

Hebei mills and miners doing it tough

Hebei province, the present-day cradle of steelmaking in China accounting for one-third of the country's total capacity, is uncomfortable. All heavy industries it hosts, but especially steel, have been under intense scrutiny since last October when China's new central government led by President Xi Jinping and Premier Li Keqiang publicly resolved to tackle overcapacity as part of a major effort to improve northern China's air quality.

In June, Platts spent a week travelling in Beijing and touring Hebei, talking with government officials, steel producers, iron ore miners and traders, to take the pulse of the province ten months after Beijing made its announcement on overcapacity. Here are some of the key take-aways.

Hebei's contribution to China's total steel output has fallen, while its growth rate has slipped below the national average. In September 2013, prior to the country's chief executive announcing the crackdown, Hebei produced 15.7 million mt of crude steel, accounting for 23.9% of total output. Year-on-year growth in output for the month reached 12.9% compared with an 11%

rise in the rest of the country, according to the National Bureau of Statistics.

By last May, however, Hebei's crude steel production had climbed to 16.4 million mt, giving it a 23.2% share of the country's total output, which was down 3% on the previous year. Meanwhile, output elsewhere across China grew by an average 2.6%, Platts notes.

Whether steel production is slowing because companies in the sector have been struggling to make decent profits or whether Beijing's environmental clampdown has started to have some impact is unclear. But anecdotal evidence points to the former reason, with some small- and privately-owned steel mills in Hebei understood to be considering exiting the steel business because of the weak market. One general manager of a 1 million mt/year steel mill in Qian'An city, Hebei, said the works was preparing to close after operating for a decade. "The halcyon days for steel are long gone and I see little point hanging in here," he conceded. "The struggle is only going to get worse as Beijing no longer favors the steel industry. Competition between mills over price and other aspects will only become more aggressive, helping no one," he warned.

A second industry source said the owner of two small steel mills in Tangshan had recently sold out, with one of them – a 900,000 metric tons/year narrow strip plant – selling for Yuan 3 billion (\$478 million). "The price was very good, and the owner was lucky to have the option to leave the market intact," Platts was told. But others have been less fortunate. Many local steel mills remain entangled in a web of debt as they either owe or are owed money. In some cases, the option to simply walk away is not available. Sources said some were prevented from doing so because of the complexity of multi-

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Editorial

Indian steel needs more help

There was a cautious welcome from India's steelmakers towards the first budget handed down by the new Modi government earlier this month, as funds were set aside for new roads, rail and port. There was also a reduction in the duty for coking coal exports from 6% to 4.5%, which as a major importer of the steelmaking raw material will be well-received. But the government will need to do a lot more if the country is ever to reach its 300 million mt/year steel production capacity target.

Some within the industry believe it will cost \$200 billion to treble the country's steel production, which if accurate constitutes a major long-term investment. Preventing steel companies from accessing captive iron ore supplies in states such as Odisha can't be helping. Tata Steel has been successful in India because of high levels of self-sufficiency. But it and fellow steelmaker JSW Steel are impacted by the mining bans, which could be a reason why the pair could import more than 800,000 mt of iron ore in July alone, according to Platts shipping data. Paying a premium to import material cannot be helping the companies' bottom lines and will not be sustainable in the longer-term. This is something the new Modi administration will need to address.

— Paul Bartholomew

China's major steelmaking provinces (million mt)

	Jan-May 2014	y-o-y growth	Contribution to total output
Hebei	82.95	-3.76%	24.20%
Jiangsu	39.39	8.20%	11.50%
Liaoning	26.85	9.18%	7.84%
Shandong	26.56	0.20%	7.75%
Shanxi	18.49	-0.04%	5.40%
Other	148.28		
Total	342.52	2.71%	

Source: NBS

Key price assessment monthly averages, June 2014

	Unit	Average	change	% change
Platts IODEX Iron ore fines 62% Fe CFR North China	\$/dmt	92.67	-8.13	-8.07
Platts Coking Coal, Premium low-vol FOB Australia	\$/mt	111.19	-1.19	-1.06
Platts Ferrous Scrap HMS CFR Turkey	\$/mt	370.74	-2.74	-0.73
TSI Iron Ore Fines 62% Fe Chinese imports (CFR North China port)	\$/dmt	92.74	-7.82	-7.78
TSI Coking Coal, Premium hard, Australian exports (FOB port)	\$/mt	115.76	-1.26	-1.08
TSI Ferrous Scrap HMS 1&2 80:20, Turkish imports (CFR port)	\$/mt	371.33	-3.27	-0.87

Hebei mills and miners doing it tough

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party financing and the reluctance of local authorities to allow key sources of provincial and municipal tax revenues to disappear.

Banks and mills stuck with each other

Banks have also become more circumspect about issuing short- or medium-term loans to steel mills and when granting letters of credit are raising the required deposit ratio to 30% of the LC value from 15-20% previously. Yet similar to some mills, it is not easy for banks and other financiers to extricate themselves from the steel sector.

"All Chinese banks, especially those privately-owned ones, such as Minsheng Bank, are highly exposed to the steel industry, in everything from production to steel and iron ore trading," a Tangshan-based market source said. "So for the banks to turn off the tap now would be suicidal. They have to keep pumping in funds, albeit at a slower pace than

previously, and they also need to be more flexible about loan repayments," he added.

"Mills and banks are sinking in the same boat so they have to help each other to survive," the Tangshan source said.

Hebei is a major iron ore production region and like the province's steelmakers, iron ore producers are also doing it tough right now, squeezed by a languishing steel market and mountains of imported iron ore sitting at ports. Domestic mines producing magnetite are saddled with higher concentrating costs in comparison with imported hematite.

Domestic iron ore suppliers lost their battle against cheaper imported iron ore at ports earlier this year when prices of domestic concentrate (typically grading around 66% Fe) delivered to mills in Tangshan fell to the break-even point for most Chinese miners of Yuan 850/dry mt (\$138/dmt). Yet by the end of June very few miners had cut production in any significant way.

"We can't afford to lower prices by more than another Yuan 10-20/dmt," a Hebei-based miner explained. "It wouldn't help much in any case against imported iron ore prices, so we have opted to stock up our concentrate and wait for a better market," he told Platts.

Imported iron ore prices have since recovered by around \$5/mt in late June and into early July after sitting at around \$90/dmt for much of May and June. Rather than raising their offers to compete with lower import prices, domestic miners took the opportunity to destock their inventories.

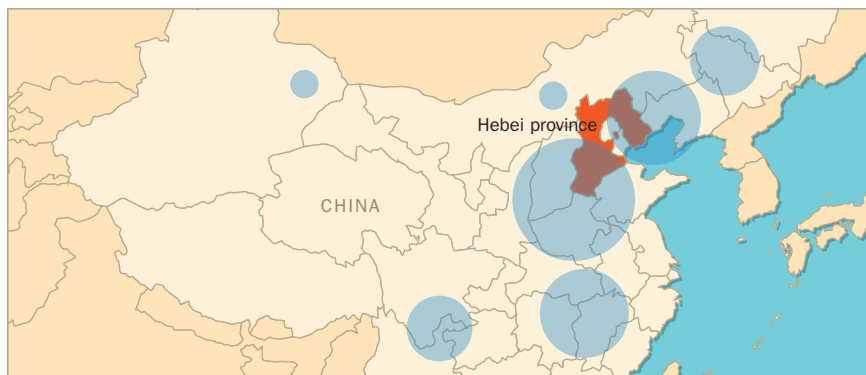
"It has been rare for us to keep more than 200,000 mt of concentrate in stock, though this was the case for most of the first half of this year, so our core task now is to destock rather than chase margins," an official from a large iron ore miner in Hebei said. Yet the suffering of China's domestic miners – especially those in Hebei, the country's largest iron ore mining province – has not affected output much, market sources confirmed.

This is borne out by the country's iron ore output statistics, which showed that last September Hebei's output reached 56.3 million mt, or 41.2% of the country's total. By May however, the province produced 47.5 million mt of iron ore, or 36% of the country's total, a slide that was in proportion with the province's lower steel output.

Looking at the second half of 2014, China's domestic iron ore miners will probably try to hang on and hope overseas suppliers do not initiate a long pricing battle. They will also increasingly look to central and local government authorities to relieve them of the burden of numerous taxes that can account for around 25% of production costs and add as much as RMB 200/mt to their sales price.

— Hongmei Li

China's key iron ore production regions



Source: NBS



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IRON ORE MARKET FOCUS

Signs of life but market fundamentals unchanged

Iron ore prices showed some signs of life around mid-July on restocking in China but it would be premature to talk of a recovery as market conditions are little changed and the current quarter is normally the weakest for crude steel output and prices.

Platts assessed the 62% Fe IODEX at \$97/mt CFR North China on July 11, the highest level since late May. This was a marked improvement from the June monthly average of \$92.67/mt CFR, which was down around \$8/mt on the previous month. The Steel Index's (TSI) reference price for the same grade rose 0.4% on a week earlier to reach \$96.90/mt on July 11, marking a \$6/mt gain seen over the past month.

June saw an enormous amount of spot liquidity with Platts observing 93 trades compared with 52 in May, and this frenzied level of trading continued into July. Interestingly, a smaller proportion of trades were done on trading platforms such as globalORE and CBMX in June than in previous months, as perhaps more bilateral agreements were struck.

Rio Tinto's 61% Fe Pilbara Blend product was sold regularly in June, while Vale's high grade IOCJ material which grades around 65% Fe was also sold regularly on the spot market. During the month Platts reported that Fortescue Metals Group had offered further discounts to some contract buyers for July-loading cargoes of 14-15% for its 56.7% Fe Super Special Fines product. The Perth-based company also increased its July discount for 58.3% Fe Fortescue Blend from 8% to 9%, according to some contract customers. Fortescue shipped 38.7 million mt of iron ore in the April-June quarter, a rise of 22% compared with 31.5 million mt in the previous quarter.

Indian demand

In mid-July Rio sold a 65,000 mt Pilbara Blend iron ore lump cargo into India for the first time, through bilateral negotiations. The cargo was sold at a premium of \$0.035/dmt unit CFR India basis over the August average of Platts iron ore lump premium spot assessments.

Indeed, data compiled by Platts' dry bulk freight team shows that India has some 858,000 mt of iron ore due to be discharged in July. Tata Steel and JSW Steel, both of which are affected by mining bans in Odisha state, are the main importers, with material coming largely from South Africa.

Spot prices of seaborne lump continued strengthening into the first week of July on the back of stronger demand from Chinese steelmakers. Steady prices of lump stocked at ports and firming pellet premiums also made seaborne lump more attractive to buyers. Some Chinese mills noted they were using more lump due to the lower prices and higher grades, with several saying traded levels were at \$0.055-0.065/dmtu on a CFR basis.

At the time of writing there was little evidence of Chinese domestic iron ore production being removed though higher cost supply must be hurting and would be unlikely to continue if prices remain at current levels for a sustained period of time. The question remains what

proportion of overall production is high cost and how much is relatively "sticky" through being owned by steel mills. Australian producers bringing on

China's key iron ore import sources (million mt)

	Total	Australia	Brazil	Other
Nov-13	77.8	39.6	15.4	22.8
Dec-13	73.3	37.3	16.3	19.7
Jan-14	86.8	45.4	15.5	26.8
Feb-14	61.2	31.9	11.2	18.1
Mar-14	74.0	40.7	14.8	18.5
Apr-14	83.4	47.0	14.2	22.2
May-14	77.4	45.4	12.4	19.6
Mar-14	73.9	40.7	14.8	18.4
Apr-14	83.4	47.1	14.2	22.1
May-14	77.4	45.4	12.4	19.6

Source: China Customs, GTIS

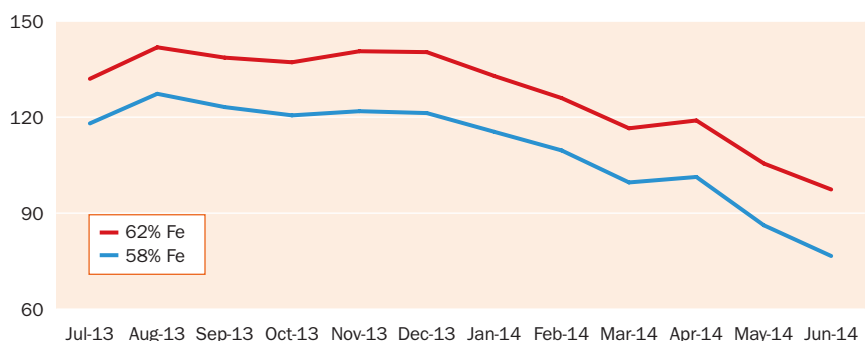
Platts monthly average iron ore prices, June 2014 (\$/dmt)

	Monthly average	\$ change	% change
IODEX: Iron ore fines 62% Fe CFR North China	92.67	-8.13	-8.07
63.5/63% Fe CFR North China	94.42	-8.13	-7.93
65% Fe CFR North China	100.73	-6.80	-6.32
58% Fe low Al CFR North China	75.44	-11.24	-12.97
58% Fe CFR North China	71.88	-9.61	-11.79
52% Fe CFR North China	47.86	-7.01	-12.77
Per 1% Fe differential (Range 60-63.5% Fe)	1.74	-0.09	-4.77

TSI monthly average iron ore prices, June 2014 (\$/dmt)

	Monthly average	\$ change	% change
62% Fe fines, 3.5% Al, CFR Tianjin port	92.74	-7.82	-7.78
58% Fe fines, 3.5% Al, CFR Tianjin port	75.59	-12.12	-13.82
62% Fe fines, 2% Al, CFR Qingdao port	93.78	-7.86	-7.73
63.5/63% Fe fines, 3.5% Al, CFR Qingdao port	94.54	-8.18	-7.96
65% Fe fines, 1% Al, CFR Qingdao port	100.78	-9.11	-8.29

Platts 62% & 58% Fe iron ore monthly averages CFR China (\$/dmt)



Source: Platts

IRON ORE MARKET FOCUS

expansion tons had probably expected a bigger response from Chinese miners by now, and would be hoping that local supply will fall away to help support import prices.

Port stocks high

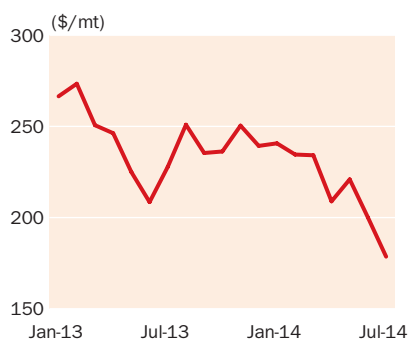
Iron ore exports from Western Australia's Port Hedland were softer in June, as were Chinese imports which fell slightly to 74.6 million mt, down from 77.4 million mt in May. But there is still a huge amount of Australian material sitting at Chinese ports. According to Mysteel data on July 11 there were almost 60 million mt of Australian iron ore at the 41 major ports out of a total 116.06 million mt, with Brazilian material comprising around 20.4 million mt. Chinese port stock prices for 62% Fe fines were up around \$1.50/mt at \$92-93/mt in early July.

The Singapore Exchange cleared a record quantity of iron ore derivatives in June, according to data from the bourse. Final figures showed that over 56.1 million mt worth of paper contracts went through the SGX last month, up 11.8% on the previous record of over 50.2 million mt in May. Annualizing Q2 volume suggests 615 million mt or more will go through SGX this year, a huge increase on total throughput of just below 270 million mt in 2013.

Futures open interest on SGX crossed the six-figure mark for the first time in June, and options – which many participants deem to be the mark of real hedging interest – also breached 50,000 lots for the first time, up from the previous record of 37,597 lots in May. Last year, just over 300.6 million mt of iron ore derivatives were cleared across all exchanges, compared to 261.6 million mt to date in 2014.

