

World Steel Dynamics (WSD) 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. To submit your questions for WSD, e-mail [WSD@aist.org](mailto:WSD@aist.org).



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## Chinese Steel: Threatened, Changing, Dangerous, Muzzled

(Note: The following commentary on the Chinese steel industry situation includes observations based on Peter Marcus' March research visit to the country.)

### Q: How has the Chinese steel industry been threatened, and how will the structure change over the next five years?

A: Concentration has increased in part because, in 2005, the Chinese government announced a policy to encourage consolidation due to its desire to reduce pollution and energy usage in the steel industry. By about 2012, WSD forecasts there may be seven Chinese steel companies with capacities of 31 million tonnes or more. This list includes BaoSteel at maybe 90 million tonnes, Wuhan at 66 million tonnes, Anben at 52 million tonnes, Tangshen at 34 million tonnes, Capital Steel (Shougang) at 36 million tonnes, Jiangsu Shagang at 36 million tonnes and Shandong at 42 million tonnes.

### Q: Is the Chinese steel industry still adding a lot of hot rolled band capacity, creating a danger of oversupply on the world market?

A: China's wide hot rolled band capacity is forecast by WSD to rise to 164 million tonnes in 2008, versus 140 million tonnes in 2007, with a further boost to 221 million tonnes by 2010. A number of new coastal greenfield plants have recently received approval; hence, our capacity forecast for 2015 is 276 million tonnes.

Interestingly, in BaoSteel's case, it has received permission to build a major new greenfield steel plant on the coast in Guangzhou (just north of Hong Kong). However, it first must take over and close down several marginal long products steel plants in the region.

By this summer, WSD forecasts that oversupply of hot rolled band will be a problem for Chinese steel mills. In the past year, Chinese production of wide hot rolled band has risen from about a 120-million-tonne annual rate to a 132-million-tonne annual rate. Even so, hot rolled band capacity in 2007 rose by 33 million tonnes, with another 23 million tonnes planned in 2008.

### Q: Why will Chinese steel exports be muzzled, preventing world export prices for hot rolled band from being driven down?

A: China is no longer the lowest-cost producer of steel in the world. Granted that the international iron ore price rises on average by 65% for the Chinese steel buyer (if not more) and that the current domestic coking coal price does not rise further (despite the expected 150% rise in the international coking coal price), WSD estimates that the average operating cost to produce hot rolled band in China by this spring will range from 4,000 to 5,000 RMB per tonne. The mid-point figure of 4,500 RMB per tonne converts to a lofty \$642 per tonne, assuming the RMB is valued at 7.00 per U.S. dollar this spring (versus 7.01 per dollar on March 31, 2008).

The 65% increase in the international iron ore price amounts to a cost increase of about 370 RMB (\$53) per tonne of steel. For example, if the FOB price of iron ore was \$52 per tonne for 2007 and it rises by \$33 per tonne, and 1.6 tonnes of iron ore is needed per tonne of pig iron, the rise in the cost to produce pig iron is \$53

per tonne x 7.01 RMB per U.S. dollar = 373 RMB per tonne of pig iron.

A contact said the average price of HRB in 2007 was 4,300 RMB per tonne and that the average steel company had a 10% operating margin; hence, the operating cost was about 3,870 RMB (\$549) per tonne.

For coking coal in Shanxi Province, the average price in 2007 was 650 RMB per tonne, with the price in March 2008 at 950 RMB per tonne. Thus, given the increase of 300 RMB per tonne and a usage rate of about 0.6 tonnes per tonne of pig iron produced (and steel product shipped), the rise in operating costs would be about 180 RMB (\$25) per tonne shipped. (Note: The current price at 900 RMB, or \$127, per tonne in Shanxi Province compares to the forecasted 2008 price for Australian semi-hard coking coal, FOB Australia, of perhaps \$220 per tonne and the hard Australian coking coal at \$270 per tonne. Hence, the Chinese price may rise when the new Australian price is announced.)

Given a base cost of 3,870 RMB per tonne in 2007, cost changes in 2008 may be as follows:

- For the higher iron ore price, add 370 RMB per tonne.
- For higher coking coal costs, add 180 RMB per tonne (or more if the coking coal price in China rises from March 2008 levels).
- For other cost items, add 200 RMB per tonne.
- If so, the cost in 2008 would be 4,520 per tonne — or \$644 with the RMB at 7.01 per U.S. dollar.

WSD is now estimating that the operating costs to produce hot rolled band in China in 2008 will range from 4,000 to 5,000 RMB per tonne for the mills that lack their own iron ore, after the expected price increases in iron ore and coking coal on the world market.

