

Is Iron Ore the next Copper?

Discussing the iron ore market, indices and derivatives

Webinar - 10:00EST; 1st December, 2010

Guest Speaker: Joseph J. Innace, Platts - Chief Editor, Steel Markets Daily

Host: Paul Shellman

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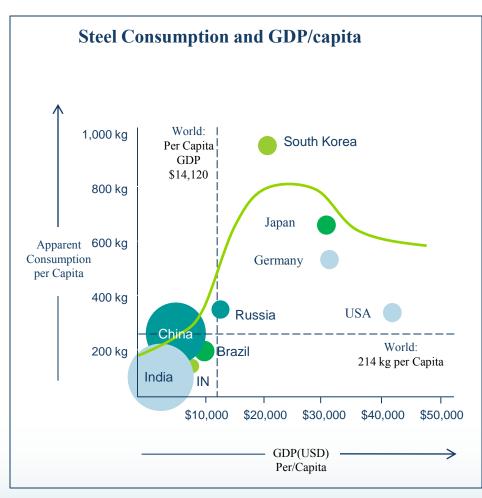
Today's Agenda

- What's driving the iron ore market? Emerging market economies and their impact on industrial materials
- Update on the iron ore prices, and other steel/metallurgical coal pricing
- Spot market price assessments, Platts indices
- Managing price risk; CME contract review
- Q&A, summary and follow up information



What's Driving Industrial Raw Material Prices

It's all about growth of emerging markets



- BRIC economies are the demand driver for industrial raw materials.
- Urbanization is the major theme here.
- Steel consumption is closely aligned with a country's rate of fixed asset investment.
- Ferrous metals represent the second largest commodity market by dollar value after oil.
- China is net short many of key ingredients used in steel making - coking coal, metallics, ferro alloys and energy.
- China has contributed to nearly all (95%) of the global growth in steel consumption over past 3 decades.

Source: World Steel Association, Hatch Consulting



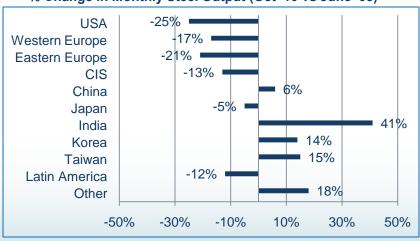
Market Dichotomy – Economies Operating at Variable Speeds China fighting inflation, while U.S. battles deflation

U.S. and China M1 Growth



Source: Deutsche Bank

% Change in Monthly Steel Output (Oct '10 vs June '08)



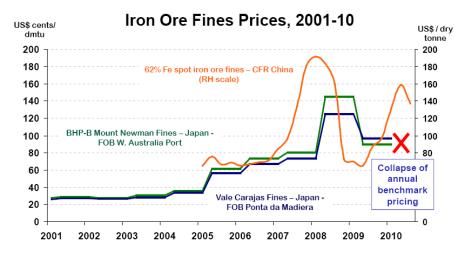
- Leading engines of global growth running at different speeds.
 - · China reports 4.4% rate of inflation in October,
 - USA continues to promote expansionary policies (QE2).
- Monetary policy playing a key role to commodity pricing.
- Steel production back to 2008 peak levels but not at equal levels across all regions.
- NAFTA and EU27 continue to loss ground to emerging markets (production as % of global totals).
 - EU at12%
 - U.S. at 8%
 - China at 45%
- Tug of war contributes greatly to underlying price volatility.

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Source: Worldsteel.org

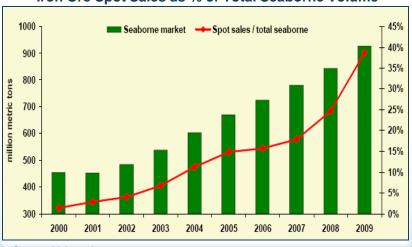
Iron Ore Pricing Status

Pricing terms for iron ore has ramifications throughout the entire steel industry



Source: Vale, BHP, SBB,

Iron Ore Spot Sales as % of Total Seaborne Volume



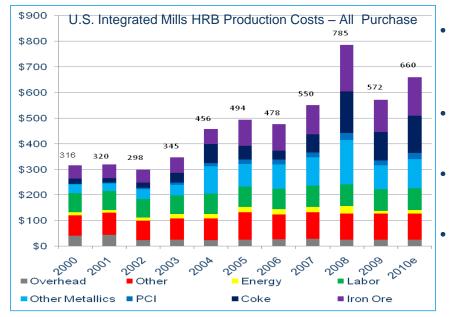
Source: Vale estimates

- Breakdown of "the benchmark pricing system" started in 2008 during volatile periods.
- Migration to "market clearing prices" removes annual fixed price contracts and introduces short term price volatility.
- A complete shift to spot pricing requires greater transparency and independent price discovery.
- While shorter term pricing "may currently" favor raw material producers, it does not solve problem of "stabilizing long term prices", for either party.
- Major miners and mills are advocating using contracts based on a trailing quarterly pricing formula using an average of daily prices.



Steel Prices are not only Contingent on Iron Ore

Dependency on basket of raw materials, seaborne freight and logistics



Source: Applied Value



Source: SSY, Bloomberg, Deutsche Bank

Iron ore, coking coal, metallics, ferro alloys and energy, contribute to the raw material basket that is used for integrated steel production.

Steelmaking has a more complex cost structure then that of base metals or energy markets.

Logistics – especially transport remain critical component to bulk commodity pricing.

What's the relationship between freight rates and bulk commodity prices?

- Shipping cost can be proxy for world trade activity
- Freight rates are impacted by the supply of vessels, and or the demand for cargoes.

Route	Spot (Nov'10)
Brazil – China (\$/Wmt)	\$27.45
W. Aus - China (\$/Wmt)	\$10.96
East India – China (\$/Wmt)	\$16.9

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Removal of Annual Benchmarks Creates Pricing Gap

Managing exposure to volatile prices is a core industry objective

- Annual benchmarks for steel making raw materials now being replaced with shorter term pricing contracts.
- Spot pricing removes structural stability previously provided with longer term fixed price contracts.
- Spot benchmarks are conducive for the creation of derivative instruments.
- Derivative markets offer a more flexible and robust system to manage price volatility than what was previously available.



