PLATTS
McGRAW HILL FINANCIAL

SPECIAL REPORT: STEEL

Voracious appetite or indigestion? Surviving the iron ore supply feast

August 2014

By Paul Bartholomew
Managing Editor, Australia
Editor, Steel Raw Materials Monthly

WWW.STEEL.PLATTS.COM

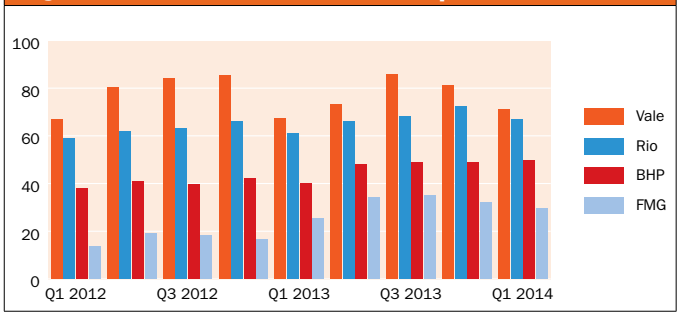
According to some market veterans, the major iron ore producers failed to anticipate the full extent of Chinese steel production growth. Historically, iron ore prices were so low that there was little incentive to invest in new capacity. But buoyed by huge increases in annual benchmark prices for iron ore from early last decade, the iron ore majors began a decade-long expansion program to feed the Chinese steel industry's seemingly insatiable appetite for iron ore. Much of that new supply has hit seaborne markets over the past 6-9 months with more to come this year. But slowing Chinese steel production has depressed iron ore prices, prompting the question: Is the current supply indigestion a temporary situation or the new market status quo?

IRON ORE SUPPLY TSUNAMI

Few people had heard of iron ore hopeful Fortescue Metals Group when it made its inaugural shipment to China in May 2008. Now the Perth-based company is the world's fourth-largest iron ore miner after Vale, Rio Tinto and BHP Billiton, and is producing at 155 million metric tons (mt)/year. It is emblematic of the huge iron ore supply wave witnessed in recent years and which continues to swell.

Fortescue produced 126 million mt of iron ore from its Western Australian mines in 2013, some 90% higher than its output in 2012. The company was a major contributor to the additional 100 million mt of new iron ore supply brought on by the three largest Australian producers last year. It was the biggest ever annual increase in iron ore production with reported output from the three Australian miners rising 21% on 2012 to reach 580.4 million mt. China imported 417.1 million mt from Australia in 2013, up 18% on 351.7 million mt in 2012 and 40% higher than 296.8 million mt in 2011.

Big four iron ore miners - 2012/2014 production (Mil mt)



Source: Company reports, Platts estimates

BHP produced another 20 million mt in 2013, compared with the year before, reaching 175 million mt for the calendar year. Propelled by output from its new Jimblebar mine in the Pilbara – due to reach phase one capacity of 35 million mt/year by mid-2015 – the Melbourne-headquartered company should be producing consistently at 220 million mt/year by the end of 2014. BHP produced 147.4 million mt of iron ore in the nine months to end-March, up 21% on the same period a year earlier.

Rio produced 250.6 million mt of iron ore from the Pilbara in 2013 and has already reached its near-term capacity target of 290 million mt/year. Including the contribution of its operations outside of Australia, Rio produced 267.7 million mt in 2013, up 7% on the year before.

BRAZIL CONSTRAINED

In contrast to Australia, Brazil continues to struggle to lift production with the South American country's exports to China falling 5% y-o-y in 2013 to 155.4 million mt. Approval delays and other factors have constrained Vale's attempts to lift production capacity in recent years beyond the 300 million mt/year level. But at a Melbourne Mining Club presentation in April company president and CEO Murilo Ferreira insisted the miner was finally about to "break free" from its capacity impasse.

Vale has been adding 40 million mt/year capacity to existing mines, some of which will be replacement tons as older mines deteriorate, but its major new 90 million mt/year S11D project in the Carajás region could take capacity to 450 million mt/year by 2018.

