acutely affect sales of subdivision products. As a result, this decline in demand is anticipated to intensify the retail sector's already weak performance outlook for 2019-20.

Accommodation and Food Services

H44 Accommodation: Very High

The Accommodation subdivision, as part of the wider tourism sector, has been significantly affected by the COVID-19 outbreak. The Federal Government's ban on overseas visitors entering Australia from 20 March has removed a key market for industry operators. Only Australian citizens, residents and their immediate family members may enter Australia, and all arrivals are required to enter quarantine for 14 days following their arrival. This trend is expected to significantly reduce demand for industry services.

Demand from domestic tourism is also expected to decline sharply due to travel restrictions imposed on Australians. All states except New South Wales and Victoria have closed their borders to interstate travellers. Additionally, state governments across Australia have announced restrictions on all non-essential activities, such as visiting hotels, except for essential reasons. Consumers can face substantial fines for making unessential journeys. These restrictions are anticipated to result significantly limit demand from domestic tourists, driving further declines in industry revenue.

On 8 May, the Federal Government announced its 3-Step Framework for a COVIDSafe Australia, outlining the process of easing restrictions. All states are anticipated to complete all steps of the framework by July 2020, allowing operators to return to normal trading. All states and territories have implemented step one of this framework, which continues to severely restrict industry services. From 1 June, accommodation providers across Australia are permitted to provide services to domestic travellers. However, Australia's borders are expected to remain closed to international tourists for the foreseeable future, limiting growth in demand for industry services. Additionally, domestic economic conditions are expected to remain subdued for the foreseeable future, limiting demand from domestic tourists.

Despite revenue being forecast to heavily decline across the subdivision, employment is anticipated to remain relatively steady over the duration of the pandemic. The Federal Government's JobKeeper program provides eligible businesses with \$1,500 per person employed. Businesses are legally required to pass this payment on to their employees.

H45 Food and Beverage Services: Very High

The COVID-19 outbreak is expected to significantly affect operators in the Food and Beverage Services subdivision. On 23 March, the Federal Government announced several measures aimed at slowing the spread of COVID-19 in the Australian community, which mandated the closure of all food and beverage service operators, with the exception of those offering delivery or takeaway services.

Additionally, on 20 March, the Federal Government implemented a ban on all non-Australian citizens and residents entering the country. International tourists make up a key market for subdivision operators. These restrictions are expected to contribute to a sharp downturn in demand for subdivision operators.

While demand for takeaway services is anticipated to rise, it is not expected to outweigh the loss of revenue from people eating at restaurants. The forecast rise in unemployment and the consequent decline in household discretionary incomes are expected to reduce the number of Australians willing to make discretionary purchases, such as takeaway food. Additionally, takeaway services are increasingly being conducted through operators in the Online Food Ordering and Delivery Platforms industry. These operators can charge commissions on orders of over 30%, which can substantially reduce the margins available to operators. Consequently, subdivision revenue and profitability are expected to decline sharply over the course of the pandemic.

On 8 May, the Federal Government announced its 3-Step Framework for a COVIDSafe Australia, outlining the process for easing restrictions. All states and territories have implemented step one of this framework, allowing most food and beverage service providers to open with up to ten seated customers at a time, if they have sufficient space to maintain four square metres per individual. However, some states and territories have diverged from this framework. As of 1 June, operators in Victoria, Western Australia and

the Australian Capital Territory are allowed to open to seat 20 patrons at a time. Operators in Queensland and South Australia are permitted to open to a maximum of 20 patrons per room. Operators in New South Wales are permitted to seat 50 patrons at a time, while in Tasmania operators are only permitted to seat 10 individuals. Operators in the Northern Territory are permitted to open to an unlimited number of individuals. While capacity limits vary between the states and territories, all operators nation-wide must adhere to the one person per four square metre rule.

Despite restrictions easing across the country, many states and territories remain closed to international and interstate travellers. Tourists make up a significant market for subdivision operators. Additionally, declines in discretionary incomes are anticipated to limit demand for discretionary food and beverage purchases. Consequently, revenue for these operators is expected to remain subdued.

Despite the anticipated contraction in subdivision revenue and profitability due to the COVID-19 outbreak, industry employment is expected to remain largely stable. The Federal Government's JobKeeper program provides eligible businesses with \$1,500 per person employed. Businesses are legally required to pass this payment on to their employees.

Transport, Postal and Warehousing

I46 Road Transport: Very High

Most of Australia's non-bulk freight is transported by road. Operators in the Road Freight Transport industry are considered an essential service, and play a key role in transporting essential goods throughout the country. However, operators generate a substantial portion of their revenue transporting goods for downstream manufacturers and retailers, many of which have been forced to close due to COVID-19. Additionally, operators play a key role in transporting goods to and from export markets. The World Trade Organisation expects the ongoing pandemic to reduce global trade by up to 30%. Consequently, Australia's domestic freight task is expected to decline over the course of the pandemic, reducing the amount of goods requiring transport on Australia's roads. This trend is expected to contribute to a downturn in demand for road freight transport services, driving a decline in industry revenue and profitability. However, on 8 May, the Federal Government announced its 3-Step Framework for a COVIDSafe Australia, which outlines how restrictions will be eased. While progress has varied between states and territories, all states and territories have implemented stage one of the framework, which is expected to support business activity and increase demand for road freight services.

Demand for road passenger transport is expected to decline significantly over the duration of the pandemic. Social distancing restrictions have led to a sharp increase in the number of Australians working remotely, reducing demand for commuter bus services and taxi services. Easing restrictions across Australia, as states and territories implement stage one of the Federal Government's 3-Step Framework for a COVIDSafe Australia, are expected to increase demand for road passenger transport services.

A slowdown across the global economy is expected to result in a sharp drop in the world price of crude oil, with the price per barrel falling below negative for the first time in history. The Road Transport subdivision competes fiercely against the Rail Transport subdivision, with road transport generally more fuel intensive than rail transport. Consequently, the decline in the world price of crude oil is expected to provide a competitive advantage to the road transport subdivision, somewhat limiting the decline in subdivision revenue. A slowdown in Australia's international trade will significantly affect the Road Freight Transport industry by reducing the amount of freight requiring transport services.

I47 Rail Transport: Very High

Rail freight transport dominates the movement of Australia's non-bulk freight. Australia is a net exporter of commodities. The Rail Freight Transport industry provides a key service in aiding Australia's mining and agricultural sectors to transport products to export markets. Australia's largest export to China is iron ore. Demand from this market fell substantially in early 2020, due to the initial outbreak of the virus from

China. However, demand from this market has recovered slightly, as restrictions are being gradually lifted in China. Nevertheless, demand from other major markets, such as the United States, Europe and India, are expected to contract significantly for the remainder of the financial year. These trends are expected to substantially reduce revenue and profitability over the course of the pandemic.

While the Rail Freight Transport industry dominates the transport of Australia's bulk freight task, it competes heavily against the Road Freight Transport sector in non-bulk segments. The slowdown in the global economy has resulted in a sharp decline in the world price of crude oil, with the price per barrel becoming negative in April 2020, for the first time in history. Road transport is generally more fuel intensive than rail transport. Consequently, declines in the world price of crude oil are expected to provide a competitive advantage for the road transport subdivision, intensifying revenue declines for the Rail Freight Transport industry.

The Rail Passenger Transport industry is also expected to be negatively affected by the ongoing pandemic. Social distancing restrictions and more Australians working from home have substantially reduced demand for rail passenger transport. Overall, subdivision revenue and profitability are forecast to decline due to the ongoing COVID-19 pandemic. However, restrictions have been eased across the country from late April, which is expected to encourage increased business activity, and consequently demand for rail passenger transport services as more Australians return to work.

I48 Water Transport: Very High

Australia's status as an island nation ensures all of its international trade is carried out by air or sea. Air Freight Transport is generally expensive, and only suitable to high-value, time-sensitive products. Consequently, most of Australia's international trade is carried by the Water Freight Transport industry. The downturn in the global economy due to the ongoing COVID-19 pandemic is expected to result in a decline in international trade. The World Trade Organisation estimates global trade to contract by up to one-third over the course of the pandemic. Additionally, the decline in real household discretionary incomes is expected to result in reduced demand for consumer goods. These trends are expected to result in a marked drop in domestic demand for overseas goods. Furthermore, an expected downturn in the global economy will likely reduce demand for Australian produced goods exported to overseas markets. Consequently, demand for water freight transport services is expected to decline significantly in the current year, constraining industry revenue and profitability.

Additionally, the Water Passenger Transport industry is expected to struggle with declining passenger numbers as a result of the COVID-19 outbreak. Government restrictions on non-essential travel and growth in the number of Australians working from home are expected to result in a decline in demand for water passenger transport services such as commuter ferries. Additionally, on 15 March the Federal Government implemented a ban on all cruise ships docking in Australia. Negative media coverage of passengers stranded on cruise ships and the speed at which the virus has spread on these vessels is expected to significantly reduce demand for cruise travel over the medium term.

I49 Air and Space Transport: Very High

The COVID-19 outbreak is expected to substantially reduce demand for air transport. On 20 March, the Federal Government implemented a ban on all non-Australian citizens or residents from entering the country. Additionally, all arrivals into Australia had to undergo forced quarantine for a period of two weeks. These restrictions have substantially reduced demand for air travel and led to Australia's airlines grounding most of their fleet. In late March, many Australian state governments closed their borders to interstate tourists, further reducing demand for air travel.

Australia's two largest airlines, Qantas and Virgin, are no longer operating international flights. Qantas has announced it will not resume international flights until at least May. However, on 16 April, the Federal Government announced a \$165 million support package for Qantas and Virgin to continue some domestic flights between Australia's capital cities, and regional centres. This support aims to allow Australians

who have recently arrived from overseas to return to their home state, and is expected to have minimal influence on subdivision revenue. On 21 April, Virgin Australia, Australia's second largest airline entered voluntary administration, due to its poor financial position.

Australia's existence as an island ensures all international trade is carried by air or sea. Air freight transport is generally expensive and reserved for high-value, time-sensitive products. The slowdown in Australia's international trade is expected to reduce demand for air freight services. However, increased demand for time-sensitive imports of personal protective equipment and other medical supplies has limited declines in demand for industry services. Additionally, on 2 April, the Federal Government implemented a \$110 million scheme aimed at improving agricultural exports via air. This scheme is also expected to limit the decline in demand for air freight services.

I50 Other Transport: Very High

On 20 March, the Federal Government implemented a ban on all non-Australian citizens and permanent residents entering Australia. This trend is expected to result in a sharp decline in international tourism. Additionally, demand from domestic tourism is also expected to decline sharply due to travel restrictions imposed on Australians. All states except New South Wales and Victoria have closed their borders to interstate travellers. Additionally, state governments across Australia have announced restrictions on all non-essential activities. The Scenic and Sightseeing Transport industry relies heavily on tourists for revenue. Consequently, declining tourist numbers are expected to result in a sharp drop in revenue for subdivision operators. Additionally, the slowdown in the economy has resulted in many manufacturers and retailers closing their businesses, reducing demand for natural gas and oil. These trends are expected to negatively affect the Pipeline Transport industry. However, restrictions have been eased across the country since 11 May, which is expected to increase business activity and support demand across the subdivision.

I51 Postal and Courier Pick-up and Delivery Services: High

The COVID-19 virus outbreak is expected to have a mixed effect on the Postal and Courier Pick-Up and Delivery Services industry. The global economy is expected to enter a downturn due to the ongoing COVID-19 pandemic. The closure of many businesses as a result of the virus outbreak is expected to reduce demand for subdivision services from commercial markets. These markets contribute a significant amount to industry revenue. Additionally, real household discretionary income and consumer sentiment are anticipated to decline in the current year. These trends are expected to contribute to Australians making fewer discretionary purchases, subsequently reducing demand for consumer goods.

On the other hand, the Federal Government's restrictions on non-essential travel have prompted many Australian retailers to close their physical locations due to lack of foot traffic and continue operating online only. These restrictions are expected to boost demand from online shopping when Australians need to make purchases. Products purchased online are generally delivered by subdivision operators, boosting demand for industry services. Rising demand for online shopping has led to a sharp increase in the volume of parcels requiring delivery. This trend has prompted Australia Post to announce its intention to reduce metropolitan letter deliveries to once every second day, allowing the company to focus on parcel delivery. Additionally, the company has also announced that it would no longer commit to next-day delivery services. Australia Post is the dominant player in the subdivision. Consequently, the company is expected to improve revenue and profitability in the current year. Overall, increased demand from consumers is expected to offset reduced demand from commercial clients.

On 8 May, the Federal Government announced its 3-Step Framework for a COVIDSafe Australia, outlining how restrictions would be eased. All states and territories have implemented step one of the framework, allowing for retailers with a COVIDSafe plan to reopen. Consequently, demand for bricks-and-mortar retailers is expected to rise, limiting growth in demand from online shopping. Loosening restrictions are therefore expected to somewhat reduce demand for industry services.

I52 Transport Support Services: Very High

The Transport Support Services subdivision provides several services to the wider transport sector. A slowdown in international trade is expected to reduce demand for freight transport services and consequently subdivision operators. Declining demand for Water Freight Transport services is expected to reduce demand for stevedores, as well as other industries based around ports and reliant on international trade. The World Trade Organisation has estimated that global trade will decline by up to 30% in the current year, due to the expected slowdown in global economic conditions.

Operators providing freight forwarding services are expected to face a decline in demand, associated with many businesses closing and a fall in international trade. Reduced demand for freight services is expected to result in a decline in domestic freight rates, contributing to declining revenue and profitability.

I53 Warehousing and Storage Services: High

Subdued international trade between Australia and its trading partners is expected to disrupt supply chains across the economy. The Warehousing and Storage Services subdivision generates significant revenue providing storage services for products waiting for export and imports awaiting customs clearance. The World Trade Organisation has estimated that global trade may decline by up to 30% over the course of the pandemic. This trend is expected to reduce the volume of products being imported and exported into Australia, and consequently a decline in the volume of goods requiring storage.

However, government regulations on social distancing have prompted a number of retailers to close their physical operations. Additionally, the expected decline in consumer sentiment and discretionary incomes is anticipated to reduce demand for consumer goods. Consequently, retailers are expected to struggle to clear existing stock, boosting demand for subdivision services. Restrictions are being eased across the country, in line with the Federal Government's 3-Step plan for a COVIDSafe Australia. All states and territories have implemented stage one of this framework, allowing retailers that develop a COVIDSafe plan to open. The loosening of restrictions is expected to increase retail activity and reduce demand for storage services. Overall, the COVID-19 pandemic is expected to have a net negative effect on the Warehousing and Storage Services subdivision.

Information Media and Telecommunications

J54 Publishing (Except Internet and Music Publishing): High

The Publishing subdivision is expected to be highly affected by the COVID-19 outbreak. Demand for newspaper, magazine and book publishing is anticipated to decline as many consumers limit their spending on discretionary goods. However, declining demand for book publishing is expected to be partly offset by some consumers stocking up on books as a home entertainment option. Travel restrictions are anticipated to reduce demand for educational books used in higher education settings, as many international students remain abroad and will potentially suspend their studies.

Newspaper publishers have reported significant declines in advertising revenue due to the COVID-19 outbreak, with News Corp Australia announcing that it would close 60 regional newspapers. In May 2020, News Corp Australia announced that most of its regional and community newspaper titles would move to online-only publication. Regional media publisher Australian Community Media announced in mid-April that it would stop publishing several of its newspapers and close some of its printing facilities due to falling revenue. The day after Australian Community Media's announcement in April 2020, the Federal Government said it would provide a \$50.0 million support package for public interest journalism in rural and regional areas. The package aims to bolster regional and remote TV broadcasters, newspapers and radio stations. Declines in advertising spending have also affected magazine publishers, with Bauer Media announcing in April 2020 that it would temporarily suspend publication of some of its magazine titles.

The Software Publishing industry is anticipated to be largely unaffected by COVID-19. Software developers

can work remotely, removing the risk of the virus spreading through office collaboration. The largest industry risk comes from software purchases by downstream industries. Software has become a vital part of many industries across the economy, supporting demand for industry products. While orders for some software may decline, orders are expected to surge for software that can help businesses overcome disruption caused by the COVID-19 outbreak, such as software that enables easier remote working operations, counteracting any potential declines in demand.

J55 Motion Picture and Sound Recording Activities: Very High

The Motion Picture and Sound Recording Activities subdivision is anticipated to be heavily affected by the COVID-19 outbreak. Film and video production and distribution activity has largely been halted by restrictions on public gatherings as continued production creates a high risk of spreading COVID-19. Production delays will likely lead to weaker demand for post-production services over the short term, particularly for movies. Some productions have resumed in compliance with social distancing guidelines, with Fremantle Australia resuming production of its soap opera *Neighbours* in late April 2020. Sound recording activities are anticipated to be affected to a lesser extent, as they require fewer staff and could potentially be undertaken while still following public health guidelines. On 27 April, the Victorian Government announced a \$16.8 million package for workers in creative fields, such as film and television production, to mitigate the decline in activity caused by COVID-19. Domestic film and TV productions are anticipated to continue as the government lifts restrictions on movement and gatherings across Australia. However, film and TV producers have flagged difficulties in acquiring insurance cover that would cover potential future disruptions related to COVID-19.

The Cinemas industry is anticipated to be the most affected in the subdivision, as public health restrictions have forced cinemas across Australia to close. Consumer demand for SVOD services, such as Netflix and Stan, is expected to rise as social gathering restrictions mean that individuals spend more time at home. Furthermore, major studios are expected to rework their release schedules for major movie titles over the next few months, potentially dampening demand for cinemas when they are permitted to reopen. Cinemas across Australia are gradually reopening under Stage 2 of the Federal Government's reopening guidelines, albeit with a limit of 20 patrons per cinema. Although Stage 3 will allow for up to 100 patrons, cinemas will still need to comply with physical distancing and hygiene guidelines. Consequently, capacity restrictions are anticipated to limit revenue generated by cinema operators.

J56 Broadcasting (Except Internet): High

The Broadcasting subdivision is expected to be significantly affected by COVID-19. Advertising revenue is anticipated to decline substantially as the economic downturn leads businesses to re-evaluate demand from consumers and the need to advertise. However, advertising for other products, particularly health-related products such as hand sanitiser, will likely increase, partly offsetting the overall decline. In addition, more viewers are expected to tune in to TV and radio broadcasts due to restrictions on movement and social gatherings. Nevertheless, falling advertising revenue, production delays for new content, and the postponement and cancellation of major sporting leagues and events are all expected to negatively affect revenue for broadcasters.

