

Metallurgical Coal

Resources and Energy Quarterly September 2019

Australia is the world's **largest exporter** of metallurgical coal



Every tonne of steel produced in a blast furnace needs about **800kg** of metallurgical coal.



Metallurgical coal is a non-substitutable raw material in the production of steel from iron ore

Australia accounted for around



17% of world production in 2018

It takes more than **200 tonnes** of metallurgical coal to make every wind turbine

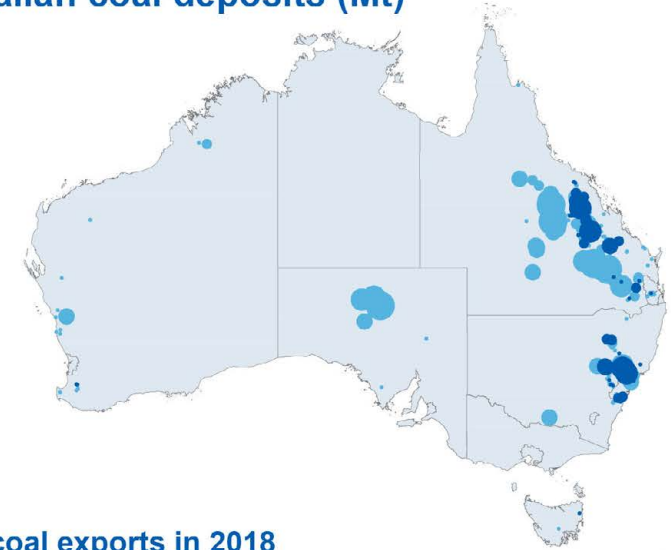


Australia exported **183** million tonnes in 2018–19, valued at **\$44 billion**



Major Australian coal deposits (Mt)

- <500
- 500-1,000
- 1,001-2,000
- 2,001-4,000
- >4,000
- Deposit
- Operating mine



Australia's metallurgical coal export earnings by destination, 2018–19



26%
India



23%
China



18%
Japan



53%
Australia



17%
US



9%
Canada



8%
Russia



8%
Mongolia



5%
Rest of the world

Global share of metallurgical coal exports in 2018



9%
South Korea



6%
Taiwan



18%
Rest of the world



22%
China



20%
India



16%
Japan



15%
EU28



12%
South Korea



15%
Rest of the world

Global share of metallurgical coal imports in 2018

5.1 Summary

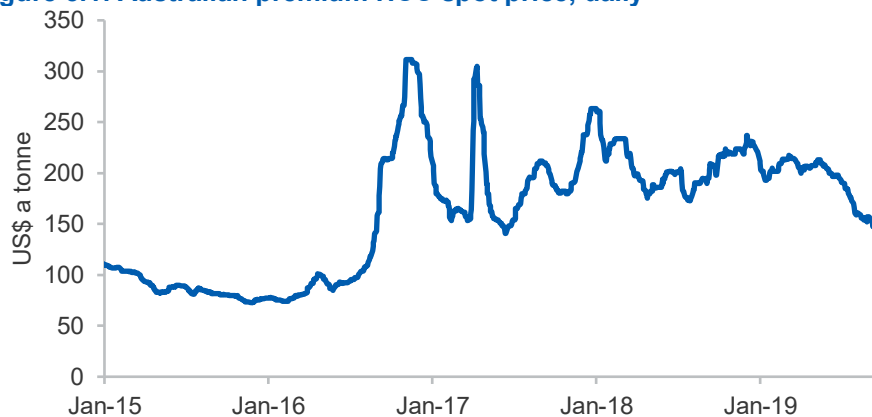
- The premium Australian hard coking coal (HCC) spot price has declined sharply over recent months, and is forecast to remain subdued over the outlook period. Rising supply combined with falling demand is expected to drive an easing of the average price from US\$186 a tonne in 2019 to US\$158 a tonne in 2021.
- Australia's export volumes are forecast to grow from 183 million tonnes in 2018–19 to 198 million tonnes by 2020–21, reflecting production growth from restarts and new capacity in the Bowen Basin.
- Australia's metallurgical coal export earnings reached a new record of \$44 billion in 2018–19. However, a forecast decline in prices is expected to reduce export earnings to \$35 billion by 2020–21.

