Iron Ore
Resources and Energy Quarterly September 2018

Australia is the largest exporter of iron ore in the world
849 million tonnes exported in 2017-18
That's enough to build 10,050 Sydney Harbour bridges
$61 billion exported in 2017-18
29% largest iron ore reserves in the world

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
- 52% Australia
- 24% Brazil
- 4% South Africa
- 3% Canada
- 2% Ukraine
- 15% Rest of the world

Australia’s iron ore key export destinations, 2017-18
83% China
8% Japan
6% South Korea
2% Taiwan
1% Rest of the world

Global share of iron ore imports in 2017
69% China
9% European Union
8% Japan
5% South Korea
16% Rest of the world
4.1 Summary

- The iron ore price is forecast to decline to US$51 a tonne (FOB Australia) in 2020, as a result of a forecast decline in steel production in China and a well–supplied seaborne iron ore market.
- Australia’s iron ore export volumes are forecast to increase from 849 million tonnes in 2017–18, to 878 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 $56 billion in 2019–20, with lower prices more than offsetting growth in export volumes.

4.2 Prices

Iron ore prices diverge on quality

The FOB (free on board) Australia iron ore price (62% Fe) — the price at which most Australian iron ore is sold — decreased by 13 per cent year–on–year in the September quarter 2018, to average US$56 a tonne. Lower grade ores lagged behind high grade ore (65% Fe CFR), which increased by 11 per cent over the same period, in line with higher steel prices.

Figure 4.1: Iron ore and steel prices

The price difference between premium and lower grade ores has widened throughout 2018 (Figure 4.1), driven by Chinese steel makers’ increasing preference for high grade ores to maximise production and comply with more stringent environmental policies. Higher prices for premium ores diminished profit margins for Chinese steel makers in the three months to August. Nonetheless, profits remain high and steel makers continue to prefer high grade ores (largely supplied by Brazil) as well as greater use of scrap to maximise steel production.

High steel prices, and China’s ongoing government push to improve air quality through increasingly stringent air pollution policies, are expected to maintain the price premium for high grade iron ore and discounts for impurities contained in iron ore, namely alumina and silica.

Figure 4.2: Iron ore price, FOB Australia and CFR China, quarterly

The iron ore price is forecast to gradually decline to average US$52 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 growing supply of Chinese steel scrap (Figure 4.2). 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 restarts this September quarter — expected to raise pellet production to 55 million tonnes. The demand for, and supply of, high iron content alternatives is expected to weigh on the (62% Fe) iron ore price over the outlook period.

China’s steel sector is expected to continue to be affected by ongoing capacity reductions and policies to address air pollution (see the Steel chapter). Recently announced winter production cuts are likely to weaken the demand for iron ore between mid-November 2018 and mid-March 2019, and thus weigh on iron ore prices, especially for lower grade ores.

4.3 World trade

World exports are forecast to rise by 1.3 per cent annually to 1,621 million tonnes in 2020, as new mines and expansions ramp up in Australia and Brazil. Emerging markets are expected to increasingly drive import demand for iron ore, while demand from China — the world’s largest importer — is set to decline, driven by lower steel production (see the Steel chapter).

China’s iron ore imports projected to gradually decline

China’s iron ore imports were subdued over the eight months to August, declining by 0.6 per cent year-on-year. The lacklustre demand for iron ore imports is at odds with strong growth in steel production over the same period. Weaker-than-expected import demand was driven by a rundown in inventories as well as greater use of scrap, pellets and high grade iron ores, which displaced lower grade ores in steel making.

The sharp decline in the Renminbi over the past four months makes new imports relatively more expensive than the (mainly low grade) inventories of ore that have been building in Chinese ports over the past year. As a result, imports may slow until these inventories have been drawn down.

China’s iron ore imports are forecast to gradually decline at an average annual rate of 1.7 per cent over the outlook period, to 1.02 billion tonnes in 2020.
Growth elsewhere unlikely to offset lower Chinese demand

Import demand from emerging economies (excluding China) is forecast to grow over the outlook to 2020, partially offsetting the expected decline from China. India’s iron ore production is forecast to reach 197 million tonnes in 2020, underpinned by rapidly growing demand from its domestic steel industry. However, Indian consumption of iron ore is expected to exceed domestic production marginally in 2019, and by over 5 million tonnes in 2020, making India a net importer of iron ore.

World export volumes forecast to rise, primarily from Brazil

The seaborne iron ore market is forecast to be well-supplied in the short term, with world iron ore exports forecast to grow by 3.2 per cent and 1.1 per cent year-on-year in 2018 and 2019, respectively.

Exports from Brazil are forecast to grow by 4.1 per cent and 7.8 per cent over the same period, reaching 430 million tonnes by 2019. 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.

Seaborne iron ore trade is forecast to taper in 2020, declining by 0.3 per cent year-on-year, driven by higher domestic consumption in emerging markets displacing some exports (mainly from India). The world’s two largest exporters (Australia and Brazil) are expected to increase market share, with iron ore exports to reach 881 and 437 million tonnes in 2020, respectively, as both major producers reach record production targets.