In response to declines in advertising revenue, the Federal Government has suspended content quotas for broadcasters in 2020. These quotas require commercial free-to-air broadcasters to program 55.0% Australian content between 6.00 am and midnight. Pay-TV broadcasters are required to spend 10.0% of their program expenditure on Australian content. The quota suspensions will likely encourage networks to purchase more broadcast rights to content produced overseas rather than invest in locally made content. The Federal Government has indicated that it would consider extending the quota suspension through to the end of 2021 should broadcasters require further support.

J57 Internet Publishing and Broadcasting: High

The COVID-19 outbreak is expected to have a significant effect on the Internet Publishing and Broadcasting industry. Some industry segments, such as online property listings, are anticipated to be moderately disrupted, as the Federal Government temporarily banned in-person property auctions and public inspections. Restrictions on residential property inspections are gradually being lifted across Australia, supporting demand for online property advertisements. Online-only media publishers have been significantly affected by declining advertising revenue, with BuzzFeed announcing in May 2020 that it would close its Australian news operations. In the same month, Network 10 also announced that it would close its 10daily online news site.

Other segments of the industry, such as subscription video-on-demand services, are anticipated to benefit from stronger demand as consumers spend more time at home. For example, SVOD provider Netflix has doubled its subscriber forecast for Australia as consumers have flocked to the service in response to public health restrictions on movement. In addition, several arts organisations have launched online streaming platforms in response to restrictions on live performances, such as Opera Australia launching a free online streaming service in May 2020.

J58 Telecommunications Services: Moderate

Telecommunications services are anticipated to be moderately affected by COVID-19. Telecommunications networks rely far more heavily on technology, rather than labour. The greatest potential risk is a shortage of labour for repairs, which could render elements of a network inoperable. However, even in an extreme scenario, disruptions to telecommunications networks remain unlikely.

J59 Internet Service Providers, Web Search Portals and Data Processing Services: High

The Internet Service Providers, Web Search Portals and Data Processing Services subdivision is anticipated to be highly affected by the COVID-19 outbreak. Internet service providers and data processing services are expected to benefit from more individuals working from home, boosting demand for broadband and cloud storage services. However, players in the Data Storage Services industry may face challenges from COVID-19 if demand rises rapidly, as the resources used to construct and operate data centres are largely sourced from overseas.

Internet service providers may also be negatively affected by the COVID-19 outbreak, as the NBN pricing model for data charges is based on total bandwidth used. A spike in the number of individuals working remotely could place additional strain on service providers' networks, forcing them to pay overage charges to NBN and resulting in a net deficit despite greater demand. According to NBN Co, network demand has increased by approximately one-quarter due to the COVID-19 outbreak. On 17 April 2020, NBN Co announced a \$150.0 million assistance package for internet service providers to support customers that now require home internet services for educational and business purposes.

J60 Library and Other Information Services: Moderate

The COVID-19 outbreak is expected to have a moderate effect on the Library and Other Information Services subdivision. Although demand for libraries and public archives is anticipated to fall as restrictions on social gatherings cause these venues to close, this subdivision is largely publicly funded. Consequently, a short-term decline in demand is unlikely to have any long-term negative effects on operators in this subdivision. These venues are gradually reopening as restrictions on public gatherings are relaxed across Australia.

Financial and Insurance Services

K62 Finance: Moderate

While not directly affected in terms of trade and supply chain disruptions, the Finance subdivision is anticipated to be indirectly affected by movements in the financial markets and changes to the cash rate. The RBA's latest decision to make an emergency cash rate cut to 0.25% in March was largely due to the risk posed by the COVID-19 outbreak to both domestic and global economy growth. Several other central banks and governments abroad have also lowered interest rates and announced stimulus packages to protect their economies from the outbreak. These decisions to further ease monetary policy are anticipated to lower interest revenue earned by banks and other lenders as they pass on the rate cuts to borrowers. Furthermore, the profitability and net interest margins of lenders are likely to be squeezed.

Volatility in financial markets has also affected operators in the Financial Asset Investing industry. Sharemarkets both locally and abroad reached record highs before posting some of the largest declines in the last week of February since the global financial crisis. Many local companies releasing half year results downgraded their forecasts and warned of the impact to their earnings, especially those with high exposure to Chinese demand. Investors have rushed towards safer assets like bonds and this trend is expected to weigh on the returns of operators over the current year.

The big four banks are anticipated to announce their half-year results on May 7. However, NAB has announced its profits two weeks earlier, on 27 April 2020. NAB has launched a \$3.5 billion capital raising after its first-half cash earnings more than halved to \$1.46 billion. ANZ and Westpac have also reported slumps in profit as they have made provisions for losses related to COVID-19. Both ANZ and Westpac have deferred dividend payouts due to current economic uncertainty resulting from the outbreak. ANZ cut cash earnings to \$1.43 billion, while Westpac's cash earnings fell to \$993.0 million.

K63 Insurance and Superannuation Funds: Moderate

Insurers are likely to face more enquiries regarding trip cancellations and business interruptions, although claims paid out to COVID-19 related events are unlikely to be significant. However, investment revenue for insurers is projected to decline in the current year. This decline is due to lower returns in equities, fixed interest investments and indirect investments, largely in the March quarter.

Many insurers classed the COVID-19 outbreak as a known event at the end of January, so insurance taken up after those dates are unlikely to cover COVID-19 related claims. Furthermore, exclusions apply to many standard travel insurance policies where the insurer does not provide cover for pandemic, epidemic and virus outbreaks. However, many insurers that cover an epidemic or pandemic have cut off cover for claims resulting from COVID-19 from around 21 January 2020 for travel to China and 31 January for travel worldwide. As the Department of Foreign Affairs and Trade escalated the Do Not Travel alert to a travel ban on 24 March, travel insurers have faced higher claims for policies purchased prior to the last week of January. Consequently, revenue growth for the Travel Insurance industry in Australia has been adjusted from an increase of 2.4% to an increase of 0.3% in 2019-20.

Health insurers are anticipated to be negatively affected by the COVID-19 outbreak. Elective surgeries were put on hold across Australia from March to April 2020, as the COVID-19 outbreak resulted in hospitals cancelling elective surgeries. Despite this factor, insurance premiums have remained the same. However, major private health insurers have delayed scheduled premium increases for the year.

General insurers that provide business and commercial insurance offer business interruption (BI). However, many standard BI policies may not provide cover for claims related to COVID-19. Businesses may find it difficult to make claims, especially as exclusions may include diseases and viruses, and claims are often related to property damage or physical loss.

However, the COVID-19 outbreak is not expected to have a substantial impact on life insurers and reinsurers unless the situation escalates significantly. However, investment returns are a key component

and driver of revenue for insurers. Insurers will likely see declines in investment returns over the current year due to fluctuations in the equity markets.

Despite significant volatility in financial markets, the Superannuation industry will likely be relatively unaffected compared with other financial and insurance services operators. The focus on long-term performance by superannuation funds given the objective of retirement planning is anticipated to help operators withstand the fluctuations in sharemarkets. However, superannuation funds are likely to take a hit to investment returns over the current year.

K64 Auxiliary Finance and Insurance Services: Moderate

The Auxiliary Finance and Insurance Services subdivision is anticipated to be mostly unaffected by the COVID-19 outbreak. Operators in this subdivision are not expected to be directly affected by the virus, and demand and activity for auxiliary finance and insurance services will likely remain otherwise unchanged. Current forecasts will likely remain unchanged as the industry is largely serviced-based and does not face major supply chain disruptions.

Rental, Hiring and Real Estate Services

L66 Rental and Hiring Services (Except Real Estate): Very High

COVID-19 is expected to significantly affect the Passenger Car Rental and Hiring industry. Travel restrictions are likely to negatively affect industry operators, as firms rely on both domestic and international travellers. Significant declines in global tourism and travel restrictions are expected to cause demand for short term vehicle rental services to fall. Demand from business customers, which account for approximately 45 % of revenue for the Passenger Car Rental and Hiring industry, is anticipated to be less severely affected, as many of these vehicles are operated on long term leases. However, subdivision firms are expected to experience a strong decline in demand from new businesses, and some existing customers may have difficulty meeting their lease obligations. Overall, revenue for the Passenger Car Rental and Hiring industry is anticipated to fall by 6.4 % in 2019-20. On 8 May, the Federal Government announced a 3-Step Framework for relaxing domestic restrictions. This framework may support increased demand for some operators in the subdivision, with local and regional travel allowed at step one and some interstate travel allowed at step two. However, despite some states moving to relax lockdown restrictions earlier than others, demand is anticipated to remain subdued.

Other industries in the subdivision are less exposed to tourism markets. However, a slowdown in general economic activity is anticipated to lower subdivision demand. Construction activity is anticipated to be heavily affected by the COVID-19 outbreak, with dwelling commencements projected to fall by over 15 % in 2019-20. Weak demand for new housing and project delays may reduce demand for transport equipment, machinery and scaffolding rentals. However, demand from infrastructure is anticipated to provide some relief for the subdivision, as the federal and state governments seek to support economic activity. For example, the Victorian Government announced a \$2.7 billion infrastructure package and assembled the Building Victoria's Recovery Taskforce to support activity in the construction sector during the COVID-19 outbreak and encourage economic activity. The federal and state governments are also anticipated to introduce support for the residential construction sector through possible homebuyer grants or changes to stamp duty, supporting demand for subdivision services. As economic activity picks up, a recovery in some commodity prices, such as iron ore, may also support some demand for transport equipment and machinery rentals. Other industries in the subdivision are forecast to be affected by the closure of non-essential services and a general slowdown in economic activity.

L67 Property Operators and Real Estate Services: Very High

Australia's property management subdivision is expected to be heavily affected by COVID-19. Social distancing measures and the general slowdown in economic activity have reduced revenue for many retail

and commercial businesses, making it difficult for some firms to meet their rental obligations. As a result, several major retailers have indicated their intention to forgo paying rent for the duration of store closures. Furthermore, a prolonged slowdown in retail activity may threaten the viability of some retailers, affecting retail property operators. As employers embrace flexible working arrangements due to social distancing measures, demand for office space may fall. This factor may lead to ongoing changes in the way businesses operate, with some firms shifting permanently to flexible working arrangements for employees, adversely affecting office property operators. While industrial property operators are anticipated to be less severely affected, slowing economic and international trade activity may create issues for some tenants. The move to relax restrictions on businesses is anticipated to provide some support for the subdivision. However, some firms may have to make alterations to buildings or floor plans to ensure that they can effectively implement social distancing measures in their properties.

As a result of COVID-19, the National Cabinet introduced the Mandatory Code of Conduct for SME Commercial Leasing Principles, which relates to commercial tenancies. The code, which applies from 3 April, seeks to balance the interests of landlords and tenants, with the stated objective 'to share, in a proportionate, measured manner, the financial risk and cashflow impact during COVID-19'. The code applies to businesses eligible for the Government's JobKeeper assistance scheme with an annual turnover of up to \$50.0 million. The code provides guidelines for rent reductions, freezes on rent increases and prohibits the termination of leases for non-payment of rent. The code also outlines that tenants must remain committed to the terms of their lease to continue receiving protections under the code.

Restrictions on auctions and inspections are anticipated to weigh on property transaction volumes, reducing demand for real estate services. On 8 May, the Federal Government announced a 3-Step Framework to relax domestic restrictions, with states and territories relaxing restrictions at different rates. While residential property transaction volumes are anticipated to remain low, the resumption of physical inspections and auctions is anticipated to support increased activity in the subdivision. Despite this, both commercial and residential real estate transaction volumes are anticipated to fall as a result of COVID-19. Properties are anticipated to remain on the market for longer, and auction clearance rates are anticipated to remain weak. This is expected to significantly affect property agents over the current year. For example, revenue for the Commercial Real Estate Agents industry is anticipated to fall by 23.6% in 2019-20. Furthermore, residential property prices are expected to decline, as some property owners fall into negative equity or are forced to sell. In March, banks began providing relief on mortgage repayments for those affected, which may help support falling property prices. Residential housing prices have remained relatively resilient, falling by only 0.5% in May. However, as government support initiatives such as JobKeeper are wound back, and the banks end their six-month mortgage pauses, residential housing prices may come under increased pressure. Many residential property landlords have also had to reduce their rent, as tenants have experienced financial difficulty amid rising unemployment. A decline in international visitors is also anticipated to reduce demand for short term property rentals, leading to some Airbnb properties likely being offered as longer-term leases. This factor, combined with rising unemployment and a fall in net migration, is expected to weigh on rental prices for residential properties and adversely affect operators in the Residential Property Operators industry.

Professional, Scientific and Technical Services

M69 Professional, Scientific and Technical Services: High

The Professional, Scientific and Technical Services subdivision is anticipated to be highly affected by the COVID-19 outbreak. In early April, the ABS reported that about 96% of businesses in the subdivision were still operating. However, about 36% of subdivision businesses had made changes to their workforce, including changing work locations, reducing hours or placing staff on paid leave. Travel restrictions are expected to decrease business activity from the subdivision's international clients and customers. Operators in the Architectural Services industry and the Engineering Consulting industry are expected to contend with reduced foreign investment as a result of the COVID-19 outbreak. This factor may limit future expansion of larger projects that require foreign investment. Some construction projects are

anticipated to have difficulty attaining funding or be postponed due to economic uncertainty, which may further reduce demand for architectural and engineering services. However, operators may benefit from government efforts to support economic activity through increased infrastructure spending. For example, the Victorian Government announced a \$2.7 billion infrastructure package and assembled the Building Victoria's Recovery Taskforce to support activity in the construction sector during the COVID-19 outbreak. The taskforce has the ability to fast-track planning approvals through ministerial powers, and has a mandate to investigate options for boosting activity over the short, medium and long term. The federal and state governments are expected to announce further measures to support employment and activity in the residential construction sector, possibly through homebuyer grants and changes to stamp duty.

The Management Consulting industry and the Scientific Research Services industry are expected to be heavily affected by COVID-19. As businesses across most sectors seek to reduce costs in the face of economic uncertainty, demand for consulting services is anticipated to decline. Demand for discretionary services, such as strategy and change management, is expected to significantly decline. Some large professional services providers, including consulting and law firms, have been forced to reduce staff hours and pay in response to slowing business activity and falling utilisation rates. Some major consulting firms have also reduced or delayed the start date for their 2020 graduate intakes. However, some businesses exposed to international markets, particularly in their supply chains, are expected to need advice on mitigating costs associated with COVID-19. This is likely to support some demand for consulting services. On 8 May, the Federal Government announced a 3-Step Framework to relax domestic restrictions, with the states and territories anticipated to ease restrictions at different times. As restrictions ease and businesses affected by the lockdowns begin reopening, an increase in the number of firms seeking to structure themselves to benefit from a recovering economy may support subdivision activity.

Demand for scientific research services is expected to increase, particularly in medical and biological research sectors, as firms work on a vaccine for COVID-19. Revenue for the Scientific Research Services industry is expected to grow by 5.7% in the current year, due to increased capital expenditure by the government and research into COVID-19 and potential vaccines. Both public and private funding for scientific research relating to COVID-19 are expected to increase. For example, in February 2020, the Federal Government fast tracked \$2.0 million in funding for developing a vaccine for COVID-19. In March 2020, the Federal Government allocated \$30.0 million from the Medical Research Fund to vaccine, anti-viral and respiratory medicine research.

M70 Computer System Design Services: Moderate

The COVID-19 outbreak is expected to moderately affect the Computer System Design Services subdivision. The subdivision is services based, with IT consultants largely being able to work remotely for the duration of the COVID-19 outbreak. The subdivision may benefit from increased demand for IT services as more businesses create an online presence and allow employees to work remotely. According to the ABS, over 35% of Australian businesses have changed how they provide products or services, such as shifting to online services. However, many businesses are also likely to reduce expenses, such as consulting costs, in response to a slowdown in economic activity. Companies that focus on computer design and hardware could be moderately affected. Most computer parts, components and hardware are manufactured overseas. As a result, interruptions to international trade may adversely affect supply chains for operators in the subdivision. Demand for future software development projects is forecast to decline slightly as firms delay investment in new projects in an uncertain economic environment. However, as the government announced its 3-Step Framework to relaxing restrictions on 8 May and economy activity starts to recover from the effects of COVID-19, businesses will likely invest more in technology to improve their digital capabilities. This factor is projected to support demand for the subdivision's services.

Administrative and Support Services

N72 Administrative Services: Very High

Most industries in the Administrative Services subdivision are anticipated to be significantly affected by the COVID-19 outbreak. However, the Travel Agency and Tour Arrangement Services industry is expected to be highly affected, due to the Federal Government closing borders to international arrivals and banning Australians from international travel. In addition, the government has discouraged all non-essential domestic travel, with all states except New South Wales and Victoria closing their borders to non-residents. In February 2019, Flight Centre Travel Group Ltd stated that COVID-19 was affecting tourism, particularly to Asian countries, making it difficult for the company to achieve its 2020 revenue target. Revenue and profit for most travel agencies are anticipated to substantially decline over the second half of 2019-20. Travel restrictions already enforced by many businesses have limited corporate travel bookings, further reducing revenue and margins for travel agencies. Although travel restrictions are largely expected to remain in place over the medium term, domestic travel is anticipated to largely resume in mid to late 2020. As at June 2020, domestic travel within certain states and territories, such as Queensland, has resumed. Travel to New Zealand may also resume under a trans-Tasman bubble arrangement between the two countries, with any arrangement likely to be implemented in the second half of 2020. Loosening restrictions on travel will likely provide some support for travel agencies.

Demand for tour arrangement services is expected to decline significantly due to COVID-19, as operators heavily depend on international tourists. Bans on international travel to Australia will likely cause many tour arrangement operators to suspend or end operations. In addition, international tourists are anticipated to delay future travel due to uncertainty over the duration of restrictions on international travel. As a result, a sharp fall in demand is anticipated to significantly reduce profitability and revenue for tour arrangement service operators in 2019-20.