5.2 Prices

The premium Australian HCC spot price has declined sharply

The premium Australian HCC spot price declined sharply over the September quarter, and reached a 27 month low of US\$141 a tonne in late September (Figure 5.1). At an estimated average of US\$167 a tonne in the September quarter, the price was 18 per cent lower than the June quarter, and 13 per cent lower year-on-year.

Figure 5.1: Australian premium HCC spot price, daily



Source: Platts (2019); Department of Industry, Innovation and Science (2019)

The price has declined more sharply than previously anticipated, driven by a combination of factors. Demand growth has been relatively muted against a background of a deteriorating global economic outlook (see the *macroeconomic outlook* chapter) and weak global steel production outside of China. While Chinese imports of metallurgical coal have been strong, there has been growing negative sentiment impacting on buying from Chinese steel mills, due to multiple drivers. These include slowing demand, declining steel margins and an expected tightening in coal imports. Indian steel demand has been weak given the June to August monsoon season. In the meantime, supply has been growing from Australia, Russia and Mongolia.

The metallurgical coal price is forecast to remain under pressure

The Chinese government is expected to continue implementation of current import policies — with total coal imports expected to be around 280 million tonnes in 2019 — that would lead to a sharp decline in imports towards the end of the year. Prices are therefore forecast to remain weak until the end of 2019, before a mild recovery as quotas are reset for 2020.

Over the outlook period, a well-supplied seaborne market is expected to reduce the average premium HCC spot price from US\$186 a tonne in 2019 to US\$158 a tonne by 2021. The seaborne market is forecast to be flush with supply as Australia and Russia increase exports. Given Australia's dominance of the seaborne market, weather, logistics and other disruptions in Queensland have the potential to drive intermittent price spikes. India is expected to be the key source of import growth, offsetting a gradual easing in demand from China. Strong demand from India and emerging Asia, in combination with high-cost supply exiting the market, is expected to help put a floor under prices.

Fluctuations in Chinese imports of metallurgical coal are expected to add considerable volatility to the price over the outlook period. The outlook for Chinese imports remains subject to substantial uncertainty, with the extent of an economic slowdown, government stimulatory measures and import policies representing key risks.

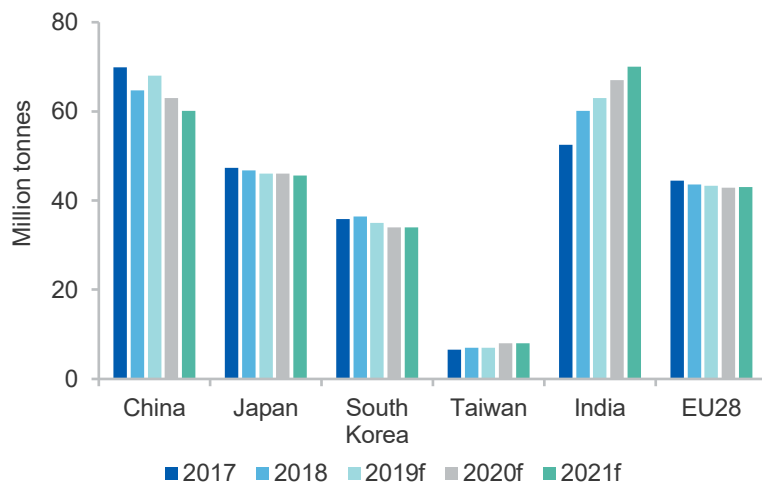
5.3 World trade

After three years of robust growth, growth in world metallurgical coal trade is expected to slow over the outlook period to 2021. A deterioration in the global economic outlook, greater uncertainty over trade relations and softening industrial production are all expected to weigh on steel output, and consequently metallurgical coal demand. World metallurgical coal trade is still forecast to grow over the outlook period, but at a slower rate than previous years.

World imports

Strong steel production in China and India has led most of the gains in seaborne demand for metallurgical coal in 2019 to date, while steel production elsewhere in the world has been weighed down by slowing industrial production. India is expected to emerge as the key source of demand growth over the outlook period. Demand is projected to be subdued or decline marginally among most other major importers, including China, as industrial production growth slows (Figure 5.2).

