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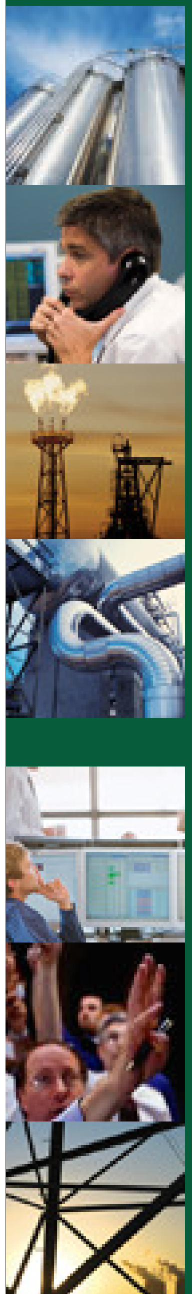

Steel Inputs: Driving the Direction for Automotive Steel

May 12, 2011

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Global Editorial Director
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Chief Editor, Steel
Platts Metals Group

Advanced Purchasing Dynamics' 2011 Motor Vehicle Metals & Resins Conference, Troy, MI

Agenda

- Introducing Platts
- Iron Ore
- Ferrous Scrap
- Coking Coal
- Ferroalloys
- Molybdenum
- Flat-rolled Steel

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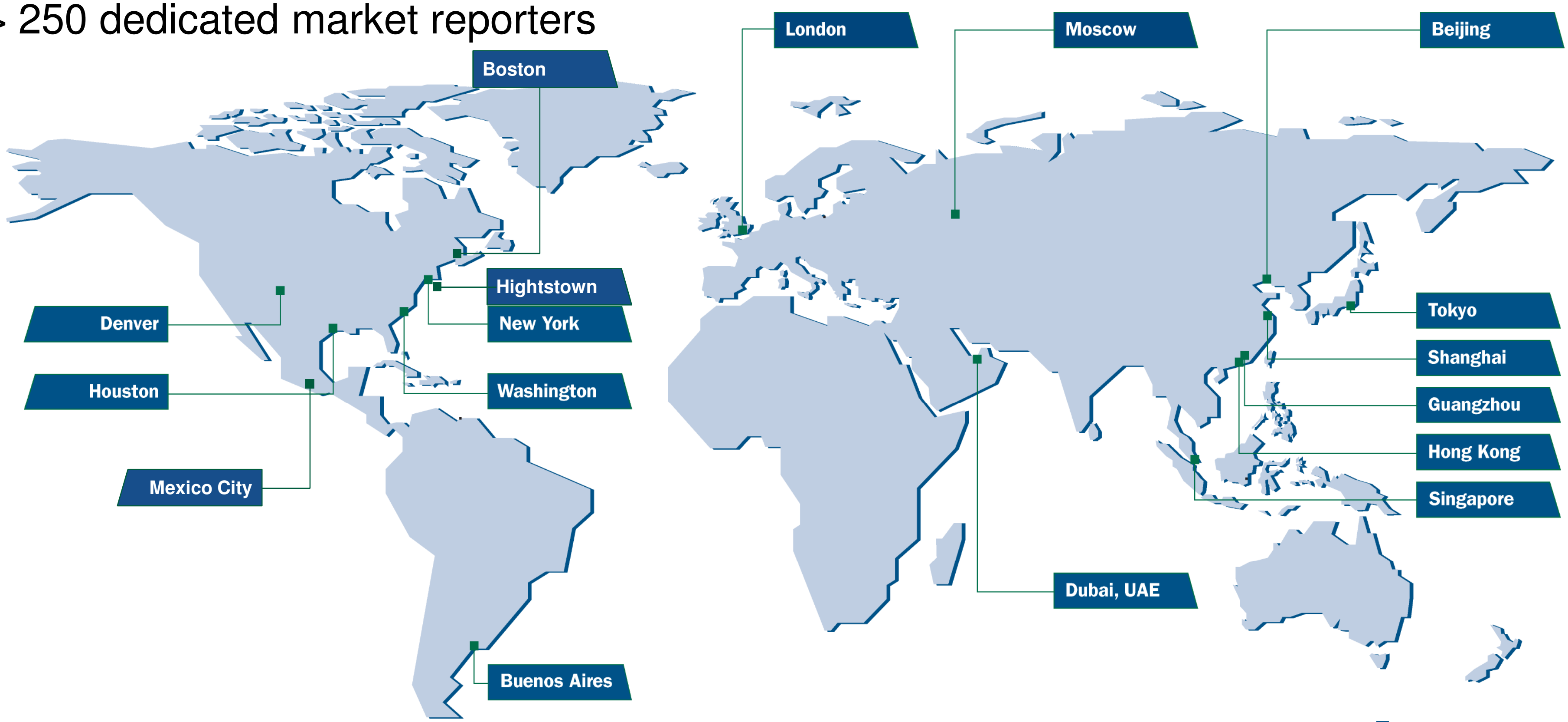