The economic disruption caused by COVID-19 is anticipated to negatively affect demand for job placement and recruitment services. Many employers have frozen or suspended hiring processes in response to lower demand, with ANZ reporting that job advertisements fell by over 50% in April 2020, following a 10% decline in March. Nevertheless, greater demand for workers in some sectors of the economy, such as healthcare, retail and manufacturing, is expected to provide some support for employment placement providers. In addition, demand for call centre workers is anticipated to rise, as businesses significantly affected by COVID-19 will require additional customer service representatives to handle customer enquiries.

N73 Building Cleaning, Pest Control and Other Support Services: High

The COVID-19 outbreak is expected to significantly affect the Building Cleaning, Pest Control and Other Support Services subdivision. COVID-19 is anticipated to significantly affect demand for building cleaning, pest control and gardening services, as deteriorating economic conditions and a greater proportion of employees working from home lead to building operators reducing or postponing scheduled services. However, this trend is expected to be partly offset by additional cleaning requirements from businesses that remain open.

Subdivision operators are expected to be minimally exposed to supply chain disruptions. However, players in the Commercial Cleaning Services industry could potentially face supply constraints relating to hygiene products such as disinfectants and hand sanitiser. In February 2020, retailers Coles, Woolworths and Chemist Warehouse reported a sudden increase in demand for hand sanitiser following growing news coverage of COVID-19. Reduced availability of cleaning supplies is anticipated to increase operating costs for building cleaning services companies. However, supply chains have largely adapted to increased demand for these products.

Public Administration and Safety

076 Defence: Moderate

The impact of COVID-19 on the Australian Defence industry has so far been minor. However, in the event of a significant disruption to the economy as a result of the disease, the effect on the Defence industry would be substantial. Australian Defence Force resources could be required to assist in quarantine measures, to transport medical supplies, and to assist police and firefighting efforts. Military operations could also be directly affected if COVID-19 spread through defence personnel. Australian participation in multi-lateral military exercises may be reduced in an effort to contain the spread of COVID-19.

077 Public Order, Safety and Regulatory Services: Moderate

This subdivision has so far been minimally disrupted by COVID-19. However, certain industries in this sector may be at a higher risk of disruption. The Correctional and Detention Services industry may be at a high risk of COVID-19 exposure, given the close proximity of inmates within jails. Police and firefighting services may be called upon to assist in quarantine maintenance, or to deliver first aid in alternative health emergencies if health resources are pre-occupied with COVID-19. Police officers in some states, including New South Wales and Victoria, can issue fines for non-compliance with social distancing rules. Individuals and businesses found to be breaching social distancing rules can be spot fined or jailed.

Education and Training

P80 Preschool and School Education: Moderate

Preschool and school education establishments will likely be moderately affected by the COVID-19 outbreak. However, fears regarding the spread of the virus have encouraged many parents to keep their children at home, reducing the demand for preschool services. Despite this factor, the Federal Government has announced free childcare for children of all essential workers. The Federal Government has announced funding for childcare during the COVID-19 outbreak. The Federal Government will pay 50.0% of the preschool's fee up to the existing hourly rate cap. The funding will begin from 6 April, based on the number of children in childcare during the fortnight leading into 2 March, regardless of whether the children are attending childcare services. The Federal Government has also announced \$453.2 million funding for preschools in 2021.

While international students account for smaller shares of the student population in this subdivision compared with higher education, bans on overseas travellers are making it difficult for international students to attend Australian schools. However, the Australian Government announced on 22 February 2020 that it has offered limited exemptions from the travel ban for Year 11 and 12 students that remain in China. These students must hold a current visa, have not travelled through the Hubei Province, are not currently unwell and must self-isolate at home for 14 days before attending school.

The COVID-19 outbreak has led to strict movement restrictions across Australia. Schools across Australia either have been providing classes online or have gone on school holiday early from late March. However, all schools across Australia will be fully reopened by the first week of June, as restrictions ease across the country.

Most students in New South Wales have been learning remotely since late March 2020. However, as the state is easing restrictions, its back-to-school plan was announced on 21 April 2020. This plan involves a staggered return to school starting from 11 May. Students will initially return to school for one day a week, and school days will be progressively increased. However, Year 12 students are expected to attend school full-time. Students are anticipated to be at school full-time by 25 May. Enhanced measures, including temperature testings and extra cleaning, will be introduced in schools.

All students in Queensland are anticipated to be back in the classroom by the end of May. However,

kindergarten, preschool and students in years 1, 11 and 12 will return to school on May 11. Schools have fully reopened to students in Queensland from 25 May. In Victoria, schools have been providing distance learning since 15 April, but face-to-face learning is provided to vulnerable students, and students whose parents or caretakers cannot work from home. Most students will be expected to learn online during term two. Free laptops and internet have been provided for students who require them. However, the transition from remote learning to face-to-face learning will start on 26 May. Students in preschool, and years 1, 2, 11 and 12 will return to school on 26 May. All other students are expected to be back in the classroom by 9 June.

Several private schools in the Australian Capital Territory started face to face classes on 11 May. However, public schools will return to classrooms through a staggered return from 18 May. Students in preschool, kindergarten, years 1, 2, 7, and students in year 11 and 12 enrolled in subjects that require classroom work will be the first ones to return to the classroom on 18 May. Students in years 3, 4 and 10 returned on 25 May. Years 5, 6, 8 and 9 will be the last to return to the classroom on 2 June.

The High School Certificate (HSC) exam is anticipated to continue, with university enrolment for semester 2 2020 and semester 1 2021 remaining in place. Most high schools are moving courses online to facilitate students undertaking the HSC exam. Universities Australia, the peak body for the universities sector, has assured that year 12 students will be provided with clear pathways into tertiary education. Some universities, including the Australian National University, have indicated that they will admit undergraduate students for 2021 based on results from year 11.

P81 Tertiary Education: High

The Tertiary Education subdivision has been highly affected by the COVID-19 outbreak. On 20 March 2020, the Federal Government put a travel ban on all non-citizens and non-residents. Non-residents with student visas who are not in Australia will be unable to enter the country until the travel ban has been lifted.

In April 2020, the Federal Government announced a higher education relief package that includes \$18.0 billion for domestic students, \$100.0 million in regulatory relief for education providers, and funding for new short courses for the unemployed. Additionally, 20,000 places in short courses will be offered in areas such as nursing, teaching, health, IT and science.

Previously, the government placed travel bans on visitors from mainland China until they spent 14 days outside of China in another location. This ban put pressure on Australia's higher education sector as the 2020 academic year started. When the ban was initially implemented, almost 100,000 international students were restricted from entering the country. China is a key source of international students and revenue for domestic universities. From the estimated 950,000 international student enrolments in 2019, over one-quarter of students came from China. As international students account for 24.8% of the \$34.0 billion in revenue for the University and Other Higher Education industry, the downturn in Chinese student numbers will significantly constrain the finances of several domestic universities. As international students are a key source of income for many domestic universities, many have made arrangements to allow students to study remotely. As a result, most domestic universities have ramped up their online learning capabilities.

Some international students that are currently in Australia are facing financial difficulties as many temporarily lost employment due to the COVID-19 outbreak. International students who have been in Australia for more than 12 months and are in financial hardship during this period will be able to access their superannuation funds. International students who are working in aged care and nursing will be able to work for up to 40 hours per fortnight.

While the Federal Government has indicated assistance will not be provided to international students, some universities and state governments are working on ways to support students facing hardship during this period by setting up emergency student funds. For example, Deakin University has announced up to \$25 million to support international students experiencing hardship. The Australian National University, the

University of Melbourne, Flinders University, RMIT University and Curtin University have also established support packages for international students.

State governments across Australia have announced varying amounts of fund to support international students. Support packages include one-off payments, help with food and shelter, and mental health support. Victoria has committed \$45.0 million to support international students in Victoria who are facing financial hardship. The fund is expected to provide up to \$1,100 for international students who have lost their job or had significant hours reduced to their employment due to the COVID-19 outbreak. South Australia has announced support package worth \$13.8 million to assist international students. International students in South Australia can also access emergency cash grant of \$500. Similarly, Tasmania is providing temporary visa holders, including international students, a one-off payment of \$250 for visa holders that are suffering from financial difficulties, and up to \$1,000 for families. Queensland has also allocated \$2.2 million to assist international students.

Despite efforts from state government and universities to assist international students in financial hardship, universities are anticipated to face difficulties in admitting international students in the new semester. International travel restrictions mean that new students cannot enter the country to begin their tertiary education. As a result, some universities will likely turn to massive open online courses (MOOCs) for revenue. However, the Federal Government has announced a three-stage roadmap to reopen the Australian economy. While the final stage of reopening is expected to be achieved in July, each state and territory will decide when to move from one stage to another.

Childcare centres and schools reopen in stage one. As the government gradually eases restrictions, Universities and TAFEs would increase face to face learning, with priority given to skills-based courses. Stage two and three would continue a similar process, with more students returning to campus. Stage three could result in residential colleges reopening and international students traveling. The three-stage roadmap set out by the Federal Government could result in an estimated 1.5 million university students being back on campus for face-to-face teaching by July. However, universities are expected to adhere to the Australian Health Protection Principle Committee guidelines. In South Australia, universities and TAFE colleges can resume face-to-face learning as the state's restrictions are eased. Universities Australia has proposed a secure corridor framework to the Federal Government. The first step of the framework would be the return of international students from eligible countries that have been successful in containing the spread of COVID-19. If approved, students from countries deemed safe would be able to return to Australia, subject to certain requirements, including strict health checks and 14 days of strict quarantine on arrival in Australia. This framework would allow overseas students who are currently studying through distance learning to return to Australia by first semester 2021.

P82 Adult, Community and Other Education: Moderate

COVID-19 is anticipated to have a modest effect on the Adult, Community and Other Education subdivision. These establishments primarily service the domestic market and do not have large numbers of international students. However, providers of English language intensive courses for overseas students have faced lower demand from Chinese students due to the travel ban.

Health Care and Social Assistance

Q84 Hospitals: Moderate

At this stage, the Hospitals subdivision is expected to be moderately affected by the COVID-19 outbreak. The greatest challenges facing the Hospitals subdivision in the early stage of COVID-19 in Australia are potential supply shortages, particularly for basic medical supplies such as surgical masks and hand sanitiser. The mass buying of these goods by the general public, combined with disruption in the supply chains of these goods from China over the past four months, has resulted in a run on inventory in many stores and warehouses. Hospitals have delayed elective surgeries and prioritised COVID-19 patients, particularly

those experiencing severe symptoms, in an effort to control the outbreak and lower the risk for all patients. On 27 April 2020, the Australian Health Protection Principal Committee (AHPPC) advised that, in addition to Category 1 elective surgeries, Category 2 and some Category 3 elective surgeries will be permitted. Furthermore, one in four hospital theatres are expected to reopen. This factor is expected to provide relief for private hospitals that have a greater focus on elective surgeries.

The Federal Government has assisted this subdivision during this initial outbreak period in an attempt to provide enough support and infrastructure if cases begin to significantly rise. On 11 March 2020, the Federal Government announced a \$2.4 billion health package, which is expected to support primary health services, including hospitals. This funding will allow hospitals to increase internal capacities for the expected increase in demand for industry services. In addition, hospitals will receive \$500 million in funding from the Federal Government to assist in treatment and containment of the COVID-19 outbreak. On 31 March 2020, the Federal Government also announced a partnership with the private health sector to secure 30,000 hospital beds and 105,000 staff to help combat the COVID-19 outbreak. Revenue is expected to remain relatively stable, due to state and federal funding programs. However, funding and resources are expected to be pushed heavily towards COVID-19 treatment and containment measures.

Q85 Medical and Other Healthcare Services: High

The Medical and Other Healthcare Services subdivision is expected to face significant challenges due to the COVID-19 outbreak. A shortage of basic medical supplies will likely disrupt the General Practice Medical Services industry, as GPs will struggle to supply basic medical services without sufficient protection for both themselves and patients. Other industries in the subdivision are also expected to face challenges related to COVID-19, as many patients will likely delay unnecessary medical appointments. This subdivision also includes allied and secondary healthcare services, such as physiotherapists, which are not being supported by the \$2.4 billion health package. Due to expected slow demand, rising medical equipment costs and minimal government support, this subdivision's profit margins are expected to fall in the current year.

Q86 Residential Care Services: High

The Residential Care Services subdivision is expected to face heavy disruption related to COVID-19. Aged care residential facilities are particularly vulnerable to potential COVID-19 outbreaks, and staff will be expected to respond accordingly to minimise risk for themselves and residents. Shortages of preventative medical supplies, such as face masks and hand sanitiser, would negatively affect these facilities, as preventative measures are more difficult to implement without access to these basic supplies. On 11 March 2020, the Federal Government announced a health package valued at \$2.4 billion, which is expected to provide support to primary health services, including aged care facilities. In particular, \$101.2 million in funding has been announced to educate and train aged care workers in infection control, and to enable aged care operators to hire additional nurses and workers.

Q87 Social Assistance Services: Moderate

The Social Assistance Services subdivision is expected to be moderately disrupted by the effects of COVID-19. The Child Care Services industry may face challenges, as potential outbreaks may require facilities to temporarily close. However, these facilities may instead face a surge in demand if schools are shut in response to COVID-19, without a corresponding response from business. Demand for personal welfare services may also rise, as workers, particularly self-employed or contract workers, may accrue debt during mandated isolation periods.

On 6 April 2020, the Federal Government implemented the Early Childhood Education and Care Relief Package. This package aims to support families and the Child Care Services industry. Until the end of 2019-20, the Federal Government will provide weekly payments directly to early childhood education and care services instead of the Child Care Subsidy. This relief package is expected to help retain employees and keep early childhood operators open during this period. Furthermore, families will not be charged fees

for early childhood education services during this period. This package is expected to support growth in demand and help retain staff despite the current challenging operating conditions. On 8 May, the Federal Government announced a 3-Step Framework that guides state governments on how to loosen restrictions. The Federal Government anticipates that this framework will be completed by July 2020. All states have begun implementing the framework. As a result, all childcare centres are expected to open, supporting increased demand for the Child Care Services industry.

Arts and Recreation Services

R89 Heritage Activities: Very High

COVID-19 outbreak is anticipated to have a very high effect on the Heritage Activities subdivision. Local visitors make up the main markets for most industries in the subdivision. However, large public gatherings are currently prohibited. Heritage institutions such as museums, galleries and libraries are slowly beginning to reopen. For example, New South Wales is reopening museums without tour groups and requiring a 24-hour quarantine for returned library books. Heritage institutions rely largely on public funding. Consequently, easing restrictions are not anticipated to significantly boost revenue for free services such as libraries. However, museums may benefit from ticket and merchandise sales.

Zoos and wildlife sanctuaries, which incur wage and animal feed costs even when closed to visitors, have reported that they are at risk of becoming unviable. Many of these businesses have largely had to rely on the JobKeeper stimulus and community donations to continue animal care. However, in late April, the Federal Government offered \$95 billion in support for zoos, aquariums and wildlife parks to help cover the costs of animal care and facilities upkeep. Zoos are beginning to reopen across the country, which is anticipated to boost revenue and help cover necessary costs such as animal care.

Easing restrictions under step one of the Federal Government's framework are anticipated to boost public use of nature reserves and botanical gardens, as small gatherings such as family picnics are permitted. However, these institutions generally derive revenue from public funding rather than consumer spending. Consequently, increased visits are not anticipated to significantly affect revenue for the Zoological and Botanical Gardens industry, or the Nature Reserves and Conservation Parks industry.

R90 Creative and Performing Arts Activities: Very High

The COVID-19 outbreak is expected to significantly affect operators in the Creative and Performing Arts Activities subdivision. Subdivision operators have faced more cancellations or rescheduling of performance and concert dates, especially from international artists and acts. The subdivision also sources a proportion of revenue from international travellers, which will be affected by travel restrictions, but this share is anticipated to be small. Cancellations and postponements are expected to constrain demand for the subdivision and could mean lost revenue and significant costs for operators. Until social distancing measures are reassessed, creative and performance events will largely be required to take place online. Concert venues will be able to open with 20 people or fewer in step two. However, clubs must remain shut until step three. Restaurants and cafes will be able to seat up to 10 patrons under step one and up to 20 under step two. In Victoria, restaurants and cafes are able to seat up to 20 people from 1 June. This change has the potential to boost demand for small performances.

R91 Sports and Recreation Activities: Very High

The majority of the Sports and Recreation Activities subdivision is expected to be significantly affected by the COVID-19 outbreak. The Sports and Recreation Facilities Operation and the Sports Administrative Services industries are expected to contend with mandatory cancellations of all public events. Social distancing regulations require that all gyms and fitness centres be closed. However, some operators have bolstered revenue by shifting to the online space, offering classes and training sessions through livestreams and video calls. Several sporting leagues such as the AFL and NRL have resumed, albeit without spectators.

Horse and dog racing have also continued to take place. The lack of ticket sales is expected to negatively affect revenue for these operators.

Easing social distancing restrictions through the Federal Government's 3-Step Framework are anticipated to somewhat boost revenue for the subdivision, as small group outdoor exercise and non-contact recreational activities are now permitted. Some operators in the Sports and Physical Recreation Clubs industry will therefore be able to resume operations. However, gyms and fitness centres will remain closed everywhere until step two, except in the Northern Territory, where they are allowed to resume operations from 15 May. Gyms will be able to open in Victoria from 22 June.

R92 Gambling Activities: Very High

Certain segments of the Gambling Activities subdivision are expected to be heavily affected. The Casinos industry is likely to face significant revenue declines, as operators have been required to close due to social distancing requirements. The major players in the industry have already recorded declines and faced challenging conditions in its VIP programs for the first half of 2019-20, although Star Entertainment Group recorded an increase in VIP turnover for the period. Both domestic and international visitation is anticipated to decline over the remainder of 2019-20 due to travel restrictions. The remainder of the subdivision is unlikely to be affected as services are provided domestically, with a large proportion of services delivered through digital channels. Some sporting seasons have resumed, including the AFL and NRL, which is anticipated to significantly boost demand for sports betting, particularly as casinos remain closed.

Personal Services

S94 Repair and Maintenance: Moderate

Operators in the Repair and Maintenance subdivision service the domestic market, so demand is not expected to be directly affected by COVID-19. The uncertainty surrounding the virus and its effect is likely to deter businesses investing in new capital. Consequently, demand for services from industries such as the Heavy Machinery Repair and Maintenance industry and the Motor Vehicle Engine and Parts Repair and Maintenance industry may increase.

