



Steel: A Well-Tempered Industry?

BTG Global Advisory looks at the global trends that are driving, and will continue to shape the market for steel and related products. Trump's tariffs, the trade wars that this has sparked, and the ongoing impact of China's supply and demand will continue to affect world markets.

BTG GA members have played significant roles in recent high-profile restructurings, including U.S. Steel Canada (aka Stelco) in Canada and Evraz Highveld Steel in South Africa. As such, we provide invaluable expertise to companies and other stakeholders as this industry continues to evolve, including dealing with legacy issues relating to pensions and employee benefits, and environmental matters.

The global steel market, which is worth around US\$900bn a year, is dominated by two immediate trends: Chinese production (and demand), and the Trump tariffs on steel imports to the USA. It is the latter that has had the higher profile in the second quarter of 2018 but it is the former that has had the greater impact over the longer term and, depending on the outcome of negotiations, whether through the WTO or other forums, that may be the case in the future as well. When the Trump tariffs are a historical footnote, China's 'One Belt, One Road' policy will still be causing ripples.

Capacity

Excess capacity and, allegedly, dumping, brought steel industries in several countries to the brink of collapse. Historically, all the growth in demand from approximately 2005–2011 was completely catered for by China's mushrooming production capacity; the country's output rose from under 130 million tonnes in 2000 to more than 600 million in 2010. All this left precious little for the historic industries in Europe and North America, and the outdated industries in the former Soviet bloc.

As an aside – the rapid growth in demand for steel, led by China, stimulated the economy of Australia, in particular. For several years Australian Gina Rinehart was reckoned by Forbes to be the world's richest woman, based largely on her iron ore holdings in Western Australia.

China has been accused of dumping steel at prices not just below western industries' cost levels, but at less than its own costs as well. Its position in the world industry is undoubtedly dominant; in April alone this year, it produced over 76 million tonnes and is on course to manufacture over 800 million tonnes in the whole of 2018. Japan's output the same month was a little over one-tenth of that, at 8.7 million tonnes. The USA, Canada, France, Germany, South Africa and Brazil made less than a tenth, and the UK's contribution was just over one per cent of China's. The People's Republic currently makes at least half of all the world's steel.

There have been high-profile plans to reduce production and even to close plants, particularly its outdated and often illegal induction furnaces. However, in the past, while facilities have been closed and an estimated million-plus jobs have gone from China's steel industry, this programme has not led to reduced capacity. Closed facilities have been replaced with new, more efficient plants that have actually boosted output rather than cut it. Total steel production rose 5.7 per cent in 2017 to a record 831 million tonnes, according to the Chinese Cabinet's planning agency, the National Reform and Development Commission. That was on top of a 1.2 per cent increase in 2016 and is more than seven times Japan's output.

China is now requiring that producers' capacity be reduced. Its Ministry of Industry and Information Technology was reported by Reuters and the *Financial Times* in January to have issued stricter rules on building new steel production capacity to replace obsolete facilities. It will allow one tonne of new capacity to be built for a minimum of 1.25 tonnes of old capacity closed in environmentally sensitive regions, effective 2018. Among the 'environmentally sensitive regions' named in the announcement are Hebei and Jiangsu, the two top steelmaking provinces. The State Council announced the intention of cutting steel capacity by 100 to 150 million tonnes over the 2016–2020 period as part of the 2016 Five Year Plan.

However, all this – and the fact that the USA bought just 1.1 per cent of China’s steel exports in 2017 – has not been enough to prevent the imposition of the Trump tariffs, which have impacted the EU, Brazil, South Africa, and the USA’s neighbour Canada, as well.

Demand

China’s boom in steel production, from less than 130 million tonnes in 2000, did not happen in isolation. Over the past two decades, Chinese cities were bulldozed and rebuilt with thousands of new office and apartment towers, shopping malls, bridges and motorways. It has been far from the only country to have seen rapid construction and it is not grinding to a halt either. Among the global megatrends it has identified, Schneider Electric forecasts that the world’s population will increase 2.5 billion by 2040. Simply accommodating this number of people will require a city the size of Hong Kong to be constructed every month, between now and then.