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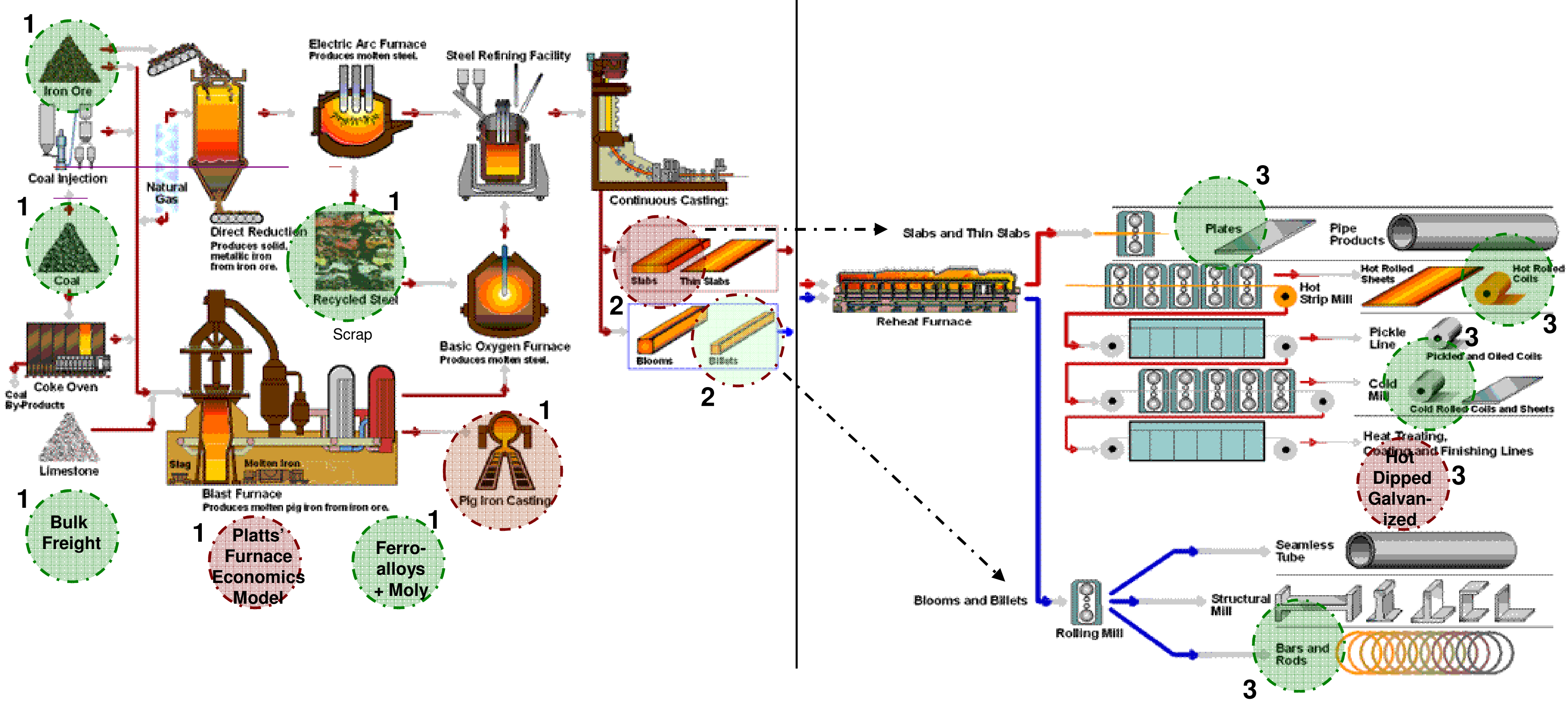
The steel value chain

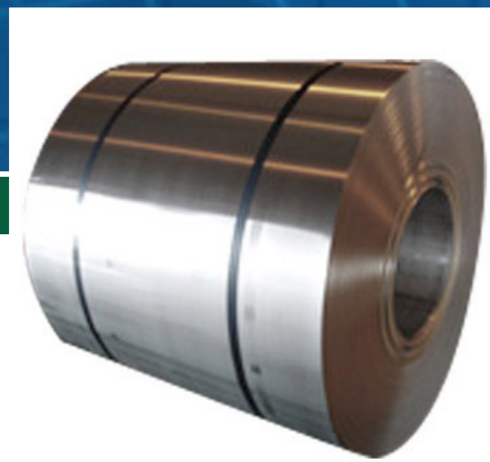


Platts assessments

Platts analysis

• Slabs and billets are “inputs” to produce semi-finished products like HRC and Rebar for 1000’s of re-rollers globally (mostly in China), making slab and billet prices critical to the re-roller segment.

Steel Blast Furnace Economics



Indicative production cost breakdown* for integrated-mill hot-rolled coil

Iron ore	35%
Coking coal	30%
Energy/Labor	25%
Scrap	5%
Ferroalloys, other	5%

Varies region-to-region, producer-to-producer

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Iron ore moves toward spot-based pricing

- Platts IODEX 62% is now a global benchmark
- Furnace Economics is changing iron making and trade
- "Iron ore negotiations" is a misnomer today because iron ore prices are no longer determined through talks between a small group of representative steelmakers and miners
- Iron ore contracts are now bilateral agreements between a miner and a steelmaker, and prices are determined by indexes rather than negotiations
- Negotiations still take place, but on finer contractual details rather than actual prices.

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Current iron ore pricing

Producer	Frequency	Quotation period	Formula
Vale	Quarterly	3-months prior + 1 month gap	62%-Fe index + premiums
Rio Tinto	Quarterly	3-months prior + 1 month gap	Dmtu basis from 62%-Fe index
BHP Billiton	Short-term or Monthly or Quarterly	Preceding period (days, month or quarter) for provisional price. Final price determined by preceding or actual period.	Dmtu basis from 62%-Fe index
Fortescue Metals Group	Short term, by the shipment	Provisional price based on first 5 days of month before loading. Final price based on index values over 5 days before vessel's notice of readiness	Dmtu basis from 62%-Fe index
ArcelorMittal	Mining division sells at least some iron ore to steel producing divisions based on market prices		

Source: Companies' announcements,
Platts reports based on customer accounts

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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 (%)	CFR Price $/dry mt	Change (%) from Q4	FOB Price $/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

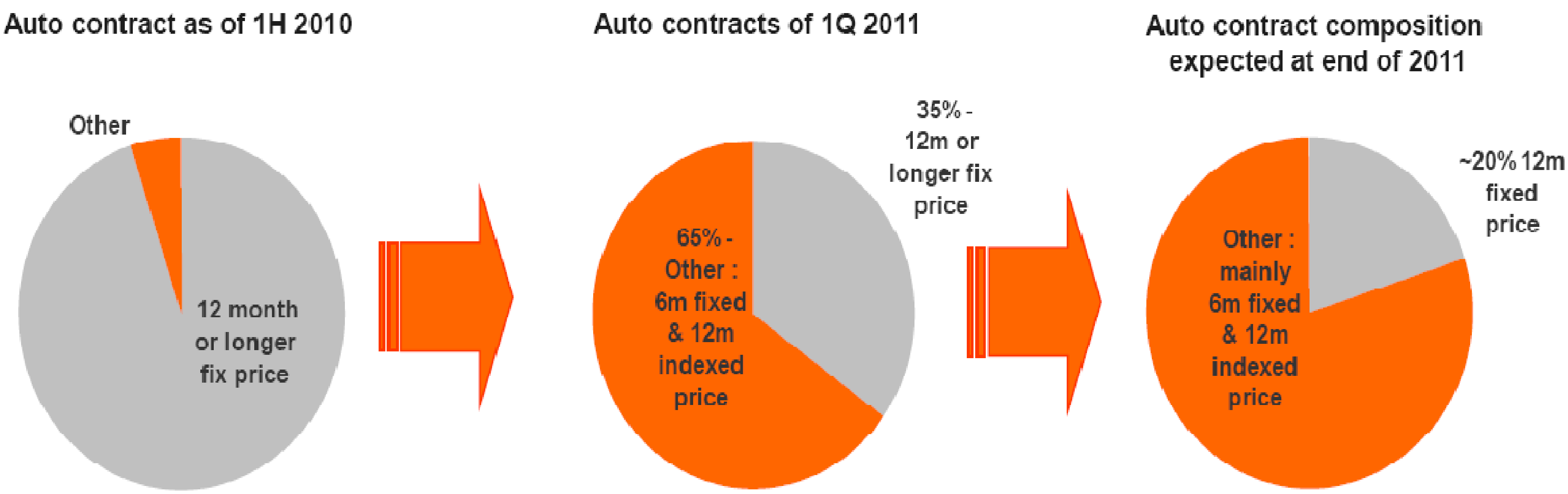
Benefit of floating price mechanism

- Creates efficient markets
- The commodity is valued by its own fundamentals
- Risk is not mitigated – but it is managed
- Future income is known

