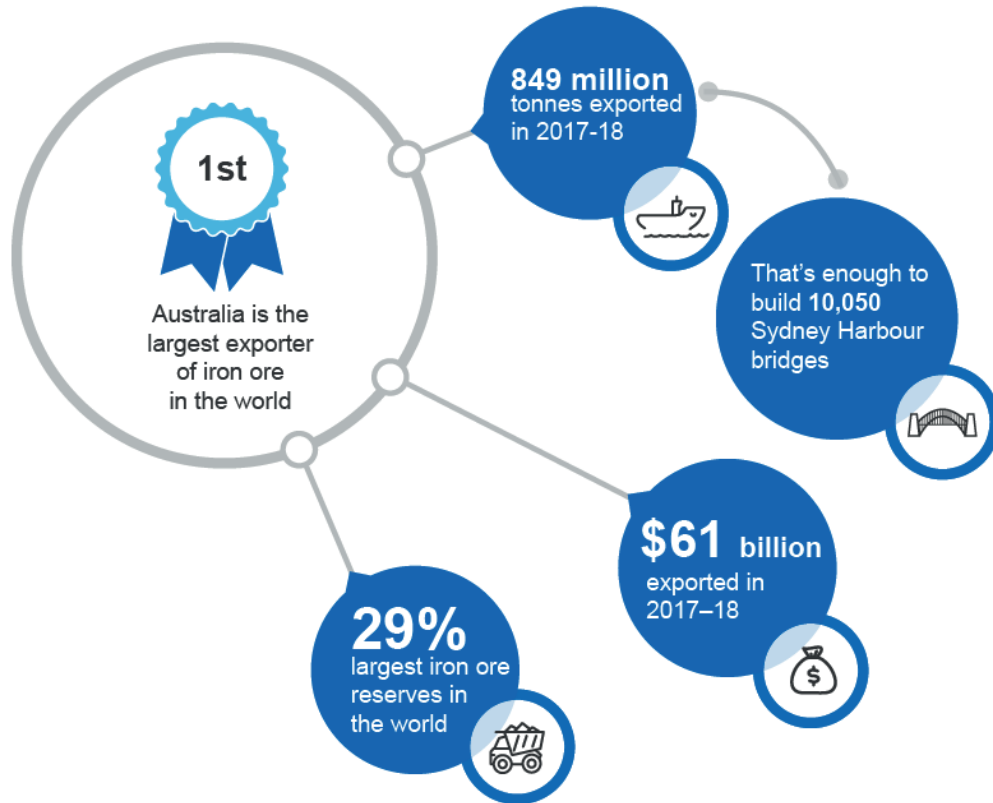
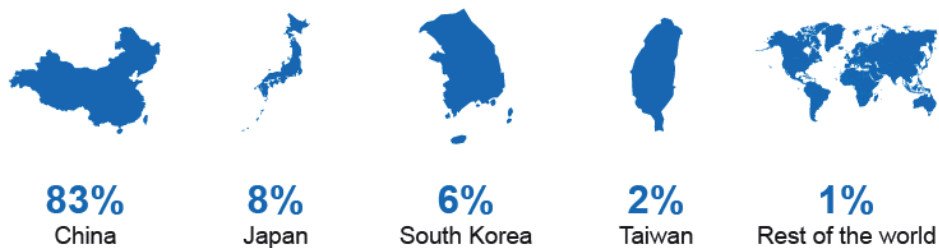