This demand, combined with the need for cities to become ‘smart’ users of energy (as well as telecommunications) will mean that the current model of effective neglect – manifested in the sampan cities of SE Asia, the favelas of Latin America and mushrooming house prices in the UK – is not sustainable.

Municipalities and states will have to engage on programmes of intense construction. The classic way of accommodating high populations close to working areas is by the construction of high-rise apartment blocks. There is currently no substitute for steel in their frameworks.

The other main area of demand is in transport. On the one hand, demand for steel in vehicles is actually falling; its content in motor vehicles by value is now just six per cent, according to Accenture research in the USA. What remains is likely to be premium HSS and UHSS (high strength and ultra-high strength steels), which is a core competency of the UK and EU. Demand will continue to be affected by the growth in the use of aluminium, engineering plastics and ceramics and – increasingly – by additive manufacturing/3D printing, which uses a great deal less material than traditional milling/reductive manufacturing. It uses so much less – up to 90% less in some aerospace applications demonstrated by Norsk Titanium – that switching to other materials, even exotic materials, may accelerate.

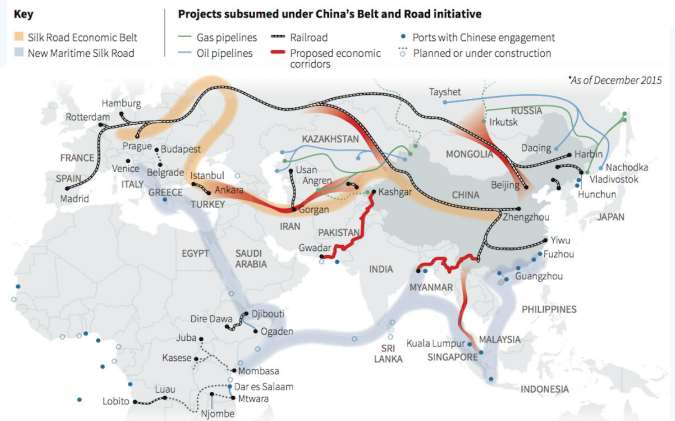
Strong growth in transport infrastructure is also likely. This will include major rail projects, such as the UK’s HS2, and China’s high-speed rail network – but the biggest infrastructure proposals lie under the heading of China’s Belt and Road strategy.

Estimates of the total planned investment in Belt and Road vary, but totals of \$150bn a year and \$1 trillion in total are common.

The initiative is an immensely ambitious development campaign through which China wants to boost trade and stimulate economic growth, across Asia and beyond. It hopes to do so by building massive amounts of infrastructure connecting it to countries around the globe.

Reviving the Silk Road

Announced by Chinese President Xi Jinping in 2013, the Silk Road initiative, also known as China’s Belt and Road initiative, aims to invest in infrastructure projects including railways and power grids in central, west and southern Asia, as well as Africa and Europe.



Source: Mercator Institute for China Studies

There are plans for pipelines and a port in Pakistan, bridges in Bangladesh and railways to Russia – all with the aim of creating what China calls a “modern Silk Road” trading route that Beijing believes will stimulate a new era of globalisation. It has the potential to overshadow even the Marshall Plan, which rebuilt Europe after WW2. It involves around two-thirds of the world’s population, currently representing one-third of its GDP and about a quarter of all its goods and services. It could be the biggest development push in history.

Already in process is the \$62bn China-Pakistan Economic Corridor (CPEC), a web of motorways, power plants, wind farms, factories and railways, which could create up to one million jobs in Pakistan. Other high-profile schemes include a \$1.1bn port in Sri Lanka and a high-speed rail link in Indonesia. Increasing demand is usually good for businesses beyond the area in which investment is taking place. The Belt and Road plan could well act as a stimulus to growth across the globe, but its most likely impact will be to open up and create new markets for Chinese goods and technology, at a time when its economic growth is slowing, and to help export excess cement and steel capacity by shifting factories overseas to less developed regions. It will thus be a two-edged sword for other countries and existing steel industries.