The speed of market change from term to spot pricing is accelerating

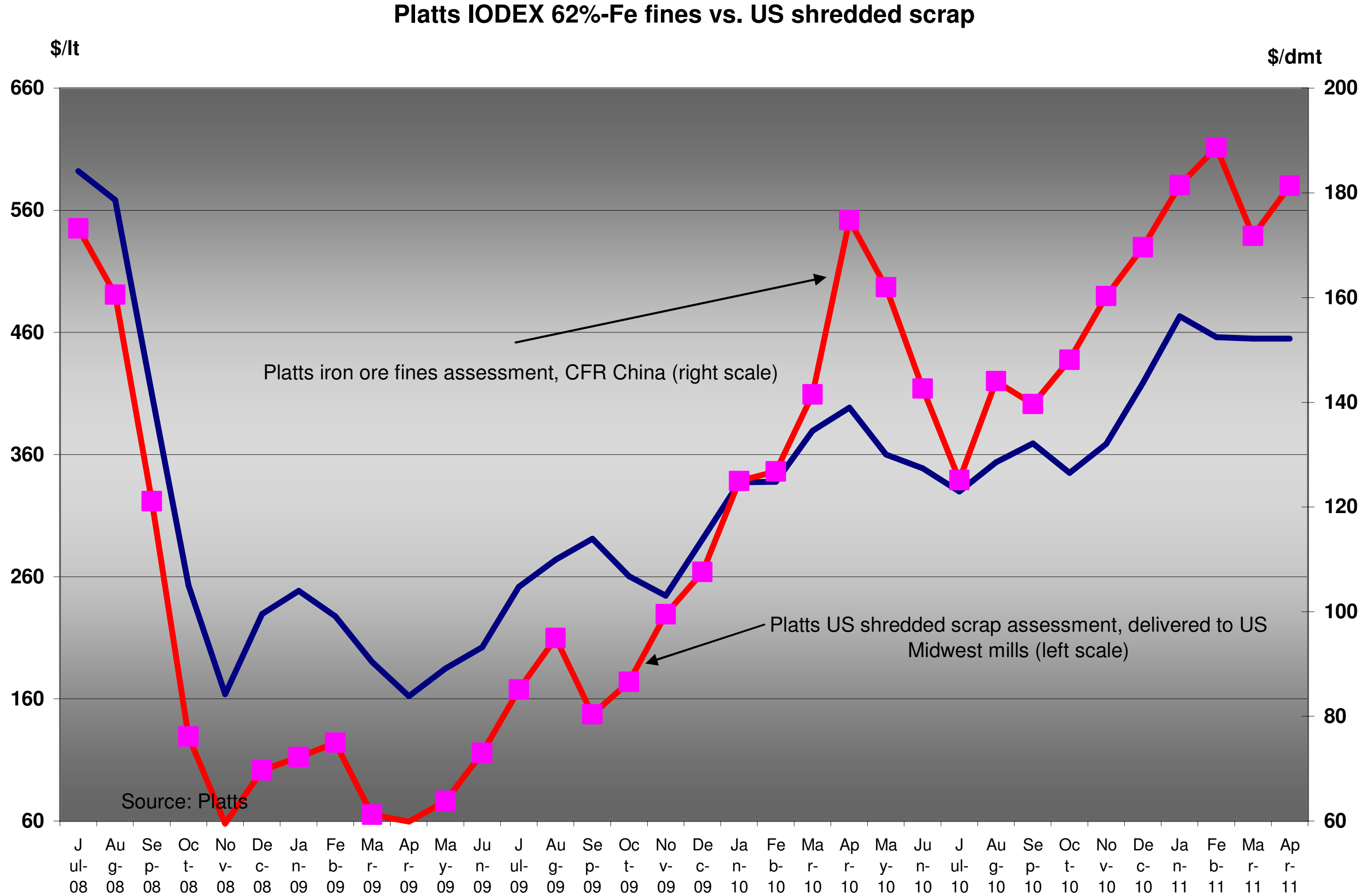
Oil	20 years	(1975-1995)
Coal	10 years	(1995-2005)
Petrochemicals	5 years	(2003-2008)
Iron Ore	2 years	(2008-2010)
Coking Coal	2 years?	(2010-2012?)