# Iron Ore

Resources and Energy Quarterly December 2018

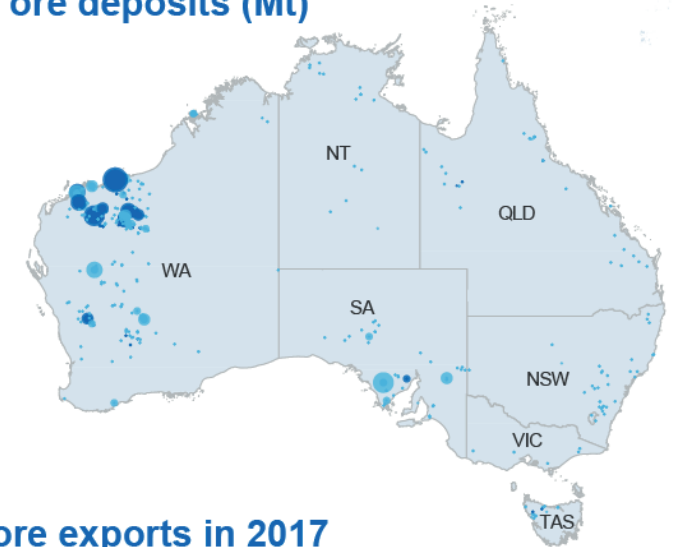


## Australia's iron ore key export destinations, 2017-18

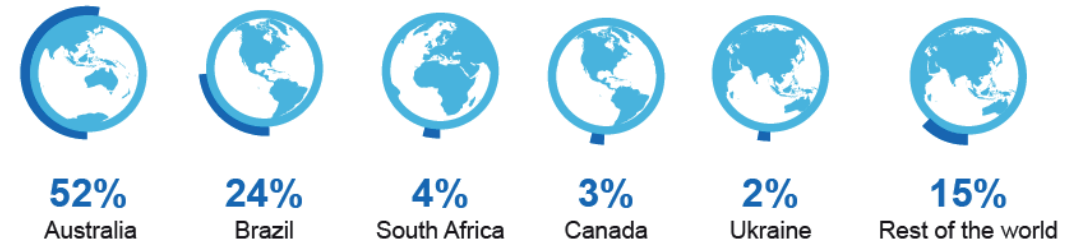


## Major Australian iron ore deposits (Mt)

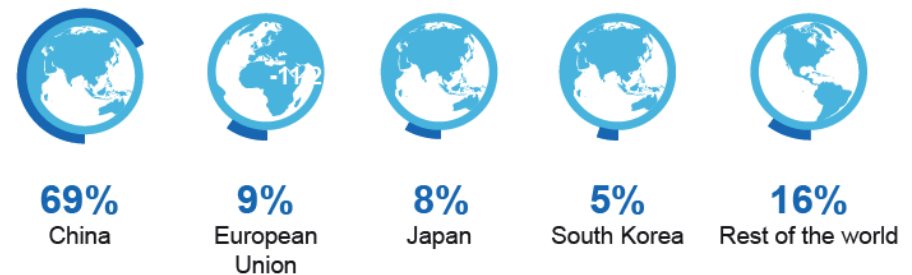
- <229
- 230-813
- 814-1,777
- 1,778-3,042
- 3,043-5,446
- >5,447
- Deposit
- Operating mine



## Global share of iron ore exports in 2017



## Global share of iron ore imports in 2017



## 4.1 Summary

- The free on board (FOB) Australia iron ore price is forecast to decline to US\$51 a tonne in 2020, driven by slowing global economic growth and a well-supplied seaborne market.
- Australia's iron ore export volumes are forecast to increase from 849 million tonnes in 2017–18 to 879 million tonnes in 2019–20, driven by a ramp up in production from Australia's largest producers.
- The value of Australia's iron ore exports is forecast to decline from \$61 billion in 2017–18 to \$57 billion in 2019–20, with the impact of lower prices more than offsetting growth in export volumes.
- The impact of US-China trade tensions is expected to have a relatively minor, but negative impact on Australia's export earnings.

