Trading Iron Ore
An in-depth and independent analysis of the iron ore trading market and how it could evolve

- Status of the iron ore financial market: which indices are most actively traded? Who are the main principals, brokers and exchanges?
- How has the market developed so far compared to other relevant benchmarks?
- Perspectives for the next 5 years: which contract could become the reference? What trading volumes could we expect?

In association with:
Perret Associates
Trading Iron Ore:
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Extract from the study

The structure of the international iron ore flows has changed dramatically over the last forty years.

Even so, the historical yearly benchmark pricing system in which a leading steel mill and a leading iron ore supplier would fix a yearly fixed price, which would serve as a reference for the industry worldwide, endured over more than four decades, despite massive changes in international flows.

It is only by 2005, that the yearly benchmark system started to crackle and has almost disappeared by early 2012.

Up until the 1970’s, flows between Brazilian suppliers and the European consumption market dominated the international iron ore scene. Over this period, European steel mills led the annual benchmark negotiations that determined the price of iron ore worldwide.

In the 1980’s and 1990’s, Japan emerged as the new dominant steel producing countries, whereas the supply was increasingly switching to Australia. Japan became the world’s largest importer of iron ore and became logically the leading negotiator for the yearly benchmark negotiation.

By 2000, an unprecedented industrialisation process started in China. In 2003, the country overtook Japan as the largest iron ore importer. Chinese steel mills became the leading negotiators for the annual benchmark negotiation.

Since then, China has remained the leading negotiator on the buying side.

Regarding exporters, the responsibility had fallen on Brazilian and Australian exporters. By 2005, India emerged as a third exporter to China, as the two traditional ones were not able to cope with the increase in demand.

Most Indian exporters have been historically selling their physical iron ore on a spot rather than benchmark basis. The emergence of India was in fact the first crack in the benchmark system, even though at that time, this different pricing practice was largely ignored by more traditional exporters.

Main exchanges involved in iron ore derivatives

Before 2008, exchanges and clearing houses will only consider a new derivatives product, such as iron ore, after a few years of existence once its’ liquidity has picked up.

It is interesting to note in this that the new iron ore market emerged exactly at the time the financial crisis of 2008 was becoming apparent - so effectively from day one, exchanges and clearing houses have been involved in the iron ore market since its inception.

As of March 2012, there are no less than 6 significant international exchanges or clearing houses are involved in the iron ore market. They are as noted below:

- The Singapore Exchange: SGX
- London Clearing House: LCH.Clearnet
- The Intercontinental Exchange: ICE Futures
- The Norwegian Furtures and Options Clearing House: NOS
- The Chicago Mercantile Exchange: CME
- The Singapore Mercantile Exchange: SMX

We will examine in more detail the offers and characteristics of these exchanges further down and in section 4.

Iron ore swap trading volumes, Apr ‘09 – Jan ‘12, in dmtu

The Singapore Exchange (SGX), was first to reference an iron ore index (The Steel Index TSI) in April 2010. SGX started with 100% of the cleared volumes. It remains the largest exchange for iron ore trading but its share has decreased to 68% for the period Oct.2011-Jan.2012.

By January 2010, the London based clearing house LCH.Clearnet offered the same TSI index. The clearing house has since added options, also based on TSI index. Volumes have remained relatively limited over the period and the clearing house accounted for 6% of volumes traded on exchange for the period Oct.2011-Jan.2012.

In October 2010 the CME Group (Chicago Mercantile Exchange) referenced the TSI and Platts IODEX indices. The exchange is offering iron ore swaps and options based on both indices. The CME has experienced a strong growth in 2011 with its share of the total volume traded on exchange rising to 11% for the period Oct. 2011-Jan.2012. This is potentially linked to the concept of ‘Virtual Steel Mill’ developed by the group, where the CME is offering almost all components of the steel supply chain on a derivatives basis, which enables its customers to take positions on the different components and arbitrage relative values, without the logistical issues of having to run a real steel mill.

The Norwegian exchange “NOS-ASA” came live in March 2011 offering swaps and options based on the TSI index. The activity has been relatively limited so far but surprisingly the vast majority (92.4%) of the volumes cleared by NOS-ASA so far have been options. Still the exchange only accounted for 2% of the total cleared volumes for the period Oct.11-Jan.12.
SMX was the last exchange to launch iron ore derivatives in August 2011. It distinguished itself by choosing the MBIO index published by Metal Bulletin as reference for settlement. This new exchange is the only one that does not enjoy the benefit of an integrated clearing house – with South African bank ‘Standard Bank’ acting as its clearer.