Steelmakers and their customers are adapting



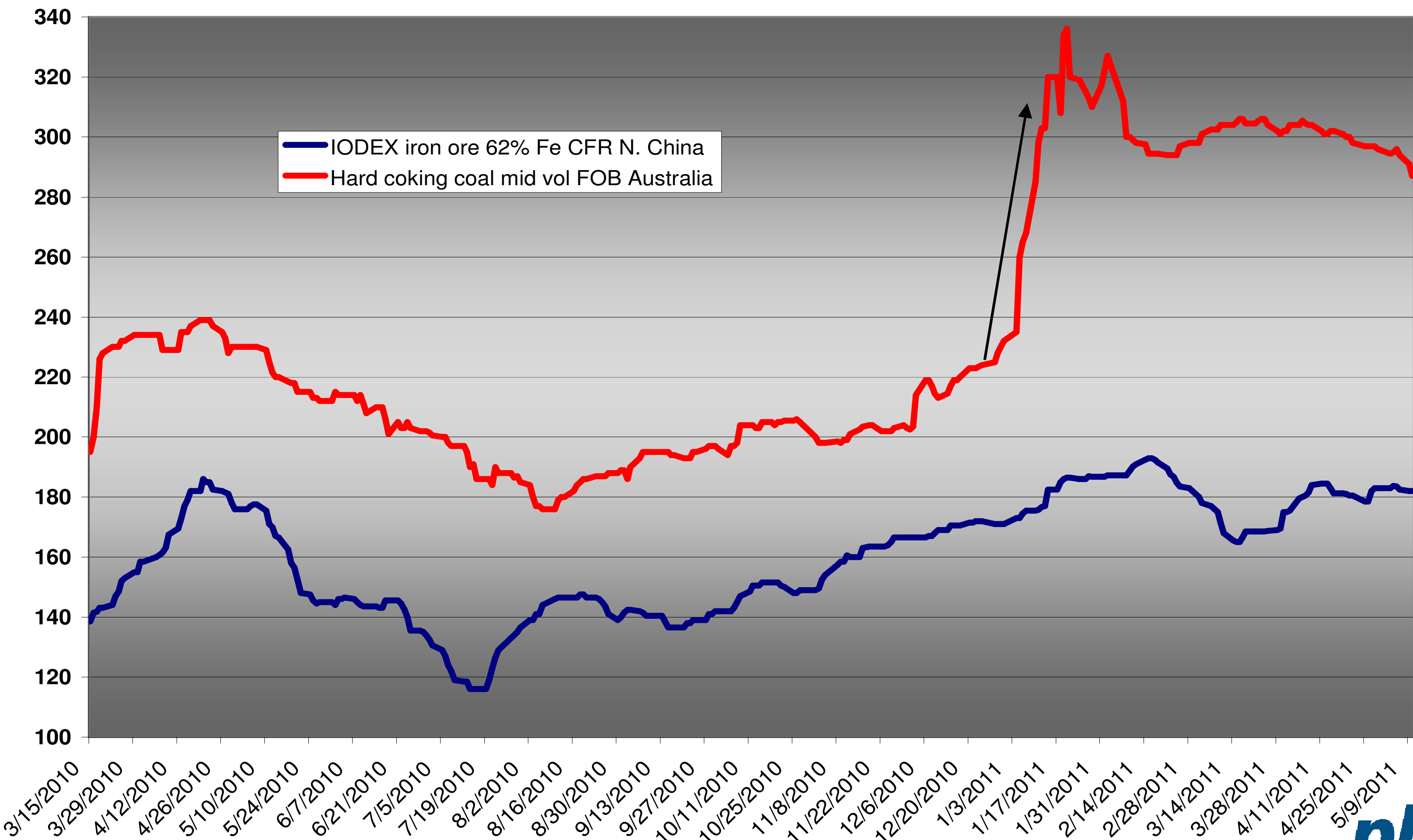
Source: ArcelorMittal

Iron ore and scrap pricing relationship



Iron-bearing raw materials (scrap, iron ore) tend to move together globally.

Coking coal and iron ore daily prices have been closely correlated…but for January disruptions to HCC supply



Source: Platts daily coking coal and iron ore fines price assessments ($/mt and $/dry mt)

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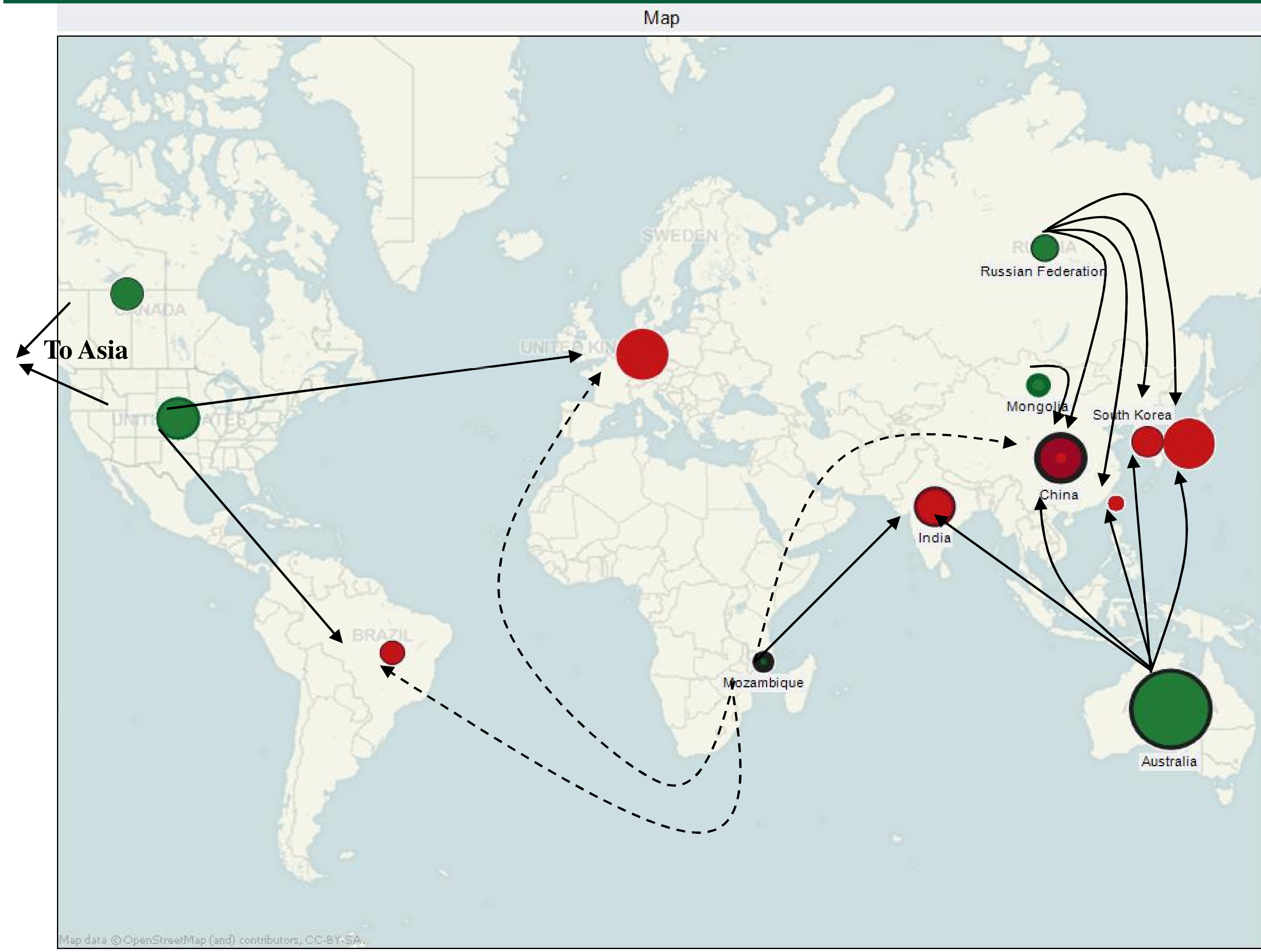
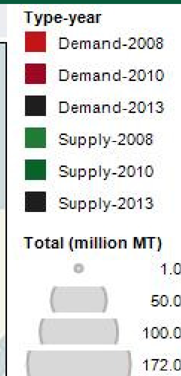
Coking coal – global supply / demand dynamics