A negative impact of the COVID-19 outbreak on the subdivision is likely to be a shortage of machine parts and tools used by operators, as the subdivision relies on imports from China, the United States and Germany. Many manufacturing facilities in these countries have had to temporarily shut down or reduce production during the initial outbreak period. On a value basis, 58.3 % of power automation and other electrical equipment imports are sourced from China, the United States and Germany. Furthermore, 55.9 % of imported machine tools and parts originate from these three countries. Parts and tools shortages could pose a problem if factories remain closed or cannot operate at full capacity.

S95 Personal and Other Services: Moderate

The Personal and Other Services subdivision is expected to be only moderately affected by COVID-19. Industries in the subdivision are service based and domestically oriented. Therefore, they do not rely as heavily on overseas countries for inputs as industries in other subdivisions, which minimises supply-chain interruptions. However, one of the first confirmed cases of infection in Australia was from a beautician in Queensland. Due to the close-contact nature of these services, this may reduce demand.

On 23 March 2020, the Federal Government announced the temporary shutdown of non-essential activities and business. This is expected to affect some industries in this subdivision, such as the Hairdressing and Beauty Services industry, constraining revenue. As a result, non-essential businesses affected by these regulations are expected to reduce employee numbers to minimise operating costs. However, the Federal Government has provided some relief for subdivision businesses significantly affected by COVID-19 through

a stimulus package for SMEs and not-for-profit businesses. The package provides additional cashflow to affected businesses to pay fixed operating costs and retain staff. Businesses can receive up to \$100,000 in government support. Additionally, on 30 March 2020, the Federal Government implemented the JobKeeper Payment Scheme. The scheme helps businesses, such as hairdressers, retain staff while operations slow down or are temporarily closed. On 8 May 2020, the Federal Government introduced a 3-Step Framework to loosen restrictions, which is expected to be completed by July 2020. All state governments have begun implementing the framework. As a result, hairdressers are expected to be fully operational in the next three weeks and will have to record contact details of customers in case of infections. On 1 June 2020, beauty service businesses, such as nail salons, have been allowed to reopen with strict social distancing measures in place. This factor is expected to provide relief to this subdivision and allow demand to gradually recover over the next few months.

New Zealand

Agriculture, Forestry and Fishing

A01 Agriculture: Very High

COVID-19 is expected to have a significant effect on agricultural producers in New Zealand. Operators in agriculture industries rely significantly on sales in export markets for their revenue. Global economic disruption related to the spread of COVID-19 is expected to negatively affect export revenue as demand declines. Approximately 30% of New Zealand's agricultural exports are bound for China. Both fruit and vegetable growers and livestock farmers, whose meat and dairy products are sold by downstream processors, are heavily exposed to Chinese trade. Exports of kiwifruit account for most revenue earned by kiwifruit and berry growers. The largest national export market for the Kiwifruit and Berry Growing industry is China, accounting for approximately 23% of total exports. Kiwifruit producer Zespri has reported strong demand for its products in China, with the company's first shipments departing for China and Japan as planned. Zespri has also signed an agreement with China's largest online retailer, JD.com, which will result in the retailer purchasing 1.2 million trays of kiwifruit in 2020. In May 2020, the New Zealand Government (Te Kawanatanga o Aotearoa) announced a \$330.0 million International Air Freight Capacity scheme designed to support shipments of high-value exports. This scheme is anticipated to support growers of highly perishable commodities.

The COVID-19 outbreak is anticipated to have a greater effect on livestock farmers. New Zealand exports significant quantities of meat, particularly sheep meat, and dairy products to China. Lamb and mutton exports and export prices grew strongly during 2019 following an outbreak of African swine fever in China, which led to the destruction of over half of the country's pig herd. Despite a significant drop in demand from China, the value of sheep meat and beef exported from New Zealand remained largely unchanged in February 2020 compared with the previous year, as exports increased to North America, Japan, Taiwan and the United Kingdom. Fruit exports rose by 54% in March 2020 compared with the previous year, and exports of milk powder, butter and cheese rose by 7.6%. New Zealand's dairy and livestock farmers may benefit in the long term, as demand for high-quality food and beverages is forecast to increase. New Zealand agricultural produce has a strong global reputation, which will continue to benefit local producers.

The New Zealand Government's 2020-21 Budget, announced in May 2020, includes several provisions to support agricultural producers. These measures include \$19.3 million to attract and train unemployed individuals to the primary sector, and \$45.3 million to boost growth for horticulture growers. The budget also allocates \$10.0 million for drought relief, as much of New Zealand is currently affected by a large-scale drought. In June 2020, the Central Government announced support for a \$27.0 million project to boost sustainable horticulture production.

A03 Forestry and Logging: Very High

The Forestry and Logging industry is expected to be highly affected by the COVID-19 outbreak. New Zealand is one of the world's largest forestry and logging product producers, with local businesses relying significantly on exports. Exports account for over half of industry revenue, with exports to China making up over 70% of total exports. Many logs and other timber products that have already been shipped to China have been held up in ports, and shipments from the key port of Gisborne have been cancelled until further notice. As a result, exports of forestry products fell by 35% in March 2020 compared with a year earlier. A decline in global economic activity is anticipated to negatively affect demand for timber, placing downward pressure on prices and industry revenue. Shipments of logs from South Canterbury have resumed since New Zealand moved to Alert Level 3 from 28 April 2020, with two freighters leaving with logs bound for South Korea and China.

Industry production ceased temporarily under the Alert Level 4 restrictions, as industry businesses were

deemed non-essential and were therefore required to close. These businesses have now reopened as New Zealand moved to Alert Level 3 on 28 April 2020. Industry operators have reported that they will need to work quickly to recover the forest supply chain, as harvesting will need to take place to an accelerated timetable before the planting season commences in the winter. According to the Minister for Primary Industries (Manatu Ahu Matua), approximately 100 million plantation seedlings are currently in nurseries awaiting planting.

A04 Fishing and Aquaculture: Very High

The Fishing and Aquaculture subdivision heavily relies on exports. Almost 40% of combined revenue from fishing and aquaculture operators derives from exports, and approximately 64% of export revenue comes from China. As a result of the COVID-19 outbreak, China temporarily imposed a ban on seafood imports. Consequently, exports of seafood fell by \$40 million over the first two months of 2020, to \$30 million, compared with the same period in 2019. China has subsequently allowed some seafood imports to resume, supporting fish and seafood exporters. However, a reduction in international flights has caused freight capacity to fall, making it difficult to send seafood to export markets. Furthermore, an oversupply of rock lobsters, which account for over 90% of the value of exports to China, has reduced prices in the domestic market due to high supply.

Oversupply conditions have also put downward pressure on prices for other fish and seafood products in domestic markets, placing additional pressure on industry operators. However, the Central Government's (Te Kawanatanga o Aotearoa) \$330.0 million International Air Freight Capacity is expected to support exporters of high-value seafood products. The move to Alert Level 2 restrictions on 14 May allowed restaurants and cafes to reopen, boosting domestic demand for seafood products. The Central Government's 2020 Budget includes a \$20.2 million package designed to help rural and fishing communities recover from the economic effects of COVID-19.

A05 Agricultural, Forestry and Fishing Support Services: High

The Agricultural, Forestry and Fishing Support Services subdivision consists largely of shearing, cropping and other livestock support services. The COVID-19 outbreak is expected to have a significant effect on these operators. Many agricultural support services were required to close under the Alert Level 4 restrictions, significantly affecting revenue. These operators can now resume operations following New Zealand's move to Alert Level 3 on 28 April 2020, provided that they can safely continue their work. Nevertheless, global economic disruption is anticipated to have lingering effects on agricultural support service providers, due to potentially weaker demand for commodities grown in New Zealand. However, the travel restrictions imposed to curb the spread of COVID-19 have limited the supply of migrant workers that traditionally perform agricultural support tasks, such as shearing. The New Zealand Government (Te Kawanatanga o Aotearoa) announced a \$19.3 million package in the 2020 Budget to boost employment in the primary sector, which is anticipated to provide some support for businesses facing labour shortages.

Shearing services are anticipated to be moderately affected by the outbreak, and were able to continue under the Alert Level 4 restrictions as an essential service. However, global demand for wool has declined due to the economic effects of the COVID-19 outbreak, as retail sales have fallen substantially. In addition, wool auctions in New Zealand were halted under the Alert Level 4 restrictions. Auctions have resumed under the Alert Level 3 restrictions, which came into effect on 28 April. Furthermore, demand growth for wool, particularly from China, has been slowing in recent years, as trends have shifted away from heavy wool products. The virus is less likely to affect cropping services, at least in the short term, as vegetable and grain crop exports to China are minimal, and as apple and kiwifruit growers have been able to largely proceed with their operations as normal. Cropping services will only likely be significantly affected if future planting is reduced, although any reductions are unlikely at this stage.

Mining

B06 Coal Mining: Very High

Coal mining in New Zealand will likely be heavily disrupted by a slowdown in global economic activity caused by COVID-19. While coal mining is seen as an essential activity and production has continued, demand is anticipated to heavily fall for the subdivision due to a downturn in global manufacturing activity. For example, the International Energy Agency predicts global coal demand to fall by 8.0% in 2020. Export markets were anticipated to account for almost 60% of revenue for coal miners in 2019-20, with India, Japan and China accounting for over 80% of New Zealand's coal exports. As demand for coal falls, oversupply conditions are expected to cause export prices to decline, reducing revenue for coal miners in New Zealand. Countries such as China may seek to replace coal imports from New Zealand with domestically sourced coal to stimulate their economy and ensure energy security during the downturn associated with COVID-19. This factor may further create an oversupply in global markets and place downward pressure on prices. Coal miners in New Zealand have a limited capacity to redirect exports to alternative markets, as coal usage is declining across many global economies as they shift towards clean renewable energy.

In New Zealand, coal is primarily used to generate electricity. A slowdown in manufacturing across New Zealand due to the COVID-19 outbreak is anticipated to result in lower electricity consumption, further dampening demand for coal. However, as the Central Government (Te Kawanatanga o Aotearoa) relaxes restrictions, electricity consumption is anticipated to slowly recover. Revenue for the Coal Mining industry in New Zealand has sharply declined over the past decade, as the country has transitioned to cleaner forms of energy. The COVID-19 outbreak is anticipated to hasten the industry's decline. Weak global oil prices may also further drive declines in demand for coal. OPEC+ agreed to reduce oil production from 1 May. However, if oil prices remain low for an extended period, some coal users may switch to cheaper oil substitutes, leading to a further decline in demand.

B07 Oil and Gas Extraction: Very High

Oil and gas extraction firms in New Zealand are highly exposed to risks associated with the COVID-19 outbreak. In 2019-20, exports are expected to account for 20.4% of revenue in this subdivision. Almost all of these exports are shipped to Australia and Singapore, with only a small share shipped to South Korea. Producers in this subdivision remain exposed to the risk of a downturn in global prices for oil and gas. Lower demand for these commodities will likely exert downward pressure on prices throughout global markets. Pre-existing difficult conditions for firms in this subdivision make a downturn more likely, as New Zealand is rapidly transitioning towards a 100% renewable energy target by 2035. The availability of alternative electricity generation options in New Zealand, such as hydro and geothermal power, has limited growth for this subdivision.

A recent significant downturn in global oil prices is expected to place strain on oil producers in New Zealand, especially those with debt obligations. A major collapse in prices will likely lead to significantly lower revenue and profit margins, potentially leading to the exit of many firms. The outlook for oil prices beyond the COVID-19 epidemic depends on oil production volumes for foreign producers such as Saudi Arabia. On 12 April, OPEC+ agreed to a staged reduction in oil production, starting with a two-month reduction of approximately 10% (9.7 mb/d) from 1 May. In May, OPEC's oil production fell to its lowest level since 2002. However, subdued demand caused by the COVID-19 outbreak will likely continue to weigh on oil prices in the short term. The shifting of Alert Level restrictions on 28 April and 14 May allowed affected firms to resume mining activity. However, subdued demand caused by the COVID-19 outbreak will likely continue to weigh on oil prices and subdivision performance.

B08 Metal Ore Mining: Very High

This subdivision includes the Iron Ore Mining industry and the Gold Ore Mining industry. COVID-19 will

likely have a significant effect on iron ore miners. Exports were expected to account for 38.2% of revenue in the Iron Ore Mining industry in 2019-20, but this proportion is now anticipated to be lower. As virtually all exports from the industry go to China and Japan, a slowdown in manufacturing activity in both these countries is expected to depress demand for iron ore, contributing to a significant decline in exports. As China accounts for over 95% of New Zealand's iron ore exports, reduced production from Chinese steel mills represents a major threat for iron ore producers in New Zealand. Despite an expected slowdown in Chinese steel production, supply constraints in Brazil due to the COVID-19 outbreak caused global iron ore prices to rise sharply in May, exceeding \$100 USD per tonne. This recovery in prices may provide some support for subdivision revenue over the year.

In contrast, firms in the Gold Ore Mining industry may benefit from the effects of COVID-19 driving up gold prices. Increasing investor fears associated with the outbreak have increased demand for precious metals such as gold, silver and palladium. Growth in the price of gold is anticipated to support New Zealand miners in 2019-20, although it is unclear how long gold prices will remain at elevated levels. The global price of gold reached \$1,700 USD per ounce in April and May 2020, its highest level since early 2013. Weak oil prices are expected to lower operating costs, assisting the viability of some metal ore miners. However, due to restrictions on non-essential businesses, some mines are anticipated to go into care and maintenance while restrictions remain in place. As New Zealand moved from Alert Level 4 to Level 3 restrictions on 28 April 2020, mining operations that were required to shut down have been allowed to reopen. For example, OceanaGold announced that it was resuming mining and development activity at its Martha and Macraes mine sites. Restrictions were subsequently relaxed to Alert Level 2 on 14 May.

B09 Non-Metallic Mineral Mining and Quarrying: Moderate

This subdivision includes the Gravel and Sand Quarrying industry. This industry has a low exposure to international trade, with exports only expected to account for 1.4% of revenue in 2019-20. Imports of gravel and sand are negligible. As this industry has a domestic focus, it only has indirect exposure to economic downturns overseas, with COVID-19 and the closure of non-essential businesses anticipated to have a moderate influence on operators in the subdivision. Weakening economic activity in New Zealand may hinder this industry. Weakening business confidence in New Zealand in response to the COVID-19 outbreak may cause an associated downturn in manufacturing and construction activity. This downturn would likely lower demand for gravel and sand. Fiscal stimulus measures may assist this industry through funding for construction projects. For example, in May, the Central Government (Te Kawanatanga o Aotearoa) allocated an additional \$3 billion towards shovel-ready infrastructure projects and committed to building 8,000 new state houses over the next five years in its 2020 Budget. Lower global oil prices are expected to exert downward pressure on operating costs, assisting the viability of non-metallic mineral miners. New Zealand moved from Level 4 to Level 3 on 28 April 2020, allowing operators to resume mining activity. The subsequent shift to Alert Level 2 on 14 May allowed a number of businesses to reopen, which may provide some support for subdivision demand. However, demand for many commodities will likely remain subdued until global manufacturing activity recovers.

B10 Exploration and Other Mining Support Services: High

This subdivision includes the Mining Support Services industry in New Zealand. COVID-19 is expected to significantly disrupt this industry, but declining oil prices will have a more serious impact. The industry has struggled due to low prices and difficult operating conditions over the past five years. As a result, most firms in the industry have already pared back mining support services to only vital operations, which are unlikely to be cancelled even if commodity prices decline. Firms in this subdivision typically make decisions based on long time horizons, and are unlikely to significantly shift expenditure in response to transitory demand shocks.

A significant decline in the price of oil is expected to cause petroleum exploration activity to collapse, leading to many firms exiting the subdivision. The extent of this collapse depends on how long oil prices remain subdued, which depends on oil output volumes from foreign producers. The production cuts agreed

to by OPEC+ producers, which came into effect on 1 May, are anticipated to provide some support for oil prices in the short term. However, the collapse in global demand for oil is anticipated to continue weighing on oil prices for some time. The reduction of restrictions on 28 April and 14 May allowed firms that were required to shutdown to resume exploration and mining support activities. However, exploration activity is anticipated to remain subdued over the rest of 2020 due to price weakness.

Manufacturing

C11 Food Product Manufacturing: Very High

COVID-19 is anticipated to have a substantial influence on the Food Product Manufacturing subdivision. International trade plays a key role in this subdivision. Supply chain disruptions have made it difficult for perishable food to be exported out of New Zealand. Additionally, overall demand for food consumption in key export markets such as China has significantly changed since the COVID-19 outbreak. The closure of major food service chains, such as Yum China and McDonald's, for two and half months significantly reduced consumption of meat, seafood and dairy products. Many meat products, such as lamb and mutton, remained on wharves and in cold storage facilities in China as port and dock workers entered quarantine. Industries that heavily rely on selling to the food service sector in China have been affected by short-term disruptions to demand. Firms that export seafood to China have been particularly affected. Many seafood markets were closed at the initial stages of the outbreak, and New Zealand seafood shipments were cancelled. In addition, prices for premium seafood products have been affected.

However, as restaurants are beginning to open again and ports are ramping up to full capacity in China, demand will likely increase. Port workers cleared 15,700 tonnes of New Zealand beef during March, including products initially diverted to other nearby countries during the height of the port closures. Additionally, Air New Zealand have been running daily cargo flights to China since the end of March, signalling a resumption in demand for New Zealand's goods, including food in China.

At-home consumption of meat and dairy products in China has increased substantially during the outbreak. Furthermore, consumers in China have increasingly undertaken their shopping, looking for high quality and healthy produce. This trend will likely benefit New Zealand dairy and meat product producers, due to their clean and green reputation. Producers that have struggled with lower demand have redirected perishable food to alternative markets where demand is strong, albeit at a discounted price. This trend has likely put downward pressure on prices over the short to medium term. On 12 May, the Chinese Government placed an import ban on four Australian meat facilities responsible for about one-third of Australia's exports to China. This ban could provide an opportunity for New Zealand meat processors to increase their exports to China.

However, some meat product manufacturers were significantly affected by the four-week lockdown that the country entered in March 2020. All food-service businesses were unable to trade, with many processors attempting to divert sales to the retail market where possible. Furthermore, butchers were not included as an essential service. Small manufacturers that do not have contracts with supermarkets were unable to earn revenue during the Alert Level 4 restrictions. However, New Zealand's transition to Alert Level 3 restrictions on 28 April allowed butchers to reopen. Food-service establishments were also able to resume trading through takeaway services, benefiting producers of high-quality food usually destined for these markets. On 14 May, the country further transitioned to Alert Level 2, allowing cafes and restaurants to open to limited on-premise dining. Pubs and bars were able to open in a restricted capacity on 21 May. Fast food options have proved popular, with many businesses announcing that they had sold out of goods in less than two days. This is positive news for meat processors and bakery product manufacturers.

