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Cascading the Dominos Global Metallics Impacting U.S. Scrap Prices

Perspectives from WSD's steel pricing forensic scientist

Steel pricing forensic scientist: A person who applies scientific knowledge and experience to the study of steel pricing and market behavior.

It has been a long-standing belief at WSD that regional scrap prices and the prices for pig iron and steel scrap substitutes are all part of a global metallics bathtub –

i.e. the price in one region tends to move with others linked by currency valuation and freight rates.

Global metallics balances, trade arbitrage and the cost of ocean freight have been playing an increasing role in the determination of regional scrap prices. A recent WSD analysis concluded that, while high global metallics demand and a weaker U.S. dollar are drivers for higher scrap prices, the recent incredible surge of ocean freight rates is holding down U.S. scrap prices. A recent factor may be Steel Dynamics' acquisition of OmniSource, which is permitting SDI to reduce the level of scrap inventories at its mills.

Price Allocates Resource

WSD's forecast of scrap required to balance the demand for global metallics in the period to 2015 is shown in Figure 1. A large increase in scrap supply will be required even with the sizable increases in pig iron and steel scrap substitute production. The supply and price elasticity of obsolete scrap will continue to be tested, considering that the 10- to 40-year obsolete scrap reservoir growth rates for 2006–2017 are below 1% without China, versus the global steel production growth forecast of about 4% per annum. Higher pricing incentives will become necessary to drive more scrap collection.

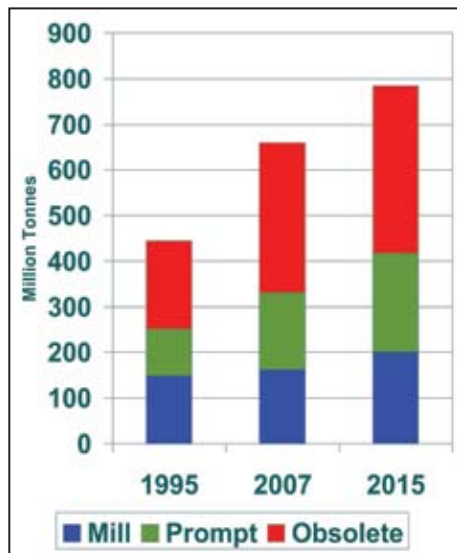


Figure 1: Global scrap requirements.

New Price Highs for Shredded and Obsolete Scrap Occurred in March 2007

Figure 2 shows the USA scrap price trends for three types of scrap. (Note: The chart is a composite of AMM monthly prices and WSD's SteelBenchmarker™ twice-a-month prices). Busheling, a "prompt" grade of scrap, is recovered from downstream manufacturing processes such as stamping. It has the greatest price volatility and is also one of the least elastic grades of scrap. The quantity of available busheling is a function of downstream manufacturing activity and not obsolete scrap collection. Busheling, like auto bundles, is a high-value scrap, since its quality is consistent and it is easy to melt. Shredded scrap is a processed scrap that is obtained from downstream manufacturing processes and also from the processing of obsolete scrap (such as old cars and appliances). Scrap yards are adding more shredders. Feeder and shredder investments can provide scrap sorting advantages and access to higher selling prices. #1 heavy melt scrap is a lower grade of scrap and is representative of much of the scrap that makes up the obsolete scrap reservoir.

Cascading the Dominos

Figures 3–9 illustrate how global metallics demand, currency values, and ocean freight rates are impacting regional scrap prices. Figures 3 and 4 show the dramatic (actual and forecasted) steel production growth in China and its impact on global metallics demand. Scrap is required to fill the void between steel production growth and the growth of "virgin" iron-ore-based metallics (pig iron production and steel scrap substitute production). A rise in obsolete scrap collection volume, which can be influenced by scrap prices, is the most likely near-term solution to avoid a metallics shortage. New peaks in scrap prices are highly likely over the next several