Seaborne / Overland Supply

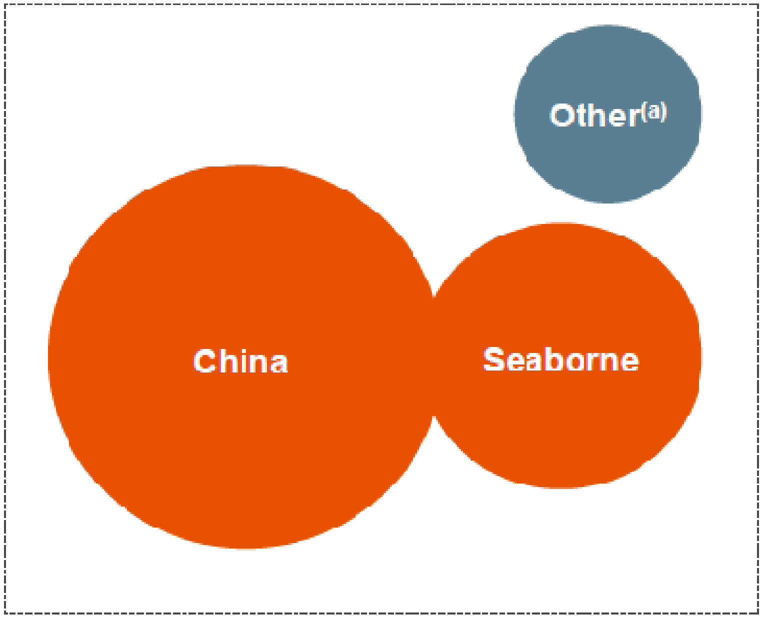
	Year		
Country	2008	2010	2013
Australia	135	137	172
Canada	25	23	[illegible]
China	3	1	[illegible]
Mongolia	4	15	
Mozambique		1	[illegible]
Russian Fed..	14	17	[illegible]
United States	35	47	[illegible]

Seaborne / Overland Demand

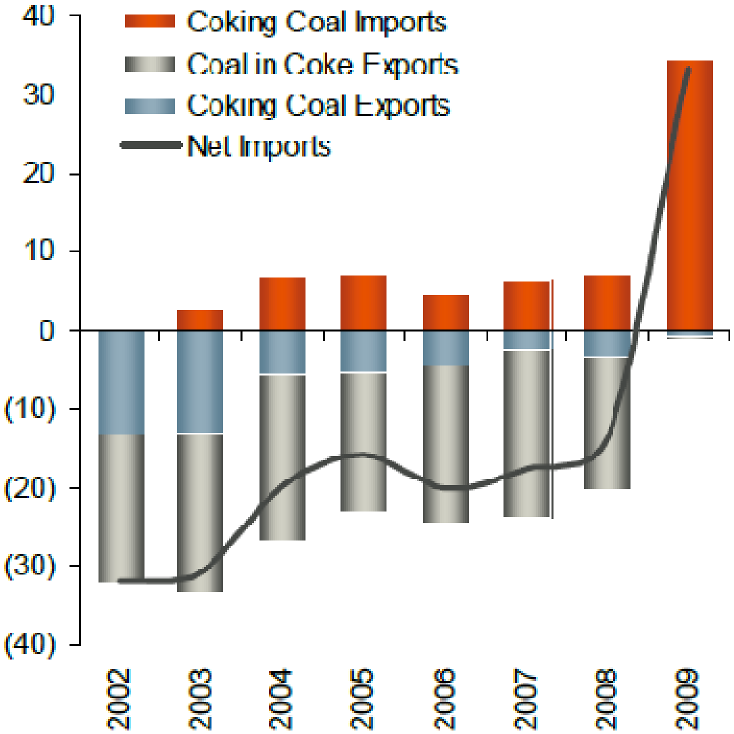
	Year		
Country	2008	2010	2013
Brazil	12	14	[illegible]
China	3	41	[illegible]
India	27	36	[illegible]
Japan	64	61	[illegible]
South Korea	21	24	[illegible]
Taiwan	6	6	[illegible]

Chinese imports changed the market

2009 Global hard coking coal supply



Chinese net coking coal imports (mt)



(a) Includes landborne supply.

Source: BHP Billiton, China Customs.

Coking coal trends

- Coking coal prices have been extremely volatile due to supply-side consolidation and infrastructure constraints
- Shipments from Queensland collapsed after the floods
- Japanese earthquake effects very limited short term, but upward pressure on price longer term due to reconstruction

Review of current state of pricing in Coking Coal

- China: spot price bilaterally negotiated on cargo-by-cargo basis

- Japan: steelmakers negotiate prices for each quarter

- Elsewhere: Japanese settlements are followed by other steelmakers

- Miners: pushing for monthly contracts (average of daily spot price assessments) as in iron ore

- Banks / exchanges: looking to trade derivatives

- Steel industry: the perfect ‘hot metal’ hedge (iron ore + coking coal) will soon be possible to manage steel makers’ raw material price risk

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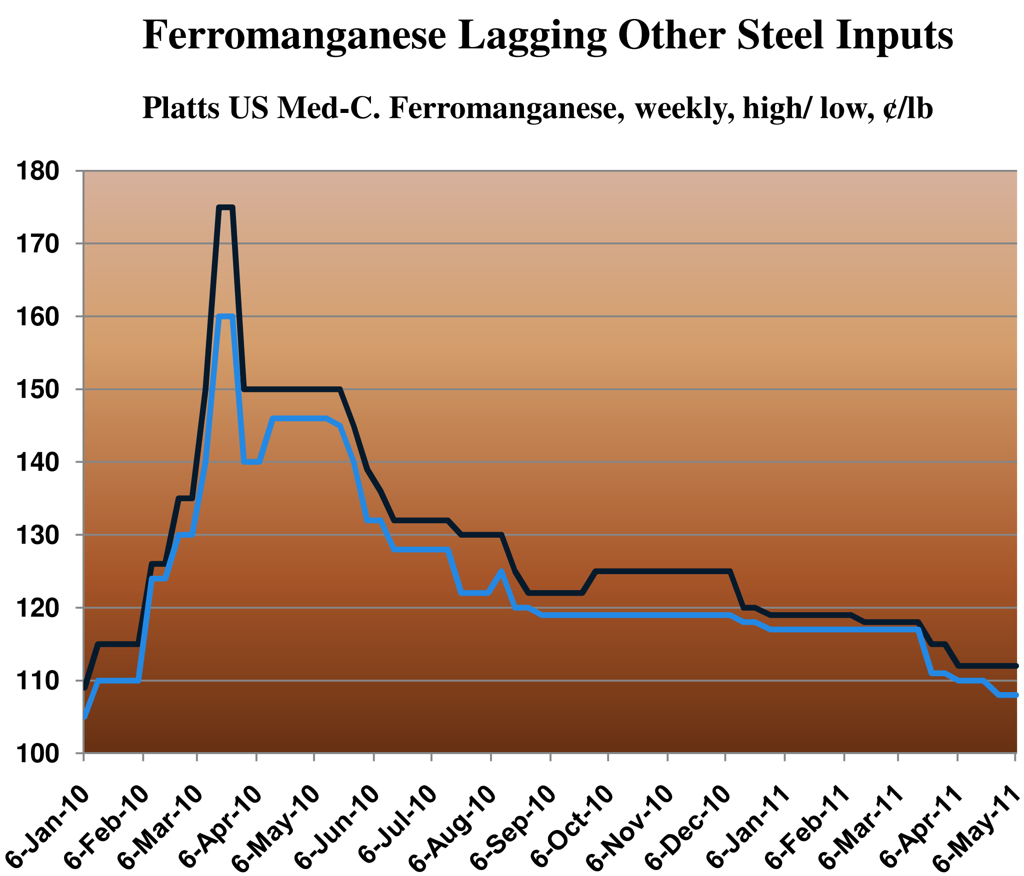
Ferromanganese