The New Normal for Steel Making Raw Materials

Supply worries in short term, demand worries in the long term







December 1, 2010

Joe Innace

Chief editor, Steel Markets Daily

CME Group webinar

The size of the iron ore spot market

The typical size of a spot market is about 5 - 10% of the global delivery of that commodity.

Delivery of <u>all</u> iron ore annually is around 1.7 billion tons globally.

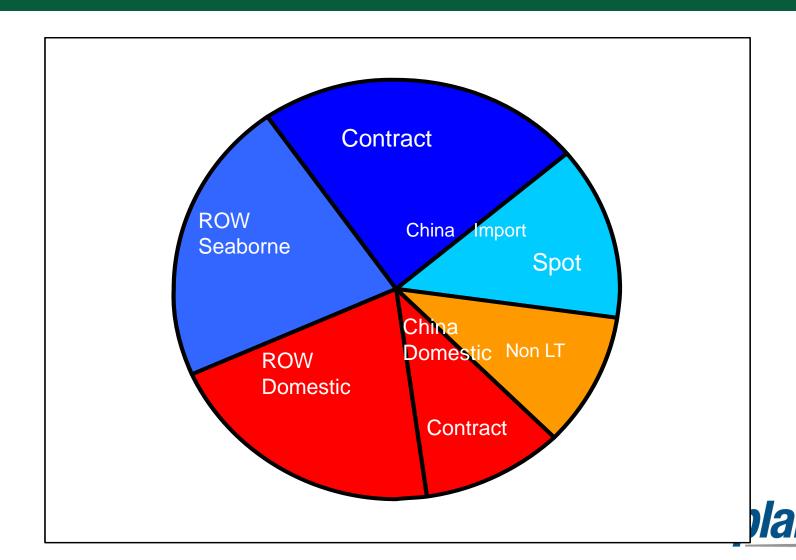
1.0 billion is seaborne, of which, around 625 mil mt is imported into China. Non contract (LT) material is estimated to be around 225 mmt.

Domestic iron ore production in China is around 350 mil mt with possible half sold outside of LT contracts. This market does not export.

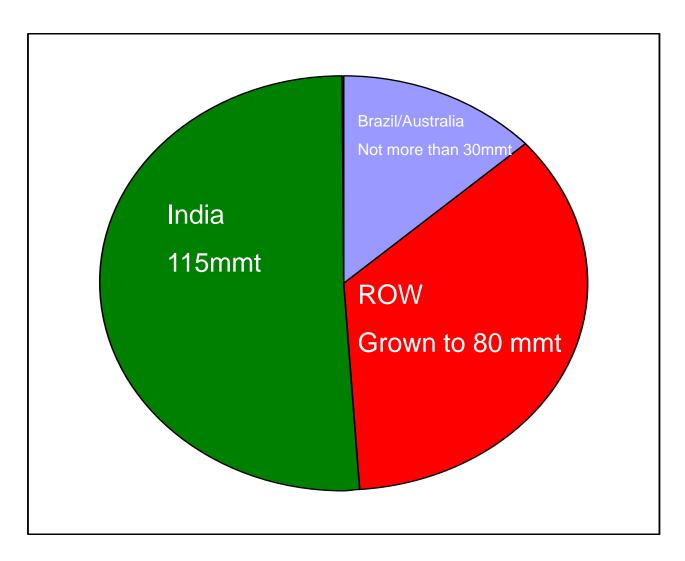
Meaning a freely traded and accessible spot market of around **13%** of the total.