C12 Beverage Manufacturing: High

COVID-19 is expected to have a substantial impact on the Beverage Manufacturing subdivision. Some beverage manufacturers are not anticipated to be affected by overseas COVID-19 outbreaks, as they rely

on domestic consumption. However, wine producers have seen a decline in wine consumption due to the closure of food service establishments. According to industry association New Zealand Wine Growers, over half of its members applied for the government's wage subsidy program. On-premises consumption of wine in China is expected to fall in the short term, while restrictions on group dining remain in place. Unlike their Australian counterparts, New Zealand wine producers have limited exposure to the Chinese wine market. However, the suspension of inbound travel is expected to significantly affect domestic sales of wine. Wine and beer manufacturers have been significantly affected by subdued exports and the closure of hospitality businesses, as sales to these channels offer higher margins than retailers.

Off-premise alcohol sales have grown significantly in New Zealand over the last month, both instore and online, although this has not been enough to support all producers. Online sales have been strong since New Zealand entered Alert Level 4 lockdown in the last week of March, and some businesses have had to suspend delivery services to restock. Craft beer manufacturers have lower exposure to the retail segment and are expected to struggle more significantly compared with the larger brewers. However, beverage manufacturers are expected to increasingly benefit from the country's lockdown restrictions easing. As the country has entered Alert Level 2, food-service operators can open to provide takeaway food and beverage services, and restricted on-premise dining. Licenced establishments will also be able to serve alcohol.

C13 Textile, Leather, Clothing and Footwear Manufacturing: High

The Wool Scouring industry is the main industry in this subdivision. COVID-19 is anticipated to have a heavy impact on the Wool Scouring industry, as China is the industry's largest single export market. Industry operators are expected to face supply chain disruptions related to COVID-19. Downstream retailers in New Zealand have reported a slowdown in sales and orders, with reduced foot traffic at shopping malls prior to the government-imposed lockdown. Additionally, constrained logistics, labour shortages due to travel restrictions, and factory closures will likely create disruptions in the supply chain for delivery of goods. On 27 March, Cavalier Wool Corporation (CWC) announced that it had closed all its New Zealand facilities in compliance with the lockdown orders. Only employees that can work from home are able to continue working. Wool auctions have also not gone ahead during the month-long lockdown. The country entered Alert Level 3 on 28 April, meaning that auctions were allowed to go ahead through online channels and manufacturing facilities can reopen. However, downstream demand will likely be subdued due to the weakened global economy. In recognition of this potential outcome, CWC has announced that it has applied for \$2.8 million of the Central Government's (Te Kawanatanga o Aotearoa) wage subsidy.

However, some manufacturers are taking the opportunity to improve their local manufacturing capabilities. For example, The New Zealand Sock Company has reduced its reliance on China and is manufacturing more at its facility in Ashburton, Canterbury. It is also one of around 100 textile product manufacturers that have begun manufacturing face masks, in this instance using merino wool.

C14 Wood Product Manufacturing: Very High

COVID-19 is projected to have a significant impact on the Wood Product Manufacturing subdivision. The subdivision is exposed to a high level of trade with China. Logistic disruptions are expected to have a more severe effect on log exporters, as warehouses and factories would be unable to start production. As manufacturing was temporarily stopped in China, demand for wood products declined. Additionally, Chinese ports were initially unable to handle imports due to a shortage of labour. This factor caused exports to China to slow in the short term, which could reduce harvesting activity in the short to medium term. Furthermore, timber mills were not deemed an essential business by the New Zealand Government (Te Kawanatanga o Aotearoa) during the Alert Level 4 lockdown, severely limiting supply. These businesses were able to reopen following the move to Alert Level 3 on 28 April. Sawn timber exports fell by 79% in April. While demand is expected to pick up from these levels, it will likely remain subdued due to the worsening global situation since March. Many businesses in this subdivision will therefore likely benefit from the government's wage subsidy program and business tax changes. On 18 May, as part of its 2020 Budget proposals, the Central Government announced that the wage subsidy would be extended for

a further eight weeks. These proposals also included \$3.3 billion in infrastructure spending, increasing demand for subdivision products.

C15 Pulp, Paper and Converted Paper Product Manufacturing: Moderate

This subdivision is expected to be moderately affected by COVID-19. Chinese demand for New Zealand's pulp and high-quality paper has grown over the past five years. Manufacturers could face COVID-19 related supply chain disruptions, as manufacturing has temporarily stopped in China. A shortage of labour resulting from travel bans could lead to a slowdown in exports for this subdivision's products to China in the short term. Consumer stockpiling behaviour is expected to have benefited manufacturers of food product packaging for supermarkets. However, manufacturers supplying cafes and other food-service establishments will likely face significantly reduced demand.

The country's move to Alert Level 3 on 28 April benefited some manufacturers, with the government permitting sales of takeaway food. Demand will increase from restaurants and bars that previously did not offer takeaway services. With more people returning to work following the move to Alert Level 2 on 14 May, demand from food-service establishments will increase. Furthermore, restrictions on the number of patrons and increased consumer risk averseness will likely result in sales of takeaway meal options remaining strong.

C16 Printing: Moderate

The Printing industry is the only industry in this subdivision. International trade in this subdivision is low, as printing firms mostly service the domestic market, and transporting printed products overseas is inefficient and costly. Competition from digital media is likely to have a greater effect on the Printing industry. Furthermore, the month-long lockdown in April hastened the exit of magazine publisher Bauer Media from New Zealand. As the publisher of a number of well-known magazine titles, an inability to find a buyer could severely affect revenue for printers of these magazines.

C18 Basic Chemical and Chemical Product Manufacturing: Moderate

The Basic Chemical and Chemical Product Manufacturing subdivision is anticipated to be moderately affected by COVID-19. This subdivision is made up of the Synthetic Resin and Synthetic Rubber Manufacturing industry, and the Veterinary Pharmaceutical and Medicinal Product Manufacturing industry. Both industries exhibit a moderate to high level of international trade, and will therefore likely be faced with similar logistical challenges as other industries, due to global supply chain disruptions. However, a weak world price of crude oil is expected to benefit synthetic resin and rubber manufacturers, significantly reducing purchase costs.

C19 Polymer Product and Rubber Product Manufacturing: Moderate

The spread of COVID-19 is anticipated to have a moderate effect on polymer product and rubber product manufacturing industries, as this subdivision manufactures products for a range of markets, including manufacturers, wholesalers, retailers and construction companies. Revenue is anticipated to significantly rise for manufacturers in this subdivision that focus on protective equipment such as gloves. Many individuals have begun wearing gloves on trips to the shops in an effort to protect themselves from the virus. Certain businesses are also increasingly using them in their day-to-day activities. Manufacturers that import products or parts from China or Malaysia could face short-term disruptions in supply due to logistics challenges in these countries. Additionally, factory closures in China and other countries have led to temporary shortages in packaging supplies. However, as this subdivision relies on other markets, a decline in demand from other markets due to COVID-19 could decrease demand for this subdivision's products.

C21 Primary Metal and Metal Product Manufacturing: High

This subdivision includes the Non-Ferrous Metal Product Manufacturing industry in New Zealand, which is expected to be substantially affected by COVID-19. Prior to the outbreak, China was expected to account for 14.2% of export revenue in this industry. Exports were expected to account for 17.7% of industry revenue. Overall exports and exports to China are now expected to fall in the first half of 2020-21, as a downturn in global manufacturing activity reduces demand for production inputs. The industry also derives a significant share of export revenue from South Korea, which also struggled with the outbreak in early 2020. Demand in the local economy fell away almost entirely during March 2020, with most construction activity ceasing due to Alert Level 4 lockdown measures. While the country's move to Alert Level 3 allowed construction activity to resume, the weak economic environment will likely significantly limit demand for subdivision products. The Central Government (Te Kawanatanga o Aotearoa) has announced a \$3.3 billion increase in infrastructure investment in its 2020 Budget in an effort to stimulate the economy. This factor will benefit businesses in this subdivision supplying to the construction sector.

C22 Fabricated Metal Product Manufacturing: High

COVID-19 is expected to have a major impact on this subdivision. While industries in this subdivision do not typically rely on inputs supplied from overseas and were therefore well placed in this regard, they have been affected by lockdowns across New Zealand. These businesses were not exempt from the Alert Level 4 restrictions, severely affecting trade at the start of 2020-21. However, they have been allowed to reopen at the end of April, along with many other parts of the economy.

Demand from local and overseas customers will remain substantially subdued due to the weak global economic environment. An anticipated downturn in domestic construction, caused by weakness across the economy, will place substantial pressure on the industry. Industries in the subdivision typically face strong import competition from Asian economies. The local manufacturing environment may reorient itself towards local products, which may present an opportunity for local firms to recapture market share from imports over the long-term. Increased government infrastructure spending outlined in its 2020 Budget will also help support industries in this subdivision enduring weaker demand from the private sector.

C23 Transport Equipment Manufacturing: High

Transport equipment manufacturers in New Zealand are expected to be significantly affected by COVID-19. Some aircraft manufacturers may have a higher exposure to risk, as New Zealand exports account for a moderate share of revenue for the Aircraft Manufacturing and Repair Services industry. Demand in New Zealand and export destinations is expected to fall significantly, with air transport services affected by travel restrictions until at least the end of June. However, some companies in these industries have significant government defence contracts that will not be affected by COVID-19. Shipbuilders, boatbuilders and motor vehicle manufacturers may suffer from supply chain disruptions, as many of these firms secure key components and parts from manufacturers in China, Japan and South Korea. As the effects of COVID-19 fade, some players in this subdivision may seek to expand their supply chains to other regions in an attempt to limit risks associated with future supply disruptions.

C24 Machinery and Equipment Manufacturing: High

Machinery and equipment producers will likely be substantially affected by COVID-19, due to the globalised nature of their supply chains. Most firms in this subdivision source key components from offshore suppliers, exposing local firms to the risk of supply disruption. Even if the spread of COVID-19 is controlled in New Zealand, a downturn in other Asian economies will hinder firms in this subdivision. The closure of factories in China's Hubei province, which is a major producer of electrical components, significantly affected a range of supply chains in this subdivision. Firms in New Zealand are limited in their ability to secure supply from alternative countries, particularly as these firms would be competing against larger global firms seeking the same production inputs. Although these firms may benefit from weaker import

competition due to the influence of COVID-19, this benefit is expected to only be temporary and will likely be outweighed by the negative effects of supply chain disruption. Furthermore, demand for many subdivision products is expected to be low during much of 2020-21. Due to weakness the local and global economic environment, businesses are less likely to make new capital purchases of expensive subdivision machinery and equipment.

However, the Medical and Surgical Equipment Manufacturing industry is an exception. Fisher & Paykel Healthcare has seen a surge in global demand for its respiratory humidifiers and ventilation devices. To meet demand, they have ramped up production schedules at their manufacturing plants in New Zealand and Mexico. The company is expected to substantially outperform the wider industry, which posted a revenue decline in 2019-20 and is projected to do so again in 2020-21. Additionally, the depreciating New Zealand dollar has boosted the company's profit margins.

C25 Furniture and Other Manufacturing: Moderate

COVID-19 is unlikely to directly disrupt furniture manufacturing in New Zealand to a significant extent. Firms in this subdivision primarily source production inputs from local suppliers, reducing the risk associated with supply disruptions. However, these firms remain exposed to demand shocks, which will likely arise as consumer sentiment and business confidence decline. The products offered by this subdivision tend to be expensive and discretionary purchases, which are likely to be postponed in the current environment, as consumers begin to save money in the face of an economic downturn. Fiscal and monetary stimulus measures may partially alleviate demand shocks, although demand for furniture and other goods is expected to be subdued as consumers focus on goods deemed more necessary.

Electricity, Gas, Water and Waste Services

D26 Electricity Supply: High

The COVID-19 outbreak is expected to significantly affect the Electricity Supply subdivision. Declining international demand for oil and coal is expected to result in a global oversupply of these commodities, reducing the world prices of crude oil and black coal. The price of crude oil per barrel became negative for the first time on 21 April 2020. These commodities are key fuel inputs for the Fossil Fuel Electricity Generation industry. Consequently, the declining prices of these commodities are expected to reduce purchase costs, and the wholesale price of electricity. These trends are forecast to improve the competitiveness of the Fossil Fuel Electricity Generation industry against renewable electricity generation industries.

These trends are expected to slow New Zealand's transition towards renewable energy. Renewable electricity generation does not require the purchase of fuel. However, capital and construction costs can be significant. The decline in the electricity service price is expected to reduce revenue across the subdivision, and discourage investment in new renewable projects. Additionally, overseas manufacturers supply a significant proportion of materials used in the Geothermal, Wind and Other Electricity Generation industry. A slowdown in international trade is likely to disrupt these operators' supply chains, slowing down renewable electricity generation.

D27 Gas Supply: Moderate

A slowdown across the global economy due to the COVID-19 outbreak is forecast to reduce global demand for and the world price of natural gas. On 25 March 2020, the New Zealand Government (Te Kawanatanga o Aotearoa) increased the COVID-19 lockdown restrictions to Alert Level 4. This resulted in all non-essential activities being banned, and many manufacturers and businesses closing. As commercial clients account for a large share of subdivision revenue, their closure has contributed to a downturn in subdivision revenue and profitability. However, a higher number of consumers remaining at home has contributed to rising demand for gas from households. However, this rise in demand is not expected to outweigh declines in demand from commercial markets. New Zealand moved to Alert Level 2 on 14 May 2020, allowing some

businesses and manufacturers to reopen and increasing demand for gas.

D28 Water Supply, Sewerage and Drainage Services: Moderate

The Water Supply, Sewerage and Drainage Services subdivision is expected to be only moderately affected by the COVID-19 outbreak. Operators in the subdivision provide essential services to New Zealand consumers, demand for which is largely immune to economic downturns. The decline in business confidence expected as a result of the COVID-19 outbreak is forecast to reduce private capital expenditure, and encourage subdivision operators to delay expansion projects.

D29 Waste Collection, Treatment and Disposal Services: High

The COVID-19 outbreak in New Zealand has greatly increase the amount of potentially contaminated waste from hospitals and other medical facilities. It has also boosted the amount of personal protective equipment New Zealand consumers use, further increasing the volume of potentially contaminated waste. These trends are likely to boost demand for hazardous waste management services, and increase government regulation of the subdivision.

On 25 March 2020, the New Zealand Government (Te Kawanatanga o Aotearoa) implemented Alert Level 4 restrictions, which resulted in the mandated closure of a number of non-essential businesses across the economy. These businesses include manufacturers, retailers and food and beverage service operators. These businesses represent a key market for subdivision operators, so their closure has reduced demand for subdivision services. Restrictions were lowered to Alert Level 3 from 28 April, and to Alert Level 2 on 14 May, allowing many businesses to reopen and boosting demand for commercial waste handling services. However, demand from the manufacturing and retail sectors is expected to remain subdued, as domestic economic conditions remain subdued, limiting any rises in subdivision revenue as a result of the loosening of restrictions.

Construction

E30 Building Construction: High

COVID-19 is anticipated to have a significant effect on building construction activity in New Zealand. Construction firms do not engage in international trade and derive demand from the domestic market. Construction activities are highly labour-intensive, and require input materials, machinery and equipment. Consequently, any disruption in the supply chains of required inputs or a reduction in labour availability have the potential to negatively affect the subdivision. Lower oil prices may positively affect this subdivision by reducing operating costs. New Zealand moved to Alert Level 3 from 28 April, allowing all construction firms to operate, providing that they follow health and safety regulations. While the transition in alert levels will allow current projects to proceed, subdivision operators are still expected to face weak project pipelines, especially relating to residential building construction. The move to Alert Level 2 on 14 May is not anticipated to significantly affect this sector, as construction projects were able to proceed under Alert level 3. The Central Government (Te Kawanatanga o Aotearoa) has allocated \$3 billion for spending on infrastructure in the 2020 Budget, with a focus on building public housing. This factor is anticipated to boost demand for residential construction.

E31 Heavy and Civil Engineering Construction: Moderate

COVID-19 is anticipated to have a moderate effect on the Heavy and Civil Engineering Construction subdivision. Firms in this subdivision do not engage in international trade and derive demand from the domestic market. Construction activities are highly labour-intensive, and require input materials, machinery and equipment. Consequently, any disruption in the supply chains of required inputs or reduction in available labour has the potential to negatively affect the subdivision. Firms often rely on government funding to undertake projects in this subdivision. As a result, diversion of funds towards virus prevention or

containment efforts has the potential to negatively affect the subdivision. However, lower oil prices may assist business viability. The transition to Alert Level 3 from 28 April is expected to slightly boost activity in this subdivision. However, many projects undertaken by subdivision firms are essential to public safety and the provision of essential services and therefore continued operating through Alert Level 4. The move to Alert Level 2 on 14 May is not anticipated to significantly affect this sector, as construction projects were already able to proceed. The 2020 Budget has allocated \$3 billion for spending on infrastructure. These funds are projected to help boost employment in the Heavy and Civil Engineering Construction industry.

E32 Construction Services: High

COVID-19 is anticipated to highly affect the Construction Services subdivision. Subdivision firms service the domestic market and do not engage in international trade. This subdivision includes a range of activities that require different machinery, equipment and materials. Disruption to supply chains of necessary inputs has the potential to negatively affect construction firms. New Zealand moved to Alert Level 3 from 28 April, significantly expanding the activities that the subdivision can undertake. However, construction services operators often service construction industries, and are therefore subject to demand fluctuations in these downstream markets. For example, reduced demand for new homes would also lead to weak residential building construction and negatively affect subdivision firms that primarily service this market. The move to Alert Level 2 is not expected to significantly alter the services that can be provided by this sector. The 2020 Budget's allocation of additional funding for construction is anticipated to flow through to providers of construction services that undertake work on federally funded projects.