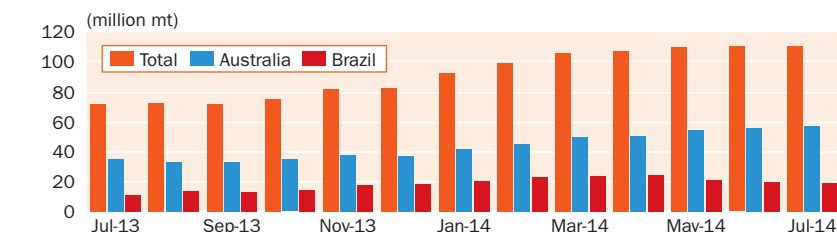
— Staff

Atlantic basin iron ore pellets



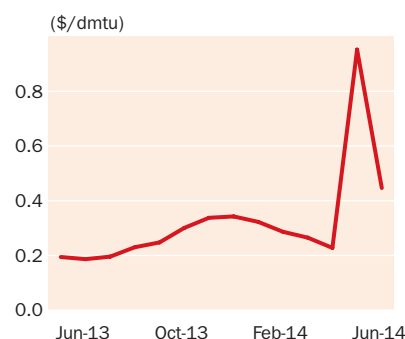
Source: Platts

Iron ore port stocks in China



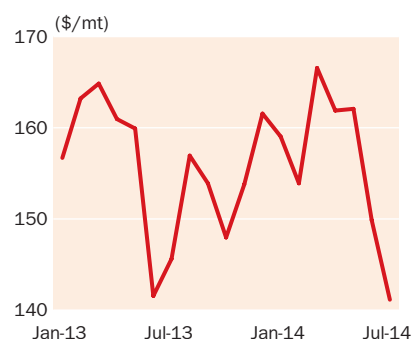
Source: Mysteel

China iron ore spot lump premium



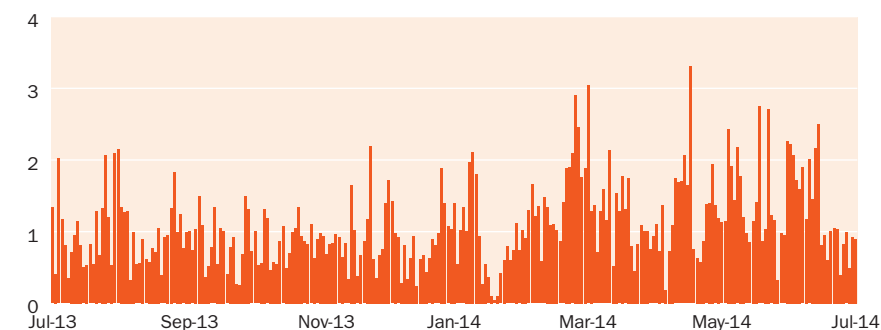
Source: Platts

Chinese concentrate 66% Fe



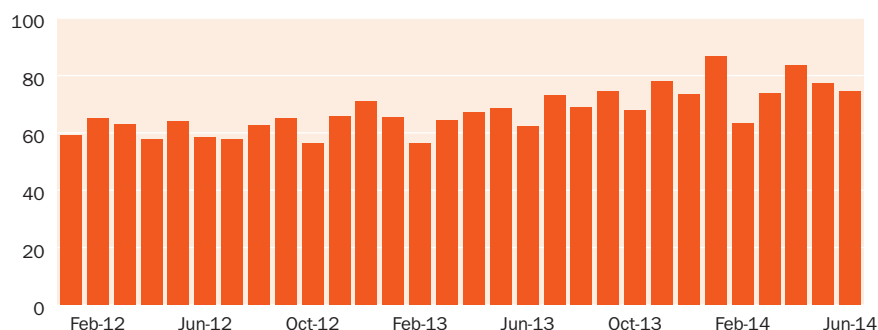
Source: Platts

SGX iron ore swaps (million mt)



Source: SGX, TSI

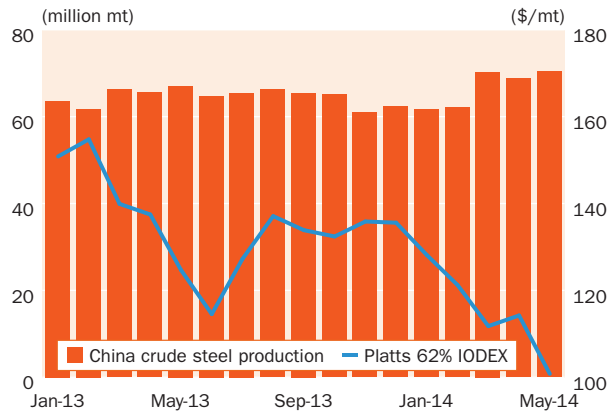
China iron ore imports (million mt)



Source: China customs

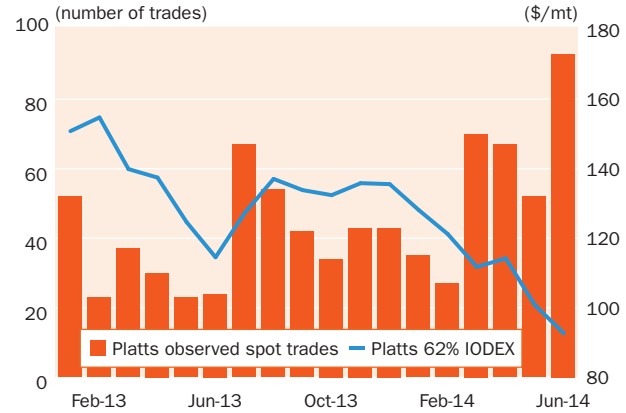
IRON ORE DATA

Crude steel output versus iron ore prices



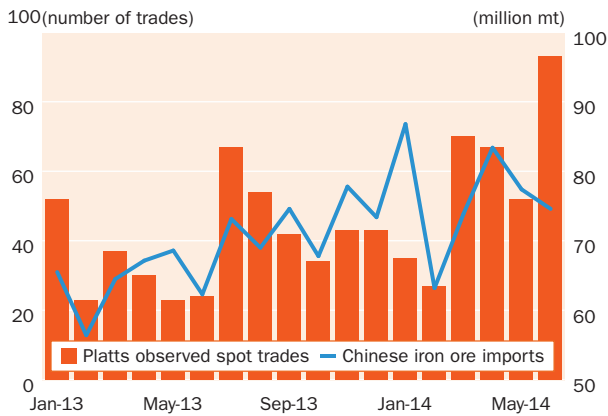
Source: Platts, China Customs

Spot trades versus iron ore prices



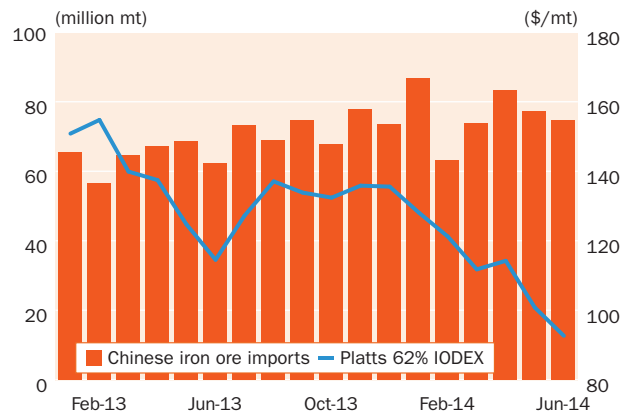
Source: Platts

Spot trades versus iron ore imports



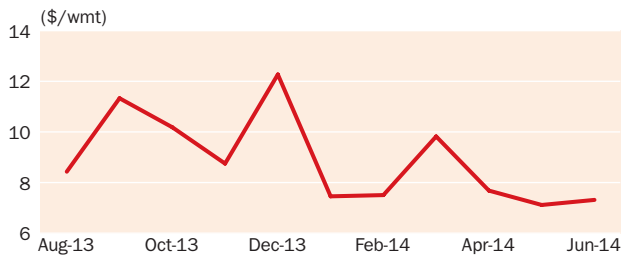
Source: Platts, China Customs

Iron ore prices versus imports



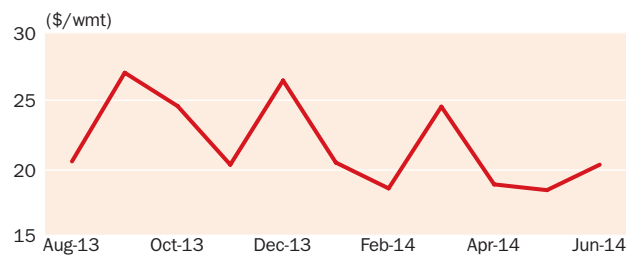
Source: Platts, China Customs

W. Australia – China Cape freight rates



Source: Platts

Brazil – China Cape freight rates



Source: Platts

Subscriber note: Platts proposes to discontinue quarterly iron ore lump contract price

Following industry feedback, Platts proposes to discontinue publication of the quarterly Australia Lump Premium Contract Price (IOPLC00) by September 30, 2014. As Platts reported on April 25, most lump term contracts between Chinese mills and Australian iron ore producers have shifted to being priced based on the average of the Platts Spot Lump Premium (IOCLP00), rather than negotiated on a quarterly basis. Market participants have provided feedback that a quarterly lump contract price is no longer representative and does not serve as an industry reference. Should the discontinuation be finalized after industry consultation, Q2 2014 will be the final quarter for which a value for IOPLC00 is published. Please send all questions and feedback to iodex@platts.com and pricegroup@platts.com by August 1, 2014. For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing. Platts will consider all comments received and will make comments not marked as confidential available upon request.

METALLURGICAL COAL MARKET FOCUS

Stronger start to July

Spot coking coal prices in the Asia-Pacific region strengthened slightly in the first half of July with 14 spot trades seen in the July 7 week alone as Chinese steelmakers and traders appeared more willing to procure. These trades included premium hard coking coal, second-tier HCC, PCI and semi-hard.

Platts assessed premium low-volatile hard coking coal up \$1.25/mt to \$121.50/mt CFR in the July 7 week from the week before, while second-tier coals increased \$2.50/mt over the week to reach \$103/mt CFR China. The monthly average price for Platts premium low-vol HCC was \$111.19/mt FOB Australia, down \$1.06/mt from the month before.

TSI's June monthly spot price index averages for Australian exports of Premium Hard Coking Coal (PHCC) and Hard Coking Coal (HCC) fell 1.08% and 0.09% to \$115.76/mt and US\$101.76/mt FOB East Coast Australian port respectively amid lackluster buying interest with most spot buyers absent while quarterly benchmark discussions were taking place.

Meanwhile, in the Chinese market, TSI's JM 25 Chinese imports for PHCC and HCC monthly averages fell 2.56% and 3.12% to \$120.14/mt and \$107.27/mt CFR Jingtang Port on the back of weak demand due to higher port stocks, and competitively priced domestic coal.

While acknowledging that spot interest had indeed improved in early July, most market participants believed it reflected more of a northeast regional price rather than the whole Chinese market. Highest indicative bids from other regions all pointed to \$121-122/mt CFR China. Tangshan and Hebei end-users argued that domestic Chinese miners were lowering their prices which made them more price-competitive compared to seaborne imports.

Most participants appeared to be banking on relatively healthy margins from Chinese steelmakers to support met coal prices since they were understood to be in a much stronger financial position compared with coke makers who were still facing downward pressure on their coke products. In addition, traders appeared to be optimistic that the next restocking cycle would begin somewhere in August or September, and some appeared to be more open to taking positions in anticipation of a potential future uptick.

In the Atlantic market, low-vol HCC ended the July 7 week at \$114.25/FOB US east coast, unchanged from the week before, though the market was generally

quiet. June monthly average prices for the material of \$116.63/mt was down \$1.094/mt from the previous month.

BHP Billiton is due to announce its met coal production for the April-June quarter later this month. Exports could be

a bit weaker in the current quarter as Australian producers have been running hard in recent months due to dry conditions and to optimize their operations at a time of soft prices. Output could come off slightly in the

Platts monthly metallurgical coal assessments, June 2014

Asia-Pacific coking coal (\$/mt)

	FOB Australia	CFR China	CFR India	Australia	Change China	India
Premium Low Vol	111.19	122.86	125.52	-1.19	-3.04	-2.69
HCC Peak Downs Region	112.44	124.11	126.77	-1.19	-3.04	-2.69
HCC 64 Mid Vol	96.64	108.31	110.97	-3.26	-5.12	-4.77
Low Vol PCI	94.32	105.99	108.65	-2.27	-4.12	-3.78
Low Vol 12 Ash PCI	82.32	93.99	96.65	-4.30	-6.15	-5.80
Semi Soft	77.19	88.86	91.52	-3.24	-5.09	-4.74
Met Coke	-	-	212.26	-	-	-4.69

North China prompt port stock prices

	Ex-stock Jingtang (Yuan/mt, incl VAT)	CFR Jingtang equivalent (\$/mt)*
Premium Low Vol	921.25	123.06
HCC 64 Mid Vol	817.50	108.65

*ex-stock price, net of VAT and port charges.

Atlantic coking coal (\$/mt)

	FOB US East Coast	Change	VM	Ash	S
Low Vol HCC	116.631	-1.094	19%	8%	0.80%
High Vol A	114.881	-0.007	32%	7%	0.85%
High Vol B	108.143	-0.845	34%	8%	0.95%

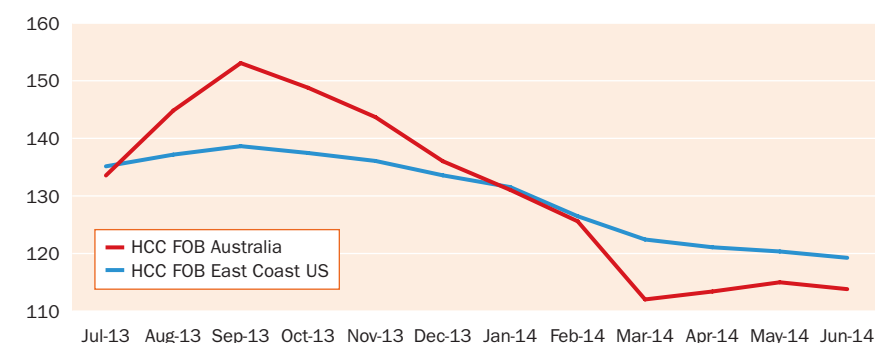
Detailed methodology and specifications are found here:

<http://platts.com/IM.Platts.Content/MethodologyReferences/MethodologySpecs/metcoalmethod.pdf>

TSI monthly average metallurgical coal prices, June 2014 (\$/mt)

	Monthly average	\$ change	% change
Premium hard coking coal, FOB Australia	115.76	-1.26	-1.08
Hard coking coal, FOB Australia	101.76	-0.09	-0.09

Australia and US low vol HCC monthly averages (\$/mt)



Source: Platts

METALLURGICAL COAL MARKET FOCUS

current quarter, as producers tend to export as much as possible to drive revenues ahead of the end of the Australian financial year in June.

Coke subdued

China exported 520,000 mt of metallurgical and semi-finished coke in June, down 48% month on month, General Administration of Customs data showed. The June total was 3.85% lower than the

figure recorded in the same period last year. Exports in the first half of 2014 totaled 3.93 million mt, up from 1.50 million mt in the same period a year earlier, the data showed. China lifted a 40% export duty on coke on January 1, 2013, resulting in a gradual rise in monthly export volumes since then.

On July 10, Platts assessed Chinese domestic prices for 62% CSR and 12.5% ash material Yuan 10/mt lower on the week

to Yuan 1,145/mt (\$186/mt) delivered duty paid to Tangshan steel plant, including 17% VAT and three months' credit.

