

Ask World Steel Dynamics

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.



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Q: Will the U.S. steel industry be melting a similar amount of steel in 2020 compared to 2006?

A: World Steel Dynamics (WSD) places the odds as follows regarding the U.S. steel production outlook for 2020 versus 2006:

- 15% odds for higher production
- 30% odds for about the same
- 55% odds for lower production

WSD would have never imagined, even a year ago, that we would place the probability at 45 percent that U.S. steel production in 2020 would be the same or higher than in 2006. (Note: Steel production in 2006 will be about 108 million net tons.) A few years ago, we probably would have placed the odds at 5 percent. The following discussion reveals the pros and cons on this subject:

Factors Increasing U.S. Steel Production in the Next 15 Years

1. A much-weakened U.S. dollar. The dollar seems likely to diminish in value versus a wide array of currencies, including the Chinese RMB, because of the United States' propensity to generate huge trade deficits. Benefits of a weaker U.S. currency for the steel industry may include:

- A sizable improvement in the U.S. trade balance in manufactured goods. If the annual trade deficit is to be reduced, let's say, from \$800 billion to \$300 billion per annum, the largest improvement seems likely to occur in manufactured goods (in which the current annualized trade deficit is about \$600 billion), rather than in energy products and services. If so, U.S. manufacturers should be consuming more steel. (Note: The U.S. GDP for 2006 will be about \$13.2 trillion; hence, the trade deficit in manufactured goods — excluding food, energy products and services — amounts to about 4.6 percent of GDP.)
- An improved international cost position for the iron ore and coking coal mines that are located in the United States and Canada. These facilities, which are currently highly profitable, given the lofty prices for iron ore and coking coal on the world market, may be expanded.
- A reduced steel import threat. U.S. imports in 2006 of about 42 million tons, including semifinished, may prove to be the high point for many years to come.

- A better international cost position for U.S. steelmakers, given that their costs are basically about 100 percent dollar-denominated.

2. A likely tight supply globally for steelmakers' metallics. The obsolete steel scrap reservoir is not sufficient in size, given the expected further rise in demand for obsolete scrap in the years ahead, to keep scrap prices in the future at reasonable levels by historic standards. High scrap and other metallics (pig iron and steel scrap substitutes) prices:

- May provide a cost advantage to integrated mills' costs versus the mini sheet mills — at least when demand is strong and scrap prices are high.
- Will limit the maximizing of steel production due to the high cost of the last ton.
- Promote higher prices for finished steel products on a short-term basis because steel buyers are often put on the defensive — i.e., they start to panic when metallics prices are surging.

3. The United States has become the only major developed country in which it is attractive to build new steel plants and expand older ones. Existing mills, if they are profitable, will have more funds for modernization and expansion. Positives include the prospect of a weaker dollar, well-located and available coking coal and iron ore, a huge market (much of which is far from the coasts), availability of financial incentives from states and municipalities, less fear of the union (the United Steelworkers of America has demonstrated its desire to have plants with world-class manning) and the opportunity to gain market share when a number of older plants in the United States are shut down or downsized.

The **five best countries** in which to build a steel plant are listed alphabetically:

- Brazil. Low costs, good steel demand growth, and favorable conditions to build plants to produce semifinished steel for export.
- India. Outstanding demand growth, low wage costs, cheap iron ore, improving infrastructure and a good location to serve steel buyers in the Pacific Basin.
- Russia. Good demand growth, low wage costs and steelmakers' raw materials at a low cost.

- Ukraine. Same as Russia. Plants need more modernization work. Lower-quality steelmakers' raw materials than Russia.
- United States. Huge market, insufficient domestic steelmaking capacity, good raw material costs, good costs for mills with their own raw materials, and sharply improving costs internationally if the U.S. dollar weakens substantially.

The **five worst places** to build a steel plant are listed alphabetically:

- China. Too much capacity, a strengthening currency and ruinous price competition.
- Germany (and the rest of Western Europe). High wage costs, the lack of raw materials, a slow-growing market and lower-cost competitors in Eastern Europe and the CIS.
- Japan. Not possible to sustain exports to China, no indigenous raw materials and high wage costs. (Note: The world's best quality steel products.)
- Taiwan. Same as Japan. Hard to sustain exports to China.
- Venezuela. Sizable "country risk" with Hugo Chavez as president.