| Global Steel Outputs | | | | | |
|----------------------|----------|--------|----------|---------|--------|
| Country | Last | | Previous | Highest | Lowest |
| Australia | 498.18 | Apr-18 | 482 | 819 | 238 |
| Brazil | 2,949 | Apr-18 | 3,065 | 3,269 | 918 |
| Canada | 1,190 | Apr-18 | 1,230 | 1,534 | 349 |
| China | 76,698 | Apr-18 | 73,980 | 76,698 | 4,918 |
| France | 1,398.45 | Apr-18 | 1,353 | 2,466 | 643 |
| Germany | 3,775 | Apr-18 | 3,900 | 4,744 | 907 |
| India | 8,692 | Apr-18 | 9,227 | 9,227 | 713 |
| Italy | 2,061 | Apr-18 | 2,280 | 3,033 | 750 |
| Japan | 8,723.45 | Apr-18 | 9,082 | 10,775 | 1,177 |
| Mexico | 1,790 | Apr-18 | 1,750 | 1,830 | 466 |
| Netherlands | 573.38 | Apr-18 | 611 | 687 | 236 |
| Russia | 6,030 | Apr-18 | 5,700 | 6,804 | 3,130 |
| South Korea | 5,893.01 | Apr-18 | 6,095 | 6,406 | 650 |
| Spain | 1,316 | Apr-18 | 1,310 | 1,980 | 555 |
| Turkey | 2,952.64 | Apr-18 | 3,368 | 3,368 | 152 |
| United Kingdom | 769 | Apr-18 | 630 | 2,848 | 131 |
| United States | 6,930 | Apr-18 | 7,261 | 11,951 | 3,799 |
| Egypt | 615 | Apr-18 | 667 | 684 | 48 |
| Libya | 30 | Apr-18 | 29.91 | 130 | 0 |
| Morocco | 45 | Aug-17 | 45 | 65 | 0 |
| South Africa | 485.9 | Apr-18 | 527 | 885 | 182 |

Source: *TradingEconomics.com* [1,000 tonnes / monthly]

Impact and effects

The immediate impact of the Trump tariffs has been to cause concern and confusion in producers across the world – with the exception of the USA itself. A rise in the price of hot-rolled steel above \$890/tonne, double what it was when President Trump assumed office, has seen producers reopen mothballed facilities; US Steel has announced plans to restart one of two blast furnaces and hire staff at its Granite City Works at St Louis, Illinois, and Indian company JSW Steel announced plans to invest \$500m to modernise and build a new plant in Texas.

Canada, as the USA's closest neighbour, has immediately felt the impact of the tariffs. About half of its production is exported to the USA each year, amounting to just over 16% of all of America's imports. The imposition of 25% tariffs particularly hurt the economy in Ontario; there have been no announcements of any major investments during 2018.

The production cost of steel in Brazil is less than other countries because of the proximity between the mines and the steel plants. There is an abundant supply of raw materials including iron ore, coking coal, and renewable energy source. It is hoping to confirm exemption for its sheet steel slabs but that appears to depend on completion of an Open Skies agreement and 'review' of ethanol import quotas. It is currently looking forward to an upturn in construction activity to boost its Long Steel production capacity.

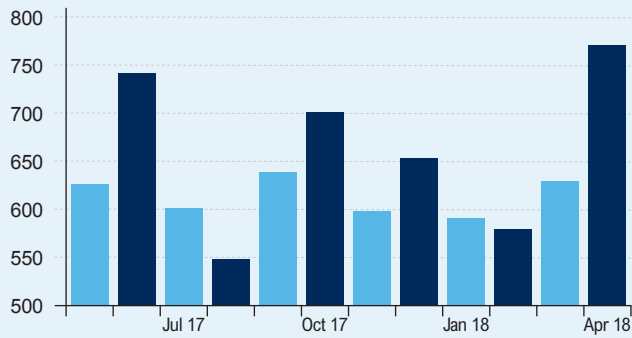
"Major steel producers have idle capacity," said Bruce Glazier of TCP Latam in Brazil, international partner of BTG Global Advisory (BTGGA). "They are highly leveraged and have been just emerging from recession and crisis." Most of the steel mills are in private hands, but there is political pressure for job creation. Domestic demand is led by government ambitions to build infrastructure. The country also makes a lot of aircraft and submarines and has become a leader in the production of automobile engines. The industry is export-led and is heavily reliant on the US market.

