WSD WORLD STEEL DYNAMICS®

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

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.

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Chinese mills' home and ex-works export price extremely depressed — well below the median-cost mill's marginal cost

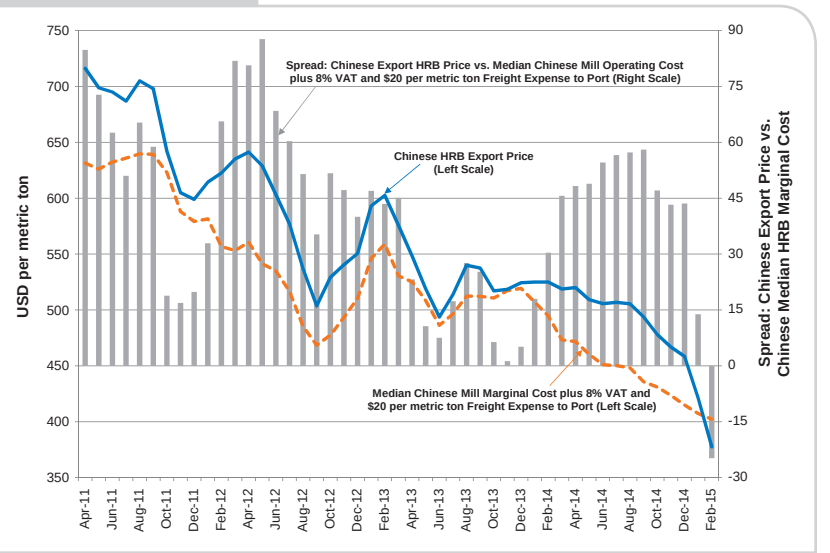
As of mid-March 2015, there's been a further sizable plummeting of world export prices compared to a month earlier. In the case of the Chinese mills, their hot rolled band (HRB) export price FOB the port of export in some cases is now only about US$375/metric ton, versus US$390/metric ton previously (Figure 1).

For non-Chinese mills, WSD's feedback indicates that even international mills with the best reputation for product quality have been forced to slash their export prices. As of mid-March 2015, the HRB export price in some cases has been only about US$400/metric ton, FOB the port of export, versus an average of US$465/metric ton a month earlier. Also, there has been excess inventory for sale at sizable price discounts by traders and distributors.

WSD's February 2015 World Cost Curve indicates that Chinese median-cost mills had an HRB operating cost of US$421/metric ton and a marginal cost of US$373/metric ton. In comparison, their ex-works price realization when exporting at US$375/metric ton is only about US$325/metric ton when subtracting about US$20/metric ton for the cost to ship the steel to the port of export, and about US$30/metric ton for the 8% value-added tax (VAT) (not a 17% VAT on exports because the Chinese government did not waive the 9% boron credit for wide hot rolled band — as it did for most other products).

The Chinese mills simply can't survive if they continue to price their home and export price for commodity-grade steels at or below marginal cost.

Figure 1



Median Chinese mill HRB marginal cost plus VAT and freight expense to port versus Chinese export price. Source: WSD's WCC for Flat Rolled Sheet and SteelBenchmarker™.

Quasi-oligopolistic* market structure: not a happy condition for iron ore companies today

This market structure in a number of respects is a "worst-case" scenario from the viewpoint of the iron ore producers for the iron ore price delivered to China. Given the low operating cost of the leading iron ore companies and the massive iron ore oversupply, the price for 62% Fe iron ore sinter feed delivered to China could decline in the next six months to about US$45/metric ton. This price compares to the mid-March price of about US$55/metric ton and the price last summer of about US$94/metric ton.

The average production cost at the port of export for the leading producers — Rio Tinto, BHP Billiton, Vale and Fortescue — is only about US$21/metric ton at the present time, and the incremental cost when adding to capacity is far lower in some cases. The iron ore world cost curve has declined significantly during the past year, reflecting: (a) several dollars per metric ton of savings due to lower prices for fuel oil and diesel fuel; and (b) the sharply weakened Brazilian real versus the U.S. dollar, now at 3.24 per USD from 2.27 per USD in March 2014 (off 43% in the past year), and Australian dollar, at

*An oligopoly is a market situation in which each of a limited number of producers is strong enough to influence the market but not strong enough to disregard the reaction of its competitors.

Table 1

Chinese Iron Ore Production Capacity (million metric tons)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015(e)
FAI on iron ore ($ billion)	4.6	5.9	9.6	12.3	15.7	19.5	24.1	26.9	27.7	19.5
y-to-y% change		28.3	62.7	28.1	27.6	24.2	23.6	11.6	3.0	(29.6)
Cost: $125/metric ton and up			5	15	30	40	70	70	70	70
Cost: $110–125/metric ton	10	15	20	25	45	70	95	130	140	140
Cost: $95–110/metric ton	30	35	45	50	70	110	120	130	135	140
Cost: $80–95/metric ton	90	100	110	120	115	110	105	100	100	100
Cost: <$80/metric ton	185	195	195	190	185	175	170	165	160	155
Total	315	345	375	400	445	505	560	595	605	605

e = estimate

Table 2

Chinese Iron Ore Average Production Cost Analysis (million metric tons)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015(e)		
										High	Middle	Low
Average import ore price CIF	70	121	155	95	152	173	132	129	100	75	60	45
Domestic market price	100	151	185	125	172	198	157	154	125	97	82	67
Cost: $125/metric ton and up						18	1	1	0	0	0	0
Cost: $110–125/metric ton		10	5	15	14	50	45	50	25	0	0	0
Cost: $95–110/metric ton	30	35	30	30	60	90	100	105	125	70	10	0
Cost: $80–95/metric ton	90	95	110	120	110	105	100	95	95	100	100	50
Cost: <$80/metric ton	180	195	195	188	180	170	165	160	155	155	155	155
Total	300	335	340	353	364	433	411	411	400	325	265	205
Average production cost $/t	80.0	81.6	80.9	82.7	84.9	93.2	91.4	92.3	91.0	84.8	79.1	74.9

e = estimate

0.76 per USD down from 0.93 per USD in March 2014 (off 18% in the past year).

In the past nine months, the freight cost to deliver iron ore to the Chinese port of import from Brazil has fallen to about US$10/metric ton from US$26/metric ton in October 2014, and from Australia to about US$4/metric ton from about US$10/metric ton in August 2014.

In Tables 1 and 2, WSD estimates aggregated Chinese iron ore concentrate and pellet deliveries in 2015 given: (a) different pricing scenarios for 62% Fe iron ore sinter feed delivered to China; and (b) a premium of about US$22/metric ton for the sinter feed price inside China versus the price delivered to the port of import (due to the higher Fe content and the extra transport cost from the port to the Chinese steel plant). In 2014, Chinese iron ore concentrate and pellet deliveries amounted to about 400 million metric tons (a disputed figure), while the domestic price averaged about US$125 per metric ton excluding the 17% VAT.

In Table 1, Chinese iron ore concentrate costs and deliveries are displayed in six tiers. Chinese concentrate and pellet deliveries in 2015 are estimated to be:

- 325 million metric tons if the domestic price averages US$97/metric ton (no VAT).
- 265 million metric tons if the domestic price averages US$82/metric ton.
- 205 million metric tons if the domestic price averages US$67/metric ton.

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. ✦