Figure 5.2: Metallurgical coal imports



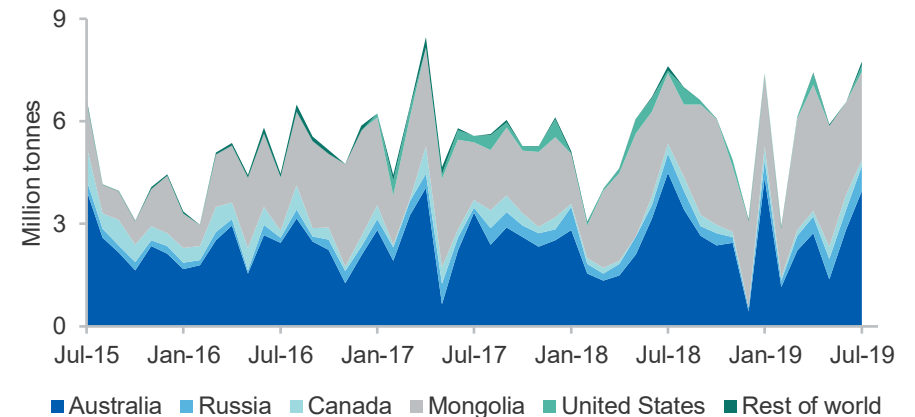
Notes: f Forecast

Source: IHS (2019); Department of Industry, Innovation and Science (2019)

China's metallurgical coal imports forecast to ease

China's metallurgical coal imports totaled 44 million tonnes in the first seven months of 2019. Imports have been volatile, but overall, have increased by 18 per cent year-on-year (Figure 5.3). Demand for metallurgical coal has been driven by robust steel production, which grew by 9.4 per cent year-on-year over the same period (see the *steel* chapter).

Figure 5.3: China's metallurgical coal imports



Source: Bloomberg (2019) National Bureau of Statistics of China

There are a number of conflicting factors influencing China's imports of metallurgical coal, with the risks weighted to the downside. The government is expected to continue implementation of current import policies, with total coal imports anticipated to be around 280 million tonnes in 2019. With coal imports already higher on a year-on-year basis, this would lead to a sharp drop in imports towards the end of 2019 as ports reach their annual quotas.

Most leading indicators (see the *macroeconomic outlook* chapter) are also pointing to a marked slowdown in major steel consuming sectors, including construction and manufacturing (particularly the auto sector). The Chinese government has acknowledged a more challenging external environment and downward economic pressure. An increase in stimulus measures could boost industrial production and infrastructure spending, and provide

further support to steel output and metallurgical demand. However, China's recent policy responses to its economic challenges have been relatively restrained.

China's metallurgical coal imports are forecast to gradually decline as steel production eases in line with economic growth. Nevertheless, China is expected to be more reliant on imports for metallurgical coal compared to thermal coal (for which domestic production is rising), particularly for higher quality grades which are more difficult to source domestically.

Developments in China continue to represent a major risk to the outlook. Changes to China's fiscal, monetary and import policies have the potential to drive significant shifts in the outlook for the country's metallurgical coal imports.

India's metallurgical coal imports have slowed at the start of 2019

India's steel production at the start of the year was impacted by slowing investment and infrastructure projects in the lead up to the general election in May. India's metallurgical coal imports rebounded in the June 2019 quarter, growing by 17 per cent year-on-year compared with a decline of 7.7 per cent in the March quarter. While trade data is not yet available, India's metallurgical coal imports are expected to have weakened in more recent months as monsoon rains dampen steel demand and output.

India's metallurgical coal imports are forecast to grow at an average annual rate of 5.2 per cent over the outlook period, reaching 70 million tonnes. India is expected to overtake China as the world's largest importer of metallurgical coal by 2021.

India has very limited domestic reserves of metallurgical coal, and will need to increase imports to support the rapid growth of its domestic steel sector. Steel production is expected to grow to meet rising domestic consumption. However, the pace at which India's steel sector is able to expand remains uncertain, and presents a risk to the outlook. Slowing economic growth and tighter monetary and fiscal measures implemented by the Indian government are impacting on steel demand — and consequently metallurgical coal — presenting a downside risk.

Japan and South Korea's imports forecast to remain subdued

Metallurgical coal imports into Japan declined by 4.2 per cent year-on-year basis in the first seven months of 2019. Steel demand — which declined by 3.1 per cent over the same period — has weakened, as construction activity for the 2020 Tokyo Olympics comes to an end.