Another particularity is that the trades take actually place on screen and directly between principals instead of being given up for OTC clearing after bilateral trading. So the exchange distinguishes itself by offering futures instead of OCT cleared swaps.

The lot size of its contract at 100 tonnes is also significantly lower than the typical lot size of its competitors (typically 500 or 1,000 tonnes).

Despite its late launch, the SMX managed to account for 13% of the total volumes traded on exchange for the period Oct.11-Jan.12 making it the second largest exchange after only 6 months of existence.

Finally, ICE Futures has officially referenced the IODEX (Platts) index in December 2009 but to date no trading has taken place.

We will analyse in Section 3, the specificities and methodologies of the three main indices currently providing the backbone the various iron ore derivatives products being offered. In Section 4 we will explore the characteristics and nuances of the main exchanges and associated clearing houses (where applicable) that handle the risk management aspect of the exchanges’ business.

We will also analyse the potential of each available derivative product in those sections but as a general summary, we think today out of the existing products, that the SGX (TSI), SMX (MBIO) and CME (TSI or IODEX) products have the best potential of development in bringing the iron ore derivatives market forward.

As we will see in Section 5 and 6, numerous new initiatives currently underway, could result in the emergence of a completely new “chosen” product of the market.
Three indices dominate the iron ore market

Overview of the main three indices

Since our previous report in 2008, the same three indices dominate the market for pricing of physical iron ore and trading of financial products:

- The TSI index - published by The Steel Index (TSI), which itself belongs to SBB
- The MBIO index - published by Metal Bulletin
- The IODEX index - published by Platts.

We will study in more depth the methodologies, similarities and differences between the three indices in Section 3.

In this paragraph we will summarize the main facts and pros and cons about each index. We will also analyse the historical price difference between the three indices.

Before the financial crisis of 2008, the three indices were traded more or less equally on an OTC bilateral basis, before any involvement of exchanges.

The Steel Index enjoyed a head start, as it was the first to be referenced by an exchange, SGX in Singapore back in 2009. The needs for clearing were crucial at that time, to attract sufficient liquidity.

From a financial trading perspective, TSI has been the market leader as it accounts for the majority of deals transacted on exchange and over the counter. Five exchanges have referenced so far the TSI index.

Platts IODEX was the second index to be referenced by an exchange, in this case ICE Futures. The IODEX index has been the index of choice from many suppliers since 2009, with significant quantities of physical iron ore priced on this index.

Strangely the IODEX success story in the physical market was not mirrored on the financial side, as, as of today, no financial deals have been transacted on ICE Futures.

We are puzzled by this discrepancy, as in most markets, financial players tend to use financial tools that are directly related to the physical market. Currently, iron ore market participants seem to be happy to price their physical deals with one index, and hedge their physical exposure with another one. This implies a basis risk between the two products that cannot be ignored, as we shall see below.

One reason could be that volumes remain relatively low today and are not deep enough to enable hedging of serious quantities. Despite this acceptance, as the market develops, we expect that ultimately both physical and financial iron ore will be priced on the same reference.
Such discrepancy is probably one of the numerous illustrations in our views that the iron ore market has not find yet its definitive form. As we will discuss further in Section 6, the buying of Steel Business Briefing (SBB) by Platts in 2011 adds further question marks on the ultimate product that the market will choose.

The MBIO index was the last to be referenced by an exchange, the Singapore Mercantile Exchange or “SMX” in Q4 2011. To the surprise of most market participants, which expected this product to never take off, the launch was very successful with a total trading volume of 5.03 million tonnes since the contracts’ inception in August 11 to the end of January 12. This figure represents the most promising start of any iron ore derivatives product to date.

The fact that SMX is based in Singapore and owned by Indian companies demonstrates that the iron ore derivatives market is attracting fresh interest from new segments in the market.

MBIO financial swaps traded on SMX are also futures that are traded directly on exchange, without any involvement of brokers. The lot size is also relatively small at 100 tonnes. This direct access to the market and the relatively low capital required seems to be attracting new categories of participants. This also illustrates the diversity of the steel and iron ore markets worldwide.

**Non negligible price differences between the three indices**

We also think that the interest to maintain the three different indices by market participants may be due to the difference in their relative values.

**Figure 1** Historical prices, three main iron ore indices, $/dmtu

![Comparison 3 main iron ore indices. $/tonne](chart)

Source: Metal Bulletin, Platts, The Steel Index, Perret Associates

At first glance, the three indices seem to be very highly correlated as the chart above illustrates.
However, a closer look indicates that there also significant differences in prices between the indices, at least in certain periods, but also different patterns.

If we focus on the difference or spread between the different indices since the launch of their daily publications in May 2009, IODEX is pricing on average the highest and MBIO on average the cheapest.