Meanwhile, Australia's government forecaster Bureau of Resources and Energy Economics has predicted average prices of \$123/mt this year, saying weaker demand growth and increased supply from the US, China, Canada, Russia and Australia had led to softer prices.

— Edwin Yeo, Staff

Platts monthly metallurgical coal relativities table, June 2014

	CSR	VM ad	TM ar	Ash ad	S ad	P ad	Fluidity ddpm	Vit %	June average CFR China \$/mt	Spread vs PLV	Spread vs HCC 64
Peak Downs	74	20.50	9.50	10.50	0.60	0.03	400	71	124.19	101.80%	
Saraji	72	18.50	10.00	10.50	0.60	0.03	160	66	123.08	100.18%	
Premium Low Vol	71	21.50	9.70	9.30	0.50	0.045	500	65	122.86	100%	
German Creek	70	19.00	10.50	9.50	0.54	0.06	180	70	122.64	99.82%	
Illawarra	73	23.00	10.00	9.50	0.45	0.06	1200	53	119.86	97.56%	
Oaky North	69	23.00	10.00	9.50	0.60	0.07	1500	79	118.86	96.74%	
Moranbah North	68	23.30	10.00	8.50	0.50	0.04	1500	60	118.86	96.74%	
Oaky Creek	67	24.50	10.00	9.50	0.60	0.07	4000	80	118.36	96.34%	
Goonyella	68	24.30	10.00	8.90	0.52	0.03	1100	62	118.36	96.34%	
Hail Creek	69	20.00	10.00	10.00	0.35	0.07	200	54	118.00	96.04%	
Peak Downs North		22.00	10.50	9.80	0.51	0.05	500	63	112.31	91.41%	103.69%
Standard	70	23.50	10.00	9.50	0.45	0.09	100	54	111.81	91.01%	103.23%
Premium	70	25.50	10.00	8.80	0.60	0.08	200	59	110.81	90.19%	102.31%
Metropolitan Hard	63	20.50	9.00	8.80	0.40	0.05	300	50	108.81		100.46%
Burton Hard	64	22.00	10.50	8.00	0.45	0.07	75		108.31		100.00%
HCC 64 Mid Vol	64	25.50	9.50	9.00	0.60	0.05	1700	55	108.31	88.16%	100.00%
Mavis Downs	63	22.00	10.00	8.00	0.35	0.05	75		107.81		99.54%
Lake Vermont HCC	62	21.50	11.00	7.50	0.44	0.07	120	50	107.31		99.08%
Tuhup	60	26.50	9.00	7.50	0.85	0.02	450	97	105.81		97.69%
Peace River		24.50	9.00	8.50	0.40	0.04	400	55	104.81		96.77%
Carborough Downs	58	22.50	11.00	8.00	0.35	0.04	70	44	103.81		95.85%
Middlemount Coking	57	19.50	10.00	9.00	0.50	0.04	75		103.31		95.38%
Gregory	57	33.00	8.50	7.30	0.65	0.03	7500	76	97.11		89.66%

June average freight rates. Australia to China: Panamax = \$11.67 Capesize = \$9.56

Notes: ad = air-dried; ar = as received; CSR = coke strength after reaction; ddpm = dial divisions per minute

Platts monthly metallurgical coal assessments and relativities table provides previous month's price assessments for various qualities of coking coal including Platts benchmark grades, premium low-vol and the mid-vol marker HCC 64 Mid Vol. The price information provided is determined from transactional data, spot market assessments and theoretical calculations using value-in-use (VIU).

Since the January 2014 analysis, the table represents relativities on a CFR China basis, rather than theoretical FOB Queensland basis. This is because discoverable relativities are more consistent CFR China, likely due to the fact that seaborne suppliers compete on a delivered basis. In addition, FOB Australia relativities have been observed to be less consistent, perhaps due to discriminatory pricing depending on the geographic destination.

Platts has developed a normalization tool based on VIU data to track the relative values of several coal qualities. In calculating a theoretical value-in-use, Platts may apply linear penalties and premia for coke strength after reaction (CSR), volatile matter, total moisture, ash and sulphur and non-linear adjustments for phosphorus, maximum fluidity and vitrinite percentage. For each of the latter, no adjustments are applied within a "normal range," but the penalties or premia for these important price determinants are applied when specifications fall outside of the normal range.

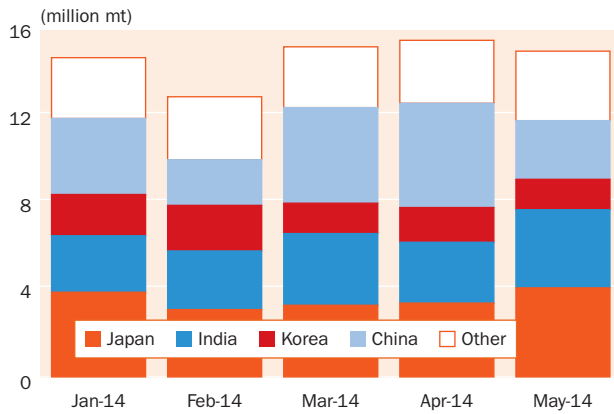
The theoretical VIU-based relativities are recalibrated by observing spot market data including bids, offers and trades for specific brands, and by observing the tradable or traded spreads between these brands.

The final assessed value is a combination of the observed market activity, the editorial evaluation of the coal attributes and the results offered by the calculations. Particular market events and specific circumstances may also have an influence on the market for coking coal or individual grades. Platts observes and monitors all relevant market information for consideration in its assessments.

Source: Platts

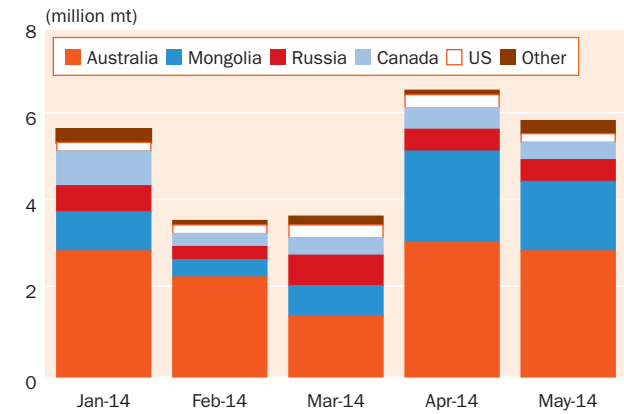
METALLURGICAL COAL DATA

Australia coking coal exports



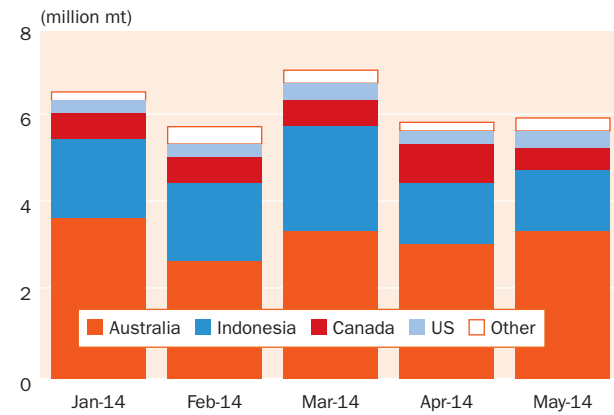
Source: ABS, GTIS

China coking coal imports



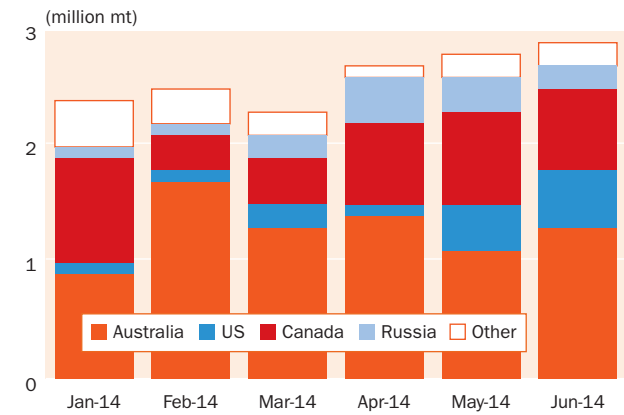
Source: NBS

Japan met coal imports



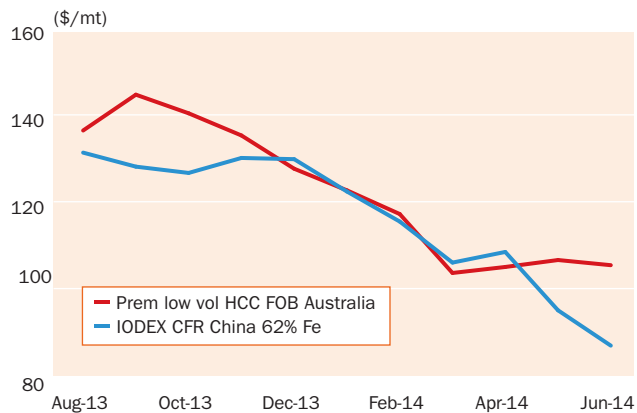
Source: Japan Customs

South Korea met coal imports



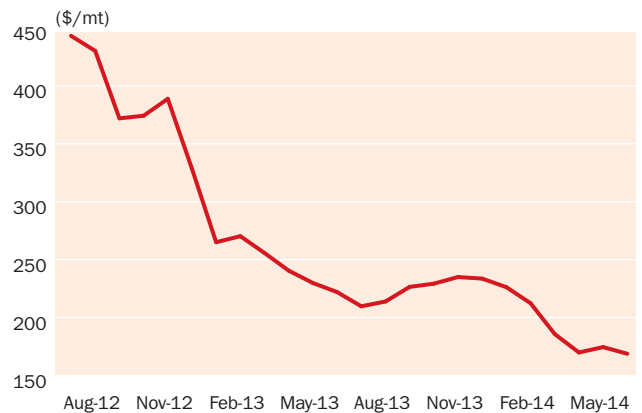
Source: Korea Customs

Coking coal vs iron ore spot prices



Source: Platts

Chinese met coke export prices (12.5% ash)



Source: Platts

SCRAP MARKET FOCUS

Different markets, different price directions

Asian scrap prices were moving in different directions during the first week of July, the start of a period when demand is usually softer due to reduced industry activity over the hotter summer months. The scrap market continues to be impacted by the weaker steel markets and many Asian companies will conduct maintenance in the current quarter which will dampen demand.

While Japanese scrap prices appeared to have peaked, US containerized scrap prices were falling in Taiwan and US bulk scrap prices were holding firm in Korea. There was little change to Japanese domestic scrap prices from the end of June to the start of July, while export prices appeared to be softening slightly. Japanese traders were paying around Yen 32,500/metric ton (\$318/mt) FAS at Tokyo Bay to collect H2 material for export, down from Yen 32,500-33,000/mt FAS in late June.

Export prices rose in late June which led to reduced inquiries from Korean mills during the first week of July while traders lowered their purchasing prices in anticipation of price falls. Traders were targeting around Yen 34,000-34,500/mt FOB in early July, down Yen 500/mt from the previous week. Tokyo Steel Manufacturing lifted its scrap buying prices by Yen 500/mt (\$4.9/mt) at its Utsunomiya and Tahara works effective June 27 arrivals. Its H2 buying price at Utsunomiya was Yen 34,000/mt (\$332.9/mt).

In Korea, major mills including Hyundai Steel, Daehan Steel and Korea Iron & Steel were staying away from the Japanese scrap market at the start of July. Hyundai's previous booking price for H2 scrap was Yen 34,500/mt FOB for Japanese H2 on June 27. Korean traders expect scrap demand among local mini-mills to decline in July and August because of scheduled annual maintenance shutdowns.

Conversely, bulk ferrous scrap import prices strengthened in East Asia during the July 4 week after mills in Korea and South East Asia secured higher-priced cargoes from the US and Australia. During that week, a Thai mill secured one US-origin bulk August shipment cargo at around \$393/mt CFR HMS 1&2 80:20 and \$398/mt CFR for shredded scrap.

In late June, Hyundai Steel secured three cargoes for July-August shipments at \$385/mt CFR HMS 1 basis. The purchases, from two US suppliers, totaled

around 90,000 mt. The mill had previously secured US bulk scrap cargoes at \$377/mt CFR in early June.

June prices range-bound

Looking back to June, there was an absence of any real volatility in the Turkish ferrous scrap import market with TSI's benchmark index for Turkish imports of HMS #1&2 80:20 range-bound between \$370/mt and \$374/mt. This was in spite of some companies being affected by unrest in the Middle East and also Ramadan, meaning already reduced demand was stunted further. This had the effect of lowering rebar pricing and eroding

margins for mills.

All of this would seem to point to softer scrap prices, but a lack of scrap supply has helped support prices. US East Coast exporters kept one eye on the domestic market in June, while European and Baltic suppliers could afford to be selective when selling cargoes.

"Buy week" for June in the US domestic market saw a second successive heavy fall in pricing, with TSI's US Midwest shredded index (delivered mill) dropping by \$17/long ton or by 4.4% in the first week of the month to \$368/l.t. This came against a backdrop of an oversupply of shredded material, with scrap yards quickly accepting a fall in pricing was inevitable.

— Anna Low

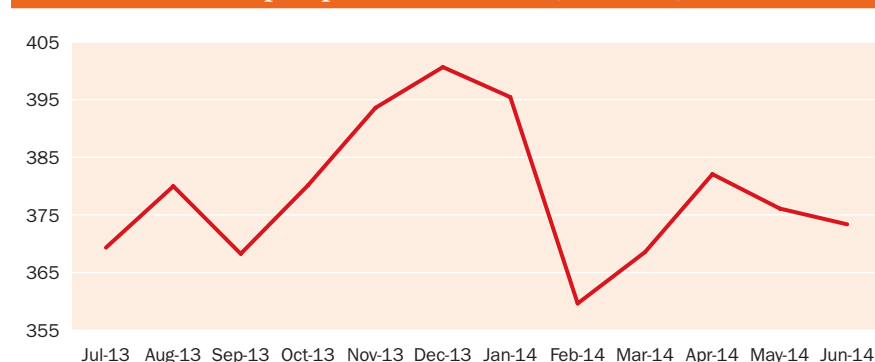
Platts monthly average ferrous scrap prices, June 2014

	Unit	Monthly average	\$ change	% change
HMS FOB Rotterdam	\$/mt	343.55	-3.05	-0.88
A3, FOB Black Sea	\$/mt	335.43	-2.05	-0.61
HMS CFR Turkey	\$/mt	370.74	-2.74	-0.73
Shredded del Midwest US	\$/lt	373.45	-12.98	-3.36
Shredded del dock East Coast	\$/lt	357.14	-4.31	-1.19
HMS del dock East Coast	\$/lt	293.81	-6.79	-2.26
HMS FAS US West Coast	\$/mt	331.21	8.71	2.70

TSI monthly average ferrous scrap prices, June 2014

	Unit	Monthly average	\$ change	% change
HMS 1&2 80:20, Turkish imports (CFR port)	\$/mt	371.33	-3.27	-0.87
Shredded, Turkish imports (CFR port)	\$/mt	375.80	-3.95	-1.04
Plate and Structural, Turkish imports (CFR port)	\$/mt	381.80	-2.45	-0.64
A3, short sea, Turkish imports (CFR port)	\$/mt	354.80	-1.45	-0.41
Shredded, US domestic (del Midwest mill)	\$/lt	371.60	-14.40	-3.73
HMS 1&2 80:20, Taiwanese imports (CFR port)	\$/mt	356.20	9.20	2.65
Shredded, Indian imports (CFR port)	\$/mt	403.00	-3.50	-0.86

Platts East Asia scrap imports / HMS 80:20 (\$/mt CFR)



Source: Platts

ALLOYS MARKET FOCUS

Q3 tipped to remain flat despite output cuts

Prices of 75%-Si ferrosilicon in Asia remained fairly flat over June, supported by production cuts in China, some improvement in demand and limited availability of material that had circumvented the export tax in China.