The industry in South Africa is small, in global terms, but has been growing; production rose in 2017 to 6.3 million tonnes. "We are a small market, working within our own environment," said Piers Marsden of Matuson & Associates in South Africa, a member of BTG Global Advisory. Being a country that can produce its own steel holds quite a bit of ego value, in Africa as a whole and in South Africa especially. "It sees itself as the leader in the continent. When you have weak domestic demand and have a fixed cost business and you have to produce, you look to dump at marginal cost outside your domestic market. Across Africa, Chinese traders and the terms they can offer are substantially below costs of production so they have to turn to protection in domestic markets. The trend is towards import tariffs on products in trying to protect the domestic market."

Perhaps the most interesting development in South Africa is that towards so-called "mini-mills" – see below.

The United Kingdom has seen its steel industry plumb the depths of despair and then stage a remarkable recovery, all within a year and a half. Its April 2018 output was its highest for several years. Eighteen months ago it looked on the verge of closure; over the past 12 months, Liberty House Group, UK Steel and even Tata Steel have announced investments and expansion. Whether that will continue in the light of the Trump tariffs remains to be seen. Its exports to the USA are overwhelmingly of specialised steels, such as HSS and UHSS, which are often used by the US military. While the UK will be subject to the same 25% tariffs as the rest of the EU, the decline in the value of sterling against the dollar may help to offset the negative effects.

UK Steel Production (Thousand Tonnes)



Source: TradingEconomics.com | [World Steel Association](http://WorldSteelAssociation.com)

What is to be done?

“The past is a foreign country; they do things differently there.”
L.P. Hartley, *The Go-Between*

The pressures of Chinese production, the Belt and Road strategy, Trump tariffs, shifting demand and emergent new technologies, mean that the global steel industry is changing. Not even swingeing tariffs will hold back the tide of history; they have been tried before and have failed. The best they can do is provide breathing space for industries to change, to modernise and to adapt new methods of working, while seeking out and developing new markets.

Production will need to be more adaptable and agile in the future. All other industries have seen demand-driven supply chains affected by the need to respond quickly to customer needs. Steel has clung to its traditional, large-scale production model for longer than other industries – even auto, whose large buildings conceal from immediate gaze assembly lines that can adapt to each and every product coming down them being different. Digital trading platforms will put further pressure on an industry that is facing ongoing challenges of value capture.

Electric arc furnaces (EAF) are thought of as power-voracious but the smaller scale and adaptability of EAF mini-mills makes them a viable alternative to traditional, large-scale capacity, along with smaller scale plant configurations that can offer lower-carbon production and possibly at a scale that can take more advantage of renewable energy sources.

South African metallurgic processing plant supplier SMS Group claims that the South African steel industry is embracing mini-mill technology as an alternative to traditional integrated plants.

Mini-mills, typically used for the production of long products, are less intensive and require lower capital investment. They are also more suitable for developing countries where supplies of coking coal are limited. Feedstock for mini-mills – usually scrap metal or scrap and DRI (direct reduced iron) is significantly lighter and easier to transport than iron ore, which frees producers from having to be situated near the source of the raw material. These mills are small enough to be situated near demand hubs and producers often use them to supply a regional client base. They can produce high-quality product profitably, at lower yearly production volumes.

The traditional model of steel production is not going to be fit for the future. Companies in Canada have already engaged in the process of restructuring, gearing themselves more towards current and future demand than historical models.

“The materials are definitely changing,” said Allan Nackan, Partner, Farber Group in Canada, part of BTG Global Advisory. “HSS is where the big margin is and that’s where the demand is.”

In Brazil, BTGGA is advising clients on moves towards demand for higher value added materials and components in cars – and to recognise how the marketplace is changing.

“There is the realisation that people will simply substitute low-end cars. There is now a movement to go for the higher end, rather than focus on sales to exclusion of all else,” said Bruce Glazier.

In all the countries in which it operates, BTG Global Advisory offers clients ‘restructuring tools’, which are designed to help companies change their business structure and adapt to the fast-changing markets in which they operate. The steel industry is very much in flux at the moment; the time to change is now.