

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. With a new Democratic administration in place in the United States working to stimulate the economy, why haven't we seen more of a rebound in steel demand?

A. In December 2008, WSD characterized the one-year outlook for the steel industry as "terrible"; the two-year outlook as "improving, but only fair"; the three-year outlook as "good" and the five-year outlook as "highly favorable." At that time, we worked out a five-phase price forecast for hot rolled band prices on the world export market and in the United States, and also for steel scrap prices in the United States. We needed this many phases to describe the possibilities, given the complex and volatile environment of the steel industry at that time:

- **Phase I — The Nadir of the "V."** The bottom occurred in October 2008 for two items: first, the Tier IV mills' hot rolled band price on the world export market at \$350-390 per tonne, FOB the port of export; and, second, steel scrap prices in the United States, delivered to the steel plant, for No. 1 heavy melting scrap at \$95 per gross ton and No. 1 bundles at \$120 per ton. Tier IV hot rolled band suppliers are those perceived by buyers as providing lesser quality and promptness of delivery when compared to Tier I suppliers. Hence, these mills often need to price their hot rolled band \$20-30 per tonne below the Tier I mills' price.
- **Phase II — Technical Recovery.** Prices rebounded for a month or two from the lows in October 2008 through December 2008 to January 2009. The recovery was "technical" because it occurred despite sharply falling steel demand. Hot rolled band on the world market for the Tier IV mills in December 2008 was up to about \$420-440 per tonne, FOB the port of export. Steel scrap prices in the United States, delivered to the steel mill, for No. 1 heavy melting scrap were up to \$220 per gross ton from a low of \$100 per ton, and for No. 1 bundles about \$285 per ton from a low of \$133 per ton. At the time, we thought that the price rally was vulnerable for a number of reasons. One factor working to stifle the technical recovery was the extremely low price at which steel slab was being offered from CIS sources — perhaps only about \$340 per tonne, FOB the port of export. A second factor was (and is) poor underlying demand. A third factor was (and is) buyers' perception that steel is less bargain-priced as the price rises.
- **Phase III — The Snake.** The snake pricing pattern, where we are now, may persist through the first half of 2009. This will be a period of countervailing forces. A force driving prices up will be the slowdown or ending of steel buyers' inventory liquidations. Two forces working to drive prices down will include the sizable global overcapacity to produce steel and sharply lower

steelmakers' costs reflecting much-reduced prices for steel scrap and other steelmakers' raw materials versus the situation last summer.

HRB export prices for Tier IV mills may slither along the ground in the months ahead. They may hold at about \$420 per tonne (the December 2008 price), FOB the port of export, plus or minus \$50 per tonne. However, the export price for the Tier I mills may decline to about \$500 per tonne versus the December 2008 price of \$550-600 per tonne, as the price is too high to attract many orders.

Steel scrap prices in the United States may also undulate close to December 2008 levels well into 2009 because of weak demand (reflecting very depressed global steel output in the fourth quarter of 2008 and the first quarter of 2009). Interestingly, scrap prices at December 2008 levels may not be sufficiently high to attract enough obsolete scrap to the marketplace to meet the underlying requirements once apparent steel demand turns up.

- **Phase IV — The Bounce.** This price phenomenon may occur as soon as February 2009 or as late as August 2009. It will take place because of: (a) the inherent rigidities and volatilities in the global steel pricing system; (b) complications when it comes to the mills' depleted supply of raw materials (as inventories fall too low as they seek to conserve cash); and (c) the strong likelihood that both steel production and obsolete steel scrap recovery fall below underlying demand for these products in the next four to six months. In theory, the later in 2009 that the Bounce occurs, the greater the possibility it's not a false one (because "the Thaw" is about to begin).
- **Phase V — The Thaw.** This condition begins about mid-2009, when the longer-term prospect for the global economy clearly turns better. The better outlook will reflect: (a) rising infrastructure spending in almost all countries as government policymakers seek to "jump-start" their economies; (b) rising stock markets in both Developed and Developing World countries; (c) low oil prices and low inflation rates; (d) increased availability of credit; and (e) improved consumer confidence. In this environment, although steel demand is still lagging, HRB steel export prices and steel scrap prices rise to higher levels, but nothing close to those in the "volcanic eruption" witnessed in 2008.

