WSD WORLD STEEL DYNAMICS®

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.

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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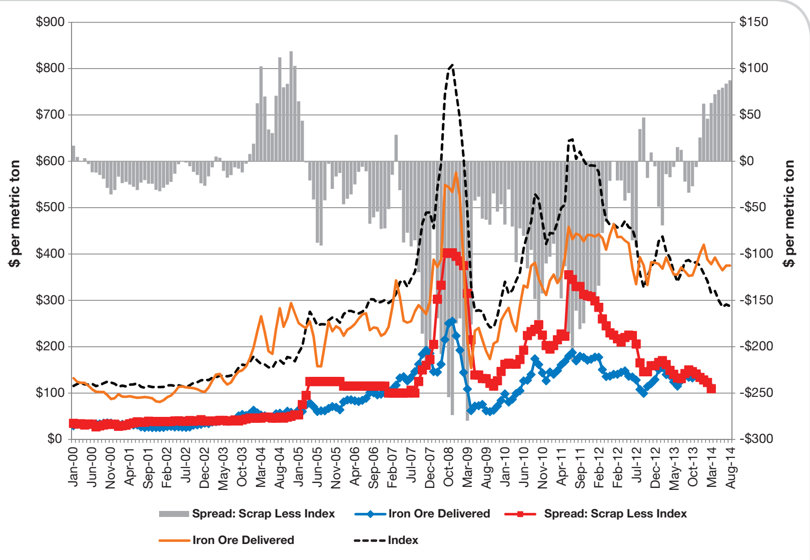
Steel Scrap Price: Poised to Collapse

WSD believes that it is only a matter of time before the price of steel scrap declines by as much as 10–15% versus current levels.

Based on WSD's SteelBenchmarker™ pricing series, shredded steel scrap delivered to U.S. mills was US$376/metric ton in early September 2014 versus US$360/metric ton in August 2013. The current price is about 19% below the post-2008 financial crisis high of US$466/metric ton in January 2012. By way of comparison, the prices of iron ore and coking coal are down far more sharply:

- The current iron ore spot price, delivered to China, at about US$82/metric ton, is off about 42% from US$143/metric ton in early August 2013, and it is down about 57% versus its temporary peak of US$191/metric ton in the winter of 2011 (Figure 1).

Figure 1

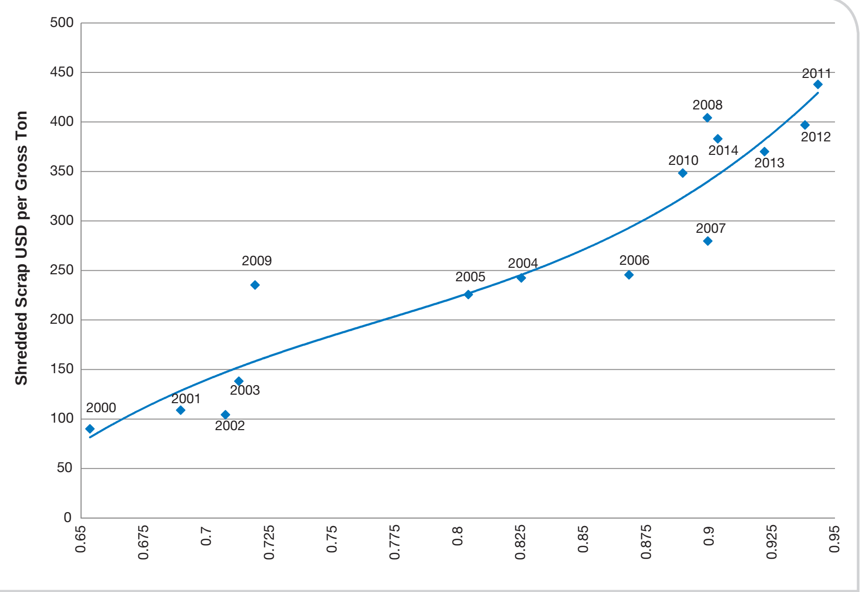


U.S. shredded scrap versus weighted iron ore and coking coal price index. Sources: WSD estimates, Platts, SteelBenchmarker™.

