LME Insight

SETTING THE GLOBAL STANDARD

Global relevance of the LME Steel Scrap contract in a constantly evolving market

From the Ferrous Team

The steel market has experienced significant levels of volatility and uncertainty recently for a variety of reasons. These include global economic events, fluctuations in demand, currency variations and the possibility of over-supply in an increasingly dynamic and complex market place.

Indeed, it has been possible to observe steel scrap prices double or halve in the space of a few months, exposing companies along the value chain to tremendous risks. Under these market conditions, the LME Steel Scrap contract has provided an increasing number of global market participants with an effective tool to manage their price risk.

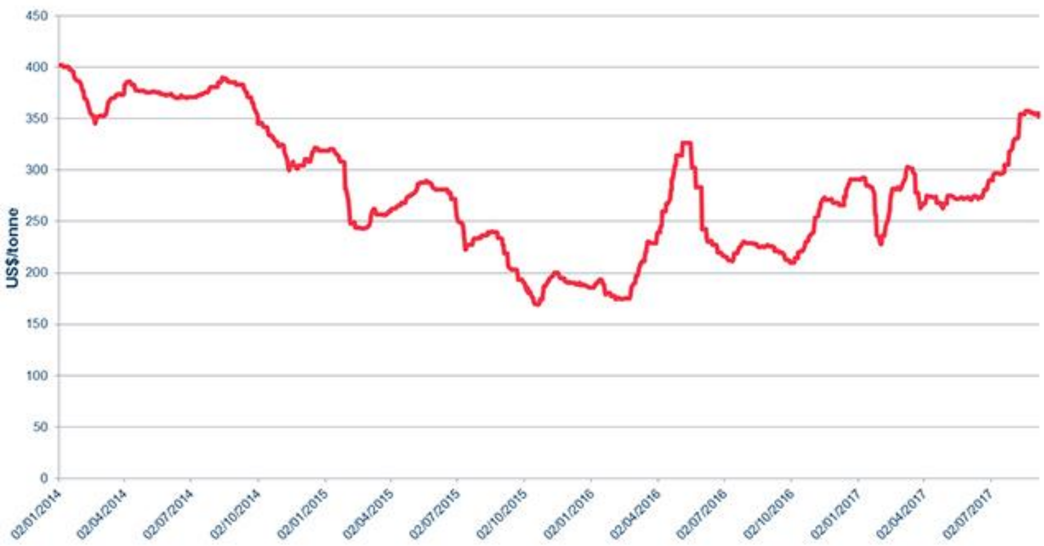

Fig 1: Platts TSI HMS 1&2 (80:20) CFR Turkey, 02 Jan 2014 - 31 Aug 2017

Steel scrap: the iron ore of the West moves East

Trading in iron ore derivatives has surged in recent years, driven by the rapid growth of the Chinese steel industry, which uses iron ore in the production of steel. Both iron ore and steel scrap can be used as inputs for producing steel; iron ore is the main feed used in blast furnaces and scrap is used in electric arc furnaces. Various proportions of scrap, in addition to iron ore, can also be used in blast furnaces depending on a number of factors such as the relative prices of the two commodities and the desired output.

According to The Bureau of International Recycling, total global steel scrap consumption in 2016 was 560 million tonnes, equivalent to 56 million lots of the LME's 10mt contract. Demand for scrap could grow with the long term trend towards using electric arc furnaces as national steel industries evolve; these tend to be more environmentally friendly and more nimble in scaling production levels to respond to market demand. In addition, blast furnaces are looking at ways to increase the proportion of scrap they use in their input mix. All eyes are on China, where simply using the same proportion of scrap in their blast furnace mixes as other countries use, would add the equivalent demand of the entire scrap consumption of the US.

At the same time, scrap supply is expected to grow exponentially, again thanks to China. As time goes by, the steel produced in the last decade during the Chinese steel revolution will eventually become scrap and, according to BMI McKinsey and Steelmint, this alone could boost scrap supply by c.150 million tonnes by 2030. The constantly evolving seasonal supply-demand dynamics pull against a limited buffer of stockpiles creating an environment of high volatility, which motivates the core base of physical hedging clients and offers trading opportunities for CTAs and discretionary funds alike. One need only look to the 1.8 billion tonnes of iron ore traded across ex-China exchanges last year and the opportunity for a steel scrap futures contract to fulfil the hedging and trading needs of the steel market is clear.

LME Steel Scrap

The impressive growth in liquidity on the cash-settled LME Steel Scrap contract since launch in November 2015 demonstrates how the global steel industry is embracing its first real opportunity to manage steel scrap price risk. The contract has seen more than 2.3 million tonnes of steel scrap traded since launch and has also provided the industry with the first ever tradeable global forward curve for steel scrap out to 15 months.