South Korea's imports of metallurgical coal grew by 0.1 per cent year-on-year in the first seven months of 2019, consistent with trends in steel production (which grew by 0.6 per cent over the same period).

Metallurgical coal imports from both Japan and South Korea — the third and fourth largest importers of metallurgical coal, respectively — are forecast to remain subdued over the outlook period. Slowing global and domestic economic growth is expected to weigh on demand for steel products in both countries. Escalating trade tensions between Japan and South Korea could weigh further on economic growth in the two countries.

Metallurgical coal imports forecast to rise in emerging economies

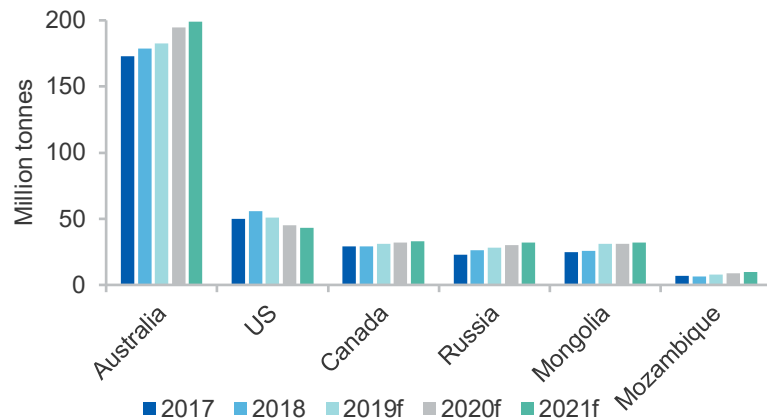
Metallurgical coal imports are forecast to grow in South East Asia, although from a low base. Several blast furnace steel plants are expected to come online over the outlook period — notably in Vietnam — supporting import demand for metallurgical coal.

World exports

Global metallurgical coal exports are forecast to grow over the outlook period, but at a slower pace than previous years as prices moderate.

Australia is expected to lead the bulk of the additions to seaborne supply (see section 5.4) and to comfortably dominate the seaborne metallurgical coal market, accounting for a forecast 56 per cent of world exports in 2021. However, Australia's market share is expected to remain lower than 60 per cent, the market share achieved in the pre-Cyclone Debbie period. Russia, Canada, Mozambique and Mongolia have all increased their exports and their relative share of the internationally traded metallurgical coal market over the last few years (Figure 5.4).

Figure 5.4: Metallurgical coal exports



Notes: f Forecast

Source: IHS (2019); Department of Industry, Innovation and Science (2019)

Exports from the United States forecast to ease

The US is the world's second largest exporter of metallurgical coal, with exports growing by 11 per cent to reach 56 million tonnes in 2018. Exports grew substantially between 2016 and 2018, in line with higher prices and to fill the supply gap created by the loss of Australian supply caused by Cyclone Debbie in 2017.

Metallurgical coal exports from the US have since declined — by 11 per cent year-on-year in the first seven months of 2019 — and are forecast to moderate further to 2021. US producers have relatively high production costs and freight rates to Asian markets, and exports are thus forecast to decline as prices ease and exports from other countries increase.

New capacity expected to support Canada's export growth

Canada's metallurgical coal exports grew by 6.5 per cent year-on-year in the first seven months of 2019, driven by an increase in shipments to China and India. However, exports were volatile on a month-to-month basis, due to inclement weather. Canada's metallurgical coal exports are to forecast to grow modestly over the outlook period, driven by new additions to capacity.

Exports forecast to grow from Russia

Russia's exports of metallurgical coal grew by 16 per cent to 26 million tonnes in 2018, making the country the fourth largest exporter of metallurgical coal. Exports have continued to grow in 2019, rising by 14 per cent year-on-year in the first half of the year.

Russia is forecast to add another 4 million tonnes of metallurgical coal to seaborne supply between 2019 and 2021. Growth is expected to be driven by new capacity, rail and port expansions and a weaker Ruble. Beyond the outlook period, the Russian Energy Ministry announced a draft plan that could see total coal (metallurgical and thermal) output rise from 440 million tonnes to between 550 and 670 million tonnes by 2035. The additional volumes are slated for export to Asia by rail.