Big four - quarterly iron ore production (Mil mt)

	Vale	Rio Tinto	BHP	Fortescue
Jan-Mar 2012	67	59	38	13.6
Apr-Jun 2012	80.5	62	41	19.2
Jul-Sep 2012	84	63	39.8	18.3
Oct-Dec 2012	85.5	66	42.2	16.7
Jan-Mar 2013	67.5	61	40.2	25.3
Apr-June 2013	73.2	66	48	34.3
Jul-Sep 2013	85.9	68.3	49	34.9
Oct-Dec 2013	81.3	72.4	49	32
Jan-Mar 2014	71.1	66.7	49.6	29.6
Total	478.8	580.4	21	678

Source: Company reports

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

	11/2013	12/2013	01/2014	02/2014	03/2014	04/2014	05/2014
Total	77.8	73.3	86.8	61.2	74	83.4	77.4
Australia	39.6	37.3	45.4	31.9	40.7	47	45.4
Brazil	15.4	16.3	15.5	11.2	14.8	14.2	12.4
Other	22.8	19.7	26.8	18.1	18.5	22.2	19.6

Source: NBS

NEW WAVE

In Australia, BHP could potentially reach production of around 260-270 million mt/year from its existing facilities, but it would need to embark on a major port development to lift capacity closer to and beyond the 300 million mt/year mark.

The company has not given any indication that it has the debt and/or risk appetite to pursue this goal and indeed BHP's chief executive Andrew Mackenzie has pondered whether too much iron ore has been brought onto seaborne markets too quickly given the way prices have softened. The head of US miner Cliffs Natural Resources Gary Halverson expressed similar sentiments in April, blaming the Australian expansion programs for weaker prices that hit the company's bottom line.

Fortescue has already reached its capacity target of 155 million mt/year and will likely only add incremental tons through tweaking its port and mine operations.

Of the big three Australian miners, this leaves Rio as the only company with clear plans to significantly increase capacity. In the Pilbara, Rio will work towards its next target of 330 million mt/year by 2015, followed by another 50-60 million mt/year by around 2016/17.

Otherwise in Australia, Hancock Prospecting's 70%-owned Roy Hill is likely to be the only other major new iron ore project that will contribute a serious amount of new supply over the next three years. In March, Roy Hill finalized the $7.2 billion finance package required to complete the development of the $10 billion project, which is 30% owned by a consortium consisting of Marubeni (15%), Posco (12.5%), and China Steel Corp (2.5%). First exports are expected to start in late 2015 with the operation reaching full capacity of 55 million mt/year by early 2018.

Therefore, new iron ore supply growth could ease between 2015 and 2018 until Vale's S11D, Roy Hill, and Rio's next tranche of its Pilbara expansion come on-stream. This could help bring the supply-demand situation back into balance. Much will depend on whether the miners meet their ambitious targets and on the rate of crude steel growth in China which is discussed below.

IRON ORE PRICE SQUEEZE

Most analysts have long been predicting a fall in iron ore price levels to occur over the second half of 2014 due to all the new supply from Australia hitting seaborne markets. But the price collapse below $90/mt in early June – its lowest level since September 2012 and down 30% since the start of the year – took the market by surprise, occurring more quickly and dramatically than most expected.

It could have happened sooner given the 100 million mt of new supply in 2013. But China's crude steel production enjoyed a bumper year, rising almost 8% on the previous year to reach 779 million mt. This meant the steel sector easily absorbed the iron ore imports; iron ore prices stayed robust, averaging around $130/mt CFR for the year; while Chinese domestic iron ore production remained unscathed.

China crude steel production Jan-May 2012-2014 (Mil mt)

		Additional tons y-o-y	Growth y-o-y %
Jan-May 2012	299.60		
Jan-May 2013	324.40	24.8	8.3
Jan-May 2014	333.20	8.8	2.7

Source: NBS

China crude steel production

	Mil Mt	Growth y-o-y %
2012	725	4.1
2013	779	7.5
2014 e	800	2.7

Source: NBS, Platts

But to date in 2014, China's steel sector has failed to fire, due mainly to tighter credit conditions, and weak end-user demand. Further, the Chinese leadership has insisted there will be no more major stimulus packages of the kind seen in 2008/9. Beijing will roll out some mini-stimulus measures to meet its GDP targets, but it wants the economy to become more market driven, and less supported by the state. This new approach has also served to undermine confidence in the steel sector.