- Bulk ferroalloys prices lagging steel and other inputs so far this year
- Mills had inventory going into 2011; booked more on contract, less spot
- Chinese have not been actively buying manganese alloys
- Japanese expected to reduce demand starting in May
- US import dependent on bulk alloys
- Production ramping up overseas
- Third quarter is seasonally slowest quarter
- US DLA stockpile to return with bulk alloys sales in May

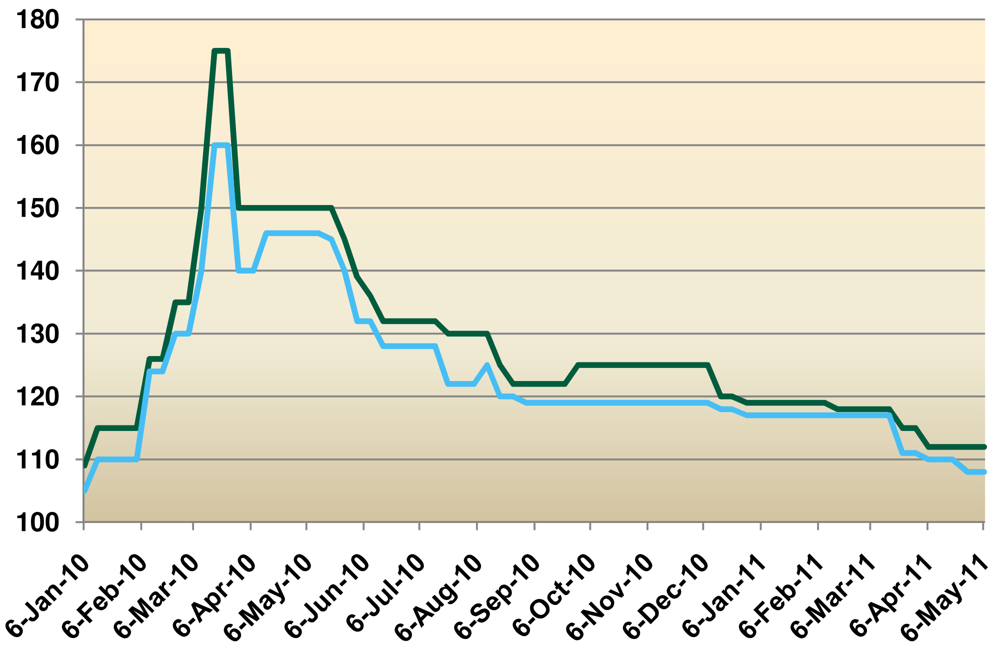


Ferrosilicon

- Chinese export prices rising on better overseas demand, $1,500-1,520/mt FOB end-April
- Fears of ferrosilicon surplus from Japan, so far unseen
- Western traders predict Q3 Japan buying May/June
- Japanese expect cutbacks, June/July steel curtailments
- US flooding caused spot price to recover slightly to $1.03-1.05/lb
- Russia also heavy supplier to Japan, faces antidumping duties in Europe, could head to US

US Ferrosilicon Stabilizes on China, US floods

Platts 75% Si imported ferrosilicon, weeklyrange, ¢/lb



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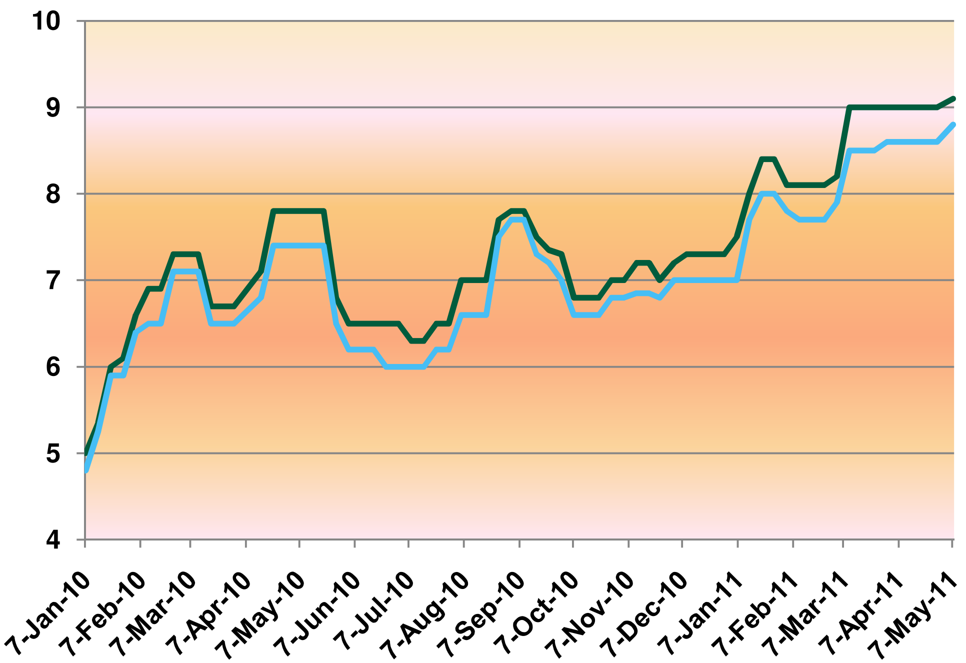
Ferrotitanium

- European, US prices supported so far this year
- Traders, FeTi producers attribute rebound to automotive recovery
- Strong demand for auto sheet both sides of Atlantic and in South Korea
- Other regions expected to make up for Japan
- Possible competition from 35% Ti material foreseen
- Titanium scrap tight throughout 2010, but aerospace improving