## 4.2 Prices

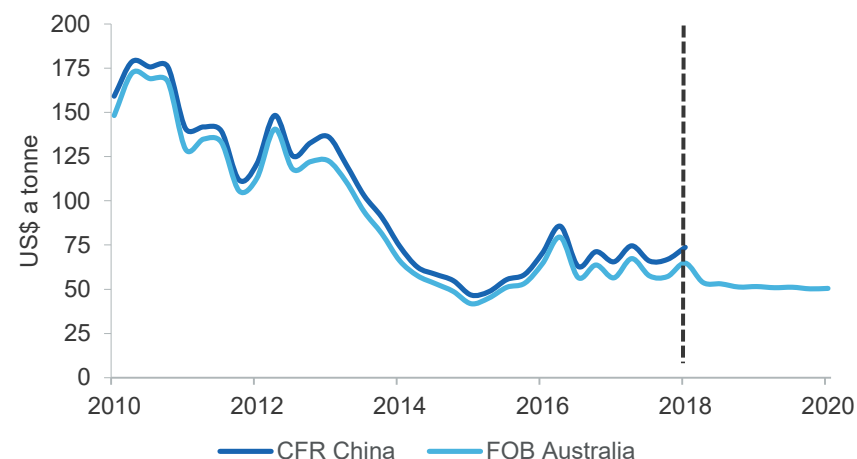
### Iron ore prices lift in the last quarter of 2018

The FOB Australia iron ore price (62% Fe) — the price at which most Australian iron ore is sold — rallied by 15 per cent year-on-year in the December quarter to average US\$65 a tonne. The price — which has been sluggish over 2018 compared to rising steel and high grade iron ore prices — increased, due to delays in implementing China's winter production cuts. The price was also supported by falling steel margins, which reduced the incentive to use high grade ores in steel production.

### Iron ore prices forecast to decline

The iron ore price is forecast to gradually decline, to average US\$53 a tonne (FOB Australia) in 2019 and US\$51 a tonne in 2020, as a result of declining demand, a well-supplied seaborne market and the growing supply of Chinese scrap (Figure 4.1). Chinese steel makers are expected to use a higher proportion of scrap material over the outlook period, thereby reducing their demand for iron ore. Higher scrap use will be driven by an increase in electric arc furnace steelmaking and greater use of scrap material in basic oxygen furnace steelmaking, as producers pursue greater productivity and lower emissions.

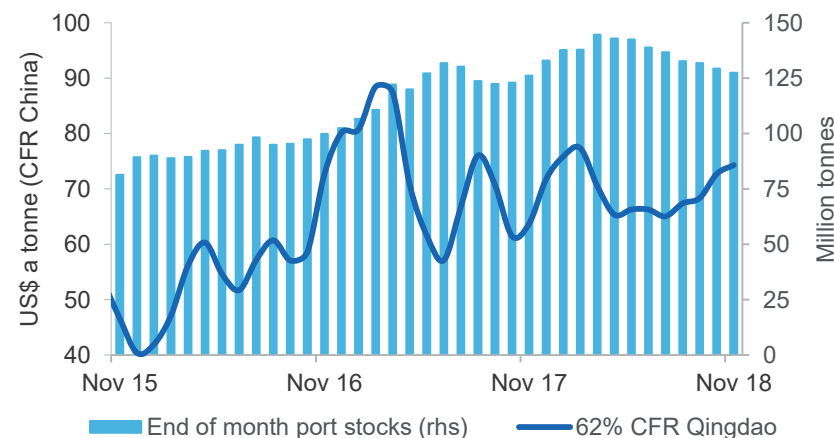
Figure 4.1: Iron ore price, FOB Australia and CFR China, quarterly



Notes: The OCE forecasts the FOB (free on board) Australia iron ore price for 62% Fe, not the benchmark CFR (cost and freight) North China iron ore price.

Source: Bloomberg (2018) Metal Bulletin; Department of Industry, Innovation and Science (2018)

Figure 4.2: End of month Chinese port stocks and monthly price



Source: Bloomberg (2018) Steelhome, Metal Bulletin; Department of Industry, Innovation and Science (2018)

The supply of high grade ores (65% Fe) and pellets from Brazil is expected to increase, as Vale's S11D project continues to ramp up, and their Sao Luis pellet plant — which restarted last quarter — raises pellet production to 55 million tonnes. The demand for, and supply of, high iron content alternatives is expected to weigh on prices for lower grade iron ores over the outlook period.

