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.

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World Cost Curve for Wire Rod and Hot-Rolled Band: A contrasting observation

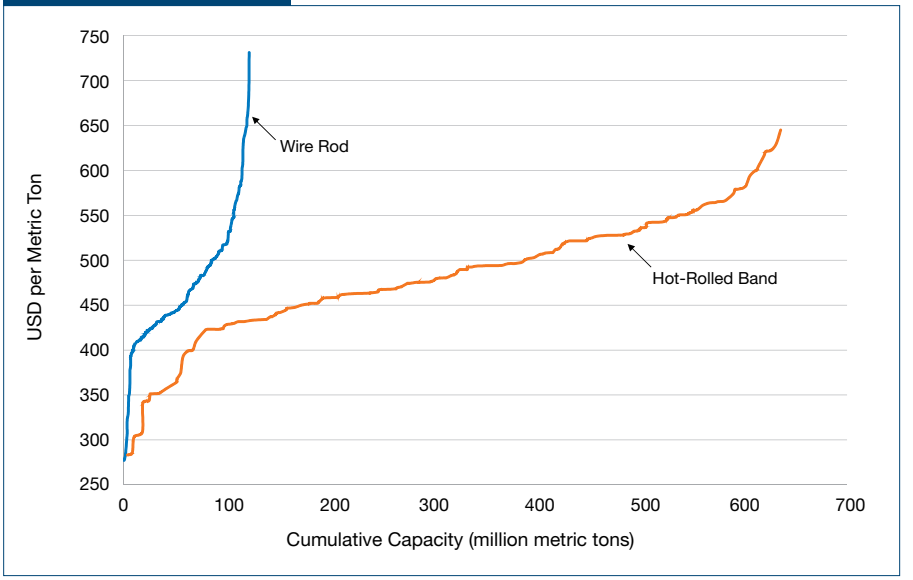
In comparing the World Cost Curve for Hot-Rolled Band and Wire Rod including overhead for 180 steel plants as of April 2017, the following is observed:

- The World Cost Curve for Hot-Rolled Band includes 180 producers, with a total capacity of 636 million metric tons and an average of 3.53 million metric tons per company. As of April 2017, the median cost was US$483/metric ton (Fig. 1).
- The World Cost Curve for Wire Rod also includes 180 producers, with a total capacity of 122 million metric tons and an average of 0.678 million metric tons per company. For the same time period, the median cost was US$453/metric ton.
- The median Chinese mill's operating cost for hot-rolled band stands at US$458/metric ton and US$496/metric ton for the median non-Chinese mill.
- The median Chinese mill's operating cost for wire rod is US$441/metric ton and US$493/metric ton for the median non-Chinese mill.

Regarding rebar, WSD assumes that the operating cost is US$10 to US$15/metric ton lower than that for wire rod. Some wire rod, used for special applications, is highly engineered and comes with a higher cost. This product is made to the precise chemical and dimensional requirements of the customer.

Currently, WSD observes an amazing condition in China where the rebar price is US$61/metric ton higher than the hot-rolled band price. The current price of rebar in China is about US$465/metric ton while the domestic ex-works hot-rolled band price is US$404/metric ton.

Figure 1



World Cost Curve for Hot-Rolled Band and Wire Rod (USD per metric ton, including overhead), April 2017.

Questionable Chinese steel demand outlook: A fundamental problem

The Chinese steel industry outlook is increasingly grim the further one peers into the future. While steel demand may hold up in 2017, and perhaps even in 2018 as the government promotes spectacular gains in infrastructure spending, the country's steel intensity at some point is sure to drop sharply. By 2020, WSD expects Chinese steel output to be down to about 700 million metric tons, reflecting lower demand and lower exports than in 2016. Also, the collection of obsolete steel scrap from the Chinese steel scrap reservoir 10–40 years old will be up at least 25 million metric tons/year and BOF steelmakers will be using a higher proportion of steel scrap in furnaces. Hence, by 2020, a huge oversupply of iron ore and coking coal is expected. For 2020, WSD forecasts the iron ore price delivered to China will be about US$45/metric ton and coking coal FOB Australia about US$110/metric ton.

In 2017, the Chinese government is continuing to promote gains in infrastructure spending. But this stimulus may largely be offset by lower residential construction activity due to falling apartment prices, the government's recent credit tightening, and little gain in capital spending by Chinese manufacturers worried about their loss of international competitiveness and the mercantilistic actions President Trump may take against Chinese goods exported to the U.S.

By 2020, even when taking into account the steel used in the construction of the just-announced new megacity of 12 million people — called Xiongan — to be located between Beijing and the port of Tianjin (that could be consuming 15 million metric tons/year while under construction in the next decade, say some observers), WSD still thinks that Chinese steel demand will be down 60–90 million metric tons to about 650 million metric tons from about 738 million metric tons in 2017. If so, a "normal" steel production figure for China for 2020, when also taking into account subdued exports, may be about 700 million metric tons versus the recent annualized rate of about 825 million metric tons/year.

The Chinese economy seems to be at an unsustainable level of steel intensity. Steel consumption/USD trillion of fixed asset investment in China is about 133 million metric tons; in the U.S., the figure is just 16 million metric tons. China's adjusted fixed asset investment in 2016 was about US$4.8 trillion, or 43% of GDP of US$11.6 trillion, versus the USA's fixed asset investment of US$3.7 trillion, or 20% of GDP of US$18.5 trillion.

Table 1

Chinese Apparent Crude Steel Consumption by Segment (billion RMB, million metric tons)

	2008		2012		2015		2016		2017e		2018e		2019e		2020e	
	ASC	Share (%)	ASC	Share (%)	ASC	Share (%)	ASC	Share (%)	ASC	Share (%)	ASC	Share (%)	ASC	Share (%)	ASC	Share (%)
Real estate	93	20	135	20	138	20	141	20	143	20	137	20	126	19	116	18
y-o-y % change	4.5	—	(1.5)	—	(8.6)	—	2.2	—	1.4	—	(4.2)	—	(8.0)	—	(7.9)	—
Infrastructure	156	34	246	36	246	35	242	34	256	36	239	34	226	33	220	34
y-o-y % change	6.8	—	4.2	—	(7.5)	—	(1.6)	—	5.8	—	(6.6)	—	(5.4)	—	(2.7)	—
Manufacturing	176	38	248	36	246	35	252	36	263	37	256	37	246	36	236	36
y-o-y % change	6.0	—	3.3	—	(3.9)	—	2.4	—	4.4	—	(2.7)	—	(3.9)	—	(4.1)	—
Household consumption	38	8	55	8	64	9	67	9	69	10	70	10	71	11	72	11
y-o-y % change	18.8	—	5.8	—	3.2	—	4.7	—	3.0	—	1.4	—	1.4	—	1.4	—
Government consumption	2	0	3	0	4	1	5	1	6	1	6	1	6	1	6	1
y-o-y % change	100.0	—	0	—	0	—	25.0	—	20.0	—	0	—	0	—	0	—
Total ASC (crude base)	465	—	687	—	698	—	707	—	738	—	708	—	675	—	650	—
y-o-y % change	7.1	—	2.8	—	(5.5)	—	1.3	—	4.4	—	(4.1)	—	(4.7)	—	(3.7)	—

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. ✦