



Steel

Australian steel refineries



Steel facts



Made in specialised blast furnaces mostly out of **iron and carbon**



1,000 kg of steel requires 1,400 kg of iron and 800kg of coal to make



Pure steel is **1,000 times stronger** than iron



Steel is the **world's 2nd largest industry**

World consumption



50%
Construction



16%
Mechanical machinery



15%
Other applications



13%
Automotive



4%
Electrical equipment



2%
Domestic appliances

Australia's steel



5.3m tonnes
produced
each year



100,000+
employed in
steelmaking



Significant
export
markets

- China
- Japan
- South Korea
- Singapore
- US

3.1 Summary

- World steel consumption appears to be softening early in 2020, and is expected to grow by 1.1 per cent over the year. However, longer term trends are more positive, with urbanisation and industrialisation across Asia and Africa creating large new markets for steel.
- World steel consumption is forecast to grow by around 16 per cent between 2020 and 2025, with most growth occurring in the second half of the outlook period.
- World steel production is forecast to grow by around 17 per cent between 2020 and 2025, with significant growth early in the outlook period as capacity utilisation rises.

3.2 World consumption and production

Steel markets face significant pressure from a range of factors

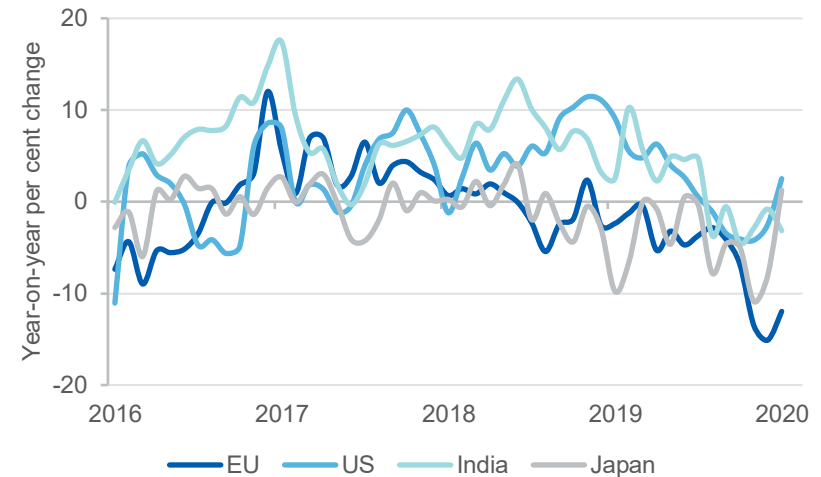
Steel demand appears to be easing in the early part of 2020. Some of this is due to long-term factors, including softening automotive production over the second half of 2019 and trade tensions between the US and China, which have weighed on steel markets for months. Building on the downward pressure, the COVID-19 outbreak in China has begun to affect demand in early 2020.

Steel production trended down across much of the world towards the end of 2019 (see Figure 3.1), led by falls in the EU and Japan, where steelmakers are facing difficult market conditions. Production growth is stabilising in early 2020, and is expected to pick up after 2021, with India and other emerging Asian economies leading the growth (Figure 3.2).

Chinese steel markets are softening after years of strong growth

Chinese steel consumption has grown strongly in recent years, supported by a rising property market and state infrastructure spending, and this is expected to continue over the outlook period. However, growing concerns over pollution and air quality are leading to cuts and closures among some inefficient steel smelters, and overall steel production remains under pressure from trade tensions with the US.

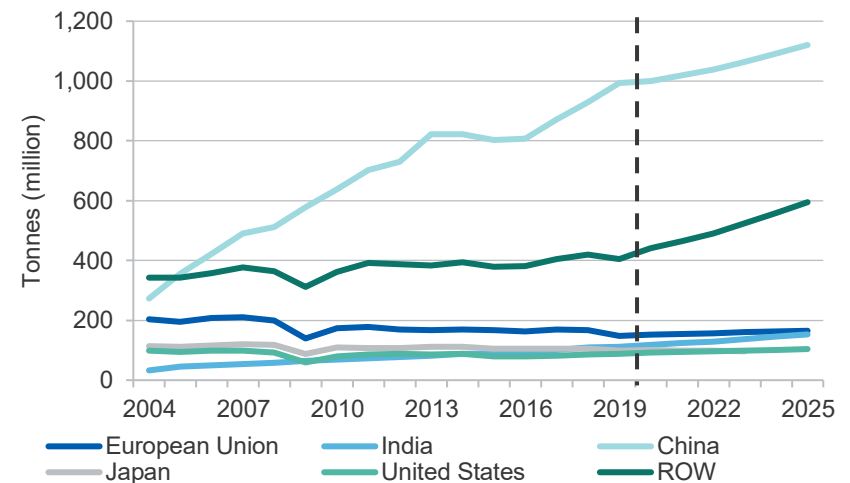
Figure 3.1: Steel production, monthly change



Notes: Monthly average for integrated basic oxygen furnace (BOF) steel mills

Source: Bloomberg (2020) China BOF Steel Profit Index

Figure 3.2: Steel production by region



Source: World Steel Association (2020); Bloomberg (2020)

Property markets now appear to be flattening, though infrastructure spending is likely to remain strong as the Chinese government seeks to increase economic stimulus.