Steel prices are expected to decline over the outlook period and subsequently reduce profit margins for steel producers. Grade differentials widened to historic levels throughout 2018 as Chinese steel makers' used high grade ores to maximise production and comply with more stringent environmental policies. However, lower margins are expected to diminish the price difference between premium and lower grade iron ores over the outlook period. Port stocks of iron ore are expected to remain near historic highs reached in the March quarter 2018 (Figure 4.2), driven by rising seaborne supply and larger share of scrap usage in steel production.

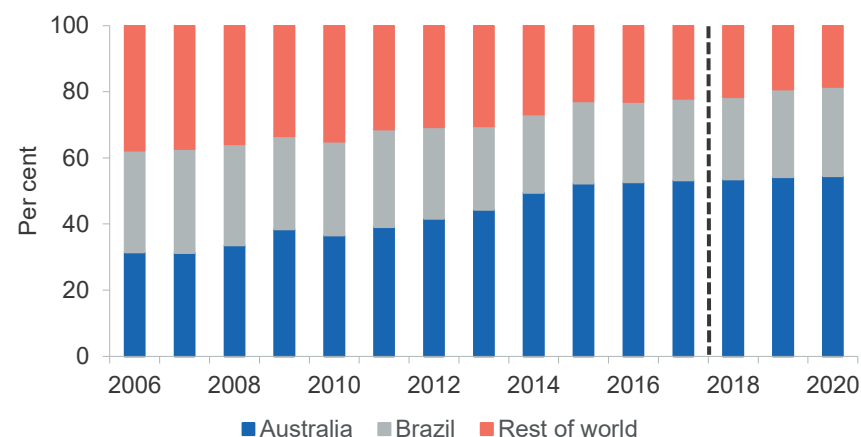
### 4.3 World trade

World exports are forecast to rise by 1.8 per cent annually to 1,638 million tonnes in 2020, as new mines and expansions ramp up in Australia and Brazil. Emerging markets (excluding China) are expected to increasingly drive import demand for iron ore, while demand from China — the world's largest importer — may have peaked in 2017 (Table 4.1). Australia and Brazil are expected to share a higher proportion of world iron ore exports over the outlook period (Figure 4.3).

#### China's iron ore imports projected to gradually decline

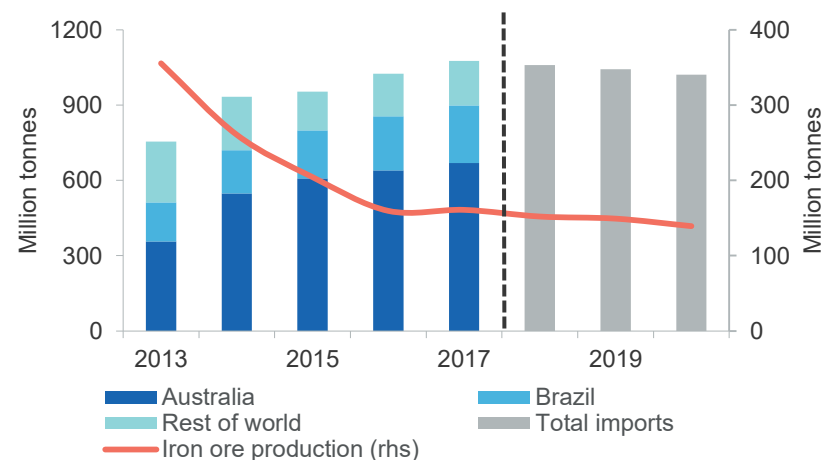
China's iron ore imports declined by 0.5 per cent year-on-year in the ten months to October, despite strong growth in steel production. Weaker-than-expected import demand was driven by a rundown in inventories, as well as increased use of scrap, pellets and high grade iron ores — which displaced lower grade iron ore in steel making. The decline in imports is expected to continue, with China's iron ore imports forecast to fall from 1,075 million tonnes in 2017 to 1,059 million tonnes in 2020 (Figure 4.4).