### Q: Has bank credit tightened in China?

A: Money seems to be readily available because the country's savings rate may be close to 50% of GDP and, as a consequence, the banks still have more money to lend than groups to lend it to. Rising corporate profits in recent years have held back the need for borrowed funds. In our discussion with steel traders, we did not hear stories that buyers were having trouble financing inventories.

### Q: What is the outlook for Chinese economic growth?

A: Economic growth seems likely to slow down in the second half of the year. Reasons for the probable slowdown include:

- The central government has taken recurring steps to retard the growth of the economy — i.e., raising interest rates, increasing the banks' reserve requirements and approving fewer major construction projects.
- The U.S. and European economies, which are key export outlets, are not strong at the present time.
- The RMB has been appreciating more rapidly (no doubt because the government is worried about inflation).

China is now in its 11th 5-year plan that ends in 2010. In this plan, the goal was to use energy 20% more efficiently, which may not be accomplished.

The country has 1.3 billion people, of which about 900 million have an average income of about 30,000 RMB per year. Yet, in a rural environment, we were told this is sufficient income to live on.

China is a heavy consumer of oil and gas, but consumption per capita is quite low.

Keys to growth for a Developing World country include: (a) a good educational system, (b) no religious strife and (c) a high investment-to-GDP ratio.

In the 2002–2007 time frame, Chinese investment rose 16% per year based on IMF data versus GDP growth of 10–11% per year. In the years ahead, the fixed asset investment growth rate will eventually fall to 14%, then to 12%, and then to 10%. However, the timing of these changes is not yet clear, says a contact.

The government began measures in the third quarter of 2007 to slow down the economy. However, the impact was not immediate. Exports were lower in the first quarter of 2008 because the RMB has been strong. Fixed asset investment has remained strong due to high profits in raw materials (such as steel and coal).

Infrastructure spending growth may slow down in the years ahead because there will be enough roads and related items. Motorways are built on a PPP basis (public and private partnership); these roads collect tolls.

Actions to restrict the Chinese rate of expansion included, starting in the third quarter of 2007:

- Higher interest rates.
- Tighter credit. The reserve ratio was boosted to about 15%. Also, there will be tighter licensing for the approval of new projects.
- Adjustment of interest rate spreads. The savings rate is now 4.5%, with the interest rate charged on loans at 7–11%.

Fixed asset investment was at an 18% annual rate in the second half of 2007. The growth may be 17% in the first half of 2008, but only 14–15% in the second half. If so, this means that the rate of expansion of steel demand will be less.

Chinese economists are worried about the impact of a weaker U.S. economy.

The targeted long-term growth rate for Chinese GDP is 8%; hence, a reduction in the growth rate from 11% to 9% would not be a problem.

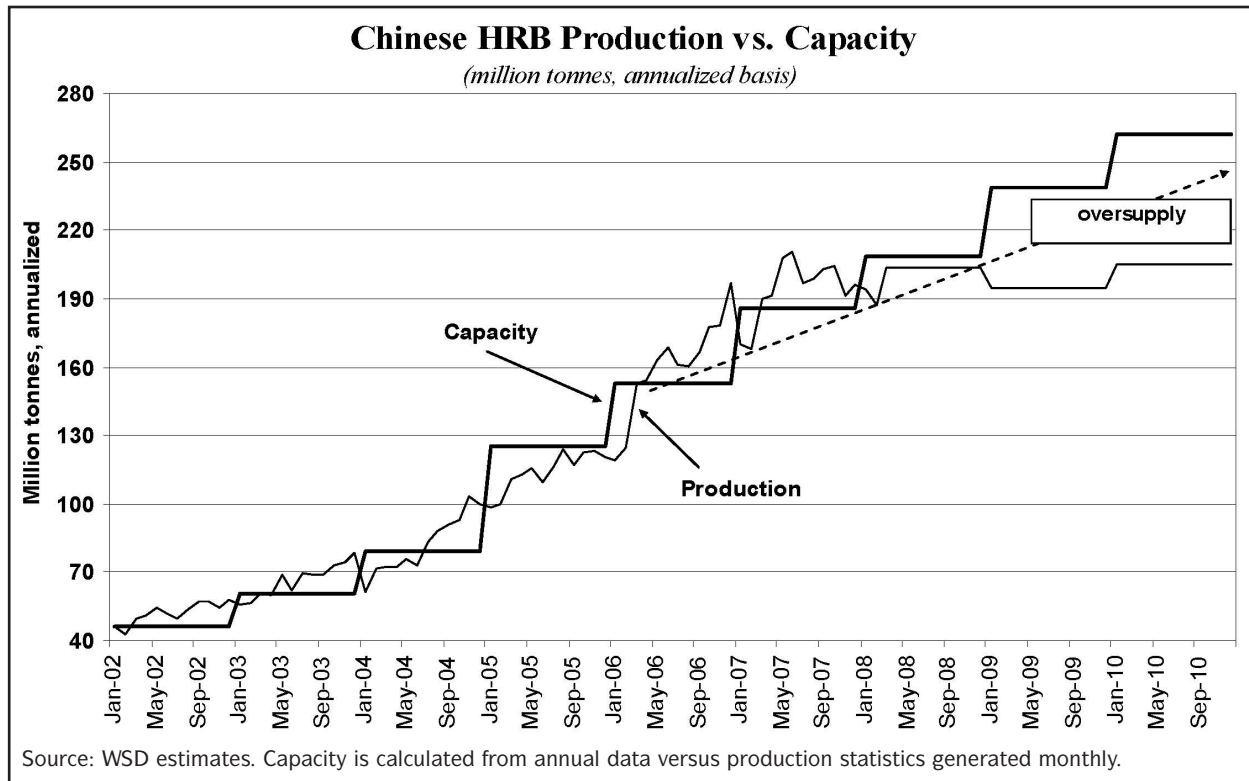
**Q: What has been the problem in reaching a pricing agreement with the Australian iron ore producers?**