Mongolia's metallurgical coal exports to China have rebounded

Mongolia — the fifth largest exporter of metallurgical coal in 2018 — primarily exports coal by trucking it to China through the Gants Mod and Ceke border crossings. Mongolia's metallurgical coal exports have surged in 2019 to meet Chinese demand — growing by 30 per cent year-on-year in the first seven months of the year. Mongolia's metallurgical coal export growth is forecast to slow, but continue to tick upwards over the outlook period. With bottlenecks at the Chinese border, substantial investment in infrastructure will be required for any significant growth in export volumes.

Mozambique's exports to grow, but headwinds remain

Mozambique currently has two exporting metallurgical coal mines: Vale's Moatize and Jindal Steel's Songa mines. Mozambique — once touted as the next major supplier of metallurgical coal — has faced a number of headwinds in growing its exports, which were 6 million tonnes in 2018. Vale revised down its 2019 production guidance for the Moatize mine from original guidance of 14 million tonnes to 10 million tonnes, due to processing challenges. Mozambique's metallurgical coal exports are forecast to rise modestly as Moatize ramps up, but the outlook is underpinned by considerable risks, due to a range of transport, quality and community opposition issues.

5.4 Australia

Metallurgical coal export earnings reached a record high

Australia's metallurgical coal export earnings grew by 15 per cent to almost \$44 billion in 2018–19, beating the previous record of \$38 billion in 2017–18 (Figure 5.5). Growth in export earnings was driven by persistently strong metallurgical coal prices and higher export volumes, which grew by 2.4 per cent to 183 million tonnes.

Metallurgical coal export earnings estimated to have reached a record high

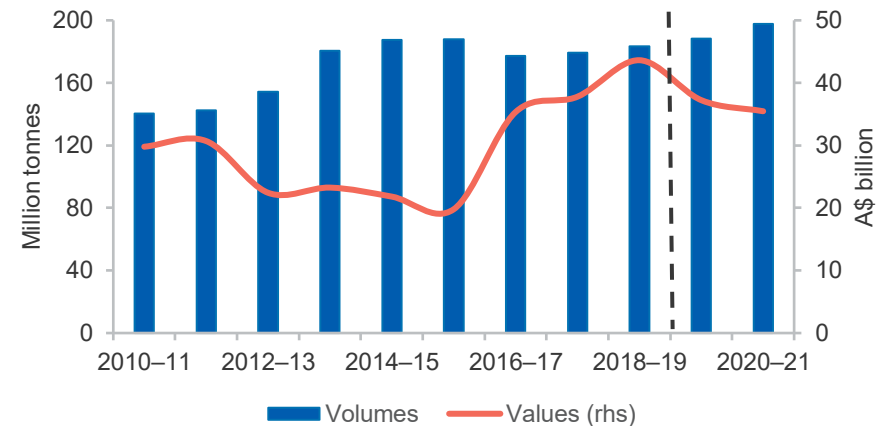
A forecast moderation of prices is expected to drive a decline in metallurgical coal export earnings to \$37 billion in 2019–20, and to \$35 billion in 2020–21. A forecast rise in export volumes is expected to only partially offset the impact of lower prices (Figure 5.6). Export volumes are forecast to grow to 188 million tonnes in 2019–20, and to 198 million tonnes in 2020–21.

The forecast growth in Australia's metallurgical coal export volumes reflects a raft of restarts and ramp-ups at several mines, including Cook, Baralaba, Byerwen and Gregory Crinum. Supply has also been recovering from disruptions caused by weather, infrastructure, and technical issues. Beyond the outlook period, Anglo American has approved the development of the Aquila project. The Aquila mine was placed on care and maintenance in 2013, due to low prices. Development of the project is set to begin imminently, and first production is scheduled for early 2022.