4. The United States has a large EAF steel-making-based group that is dynamic and expansionistic. A number of new EAF-based sheet and long product mills are under construction and/or planned.

5. Steel's technological revolution may permit existing U.S. steel mills to add to capacity on a capital cost-effective basis. For example:

- New ironmaking technologies, such as HIs melt and Kobe Steel's Mesabi Nugget may help the USA steelmakers obtain steelmakers' metallics (pig iron, steel scrap and steel scrap substitutes) at a reasonable price.
- Thin-slab casters may be installed at integrated (with blast furnaces) steel plants to supplement the output of existing hot strip mills.

6. The Chinese steel industry is *not* a long-term threat to the U.S. steel industry in WSD's opinion.

- The Chinese government will take strong actions to restrain Chinese steel mills' exports — such as the November 2006 placement of a 10 percent tax surcharge on exports of semifinished steel. (Note: Chinese governmental officials may fear that threatened trade restraints in steel will lead to sanctions for all products. With the U.S. Congress now controlled by the Democrats, the risk of an import duty on all Chinese goods in not far-fetched.)

- The strengthening Chinese RMB in the years ahead will further drive up costs for Chinese steelmakers.
- The leading Chinese sheet-producing mills are in the early stages of a substantial period of concentration and restructuring, which is an important step for them to better control prices in the home market. Otherwise, they will face the threat that prices fall to "death spiral" levels — i.e., marginal costs during periods of oversupply.
- By restricting steel exports and, therefore, steel production, the Chinese government will be making more resources (ports, railroads, electricity, water, coal) available for other industries, which will be a factor dampening inflationary tendencies in the country.

7. The global steel demand outlook appears favorable for years to come. The information revolution, which is sweeping the world, discovers pockets of unused capacity, enhances product quality, cuts costs and boosts price competition; hence, it will be stimulating global GDP growth for at least another decade. The greater the rate of global GDP growth, the greater need for sizable fixed asset investment (construction and capital equipment spending).

8. The threat of rising Chinese exports of steel in the form of steel-containing goods is far less than perceived. For example, China's annualized trade deficit in October 2006 amounted to \$285 billion (11 percent of a GDP of about \$2.5 trillion) versus about \$32 billion (2 percent of GDP) in 2004. Let's assume that China's trade surplus will not rise above \$350 billion annualized, due to either the threats of trade sanctions and/or the impact of a much stronger currency. If so, the gain in the trade surplus from October 2006 would be \$65 billion annualized. If 10 percent of the \$65 billion increase in net exports occurs in products that have a sizable steel intensity (such as cars), if one-third of the sales price of these steel-intensive goods is the cost of steel, and if the price of steel is \$550 per metric ton, then the rise in the exports of steel in steel-containing products would be only 4 million metric tons — a figure that amounts to only 0.4 percent of global steel consumption of 1.1 billion metric tons/year.

9. Increasing concentration among sheet-producing steelmakers globally appears to be leading to more "pricing power" in the hands of steel mills over the cycle. If so, world steel export prices will less frequently fall to "death spiral" — marginal cost — levels, and the steel mills' profits will be higher over the cycle in many countries, including the United States.

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Forces Working to Drive Down U.S. Steel Production

1. U.S. manufacturing is moving to offshore locations. The U.S. heavy manufacturing base is "hollowing out," some observers claim.
2. Offshore steel plants, both under construction and planned, will supply low-cost slab to rolling mills in the United States. Slab is likely to arrive from Brazil, Russia, Ukraine and India in the years ahead.
3. Much of the U.S. steel industry's equipment is old. Aging blast furnaces may not be rebuilt when the time comes for reline. High-cost U.S. steelmaking and rolling facilities will be threatened by new and modernized facilities. The steel mill consolidation process leads to more frequent shutdowns of plants due to its very nature.
4. Capital spending on steel plants in the United States is presently not sufficient to support the current steelmaking and rolling mill capacity.
5. Trade protection cannot be counted on. The U.S. government may grow more liberal — i.e., less prone to protect its steel industry — as seems to be the case in Canada in the past decade.
6. Capacity in countries such as India, Brazil and the CIS may discourage U.S. investors.
7. A case can be made that capital spending on steel projects is excessive globally. Hence, because of too much capacity, the profit outlook for steel mills in the United States and globally may deteriorate in another three to four years. In other words, there is a good possibility that the current favorable environment for the global steel industry is not sustainable.

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