**Figure 4.3: Share of world iron ore exports**



Source: Bloomberg (2018); Department of Industry, Innovation and Science (2018)

**Figure 4.4: China's iron ore imports and production**



Notes: China's iron ore production is quality adjusted

Source: Bloomberg (2018) Antaike Information Development; Bloomberg (2018) China Customs General administration; Department of Industry, Innovation and Science (2018)

### World export volumes forecast to rise, primarily from Brazil

The seaborne iron ore market is forecast to increase from 1,554 million tonnes in 2017 to 1,638 million tonnes in 2020, driven by rising production in Australia and Brazil — the world's largest iron ore producers.

Exports from Brazil are forecast to grow by 4.4 per cent annually over the outlook period, to 437 million tonnes in 2020. The rise in Brazilian output comes as Vale's S11D project at the Carajás complex ramps up production. Anglo American's Minas-Rio expansion is also expected to reach full capacity of 26.5 million tonnes by 2020.

## 4.4 Australia

### Export volumes set to rise

Australian export volumes are expected to increase by 0.4 per cent to 852 million tonnes in 2018–19, and by a further 3.2 per cent to 879 million tonnes in 2019–20. The gains will be driven by Australia's largest producers, as they continue to ramp up towards record production levels. Higher volumes are expected to be achieved through productivity improvements and replacement mines at Rio Tinto's and BHP's operations, including the ramp up at Rio Tinto's Silvergrass operations in the Pilbara.

Two train derailments during the December quarter are only expected to have a minimal impact on export volumes. BHP's train derailment in November is expected to temporarily reduce production by 2–3 million tonnes for the December quarter, but not cause further interruptions in 2019. A second train operated by Mineral Resources derailed in November, but involved an empty train returning from port to their Koolyanobbing mine and is not expected to result in a loss of production. Mineral Resources also announced the first train load of iron ore from their recently acquired Koolyanobbing operation, as they ramp up to a targeted capacity of over 6 million tonnes annually.

In December, Fortescue Metal Group is expected to commence production of their West Pilbara Fines (WPF) blend, graded at 60.1% Fe (iron ore content). Fortescue's Eliwana mine and rail project in the Pilbara region of

Western Australia is expected to support the annual production of 40 million tonnes of the WPF blend from late 2020 onwards.

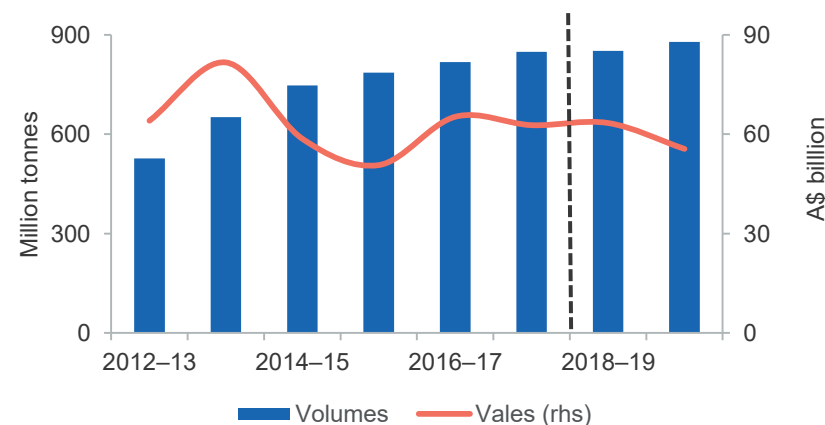
Exploration expenditure increased 3.8 per cent year-on-year to 87 million in the September quarter, the second highest amount in four years.

### Australia's iron ore export earnings to be weighed down by lower prices

Lower prices forecast over the outlook period are expected to more than offset the impact of higher volumes, leading to a fall in export earnings from \$61 billion in 2017–18 to \$57 billion in 2019–20. The implementation of US tariffs on China is expected to have a small but negative impact on Australia's export earnings for iron ore (see the trade box).