Revisions to the outlook

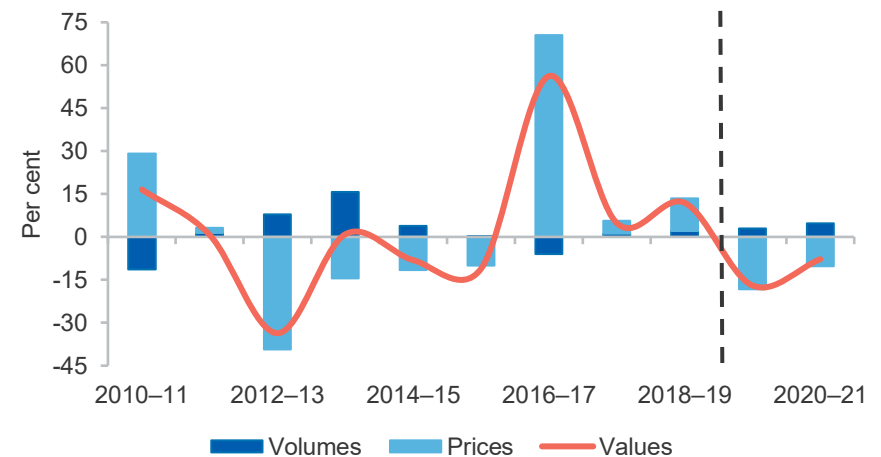
The forecasts for Australia's metallurgical coal export earnings have been revised down by \$2.3 billion in 2019–20 compared to the June 2019 *Resources and Energy Quarterly*. This reflects a downwards revision to the price forecast for 2019 — which has declined more rapidly than expected — offsetting the impacts of a downward revision to the exchange rate. Forecast export earnings in 2020–21 are broadly unchanged.

Figure 5.5: Australia's metallurgical coal exports



Source: ABS (2019) International Trade, Australia 5368.0; Department of Industry, Innovation and Science (2019)

Figure 5.6: Annual growth in Australia's metallurgical coal exports values, and contributions from export volumes and prices



Notes: Price changes are based on export unit values.

Source: ABS (2019) International Trade, Australia 5368.0; Department of Industry, Innovation and Science (2019)

Table 5.1: World trade in metallurgical coal

	Unit	2018	2019 ^f	2020 ^f	2021 ^f	Annual percentage change		
						2019 ^f	2020 ^f	2021 ^f
World trade	Mt	337	344	350	354	2.1	1.7	1.1
Metallurgical coal imports								
China	Mt	65	68	63	60	5.1	-7.3	-4.6
India	Mt	60	63	67	70	4.8	6.3	4.5
Japan	Mt	47	46	46	46	-1.5	0.0	-0.8
European Union 28	Mt	44	43	43	44	-0.9	-0.9	2.5
South Korea	Mt	36	35	34	34	-4.1	-2.9	0.0
Metallurgical coal exports								
Australia	Mt	179	185	195	199	3.4	5.3	2.0
United States	Mt	56	51	45	43	-8.6	-11.8	-4.4
Canada	Mt	29	31	32	33	7.2	3.2	3.1
Russia	Mt	26	28	30	32	6.0	7.1	6.7
Mongolia	Mt	26	31	31	32	20.6	0.0	3.2
Mozambique	Mt	6	8	9	10	28.2	11.1	10.0

Notes: ^f Forecast. Trade data has been revised from the June 2019 *Resources and Energy Quarterly* due to the release of updated IEA *Coal Information* data.

Source: IEA (2019) *Coal Information*; IHS (2019); Department of Industry, Innovation and Science (2019)

Table 5.2: Metallurgical coal outlook

World	Unit	2018	2019 ^f	2020 ^f	2021 ^f	Annual percentage change		
						2019 ^f	2020 ^f	2021 ^f
Contract prices ^e								
– nominal	US\$/t	208	191	168	159	-8.0	-12.3	-5.0
– real ^d	US\$/t	212	191	164	152	-10.0	-14.2	-7.1
Spot prices ^g								
– nominal	US\$/t	207	186	168	158	-10.3	-9.8	-5.5
– real ^d	US\$/t	212	186	164	151	-12.2	-11.9	-7.5
Australia	Unit	2017–18	2018–19	2019–20 ^f	2020–21 ^f	2019–20 ^f	2019–20 ^f	2020–21 ^f
Production	Mt	184	187	193	202	2.1	2.8	4.9
Export volume	Mt	179	183	188	198	2.4	2.7	4.9
– nominal value	A\$m	37,793	43,622	37,239	35,466	15.4	-14.6	-4.8
– real value ⁱ	A\$m	39,239	44,557	37,239	34,635	13.6	-16.4	-7.0

Notes: **d** In 2019 US dollars. **e** Contract price assessment for high-quality hard coking coal. **i** In 2019–20 Australian dollars. **f** Forecast. **g** Hard coking coal fob Australia east coast ports.

Source: ABS (2019) International Trade in Goods and Services, Australia, 5368.0; Department of Industry, Innovation and Science (2019); Platts (2019)