A: The problem for the Australian miners is that so many Chinese executives and groups are now involved in the decision-making process — including the steel mills, the Ministry of Commerce, possibly officials at other Chinese government agencies, and the Chinese Iron and Steel Association (CISA). Hence, it may be hard to make a deal. If there is no settlement by the end of June, the leading Australian iron ore suppliers may have the right to hold back their deliveries. The leading Australian iron ore suppliers argue, in some respects quite persuasively, that their FOB export price should be higher than Brazil's, since the spot ocean freight cost to ship iron ore to China from Brazil is \$50 per tonne more than that from Australia.

**Q: Why does WSD believe that offshore iron ore deliveries to China are on the verge of falling sharply?**

A: Granted the following points, WSD has estimated that offshore iron ore deliveries to China in 2008 may be about 365 million tonnes versus 385 million tonnes in 2007:

- Chinese apparent steel demand rises 9.5% this year (a mid-high estimate).
- Chinese steel exports rise from the current rate.
- Chinese iron ore production continues to rise because of the high price and the \$5+ billion being spent per annum to improve and expand the iron ore mines and concentrating plants (and the recent annual delivery rate of 450 million tonnes as Chinese iron ore buyers were ordering in advance to beat the price increases).



Our discussions in China did not dissuade WSD from this point of view. If we are correct that offshore deliveries to China will be headed down sharply, we think that the world spot export price will be falling by this summer.

Here's an interesting question: If an oversupply of iron ore develops in China, will the domestic spot price or the imported spot price fall more? If the domestic spot price falls more, will domestic production drop so much that imports are sustained? WSD does not think so.

**Q: Why is Chinese coke scarce in the world market, particularly given the current high price?**

A: There's plenty of cokemaking capacity in China; however, the government seems likely once again to issue only about 15 million tonnes of export licenses this year. The current Chinese coke export price is about \$520 per tonne, FOB the port of export, versus the Chinese price at about \$320 per tonne delivered to the steel plant. We were told that, on domestic deliveries, coke buyers are more willing to buy coke that is "wet" – i.e., high moisture content – and with an ash content greater than the 12.5% figure that is common when exporting. In 1998, the ash content on coke for export was 11.5%. It is now 12.5%.

Some Indian blast furnace producers cannot afford to pay the price for coke at present.

The cost to purchase coke in China, at the coke ovens, including the 17% VAT, is about 2,000–2,210 RMB per tonne, says a contact.

There is not great profit nowadays in the production of coke for export due to the high taxes, says a contact. The profit is only about 50 RMB per tonne if there are no byproduct sales from the coke oven, and about 150 RMB per tonne with byproduct sales.

The cost to buy an export license is now about \$50 per tonne. Last year it was only \$8–10 per tonne.

When selling coke for domestic application, the moisture content is 7%. Yet the price is the same as for export. The interest expense when exporting is 5%.

Coke exports in February were only 300,000 tonnes because of the bad weather. ♦

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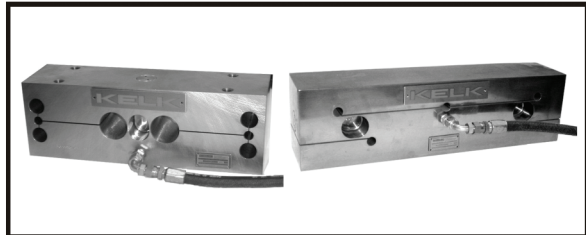
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