Export earnings have been revised up by \$3.0 billion in 2018–19 since the September *Resources and Energy Quarterly*. The upwards revision reflects a weaker outlook for the Australian dollar, as well as the recent rally in iron ore prices over the December quarter. The price forecast for 2018–19 has been revised higher from US\$54.5 a tonne in September to US\$57.2 a tonne. The outlook for export earnings is broadly unchanged in 2019–20, as is the price outlook which is forecast to average US\$51 a tonne in 2020.

**Figure 4.5: Australia's iron ore export volumes and values**



Source: ABS (2018) International Trade, Australia, 5454.0; Department of Industry, Innovation and Science (2018)

**Table 4.1: World trade in iron ore**

	Million tonnes				Annual percentage change		
	2017	2018 <sup>f</sup>	2019 <sup>f</sup>	2020 <sup>f</sup>	2018 <sup>f</sup>	2019 <sup>f</sup>	2020 <sup>f</sup>
Total world trade	1,554	1,590	1,636	1,638	2.3	2.9	0.2
<b>Iron ore imports</b>							
China	1,075	1,064	1,062	1,059	-1.1	-0.2	-0.2
European Union 28	144	155	158	159	7.5	1.7	0.6
Japan	127	129	130	132	2.2	0.8	0.9
South Korea	72	77	75	75	6.6	-2.2	-0.4
India	5	5	12	19	1.6	146	51
<b>Iron ore exports</b>							
Australia	827	840	879	882	1.6	4.6	0.3
Brazil	384	398	430	437	3.7	8.2	1.5
Ukraine	33	35	30	29	7.1	-16	-1.0
India	29	11	10	8	-62	-10	-20

Notes: **s** Estimate; **f** Forecast.

Source: World Steel Association (2018); International Trade Centre (2018); Department of Industry, Innovation and Science (2018)

**Table 4.2: Iron ore outlook**

						Annual percentage change		
World	Unit	2017	2018 <sup>f</sup>	2019 <sup>f</sup>	2020 <sup>f</sup>	2018 <sup>f</sup>	2019 <sup>f</sup>	2020 <sup>f</sup>
Prices <sup>bc</sup>								
– nominal	US\$/t	64.0	61.7	52.6	50.7	–3.6	–15	–3.7
– real <sup>d</sup>	US\$/t	65.6	61.7	51.5	49.0	–6.0	–16	–4.8
Australia	Unit	2016–17	2017–18 <sup>s</sup>	2018–19 <sup>f</sup>	2019–20 <sup>f</sup>	2017–18 <sup>s</sup>	2018–19 <sup>f</sup>	2019–20 <sup>f</sup>
Production								
– Steel <sup>hs</sup>	Mt	5.35	5.71	6.05	6.06	6.8	6.0	0.1
– Iron ore	Mt	873	898	903	928	2.8	0.5	2.9
Exports								
Steel	Mt	1.00	1.15	0.95	0.97	15	–17	2.4
– nominal value	A\$m	875	925	777	737	5.8	–16	–5.1
– real value <sup>hi</sup>	A\$m	912	947	777	719	3.8	–18	–7.4
Iron ore	Mt	818	849	852	879	3.8	0.4	3.2
– nominal value	A\$m	62,617	61,331	63,670	56,915	–2.1	3.8	–11
– real value <sup>i</sup>	A\$m	65,293	62,742	63,670	55,567	–3.9	1.5	–13

Notes: **b** fob Australian basis; **c** Spot price, 62 per cent iron content basis; **d** In 2018 US dollars; **f** Forecast; **h** Crude steel equivalent; Crude steel is defined as the first solid state of production after melting. In ABS Australian Harmonized Export Commodity Classification, crude steel equivalent includes most items from 7206 to 7307, excluding ferrous waste and scrap and ferroalloys; **i** In 2018–19 Australian dollars; **s** Estimate.

Source: ABS (2018) International Trade in Goods and Services, Australia, 5368.0; Bloomberg (2018) Metal Bulletin; World Steel Association (2018); AME Group (2018); Company Reports; Department of Industry, Innovation and Science (2018)