But despite the improving market, most industry participants do not envisage any strong upside potential for prices over the next month or so as the third quarter is typically the off-peak season for demand in the steel industry. Many steelmakers in China cut production to carry out maintenance work over the hotter summer months – a time when industry activity slows.

Platts assessed the Chinese spot price of 75%-Si ferrosilicon at \$1,320-1,360/mt FOB China on July 3, unchanged over the month.

Production cuts among Chinese ferrosilicon producers have resulted in some supply tightness in the market. In early July, sources reported stronger demand with local steelmakers lifting their monthly purchase prices by a further Yuan 50-100/mt (\$8-16/mt).

Export demand for the material has been boosted by limited availability of Chinese ferrosilicon that has avoided the export tax by being re-routed back into the country from Vietnam. Political tension between China and Vietnam has resulted in a tightening of border control which has prevented the material exiting and re-entering China. China imposes a 25% export tax on ferrosilicon.

Chinese domestic ferrosilicon spot prices at Tianjin port were stable over the month at Yuan 6,200-6,300/mt (\$1,007-1,024/mt) on July 3.

Ferrochrome also flat

Platts assessed spot prices of India-origin high carbon ferrochrome (58-60% Cr) and South Africa-origin charge chrome (48-52% Cr) at 82-84 cents/lb CIF China and 81-82 cents/lb CIF China respectively on July 4. The prices were unchanged over the month.

Import trading remained quiet as Chinese buyers were seeking imports below 80 cents/lb CIF, while suppliers were unwilling to lower their offer prices to that extent.

Indian producers said supply was tight due to a chrome ore shortage in India, while ferrochrome smelters in the country have been prioritizing supply for customers with long-term contracts. There was also little demand for spot shipments for charge chrome as mills continued to receive their supply under existing term

contracts, said sources.

Demand from Chinese buyers was also weak due to the mid-year liquidity crunch among Chinese companies.

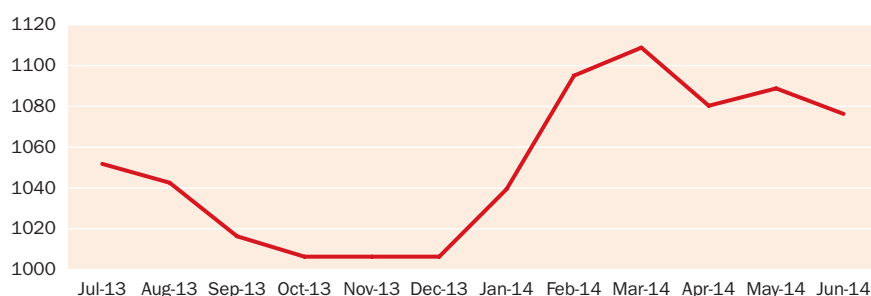
Domestic spot prices of 50% Cr Chinese high carbon ferrochrome were at Yuan 6,400-6,600/mt (equivalent to 79-81 cents/lb) delivered with 17% VAT in early July, down from Yuan 6,500-6,700/mt a month earlier after major stainless steelmakers lowered their domestic prices. Stainless producer Baosteel has

cut its July domestic purchase price by Yuan 50/mt, with Shanxi Taigang Stainless Steel expected to cut its price by the same amount.

Views were mixed on the near-term outlook. Some market participants said domestic spot prices could ease further in response to mills cutting their prices, and also because stainless steel demand is traditionally weaker in the third quarter. But others see prices supported by chrome ore prices and production cuts among Chinese ferrochrome smelters.

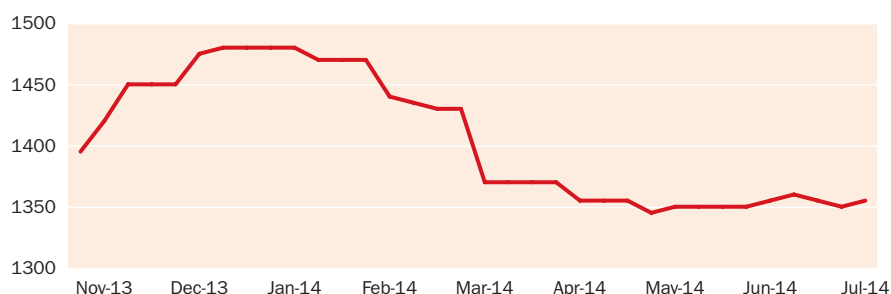
— Vivian Teo

Platts Ferromanganese in-warehouse US – High Carbon 76% (\$/gt)



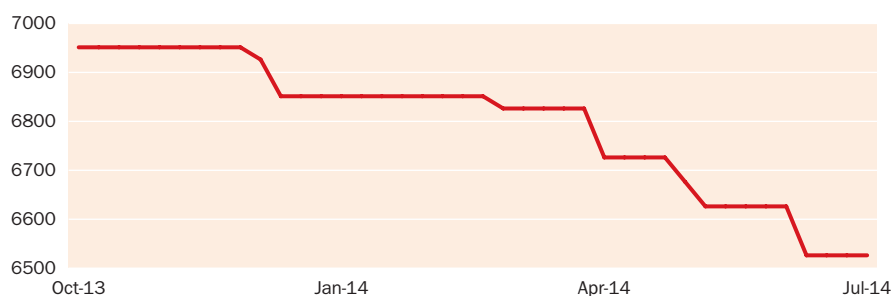
Source: Platts

Chinese ferrosilicon exports (\$/mt)



Source: Platts

Chinese domestic high carbon ferrochrome (Yuan/mt)



Source: Platts

NEWS

Analysis: Market conditions worse than in Q3 2012

Around this time last year many analysts and market watchers were anticipating a repeat of the third quarter of 2012 when iron ore prices temporarily plunged below \$90/mt – a price shock that few saw coming. But in the end their fears proved unfounded with iron ore prices staying robust over the second half of 2013, averaging almost \$134/mt.

Many factors were different about that period compared with the year before, however. At 60 million mt, iron ore port stocks in China were 30 million mt lower than a year earlier; steel market sentiment was stronger; and most importantly China's property construction fired up over the back half of 2013, driving steel production growth and in turn supporting iron ore prices.

This was despite a significant volume of new expansion tons out of Australia starting to hit seaborne markets.

The current quarter should provide an acid test for iron ore prices – and whether they will fall beneath current levels of around \$95/mt – as in most cases steel market conditions are worse than they were in 2012. Iron ore stocks are at record high levels due in large part to surging exports from Australia, crude steel production is slowing, the property sector is in the doldrums and all of this is exacerbated by a lack of access to credit for many steel market participants.

After showing signs of recovering in May and early June, Chinese crude steel output has started to taper off once more. Indeed, crude steel production fell 3.2% to 1.78 million metric tons/day over June 21-30, compared with the preceding 10 days,

according to China Iron & Steel Association (CISA) data. Many mill sources and market observers said the size of the fall was a surprise, given strengthening mill margins on the back of lower raw materials prices.

However, the drop off in steel output was anticipated in the latest Platts China Steel Sentiment Index (CSSI), just as the increase had been in the previous CSSI. The index – based on a monthly survey of 50-75 China-based market participants – found that lower steel output, combined with a slowdown in construction activity as the weather hots up, could see steel inventories rise at both traders and mills in July. Flat steel producers were bullish on price – domestic HRC prices in June were up just 0.5% on May – though this could be in part wishful thinking given flat steel producers were a major contributor to the stronger steel production seen in May.

Expectations among China's steel market participants of new orders over the next month or so were at a six-month low with the headline number in the latest CSSI falling to 45.90 in July out of a possible 100 points. The July reading was down 6.03 points from 51.93 in June and the lowest reading since 28.49 in January this year. Steel market participants anticipated a decrease in both domestic and export steel orders.

No sign of pick-up in property sector

In terms of important end-user markets, property construction remains the biggest concern as it accounts for around 35% of steel consumption in China. Last month's issue of Steel Raw

Monthly News Round-Up

Metinvest and Kosaya ink offtake deal

Russia's Metalloinvest and Kosaya Gora Iron Works have signed a three year iron ore pellet supply contract for a total 1.9 million mt in shipments. The pellet pricing will be fixed according to existing market benchmarks, taking into account global market price dynamics, Moscow-based Metalloinvest said. The Mikhailovsky GOK and Lebedinsky GOK units will deliver the iron ore products, it said. Metalloinvest is the biggest iron ore pellets producer in Russia and supplies the key raw material to steel mills in Russia, Europe and eastern Asia. Tula-based Kosaya Gora Iron Works produces a variety of pig iron, and foundry products.

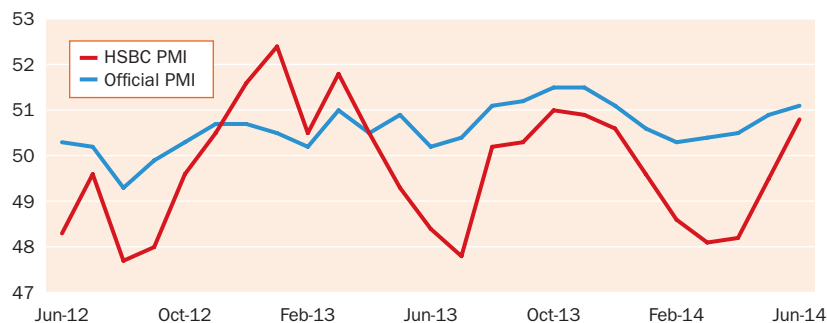
MCC Sierra Grande restarts ore exports

Argentinean mining company MCC Sierra Grande recently shipped 49,500 mt of iron ore to Houston, Argentina Mining Minister Jorge Mayoral and the company's secretary, Renzo Tamburrini, said. The company did not disclose who would receive the shipment. It was the company's first shipment since April due to water supply constraints caused by a violent rainstorm which hit the province three months ago. The storm forced the Sierra Grande region to address two broken aqueducts that supply water to the city. The company said it was investing in aqueduct repairs, allowing the resumption of full operations. The company, owned by Metallurgical Corp. of China, produces ore concentrate averaging 68.55% Fe.

BHP reaches Japan landmark

BHP Billiton shipped its one billionth mt of iron ore to Japan in the first week of July. It marked the occasion at Port Hedland with president of iron ore Jimmy Wilson and joint venture participants Japan's ITOCHU and Mitsui seeing off the Saiko vessel bound for Japan. "BHP Billiton shipped its first ton of iron ore to Japan in 1966 and we are proud of the nation-building role we have helped play since that time," Wilson said in a statement. BHP has three major Japanese joint venture

China Purchasing Managers' Index



Source: HSBC, NBS

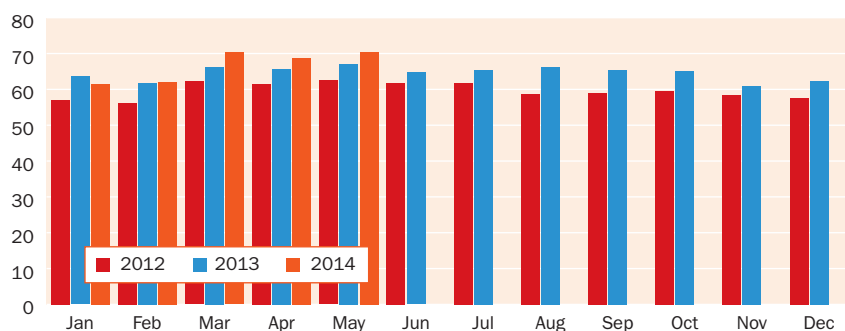
Materials Monthly reported that sales of new homes had fallen almost 10% in January-April, according to the National Bureau of Statistics. More recent data from the NBS showed that real estate investment growth over January-May hit a 57 month-low, which has impacted demand for construction longs in particular. Average China domestic rebar prices in June were down around 1.3% on the month before.

Meanwhile, China's manufacturing sector is showing signs of growth with both the HSBC and "official" NBS purchasing managers' indices (PMIs)

improving in June. The HSBC PMI, which generally canvasses the outlook of smaller and privately-owned manufacturers, rose to 50.7 in June from 49.4 in May. It is the first time since December the index has risen beyond 50, indicating that this segment of the sector has finally gained some growth momentum.

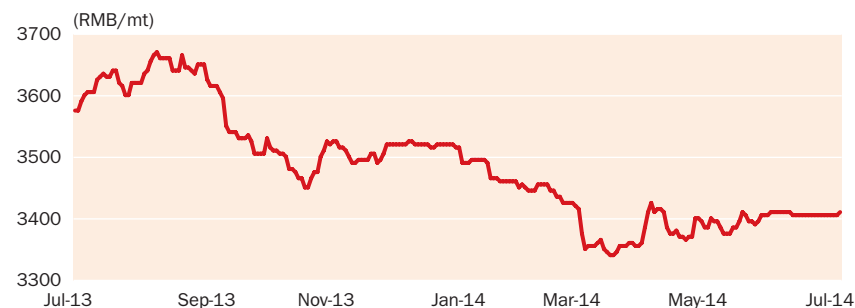
The NBS PMI, which reflects the experiences of larger and state-owned manufacturing companies, rose to 51.0 in June from 50.8 in May. It was also the strongest reading since December. Manufacturing – if including

China crude steel production (million mt)



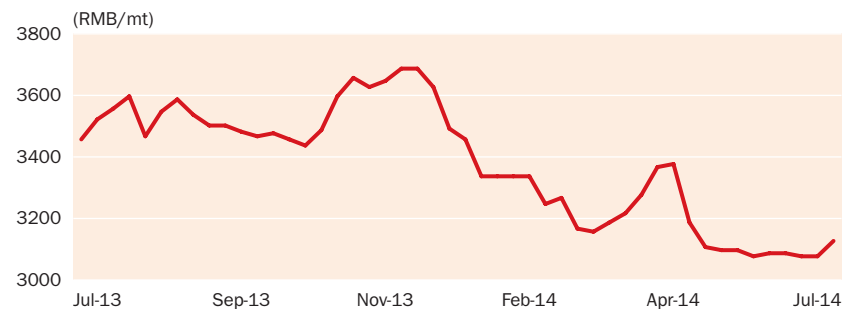
Source: NBS

China domestic flat prices (incl. 17% VAT)



Source: Platts, SBB

China domestic rebar prices (incl. 17% VAT)



Source: Platts, SBB

Monthly News Round-Up

participants — Mitsubishi, Mitsui and ITOCHU — that span several commodity projects across Australia, Chile, Peru and Mozambique.

Turkey pig iron imports boom

Turkish imports of pig iron reached a 2014 year high in May at 117,658 mt, up 18% on the month and 52% higher than the same month of the previous year. Procurement from Turkey's main suppliers Ukraine and Russia rose significantly, despite domestic production of the hot metal also increasing, according to the latest Turkish Statistical Institute (TUIK) data. Pig iron imports from Ukraine increased 30% on the year in May, reaching 81,619 mt, while Russia sold 34,025 mt of pig iron to Turkey, up from only 6,668 mt in the same month of 2013. Pig iron imports in the first five months of the year totaled 472,468 mt, 15% higher than the same period of 2013.