Ferrotitanium Has Recovered to Pre-crisis Levels

Platts European 70% Ti ferrotitanium weekly, high/low, $/kg



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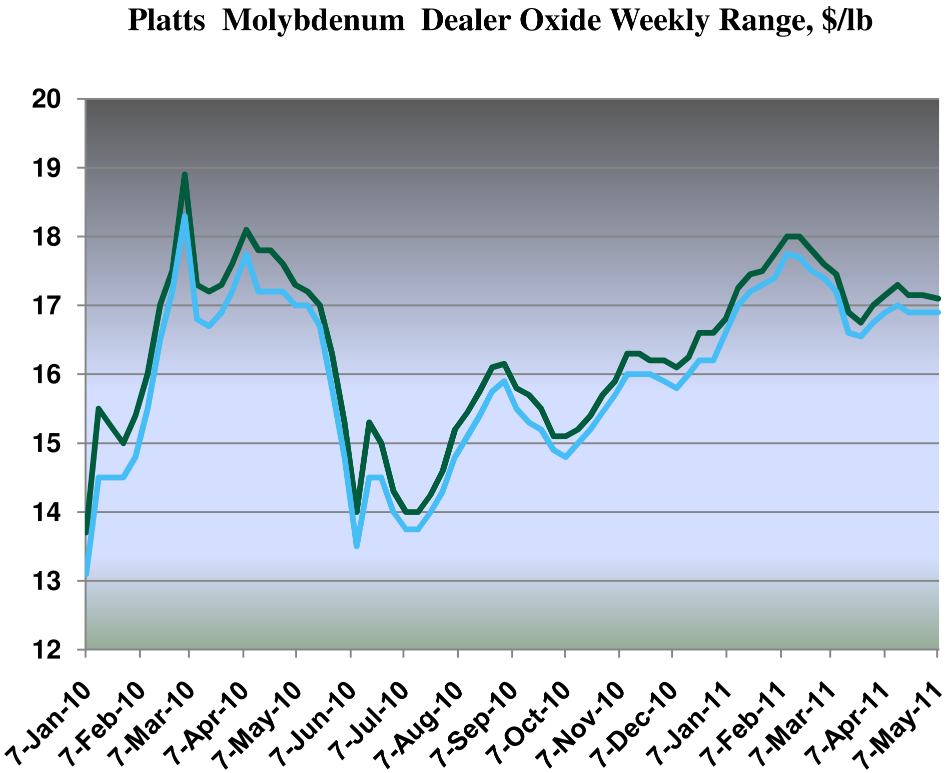
Molybdenum

- Most molybdenum supply byproduct of copper; supply cuts unlikely
- Moly oxide prices ended a 6-week decline end-March, barely holding above $17 since then
- Price in narrow range $16.50 to $18 so far in 2011; broad range $13-19 in 2010
- Transportation, power generation, B&C three fastest-growing markets (IMOA)
- Each predicted to increase moly usage by 6%/year between 2009 and 2019
- Transport is 2nd-biggest user of moly-containing steel, 18% of global usage
- Total moly use to increase by 4.5%/year between 2009 and 2019

Molybdenum Regains $17/lb on Steel Recovery



Platts' molybdenum price history dates back to 1971

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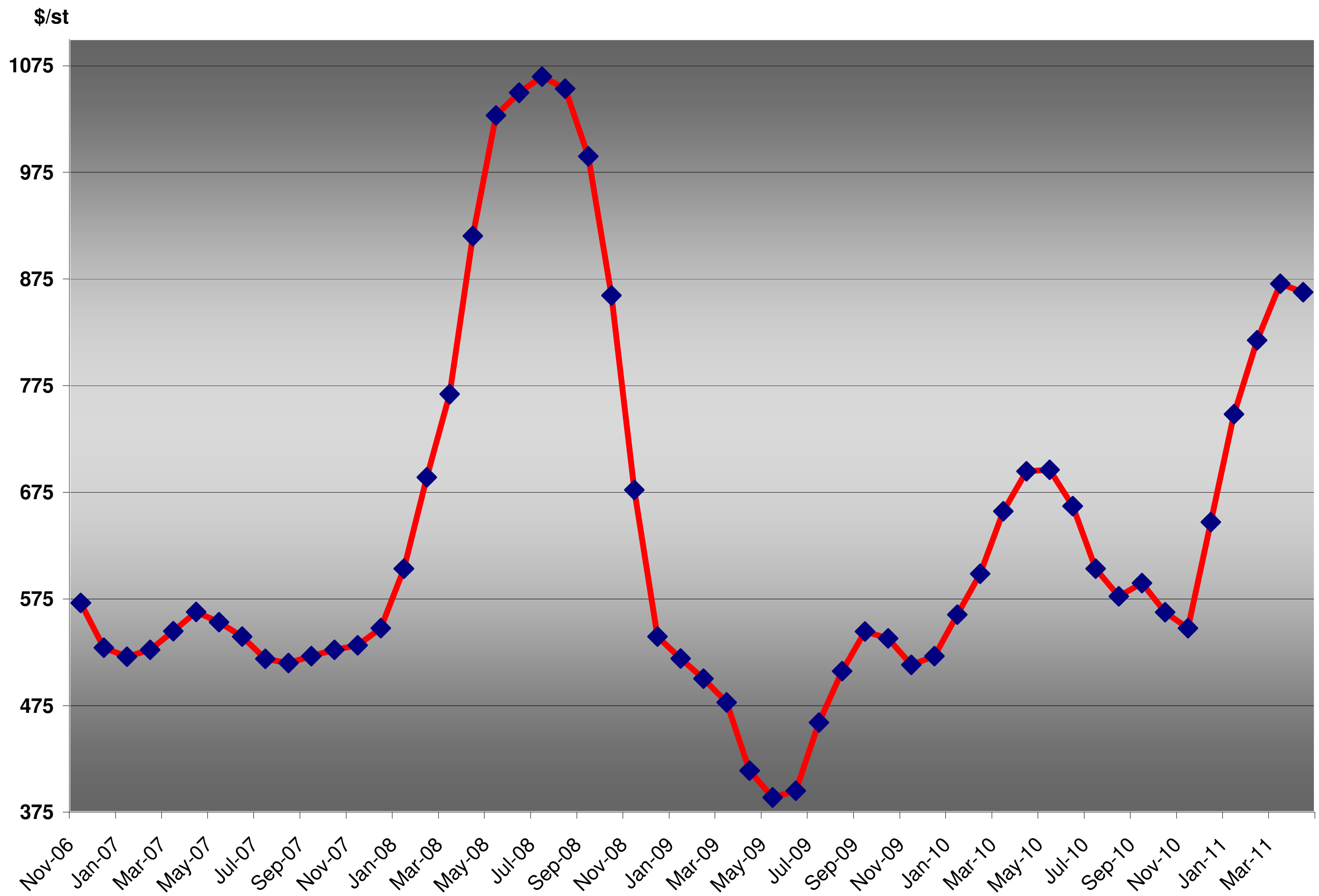
Input-based pricing being sought for steel