Iron ore market around 1.7 billion metric tons

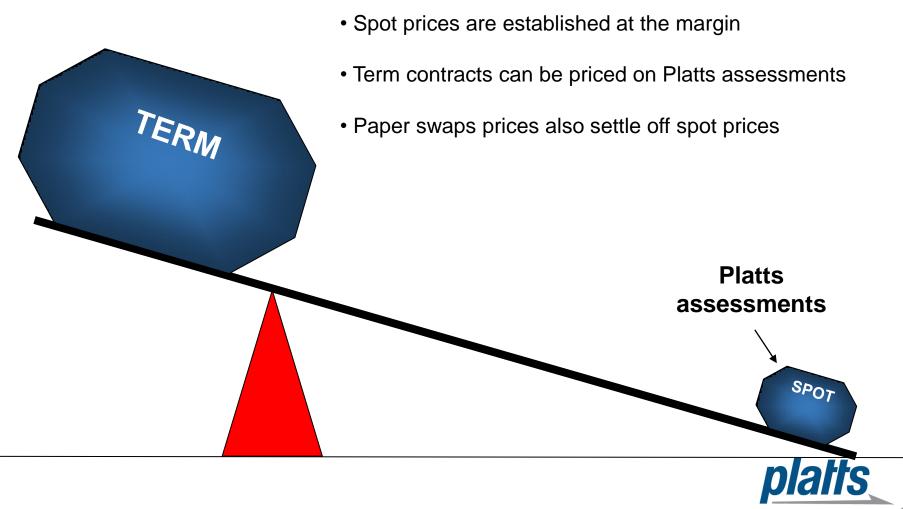


The seaborne spot market could be around 225 million metric tons, 2010 estimate

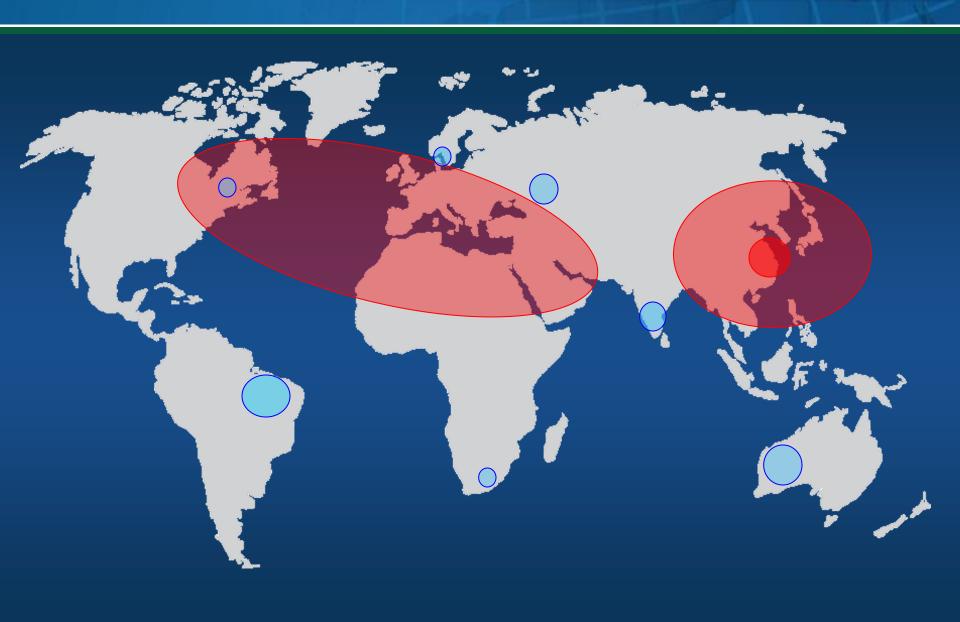




Platts focus is the spot market



IODEX 62% CFR China is now a global benchmark



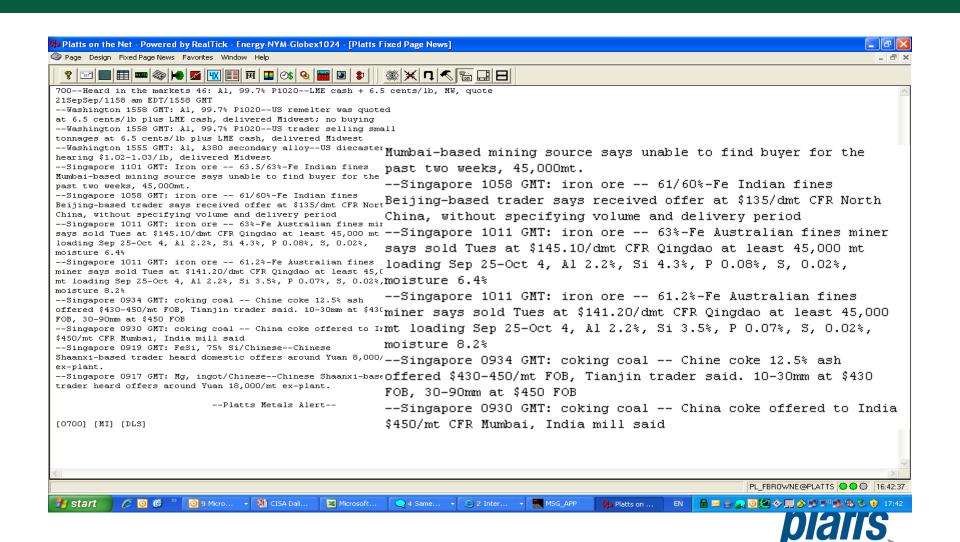
Data is market tested

We designed the IODEX iron ore assessments to perform one function, that is to reflect the daily transaction or clearing price of a specification of iron ore fines, in the seaborne spot market into China.

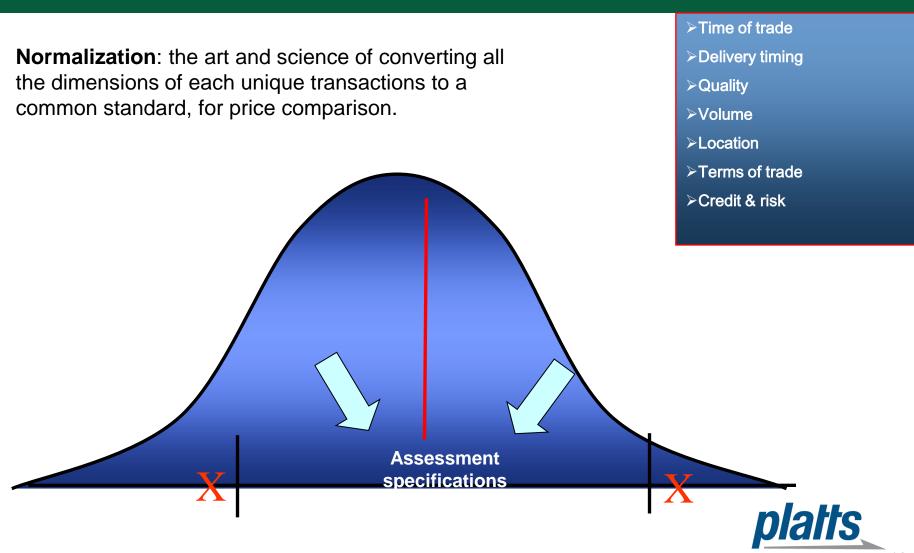
One of the key elements to achieve that function is peer review. This requires information to be tested in the marketplace by consumers, producers, traders or anyone that focuses on markets.