MMX struggles to find partner

Brazilian iron ore mining company MMX is having difficulty finding a partner to assist in expanding its Serra Azul iron ore project, "made worse by a downturn in prices," CEO Carlos Gonzalez told Platts. In late 2013 the company scaled back planned output expansion at Serra Azul to 15 million mt/year, from a previous plan to more than triple output to 29 million mt/year. Current annual production totals 8 million mt. Late last year the mining firm confirmed ongoing discussions with market players concerning a potential project partnership. "We had some offers and were developing a short list [of potential investors]. However, the downturn in prices hampered discussions," Gonzalez admitted.

Platts China Steel Sentiment Index

	July	Change from June
Headline CSSI	45.9	-6.03
New domestic orders	46.71	-5.99
New export orders	36.42	-5.31
Steel production	46.43	-12.95
Mill inventories	46.43	5.80
Trader inventories	39.35	4.18
Longs prices	50.00	4.55
Flats prices	62.73	27.10
Export prices	47.72	7.91

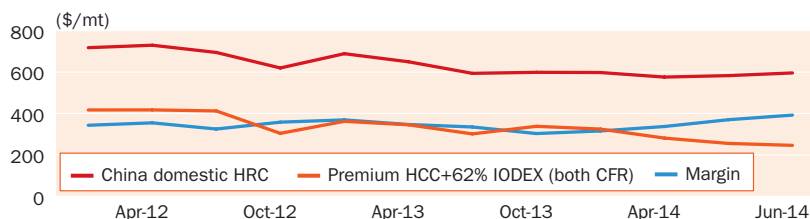
Source: Platts

machinery, autos, shipbuilding and appliances – can account for up to 30% of Chinese steel consumption, according to CISA data.

China Association of Automobile Manufacturers industry data showed that over January-June, vehicle output and sales totalled 11.78 million units and 11.68 million units, up 9.6% and 8.4% y-o-y respectively, though June numbers were down on May.

— Paul Bartholomew

Raw materials margins



Source: Platts, SBB

Back to the future for Posco's Finex plans

Posco's continuing struggle to find a buyer for its state-of-art Finex iron-making technology returned to the past in early July when it signed an MoU with southern China's Chongqing Iron & Steel – their fourth in as many years for the same project. But the July 4 pact contained a phrase or two that the others didn't, specifically a pledge to cooperate in mining projects.

The core of the deal remained the construction of a 3 million metric tons/year iron-making plant at Chonggang's Changshou works to incorporate Finex. This is Posco's process that allows the use of fine iron ore feeds (between 2~8mm dia), and steaming and low grade coals to make a grade of pig iron barely indistinguishable from a blast furnace product, Posco says.

The Korean firm spent 15 years and over \$600 million developing the process but since commercialization in 2007 its many attempts to find a steelmaker other than itself to install it have failed.

Back in August-September 2010 Posco struck separate deals for Finex with Chonggang and with east China's Jiangsu Shagang Group. By the following July while Shagang was having second thoughts – it was concerned about operating costs – Chonggang felt moved to sign another MoU with Posco.

At that time Chinese observers saw in Chonggang's strategy a ruse to use Finex as the means for securing central government approval for a large capacity expansion. Beijing even then was strictly controlling additions to steel capacity but encouraging mills building facilities with cutting-edge technology. In September last year, the two signed another MoU for the project, this time saying they would form a 50-50 JV to build it. Separately they added plans for an autosheet venture.

MoU 'take 4'

So for MoU #4 this month – signed in Seoul and coinciding with Chinese president Xi Jinping's first visit to Korea – a Posco spokesman admitted it contained little that was different from that inked last September. Where it did differ significantly though was referencing cooperation between Chonggang and Posco in a vanadium-titanium mining project for which \$100 million of their total \$3.3 billion investment commitment was to be allocated.

Although the project was given merely a few lines in the MoU, a Chonggang official said his company had been soliciting investment for its iron ore mining projects in Sichuan Province's Xichang City and in Australia's Extension Hill. The latter, the Extension Hill Magnetite Project in Western Australia, is being promoted by the Asia Iron group, a wholly Chinese-owned partnership in which Chongqing Chonggang Minerals Development Investment Limited has 60% and privately-

owned SINOM Investments Limited 40%.

In China meanwhile, the iron ore deposits in Xichang are rich in vanadium-titanium, the exploitation of which Chonggang's official said would "contribute greatly" to his company's profitability. He claimed that Chonggang was intending to triple production at its iron ore mine there from the current 1 million mt/year to 3 million mt/year.

Vanadium and titanium used in specialty steel applications are commonly found with iron ore deposits in two areas of China, namely in Hebei Province in the country's north and in Sichuan in the country's central-west. Sichuan is currently host to Panzhihua Iron & Steel Group, the country's largest vanadium products maker with extensive specialty steel operations.

What Chonggang's aspirations are regarding the vanadium and titanium byproducts of its iron ore mining are unclear. In their July MoU Chonggang and Posco mentioned no timeline for their mining project and how Posco would be involved remains unknown, Chonggang's official added.

— Russ McCulloch



Posco's Finex plant. Source: Posco

Brazilians believe in attraction of pellets

Growing demand for iron ore pellets is preventing their price from falling at the same rate as iron ore prices generally as steelmakers try to optimize their production processes at a time of weak margins, according to Brazilian pellet-producer Samarco, and prospective producer Manabi.

"Pellets are the noblest product [of iron ore] and consequently attract higher prices and premiums, because they grant higher productivity. Considering the current steel-related market scenario, they have become even more relevant and many companies have turned to higher quality production," a Samarco official told Platts.

The price of 62% Fe iron ore fell 30% from an average \$135.55/mt CFR in December to \$94.88/mt in June, according to Platts. Over this period, the price of Brazilian exports of pellets (grading 65% Fe) fell 26% from \$231.43/mt to \$170.7/mt, according to Platts monthly average prices for the Atlantic basin.

Samarco said it expected to keep its margins by increasing productivity and

cutting operational costs. Its average production costs in 2013 were Real 123.30/mt (\$56/mt).

The tenth major Brazilian exporter in value terms, Samarco, accumulated in the January to May period a total \$1.2 billion FOB in exports, according to Brazilian secretariat of foreign trade Secex. This was behind major producer Vale's total \$9.4 billion for the same five months. Samarco expects revenues of close to \$4 billion this year, from just under \$3 billion in 2013.

Samarco hopes to grow US sales

Samarco said it was eyeing the United States as a potential market for its recently increased production. At the inauguration of its fourth pelletizer plant in the city of Germano in Minas Gerais state, the company said it anticipated a growing number of direct reduction iron (DRI) projects in the US, but to date its only customer there is Nucor in Louisiana.

Company CEO Ricardo Vecovi said the growth of shale gas energy in the US was a "very important development", which had re-opened doors with customers it had not supplied since the start of this decade. "We are seizing the opportunity of recovering our American clients," he said.

The company produced 21 million mt of pellets last year, around 50% of which were blast furnace feed and 50% for DRI production. Of this total, 30% was exported to the Middle-East, 20% to Europe, 20% to Asia excluding China, 15% to China and 15% to the Americas. Samarco expects output of closer to 28 million mt this year.



Samarco pellet making facility. Source: Samarco

Ramp-up of Samarco's new installation is expected to occur throughout the year, reaching 8.2 million mt/year capacity in the second half of 2014, taking total capacity in 2015 to 30.5 million mt/year of capacity.

Prospective miner Manabi has invested Real 10.5 billion (\$4.7 billion) in its Morro do Pilar project in Minas Gerais, which will include 25 million mt/year pellet production capacity. Material will be transported to a terminal at Porto Norte Capixaba, Espírito Santo state, via a slurry pipeline.

"Incorporation of a premium [6.5% for above-average 62% Fe content], along with low production costs [roughly \$40/mt] guarantee the economic feasibility of the project," Manabi general manager of technology and process Camilo Silva told Platts in June.

Crude ore will grade around 33% Fe before being processed into 68.5% Fe pellets. Manabi has yet to set a date for production start-up, which still depends on securing the necessary licenses, but it hopes commissioning will take place in late 2017.

— Jose Guerra



Vessel being loaded with pellets. Source: Samarco

Most steelmakers slow to adopt energy saving measures

Iron and steel producers have done a lot to make their production processes more efficient and reduce emissions in recent years, but so far no breakthrough technology has emerged to radically alter these basic processes.

"Steelmakers are a conservative group and even if there is new technology, given the lifetime of existing installed capacity, it would take years for the industry to globally adopt it," a London-based steel analyst said.

"New technologies have in the past also been expensive and iron and steelmakers are perennially short of cash so there are challenges to improving

processes that don't impact the bottom line," he added.

The main move by the steel industry to try to reduce emissions was the creation of ULCOS (Ultra-Low-CO2-Steel), a consortium of European integrated steel producers, mining groups, energy producers and technology suppliers.

ULCOS had intended to revamp a blast furnace at ArcelorMittal's Lorraine steel plant in France. The revamp would have retrofitted the plant to capture carbon dioxide in an attempt to lower the total CO2 emissions by 50%. The project would have also stored around 700,000 mt/year of CO2 in a deep saline formation.

However, funding for the ULCOS program in Europe has now been stopped and funding for a US program has been reduced.

Other research programs are, however, continuing in Japan, Korea and Taiwan, according to the World Steel Association.

"Keeping total global CO2 emissions at the current level or better depends on the development and introduction of radical new steel making technologies with a lower carbon footprint. Many of the technologies that are being researched are associated with carbon capture and storage, which will require government and public support for implementation," the World Steel Association recently said.

"Ultimately, iron and steelmakers together with downstream users will need to become a lot more efficient in using steel.

Steel demand will not grow as fast as it has, not only because of great efficiencies in use, but also because the pattern of traditional demand drivers will change as economic growth slows," the analyst added.

Energy saving initiative

But there are of course many companies developing new processes and technologies that could help steelmaking become cleaner and more environmentally friendly. One such company is Israel-based NewCO2Fuels, a subsidiary of Australia's GreenEarth Energy. It plans to begin trial production of its new Energy Efficiency

Improvement technology at a plant owned by one of the world's biggest steelmakers.

NCF signed an agreement with the Europe-based steelmaker earlier this year, and expects to have the EEI demonstration plant in commercial operation by mid-2016.

"An average sized steel plant, say 2-7 million mt/year capacity, is wasting 500 megawatts (MW) all the time. Out of this 500 MW about 200 MW are at very high temperatures that can be utilized, which is currently just being released into the atmosphere," NCF CEO David Banitt told Platts.

Excess heat could be extracted from a number of sources within the plant, including

coking plants, blast and other furnaces. "It's essentially a feedstock you can do something with and what we propose is to take this heat and this waste and produce a valuable product from it," Banitt said.

He said the EEI plant can improve a steel plant's energy efficiency process by over 28% through capturing the CO₂ and H₂O from heat generated in the steelmaking process and turn it into syngas. The syngas could then be used within the steel foundry itself or could be further processed into liquid fuel or other chemicals to be consumed in local markets, Banitt said.

— Marnie Hobson

New capacity slowing but Chinese steel output to remain high

Reducing China's crude steel production in any meaningful way remains a Herculean task but new capacity seems to be being brought on more slowly and some mills potentially face going out of business due to the weak steel market. The two factors combined could help put the brake on China's rampant overcapacity even if there is no real decrease in the near-to-medium term.

The Chinese government plans to force the removal of 19 million metric tons/year of 'outdated' – i.e. not up to the correct environmental and technical standards – pig iron capacity and 28 million mt/year of crude steel capacity this year. The lion's share will come from Hebei province which produces around a quarter of China's steel

and contains seven of the ten worst polluting cities in China.

Showing that it means business, Hebei closed 16 blast furnaces and three converters at 15 steelworks in a single day in February, which followed a similar campaign in November when 6.7 million mt/year of pig iron capacity and 1.49 million mt/y of crude steel capacity were eliminated. Hebei has pledged to close 67 million mt/year of crude steel capacity by the end of 2017.

Importantly, the province surrounds Beijing where the central government can monitor the detrimental impact – and potential social unrest – of severe pollution on the capital's inhabitants. Since taking office in March last year China's Xi-Li

administration has made clamping down on pollution one of its key policy imperatives.

Meanwhile, eastern China's Jiangsu province plans to close 500,000 mt/year of ironmaking and 3.97 million mt/y of steelmaking capacity by the end of 2014. Jiangsu, which saw crude steel output jump 11% last year to reach 84.69 million mt, is targeting the closure of 7 million mt/year of iron and steel capacity by the end of 2018. Also in China's east, Shandong province shuttered 280,000 mt/year of ironmaking and 2 million mt/year of steel capacity last year.

In 2012, China scrapped 10.78 million mt/year of ironmaking and 9.37 million mt/year of steelmaking capacity, which was a start but only amounted to a drop in the ocean in a country where total capacity surpasses 1 billion mt/year.

Despite already being in July, no definitive numbers on how much capacity was removed in 2013 have yet been released, though China was targeting around 16-17 million mt/year.

New capacity slowing

Platts' research team in Shanghai estimates that just over 24 million mt/year of new blast furnace capacity was commissioned in 2013 (see list). New capacity this year could be less than half of that amount, with only around 6 million mt/year of new blast furnace capacity commissioned to date.

Most notable among these is southwest China's Panzhihua Iron & Steel, which expects to commission a new 1,780 cubic meter blast furnace in Sichuan province's Xichang city within the next couple of months. The company has the benefit of sizeable captive iron ore supply, which can help it control costs.

However, the evidence suggests that new capacity is slowing. China's commercial banks are fairly ill-disposed towards the steel sector – which has

New blast furnaces commissioned in 2013

Company	Province (town)	Capacity (mt/year)	BF size
Shanxi zhongyang Iron & Steel	Shanxi (Lvliang)	1,500,000	1,780m3
Qinyou Special Metal Material Co., Ltd.	Jiangsu (Yangzhou)	1,000,000	1,080m3
Xuzhou Huahong Special Steel	Jiangsu (Xuzhou)	900,000	1,080m3
Minmetals Yingkou Medium Plate Co.,Ltd	Liaoning (Yingkou)	2,000,000	2,300m3
Hunan Valin Lianyuan Iron & Steel	Hunan	2,500,000	2,800m3
Baosteel Group Xinjiang Bayi Iron & Steel	Xinjiang (Baicheng)	1,380,000	1,800m3
Wuhu Xinxing Ductile Iron Pipes Co.,Ltd.	Anhui (Wuhu)	1,000,000	1,280m3
Wuhan Iron & Steel Group Echeng Iron & Steel Co.,Ltd. (Egang)	Hubei (Ezhang)	1,500,000	1,800m3
Guangshui Huaxin Metallurgical	Hubei (Wuhan)	500,000	630m3
Xinjiang Kunlun Iron & Steel	Xinjiang	800,000	630m3
Tianjin Metallurgy Group Zhasan Youfa Steel	Tianjin	1,200,000	1,260m3
Xinjiang Kunyu Iron & Steel	Xinjiang (Kuian)	500,000	450m3
Hebei Xinda Iron & Steel	Jilin	1,500,000	1,260m3
Yunnan Anning Yongchang Iron & Steel	Yunnan (Anning)	1,000,000	1,080m3
Anyang Iron & Steel Co.,Ltd.	Henan (Anyang)	4,000,000	4,747m3
Lianfeng Iron & Steel (Zhangjiagang) Co.,Ltd.	Jiangsu (Zhangjiagang)	1,134,000	1,080m3
Xinjiang Kunyu Iron & Steel	Xinjiang (Kuian)	500,000	450m3
Sanbao Metallurgical (Fujian) Group	Fujian (Zhangzhou)	500,000	450m3
Shandong Qilu Xintong Steel Pipe	Shandong (Liaocheng)	1,000,000	1,080m3
Total		24,414,000	

Source: Platts

barely been profitable in recent years – and companies are finding it harder to source funding. Beijing's clampdown on shadow bank lending – which is understood to be responsible for one-quarter to one-third of all corporate finance in China – is another reason why any aspirations to boost capacity will be harder to achieve.