4.4 Australia

Record iron ore export volumes in 2017–18

Australia’s iron ore export volumes grew by 3.8 per cent to 849 million tonnes in 2017–18, setting a new record high. Growth was driven by Australia’s two largest producers (Rio Tinto and BHP) as they continued to ramp up towards record production levels. Rio Tinto’s output has increased following the ramp up of the Silvergrass operations and improvements to rail infrastructure.
Australian export volumes are expected to increase by 2.3 per cent to 869 million tonnes in 2018–19, and by a further 1.0 per cent to 878 million tonnes in 2019–20, as expansions and additions are completed. Higher volumes should be supported by productivity improvements, and by replacement mines at Rio Tinto’s and BHP’s operations, as both companies attempt to reach their long-term production targets.

BHP is expected to expand capacity at its Port Hedland operations, with output forecast to reach 290 million tonnes by mid-2019. The company has also committed US$2.9 billion in capital expenditure for the South Flank iron ore project in Western Australia. South Flank is expected to produce 80 million tonnes annually from 2020 onwards, replacing the existing production of Yandi as it ramps down by 2022. Fortescue Metal Group’s Eliwana mine in the Pilbara region of Western Australia, is expected to produce 30 million tonnes annually commencing in 2020.

**Australia’s iron ore export earnings to be weighed down by lower prices**

Despite high production and export volumes, lower prices led to a fall in export earnings to $61 billion in 2017–18. This was 2.2 per cent lower than in 2016–17. The majority of Australian iron ore is of medium or lower grade, for which prices have been subdued over much of 2018.

Export values are forecast to be steady in 2018–19 and then decline to $56 billion in 2019–20. Export earnings are expected to be undermined by lower iron ore prices, offsetting higher volumes.

**Iron ore export earnings have been revised up**

Export earnings have been revised up by $2.6 billion in 2018–19 since the June Resources and Energy Quarterly. The upwards revision reflects a weaker outlook for the Australian dollar. Export earnings remain broadly unchanged in 2019–20, as revised lower volumes are offset by the more favourable outlook for the exchange rate. The price outlook remains broadly unchanged in US dollar terms at US$51 a tonne in 2020.
<table>
<thead>
<tr>
<th>Table 4.1: World trade in iron ore</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>Total world trade</td>
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<tr>
<td>Iron ore imports</td>
</tr>
<tr>
<td>China</td>
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<tr>
<td>European Union 28</td>
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<tr>
<td>Japan</td>
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<tr>
<td>South Korea</td>
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<tr>
<td>India</td>
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<tr>
<td>Iron ore exports</td>
</tr>
<tr>
<td>Australia</td>
</tr>
<tr>
<td>Brazil</td>
</tr>
<tr>
<td>Ukraine</td>
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<tr>
<td>India</td>
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</tbody>
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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

<table>
<thead>
<tr>
<th>World</th>
<th>Unit</th>
<th>2017</th>
<th>2018&lt;sup&gt;f&lt;/sup&gt;</th>
<th>2019&lt;sup&gt;f&lt;/sup&gt;</th>
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<th>2018&lt;sup&gt;f&lt;/sup&gt;</th>
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<tr>
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<td></td>
<td></td>
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<tr>
<td>– nominal</td>
<td>US$/t</td>
<td>64.0</td>
<td>59.1</td>
<td>51.9</td>
<td>50.7</td>
<td>–7.7</td>
<td>–12.2</td>
<td>–2.3</td>
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<tr>
<td>– real&lt;sup&gt;d&lt;/sup&gt;</td>
<td>US$/t</td>
<td>65.6</td>
<td>59.1</td>
<td>50.7</td>
<td>49.0</td>
<td>–9.9</td>
<td>–14.2</td>
<td>–3.4</td>
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<tr>
<td><strong>Production</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>– Steel&lt;sup&gt;hs&lt;/sup&gt;</td>
<td>Mt</td>
<td>5.35</td>
<td>5.71</td>
<td>6.05</td>
<td>6.06</td>
<td>6.8</td>
<td>6.0</td>
<td>0.1</td>
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<tr>
<td>– Iron ore</td>
<td>Mt</td>
<td>873.2</td>
<td>900.4</td>
<td>912.7</td>
<td>927.2</td>
<td>3.1</td>
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<td></td>
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<tr>
<td>Steel</td>
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<td>0.97</td>
<td>15.3</td>
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<td>923</td>
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<td>Iron ore</td>
<td>Mt</td>
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<td>849.2</td>
<td>869.2</td>
<td>877.7</td>
<td>3.8</td>
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<td>A$m</td>
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<td>54,395</td>
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<td>–9.9</td>
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**Notes:**
- <sup>b</sup>fob Australian basis;
- <sup>c</sup>Spot price, 62 per cent iron content basis;
- <sup>d</sup>In 2018 US dollars;
- <sup>f</sup>Forecast;
- <sup>h</sup>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;
- <sup>i</sup>In 2018–19 Australian dollars;
- <sup>s</sup>Estimate.

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