Wholesale Trade

F33 Basic Material Wholesaling: Moderate

COVID-19 is anticipated to have a moderate effect on the Basic Material Wholesaling subdivision. Wholesalers of materials such as wool, metal and minerals sell a significant proportion of domestically produced materials to overseas buyers, particularly in China. For example, foreign metal and mineral buyers account for approximately 21% of revenue for the Metal and Mineral Wholesaling industry. Reduced manufacturing activity in China during early 2020 has the potential to constrain demand for these raw materials, negatively affecting wholesalers that focus on export markets. New Zealand wool has a global reputation for being high quality. Therefore, wool wholesalers focus strongly on export markets. Reduced demand for wool from Italy and the United States may have a significant negative effect on the subdivision. The move to Alert Level 2 from 14 May is expected to boost demand for this sector as downstream local manufacturers are able to resume operations.

F34 Machinery and Equipment Wholesaling: Moderate

COVID-19 is anticipated to have a moderate effect on the Machinery and Equipment Wholesaling subdivision. Declining production in affected areas is anticipated to negatively affect wholesalers that source products from overseas, such as desktop computers, household appliances, telecommunications and electrical equipment. Exports account for approximately 38% of revenue for the Iron Ore Mining industry, with approximately 97% of this revenue attributable to China. Consequently, machinery and equipment wholesalers that service these mines are exposed to risks associated with weakened demand for minerals. The move to Alert Level 2 from 14 May is expected to boost demand for this sector by widening the pool of downstream industries that are able to operate.

The containment and prevention effort will potentially boost demand for firms in the Medical and Scientific Equipment Wholesaling industry. Researchers and healthcare providers are anticipated to require specialised equipment to study the virus.

F35 Motor Vehicle and Motor Vehicle Parts Wholesaling: High

Motor Vehicle and Motor Vehicle Parts Wholesaling firms heavily depend on imports. Consequently, COVID-19 is anticipated to have a significant effect on the subdivision. New cars are primarily sourced from Japan. Consequently, decreasing production in Japan would negatively affect wholesalers' ability to source vehicles. Wholesalers of new parts primarily source goods from countries such as China, Japan and the United States. Reduced manufacturing activity in China has the potential to negatively affect wholesalers' ability to source low-cost parts.

Wholesalers of used vehicles and parts are not anticipated to be strongly affected by the outbreak, as they operate primarily in the domestic market. Servicers and retailers that source parts from wholesalers are anticipated to experience reduced demand, as decreased driving activity will likely reduce the rate at which consumers require replacement parts. In addition, households are expected to delay purchases of new motor vehicles until consumer sentiment returns to positivity. The move to Alert Level 2 is expected to boost distances driven as New Zealanders increasingly leave their homes. Consequently, demand is expected to increase for new cars and parts from retailers, boosting demand for wholesalers.

F36 Grocery, Liquor and Tobacco Product Wholesaling: Moderate

COVID-19 is anticipated to moderately affect operators in the Grocery, Liquor and Tobacco Product Wholesaling subdivision. The move to Alert Level 2 on 14 May is expected to reduce consumers' reliance on grocery stores. Consequently, demand from retailers is expected to moderate and return to pre-stockpiling levels. As consumers increasingly eat outside the home, food service operators are anticipated to account for a growing share of subdivision revenue as they resume sourcing food from wholesalers.

F37 Other Goods Wholesaling: Very High

COVID-19 is anticipated to strongly affect the Other Goods Wholesaling subdivision. Firms that wholesale textile products, clothing and footwear, toy and sporting goods, and paper products source a significant proportion of these goods from overseas. Consequently, reduced manufacturing activity, particularly in China, is anticipated to inhibit these firms' ability to source goods. In addition, reduced retail activity is expected to weaken demand for these goods from retailers. However, the move to Alert Level 2 is expected to significantly boost consumer shopping activity, increasing demand for wholesalers from the retail sector. Lower global oil prices may assist wholesalers in this subdivision by reducing purchase costs, due to the widespread use of oil across most supply chains.

Retail Trade

G39 Motor Vehicle and Motor Vehicle Parts Retailing: Moderate

COVID-19 is expected to have a moderate effect on the Motor Vehicle and Motor Vehicle Parts Retailing subdivision. The United States and China were the largest sources of imported motorcycles in 2018-19. Therefore, declining manufacturing activity in these countries due to COVID-19 threatens the supply chain of motorcycle retailers. Similarly, motor vehicle parts retailers are expected to report supply disruptions. In 2018-19, New Zealand imported \$69.0 million of parts and accessories from China, and \$57.5 million from the United States, representing the third and fourth largest suppliers for the year. However, the value of these imports is minimal compared with motor vehicles.

Imports of cars from China totalled only \$55.4 million in 2018-19. Comparatively, New Zealand imported \$1.7 billion worth of vehicles from Japan, \$505.5 million from Germany and \$402.2 million from the United States during the same period. Motor vehicle manufacturers in Japan, Germany and the United States have also begun temporarily closing manufacturing facilities or reducing production due to the outbreak of COVID-19. This is expected to create supply constraints and increase prices for subdivision products in the short term. Price increases, combined with weak consumer sentiment, are expected to

constrain demand from this subdivision in the current year, as many consumers postpone major purchases due to global economic uncertainty.

G40 Fuel Retailing: High

Retail petrol prices are anticipated to decline as a result of the COVID-19 outbreak. A decline in global demand for oil, particularly from its manufacturing sector, is expected to place strong downward pressure on oil prices. Furthermore, decreased aviation activity will reduce demand from the fuel-intensive global aviation sector. In April 2020, US oil prices became negative, due to capacity constraints and weak demand causing a significant sell off of oil. However, OPEC+ has reached an agreement to curtail crude oil production by approximately 10% (9.7 mb/d), from 1 May 2020. This is expected to increase crude oil and domestic retail fuel prices in the short-term, partially offsetting the price declines over the past three months. Overall, revenue is expected to decline in this subdivision in the current year, due to weaker oil prices as a result of falling demand and an oversupply of crude oil.

G41 Food Retailing: High

As economic activity slows, weaker demand for premium food products, particularly from China, is expected to affect New Zealand's food supply chain. As exports decrease from food-focused industries, such as the Meat Processing industry and the Vegetable Growing industry, supermarkets and grocery stores will likely report an increase in supply. The COVID-19 outbreak will therefore likely constrain growth in export revenue. In response, exporting companies are expected to divert supply to the domestic market, causing prices to fall. While lower prices are anticipated to limit revenue in the Supermarkets, Grocery Stores and Convenience Stores industry, this trend is expected to be offset by increased stockpiling of non-perishable goods by consumers. While the COVID-19 outbreak is projected to significantly disrupt the supply chain for food retailers, it is expected to have minimal effect on revenue for supermarkets, grocery stores and convenience stores.

Conversely, the Liquor Retailing and Specialised Grocery Retailing industries are expected to be significantly affected by COVID-19. On 23 March 2020, the Central Government (Te Kawanatanga o Aotearoa) enacted an Alert Level 4 lockdown, which required all specialised grocery retail stores, such as butchers and liquor retail stores, to close for four weeks. This lockdown was extended for another week, and the Central Government loosened restrictions to Alert Level 3 on 28 April. This allows operators to trade with no physical contact with customers or customers on the premises, limiting services to delivery or pick-up. On 14 May 2020, the Central Government moved to Alert Level 2, which allows business premises to open for staff and customers, provided the business meets the public health and safety requirements. Despite specialised food retail stores being temporarily closed for over two months, demand is expected to recover quickly as stores become fully operational.

The Central Government has provided some relief to significantly affected operators during this lockdown period. A \$5.1 billion wage subsidies scheme is expected to support short-term job retention and partially offset a decline in employment. Furthermore, on 15 April 2020, the Central Government provided additional support to small and medium-sized businesses. This included changes to tax loss continuity rules, more flexibility for tax obligations and a \$3.1 billion tax loss carry-back scheme. These changes are expected to increase business cash flows for affected retailers, and allow businesses to meet growing fixed costs during the lockdown period. On 14 May, the Central Government unveiled a \$50 billion COVID-19 Response and Recovery Fund, which is expected to provide additional funding to affected businesses. Major funding includes an \$3 billion extension to the wage subsidy scheme.

G42 Other Store-Based Retailing: Very High

COVID-19 is expected to significantly affect the Other Store-Based Retailing subdivision. A significant proportion of electronics products retailed in New Zealand are produced in China. Therefore, disrupted supply lines and a decrease in manufacturing output in China due to the outbreak of COVID-19 may result

in shortages for some products. However, retail price rises are expected to be modest and competition in the consumer goods retailing sector is anticipated to remain robust. Companies will likely maintain prices to gain market share, rather than raising prices to boost margins. In addition to electronics products, clothing and footwear are common imports from China, and some disruptions in these supply chains are also expected.

On 25 March 2020, the New Zealand Government (Te Kawanatanga o Aotearoa) announced that all non-essential businesses must remain closed during the Alert Level 4 lockdown period. This was revised to Alert Level 3 on 28 April. The lockdown period is expected to significantly affect many industries in this subdivision that are considered non-essential retailing. However, the restrictions are expected to have less of an effect on retailers with online stores, as these retailers will still be able to make sales during the lockdown period. Employee numbers and wage costs are expected to fall, as retail businesses, such as clothing retailers, reduce staff to meet growing operating costs and weak demand conditions. At Alert Level 4 and 3, retail stores were not able to have business premises open to customers, resulting in many operators exiting. However, the Central Government moved to Alert Level 2 on 14 May 2020, allowing retail stores to open for staff and customers, as long as the business meets public health and safety requirements. As a result, bricks-and-mortar retail stores are expected to recover over the next few months, once consumer sentiment improves. The New Zealand Government has announced a stimulus package supporting affected retail businesses. This support package will offer \$5.1 billion in wage subsidies to affected businesses, which is expected to support short-term job retention in this subdivision and partially offset expected declines in employment. On 15 April, the Central Government announced new measures for small and medium-sized businesses to help increase cashflow and business confidence. These measures included a \$3.1 billion tax loss carry-back scheme and a \$60.0 million annual saving to businesses each year due to changing tax loss continuity rules. These changes are expected to increase cashflows for affected retailers and allow businesses to continue to meet growing fixed costs while temporarily closed. On 14 May 2020, the Central Government announced an additional \$50 billion in COVID-19 funding. Major initiatives include an additional \$3 billion to be used on the wage subsidy scheme and \$400 million to support tourism. This funding is expected to provide further relief to affected retailers.

Accommodation and Food Services

H44 Accommodation: Very High

The New Zealand Accommodation subdivision will likely be highly affected by the outbreak of COVID-19. On 20 March, the New Zealand Government (Te Kawanatanga o Aotearoa) implemented a ban on non-New Zealand citizens and residents entering the country. As the Accommodation subdivision, as part of the wider tourism sector, relies on international travellers, the ban on overseas visitors entering the country is significantly constraining demand. In particular, international leisure travellers account for over 30% of the Hotels and Resorts industry's revenue. As a result, restrictions on overseas visitors will significantly constrain revenue for many capital city establishments. Smaller accommodation providers in regional areas will also likely be affected, as many rely on catering to large groups of Chinese tourists and domestic travellers on package holidays.

On 24 March, the Central Government announced an Alert Level 4 lockdown, which mandated the closure of all non-essential businesses. Subdivision operators are permitted to stay open to provide services to essential workers. However, operators are not allowed to offer services to tourists, who make up their largest source of revenue. On 28 April, New Zealand Government restrictions were eased to Alert Level 3, with this downgrade having little impact on subdivision operators. On 14 May, New Zealand moved to Alert Level 2, which allows subdivision operators to provide services if they adhere to social distancing restrictions. Despite being allowed to open, the lack of international travel is expected to severely limit demand for subdivision services. Additionally, domestic economic conditions are expected to remain subdued and limit demand for subdivision services from domestic travellers.

Despite the expected contraction in subdivision revenue, subdivision employment is expected to remain

relatively steady. The New Zealand Government has announced a wage subsidy package. This package pays eligible businesses up to \$585.80 per week, per person employed. This subsidy is expected to limit the decline in subdivision employment.

H45 Food and Beverage Services: Very High

The Food and Beverage Services subdivision is expected to be highly affected by the outbreak of COVID-19. On 22 March, the New Zealand Government (Te Kawanatanga o Aotearoa) announced the closure of pubs and restaurants, including for takeaway services. This factor is expected to cause a significant decline in revenue for operators, which have been forced to cease trading.

On 20 April, the New Zealand Government announced that Alert Level 4 restrictions would be relaxed from 28 April. From this date, food and beverage services operators were permitted to open for takeaway services, while remaining closed for dine-in services. On May 14, these restrictions were relaxed further, with the country moving to Alert Level 2. Under Alert Level 2, food service operators are permitted to open, while adhering to some restrictions. Operators must provide seated service to no more than ten patrons per table, have sufficient space to allow social distancing, and be serviced by a single individual. On 29 May, the ten patrons limit was increased to 100. Pubs and bars will be permitted to open from 21 May and must follow the same regulations.

This easing of restrictions is expected to limit the decline in subdivision revenue over the course of the pandemic. However, the anticipated rise in the unemployment rate will likely cause household incomes to fall, reducing the amount of money available to consumers for discretionary purchases of takeaway food. Additionally, delivery services are increasingly being provided by online food ordering and delivery platforms. These platforms can charge food and beverage providers substantial commissions for their services. Greater demand from these services is expected to reduce subdivision profitability over the course of the pandemic.

Additionally, in an effort to support subdivision operators, the New Zealand Government has announced a wage subsidy package. This package pays eligible businesses up to \$585.80 per week, per person employed. Despite the expected sharp contraction in subdivision revenue, declines in subdivision employment are therefore expected to be less severe.

Transport, Postal and Warehousing

I46 Road Freight Transport: Very High

New Zealand's lack of an extensive rail network ensures the majority of the country's freight task is transported by road. On 25 March, the New Zealand Government (Te Kawanatanga o Aotearoa) announced the country would enter Alert Level 4 lockdown restrictions, mandating the closure of all non-essential businesses. Consequently, several manufacturers, wholesalers and retailers have been forced to close. This trend has reduced demand for road freight services, and contributed to a decline in subdivision revenue. However, New Zealand's move to Alert Level 2 on 14 May has allowed many businesses to reopen across the economy, increasing demand for freight services.

The downturn in the global economy is expected to reduce international trade, with the WTO estimating global trade could contract by 30 % over the course of the pandemic. The Road Freight Transport industry generates a significant level of revenue by transporting to and from export markets. The contraction in global trade is expected to reduce revenue generated by these services.

The global downturn associated with the outbreak of COVID-19 is expected to result in a steep contraction in the world price of crude oil. The price of crude oil per barrel became negative on 21 April 2020, for the first time in history. This decline is expected to improve the competitiveness of the Road Freight Transport industry against the Rail Freight Transport industry. This trend is expected to limit the decline in subdivision revenue. Additionally, demand for road passenger transport is expected to decline due to

decreased tourist activity and domestic travel restrictions. However, restrictions have been loosened from 28 April, which has expected to supported increased business activity and therefore encouraged increased demand for passenger transport services.

I47 Rail Freight Transport: High

Operators in the Rail Freight Transport subdivision dominate the movement of New Zealand's non-bulk freight task. The COVID-19 outbreak is expected to limit demand for commodity exports, reducing New Zealand's domestic freight task. Additionally, the WTO estimates that global international trade will contract by 30 % over the duration of the pandemic. This slowdown is expected to reduce the volume of non-bulk freight requiring transport across New Zealand, further reducing demand for rail freight services.

The decline in the world price of crude oil is expected to reduce the competitiveness of rail freight and passenger transport against road transport, further reducing subdivision revenue. Additionally, demand for rail passenger services is expected to fall, as tourist activity declines due to government travel restrictions. However, as social distancing restrictions are loosened, rising business activity is expected to increase demand for rail passenger transport as more people return to work. Additionally, the government outlined plans to invest \$1.1 billion in the country's infrastructure in the 2020 Budget. This investment includes increased maintenance and track renewal, and locomotive upgrades. This investment is expected to improve the competitiveness of rail freight, supporting a recovery in subdivision revenue.

I48 Water Transport: Very High

As New Zealand is an island nation, all of its imports and exports arrive via air or sea. Air freight transport is primarily used for high-value or time-sensitive products, due to its expensive nature. Consequently, most of New Zealand's international trade is conducted by sea. The WTO estimates that COVID-19 will reduce global trade by up to 30 % in the current year. The slowdown in international trade is expected to limit demand for water freight transport services.

Declining household discretionary incomes due to the COVID-19 outbreak, and associated restrictions on non-essential activities are expected to reduce demand for consumer goods in New Zealand. This trend is expected to reduce New Zealand imports and demand for water freight services. However, the 2020 Budget outlined increased investment in interisland ferry services. This includes \$399.5 million to replace capital assets. This investment is expected to support a recovery in subdivision revenue over the next five years.

Additionally, demand for water passenger services is expected to decline, as tourist numbers fall and consumers are required to remain at home. On 25 March 2020, the New Zealand Government (Te Kawanatanga o Aotearoa) banned cruise ships from docking at its ports. Additionally, negative media coverage regarding the spread of the virus is expected to discourage New Zealanders from taking cruise trips. This factor is expected to contribute to a steep decline in revenue for the Water Passenger Transport industry.

I49 Air and Space Transport: Very High

On 20 March 2020, the New Zealand Government (Te Kawanatanga o Aotearoa) implemented a ban on all non-New Zealand citizens and residents entering the country. Consequently, demand for international air travel is forecast to decline substantially, with New Zealand's airlines grounding much of their fleets. IBISWorld expects revenue for the Airlines industry to decline by more than a third during 2020-21. This revenue decline is expected to flow through to industry profitability, which is expected to fall during the 2020-21 financial year. Restrictions on all non-essential activities are expected to reduce demand for domestic air travel in New Zealand.

New Zealand's status as an island nation ensure all imports and exports travel by sea or air. Air freight is generally expensive, and only used to carry expensive or time-sensitive products. Increased demand

for personal protective equipment, and for other essential products, has boosted demand for air freight services. New Zealand's largest airline, Air New Zealand, has converted passenger jets to freight jets to capitalise on this increase in demand. This trend is expected to limit the decline in subdivision revenue over the course of the pandemic.

