

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 the remainder of 2019-20, 2020-21 and beyond.

The worsening outbreak of COVID-19 outbreak over the second half of 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 low/moderate, moderate/high or very high. The level of disruption is dependent 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, as well as Australia and New Zealand. In some cases, disruptions across industries in other countries have been so disrupted that curtailed the demand for Australian and New Zealand exports has been curtailed. Consumer spending and confidence have been particularly hampered in the most COVID-19 affected countries that have been most severely affected by COVID-19, of including China, South Korea, Italy and the United States.

Some subdivisions are expected to outperform during the COVID-19 pandemic. State and federal governments, as well as 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, have experienced an increase in demand from the effects of 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, as a result of COVID-19. Other industries have suffered direct negative impacts, but have also seen positive offsets, such as a rise in 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	Moderate	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	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	Moderate
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				

Australia.....	9
Agriculture, Forestry and Fishing	9
A01 Agriculture: High.....	9
A02 Aquaculture: Moderate.....	9
A03 Forestry and Logging: Very High.....	9
A04 Fishing, Hunting and Trapping: Very High	10
A05 Agricultural, Forestry and Fishing Support Services: Moderate	10
Mining	10
B06 Coal Mining: Very High.....	10
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.....	12
C11 Food Product Manufacturing: Very High	12
C12 Beverage Manufacturing: High.....	13
C13 Textile, Leather, Clothing and Footwear Manufacturing: Very High.....	14
C14 Wood Product Manufacturing: High	15
C15 Pulp, Paper and Converted Paper Product Manufacturing: High	15
C16 Printing (Including the Reproduction of recorded media): Moderate	15
C17 Petroleum and Coal Product Manufacturing: High	16
C18 Basic Chemical and Chemical Product Manufacturing: High	16
C19 Polymer Product and Rubber Product Manufacturing: Moderate	17
C20 Non-metallic Mineral Product Manufacturing: High.....	17
C21 Primary Metal and Metal Product Manufacturing: High.....	17
C22 Fabricated Metal Product Manufacturing: High	18
C23 Transport Equipment Manufacturing: Moderate	18
C24 Machinery and Equipment Manufacturing: High	18
C25 Furniture and Other Manufacturing: Moderate.....	19
Electricity, Gas, Water and Waste Services	19
D26 Electricity Supply: High.....	19
D27 Gas Supply: Moderate.....	20
D28 Water Supply, Sewerage and Drainage Services: Moderate.....	20
D29 Waste Collection, Treatment and Disposal Services: High	20

Construction	20
E30 Building Construction: High.....	20
E31 Heavy and Civil Engineering Construction: Moderate.....	21
E32 Construction Services: Moderate.....	21
Wholesale Trade	21
F33 Basic Material Wholesaling: High	21
F34 Machinery and Equipment Wholesaling: Moderate.....	22
F35 Motor Vehicle and Motor Vehicle Parts Wholesaling: High	22
F36 Grocery, Liquor and Tobacco Product Wholesaling: High.....	22
F37 Other Goods Wholesaling: High	22
Retail Trade.....	23
G39 Motor Vehicle and Motor Vehicle Parts Retailing: Moderate	23
G40 Fuel Retailing: High	23
G41 Food Retailing: Moderate.....	23
G42 Other Store-Based Retailing: Very High	23
Accommodation and Food Services.....	24
H44 Accommodation: Very High	24
H45 Food and Beverage Services: Very High	24
Transport, Postal and Warehousing	25
I46 Road Transport: Very High.....	25
I47 Rail Transport: Very High.....	26
I48 Water Transport: Very High	26
I49 Air and Space Transport: Very High	26
I50 Other Transport: Very High.....	27
I51 Postal and Courier Pick-up and Delivery Services: High	27
I52 Transport Support Services: Very High.....	28
I53 Warehousing and Storage Services: High.....	28
Information Media and Telecommunications.....	28
J54 Publishing (Except Internet and Music Publishing): High	28
J55 Motion Picture and Sound Recording Activities: Very High.....	29
J56 Broadcasting (Except Internet): High	29
J57 Internet Publishing and Broadcasting: Moderate.....	29
J58 Telecommunications Services: Moderate	30
J59 Internet Service Providers, Web Search Portals and Data Processing Services: High.....	30
J60 Library and Other Information Services: Moderate.....	30