'Heard in the market' alerts go out during the day



Benchmarking is about defining consistent standards



Platts analysis of Q1 2011 contract prices, Vale

Estimated Vale iron ore product prices for Q1 2011

Platts IODEX average Sep-Nov: \$149.177/dmt CFR North China Platts 1%-Fe differential (60-63.5%-Fe) Sep-Nov: \$5.710/dmt

Product	Fe Content (%)	Moisture (%)		Change (%) from Q4	FOB Price
			\$/dry mt		\$/dry mt
Sinter Feed Carajas (SFCJ)	66%	8.50%	172.02	7	149.07
Standard Sinter Feed Tubarao (SSFT)	65	6.5	166.31	7	143.85
Sinter Feed Extra Tubarao (SFXT)	65.4	7.5	168.59	7	145.89
Sinter Feed High Silica Tubarao (SFHT)	60	5	137.76	10	115.65
Sinter Feed Ore Tubarao (SFOT)	63.5	7	157.74	8	135.16
Standard Sinter Feed Guaiba (SSFG)	65	7.5	166.31	7	143.60
Sinter Feed Ore Guaiba (SFOG)	63.5	8	157.74	8	134.92
Sinter Feed High Silica Tubarao (SFHG)	60	7	137.76	10	115.18
Pellet Feed Carajas (PFCJ)	65.3	12.5	168.02	7	144.02
Pellet Feed Iron Tubarao (PFIT)	67.8	8	182.30	6	159.47
Pellet Feed Fines Tubarao (PFFT)	66.5	8	174.87	7	152.05
Pellet Feed Guaiba (PFFG)	65.8	10.5	170.88	7	147.41
Lump Ore Blast Furnace Tubarao (LOBT)	64	5.5	191.31	6	169.09
Lump Ore Blast Furnace Guaiba (LOBG)	66	3.5	191.31	6	169.55
Lump Ore Blast Furnace Non-screened Guaiba (LONS)	65	3.5	191.31	6	169.55
Carajas Blast Furnace Pellet (PBFC)	66	2	220.49	5	199.07
Tubarao Blast Furnace Pellet (PBFT)	65.8	2	217.05	6	195.62

Note: Abbreviations for pellets may differ from those actually used by Vale. Sinter feed is also commonly called fines, and pellet feed, concentrate.

Source: Platts



Platts analysis of Q1 2011 contract prices, Rio Tinto

Estimated Rio Tinto iron ore fines prices for Q1 2011

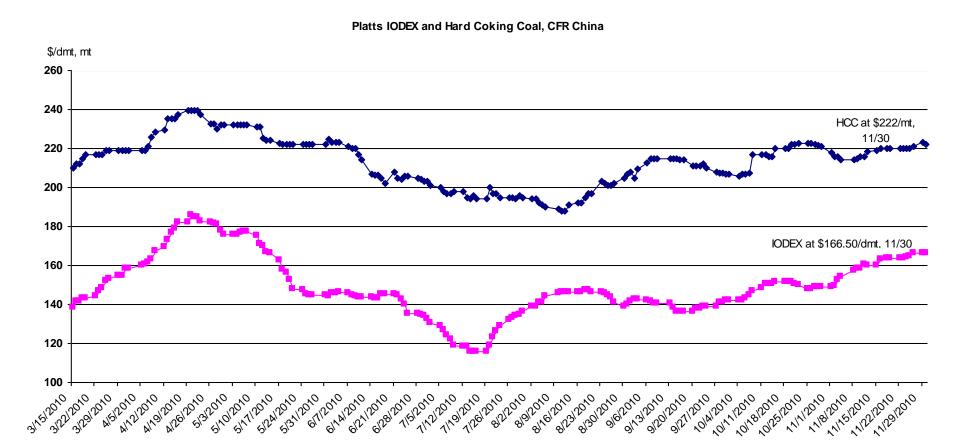
Platts IODEX average Sep-Nov: \$149.177/dmt CFR North China Platts 1%-Fe differential (60-63.5%-Fe) Sep-Nov: \$5.710/dmt

Product	Fe Content (%)	Q1 FOB	Q4 FOB	Q1 DMTU	Q4 DMTU
	(typical)	\$/dry	mt	\$	•
Yandicoogina fines	58%	128.10	118.98	2.209	2.051
Pilbara-blend fines	62%	136.94	127.18	2.209	2.051