However, the start of 2020 has been dominated by the effects of the COVID-19 outbreak. Many Chinese industries temporarily close during the Chinese New Year holiday. However, the outbreak has forced many industries to extend the standard shut-down period. Affected industries include construction, steel fabrication, machinery, automotive and parts, white goods, hardware, containers and shipbuilding, which all face sustained disruption as a result of COVID-19. Impacts appearing to be particularly severe for construction, which has long been a key driver for Chinese steel demand.

Overall steel demand in China is expected to fall by 1 per cent in 2020 following years of strong growth, though with a resumption of growth — albeit at a slower pace — expected over the outlook period.

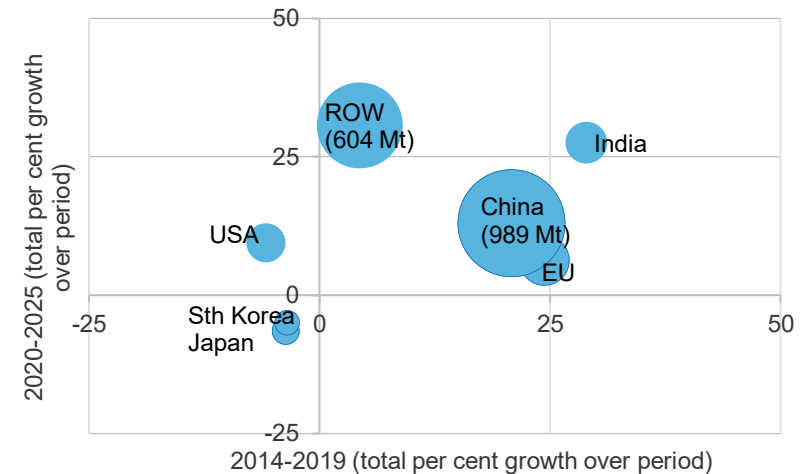
Global steel markets are entering an uncertain period

Global steel consumption faces sluggish growth, as a result of recent softness in industrial production, ongoing trade tensions between the US and China, and slowing automotive manufacturing, which is likely linked with downturns in consumer confidence. While it is too early to tell what the full impact will be, if the COVID-19 outbreak has limited impacts, steel production is likely to grow more rapidly in 2020, encouraged by tight inventories.

Use and production of steel is shifting towards new growth sources (see Figures 3.3 and 3.4), mostly in Asia. Manufacturing and industrial production indexes for China, Japan, and the EU all appear to be sluggish as the global economy moves further into 2020.

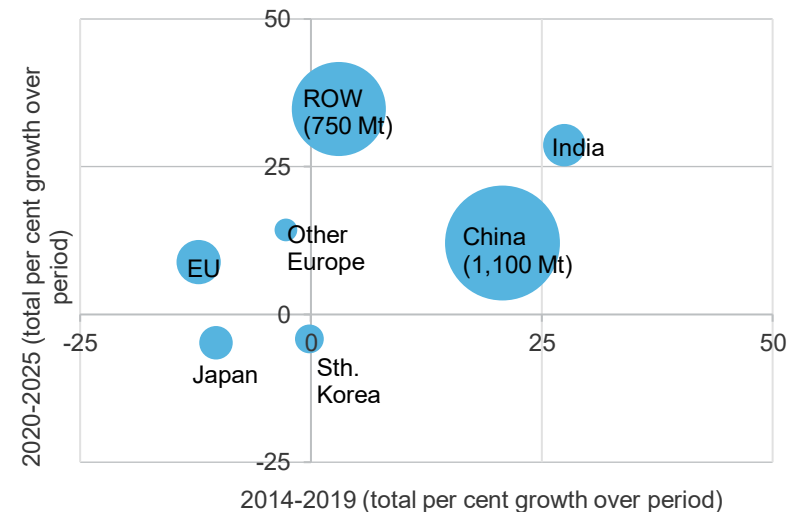
Chinese steel production — which has long dominated global markets — is expected to grow at a slower rate in 2020. Mills in Gansu, Shaanxi, Shanxi and Sichuan provinces have recently announced significant output cuts (of almost 60,000 tonnes a day) in response to slowing demand

Figure 3.3: Steel consumption growth by region



Source: Department of Industry, Science, Energy and Resources (2020)