Financial and Insurance Services.....	30
K62 Finance: Moderate.....	30
K63 Insurance and Superannuation Funds: Moderate.....	31
K64 Auxiliary Finance and Insurance Services: Moderate	31
Rental, Hiring and Real Estate Services	31
L66 Rental and Hiring Services (Except Real Estate): Very High.....	31
L67 Property Operators and Real Estate Services: Very High.....	32
Professional, Scientific and Technical Services.....	32
M69 Professional, Scientific and Technical Services: High	32
M70 Computer System Design Services: Moderate.....	33
Administrative and Support Services	33
N72 Administrative Services: Very High	33
N73 Building Cleaning, Pest Control and Other Support Services: High	34
Public Administration and Safety.....	34
O76 Defence: Moderate	34
O77 Public Order, Safety and Regulatory Services: Moderate	35
Education and Training	35
P80 Preschool and School Education: Moderate	35
P81 Tertiary Education: High	36
P82 Adult, Community and Other Education: Moderate.....	37
Health Care and Social Assistance	37
Q84 Hospitals: Moderate.....	37
Q85 Medical and Other Healthcare Services: High.....	37
Q86 Residential Care Services: High	37
Q87 Social Assistance Services: Moderate	38
Arts and Recreation Services	38
R89 Heritage Activities: Very High.....	38
R90 Creative and Performing Arts Activities: Very High.....	38
R91 Sports and Recreation Activities: Very High.....	39
R92 Gambling Activities: Very High	39
Personal Services	39
S94 Repair and Maintenance: Moderate	39
S95 Personal and Other Services: Moderate.....	40

New Zealand 41

Agriculture, Forestry and Fishing 41

A01 Agriculture: Very High..... 41

A03 Forestry and Logging: Very High..... 41

A04 Fishing and Aquaculture: Very High 42

A05 Agricultural, Forestry and Fishing Support Services: High..... 42

Mining 42

B06 Coal Mining: Very High..... 42

B07 Oil and Gas Extraction: Very High..... 43

B08 Metal Ore Mining: Very High 43

B09 Non-Metallic Mineral Mining and Quarrying: Moderate 44

B10 Exploration and Other Mining Support Services: High..... 44

Manufacturing..... 44

C11 Food Product Manufacturing: Very High 44

C12 Beverage Manufacturing: High..... 45

C13 Textile, Leather, Clothing and Footwear Manufacturing: High..... 45

C14 Wood Product Manufacturing: Very High 46

C15 Pulp, Paper and Converted Paper Product Manufacturing: Moderate 46

C16 Printing: Moderate 46

C18 Basic Chemical and Chemical Product Manufacturing: Moderate 46

C19 Polymer Product and Rubber Product Manufacturing: Moderate 47

C21 Primary Metal and Metal Product Manufacturing: High..... 47

C22 Fabricated Metal Product Manufacturing: High 47

C23 Transport Equipment Manufacturing: High..... 47

C24 Machinery and Equipment Manufacturing: High 48

C25 Furniture and Other Manufacturing: Moderate 48

Electricity, Gas, Water and Waste Services 48

D26 Electricity Supply: High..... 48

D27 Gas Supply: Moderate..... 49

D28 Water Supply, Sewerage and Drainage Services: Moderate..... 49

D29 Waste Collection, Treatment and Disposal Services: High 49

Construction 49

E30 Building Construction: High..... 49

E31 Heavy and Civil Engineering Construction: Moderate..... 49

E32 Construction Services: High 50

Wholesale Trade	50
F33 Basic Material Wholesaling: Moderate.....	50
F34 Machinery and Equipment Wholesaling: Moderate.....	50
F35 Motor Vehicle and Motor Vehicle Parts Wholesaling: High	51
F36 Grocery, Liquor and Tobacco Product Wholesaling: Moderate	51
F37 Other Goods Wholesaling: Very High	51
Retail Trade.....	51
G39 Motor Vehicle and Motor Vehicle Parts Retailing: Moderate	51
G40 Fuel Retailing: High	52
G41 Food Retailing: High.....	52
G42 Other Store-Based Retailing: Very High	52
Accommodation and Food Services.....	53
H44 Accommodation: Very High	53
H45 Food and Beverage Services: Very High	53
Transport, Postal and Warehousing	54
I46 Road Freight Transport: Very High	54
I47 Rail Freight Transport: High	54
I48 Water Transport: Very High	55
I49 Air and Space Transport: Very High	55
I50 Other Transport: Very High.....	55
I51 Postal and Courier Pick-up and Delivery Services: High	55
I52 Transport Support Services: Very High.....	56
I53 Warehousing and Storage Services: High.....	56
Information Media and Telecommunications.....	56
J54 Publishing (Except Internet and Music Publishing): High	56
J55 Motion Picture and Sound Recording Activities: Very High.....	56
J56 Broadcasting (Except Internet): High	57
J57 Internet Publishing and Broadcasting: Moderate.....	57
J58 Telecommunications Services: Moderate	57
J59 Internet Service Providers, Web Search Portals and Data Processing Services: High.....	58
J60 Library and Other Information Services: Moderate.....	58
Financial and Insurance Services.....	58
K62 Finance: Moderate	58
K63 Insurance and Superannuation Funds: Moderate.....	58
K64 Auxiliary Finance and Insurance Services: Moderate	59