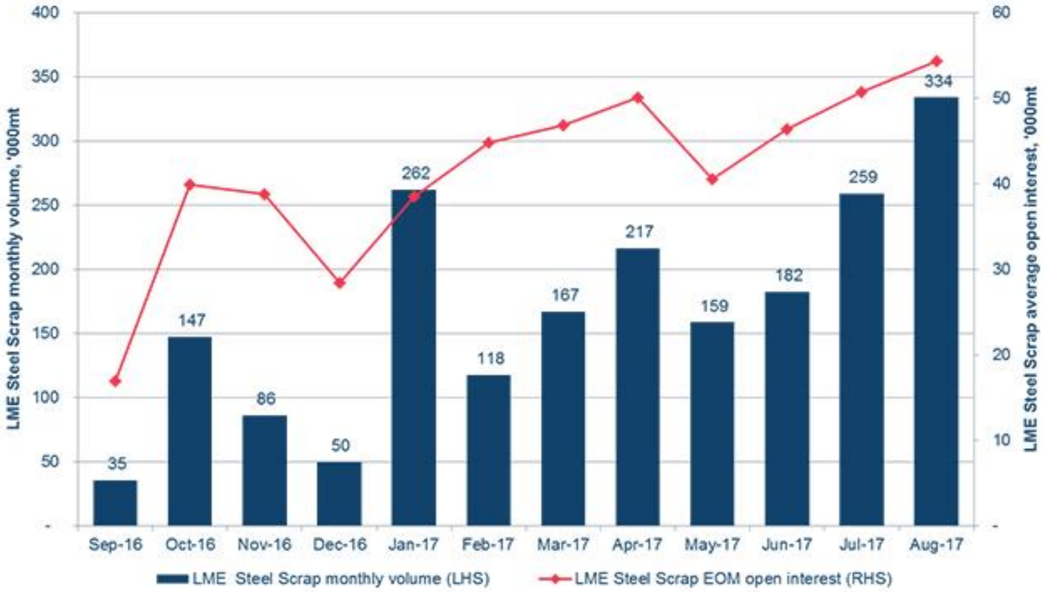

Fig 2: LME Steel Scrap monthly traded volumes, Sep 2016 - Aug 2017 ('000 metric tonnes)

A global price for the scrap markets

LME Steel Scrap is cash settled, which means that at the expiry date outstanding contracts are settled against the Platts TSI HMS 1&2 (80:20) CFR Turkey index. Turkey is the largest global importer of scrap, importing over 17.7 million tonnes in 2016, the equivalent of 20.5% of the global scrap trade, from diversified sources across the globe. As a result, changes in this globally relevant price are reflected in other regional and scrap grade prices making it an essential reference for steel companies in all regions.