- Steel pricing in the US has historically had a surcharge component linked to ferrous scrap, sometimes alloying agents
- Automakers in Europe say steel companies are trying to add surcharges or a line to quarterly prices linked to iron ore or coking coal
- Steel mills are more open now to derivatives based on raw materials than they were in the past
- Chinese steel mills already adjust steel prices monthly or every 10 days, while mills in Japan, South Korea and Europe work half-yearly or quarterly because of resistance from end-users to more frequent changes

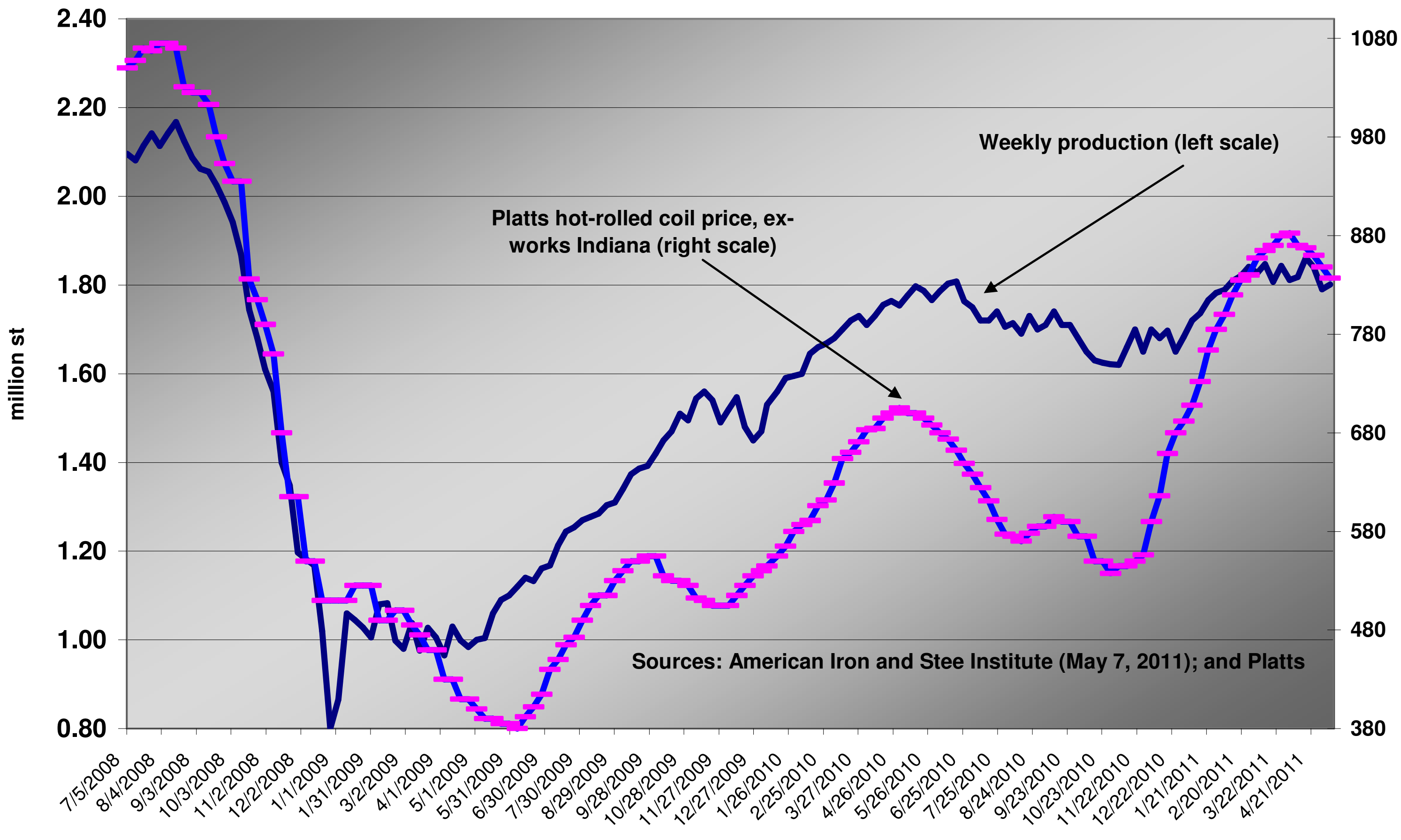
Flat-rolled steel: Market trends 1H 2011



After sharp run-up since November, price of hot-rolled coil—the key bellwether—dipped in April to $862.75/st, from $870.43/st in March.

Source: Platts, ex-works Indiana, $/st

Flat-rolled steel: Production/pricing relationship



With weekly output hovering around 1.8 million st, HRC price has averaged about $850/st ex-works Indiana

Source: Platts, ex-works Indiana, $/st

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Flat-rolled steel supply: The big story in 2H 2011

N American flat-rolled market: Estimated 2011 spot/contract shipments

***million* short tons**

Company	Estimated spot st/year	Estimated contract st/year	Total
United States			
Arcelor Mittal (including Dofasco)	7	8	15
US Steel (including Stelco)	6	7	13
Nucor	4	4	8
RG Steel (Sparrows Point, Wheeling and Warren)	1	1	2
AK Steel	2	3	5
Severstal NA; (Dearborn, Columbus)	2	2.5	4.5
Steel Dynamics	2.2	1.3	3.5
ThyssenKrupp USA	1	0.3	1.3

Source: Company and analyst reports, Platts Steel Markets Daily

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Flat-rolled steel supply: The big story in 2H 2011

N American flat-rolled market: Estimated 2011 spot/contract shipments, continued

***million* short tons**

Company	Estimated spot st/year	Estimated contract st/year	Total
United States			
USS-POSCO Industries	0.75	0.75	1.5
California Steel	1	0.2	1.2
Gallatin Steel	1	0.1	1.1
Northstar-Bluescope (Delta, OH)	1	0	1
Duferco-Farrell	1	0	1
NLMK Indiana (Beta)	1	0	1
Subtotal US	**30.95**	**28.15**	**59.1**
Canada			
Algoma (Essar)	1	0.8	1.8
Mexico			
Ahmsa	2	1	3
North American total			**63.9**

Source: Company and analyst reports, Platts Steel Markets Daily

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