Rental, Hiring and Real Estate Services	59
L66 Rental and Hiring Services (Except Real Estate): Very High.....	59
L67 Property Operators and Real Estate Services: Very High.....	59
Professional, Scientific and Technical Services.....	60
M69 Professional, Scientific and Technical Services: High	60
M70 Computer System Design Services: Moderate.....	60
Administrative and Support Services	61
N72 Administrative Services: High	61
N73 Building Cleaning, Pest Control and Other Support Services: High	61
Public Administration and Safety.....	61
O76 Defence: Moderate.....	61
O77 Public Order, Safety and Regulatory Services: Moderate.....	62
Education and Training	62
P80 Preschool and School Education: High.....	62
P81 Tertiary Education: High	62
P82 Adult, Community and Other Education: Moderate.....	63
Health Care and Social Assistance	63
Q84 Hospitals: Moderate.....	63
Q85 Medical and Other Healthcare Services: High.....	63
Q86 Residential Care Services: High	63
Q87 Social Assistance Services: High.....	64
Arts and Recreation Services	64
R89 Heritage Activities: High.....	64
R90 Creative and Performing Arts Activities: Very High.....	64
R91 Sports and Recreation Activities: Very High.....	64
R92 Gambling Activities: High.....	65
Personal Services	65
S94 Repair and Maintenance: Moderate	65
S95 Personal and Other Services: High	65

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. 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. 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. Sheep, beef and dairy cattle farmers have benefited from strong retail demand for lamb, beef and dairy products, which has partly offset declining demand from the food-service sector. The COVID-19 outbreak has had mixed effects on export markets for Australian meat and dairy products. 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. A substantial decline in the number of international flights has also negatively affected agricultural exports, as freight costs have risen significantly. The Federal Government's freight subsidy has provided support to exporters and is expected to partly offset anticipated declines in export revenue.

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. In addition, the Aquaculture subdivision could be significantly affected by a deep and prolonged downturn in other seafood industries 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 industry exports. While Australia's timber exports only account for approximately 14 % of industry revenue in the current year, China is the largest export market, accounting for nearly 90 % of export revenue. Lower global economic activity is anticipated to reduce demand for timber, creating a global oversupply and negatively affecting the domestic price of timber. Anticipated declines in new house construction are also forecast to reduce timber demand and prices.

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.

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 continue to produce, 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. 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.

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 in the short term.

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. 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. The agreement is anticipated to provide some support for oil prices in the short term. However, US oil futures prices fell below zero for the first time in April. The price of the May delivery contracts fell sharply as they approached the expiry date, with concerns over global oil storage capacity weighing heavily on prices. Global oil prices are anticipated to 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. Producers of industrial commodities such as iron ore, copper, mineral sands and nickel will likely face subdued demand. 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, Australian vehicle sales fell by almost 18 % in March. Declining global vehicle sales are anticipated to constrain demand for aluminium, negatively affecting some operators in the subdivision, such as bauxite miners. In March 2020, vehicle sales in Australia fell by about 18 % compared with sales in March 2019. In contrast, precious metals producers will likely benefit from growing investor demand for safe-haven assets. The price of gold has risen to over \$1,600 USD per ounce, its highest level since March 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 with a domestic focus may benefit from domestic spending on infrastructure projects as federal and state governments seek to support economic activity. For example, the Victorian Government 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 significantly 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 place a floor under oil prices in the short term. In April, US oil futures prices fell below zero for the first time. As the May delivery contracts approached expiry, prices plummeted amid concerns that global oil storage is nearing capacity. This may further reduce expenditure on exploration activities and reduce demand for the subdivision. If oil production is cut further, this may support greater activity in the subdivision, although 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. For example, sashimi-grade tuna is now selling in Coles supermarkets for \$35 per kilogram, when it would usually sell at \$80 dollars per kilogram.

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. 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 high-grade products destined for food-service sectors in countries such as the United States. 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 now lifting purchase limits that were placed on these items over a month ago. 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. Credit card data from Commonwealth Bank of Australia showed alcohol sales were 20.4% higher during the week to 20 March 2020 compared with the same period in 2019. This difference increased to 34.0% the following week. Retail 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 %.

However, 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. While grocery sales have been strong, its on-the-go channel, which includes on-premise and event sales, saw a 50 % decline in sales volumes in Australia over the first two weeks of April. This translated to a total volume decline of 15 % across all channels. CCA's on-the-go channel accounted for approximately 40 % of the company's sales by volume in 2019. The supply of artificial sweeteners could potentially be disrupted, leading to reduced output by CCA and other soft drink manufacturers.

