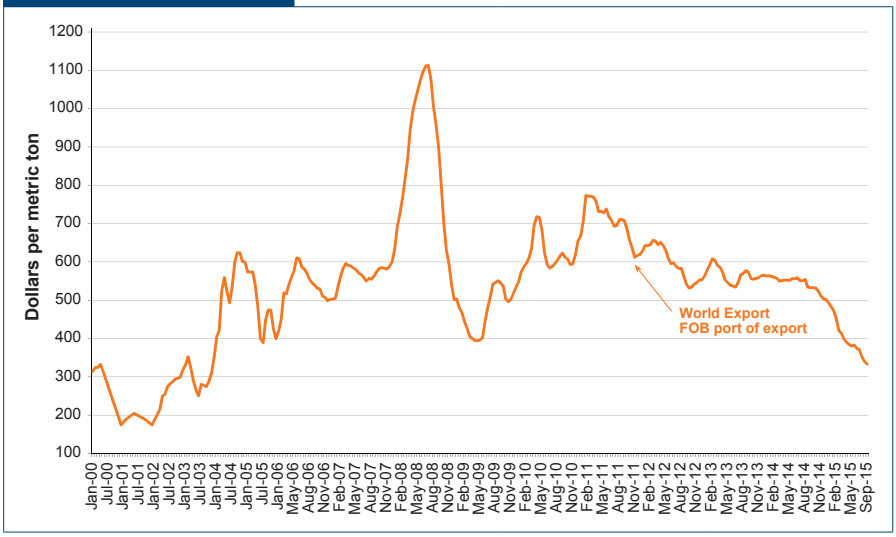
Current death spiral is wreaking havoc on the global steel industry

The current pricing "death spiral" appears to be the longest and carries the lowest price on record relative to the steel mills' operating and marginal costs. Normally, the pricing death spiral phenomenon, whereby prices decline to the marginal cost of many steel mills lasts only a few months. This one started about April 2015, as can be seen in Fig. 1.

The current death spiral is showing few signs of ending (which, of course, it will). Why?

- Sticky production on the downside because of mills' low profit margins makes any production cutback quite painful financially.
- Competitive currency devaluations versus the U.S. dollar.
- Limited potential for a sizable rise in apparent steel demand when user inventory liquidations end.
- Massive rise in Chinese exports to a 120-million-metric-ton annual rate in August 2015 versus 41–47 million metric tons per annum as recently as 2010–2011 — a huge gain in market share for them in a 365-million-metric-ton-per-year market.
- A rise in the number of steel mills deciding they must battle the Chinese mills for market share on the world market, including Pacific Basin steelmakers in coastal locations.
- A rapidly declining and flatter WSD monthly World Cost Curve.
- Steel pricing anomalies, such as:
  - » Slab versus billet pricing.
  - » Home market versus export prices (Fig. 1).
  - » Steel scrap prices versus the export prices of steel slab and billet.
  - » Steel scrap prices versus the prices of iron ore and metallurgical coal delivered to China.

Figure 1



World export hot rolled band price for 16 September 2015 (WSD's PriceTrack data, January 2000–March 2006; SteelBenchmarker data begins April 2006).

WSD WORLD STEEL DYNAMICS®

is a leading steel information service in Englewood Cliffs, N.J., USA

WSD's steel experience, steel database and availability of steel statistics are the principles for performing steel forecasts, studies and analysis for international clients. WSD seeks to understand how the "pricing power" of steel companies the world over will be impacted by changes in the steel industry's structure. The views and opinions expressed in this article are solely those of World Steel Dynamics and not necessarily those of AIST.

Authors

Peter Marcus (left),
managing partner, World Steel Dynamics
pmarcus@worldsteeldynamics.com
+1.201.503.0902

John Villa (right),
research strategist, World Steel Dynamics
jvilla@worldsteeldynamics.com
+1.201.503.0911

Chinese steel production: Is production a reality?