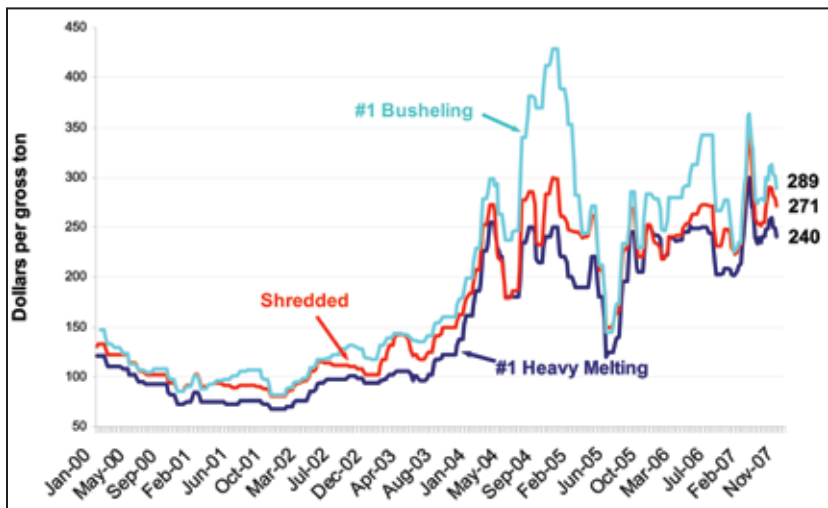


Figure 2: SteelBenchmarker™ scrap price for the United States, delivered to steel plants, as of Nov. 12, 2007. (AMM scrap price data, Jan. 2000–Jan. 2007; SteelBenchmarker data begins Feb. 2007.)

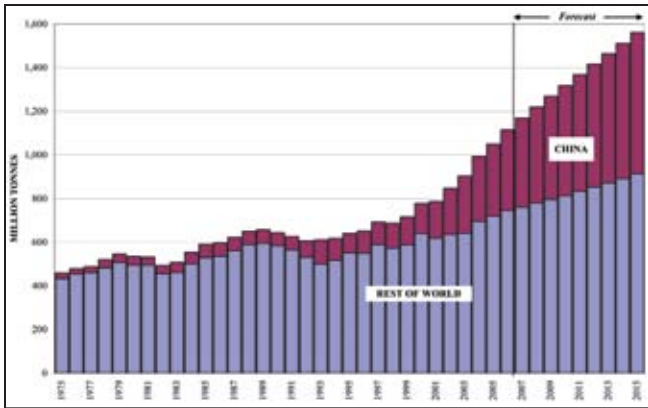


Figure 3: Global apparent steel consumption.

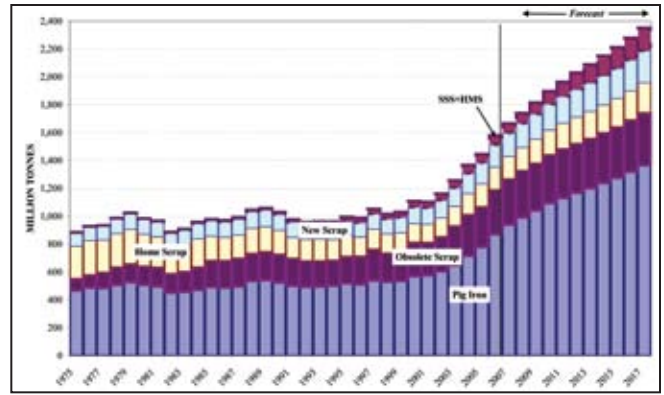


Figure 4: Global metallics requirement.

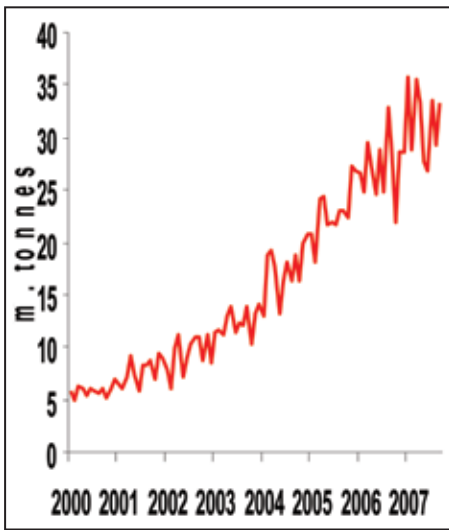


Figure 5: Iron ore imports. Source: China Metals, Macquarie Research, Oct. 2007.