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 in March 2020 were down by 43.0 % compared with March 2019. Exports of wines to other international markets are expected to benefit from a weaker Australian dollar in 2019-20. However, as discretionary incomes decline around the world, demand is forecast to fall, 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.

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 have 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 has collapsed as tanning operations have closed due to wider government shutdowns. As a result, leather prices have crashed and many Australian producers are faced with the prospect of dumping their unwanted supplies in landfill.

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 following the COVID-19 outbreak and 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. Data from March is expected to show a significant decline in dwelling commencements, resulting in reduced demand for subdivision products. 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.

However, some companies 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: 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. 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. 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.

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 have sold out of hand sanitiser and household cleaning products. 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. Dwelling commencements are already expected to have declined in March, 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 over March 2020. 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 have continued to rise over the subsequent weeks. 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.

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 nearly 80% 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.

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 could lead to a spike in the number of households unable to pay utility bills, reducing industry revenue. Additionally, the expected decline in business confidence as a result of the virus outbreak might lead to a decline in private capital expenditure, and 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, social distancing restrictions are being eased in Queensland, Western Australia and New South Wales in late April and early May. This factor is expected to support growth in business activity and increased commercial waste volumes in these states. However, an anticipated decline in household incomes will result in demand for Australia's manufacturers and retailers remaining subdued, limiting any rise in 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.

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.

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 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. However, domestic demand for essential food items has increased as consumers have stockpiled household necessities. This behaviour has driven demand for downstream production, and manufacturers of items such as pasta obtain inputs from grain wholesalers.

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.

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. Consumers have been increasingly stocking up on non-perishable items including pasta, canned foods and other pre-packaged items. This behaviour has significantly increased demand for operators in the Soft Drink and Pre-Packaged Food Wholesaling industry. Major supermarkets Coles and Woolworths have 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 across several states are anticipated to somewhat reduce the strain on the grocery supply chain, as consumers become less inclined to stockpile goods.

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. However, restrictions are being eased in Queensland, Western Australia, the Northern Territory and New South Wales, which is anticipated to boost demand from retailers. Growth is particularly anticipated in Queensland, as the premier has stated that non-essential shopping will be permitted.

Demand for firms in the Pharmaceuticals Wholesaling industry is anticipated to be high as consumers

and healthcare providers require medicines. Healthcare providers are anticipated to continue purchasing medicines to treat patients, while consumers are anticipated to stock up on routine pharmaceuticals (such as cold medicine and ibuprofen) and preventative pharmaceuticals (such as vitamin C supplements).

Supermarkets have reported difficulties in maintaining adequate supplies of necessary items, such as toilet paper and hand sanitiser, due to consumer stockpiling activity. This trend has the potential to increase demand for the Paper Product Wholesaling industry and the Cosmetics and Toiletry Wholesaling industry.

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.

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.

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.

From 15 May, the NT Government is expected to ease restrictions on subdivision operators, allowing pubs, bars, cafes and restaurants to reopen. This trend is expected to limit revenue declines for subdivision operators in this state. However, the Northern Territory's borders are expected to remain closed to interstate and international travellers. Tourists make up a significant market for subdivision operators in these states. 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, the Queensland, WA and NSW governments are easing restrictions in late April and early May, which is expected to support business activity in these states 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 in Western Australia and Queensland 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 are being eased in Western Australia, Queensland and New South Wales in late April and early May, which is expected to increase 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 situation.

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 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 demand decline 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 have a negative effect on the Pipeline Transport industry.

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.

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 in Western Australia, Queensland and New South Wales are being eased between late April and early May, which is expected to increase retail activity in these states 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, book publishers may benefit from an initial spike in demand, as some consumers stock up on books in anticipation of potentially long-term isolation periods. 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 as a result. 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 magazines.

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 next few months, 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 2020, 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.

The Cinemas industry is anticipated to be the most affected in the subdivision, as stage 3 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. While some states and territories have started to relax restrictions, most cinemas are anticipated to remain closed until restrictions are relaxed significantly. Some drive-in cinemas are reopening as they can more easily accommodate social distancing requirements. Traditional indoor cinemas will likely be required to operate at reduced capacity once they can reopen.

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 over the next few months, as restrictions implemented to curb the spread of COVID-19 encourage individuals to stay indoors. 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.

J57 Internet Publishing and Broadcasting: Moderate

The COVID-19 outbreak is expected to have a moderate 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 has temporarily banned in-person property auctions and public inspections. However, other segments of the industry, such as subscription video-on-demand services, are anticipated to benefit from stronger demand, as greater restrictions on movement lead consumers to seek more home entertainment options. 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 potential 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 requirements.