Q. Is steel's "New Continuum" still in place?

A. WSD's thinks that the answer is "yes." However, its benefits will be sidelined in 2009 and perhaps in 2010. Let's examine some of the conditions that we've assumed for the New Continuum (which began in 2004, following steel's "Age of Discontinuity," based on WSD's analysis):

Steel Pricing 2009: Dreams, Illusions and Realities (dollars per metric tonne)

Item	Volcanic Eruption	Phase I — "V" Trough	Phase II — Technical Recovery	Phase III — The Snake	Phase IV — The Bounce	Phase V — The Thaw
<i>When?</i>	<i>July 2008</i>	<i>October 2008</i>	<i>Nov 2008 to January 2009</i>	<i>First half of 2009</i>	<i>Maybe Q2 2009</i>	<i>Second half of 2009</i>
Tier IV mill HRB export price	\$1,100	\$375	\$440 Might rise to \$475	\$400–475	\$525–600	\$550+ The Dream \$700
Tier I mill HRB export price	\$1,110	\$700	\$575 Few orders at this price	\$500–600	\$650	\$650 The Dream \$750
USA HRB domestic spot price	\$1,200	\$880	\$700 Possible \$600	\$550–600	\$750	\$700
USA #1 heavy melting scrap price	\$511	\$95	\$135 Possible \$160	\$135–180	\$225–300	\$250–350
USA shredded scrap price	\$710	\$125	\$180 Possible \$250	\$230	\$350	\$275–375
USA prime industrial scrap price	\$920	\$120	\$220 Possible \$280	\$260	\$400	\$325–425
Spot iron ore ocean freight rate Brazil to China	\$109	\$12	\$9	\$10	\$12	\$13
Spot HRB ocean freight rate Europe to USA	\$100	\$60	\$35	\$35	\$40	\$42
USA HRB spot price premium vs. Tier I import price	–\$10	+\$120	+\$90	+\$15	+\$40	+\$8

(Note: The steel scrap prices are delivered to the steel mill per gross ton (2,240 pounds). USA HRB price premium is the per-tonne difference between the U.S. price and the foreign Tier I mill's export price, FOB the port of export, plus the freight cost to the USA.)

- **Industry concentration.** Assessment: No change here. Concentration tends to accelerate in times of stress. Consolidation in the Chinese steel hot rolled band producing sector, where marginal facilities are uncommon because so many are new, is expected to be substantial. We also look for more investments by Chinese steel mills in offshore steel and related facilities. The current death spiral for hot rolled band prices in China will also lead to substantial cancellations of new projects.
- **Good steel demand growth.** Assessment: Steel demand prospects still look good on a medium- and longer-term basis. The foundations of above-average steel demand growth are low inflation rates, programs by governments to promote fixed asset investment, and above-average growth for the Developing World economy (which has a higher propensity to boost fixed asset investment as a share of GDP than the Advanced Economies).
- **Volatile steel prices.** Assessment: No change here. In fact, the synchronized global economy is causing global quarter-to-quarter production to show a volatility that has not been seen since the 1970s. This factor adds to price volatility. One might say that the steel industry's future is going back to the past, when significant declines in global steel output were commonplace.
- **Age of steelmakers' metallics.** Assessment: The evidence remains strong that, when global steel demand returns to record levels, the supply of obso-

lete steel scrap and pig iron outside of China will not be sufficient to prevent another sharp upward spike in steel scrap and pig iron prices on the world export market. The highly adverse industry conditions in the second half of 2008 and into 2009 will cause a sizable number of older blast furnaces to be closed permanently; and in many cases, expansions will be slowed or cancelled.

- **New technologies provide leapfrog opportunities.** Assessment: Still the case. New technologies that permit gains in product quality at the same time that labor and materials are used more efficiently are still under rapid development.
- **Chinese steelmaking overcapacity is encapsulated in the country.** Assessment: WSD thinks this will be the case in the years ahead. Factors working to hold down the Chinese mills' exports include high costs for many steel mills and a less favorable government standing for the industry, since: (a) steel industry capacity is now sufficient; (b) the steel industry causes much pollution; (c) it is perceived that the steel industry is crowding out the growth of other industries due to its massive use of water, electricity and infrastructure; and (d) the perceived high threat of dumping and countervailing duty suits filed by foreign mills. Hence, actions by the government to restrain exports of lower-value-added steel products will continue well into the future, in WSD's opinion. In the next six months, the combination of high operating costs and low world export prices are expected to keep a lid on Chinese steel exports.