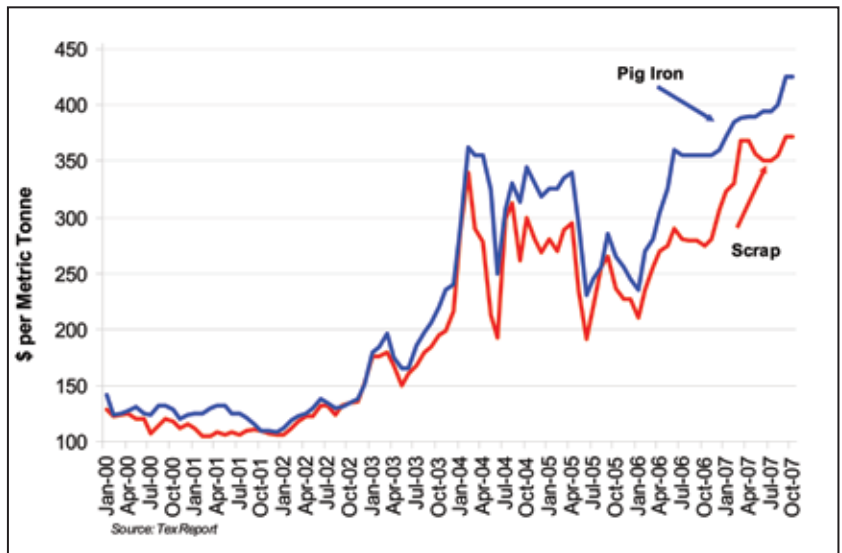


Figure 6: Scrap and pig iron export prices, CIF Far East.

years, granted a strong steel market continues, until “virgin” production units can sufficiently catch-up to demand.

China, China, China

China’s rising iron ore imports, shown in Figure 5, are having a profound impact on the prices of pig iron in Asia. Even though China is making very large investments in domestic iron ore production, Australian mining groups are forecasting China to increase its iron ore imports 13% in 2008.

(Note: WSD’s contrarian view is that China’s steel production growth rate is slowing, and the large domestic iron ore investments may temporarily catch demand sooner than expected causing a respite in ocean freight demand).

In contrast, China has reduced its scrap imports in 2006 and 2007. Scrap imports have declined from 10 million tonnes in 2005 to approximately 3 million tonnes in 2007. China’s collection of scrap is improving sharply, but from a very low base. A more plentiful supply is expected in China in 2010 and beyond. Global demand and trade arbitrage can cascade the dominos.

Figure 6 indicates that inflating pig iron prices are stimulating a rise in scrap prices

(CIF \$/MT) in South Korea and Japan. Higher Asian scrap prices, and a weaker U.S. dollar make the U.S. scrap market an attractive international buyers’ market for scrap.

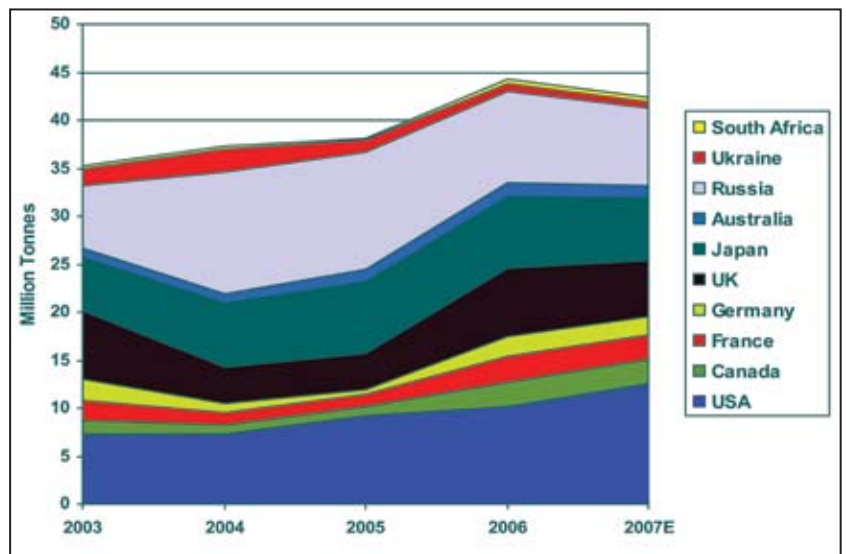


Figure 7: Top 10 net scrap exporters.

Figure 7 shows that, in 2007, the United States was the only major country to increase its net export of steel scrap. High Asian steel scrap prices, lifted by increasing pig iron prices, became the selling opportunity. A weaker U.S. dollar (Figure 8), sluggish U.S. steel demand, and moderate scrap prices impacted by too much steel inventory and sluggish consumer demand in the United States, was the buying opportunity. These developments set the table for another year of increased U.S. scrap exports in 2007.

Strong steel demand in developing nations has reduced the amount of net exports from these countries. This is evident in Russia's diminished scrap export over the last half decade.

Study of 16 Major Developed and Developing Countries

Figure 9 is the final part of the cascading domino scrap story that links global metallics demand to regional supplies. In order for global trade to actually occur, goods must be able to be shipped at an acceptable cost between regions. While the #1 HM price spread between Asia and the U.S. #1 HM prices has grown quite large, it is currently being offset by the increase in ocean freight rates. The U.S. scrap price plus ocean freight (dashed line) provides evidence that the current price spread between regions is freight-cost-driven and not an arbitrage (buying) opportunity. Scrap prices in the United States are actually being impacted negatively by the high price of ocean freight in that it is harder to economically move the U.S. scrap surplus to off shore locations. U.S. scrap exports and domestic scrap prices are not likely to accelerate until freight costs revert to lower values and/or Asian prices move higher.