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.

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 due to provisions for losses related to COVID-19. Both ANZ and Westpac have deferred dividend payouts due to current economic uncertainty resulting from the COVID-19 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. 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. Similarly, business interruption policies may not provide cover for claims related to COVID-19. These claims are often made for property damage and physical loss with exclusions for diseases and viruses. The 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 the significant volatility in financial markets, the Superannuation industry is likely to 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. Despite some states moving to relax lockdown restrictions, including Western Australia, Queensland and New South Wales, 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 moderately impacted by COVID-19. 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 assembled the Building Victoria's Recovery Taskforce to support activity in the construction sector during the COVID-19 outbreak and encourage economic activity. Mining has also been designated as an essential activity, which is expected to 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.

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. 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 anticipated to have a significant impact on property agents. 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. Many residential property landlords have also had to reduce their rent, as tenants have experienced financial difficulty amid rising unemployment. With unemployment rising sharply due to the outbreak, particularly in the hospitality and retail sectors, and a decline in the number of international students studying in Australia, demand for rental properties is anticipated to fall. This factor will likely weigh on rental prices and adversely affect operators in the Residential Property Operators industry.

New South Wales announced that open for inspections and on-site auctions may resume from Saturday 9 May. This follows a six-week period during which these activities were undertaken remotely through virtual channels. Western Australia and the Northern Territory have also relaxed restrictions. While residential property transaction volumes are anticipated to remain low, resumption of these activities is anticipated to boost subdivision activity in these states and territories. Restrictions remain in place for the rest of the country.

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. Some operators may benefit from government efforts to support economic activity through increased infrastructure spending. For example, the Victorian Government 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 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. 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.

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 being able to work remotely if the COVID-19 outbreak continues. 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. In addition, many global manufacturers were required to temporarily shut down or scale back production due to COVID-19, further constraining the supply of computer parts and equipment in Australia. 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 economy recovers from the effects of COVID-19, businesses are likely to increase investment in technology to improve their digital capabilities. This is projected to support demand for the subdivision's services.

Administrative and Support Services

N72 Administrative Services: Very High

Most of the industries in the Administrative Services subdivision are anticipated to be moderately

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 travel patterns, 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 and travel to New Zealand will likely be the first travel-related restrictions to be relaxed. Any loosening of travel restrictions would likely support 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 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 SEEK reporting a fall of over 65% in new job advertisements for the week ending 12 April 2020 compared with the same period in 2019. Nevertheless, greater demand for workers in some sectors of the economy, such as healthcare, retail and manufacturing, is expected to support 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. Demand for building cleaning, pest control and gardening services is anticipated to be highly affected by COVID-19, as falling discretionary incomes encourage consumers to reduce their spending and postpone scheduled services. However, this trend is expected to be partly offset by additional cleaning requirements from businesses that remain open, along with greater demand from high-income consumers spending more time at home.

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 hand-sanitiser products that are used in building toilet facilities. 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. This supply constraint has reduced the availability of hand sanitiser and other related products, increasing operating costs for building cleaning services companies.

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. As result, schools closed from late March. Schools across Australia either have been providing classes online or have gone on school holiday early. However, the Federal Government is pushing for all schools to reopen after term break, but on a limited basis. The reopening dates for schools differ across each state. While most schools will likely reopen, schools in some states and territories, such as the Australian Capital Territory and Victoria, are transitioning to online learning in term 2. Students in Northern Territory are anticipated to return to school, while Queensland will review online learning in week five of term 2.

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. Students are anticipated to be at school full time by term 3. 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, preschool and students in years 1, 11 and 12 returning to school on May 11. Further decisions are expected to be announced on May 15.

In Victoria, students have started school from 15 April, but face-to-face learning will only be 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 will be provided for students who require them.

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 to reduce pressure on Chinese students still in mainland China.

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, universities are expected to turn to massive open online courses (MOOCs) for revenue.

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

The Hospitals subdivision is expected to be moderately affected at this stage by COVID-19. The greatest challenges facing the Hospitals subdivision in this 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 three 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.

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. In addition, all museums and galleries are required to close to enforce social distancing measures. However, the increasing trend of museums digitising their collections is anticipated to boost households' interest in visiting these sites when they reopen. Museums and galleries in the Northern Territory will be allowed to reopen from 15 May.

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.

Easing restrictions across Western Australia, Queensland, the Northern Territory and New South Wales 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.

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. Horse and dog racing are still taking place, albeit without crowds. Race operators are therefore expected to receive most of their revenue from gambling expenditure on racing due to the lack of ticket sales. However, the lack of sporting events taking place is expected to boost gambling expenditure on horse and dog racing.