Chinese steel production in 2015 can be broken down into five categories, two of which seem to be positioned to continue to rise, and three of which seem to plummet by 2018 (Table 1). The categories are as follows:

- EAF steelmakers that are Indian Council of South America (CISA) members.
- Smaller blast furnace/BOF steelmakers.
- Small EAF non-CISA steelmakers.
- CISA steelmakers in coastal locations.
- CISA steelmakers located inland.

Overall by 2018, gross capacity will decline by 20% to 850 million metric tons from 1,065 million metric tons in 2015; and ECO capacity declined 17% from 940 million metric tons to 780 million metric tons in 2015. ECO capacity is economic, efficient and ecological capacity. It's the level of steel production that can be attained, when production is rising, before there's a sizable rise in the cost to produce the last metric ton. Meanwhile, gross capacity is engineered capacity.

Non-Chinese steel production: What's in store by 2018?

The following is WSD's assessment of the possible changes in ECO capacity for the advanced countries, and the developing world ex-China:

Advanced country ECO capacity

This group currently has about 637 million metric tons of gross capacity, based on WSD data for 2015, and is engaged in perhaps 20 million metric tons of capacity additions through 2018 (Table 2). The ECO capacity to gross capacity ratio is estimated to be 0.88. Hence, if ECO capacity by 2018 is to decline to 480 million metric tons (Case B) from 562 million metric tons in 2015 (a reduction of 82 million metric tons), we need to identify 114 million metric tons of capacity reductions when taking current expansions into account.

Table 1

Chinese Steel Production, Gross and Effective Capacity in 2015 and 2018 (million metric tons)

Year	2015 steel production	2015 gross cap	2015 ECO capacity	2018 steel production	2018 gross cap	2018 ECO capacity (change)**
Small EAF non-CISA	15	35	25	5	10	5 (–20)
EAF CISA	45	60	60	55	70	60 (0)
Small BF/BOF Non-CISA	105	150	130	45	70	60 (–70)
CISA coastal	120	140	125	145	165	155 (+30)
CISA inland	515	680	600	450	535	500 (–100)
Total	800	1,065	940	700	850	780 (–160)

** = Case B. Source: WSD Estimates/CISA.

Table 2

Advanced Country and Non-Chinese Developing World Steel Production, Gross and ECO Capacity in 2015 and 2018 (million metric tons)

Year	2015 steel production	2015 gross cap	2015 ECO capacity	2018 steel production	2018 gross cap	2018 ECO capacity (change)**
Advanced countries	452	637	562	470	540	480 (–82)
Non-Chinese developing world	359	492	435	405	460	405 (–30)
Total	811	1,129	997	875	1,000	885 (–112)

** = Case B. Source: WSD Estimates.

Developing world ex-China ECO capacity

This group currently has about 492 million metric tons of gross capacity, based on WSD data for 2015, and is engaged in perhaps 30 million metric tons of gross capacity additions through 2018, including a large coastal steel plant in Vietnam. The ECO capacity to gross capacity ratio is estimated to be about 0.88. Hence, if ECO capacity by 2018 is to decline to 405 million metric tons from 435 million metric tons, we need to identify 65 million metric tons of capacity reductions when taking current expansions into account.

The focus on ECO capacity permits the analyst to better foresee when pricing power starts to return to the hands of the seller in a rising steel market. WSD forecasts that a fairly moderate rise in non-Chinese steel production by 2018, along with lower Chinese steel exports, will boost the ECO capacity operating rate sufficiently for the steel mills outside of China to significantly boost steel prices in both the home and export markets.

This report includes forward-looking statements that are based on current expectations about future events and are subject to uncertainties and factors relating to operations and the business environment, all of which are difficult to predict. Although WSD believes that the expectations reflected in its forward-looking statements are reasonable, they can be affected by inaccurate assumptions made or by known or unknown risks and uncertainties, including, among other things, changes in prices, shifts in demand, variations in supply, movements in international currency, developments in technology, actions by governments and/or other factors. ✦