Other levers used by the Chinese government include the blocking of land, lease and construction approvals. Indeed, some mills which built facilities without gaining the correct approvals have been told to tear them down.

Even without the financial impediments that upgrading their steelmaking facilities to meet environmental requirements will add, Chinese mills are already struggling to make a profit in the current market. Large state-owned mills say their margins are currently flat to Yuan 200/mt on domestic hot rolled coil sales, even with low raw materials prices. For less efficient, smaller and privately-owned mills, it is even tougher to make ends meet.

Mills at risk

The collapse of 8 million mt/year capacity Shanxi Haixin Iron & Steel in March shocked the market, but is unlikely to be a one-off event. More recently, privately-owned Sichuan-based steelmaker Tranvic Group – which can produce 4.8 million mt/year of long and flat steel – along with Helongjiang Xilin Iron & Steel, and pipemaker Tianjin Qifeng Group Co, have all threatened bankruptcy.

The combined crude steel capacity of Haixin, Xilin and Tranvic is around 16 million mt/y. At this stage, only Haixin has suspended production, while Xilin and Tranvic are still operating.

Local governments are often keen to lend financial aid to distressed companies – private and state-owned – to keep workers in jobs and avoid any social unrest. But it is increasingly the owners of the steel companies themselves who have had enough of eking out a meagre living and who do not see any light at the end of the tunnel, and who therefore prefer to throw in the towel. In some cases, banks

with exposure to these companies want to prop up the mills rather than incur more bad debts on their balance sheets.

Platts' sister company, ratings agency Standard & Poor's, has said it "expects more defaults in the steel sector", caused in large part by the downturn in China's property sector.

"The largely debt funded property sector's expansion and build up in property inventory/oversupply has contributed to housing prices falling 10% this year, with a flow-on effect on construction steel demand. This demand fall-off is further pressuring steel producers already facing low domestic prices and chronic overcapacity," S&P said.

But despite the threatened closures and slowing new capacity build, analysts and other market participants do not expect any great impact on the country's overall capacity. Rather, large and more efficient mills may have the option of lifting utilization rates to take advantage of reduced competition.

— Paul Bartholomew, Zhang Jing

No letting up for Rio Tinto's exploration

Large resources companies need to respond to current market conditions, but they must also look way into the future. Rio Tinto has cut its capex plans – by 20% a year in 2014 and 2015 – but the Anglo-Australian company is maintaining its budget for greenfield project exploration and has teams continually scouring the globe for potential new minerals assets.

"You really can't stop exploration; the decisions you make today will only be felt in a decade's time. Shareholders want to know the company is sustainable, so we're looking two, three, even four generations ahead," Stephen McIntosh, Rio's global head of exploration, said at a media briefing in Melbourne in June.

MinEx Consulting data cited by Rio shows that minerals exploration (excluding bulk commodities) investment peaked in 2012 at around \$20 billion but fell by \$5 billion the following year. In Australia, where much of Rio's mining business resides, exploration drilling for both greenfield and brownfield projects has fallen in the first quarter of 2014, even though weaker commodity markets have brought down exploration costs in Australia.

McIntosh said among the major mining companies, Rio was one of the largest investors in greenfield exploration. Over 80% of the company's exploration efforts were focused on commodities to which the miner was already exposed, while the

balance was on other commodities. "We're looking for everything that could make sense to Rio Tinto," he said.

This can include investing in projects which don't necessarily seem to make economic sense at the time, McIntosh said, providing the example of Rio's 30%-owned Escondida copper mine in Chile. Eyebrows were raised when Rio and BHP Billiton decided to invest in Escondida in the 1980s as the Latin American country had only recently emerged from a military dictatorship. But the project became a major copper producer. "It's very difficult to know what a country will look like in 25-30 years' time," he said.

McIntosh said there was always an element of risk involved in exploration, with perhaps only one in a thousand exploration targets reaching an advanced development stage.

But with brownfield commodity grades and tonnages gradually depleting, the majority of new greenfield discoveries were likely to occur in the developing world, such as in Africa. In this sense, Rio has been a pioneer with its development of the Simandou iron ore project in Guinea in West Africa, which McIntosh said he first visited in the late 1990s. He said the region had a similar geological make-up to the Carajás region of Brazil, as the two continents were once joined.

Pilbara keeps on giving

Closer to home, Rio continues to explore in the Pilbara region of Western Australia, and despite more than 50 years of ever increasing mining activity, McIntosh said it "hasn't given up all of its secrets."

"The exploration potential in the Pilbara remains," he said.

"There is nowhere else in the world that comes close to the Pilbara in terms of total scale and size, and this includes Carajás and the iron quadrangle in Brazil. They are smaller basins, notwithstanding that individual deposits within those basins are really significant," he added.

While the company may have a "notional" idea of the order of mine development progress in the Pilbara, the "enormous engine" that is Rio's Iron Ore Group continually reviews this in light of markets, economics, and "the infrastructure side of things."

In general, project timeframes have blown out in recent years with the approvals process taking much longer than in the past. (Indeed, BHP Billiton iron ore president Jimmy Wilson said recently that it could take up to 17 years for a new discovery to enter production). As a result, a "disproportionate" amount of investment was now channeled towards projects which already had permit approvals in place, McIntosh said. Though there are signs the current Australian government is trying to speed up the approvals process at a time when resources investment is slowing, it

remains a challenge for junior miners and explorers to maintain working capital over long periods of time.

McIntosh discussed the increasingly important role that technology played in exploration, particularly as “mother nature has a way of putting these deposits in somewhat hostile environments.”

By using satellite technology and merging it with existing data, Rio did as much exploration work as possible before physically setting foot in a country or region (see accompanying article on Scantherma). Further, the mining company has an enormous archive of exploration information and data compiled over many decades, which it has spent nine years converting from “books in dusty warehouses” into digital formats.

“In the past we had to try and explain satellite images, but now everyone has Google Earth, so those tools have had a profound effect in explaining what we do,” McIntosh said.

— Paul Bartholomew

Iron ore mines in the Pilbara



Source: Platts

Q&A with founder and CEO of Scantherma, Amir Farhand

Founded in 2009, Western Australia-based Scantherma is a remote sensing, visualization and software development company that has focused largely on the mining exploration, and gas and oil sectors, carrying out work for many of the world's major mining companies. It developed the Maapt technology used by geologists in the field. More recently, Scantherma was involved in the search for missing Malaysian aircraft MH370 in the Indian Ocean. Founder and CEO Amir Farhand spoke to Platts managing editor, Australia, Paul Bartholomew.

What kind of work does Scantherma do in the resources sector?

Most of the work we do for the minerals exploration and commodity intelligence



Scantherma CEO Amir Farhand. Source: Scantherma

industry is data acquisition, not only from satellites, but also from proprietary developed telemetry systems.

We've done a fair bit of work around iron ore exploration for Fortescue Metals Group and Sinosteel-Midwest in Australia. Some of this work included using thermal imaging technology for geological mapping. Traditionally, most image acquisition has been completed during the day using passive systems such as natural colour satellite or aerial photography. We developed a method that can acquire thermal imagery during the night using a combination of both satellite and airborne technology.

At night time, you can see the iron ore glow; it really stands out against its cooler surroundings, which makes mapping an area a whole lot easier, and more importantly, it's much cheaper.

What are some of the challenges in using satellite for exploration?

Persistent cloud cover in temperate regions and tropical regions is a problem. However, data types which can penetrate cloud cover are a big technology advancement for our iron ore mapping products because in China there is a lot of haze and cloud and this technology can see through that.

Australia is geologically a very old continent, and in exploration terms it can

present what we call 'false positives'. For example, you may find what you think could be a significant ore body, however after you start drilling you might just get five meters of good quality ore, and that's the end of it. In comparison, in geologically newer regions such as the Middle East, Central Asia, or parts of Africa, its age is indicative of less weathered deposits and so our technology has to adapt accordingly.

Mining companies say they do as much as possible by satellite. Why is that?

Yes, because it cuts costs down massively. If you have an area which is 1,000 square kilometers and you want to send in a field team it can cost upwards of \$20,000/day, depending on what you're doing out there. Doing the same thing by satellite can save up to 75% of these costs. Of course, these figures do not include drilling which can be another massive cost to any exploration budget.

Does the company mainly use one satellite technology or several?

We don't use one but different methods based on different satellite technologies. For example, radar is what we call active remote sensing; it can penetrate cloud cover and vegetation whereas a passive form of satellite technology is what you see with your eyes. We use both passive and active technologies and our reach is pretty much global. Most of the work that we've done apart from in Australia has been in Equatorial Africa, and in South America.

The biggest benefit is that you don't need to have boots on the ground. Right now we're doing a project in Guinea and they've had an Ebola scare.

How competitive is this market?

It's extremely competitive for those that are just providing the [satellite] images. Basically nine countries in the world have the capabilities to launch their own satellites, and there are so many satellites out there producing datasets using both passive and active remote sensing. What you need to do is develop a technology to get more out of that image which can really make a difference to a company, in particular to junior mining companies which really don't have big exploration budgets.

Another big factor is that due to climate change, cloud cover is increasing all over the world; and optical or passive satellite imagery is becoming harder to acquire on time, particularly in temperate and tropical regions. Sometimes satellites have to pass

over several times before they can get a cloud free image. This means that active remote sensing technology such as radar is gaining popularity for mining applications.

What are the next big things in terms of satellite technology?

I think the satellite imagery providers will soon need to make their data almost free to obtain; this will increase the uses and applications of the raw data tenfold. You can see what Google Earth has done just in the last decade, and that's just basic imagery. Imagine what applications will be developed using various raw data from both passive and active satellite systems. Making data very cheap or free also has other applications, particularly towards helping developing nations that are trying to build up their own national data-sets.

It would mean established mining companies with a lot of technology could access virgin frontiers and identify resources and commodities which

developing countries themselves didn't know they had. Making that data and technology more freely available evens up the playing field. For example, Mongolia is a very large country and if they knew what they had in the ground it would significantly impact their tenement structure and governmental approvals systems.

I understand you were involved in searching the Indian Ocean for the missing Malaysian plane?

Yes, in late March we were involved with the search of the missing Malaysian airline MH370. This was an exhausting search using object-based image analysis technology whereby we had to try and map what could be shipping debris versus the possibility of plane wreckage. It was actually a chance for the team to use our technology for the benefit of humanity and although nothing was found, we were privileged to be involved.

— Paul Bartholomew

Ningxia Tianyuan Manganese starts new manganese metal plant

Tianyuan Manganese Group, located in northwestern China's Ningxia Hui autonomous region, has commissioned the first 300,000 metric tons/year phase of a new electrolytic manganese metal plant.

Ningxia Tianyuan Manganese, already the world's largest producer of EMM, has plans to add a second phase of the same capacity though no schedule has been decided. The combined cost of the two-

stage project is Yuan 12.48 billion (\$2.03 billion), according to the company website. Phase I was formally commissioned on June 18.

The timing of the start-up could have been better, however, with EMM prices weak. Earlier this month Baosteel set its EMM purchase price for July-August delivered at factory at Yuan 13,050/mt (\$2,115/mt), which represented a Yuan

700/mt rise from May to June. However, if the cost of road freight is deducted Baosteel's price was unchanged. Similarly the results of a Posco tender for July purchases at \$2,058-2,085/mt CIF Korea were on par with market prices in China when freight costs are deducted.

"The current weakness in EMM prices is temporary," a Tianyuan Manganese official said. "Demand from the stainless steel industry will improve and we will be ready to cope with this increase when it happens."

Prior to the commissioning of the expansion Tianyuan Manganese's EMM production capacity was 200,000 mt/year. It produced 168,000 mt last year. Nationwide, China produced 1.1 million mt of EMM last year, according to the National Bureau of Statistics, down 60,000 mt or 5.2% from 2012 and well below installed capacity estimated at 1.88 million mt/year.

Tianyuan Manganese is sourcing carbonated manganese ore from Ghana, West Africa which is cheaper and of better quality compared with ore from local mines, the official said. Electricity rates in Ningxia are also relatively low, with the company paying about Yuan 0.35/kWh, compared with around Yuan 0.5-0.7/kWh that producers in the southern part of China, such as in Chongqing, Guizhou, Guangxi and Hunan provinces are paying. Electricity accounts for 25%-35% of the production costs of electrolytic manganese metal.

— Clement Kwok



Ningxia's new manganese facility. Source: Ningxia

SPECIAL REPORT

S&P: Will mining companies buckle if iron ore stagnates at US\$90 per ton?

The following article was published by Standard & Poor's in early July. S&P, like Platts, is part of McGraw Hill Financial. The lead author was May Zhong, Melbourne-based director of S&P Corporate Ratings. The article, republished here, retains S&P style and syntax.

A double whammy has pounded iron ore prices to near record lows in 2012. First, the world's largest producer and consumer of steel, China, is firing at a slower economic speed, weakening growth in demand for the material. Second, seaborne iron ore supply from Australia and Brazil has surged. As a result, prices for 62% Fe (iron) concentrate including cost and freight (CFR) have plummeted recently to about US\$90 per ton, the lowest since the September 2012 price of US\$87 per ton.

If iron ore prices stay at this threshold, mining companies that have substantial debt or expensive operations will bear the brunt of the impact. Standard & Poor's Ratings Services found that if prices stagnate at US\$90 per ton through 2015, some miners' key credit metrics might worsen significantly, based on a scenario analysis on 10 major iron ore producers it rates. In particular, miners with large iron ore exposures, but which are unable to cut costs and are saddled with debt, will face a severe deterioration in earnings and credit metrics.

Whether this deterioration triggers a downgrade depends critically on a mining

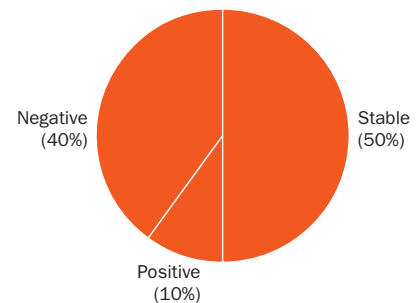
company's financial flexibility. If a miner can defer its capital expenditure and conserve cash, its credit quality should be able to withstand sliding iron ore prices. In addition, diversified mining companies are well placed, as they can rely on commodities with more resilient prices, such as oil. Another important factor is the movement of mining companies' local currencies, which could affect their costs and revenues.

Credit impact on miners under a US\$90 per ton scenario

In this study, we assumed a price deck of US\$90 per ton for the benchmark iron ore index (62% Fe content CFR China) through to the end of 2015 and that all other things remain equal for 10 major iron ore miners that we rate. For example, we keep the local exchange rates at current levels and consider that miners' cost profiles and capital expenditure are unchanged. We also assume that miners do not take any proactive measures to manage the impact of lower earnings in this scenario. Based on these assumptions, we assessed the impact on the companies' earnings, key credit metrics, and ratings.

We observed that major players – Australia's BHP Billiton Ltd. and Rio Tinto PLC, and Brazil's Vale S.A. – can accommodate declining earnings should iron ore prices stay at US\$90 per ton through to the end of 2015. Nevertheless,

Outlook distribution for 10 rated iron ore mining companies*



*Ratings as of June 30, 2014

Source: Standard & Poor's

their rating buffer will reduce under this scenario. As such, they will have less flexibility at the current ratings to undertake debt-funded growth or capital-management initiatives. For example, lower iron ore prices, together with high debt associated with the Brazilian government's tax could increase Vale's leverage ratio (measured by adjusted net debt to EBITA) to levels close to our downgrade trigger of 2x in fiscal 2015, from a low 1x in the past three years.