Easing social distancing restrictions in Western Australia, Queensland and New South Wales are anticipated to somewhat boost revenue for the subdivision, as small group outdoor exercise and non-contact recreational activities become 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 except the Northern Territory, where they will be allowed to resume operations on 15 May.

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 the potential for further 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. Sports betting, including online, will be significantly hindered by the cancellation of sporting events. However, due to the continuation of horse and dog racing, punters are expected to shift their focus to these fields. Australians are now also able to bet on when sporting seasons will resume.

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.

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. Dairy exports also increased in February 2020 compared with the previous year, led by greater demand for milk powder. Nevertheless, dairy producers will likely also be affected by the drop in global economic activity as numerous countries conduct shutdowns to curb the virus's spread. 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.

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. 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 time last year. 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 \$330.0 million International Air Freight Capacity is expected to support exporters of high-value seafood products.

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.

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 this result is 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. 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. 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. The agreement is anticipated to provide some support for oil prices in the short term. However, US oil futures prices fell below zero in April 2020. The price of May contracts fell sharply as they approached their expiry date. 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. The agreement is anticipated to put a floor under oil prices in the short term. However, subdued demand caused by the COVID-19 outbreak will likely continue to weigh on oil prices in the short term. US oil futures prices fell below zero for the first time in April 2020. The price of May contracts fell sharply as they approached their expiry date, with holders not wanting to take physical delivery amid concerns related to global oil storage capacity shortages. The shift from Alert Level 4 to Level 3 restrictions on 28 April 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.

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 \$1,600 USD per ounce in March 2020, its highest level since March 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.

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. 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. 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 come 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. In April, US oil futures traded below zero for the first time ever. The price of May contracts fell sharply, as holders sought to avoid taking physical delivery as the expiry date approached. Global oil prices have since remained subdued. The shift from Alert Level 4 to Level 3 restrictions on 28 April allowed firms that were required to shutdown to resume exploration and mining support activities.

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 have been closed, and New Zealand seafood shipments have been 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 are anticipated to redirect 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.

However, some meat product manufacturers are expected to be significantly affected by the four-week lockdown that the country entered in March 2020. All food-service businesses have been 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 has transitioned to Alert Level 3 restrictions from 28 April and butchers are allowed to reopen. Food-service establishments are also able to resume trading through takeaway services, benefiting producers of high quality food usually destined for these markets. Fast food options have already 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, 55.0% of its members plan to or have already 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, China's suspension of outbound tourism could 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 benefit slightly from the country's move to Alert Level 3 from 28 April. Food-service operators can open to provide takeaway meals and those with an off-licence can sell 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 are 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 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 has also begun manufacturing merino wool face masks.

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. This factor will ease as these businesses can reopen from 28 April 2020. However, demand will likely remain subdued due to the worsening global situation over the last month. Many businesses in this subdivision will therefore likely benefit from the government's wage subsidy program and business tax changes.

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. Manufacturers of food product packaging for supermarkets will likely benefit from consumer stockpiling behaviour. However, manufacturers supplying cafes and other food-service establishments will likely face significantly reduced demand. The country's move to Alert Level 3 on April 28 will benefit some manufacturers, with the government permitting sales of takeaway food. Demand will increase from restaurants and bars that previously did not offer takeaway services, but will need to transition to this service to resume trading.

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 has 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. 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. Even as the country has moved to Alert Level 3 and construction activity can resume, the weak economic environment will likely significantly limit demand for subdivision products. The Central Government will likely increase infrastructure spending over the next two years 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 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.

Medical and surgical equipment manufacturer 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. 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 returned to Alert Level 3 on 28 April 2020, allowing some businesses to reopen and likely 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 outbreak is forecast to reduce private capital expenditure, and encourage subdivision operators to delay expansion projects.

D29 Waste Collection, Treatment and Disposal Services: High

A significant COVID-19 outbreak in New Zealand would greatly increase the amount of contaminated waste from hospitals and other medical facilities. It would also boost 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 returned to Alert Level 3 from 28 April 2020, allowing some businesses to reopen and boosting demand for commercial waste handling services. However, demand from the manufacturing and retail sectors is expected to 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.

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.

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. Construction services are highly labour-intensive. As a result, a reduction in the availability of labourers due to illness or quarantine measures has the potential to negatively influence subdivision operators. 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.

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 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.

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. Weakened demand for minerals from China in particular has the potential to negatively affect Industrial and Mining Machinery Wholesaling industry firms that depend on demand from resource developments. 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 weakening demand for minerals.

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.

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. Consumers have been increasingly stocking up on essential and non-perishable grocery items such as canned goods and pasta. Consequently, supermarkets have needed to strengthen their supply chains to maintain adequate stock of these goods. This trend is expected to boost demand for subdivision firms, especially those in the Soft Drink and Pre-Packaged Food Wholesaling industry.