• **Foreign exchange rate shifts will be sizable and unexpected.** Assessment: No change here. Shifts in currency values, as in the past, will strongly impact steel mills' costs on a U.S. dollar basis. In general, the stronger the U.S. dollar, the lower the price of steel on the world export market, all other things held equal. (Note: If one takes the world export price for hot rolled band as the dependent variable, and the values of the U.S. dollar per Euro and the global steel industry's operating rate as independent variables, there is a strong correlation in recent years. The first independent variable, the U.S. dollar per Euro, helps to describe the change in costs on a dollar basis, while changes in the operating

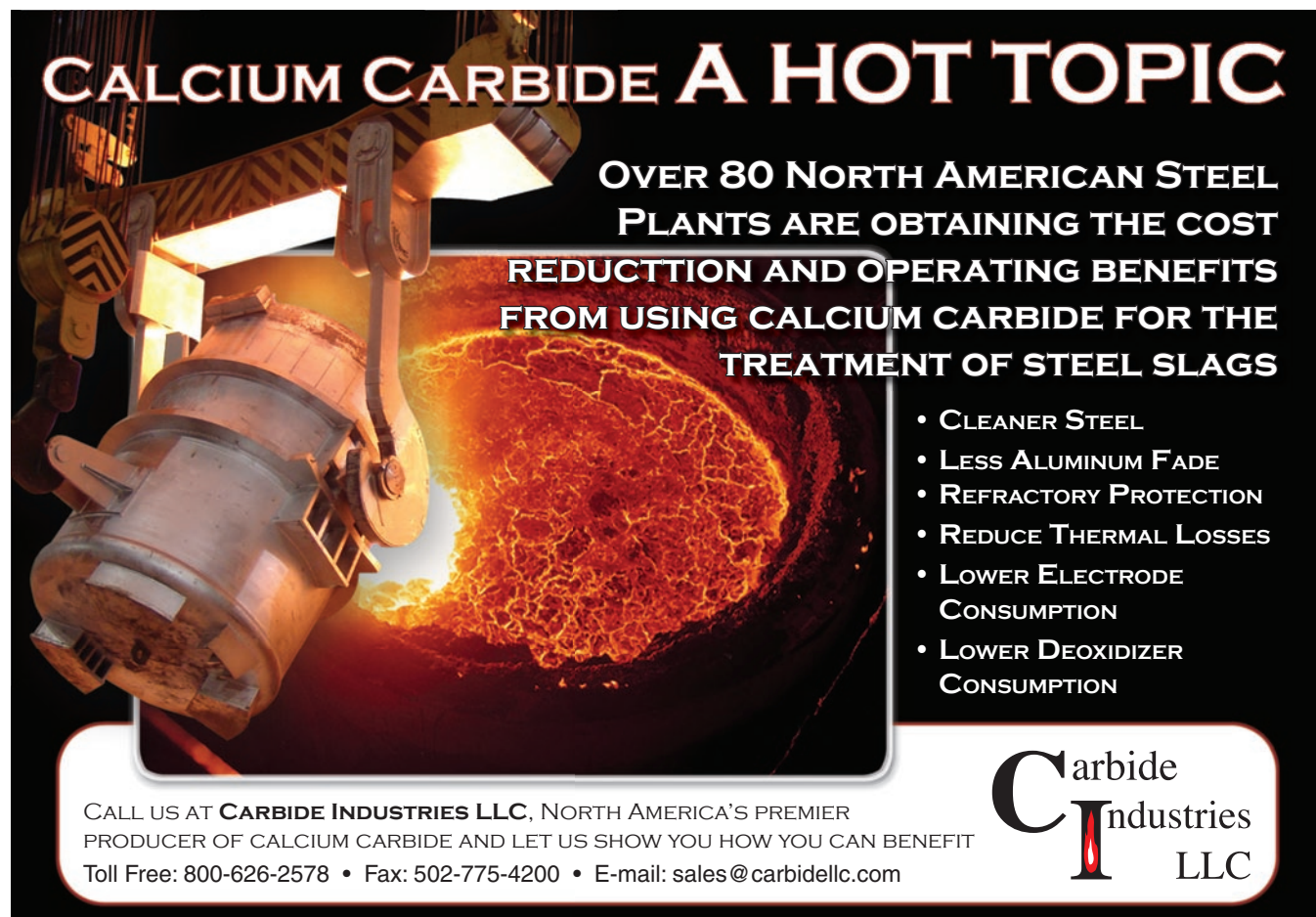
rate are a proxy for changing dynamics in the steel marketplace.)

• **Age of management.** Assessment: WSD thinks that capable "kings" are at the helm of many companies. Strong management is needed to make the best decisions in today's fast new world – i.e., a variegated and fast-moving steel industry environment. ♦

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