Figure 3.4: Steel production growth by region

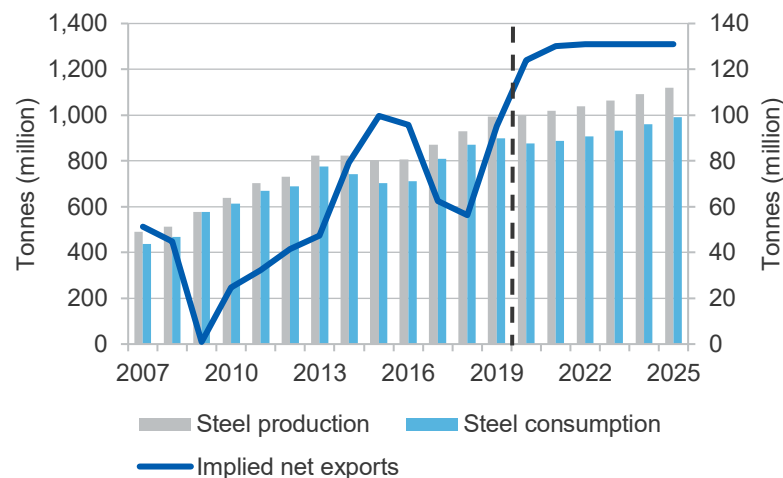


Source: Department of Industry, Science, Energy and Resources (2020)

following the COVID-19 outbreak. A range of other steel mills are delaying returns to operation beyond the New Year holiday. Liuzhou Steel and Chanjiang Steel have announced plans to shut down facilities by 2021, and production is scheduled to fall at the Tianjin Rochcheck Steel Group, where a blast furnace plant is set to close.

It is expected that growth will be affected most strongly in the first half of 2020, with a recovery from the third quarter. Rising steel inventories are likely to check production in the near-term. However, steel profits in China remain relatively sound, supporting high capacity utilisation and strong production (Figure 3.5). There is also a possible upside for steel in the form of potential stimulus measures in the wake of COVID-19.

Figure 3.5: China's steel consumption, production and exports



Source: Bloomberg (2020) World Steel Association; Department of Industry, Science, Energy and Resources (2020)

Emerging economies in Asia are becoming increasingly important

Over the next five years, growth is expected to be led by Asian economies. India and Vietnam have recently unveiled plans to develop domestic steel industries, with significant growth in output over the next five years.

Indian steel production has grown by around 75 per cent over the past 10 years, with the country expected to become an even more significant player in global steel markets in the near-term. Production over the next five years is expected to grow by 28 per cent. Risks to this growth are considerable, however, and include tight margins, ample international supply, a potential domestic economic slowdown, and trade tensions.

Steel production is easing elsewhere

Steel production across most OECD nations is likely to decline over the outlook period. In the EU, profitability is under threat from trade tensions and slowing global demand, with several high-profile closures occurring in recent months. These include Tata Steel — a large steelmaker headquartered in Mumbai — which announced 3,000 jobs would likely be cut in the United Kingdom (UK) and the Netherlands, as a result of the soft global steel outlook. British Steel — the second largest steelmaker in the UK — entered liquidation in 2019, and has subsequently been taken over by the Chinese-owned Jingye Group.

In Japan, the Nippon Steel Corporation confirmed that it will close down three blast furnaces and cut back output at some smaller facilities, reducing its total capacity by almost 10 per cent over the next four years. The announcement follows years of falling domestic demand and rising export competition from China. Japan's declining population is significantly reducing the future pipeline for steel consumption, and this trend — in conjunction with falling steel prices brought about through trade tensions — is set to see the company lose US\$4 billion in 2019–20. Closures have been scheduled to conclude by September 2023, and will lead to 5 million tonnes in steel output cuts over the long-term.

Steel production around the world will likely continue to track closely with global industrial production and automotive construction, making these measures crucial to the fortunes of global steelmakers. Growth is likely to become less dependent on China, as other countries in Asia, South America and Africa continue to urbanise and industrialise.

Global steel production is expected to increase, from an estimated 1,904 million tonnes in 2020 to 2,233 million tonnes by 2025.

Table 3.1: World steel consumption and production

Million tonnes								
Crude steel consumption	2019	2020 ^s	2021 ^f	2022 ^z	2023 ^z	2024 ^z	2025 ^z	CAGR ^r
China	898	876	888	907	933	961	989	1.6
European Union 28 ^g	207	209	212	217	225	232	240	2.5
United States	115	119	120	122	125	127	130	2.1
India	112	116	120	125	133	141	149	4.8
Japan	70	70	69	69	68	67	65	-1.2
Russia	47	45	45	44	44	43	42	-2.1
South Korea	56	57	57	57	56	55	55	-0.4
Brazil	7	21	22	22	23	24	24	23.0
World steel consumption	1901	1922	1957	2008	2080	2155	2232	2.7
Crude steel production	2019	2020 ^s	2021 ^f	2022 ^z	2023 ^z	2024 ^z	2025 ^z	CAGR ^r
China	993	1 000	1 018	1 038	1 064	1 092	1 120	2.0
European Union 28	149	156	161	167	174	182	189	4.1
India	111	119	124	130	137	145	153	5.4
Japan	99	100	99	98	97	96	95	-0.7
United States	88	92	94	96	98	101	104	2.8
Brazil	32	34	35	35	36	37	38	2.6
Russia	72	71	70	70	69	68	67	-1.0
South Korea	71	73	73	72	72	71	70	-0.3
World steel production	1845	1904	1956	2009	2081	2156	2233	3.2

Notes: **f** Forecast; **g** European Union 28 encompasses the aggregate output and demand for the 28 states which comprise the European Union; **r** Average annual growth between 2019 and 2025 or 2018–19 and 2024–25; **s** Estimate; **z** projection.

Source: World Steel Association (2020); Department of Industry, Science, Energy and Resources (2020)