Source: Platts

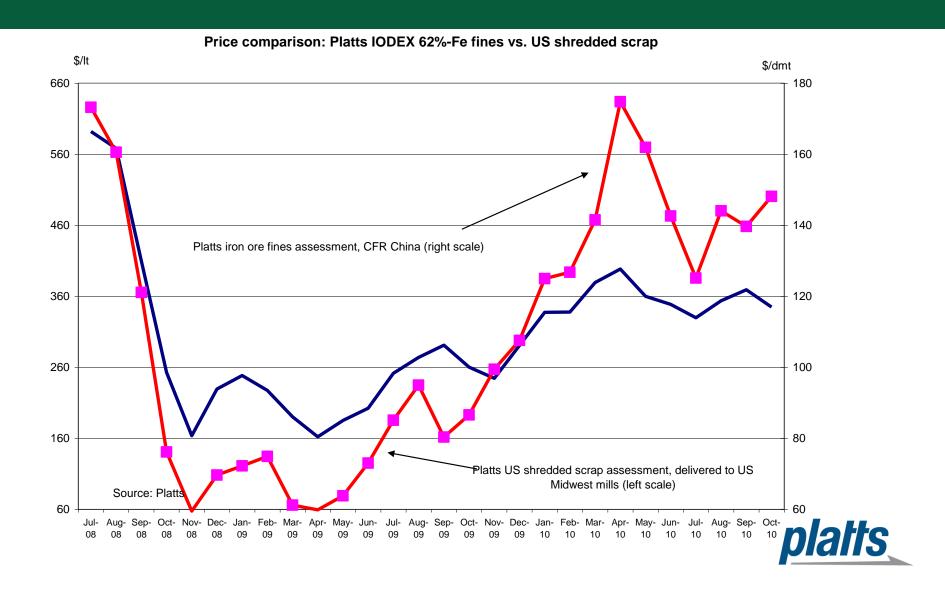


Platts IODEX and Platts Hard Coking Coal assessments



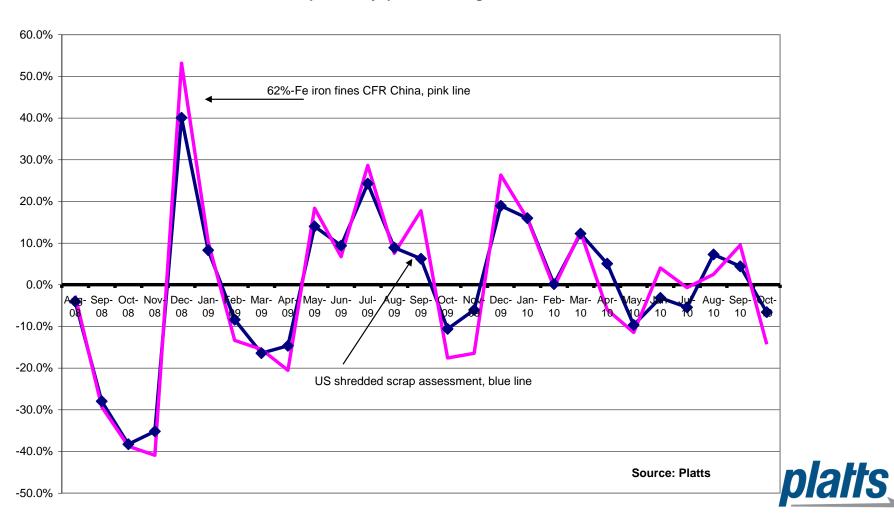


IODEX vs. US Ferrous Scrap



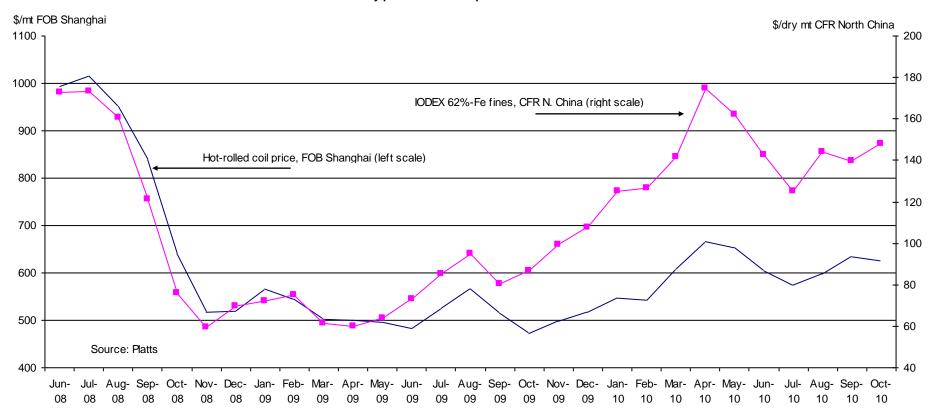
IODEX vs. US Ferrous Scrap

Iron ore and scrap volatility, percent change, month-on-month



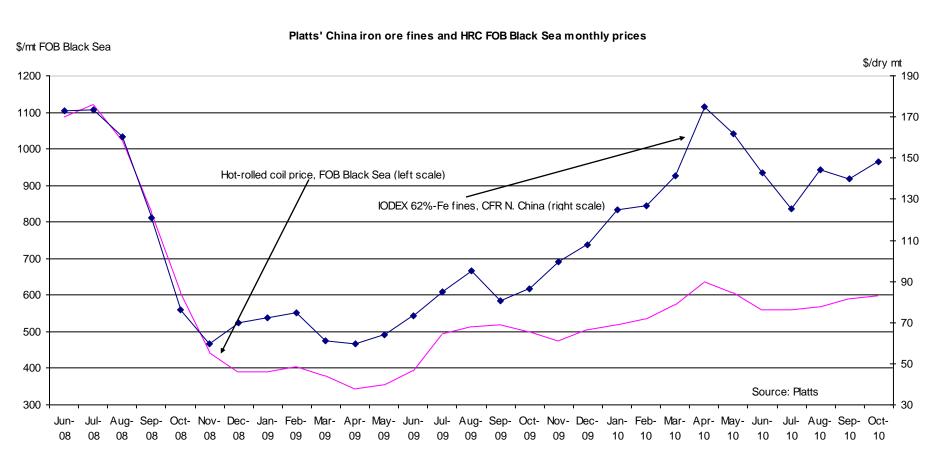
Platts IODEX and Platts China hot-rolled coil, FOB