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, rising demand for pharmaceutical and toiletry goods from both healthcare providers and consumers has the potential to boost demand for the Pharmaceutical and Toiletry Goods Wholesaling industry. Supermarkets have been reporting that consumers are increasingly stockpiling toilet paper and hand sanitiser. Consequently, supermarkets are anticipated to strengthen their supply chains to secure stable stock of these goods. This trend has the potential to increase demand for operators in the Pharmaceutical and Toiletry Goods Wholesaling industry and the Paper Product Wholesaling industry. 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. These strict government restrictions on non-essential retailers is expected to constrain industry revenue over this period. As a result, some retailers are expected to exit the industry due to increasing fixed costs and weak demand, decreasing wage costs and employment numbers in the industry.

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.

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. Although the Central Government loosened restrictions to Alert Level 3 on 28 April, retail stores will not be able to have business premises open to customers until restrictions are reduced to Level 2. As a result, many operators are expected to exit the industry, due to these restrictions and weaker demand constraining revenue in this subdivision.

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. This 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. This is expected to increase cashflows for affected retailers and allow businesses to continue to meet growing fixed costs while temporarily closed.

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. However, restrictions on the subdivision are expected to remain unchanged.

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 are permitted to open for takeaway services, while remaining closed for dine-in services. 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 limited.

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 2020, 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 returned to Alert Level 3 from 28 April, allowing many businesses to reopen across the economy and therefore 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.

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.

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.

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 will 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 returned to Alert Level 3 from 28 April, but the restrictions on subdivision operators have remained largely unchanged. 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.

However, the closure of many retailers across the economy has increased demand for online shopping.

Products purchased online are generally delivered by subdivision operators. Expected growth in demand from households is forecast to largely outweigh the decline in demand from commercial markets. Consequently, this trend is expected to somewhat limit the decline in subdivision revenue.

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.

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.

Information Media and Telecommunications

J54 Publishing (Except Internet and Music Publishing): High

The COVID-19 virus is expected to moderately affect the Publishing subdivision. Supply chains for inputs, such as paper, are anticipated to be disrupted, which could place pressure on production. Furthermore, demand 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 print media publishers, with Bauer Media announcing that it is closing its New Zealand magazine operations due to 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. Further assistance is expected in the government's upcoming budget.

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 further declines.

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.

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. This package represents the first of two planned support packages for the media sector, with the second package expected alongside the government's upcoming budget.

Public health measures have significantly affected the Cinemas industry, as cinemas were required close under Alert Level 4 restrictions. Despite the country moving to Alert Level 3 from 28 April, cinemas will likely remain closed until the alert level is reduced to Alert Level 2 or 1. Furthermore, cinemas will likely be required to operate at reduced capacity once they are permitted to reopen to comply with public health guidelines. The mandatory closures are anticipated to have long-term effects on the Cinemas industry, as consumers increasingly turn to subscription video-on-demand 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 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, temporarily stop trading due to government restrictions on gatherings and movement. 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 outweigh this trend. Notably, consumer demand for subscription video-on-demand services is anticipated to rise as restrictions on movement and activity lead to more consumers seeking a greater range of home entertainment options.

J58 Telecommunications Services: Moderate

Telecommunications services are anticipated to be only moderately affected by COVID-19. Call centre support services may experience disruption, particularly for services that use offshore call centres based in areas that are at higher risk 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 subsequently 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 3 from 28 April is not anticipated to significantly reduce demand for internet service providers, as individuals capable of working from home will largely continue doing so.

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 will remain closed under Alert Level 3 restrictions, which took effect on 28 April. However, subdivision activities are largely operated through public funding. Consequently, a 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, allowing some business locations to reopen. However, demand is anticipated to remain subdued as travel restrictions remain in place. 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 relaxed to Alert Level 3 on 28 April, which is anticipated to provide some support for industry firms as mining and construction activity has been allowed to resume. However, the subsequent slowdown in economic activity is expected to negatively influence the subdivision's performance.

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. 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 are forced to remain at home. Declining international trade activity may also impact the business performance of industrial tenants. The shift from Alert Level 4 to Alert Level 3 from 28 April may provide some relief for businesses, in turn enabling them to make rent payments. However, retail activity is expected to remain weak under Level 3 restrictions, as stores are only allowed to open for deliveries and contactless pick-up, 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. Due to general economic uncertainty, consumers are unlikely to make large purchase decisions, such as buying a home. Furthermore, with lockdown conditions in place, consumers are unlikely to seek out new

rental accommodation unless absolutely necessary. Demand for real estate services is therefore expected to fall sharply. 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 shift from Alert Level 4 to Level 3 restrictions on 28 April has allowed some subdivision activities to resume. For example, real estate agents can now provide private viewings of properties to potential buyers, with limits on the number of viewers allowed through a property per day.