I50 Other Transport: Very High

On 20 March 2020, the New Zealand Government (Te Kawanatanga o Aotearoa) implemented a ban on all non-New Zealand citizens or residents entering the country. This trend is expected to significantly reduce international tourism. Additionally, on 25 March 2020, the government implemented Alert Level 4 restrictions on non-essential activities. These restrictions had a severely negative effect on the Scenic and Sightseeing Transport industry. Restrictions were reduced to Alert Level 2 from 14 May, allowing industry operators to reopen, while adhering to social distancing restrictions. However, the closure of New Zealand's borders and deteriorating domestic economic conditions are expected to limit demand from tourists. Additionally, declines in the world prices of natural gas and crude oil are expected to reduce revenue for the Pipeline Transport industry.

I51 Postal and Courier Pick-up and Delivery Services: High

The COVID-19 outbreak is forecast to have a high impact on the Postal and Courier Pick-up and Delivery Services subdivision. On 25 March, the New Zealand Government (Te Kawanatanga o Aotearoa) enacted Alert Level 4 lockdown restrictions. This mandated the closure of all non-essential businesses across the economy. Operators in the subdivision generate significant revenue from commercial clients. Consequently, the closure of these businesses has reduced demand for subdivision services, as well as revenue. However, the country returned to Alert Level 3 on 28 April, allowing some businesses to reopen and boost demand for subdivision services. Alert Level 3 was reduced to Alert Level 2 on 14 May, further increasing business activity across the economy and supporting commercial demand.

The closure of many retailers across the economy has increased demand for online shopping over the course of the COVID-19 outbreak. Products purchased online are generally delivered by subdivision operators. Expected growth in demand from households is forecast to outweigh the decline in demand from commercial markets. Consequently, this trend is expected to somewhat limit the decline in subdivision revenue. However, New Zealand's move to Alert Level 2 on 14 May is expected to allow many retailers to reopen, increasing demand for bricks and mortar retailers, and limiting demand for online shopping.

I52 Transport Support Services: Very High

The Transport Support Services subdivision provides several services to the wider transport sector. The slowdown of New Zealand's international trade is expected to reduce this demand. The WTO has estimated that global trade could contract by 30% in the current year. As most of New Zealand's international trade is conducted via sea, the reduction in the number of ships arriving at New Zealand's ports is expected to reduce demand for a number of subdivision operators that provide ancillary services to the Water Freight Transport industry. For example, reduced demand for water freight transport is expected to have a negative effect on operators of port and water transport terminals. The loosening of restrictions from 28 April is expected to support business activity, driving increased demand for subdivision services.

I53 Warehousing and Storage Services: High

The COVID-19 outbreak is expected to reduce the volume of international trade between New Zealand and its trading partners. The WTO has estimated that global trade is likely to decline by up to 30% over the course of the pandemic. As most of New Zealand's international trade is conducted by sea, products awaiting export generally spend time in storage at ports. Additionally, imports generally spend time in storage while awaiting customs clearance. The forecast decline in international trade is therefore expected to contribute to a decline in industry revenue.

Declines in consumer sentiment and household discretionary incomes are expected to discourage New Zealand consumers from making discretionary purchases. Additionally, the New Zealand Government (Te Kawanatanga o Aotearoa) enacted Alert Level 4 restrictions on non-essential activities on 25 March 2020, mandating the closure of many retailers. This is anticipated to result in retailers being unable to clear stock, increasing their demand for warehouse services. However, restrictions returned to Alert Level 3 on 28 April, allowing some retailers to reopen and reducing demand for storage services. New Zealand moved to Alert Level 2 on 14 May, allowing non-essential retailers to open and further reducing demand for warehousing services.

Information Media and Telecommunications

J54 Publishing (Except Internet and Music Publishing): High

The COVID-19 outbreak is expected to significantly affect the Publishing subdivision. Demand for certain products, such as print newspapers, is expected to decline as consumers reduce their spending on industry goods over the short term. In addition, falling revenue from advertising has negatively affected newspaper and magazine publishers, with Bauer Media closing its New Zealand magazine operations due to sharp declines in advertising revenue. Furthermore, New Zealand Media and Entertainment has announced that it would cut 200 jobs and reduce salaries in response to a sharp decline in advertising revenue. Some publishers may benefit from an \$11.1 million fund set aside by the New Zealand Government (Te Kawanatanga o Aotearoa) to provide targeted assistance to media companies. The government has stated that further assistance packages for New Zealand's media sector are currently in development.

The Software Publishing industry is unlikely to be significantly affected by COVID-19. The nature of software publishing allows for easy remote working operations, minimising disruptions to business operations caused by the five-week Alert Level 4 lockdown. However, downstream industries that demand software may reduce their needs if business confidence declines further.

J55 Motion Picture and Sound Recording Activities: Very High

The Motion Picture and Sound Recording Activities subdivision is anticipated to be significantly affected by COVID-19. Demand for video production and post-production services is anticipated to decline as filmmakers both domestically and abroad delay production activities due to public health measures that have restricted movement and public gatherings. In addition, the global spread of COVID-19 has delayed film and video production globally, negatively affecting demand for post-production services rendered in New Zealand. Demand for video production and post-production services is anticipated to remain low while public health restrictions remain in effect. However, the move to Alert Level 2 restrictions on 14 May has enabled production activities to resume in line with physical distancing and hygiene guidelines. This move is anticipated to provide some support for film and television production and post-production service companies. In May 2020, film crews arrived in Wellington from Los Angeles to resume production on the Avatar sequels. As border restrictions are still in force, special dispensation for these filmmakers indicates the government's interest in boosting the local film sector at a time when global production largely remains disrupted. However, the crew members are still subject to a mandatory 14-day quarantine on arrival in New Zealand.

On 23 April, the New Zealand Government (Te Kawanatanga o Aotearoa) announced a \$50.0 million support package for media companies. These funds include a six-month waiver of transmission fees for radio and television broadcasters, along with funds to reduce media companies' contribution to content produced by New Zealand on Air. The 2020 Budget includes a \$146.0 million boost to the New Zealand Screen Production Grant to encourage international productions to film in New Zealand.

Public health measures have significantly affected the Cinemas industry, as cinemas were required to close under Alert Level 4 restrictions. Cinemas can now reopen following the move to Alert Level 2 restrictions on 14 May, albeit at reduced capacity in line with strict physical distancing and hygiene guidelines. These

measures are anticipated to have long-term effects on the Cinemas industry, as consumers increasingly turn to SVOD services and other competing home entertainment options. Disruptions to global film production and release schedules will also likely have negative effects on cinemas over the short term, as first-run film availability will likely be limited.

J56 Broadcasting (Except Internet): High

The Broadcasting subdivision is anticipated to be highly affected by COVID-19. Supply chains will likely be disrupted, particularly for broadcasting equipment such as cameras. However, broadcasters are expected to have sufficient inventory on hand to maintain services without requiring additional supplies.

Broadcasters are expected to face significant pressure from declines in revenue received from advertisers. Many firms will likely reassess their advertising needs, as some businesses, such as restaurants and cinemas, pause trading or operate at reduced capacity due to physical distancing restrictions. However, advertising undertaken by other businesses, such as pharmacies, is expected to increase, partly offsetting declines in demand. Additionally, more viewers are expected to watch TV as lockdowns and restrictions on travel and social gatherings encourage individuals to stay indoors. Nevertheless, economic disruption and falling advertising revenue represent substantial threats to broadcasters. The New Zealand Government (Te Kawanatanga o Aotearoa) announced a \$50.0 million support package for media companies in late April 2020, which includes a six-month waiver of transmission fees for commercial radio and television broadcasters.

J57 Internet Publishing and Broadcasting: Moderate

The Internet Publishing and Broadcasting subdivision is expected to be moderately affected by COVID-19. Although some products and services, such as online sales listings, are anticipated to be negatively affected, greater demand for other products and services is expected to partly offset this trend. However, falling demand from advertisers is anticipated to affect online news and content publishers that rely on advertising revenue to support their operations. Consumer demand for SVOD services is anticipated to rise sharply as restrictions on movement and activity boost demand for home entertainment options.

J58 Telecommunications Services: Moderate

Telecommunications services are anticipated to be moderately affected by COVID-19. Call centre support services may experience disruption, particularly for services that use offshore call centres based in areas with larger outbreaks of COVID-19. However, underlying demand for telecommunications services is expected to remain largely stable, with wired and wireless telecommunications networks being used more heavily as individuals remain at home. While most installations and infrastructure construction activities were halted under the Alert Level 4 restrictions, they have resumed following New Zealand's move to Alert Level 3 on 28 April 2020. Furthermore, demand for other services, such as dark fibre networks, is anticipated to increase, but these services are usually built to business specifications.

J59 Internet Service Providers, Web Search Portals and Data Processing Services: High

The COVID-19 outbreak is expected to have mixed effects on the Internet Service Providers, Web Search Portals and Data Processing Services subdivision. Data storage service providers are anticipated to benefit from growing demand for their services, as businesses are likely to shift more operations to the cloud and encourage more remote working to minimise disruptions to business operations. However, the technology used to operate and construct data centres is almost exclusively sourced from international manufacturers, and local providers may struggle to ramp up their domestic offerings if demand rises sharply.

Demand for internet service providers is expected to increase as the lockdown restrictions have led to many individuals working from home. This trend is anticipated to benefit internet service providers, with some consumers likely to upgrade their existing internet plans to handle the greater volumes of data required for activities such as remote working and online video streaming, particularly for larger families

and whanau. New Zealand's move to Alert Level 2 on 14 May is not anticipated to significantly reduce demand for internet service providers, as most individuals will likely continue using their existing service plans.

J60 Library and Other Information Services: Moderate

This subdivision consists of libraries and other archives, which are expected to be moderately affected by COVID-19. Demand for libraries and publicly accessible archives will likely fall substantially, as the Alert Level 4 lockdown forced these venues to close temporarily. These venues remained closed under Alert Level 3 restrictions, but have reopened following the move to Alert Level 2 restrictions on 14 May. While these venues can reopen, they must still comply with strict physical distancing and hygiene guidelines. As subdivision activities are largely operated through public funding, the short-term fall in demand is unlikely to have any substantial negative long-term effect on the subdivision.

Financial and Insurance Services

K62 Finance: Moderate

The COVID-19 outbreak is expected to moderately affect the Finance subdivision through volatility in financial markets and the increased likelihood of further cuts to the Official Cash Rate (OCR) by the RBNZ. Prior to the COVID-19 outbreak, the RBNZ was expected to keep the OCR unchanged for 2020 as the economic outlook was positive. However, as the outbreak escalated and extended to countries outside of China, risks to both the domestic and global economy have risen, increasing the likelihood of a rate cut in the current year. In March 2020, the RBNZ cut the OCR by 75 bps to 0.25%. The RBNZ has indicated the OCR will remain at 0.25% for at least 12 months. Rate cuts will likely reduce interest revenue for banks and non-bank lenders. Additionally, profit margins are anticipated to narrow, as lenders pass on interest rate cuts to borrowers. Volatility in financial markets is also expected to affect investment returns for firms in the Financial Asset Investing industry and may prompt investors to move their funds to safer assets.

K63 Insurance and Superannuation Funds: Moderate

The COVID-19 outbreak is anticipated to moderately affect the Insurance and Superannuation Funds subdivision. Claims are not expected to rise significantly for general insurers due to exclusions on standard travel and business interruption policies. Most insurers have exclusions relating to pandemic and virus-related claims. Customers may be insured if they purchased travel insurance prior to the COVID-19 outbreak becoming a known event. Life insurers and reinsurers are not expected to be affected unless the outbreak escalates significantly. However, investment income is a key revenue driver for many insurance companies and investment revenue could decline for insurers over the current year. The outbreak will likely have a short-term effect on investment returns for superannuation funds, but the long-term nature of investing in superannuation means these operators are better able to withstand volatility in sharemarkets than other market participants.

K64 Auxiliary Finance and Insurance Services: Moderate

The COVID-19 outbreak is expected to have a moderate effect on the Auxiliary Finance and Insurance Services subdivision. Demand for subdivision services will likely remain largely unchanged given its service-based nature. Subdivision operators also primarily provide services domestically and to local clients, limiting their exposure to international demand volatility. As a result, current trends and forecasts are expected to remain largely unchanged.

Rental, Hiring and Real Estate Services

L66 Rental and Hiring Services (Except Real Estate): Very High

This subdivision includes the Passenger Car Rental and Hiring industry, which is anticipated to report a significant decline in demand as inbound international tourism declines. International tourists were expected to account for approximately 25% of industry revenue in 2020-21, representing a key driver of industry expansion. However, this is now anticipated to be significantly lower due to the outbreak of COVID-19. Restrictions on domestic travel and the closure of non-essential businesses are also expected to reduce demand for rental vehicles. As a result, industry revenue is anticipated to fall by 15.9% in 2020-21, with major car rental companies closing most locations while Alert Level 4 restrictions remained in place. The Central Government (Te Kawanatanga o Aotearoa) relaxed restrictions to Alert Level 3 on 28 April and Alert Level 2 on 14 May, allowing many business locations to reopen and domestic travel to resume. However, demand is anticipated to remain subdued as consumers avoid unnecessary travel. Furthermore, when global travel restrictions are finally relaxed, many consumers may remain reluctant to travel for some time.

The remainder of the subdivision is primarily focused on the domestic market, with firms providing transport, heavy machinery, scaffolding, and furniture and appliance rentals to businesses and consumers across New Zealand. As these firms rely less on tourism for demand, the COVID-19 outbreak is anticipated to have a less severe and drawn out impact on some of these industries. However, Alert Level 4 restrictions significantly affected subdivision activities, with most businesses closing or only providing rentals to essential services. These restrictions were subsequently relaxed to Alert Level 3 on 28 April and Alert Level 2 on 14 May, which is anticipated to provide some support for industry firms as mining and construction activity has been allowed to resume. To support New Zealand's economic recovery, the government's 2020 Budget announced increased spending on infrastructure. An additional \$3 billion was allocated for shovel-ready infrastructure projects and the government committed to building 8,000 new state houses over the next five years. This boost to construction activity is anticipated to provide some support for subdivision activity.

L67 Property Operators and Real Estate Services: Very High

The subdivision's two industries, the Commercial Property Operators industry and the Real Estate Services industry, are expected to be significantly affected by the COVID-19 outbreak. Due to the general slowdown in economic activity and closure of non-essential businesses, businesses are anticipated to face difficulty meeting rent obligations. This is expected to have a significant impact on commercial property operators. As a result, revenue in the Commercial Property Operators industry is anticipated to fall by 8.0% in 2020-21. Retail customers are anticipated to account for almost a third of revenue for the Commercial Property Operators industry in the current year. Retail activity has fallen sharply, while industrial output is also anticipated to decline due to weaker consumption, as consumers were forced to remain at home for the duration of the lockdown. Declining international trade activity may also affect the business performance of industrial tenants. In response to deteriorating economic conditions, the Central Government (Te Kawanatanga o Aotearoa) introduced increased protection for tenants by limiting tenancy terminations for the duration of the COVID-19 outbreak. However, weakening economic conditions are anticipated to weigh on commercial rental prices. The shift from Alert Level 4 to Alert Level 3 on 28 April and subsequent move to Alert Level 2 on 14 May are expected to provide some relief for businesses, in turn enabling them to make rent payments. However, retail activity is expected to remain weak due to economic uncertainty, which is anticipated to continue constraining the performance of retail property operators.

The Real Estate Services industry is also anticipated to be significantly affected by the COVID-19 outbreak. Residential property transfer volumes are anticipated to come under pressure due to uncertainty in the wider economy. Furthermore, despite lockdown conditions easing, consumers are unlikely to seek out new rental accommodation unless absolutely necessary. As a result, revenue for the Real Estate Services industry is anticipated to fall by 15.7% in the current year. Property sales volumes and prices are also anticipated

to decline, as sellers withdraw properties from the market due to uncertainty in the wider economy. With unemployment rising, residential tenants may face difficulty meeting lease obligations, while mortgagees may also struggle to make payments. As a result, the major banks are offering customers support through payment deferrals. The reduction of restrictions on 28 April and 14 May have allowed most subdivision activities to resume. For example, auctions and open for inspections can resume with limits on the number of people in attendance. High touch areas in properties must also be regularly cleaned and real estate agents must be able to contact trace attendees. Despite the move to relax restrictions, activity in the subdivision is anticipated to remain subdued as rising unemployment, weak consumer sentiment and slowing population growth limit the number of housing transfers.

Professional, Scientific and Technical Services

M69 Professional, Scientific and Technical Services: High

The Professional, Scientific and Technical Services subdivision is expected to be highly affected by COVID-19. Prior to government-enforced travel restrictions, many companies in this subdivision had already implemented travel restrictions to affected areas, and self-quarantine periods in which employees work from home after traveling overseas. Despite some restrictions easing, unnecessary travel is still discouraged, which is expected to continue constraining business-related activity in this subdivision. While many businesses in the subdivision are well equipped to provide flexible work arrangements for employees, demand for services is anticipated to fall as clients seek to reduce costs. Some cities, such as Christchurch, have introduced business support subsidies to help small businesses seek professional advice. These initiatives are anticipated to support demand for some subdivision services, including business continuity planning, finance and cashflow planning, and HR services. However, as businesses seek to reduce costs in the face of economic uncertainty, demand for consulting services is likely to fall. Due to the broad range of services offered by firms in the subdivision, some areas will perform better than others. For example, demand for discretionary services, such as strategy consulting, is anticipated to fall sharply, while demand for other services, such as restructuring advice, may remain more robust. Due to falling demand, some large professional and legal services providers have been forced to reduce staff hours and wages in response to slowing business activity.

The COVID-19 outbreak has caused disruptions to business supply chains and international trade. Businesses affected by these supply disruptions are expected to seek advice on mitigating costs and exposure, which could boost demand for some management consulting services. However, restrictions on non-essential businesses and declines in economic activity may reduce demand for professional services from some sectors. Other operators in the subdivision, such as vet clinics, were able to provide services for emergency and urgent treatment under Alert Level 4 restrictions. The move to Alert Level 3 on 28 April and subsequent shift to Alert Level 2 on 14 May are anticipated to support demand for operators in the Veterinary Services industry. Demand for biological and medical research services is expected to rise, as global demand for a vaccine remains high. Funding for COVID-19 research programs from both the private and public sector is expected to increase as the outbreak continues to spread. In February 2020, New Zealand's Health Research Council launched a \$3.0 million rapid research response, funding research into threats from COVID-19 and preparation for future outbreaks. As a result, the COVID-19 outbreak is anticipated to boost turnover for the Scientific Research Services industry over 2020-21.