- The price of coking coal, FOB Australia, at about US$108/metric ton, is off about 24% from US$142/metric ton in early August 2013 and about 70% versus the peak of US$355/metric ton in 2011 (when heavy rains in northeastern Australia wreaked havoc on the region and created a global shortage).

One explanation for steel scrap price's "stickiness" on the downside is illuminated by the data from WSD's Global Metallics Balance (GMB) system. The figures indicate that the global supply/demand balance for obsolete steel scrap has remained tight by historical standards in 2014 as measured by the ratio of global obsolete scrap requirement to the average size of the steel scrap reservoir that's on average 10–40 years old:

Figure 2



U.S. shredded scrap prices versus obsolete scrap reservoir depletion. Ratio: trade-adjusted obsolete scrap usage to average reservoir 10–40 years old. Source: WSD's Global Metallics Balance System.

- The global obsolete scrap demand in 2014 is forecast to increase only 0.2% to 360 million metric tons versus 359 million metric tons last year.
- The average size of the steel scrap reservoir in 2014 that's 10–40 years old will increase about 2.4% to 398 million metric tons.
- On balance, in 2014, the global steel scrap recovery ratio versus the average size of the scrap reservoir 10–40 years old may decline to about 0.90 versus 0.92 in 2013; but this is still a high recovery ratio by historic standards.

Based on WSD's GMB historic data, 2014 will be just the fifth year dating back to 1975 in which the steel scrap recovery ratio has been about 0.90 or higher. Each prior occurrence coincided with high scrap prices — as indicated in Figure 2.

The relatively high steel scrap price this year, in the absence of significant demand growth for obsolete scrap, may largely be the result of the exceptional rise in demand for obsolete steel scrap in the past decade, which likely depleted the supply of easily recoverable scrap.

In the coming decade, the GMB system forecasts that the global obsolete steel scrap reservoir will experience exceptional growth while global demand for obsolete steel scrap may stagnate. As a result of this dynamic, the obsolete steel scrap recovery ratio may decline from 0.90 in 2014 to only 0.82 in 2020; and then to just 0.73 in 2025. WSD believes the massive rise in the size of the Chinese obsolete steel scrap reservoir 10–40 years old will sooner or later drive down steel scrap prices.

AutoBody Warfare: Steel vs. Aluminum

WSD has just released the executive summary of Peter Marcus' report, *AutoBody Warfare: Aluminum Attack*. The major points are summarized as follows:

1. Aluminum automotive sheet deliveries will show spectacular gains through 2018.
2. However, using steel products, the weight savings needed to meet the 2018 and 2021 corporate average fuel economy (CAFE) standards for most vehicles can be easily achieved.
3. Aluminum sheet deliveries to the automotive market are likely to peak about 2018.
4. Reductions in a vehicle's weight, surprisingly, do not result in major improvements in miles per gallon. A 10% weight reduction saves only 6–7% in gasoline used per mile.

5. Aluminum automotive sheet is expensive. For the skin of the vehicle, 6111 alloy aluminum sheet, after stamping expenses and the scrap credit, costs the automotive company about US$3.80/lb. versus US$1.04/lb. for bake hardenable (BH) 340 MPa steel sheet.
6. Ford Motor Co. probably "jumped the gun" in 2009 when it decided to build an aluminum-bodied light truck. And it may pay a price in terms of reduced profitability because of the high cost of its 2015 F-150 truck. The world was changing so fast in 2009 that, in WSD's opinion, no group could have fully anticipated the new developments in the next half decade.
7. The frenzy in the United States to invest in aluminum rolling mills and heat-treating lines to produce 6xxx alloy sheet will likely result in sizable oversupply of this product by 2018.
8. North American automotive steel sheet deliveries in 2025 may be only flat versus 2014, even assuming that vehicle production is up about 20% over this period. However, advanced high-strength steel (AHSS) deliveries in the same period may rise to 23.7 billion pounds from 7.4 billion pounds — a 330% gain, or 11.1% per year compounded.
9. U.S. steel mills are likely to obtain a higher profit margin on AHSS deliveries than their other automotive sheet products. ✦