Other iron ore miners, Australia's Fortescue Metals Group Ltd. (FMG) and Brazil's Samarco Mineracao S.A., too, should have sufficient buffer in their credit metrics to absorb the lower iron ore prices, notwithstanding the moderate impact on their earnings. Despite Samarco's decrease in earnings, we believe the company's credit metrics would remain firmly within our expectations for the "intermediate" financial risk profile. Likewise, FMG's key credit ratio under this pricing threshold remains commensurate with its "aggressive" financial risk profile. The modest rise in its debt-to-EBITDA ratio is not because FMG is more resilient to iron ore price volatility, but because its heavy capital expenditure to expand its capacity affected the three-year ratio average. However, the weaker iron ore prices could slow down its deleveraging.

On the other hand, downward rating pressures could arise for Australia's Atlas Iron Ltd., U.S.-based Cliffs Natural Resources Inc., and South America's CAP S.A. Under this hypothetical pricing scenario, Atlas Iron's earnings could slip steeply. Weaker earnings, together with high debt following the term loan B issuance in 2012, could significantly increase its leverage and pressure its credit metrics in the absence of remedial actions taken by the company.

Producers solely reliant on iron ore face high ratings impact

		Potential ratings impact*		
		High	Medium	Low
Financial flexibility	Strong		Vale** (A-/Stable/-)	BHP Billiton (A+/Stable/A-1) Cliffs Natural Resources (BBB-/Stable/-)
	Moderate	Ferrexpo (B+/Negative/-)	Anglo American (BBB+/Stable/A-2) Rio Tinto (A-/Stable/A-2)	Vedanta Resources (BB/Negative/-)
	Limited	Fortescue Metals Group (BB-/Negative/-)		
		High	Medium	Low
		Earnings impact		

*Potential rating impact under benchmark iron ore prices sustained at \$100/mt. It reflects only the impact of iron ore prices while leaving other parameters, including prices of other commodities, operating costs, and exchange rates, unchanged.

**We expect a medium earnings impact and strong financial flexibility for Vale. However, its financial strength outweighs the earnings impact to the extent that the overall ratings impact would be low.

Source: Standard & Poor's 2012

Similarly, Cliffs would also face downward rating pressure. Cliffs' high cost structure and leverage profile following its acquisition of Consolidated Thompson Iron Mines in 2011 reduced its ability to absorb earnings deterioration at its current rating. We believe near-term leverage measures would fall into the "aggressive" category without further direct action from the company to reduce debt, regardless of its current capital preservation plans. Likewise, CAP's adjusted debt to EBITDA could rise to more than 2x under this pricing scenario, exerting downward pressure on the rating.

On the other hand, Anglo American PLC is well diversified by commodity type; the impact of the US\$90 per ton price will be low relative to pure iron ore miners. However, as its metrics are already under pressure because of its plans for large capital expenditure in 2014 and 2015, we believe that lower iron ore prices could further contribute to rating downside.

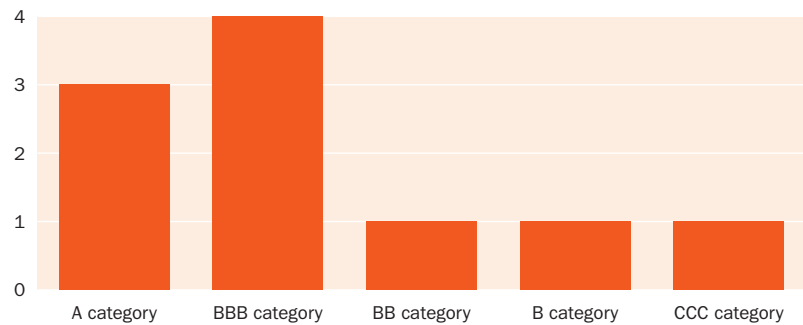
Ultimate rating impact depends on miners' financial flexibility and mitigating steps

Among the global miners, we consider BHP Billiton, Rio Tinto, and Vale as being the most financially flexible to respond to weakening iron ore prices. They can defer their capital expenditure or sell their noncore assets. For example, BHP Billiton reduced its capital expenditure by 25% in fiscal 2014 and intends to cut it again in fiscal 2015. In addition, the company divested US\$6.5 billion of noncore assets in the past two years. Nonetheless, we see that BHP Billiton and Rio Tinto have limited flexibility to adjust dividends amid weaker commodity prices due to their commitment to a progressive dividend policy.

Meanwhile, Vale's leverage is increasing due to the additional debt associated with a tax settlement with the Brazilian government. Nonetheless, we still expect the company to deleverage in 2015 if it can deliver additional volumes of iron ore following the successful conclusion of its capital expenditure plans. In addition, we believe that Vale will manage its investments in line with market conditions. Should iron ore prices fall to less than US\$100 per ton for a prolonged period, the company has some financial flexibility to revise and postpone some projects.

On the other hand, Anglo American's financial flexibility is currently limited due to high capital-expenditure plans for 2014 and 2015. The company is unlikely to postpone these projects, given the need to finish these key projects, notably the Minas Rio iron ore project in Brazil. We also take into account Anglo American's significant dividend leakage to minority shareholders on top of its common dividends.

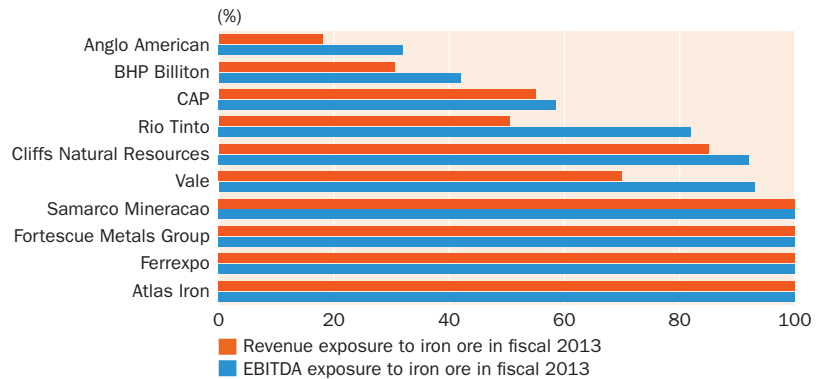
Rating distribution for 10 rated iron ore mining companies*



*Ratings as of June 30, 2014

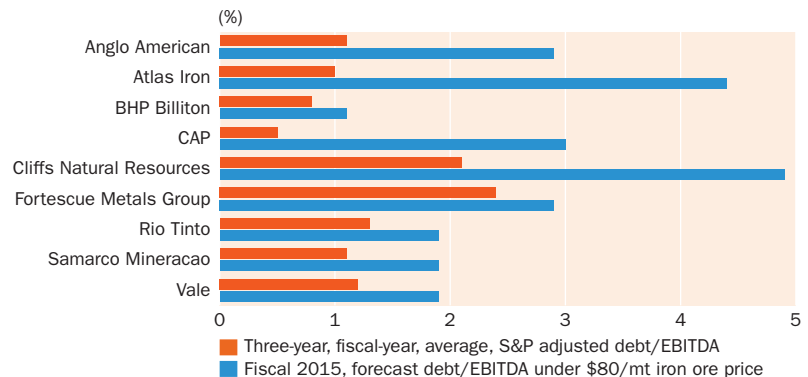
Source: Standard & Poor's 2014

Mining companies' exposure to iron ore



Source: Standard & Poor's 2014

Comparison of mining companies' adjusted debt-to-EBITDA ratios*



*Figures include Standard & Poor's adjustments

Source: Standard & Poor's 2014

Compared to the more diversified peers, smaller players like Atlas Iron and Ferrexpo generally have limited financial flexibility. For example, the small size and scale of Atlas Iron constrain its financial flexibility, in our view. Offsetting this weakness is Atlas Iron's adequate liquidity. The miner has A\$372 million of cash on its balance sheet as of March

31, 2014, and limited debt maturing in the next two years.

Low-cost profile enables miners to weather weak prices

A miner's breakeven level will also determine its survival amid low iron ore prices. We consider breakeven costs are a useful measure as they meaningfully

capture the company's interest burden and minimal capital expenditure. In a downturn, expensive mines may be closed or idled. In this analysis, we incorporate a miner's C1 costs; sales, general and administration expenses (SG&A); royalty fees; interest expenses; and minimum sustaining capital expenditure and freight costs to northern China.

A high cost structure will aggravate the negative effect of lower iron ore prices on credit measures and operating performance. In our view, producers with a breakeven cost of higher than US\$80 per ton are vulnerable to iron ore price volatility. Rio Tinto and BHP Billiton are positioned at the lowest end of the cost curve due to their competitive C1 and low freight costs to China. In fact, Australian producers generally enjoy a competitive freight advantage due to their proximity to China, compared to producers in Africa, North America, and South America.

Meanwhile, Samarco from Brazil and CAP S.A. from Chile benefit from the premium that they earn from selling pellets (we have adjusted their cash production costs to reflect the pellet premium in chart 4). Vale's C1 cost is also at the bottom of the cost curve, due to the low impurity levels and higher Fe concentrate in the miner's iron ore. However, on a CFR basis, Vale's cash production costs are slightly higher than Rio Tinto's and BHP Billiton's, due to the former's higher freight costs to northern China. Cliffs and Atlas Iron have relatively high breakeven costs, because of their relatively high C1 costs or interest burdens.

Subdued revenues will push out companies with expensive operations, eventually altering the competitive landscape. Indeed, competition is intense in the global iron ore and iron ore pellet

markets. In our view, iron ore prices, as well as a company's operating costs and shipping costs, are critical factors to a miner's survival.

As such, cost cutting has become a key focus for miners, regardless of their size. In addition to reducing their C1 costs, miners have restructured their corporate administration, invested in less expensive shipping arrangements, or cut their interest burdens. For example, Vale is investing in a distribution center in Malaysia and buying new Valemax ships to curb its freight costs to Asia. FMG has repaid US\$3.1 billion of its debt since November 2013, saving about US\$300 million of interest payments annually. This could slice its breakeven cost by about US\$2 per ton, compared to that at end-2013 (all other things being equal).

Resilient revenues from other commodities mitigate impact

Companies with greater exposure to iron ore revenues will bear the brunt of the earnings slump from lower prices. Single-commodity producers – FMG, Atlas Iron, Ferrexpo PLC, and Samarco – rely on iron ore sales for almost all their revenues and earnings.

Rio Tinto and Vale too, have a large iron ore exposure, albeit lower than the former four companies. As a large nickel producer, though, Vale may benefit from rising nickel prices, offsetting the decline in iron ore revenues (Standard & Poor's recently increased its price deck on nickel). Similarly, Rio's diversity is likely to improve in the future compared to that in 2012-2013 as iron ore prices soften and the company ramps up its copper operations. Cliffs is also heavily exposed to iron ore as it generates about 85% of its revenue from iron ore operations, with the rest from thermal and metallurgical

coal. Nevertheless, coking coal, steel, and iron ore prices are closely correlated to the steel commodity cycle.

Anglo American PLC, in contrast, has a smaller exposure to iron ore, as it mines other metals, notably copper and coal.

Among global miners, BHP Billiton is less exposed to iron ore from an earnings perspective. Its petroleum assets generated about 31% of total EBITDA in fiscal 2013, providing meaningful earnings diversity. More importantly, oil and gas are less affected by raw material demand from steel mills in China. Indeed, oil prices are relatively resilient, which should mitigate the impact of low iron ore prices on BHP Billiton.

Other external factors could also affect ratings

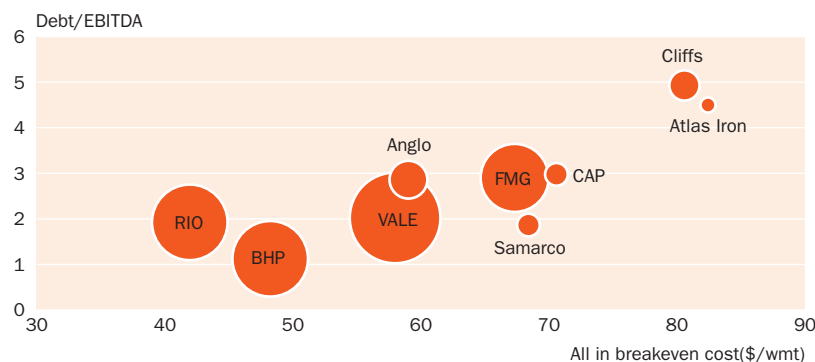
The movement in the local exchange rates of commodity-producing countries will also determine the impact on producer's earnings. That's because a majority of a miner's costs (mainly labor costs, contractor and maintenance fees) are denominated in the local currency, while iron ore is priced in U.S. dollars. If the local currency depreciates against the U.S. dollar significantly, it could improve the cost competitiveness of non-U.S. miners, lessening the negative impact of lower iron ore prices. In addition, the depreciation could also insulate some miners' local currency revenue from falling iron ore prices. Nonetheless, the exchange rate doesn't move in the same direction at the same time. For example, the Australian dollar has proved fairly resilient over the past six months.

In reality, commodity prices would soften amid a subdued economic climate, which would in turn weaken currencies of commodity-producing countries and slow down cost inflation. The knock-on effects would thus offset the impact of lower iron ore prices on global miners.

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Comparison of iron ore companies' breakeven costs



Figures include S&P adjustments. The Fe and moisture content, as well as impurities in miners' iron ore, have been adjusted to reflect the benchmark index of 62% CFR China. Bubble size represents the production level.

Source: Standard & Poor's 2014

PROJECT FOCUS

Exports booming at Port Hedland

Though iron ore exports from Western Australia's Port Hedland fell slightly in June – possibly due to the installation of a new shiploader at BHP Billiton's facility at the port – shipments for fiscal 2014 ending June 30 were 30% higher than the year before.

Iron ore shipments of 33.6 million mt in June were down 7% on May's record 36.1 million mt, of which 29.2 million were exported to China, similar to the previous month, according to the Port Hedland Port Authority. But the real impact of Fortescue Metals Group's ramp up to 155 million mt/year capacity can be seen in the financial year export numbers. Major user BHP Billiton has also increased its iron ore output in the Pilbara over the past 12 months.

In the twelve months to end-June 364.4 million mt of iron ore were exported from

the port, compared with 280 million mt for the same period a year earlier, some 84 million mt more in just twelve months. The monthly average in FY2014 of 30.4 million mt was up 7 million mt on the year before.

Meanwhile, exports to China in fiscal 2014 of 297 million mt were up 35% on the year before at an average of 24.7 million mt/month compared with 18.3 million mt/month in FY2013. Average annual export growth has been around 20% a year since 2009.

The port continues to break export records and recently saw some 2 million mt shipped from the port in less than 24 hours. Monthly throughput reached an average 1 million mt/day in December last year. Vessels are getting larger with new WozMax Capes specifically designed for Port Hedland's narrow channel. The largest

of these to have visited the port to date was a 315,063 dead weight ton vessel in February this year.

In 2013, iron ore exports from the port accounted for 24% of global seaborne trade with Western Australia as a whole contributing 42%, according to a presentation by the port in July. The port has export capacity of close to 500 million mt/year. Atlas Iron exports from the Utah Point common user facility at the port and from late next year Hancock Prospecting's Roy Hill could also be shipping from the port.

At the time Platts visited during the second week of July there was a queue of around 36 vessels sitting off the coast in the Indian Ocean, which is a normal level for the port, though this can rise substantially when operations are disrupted by cyclones in the early part of the year.