M70 Computer System Design Services: High

COVID-19 is expected to have a high impact on the Computer System Design Services subdivision. Due to subdued economic activity, weak business confidence and the closure of non-essential businesses for the duration of the outbreak, revenue for the Computer System Design Services industry is anticipated to fall by 8.8% in 2020-21. However, as businesses seek to improve their online presence and equip themselves to provide flexible work arrangements for employees, demand for some IT consulting services is anticipated to remain more robust, such as demand for labour-based computer assistance. Furthermore,

IT consultants can work remotely, reducing the risk of exposure for employees in this subdivision. However, as economic activity slows down, businesses are anticipated to seek cost reductions and cut back on consulting services, which is projected to constrain subdivision demand. As many global manufacturers have experienced supply chain disruptions during the COVID-19 outbreak, there may be supply issues for key computer components, hardware and parts used in the Computer System Design Services industry. As a result, demand for software and app development services is expected to decrease, as firms wait until there is greater certainty surrounding economic conditions. The shift to Alert Level 2 restrictions on 14 May is anticipated to support demand for some operators, as some businesses seek out IT services to help resume activities.

Administrative and Support Services

N72 Administrative Services: High

As a service-based subdivision, the Administrative Services subdivision is expected to be significantly affected by COVID-19. The Travel Agency and Tour Arrangement Services industry is expected to be heavily affected, as travel bans have stopped all non-essential travel to and from New Zealand. Travel bans are anticipated to significantly reduce demand for tour arrangement services, with revenue for the Travel Agency and Tour Arrangement Services industry set to decline substantially. Travel Agencies will also be affected by uncertainty regarding when travel restrictions will be relaxed, as governments around the world impose significant travel restrictions in a bid to curb the spread of COVID-19. As restrictions on most international travel will likely remain in place over the medium term, demand for travel agencies and tour arrangement services is anticipated to remain low. However, domestic travel can resume following the move to Alert Level 2 restrictions on 14 May, providing some support for travel agencies and tour arrangement services.

Demand for employment placement and recruitment services is expected to fall due to COVID-19, as declines in economic activity contribute to a reduction in job vacancies and advertisements. Treasury modelling has indicated that New Zealand's unemployment rate could rise as high as 13.0%, which would significantly affect demand for employment placement services. However, government stimulus packages, such as those in the 2020-21 Budget, are expected to limit the rise in unemployment, supporting firms that provide job placement and recruitment services.

N73 Building Cleaning, Pest Control and Other Support Services: High

The COVID-19 outbreak is expected to have a moderate effect on the Building Cleaning, Pest Control and Other Support Services subdivision. As this subdivision is service-based, demand for subdivision services has fallen following the government-imposed Alert Level 4 restrictions. New Zealand's move to Alert Level 3 on 28 April allowed some subdivision businesses to resume operations, albeit under strict conditions. Subdivision activity is anticipated to rise significantly following the move to Alert Level 2 on 14 May, which has allowed many businesses to resume operations. These relaxed restrictions on movement and social gatherings are anticipated to boost demand for cleaning services, as more facilities require additional cleaning and disinfection.

Most industries in the subdivision are expected to face minimal supply chain disruptions as a result of the outbreak of COVID-19. However, global supply shortages of products such as hand sanitiser, which is stocked in many building toilet facilities, will likely affect the Commercial Cleaning Services industry. Anticipated supply issues over the short term will likely place upward pressure on prices for hygiene products, such as soap and hand sanitiser, increasing operating costs for the industry.

Public Administration and Safety

076 Defence: Moderate

This subdivision includes the Defence industry in New Zealand. The New Zealand Defence Force (NZDF) consists of three services, the Royal New Zealand Navy, the Army and the Air Force. COVID-19 has not affected the NZDF so far. However, if the outbreak were to worsen in New Zealand, the NZDF would likely be relied on to help maintain quarantine controls, deliver medical supplies, or support police and firefighting operations. Medics and health staff in the NZDF could also be called on to support civilian efforts to control COVID-19.

077 Public Order, Safety and Regulatory Services: Moderate

This subdivision is expected to experience no significant disruption due to COVID-19. Police and firefighting services may be called as first responders for normal medical emergencies, while medical resources are occupied with COVID-19. Correctional facilities may be at a higher risk of contracting and spreading the disease. Inmates in these facilities have a higher chance of spreading the infection as they live in close proximity.

Education and Training

P80 Preschool and School Education: High

The New Zealand Preschool and School Education subdivision will likely be significantly affected by the COVID-19 outbreak. The New Zealand Government (Te Kawanatanga o Aotearoa) has moved from Alert Level 3 to Alert Level 2 from 14 May. At Alert Level 3, preschools and domestic schools that were mandated to close for four weeks from 25 March 2020 have reopened. However, at Alert Level 3, only students who could be cared for at home could return to school, while students that had access to distance learning were encouraged to stay home.

As the country moves to Alert Level 2 in three separate stages, schools and early learning centres will reopen fully from 18 May. Restrictions put in place for Alert Level 3, such as bubbles of 10, no sharing of food or cutlery, and staggered entry and exit times, will be considerably relaxed for early learning centres. But schools must ensure the safety of children attending preschools, such as observing hand hygiene practices. Despite the reopening, early learning centres will likely face lower enrolment rates, as some parents could be reluctant to send their kids back to childcare.

The Ministry of Education (Te Tahuhu O Te Matauranga) expects all children to return to school at Alert Level 2, as students are required to attend schools between the ages of 6 and 16. However, attendance is not expected to be strictly enforced, as some parents might be reluctant to send their kids back to school. Distance learning will be available for students who are unable to attend school. Under Alert Level 2, any educational facility connected to a confirmed or probable case of COVID-19 must close for 72 hours to allow for contact tracing. Facilities with confirmed case must be closed for another 14 days.

P81 Tertiary Education: High

The Tertiary Education subdivision in New Zealand will likely be highly affected by the COVID-19 outbreak. New Zealand's ban on most travellers from mid-March has negatively affected the Tertiary Education subdivision. The previous travel ban on visitors from mainland China blocked Chinese students from entering the country. The stricter travel ban will negatively affect the Universities industry, as international students account for 14.8% of the Universities industry's revenue of \$4.5 billion. The downturn in Chinese student numbers is expected to limit the finances of several domestic universities in the short term. Tuition fees from Chinese students provide a key source of income for some New Zealand universities. The ban is therefore likely to negatively affect the sector in the short term, and potentially in the longer term.

For example, the University of Auckland announced that it had ceased hiring new staff in late February 2020, due to the financial effects of the COVID-19 outbreak. To ease pressure on domestic universities, Universities New Zealand has asked the New Zealand Government (Te Kawanatanga o Aotearoa) for an exemption for Chinese international students. However, this has not yet occurred at the time of writing.

Figures from Immigration New Zealand reported a decline in number of international students. In late April 2020, 51,580 international students had a valid study visa in the country. This number was 14.5 % lower than in mid-March, when New Zealand had 60,438 foreign students in the country. Universities could face difficulties in admitting international students in the new semester due to travel restrictions. The \$4.4 billion industry will likely face a decline in revenue, following a reduction in number of international student enrolments.

Some international students are facing financial difficulties from temporarily losing part-time work. However, the New Zealand Government removed working hour restrictions for international students that are already working in major supermarkets. Additionally, international students that are existing healthcare workers are now allowed to work full-time hours for a period of three months. Some universities have set up hardship funds to help students affected by lockdown conditions. In Auckland, Auckland Emergency Management is providing one-off welfare packages for individuals in Auckland struggling to access basic household supplies.

As the country enters Alert level 2, universities will reopen but are expected to adhere to public health requirements and physical distancing. However, universities are required to maintain the ability to deliver comprehensive distance learning to students. Some university students are expected to continue learning remotely as University of Auckland, AUT and Massey Universities have expressed their intentions to continue classes online for the rest of the half-year, with a few exceptions. Universities connected to a confirmed or probable COVID-19 case must close temporarily to support contact tracing.

The government's recently announced 2020 Budget focuses heavily on the education sector, with targeted funding for trades training and apprentices. The \$1.6 billion investment in education and training is anticipated to provide many people, particularly younger demographics, with opportunities to reskill. According to the Ministry of Social Development (Te Manatu Whakahiato Ora), job losses have disproportionately affected younger people, and retraining is important to help people in this demographic get back into the job market. The budget is also anticipated to help universities and colleges recover from financial losses as a result of the outbreak.

The budget includes \$100.4 million to meet increased demand in early learning, \$122.7 million in early learning subsidy rates, \$105.2 million for a general 1.6 % increase in schools' operations grants, and \$79.7 million to meet rising costs and demand pressures in learning support. Additionally, it includes \$200 million to support Maori learners and whanau in education following COVID-19, and to strengthen the integration of the Maori language into the education system.

The budget also includes \$100.0 million to support Kohanga Reo, an early childhood education centre where all education is delivered in the Maori language. A \$151.1 million pay rise will also be given to qualified teachers in education and care services. The Free and Healthy School Lunches programme is also being expanded through the budget. This program will target disadvantaged students and is estimated to feed around 200,000 students by Term 3 in 2021.

For tertiary education, key funding includes \$334.1 million for tertiary education enrolments, \$320.0 million in funding for targeted training and apprenticeship fund, and \$141.0 million for a general 1.6 % increase to tertiary education tuition to meet rising cost pressures. The government will also provide up to \$412.0 million in support for employers to retain and train their apprentices.

P82 Adult, Community and Other Education: Moderate

The COVID-19 outbreak is expected to have a moderate effect on the Adult, Community and Other Education subdivision. Establishments in this subdivision primarily service the domestic market, which

means that their international student numbers are typically low. However, providers of English Language Intensive Courses for Overseas Students have faced weaker demand from international students, due to the travel ban. The government has announced that funding of \$16.0 million will be provided to help adult and community education providers meet the increased need for training and upskilling following the COVID-19 outbreak.

Health Care and Social Assistance

Q84 Hospitals: Moderate

The Hospitals subdivision is expected to be moderately affected by COVID-19. The largest challenge facing New Zealand hospitals is a shortage of medical supplies, such as surgical masks and hand sanitiser. The disruption of supply chains of these goods from China has exacerbated the issue, with wholesalers and retailers finding it difficult to restock these products. Consequently, this shortage of supplies can restrict a hospital's ability to contain and minimise the spread of infection, and cause serious potential risk to patients and hospital staff alike. In the event of COVID-19 further spreading into the general population, hospitals are anticipated to delay or even cancel elective surgeries and prioritise COVID-19 cases. On 17 March 2020, the New Zealand Government (Te Kawanatanga o Aotearoa) allocated \$500 million to support health services. These funds are expected to support the subdivision's infrastructure and medical supply capacities if cases rise significantly. On 14 May, the Central Government announced an additional \$50 billion in funding through its 2020 Budget, with \$3.3 billion expected to be spent on health and education. This funding would provide additional relief if a second wave of infections occurs.

Q85 Medical and Other Healthcare Services: High

The Medical and Other Healthcare Services subdivision is expected to face a number of challenges due to the COVID-19 outbreak. General medical practitioners are expected to struggle to obtain basic medical supplies, disrupting their ability to provide services to patients afflicted with COVID-19. Other industries in the subdivision are also expected to be exposed to declining demand, as patients are likely to delay unnecessary medical appointments from fear of catching the virus. The Central Government (Te Kawanatanga o Aotearoa) has also recommended that non-contact consultations should be used where possible, such as virtual consultations, to minimise the risk of spreading COVID-19. On 14 May, the Central Government unveiled a \$50 billion COVID-19 Response and Recovery Fund in its budget, with \$3.3 billion expected to be spent on health and education. Some of this funding is anticipated to support healthcare services that were temporarily closed during lockdown.

Q86 Residential Care Services: High

Operators in the Residential Care Services subdivision are expected to face heavy disruption due to COVID-19. Aged Care Residential Facilities are particularly vulnerable to any potential COVID-19 outbreaks, and staff will be expected to respond accordingly to minimise risk for themselves and residents. The shortage of preventative medical supplies, particularly hand sanitiser, will likely also cause issues for these facilities, as preventative measures will be more difficult to implement without access to these basic supplies.

Q87 Social Assistance Services: High

The Social Assistance Services subdivision is expected to be highly disrupted by COVID-19. Operators in the Child Care Services industry may be forced to shut down their facilities for a period if the virus continues to spread. However, demand for these facilities may surge instead if schools are closed in response to COVID-19 without a corresponding response from businesses. On 25 March 2020, the Central Government (Te Kawanatanga o Aotearoa) moved to Alert Level 4, which led to all child care facilities temporarily closing and engaging in distance learning only. These facilities have been allowed to reopen since the

Central Government moved to Alert Level 3 from 28 April. Demand for child care services has declined as many parents have kept their children at home and used online learning platforms over the lockdown period. Demand for Personal Welfare Services may also rise, as workers (particularly self-employed or contract workers) end up accruing debt due to the mandated isolation period. On 14 May, the Central Government announced an additional \$50 billion in funding through its budget, with \$3.3 billion expected to be directed towards health and education. This factor will help support child care businesses that were severely affected by the lockdown.

Arts and Recreation Services

R89 Heritage Activities: High

The Art Galleries and Museum Operation industry is the sole industry in the subdivision and is expected to be significantly affected by the COVID-19 outbreak. Public venues were required to shut under Alert Levels 3 and 4, but are allowed to open under Alert Level 2, which was implemented on 14 May. However, travel restrictions prevent international visitors, which represent a significant source of revenue for this sector.

R90 Creative and Performing Arts Activities: Very High

The COVID-19 outbreak is anticipated to severely affect the Creative and Performing Arts Activities subdivision. All performances and live events must be cancelled due to social distancing restrictions. These delays and cancellations will significantly reduce revenue for the subdivision. Some operators may face lost revenue and significant expenses for changes in event scheduling. However, arts activities that take place in the digital space, such as livestreaming concerts, are anticipated to continue performing well. The transition to Alert Level 2 from 14 May is expected to have a slight effect on this subdivision, as live public events will be allowed with up to 10 people under phase one, providing they adhere to physical distancing and hygiene measures. Gatherings of up to 100 people are permitted from 29 May. This easing is anticipated to significantly boost demand for events such as small theatre and concert events.

R91 Sports and Recreation Activities: Very High

The COVID-19 outbreak is expected to severely restrict the Sports and Recreation Activities subdivision. Sports and fitness activities with groups of under 10 people are able to resume under alert level 2, which was implemented on 14 May, providing they adhere to physical distancing and hygiene requirements, and record attendees for contact tracing. NZ Super Rugby and ANZ Premiership Netball are allowed to resume without spectators under this alert level. The 2020 Budget has allocated \$265 million to support sports. This includes \$83 million for immediate relief allocated to organisations affected by the COVID-19 outbreak, \$104 million for rebuilding over the next few years, and \$78 million for innovation in sports over the long term. This funding will be available to both professional and community clubs. The government also announced \$25 million in funding to support grassroots clubs earlier in May.

R92 Gambling Activities: High

Certain segments of the Gambling Activities subdivision are expected to be affected by the outbreak. Travel restrictions on Chinese visitors have negatively affected the Casinos industry. According to SkyCity, patronage is primarily made up of local clients. However, casinos were unable to operate under Alert Levels 3 and 4. Public venues are allowed to open under Alert Level 2, providing they follow physical distancing measures. The resuming of some sports activities is anticipated to help boost revenue for this sector.

Personal Services

S94 Repair and Maintenance: Moderate

The Repair and Maintenance subdivision is expected to be largely unaffected by the COVID-19 virus outbreak. Operators in these industries service the domestic market, and risk for contracting the virus is low for people travelling exclusively within Australia's borders. Furthermore, businesses are less likely to purchase capital equipment such as trucks and heavy machinery during periods of uncertainty. Consequently, demand for repair and maintenance services may increase, depending on the duration and severity of the virus.

The only potential threat to the industry comes from the supply of tools and parts required by businesses in this subdivision. Around 42.4% of imports of machine tools and parts originate from the United States, Germany and China, on a value basis. Many manufacturers from these countries are expected to have temporarily closed or reduced production. This factor is expected to limit supply of tools and parts in the short-term, which may affect the ability of repair and maintenance service firms to generate revenue.

S95 Personal and Other Services: High

The COVID-19 outbreak is expected to highly affect the Personal and Other Services subdivision. These services rely on the domestic market and therefore have not been affected by travel restrictions. However, the New Zealand Government (Te Kawanatanga o Aotearoa) has enforced strict lockdown rules, moving to Alert Level 4 lockdown measures on 23 March 2020, which required non-essential businesses to close temporarily. Alert Level 4 was expected to last four weeks, but was extended for another week to see if COVID-19 cases dropped further. This factor is expected to significantly affect this subdivision, as many operations, such as firms in the Hairdressing and Beauty Services industry, are considered non-essential and remained closed over the Alert Level 4 period. Closures of non-essential business will limit revenue over this initial period and decrease employment as operators look to minimise costs. Although the Central Government lifted Level 4 restrictions from 28 April, many operators remain unable to operate at Alert Level 3. At Alert Level 3, no physical contact with customers is allowed and no customers will be allowed onto business premises. As a result, demand for the Hairdressing and Beauty Services industry sharply declined over the lockdown period. On 14 May, the Central Government moved to Alert Level 2, allowing the Hairdressing and Beauty Services industry to resume operations. Despite being temporarily closed for over two months, demand for hairdressers and beauty services is expected to recover over the next few months, as consumer sentiment improves and disposable incomes recover.

The New Zealand Government has provided some relief to affected businesses in this subdivision through a stimulus package. In particular, the package offers \$5.1 billion in wage subsidies to affected businesses, allowing these businesses to retain staff while the business is forced to temporarily close. This scheme is expected to partially offset employment declines in the current year. In addition, on 15 April, the Central Government announced new measures to support small-and medium-sized businesses. These new relief measures include greater flexibility to affected businesses to meet tax obligations, a \$3.1 billion tax loss carry-back scheme and \$60 million in annual savings to businesses each year due to changes to the tax loss continuity rules. These measures are expected to increase cashflow to affected businesses and help them meet fixed cost obligations while lockdown measures are in place. On 14 May, the Central Government announced an additional \$50 billion in COVID-19 funding through its 2020 Budget. Major spending includes an extension of \$3 billion to be used on the wage subsidy scheme, which will assist with job retention while business confidence and consumer sentiment slowly recover.



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