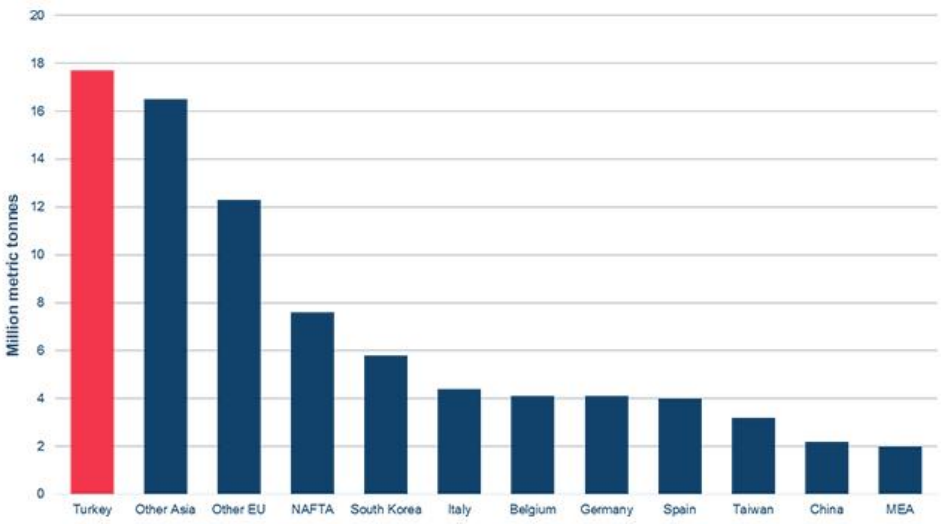

Fig 3: Steel scrap imports by country, 2016

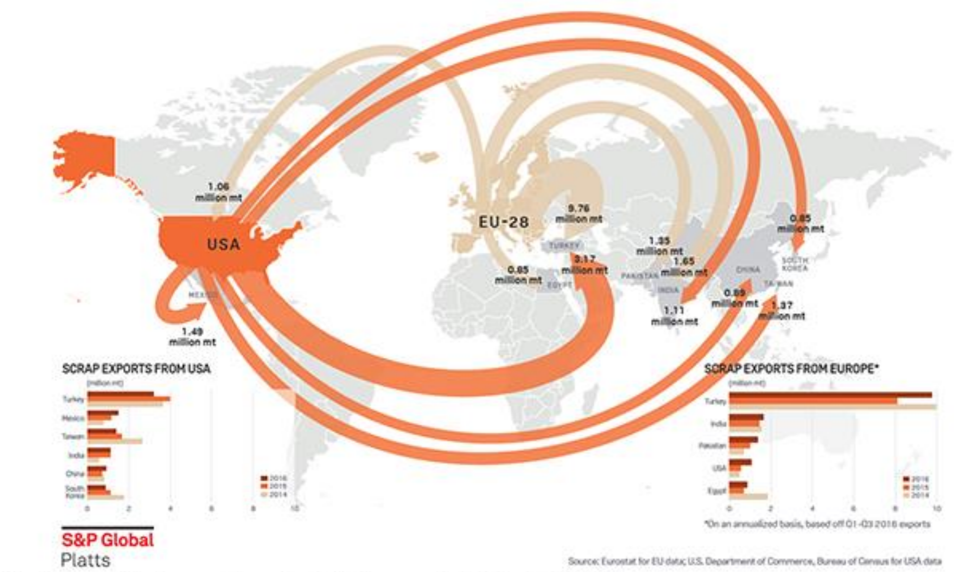

Fig 4: Key global scrap flows in 2016 (source: S&P Global, Platts)

	Correlation	Average spot price	Average of Delta from Turkish import	St Dev of Delta from Turkish import
Shredded Scrap - N.Europe domestic	**97.29%**	$278.93	-$7.90	15.51
Shredded Scrap - S.Europe domestic	**96.47%**	$288.27	$1.45	18.81
Shredded Scrap - FOB Rotterdam	**98.21%**	$272.71	-$14.12	15.07
HMS 1&2 Scrap - N.America domestic	**96.31%**	$266.63	-$20.19	20.01
Shredded Scrap - Midwest US	**96.60%**	$291.12	$4.30	18.09
Heavy Scrap - China domestic Shanghai	**93.39%**	$272.09	-$14.74	27.13

Fig 5: Correlation statistics between Platts TSI HMS 1&2 (80:20) CFR Turkey index and selected regional scrap prices on a monthly average basis, Oct 2013 - Aug 2017

The relevance of the Platts TSI HMS 1&2 (80:20) CFR Turkey index as a benchmark price crosses the boundaries of the scrap market. This price is often referred to during the negotiations for long steel products (e.g. rebar and wire rod) or alternative inputs for electric arc furnaces (e.g. pig iron and HBI) with underlying trends in scrap prices being a key factor for these adjacent markets. This means that producers, merchants and consumers of these alternative inputs can also use the LME Steel Scrap contract as an efficient risk management tool.

	Correlation	Average spot price	Average of Delta from Turkish import	St Dev of Delta from Turkish import
Pig iron - FOB Black Sea port $/t	93.53%	$299.24	$12.42	25.92
Pig iron - FOB Ponta da Madeira $/t	89.30%	$309.26	$22.43	33.53
HBI - FOB Venezuelan ports $/t (6-month adjusted)	92.00%	$235.89	55.43	29.05

Fig 6: Correlation statistics between Platts TSI HMS 1&2 (80:20) CFR Turkey index and selected alternative EAF inputs on a monthly average basis, Oct 2013 - Aug 2017

Opportunities for the steel industry

In an ever evolving market, the LME Steel Scrap contract has already proved to be a versatile risk management tool for companies along the steel value chain from dismantlers, recyclers, and merchants all the way to steel mills and even manufacturers of finished goods.

The global relevance of the contract has also been demonstrated by the geographical mix of participants, with c.50% of volumes coming from Europe, c.30% from North America and c.20% from

Asia. This global trend is further reinforced by the presence of market makers providing bid and offer prices 15 months forward during Asian, European and American trading hours.

As liquidity grows more and more physical and financial players are expected to enter the market and further boost liquidity. LME Steel Scrap will become an essential tool for any company wishing to manage their exposure to the price of steel.

For more information on understanding the LME Steel Scrap contract, please get in touch: ferrous@lme.com