“Green Steel Revolution”: Will it make way for the end of the “Age of Protectionism”?

In a previous Strategic Insights, WSD listed some “Green Revolution” pros and cons for steel mills. WSD believes that a number of upside forces that have caused the current steel industry “Golden Profit Age” environment are medium to longer term in nature, which include:

• The “Green Steel Revolution” — the drive to decarbonize steelmaking the world over — will require a monumental incremental increase in both capital spending and operating costs for steelmakers. Consider the situation for a “pro forma” 5-million-metric-ton-per annum blast furnace (BF)/basic oxygen furnace (BOF)-based sheet mill seeking to become carbon neutral in the years ahead:
  - One approach to achieving this outcome, seemingly embraced by EU-based companies, is the conversion of upstream operations into a direct reduced iron (DRI)-fed electric arc furnace (EAF) process. On this interim basis, based on WSD’s “Green Steel Monitor” system, the CO₂ footprint would be reduced from roughly 1.9–2.2 metric tons of CO₂ per metric ton of hot-rolled band to about 1.1–1.3 metric tons (Fig. 1).
  - On a high-level basis, WSD estimates the capital cost required for this conversion, assuming no investment on the part of the steelmaking company in hydrogen-related infrastructure, would be about US$1.5–2.0 billion.
• The enormous increase in demand for both obsolete and prime grades of scrap due to the implementation of new steelmaking technologies, to a great degree as a consequence of the Green Steel Revolution, will impact operating costs and elevate the price “floor” for steel products.
• In the U.S., albeit this is not yet directly attributable to the Green Steel Revolution, a similar paradigm has been underway for decades whereby BF/BOF-based steel production is being gradually replaced by scrap-intensive EAF steelmaking.
• The “Age of Protectionism” that came about as a result of the massive increase in low-priced (often well below the marginal cost of production) Chinese exports of steel products in 2015–2016 is alive and well:
  - In the U.S., the Section 232 tariffs implemented by the Trump administration remain largely in effect despite a change in presidential and partisan leadership. A movement toward loosening the policies via tariff rate quota (TRQ) arrangements with historically “friendly” trading partners, such as the EU, Japan and others, is likely to somewhat weaken the effect of this barrier; however, it appears that its complete elimination is highly unlikely.
  - The EU has recently extended its own TRQ-based system for another 3 years which had been implemented shortly after the U.S. announcement of
the Section 232 measures in 2018; the extended system remained largely unchanged from its original stipulations.

– China has implemented its own measures to limit exports in the face of continued external pressure to reduce overcapacity and, as discussed earlier, “encapsulate” its domestic market. The removal of the 13% value-added tax on hot-rolled band exports could be extended to a number of other steel products in the years ahead, especially if Chinese demand falters and new pressure(s) arise to keep its exports at bay.

– Prior to the invasion, both Russia and Ukraine announced a variety of measures to tax exports of both raw materials (steel scrap especially) and finished steel goods.

– Thailand has also announced new import duties on hot-rolled band from Egypt and Vietnam ranging from ~5% to 42%, depending on the mill.

Overall, there’s no doubt governments and policymakers the world over have increased their efforts to protect the interests of their respective domestic steel industries, as well as other sectors impacted by the “globalization” trends that acted as the dominant macroeconomic force prior to 2016. The Green Steel Revolution and the broader Green Revolution is likely to only amplify the Age of Protectionism, in WSD’s opinion, given the unprecedented capital required to implement these “green” policies will further intensify regionally protective instincts.

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