Platts' monthly price of China exported HRC vs. Iron Ore fines





Platts IODEX and Platts Black Sea hot-rolled coil, FOB





Our metals portfolio



Metals



Coal



Shipping

Precious

Minor

Base

Ferro Alloys

Stainless

Steel

Iron ore

Coking Coal

Scrap

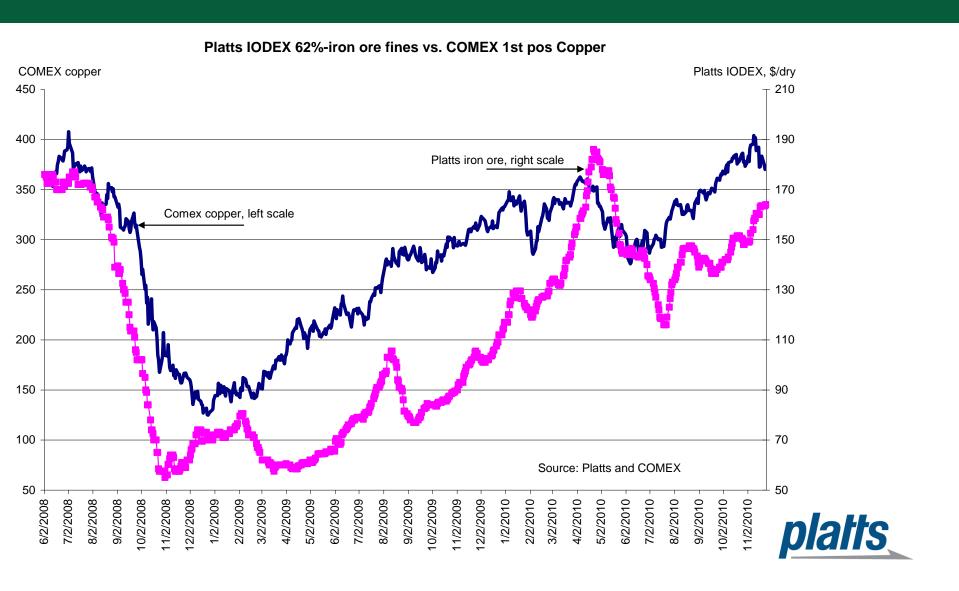
Bulk Ores



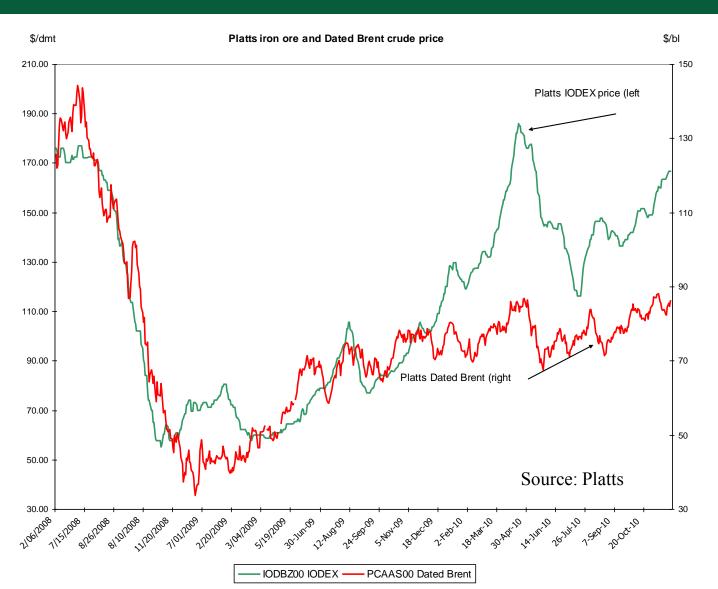
So...is iron ore the next copper?



Maybe it already is...Platts IODEX and COMEX copper



Platts IODEX and Dated Brent crude oil





Spot price benchmarking requires

Independence

Accuracy

Transparency

Methodology



Information Sources

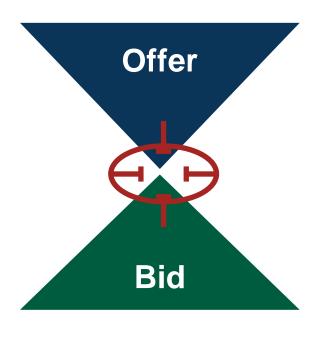
Anyone Active & Reliable in the market

- Producers
- •End users
- Traders
- Brokers
- Distributors
- •Shippers
- Financial institutions
- Government entities



Firm bids and offers help price discovery

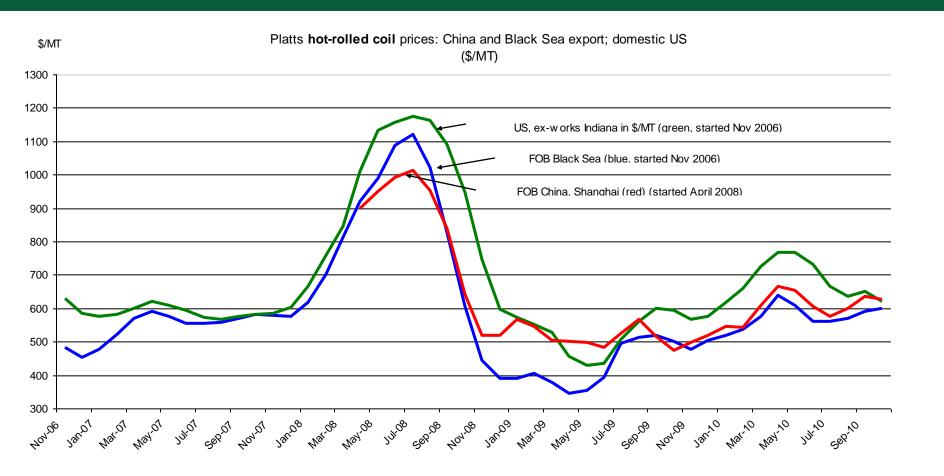
Platts has years of experience executing accurate and robust assessments. Platts does not and will not sign non-disclosure agreements with data providers



Platts assesses transactable market levels
Deals, bids and offers
Transparency and consistency
Repeatability and incrementability
Verification procedures
Methodology and accuracy



