

## THE VIRTUAL STEEL MILL – TRADE THE FUTURE

Steel is changing. This mature industry is facing the biggest challenges in its history and these are not challenges it can avoid.

Steel has long been seen as traditional and conservative, particularly in procurement, favouring a combination of long-term contracts and annual pricing to secure its supply chain. Now steel is embracing spot and index-linked pricing for raw materials procurement and sales of finished and semi-finished products.

For example, in 2009 80-85% of iron ore was sold under annual, fixed price agreements, with just 15-20% sold on a spot basis. By 2011, some 15-20% was being sold on spot and 70-80% sold under index-linked contracts.

In the United States, as much as 40% of steel production is already sold under contracts linked to spot indices. Another 30% is sold on a spot basis, 20% on contracts priced monthly or quarterly and just 10% under long term price contracts.

Among the key reasons for this shift is that prices have been subject to huge increases in volatility - not just of raw materials but of finished products too. Going forward, the increased price volatility will increase the margin uncertainty for steel mills like never before.

### NEW TOOLS

Steel success in future will derive from improved market intelligence and research and the greater use of risk management through access to derivatives markets.

This new market needs new tools: cleared, cash-settled raw materials and steel swap and futures contracts that can be used on a global basis, employing new technology for execution under a regulated framework.

To help steelmakers, traders and importers come to terms with the new reality, Freight Investor Services has developed the Virtual Steel Mill, a concept that encompasses risk management from producer to end user, combining cash-settled swaps for iron ore, coking coal, scrap, freight and steel products, each tradable on their own or linked to provide hedging along the supply chain.

The Virtual Steel Mill leverages FIS' experience during the development of the Forward Freight Agreement

(FFA) market - that the right elements must be in place to deliver balanced, consistent growth.

Based on the changes going on in the global steel vertical, the time is right for the industry to embrace Virtual Steel Mill concept. On the demand side, there is a growing marketplace comprised of physical players, including mills and mines, service providers such as shipowners and trading houses, as well as financial players such as banks and funds. Macro-economic uncertainty is creating interest to trade on both a hedged and speculative basis.

There is increased interest in trading freight and commodities together, with dedicated teams of traders emerging. As noted above, volatility and volume is increasing, creating the conditions for improved risk management.

On the supply side are hybrid voice/screen brokers such as Freight Investor Services, regulated electronic trading platforms such as Cleartrade, clearing houses with freight and commodity expertise such as LCH, Clearnet and SGX AsiaClear.

### THE FUTURE

We foresee steel market participants trading the Virtual Steel Mill in a similar way that participants in other commodity markets trade the spread between inputs and outputs.

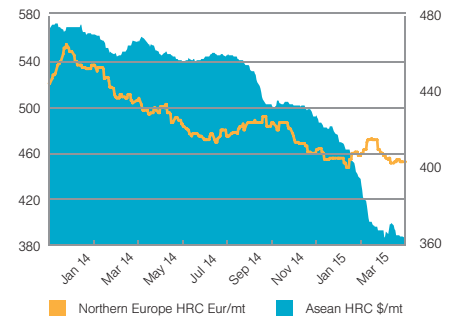
For example, the crack spread is the profit margin an oil refinery can expect to make cracking (refining) crude oil, or the difference between the purchase price of crude and the sale price of refined products.

In the power market, producers trade the dark and spark spreads, or the profit margin a power plant can expect to make purchasing fuel and selling a unit of electricity. In the grain market, the crush spread is the profit margin a soybean processor can expect to make purchasing soybeans and selling processed meal and oil.

An oil refiner can hedge itself against adverse price movements by buying crude futures and selling futures for its primary refined products.

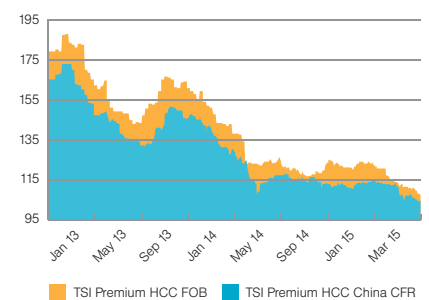
In the steel market, a steel producer can hedge against adverse price movements by buying raw materials swaps and futures and selling finished steel swaps/futures. This new reality is still emerging but the direction is set. Serious steel market participants need to embrace the Virtual Steel Mill and all the benefits it will bring.

### Northern Europe HRC vs Asean HRC



Source: TSI

### TSI Coking Coal FOB vs CFR



Source: TSI

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