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. These travel restrictions are expected to adversely affect 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 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 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 may increase 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: Moderate

COVID-19 is expected to have a moderate impact on the Computer System Design Services subdivision. IT consultants can work remotely, reducing the risk of exposure for employees in this subdivision. 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 rise. However, as economic activity slows down, businesses are anticipated to seek cost reductions and cut back on consulting services, which may reduce subdivision demand. As many global manufacturers have limited operations and 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 slightly decrease, as firms wait for

manufacturing facilities to resume production of key products used by end consumers, and until there is greater certainty surrounding economic conditions. The shift from Alert Level 4 to Level 3 restrictions on 28 April 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 travel restrictions will likely remain in place over the medium term, demand for travel agencies and tour arrangement services is anticipated to remain low. Nevertheless, any relaxation of travel restrictions, such as for domestic travel or travel to Australia, would likely provide 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 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. Relaxed restrictions on movement and social gatherings will likely boost demand for cleaning services, as more facilities require additional cleaning and disinfection. New Zealand's move to Alert Level 3 on 28 April 2020 has allowed some subdivision businesses to resume operations. However, subdivision activity is anticipated to remain limited as the restrictions prohibit services provided face-to-face, which includes many subdivision services. Trade services will be allowed to resume in accordance with social distancing guidelines.

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

O76 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 4 to Alert Level 3 from 28 April. Schools have been told to prepare to reopen for some students to attend in person. As part of the preparation for reopening, schools reopened on 28 April as a teacher-only day. As New Zealand has moved from Alert Level 4 lockdown to Alert Level 3, preschools and domestic schools that have been mandated to close for four weeks from 25 March 2020 can reopen.

The first day of school term will begin on 29 April. However, only students who cannot be cared for at home will return to school, while students that have access to distance learning are encouraged to stay home. Under Alert Level 3, students in Year 11 to 13 will continue to study remotely.

While most students that need to attend school will be able to do so from April 29, it could take longer for some preschools and domestic schools to reopen. Under Alert Level 3, early childcare centres will decide individually if they will reopen. Schools must introduce various restrictions to ensure the safety of children who will be attending preschools, including bubbles of 10, no sharing of food or cutlery, and staggered entry and exit times. However, parents are advised to keep their children at home if they can. The Ministry of Education (Te Tahuhu O Te Matauranga) has provided guidelines on students, which include:

- Ten students are allowed in a school at one time, but are not allowed to mix. However, this is anticipated to extend to 20 students in due course.
- Physical education or breaktime activities that include shared equipment are not allowed.
- School hostels and school transport may restart for some schools, but on a limited basis.
- Strict cleaning measures will be introduced in all schools.
- After-school programmes and special schools will remain closed.
- Students at early childhood centres must have their own food containers and are not allowed to share food with others. However, food can be supplied.

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 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. The New Zealand Government moved to Alert Level 3 from 28 April. Despite this, university students are expected to continue learning remotely.

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.

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.

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.

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.

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. The industry will record fewer domestic and international visitors, as public venues are required to close under Level 4 restrictions. Consequently, museums and art galleries will only be able to operate digitally until the threat level is reassessed. The rising trend of digitising collections and making them available for people to view online is anticipated to boost households' interest in visiting museums when they are allowed to reopen. New Zealand has transitioned to Alert Level 3 from 28 April. However, museums and art galleries must remain closed under this alert level.

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 3 from 28 April will not significantly affect this subdivision, as live public events are still prohibited.

R91 Sports and Recreation Activities: Very High

The COVID-19 outbreak is expected to severely restrict the Sports and Recreation Activities subdivision. The Sports and Recreation Facilities Operation industry and the Sports Administrative Services industry will face delays or cancellations for sporting events, as events cannot take place under the current restrictions. Gyms and fitness centres must also close under the current alert level. However, some of these businesses are bolstering revenue by offering classes and training sessions online through livestreaming or video calls. These businesses are still only able to offer remote services during Alert Level 3. Horse training is able to resume under Alert Level 3, boosting subdivision employment. However, racing will not be able to take place.

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 cannot operate at all under the current restriction level, meaning that they will face significant revenue declines. In addition, the lack of sporting events will severely negatively affect online sports betting activity. Casinos are required to remain closed under Alert Level 3. In addition, horse and dog racing is not anticipated to resume for another month.

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, the Hairdressing and Beauty Services industry is expected to not be able to operate until the Alert Level is dropped to Level 2.

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.



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