Platts key hot-rolled coil prices, \$/MT





Steel market news, price assessments and supporting data

platts

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Steel Markets Daily

Volume 4 / Issue 176 / September 14, 2010

Platts steel industry	assessments, Sep	tember 14			Flat-rolled market
					Cold-rolled price rises,
Europe					hot-rolled falls in US mark
		Close/			
	Eur/mt	Midpoint	Change	% Chg	New York—Buyers of flat-rolled produc
iot-rolled coll Ex-works, Ruhr	575.00-585.00	580.00	0.00	0.00	in the US market said Tuesday they were
CIF Antwerp	535.00-545.00	540.00	0.00	0.00	paying slightly less for hot-rolled coil, but
Oir Aritweip	\$/mt	540.00	0.00	0.00	little more for cold-rolled coil. As a result,
FOB Black Sea	590.00-600.00	595.00	0.00	0.00	Platts assessment for HRC inched down
	Eur/mt				a midpoint of \$592.50/st ex-works Indian
old-rolled coll					since no deals or firm bids were reported
Ex-works, Ruhr	660.00-670.00	665.00	0.00	0.00	higher than \$595/st. The trading range for
CIF Antwerp	620.00-630.00 \$/mt	625.00	0.00	0.00	a typical order size of 1,000 st narrowed
FOB Black Sea	705.00-715.00	710.00	0.00	0.00	\$590-595/st ex-works.
1 OD DIGON OUG	Eur/mt	7 20.00	0.00	0.00	The Platts cold-rolled coil assessment,
Plate	Eur/IIIC				however, picked up \$5 to a midpoint of \$70
Ex-works, Ruhr	590.00-610.00	600.00	0.00	0.00	st exworks Indiana, based on most deals
CIF Antwerp	565.00-575.00	570.00	0.00	0.00	taking place in a range between \$695-705, normalized ex-works Indiana. Some buyers
Deleterates has	Eur/mt				reported considerably longer lead times for
Reinforcing bar Ex-works, NW Eur	480.00-490.00	485.00	0.00	0.00	reported considerably longer lead times for CRC and maintained that this was the stror
EX-WORKS, HWY EUF		485.00	0.00	0.00	est product in the flat-rolled segment,
Eastern Mediterranean,	\$/mt				Lead times for HRC are considerable
basis Turkey	595.00-605.00	600.00	0.00	0.00	shorter, "There are even some mini-mill
	\$/mt				Shorter. There are even some minimum
Ferrous scrap					Today in steel
HMS FOB Rotterdam	359.50-360.50	360.00	0.00	0.00	roday in sect
A3, FOB Black Sea	366.50-367.50	367.00	0.00	0.00	
North America					Iron ore market
10111171111011011		********			Spot prices fall, but 04 contracts
	\$/st	Close/ Midpoint	Change	% Chg	prevent bigger decline
Hot-rolled coll	\$/St	wiiapoint	Change	% Cing	Australia's Fortescue pricing
Ex-works, Indiana	590.00-595.00	592.50	-2,50	-0.42	Fe contracts by shipment
CIF, Houston	590.00-600.00	595.00	0.00	0.00	re contracts by simplifient
Cold-rolled coll					
Ex-works, Indiana	695.00-705.00	700.00	5.00	0.72	Coking coal market
CIF, Houston	675.00-690.00	682.50	7.50	1.11	Coking Coar market
Plate					Hard coking coal stable, but
Ex-works, US SE	760.00-780.00	770.00	0.00	0.00	market feels the pressure
CIF, Houston Reinforcing bar	720.00-730.00	725.00	0.00	0.00	
Ex-works, US SE	590.00-600.00	595.00	0.00	0.00	
CIF. Houston	550.00-560.00	555.00	0.00	0.00	Rebar market
	\$/It		0.00		World to the control of the control of
Ferrous scrap	\$/IL				Turkish rebar export prices stable, LME billet declines
Shredded, Del Midwest USA	370.00-380.00	375.00	0.00	0.00	LIME Dillet declines
Asia					
1014					News
	S/dmt	Close/ Midpoint	Change	% Chg	
Iron ore fines 62%Fe	3/umt	wiiapoint	Change	∞ ong	Baosteel raises Oct steel prices,
CFR North China	138.00-139.00	138.50	-2.00	-1.42	HRC up Yuan 300/mt
Please see SMD's complete			2.00	_146	
	\$/mt				
Hot-rolled coll					Exchanges
FOB Shanghai*	635.00-645.00	640.00	15.00	2.40	Shanghal rebar prices fall; volume
Reinfording bar FOB China*	610.00-630.00	620.00	30.00	5.08	up on economic data

Platts daily iron ore assessments, September 14							
	\$/dmt	Midpoint	Change	% change			
IODEX 62% Fe CFR North China	138.00-139.00	138.50	-2.00	-1.42			

IODEX 62% Fe CFR North China	138.00-139.00	138.50	-2.00	-1.42
63.5/63% Fe CFR North China	146.00-147.00	146.50	-1.50	-1.01
65% Fe CFR North China	155.50-156.50	156.00	-1.50	-0.95
58% Fe* CFR North China	106.50-107.50	107.00	-2.00	-1.83
*AI = 4.0% max				

Per 1% Fe differential (Range 60-63.5% Fe), \$/dmt

Range 60-63.5% Fe 0.00 5.50

FOB netbacks per route / basis IODEX 62% Fe

Route	Vessel Type	Freight rate (\$/wmt)	Molsture (%)	IODEX (\$/dmt)
Australia	Capesize	11.75	8.03	125.72
India West	Panamax	16.00	8.11	121.09
India West	Handymax	19.00	8.11	117.82
India East	Handymax*	19.00	8.00	117.85
Brazil	Capesize	29.25	9.00	106.36
South Africa	Capesize	20.25	3.00	117.62

^{*} Typical two-port co-loadings from Haldia and Paradeep

Freight differentials to major import ports, \$/wmt

From Qingdao on a Free Out basis

To North China: Caofeidian, Tianjin & Xingang	0.50	
To East China: Beilun	-1.00	
To South China: Zhanjiang & Fangcheng	-1.50	

Rolling monthly average, \$/dmt

IODEX 62% Fe 141.11

IODEX 62% Fe CFR North China OTC swaps assessment, September

IODEX 62%	\$/dmt	Change	% change
Oct 10	130.000	-2.000	-1.52
Nov 10	129.000	-1.000	-0.77
Dec 10	128.000	0.000	0.00
Q4 2010	129.000	0.000	0.00
Q1 2011	126.000	-1.000	-0.79
Calendar 2011	123.500	0.000	0.00

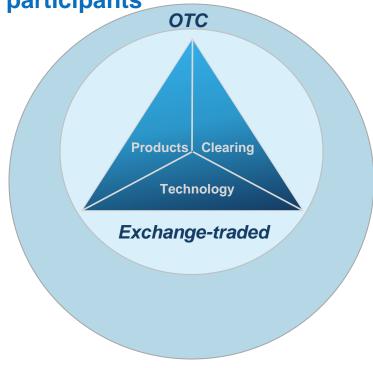


CME Group Mitigates OTC Derivative Trading Risks

Core Attributes of CME ClearPort: Security, Anonymity & Transparency

Flexible Clearing Services open to OTC market participants

- Clearing is independent of trade execution
- Significant mitigation of counterparty risk
- Certainty of independent, neutral settlement prices
- Efficiencies for capital and operations
- Complementary to existing OTC trade capture systems
- 100+ years of risk management experience



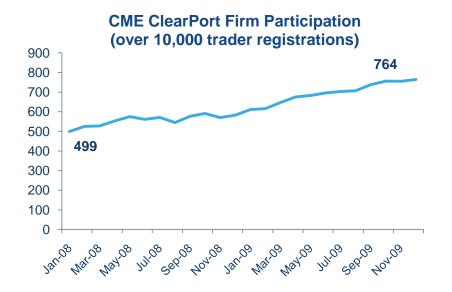
More than Energy; expanding across asset classes