— Paul Bartholomew



Iron ore loading at Port Hedland as Capesize vessels on the horizon wait their turn. Source: Platts

GLOBAL TRADE HIGHLIGHTS

US

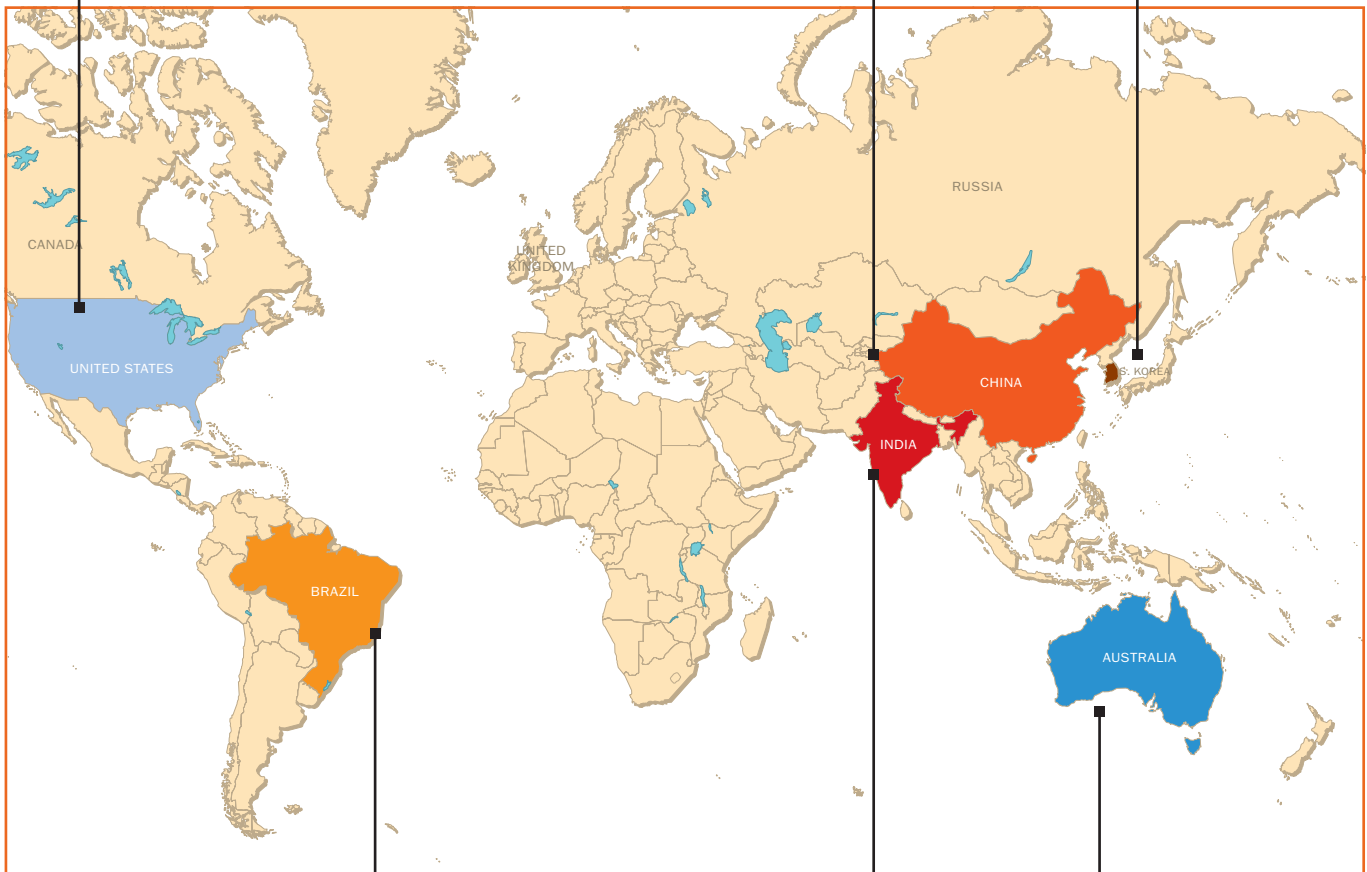
The US imported 510,250 mt of pig iron in May including a record 180,471 mt from Ukraine, followed by Brazil with 152,026 mt and Russia with 144,565 mt – the third time in the past 25 months that imports topped 500,000 mt.

China

Chinese cold rolled coil exports to Korea during January-May surged to 263,600 mt, up 21% y-o-y. In May alone, China exported 54,300 mt, up 16% y-o-y, while Korea's total CRC imports over the period reached 298,100 mt, also up 16%.

Korea

Japan's imports of ordinary steel in May rose nearly 2% from April and by 32% y-o-y to 426,918 mt. Steel imports from Korea of 273,854 mt were down by 4% from April but up 29% from May 2013.



Brazil

Brazil's ferrous scrap exports jumped 85% in June to 23,969 mt, almost double the 12,949 mt it exported in the same month last year. However, it was down 28% on May's 33,279 mt.

India

India's new minister of steel and mines Narendra Singh Tomar is mulling a decision on whether to extend export duties on iron ore but there was little on this in the budget in the first half of July.

Australia

Port Hedland exported 364.4 million mt of iron ore in the twelve months to end-June, compared with 280 million mt for the same period a year earlier. The monthly average in FY2014 of 30.4 million mt was up 7 million mt on the year before.

STEEL RAW MATERIALS MONTHLY AVERAGES

Platts raw materials reference prices, June 2014

	Unit	Price	Change	% Chg
Coke and coal				
Met coke 62% CSR DDP North China	Yuan/mt	1185.00	-17.50	-1.46
Met coke 62% CSR, FOB North China	\$/mt	190.50	-5.75	-2.93
Charcoal – Brazil domestic	R\$/mt	595.00	0.00	0.00
Iron				
Iron ore concentrate 66% Fe Dry – China domestic	Yuan/mt	859.00	-54.00	-5.91
Pig iron – FOB – Black sea export	\$/mt	376.25	-6.85	-1.79
Pig iron – FOB Ponta da Madeira – Brazil export	\$/mt	397.50	0.00	0.00
Pig iron – Hebei – China domestic	Yuan/mt	2275.00	-135.00	-5.60
HBI – Venezuela export	\$/mt	300.00	0.00	0.00

Platts ferrous scrap reference prices, June 2014

	Unit	Price	Change	% Chg
Scrap, Europe				
OA (plate & structural) – UK domestic, delivered	\$/mt	331.95	5.23	1.60
Shredded – delivered – N. Europe domestic, delivered	\$/mt	374.82	-16.27	-4.16
Shredded – delivered – S. Europe domestic, delivered	\$/mt	380.90	-5.94	-1.54
Scrap, Asia				
H2 – del Okayama – Tokyo Steel purchase price, at works gate	\$/mt	330.29	8.37	2.60
H2 – del Utsunomiya – Tokyo Steel purchase price, at works gate	\$/mt	335.22	18.18	5.73
Heavy – Shanghai – China domestic	\$/mt	364.06	-6.92	-1.87
HMS 1/2 80:20 CFR – East Asia import	\$/mt	380.00	6.25	1.67
Shindachi Bara – del Okayama – Tokyo Steel purchase (list) price	\$/mt	350.01	8.58	2.51
Shindachi Bara – del Utsunomiya – Tokyo Steel purchase (list) price	\$/mt	350.01	18.34	5.53
Shredded scrap A (auto) – del Okayama – Tokyo Steel purchase (list) price	\$/mt	335.22	5.50	1.67
Shredded scrap A (auto) – del Utsunomiya – Tokyo Steel purchase (list) price	\$/mt	340.15	15.30	4.71
Scrap, Americas				
#1 Busheling – N. America domestic, del, Midwest US	\$/lt	402.50	0.00	0.00
HMS 1/2 – N. America domestic, del Midwest US	\$/lt	366.25	-6.25	-1.68
Plate & Structural – N. America domestic, del Midwest US	\$/lt	377.50	-7.50	-1.95
HMS 1/2 – Brazil S.E. domestic	R\$/mt	525.00	0.00	0.00

Steel Mill Economics: Global Spreads Monthly Averages

	Jun-14	Change on month	% change
China Flat Steel Spread (CFSS using IODEX)*	342.00 \$/mt	19.17	5.94
China Flat Steel Spread (CFSS using TSI)*	341.88 \$/mt	18.71	5.79
China Long Steel Spread (CLSS using IODEX)	304.56 \$/mt	4.48	1.49
China Long Steel Spread (CLSS using TSI)	304.44 \$/mt	4.02	1.34
China Hot Metal Spread (CHMS using IODEX)*	323.28 \$/mt	11.82	3.80
China Hot Metal Spread (CHMS using TSI)*	323.16 \$/mt	11.36	3.64
China Coking Margin (CCM)**	369.76 RMB/mt	18.97	5.41
China Billet-Rebar Spread (CBRS)	396.91 RMB/mt	10.06	2.60
Turkey Scrap-Rebar Spread (TSRS: Platts)	189.26 \$/mt	-0.92	-0.48
Turkey Scrap-Rebar Spread (TSRS: TSI)	188.67 \$/mt	-0.44	-0.23
Turkey Scrap-Black Sea Billet Spread (TSBS: Platts)	120.62 \$/mt	0.78	0.65
Turkey Scrap-Black Sea Billet Spread (TSBS: TSI)	120.02 \$/mt	1.26	1.06
US Scrap-HRC Spread (US SHRC)	338.49 \$/st	-8.00	-2.31
US Scrap-HRC Futures Spread (US SHRCF)	332.82 \$/st	-5.38	-1.59
US Scrap-Rebar Spread (US SRS)	299.92 \$/st	9.35	3.22

*Weekly, assessed on Mondays. **Weekly, assessed on Fridays.

For spreads calculation and assessment methodology, please go to:

<http://platts.com/IM.Platts.Content/MethodologyReferences/MethodologySpecs/steel.pdf>

SME Comment

Platts has introduced a suite of price spreads called Steel Mill Economics, aimed at assisting margin modeling and steel industry analysis.

Steel Raw Materials Monthly will carry the spreads in the table on the left each month, presented as monthly averages and start to build up some commentary. The spreads represent the differences between the prices of downstream steel products and upstream raw materials that are needed to produce them. For example, the spreads allow a comparison of the margins of US versus Chinese longs producers once the prices of certain raw materials have been calculated.

STEEL RAW MATERIALS MONTHLY AVERAGES

Metals monthly average, June 2014

	Unit	Monthly Average	\$ change	% change
Cobalt				
99.8% US Spot cath m	\$/lb	13.756	-0.104	-0.750
LME Cash	\$/mt	30443.460	413.460	1.377
LME 3-Mo	\$/mt	30500.000	518.750	1.730
LME 15-Mo	\$/mt	30928.330	506.580	1.665
LME Settle	\$/mt	30546.430	156.430	0.515
Ferrochrome in-warehouse				
65% High Carbon Mean	¢/lb	113.000	0.375	0.333
65% High Carbon Low	¢/lb	112.000	0.250	0.224
65% High Carbon High	¢/lb	114.000	0.500	0.441
Low Carbon .10% Mean	¢/lb	205.250	0.750	0.367
Low Carbon .10% Low	¢/lb	204.500	0.500	0.245
Low Carbon .10% High	¢/lb	206.000	1.000	0.488
Low Carbon .05% Mean	¢/lb	226.000	0.000	0.000
Low Carbon .05% Low	¢/lb	225.000	0.000	0.000
Low Carbon .05% High	¢/lb	227.000	0.000	0.000
Ferromanganese in-warehouse US				
Medium Carbon 85% Mn Mean	¢/lb	96.625	1.125	1.178
Medium Carbon 85% Mn Low	¢/lb	95.750	0.750	0.789
Medium Carbon 85% Mn High	¢/lb	97.500	1.500	1.563
High Carbon 76% Mean	\$/gt	1070.000	-12.500	-1.155
High Carbon 76% Low	\$/gt	1060.000	-10.000	-0.935
High Carbon 76% High	\$/gt	1080.000	-15.000	-1.370
Ferromolybdenum				
US FeMo mean	\$/lb	17.625	0.675	3.982
EUR FeMo mean	\$/lb	35.205	0.907	2.644
Ferrosilicon in-warehouse US				
75% Si Mean	¢/lb	98.750	0.187	0.190
75% Si Low	¢/lb	97.500	0.125	0.128
75% Si High	¢/lb	100.000	0.250	0.251
Ferrovanadium				
US Ferrovanadium	\$/lb	13.275	0.175	1.336
Magnesium				
US Die Cast Alloy Trans	¢/lb	202.500	0.000	0.000
US Spot West mean	¢/lb	215.000	0.000	0.000
US Dealer Import mean	¢/lb	188.500	1.200	0.641
99.8% FOB China	\$/mt	2480.000	-45.000	-1.782
Die Cast Alloy FOB China	\$/mt	2765.000	-45.000	-1.601
Manganese				
Ore CIF China	\$/dmtu	4.147	-0.049	-1.168
Molybdenum				
Dealer Oxide Midpoint/Mean	\$/lb	14.450	0.330	2.337
Dealer Oxide Low	\$/lb	14.319	0.399	2.866
Dealer Oxide High	\$/lb	14.581	0.261	1.823
LME Cash	\$/mt	32040.480	1355.480	4.417
LME 3-Mo	\$/mt	32040.480	1355.480	4.417
LME 15-Mo	\$/mt	32779.520	1368.770	4.358
LME Settle	\$/mt	32547.620	1362.620	4.369

	Unit	Monthly average	\$ change	% change
Nickel				
NY Dealer/Cathode	\$/lb	8.474	-0.136	-1.580
NY Dealer/Melt	\$/lb	8.474	-0.136	-1.580
LME Cash	\$/mt	18568.214	-866.161	-4.457
LME 3-Mo	\$/mt	18650.000	-792.250	-4.075
LME Settle	\$/mt	18573.571	-866.179	-4.456
LME Y1	\$/mt	18545.710	-558.540	-2.924
LME Y2	\$/mt	18336.190	-408.810	-2.181
LME Y3	\$/mt	18083.330	-419.170	-2.265
Silicomanganese in-warehouse US				
65% Mn	¢/lb	60.000	-0.375	-0.621
Silicon				
553 Grade Del US Midwest	¢/lb	140.750	1.625	1.168
553 Grade CIF Japan	\$/mt	2153.750	6.750	0.314
553 Grade FOB China	\$/mt	2136.250	-6.250	-0.292
Stainless scrap				
NA FREE MKT 18-8	\$/lt	1887.500	-26.180	-1.368
Tin				
LME Cash	\$/mt	22767.619	-534.756	-2.295
LME 3-Mo	\$/mt	22764.643	-475.107	-2.044
LME 15-Mo	\$/mt	22635.952	-412.298	-1.789
LME Settle	\$/mt	22773.810	-539.940	-2.316
MW Composite	¢/lb	NA	NA	NA
MW NY Dealer	¢/lb	1064.375	-22.069	-2.031
Kuala Lumpur	¢/lb	1035.465	-19.677	-1.865
Titanium				
MW US 70% Ferro	\$/lb	3.050	-0.035	-1.135
MW US Turning 0.5%	\$/lb	1.663	0.098	6.262
Zinc				
LME SHG Cash	\$/mt	2126.464	66.451	3.226
LME SHG 3-Mo	\$/mt	2130.964	67.314	3.262
LME Settle	\$/mt	2126.786	66.486	3.227
LME SHG Y1	\$/mt	2162.020	73.870	3.538
LME SHG Y2	\$/mt	2158.550	67.600	3.233
LME SHG Y3	\$/mt	2158.550	71.950	3.448
MW Four Corners	\$/mt	2077.875	0.000	0.000
MW NA SHG	¢/lb	105.470	2.816	2.743
MW NA GAL	¢/lb	105.220	2.816	2.750
MW Alloyer NO. 3	¢/lb	115.970	3.016	2.670



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