An example of 2008 metallic domino impact is the widespread expectation that iron ore



Figure 8: U.S. dollars per Euro.

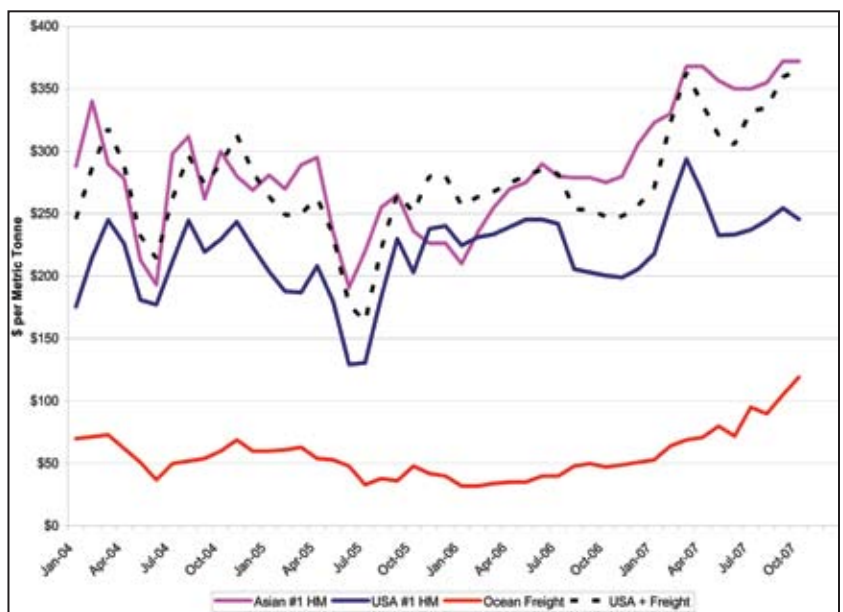


Figure 9: U.S. #1 HM prices held down by rising ocean freight costs.

10-40 year Obsolete Scrap Reservoir Scrap (million tonnes)						
	2006	2007	2008	2010	2015	2017
China	36	39	41	47	79	99
World w/o China	301	304	307	313	325	332
Total	337	343	349	361	404	431
Required Metallics from Pig, Scrap, SSS (million tonnes)						
China metallics	527	600	655	757	948	1,043
% Obsolete Scrap	6.9%	6.4%	6.3%	6.2%	8.3%	9.5%
World w/o China metallics	1,034	1,045	1,064	1,118	1,236	1,279
% Obsolete Scrap	29.1%	29.1%	28.9%	28.0%	26.3%	26.0%
Total World metallics	1,560	1,645	1,719	1,874	2,184	2,322
% Obsolete Scrap	21.6%	20.8%	20.3%	19.2%	18.5%	18.6%
EAF Production (million tonnes)						
China	47	49	50	52	61	68
World w/o China	343	347	356	387	449	466
Total	390	395	406	439	510	533
% Obsolete Scrap	86.6%	86.7%	85.9%	82.1%	79.3%	80.8%

Figure 10

prices will raise \$20/MT, pig iron prices will raise \$32/MT and that scrap price increases will likely match those for pig iron. After all, metallics prices are part of a common (global) Jacuzzi bathtub that has a large number of spigots; two of which are freight costs and currency values.

In closing, I leave the reader with the following takeaways regarding scrap:

- High global steel production growth, should it continue to occur, will severely pressure scrap availability.
- Mill additions in the United States, such as EAF-based SeverCorr, will reduce U.S.A net scrap exports, but at what price?
- The weaker U.S. dollar, iron ore and pig iron price increases and ultrahigh ocean freight rates are raising the international level of scrap prices.
- International buyers will likely pull up U.S. scrap prices as they take advantage of a weaker U.S. dollar and the potential for lower ocean freight rates.

- WSD expects scrap prices to increase on a secular trend basis and to remain highly volatile.
- Figure 10 shows that obsolete scrap starting in 2008 is not expected to keep pace with EAF production growth. A continuing growth in steel scrap substitutes is required to fill the void.

It is the writer's opinion that many U.S. businesses need to learn more about global markets. The scrap linkages discussed in this article are a great example of how the global economy can impact regional markets. Business managements today need to become increasingly aware of how their inputs and outputs are being influenced by global market events and demographic changes. ♦

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