CME Group

CME ClearPort

Proven participation and product growth record



Evolution of CME ClearPort

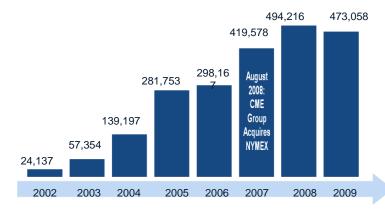


Chart indicates average daily volume in round turns; 2010 YTD ADV through March 31st

	2002	2003	2004	2005	2006	2007	2008	2009	2010TD
# of Launches	57	10	40	77	91	123	141	332	161
			Nat Gas Crude Oil		Crude Refined	Crude Nat Gas	Crude Oil Refined	Power Nat Gas	TBD
Key New Product	Nat Gas	Coal	Refined Products	Crude	Products		Products Power	Refined Products	
			Power				HR Steel	NGLs	

Over 900 contracts currently available

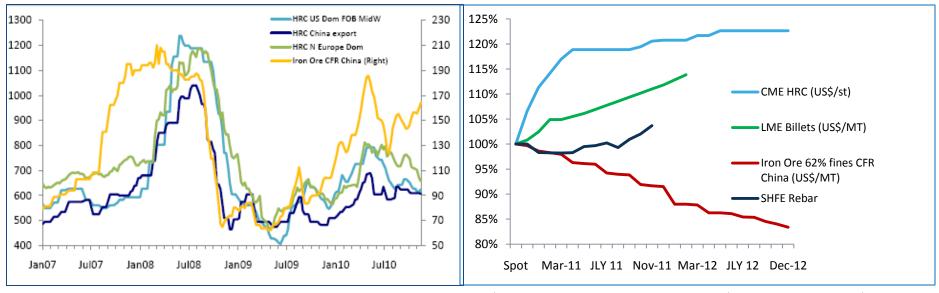


Ferrous Metals Forward Curves

Products display price divergence

Historical HRC Steel and Iron Ore Spot Prices

Forward Prices as a % of Spot



Source: Deutsche, CRU, CME, SBB

Spot Prices: HR - \$530/s.ton, Rebar - 4630/m.ton, Billet - \$491/m.ton, Iron Ore - \$157/m.ton

- No single derivative contract can adequately manage exposure across the entire ferrous metal complex.
- Product specifications, quality issues, and regional locations create "basis risks" throughout supply chain.
- Positive correlations do exists, but rarely allow for physical arbitrage to offset price risks.



Iron Ore 62% Fe, CFR China (Platts) Swap Future CME Group provides novation to clearing of OTC swaps via CME ClearPort

Product Symbol	PIO
Service Description	Clearing of Iron Ore 62% Fe, CFR China Port (Platts) Swap Futures
Venue	CME ClearPort
Contract Size	1,000 Dry Metric Tons
Clearing Hours	CME ClearPort is available for trade submission 6:00PM Sunday to 5:15PM Friday New York Time, with a 45 minute break from 5:15PM to 6:00PM New York Time, Monday through Thursday
Unit Price	Valued in U.S. Dollars and Cents per dry metric ton
Minimum Price Fluctuations	Minimum increment of \$0.01 per ton (\$10.00 per contract)
Listed Contract Months	Contracts listed for clearing goes out 24 consecutive months
Final Settlement	The final settlement is compiled from the Platts daily prices for "Iron ore fines 62% Fe, CFR China Port". Each contract month settles against the average price calculated for all available price assessments reported by Platts for that given calendar month.
Settlement Type	Financial



Iron Ore Swap Futures Final Settlement Price Calculation

Financially settled on the monthly average of the daily Platts 62% fe CFR China price

 Platts assesses physical market activity on daily basis Physical trades remains the basis for final swap futures settlement price Pricing normalization brings pricing data to a 62% fe standard grade parity Each month is calculated as its own average Day 3,4,5.... Day "i" Day 1.... Day 2 **Platts Daily** Price A Price B Price C Data Price D **Data Point Data Point Data Point** Point Price C Price A Reporting Date Price B Price D \sum [Daily Price,] Settlement Calculation: Final Settlement Price = $\frac{i=1}{2}$ Trading Time Table: Contracts are listed for 24 consecutive months · Last trading day is last business day of each month Other Issues: Price discovery occurs in the OTC swap market CME ClearPort is open to accept trades from Sunday to Friday (6:00pm – 5:15pm EST) Daily mark to market forward prices are posted for all contracts with open interest



Conclusion

New pricing paradigm will require changes to how steel industry manages price

	Past	Present	Consequence
Iron Ore Miners	 Tied into long term supply with fixed prices and predictable volumes Sold material at "cost plus" formula Cap upside earnings potential of miners 	 Market based pricing terms Demand – supply determines spot price Structural constraints limit capacity expansion 	 Increased short dated price volatility Miners benefit from tighter supply , but risk lower prices if produce at over capacity
Steel Mills	 Integrated mills lock into annual pricing contracts for core raw materials Able to provide long term steel contracts to customers 	 Mills are competing globally to secure supply of raw materials Seek means to limit exposure - vertical integration within supply chain is frequently espoused 	 Volatile margins between raw materials and finished steel prices Unable to obtain/offer long term fixed price contracts Seek to pass along price exposures to end users
End Users	 Predictable supply and fixed term contracts via annual pricing Raw material suppliers absorbed price volatility 	 Exposed to sudden and unexpected price surges Need new means to manage longer term price exposure 	 Unable to lock into fixed price contracts with suppliers Price volatility adds unpredictability to earnings

- These changes are evolutionary in nature, hence the market will continue to adjust, refine, and improve.
- Industry participants will seek out solutions for reducing exposure to earnings volatility.
- · Cash market indices and derivatives instruments are necessary and acceptable tools for risk management.



Questions?

Follow up:

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