China pig iron production (Mil mt)

		Growth y-o-y %
Jan-May 2014	301	0.2

Source: NBS

China's pig iron production in January-April was flat on the same period in 2013, while its crude steel output over the period rose just 2% on last year, to 262.8 million mt, compared with 257.3 million mt in January-April 2013.

Conversely, China's iron ore imports surged over January-April 2014 to 307.3 million mt, up 21% on the same period a year ago. Australia's exports to China over this period rose 35% to 171 million mt from 127.2 million mt in January-April 2013.

At current annual growth rates of around 19%, China could import 976 million mt of iron ore this year, compared with 820 million mt in 2013. The Australian government's commodity forecasting unit, Bureau of Resources and Energy Economics, predicts China will import 916 million mt this year, up just 5% on last year. The eventual import volume will be somewhere in between these two figures, and likely closer to the upper end.

China iron ore imports at current growth rates (Mil mt)

	Growth y-o-y %
2012	745.5
2013	820.3
2014e	976

Source: China customs, Platts

Australian government's China iron ore imports forecast

	Mil Mt	Growth y-o-y %
2013	820	10
2014 e	872	6.3
2015e	916	5
2015e	970	6
2014 e	800	2.7

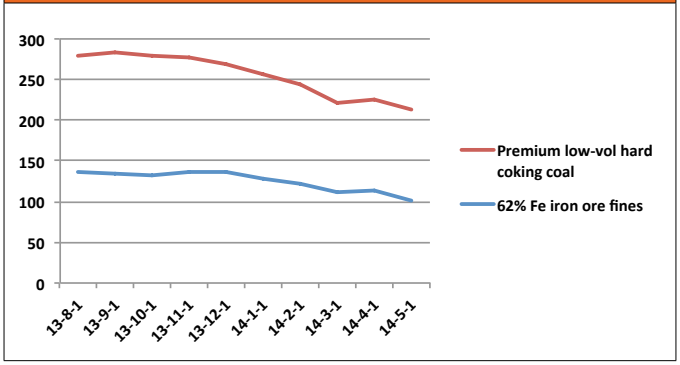
Source: BREE

CHINESE STEEL LACKING FIREPOWER

Iron ore miners have based their expansion programs on the premise that Chinese steel production will continue to grow and iron ore imports will displace domestic production. BHP and Rio believe Chinese steel production will grow beyond 1 billion mt/year by 2025-30. But the China Iron & Steel Association is adamant it will remain within a 800-850 million mt/year range.

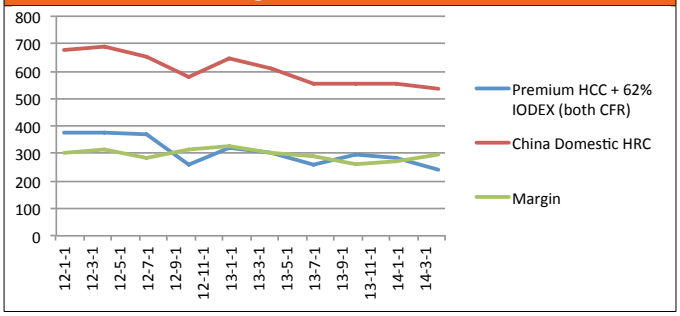
The big concern is that China's property construction sector – which consumes around 35% of the country's steel – has been flagging. Sales of new homes fell almost 10% over January-April. Shipbuilding has fared better with new orders rising 160% year-on-year to 30.3 million dead weight tons over this period, but car manufacturing fell 5% in May from the previous month. The manufacturing sector in general is no longer contracting but there are few signs of any major rebound. Though lower steel raw materials prices have provided some margin relief, steel prices in China remain weak due to the soft end-user markets. With the exception of a six-month period from October 2012 to March 2013, Chinese domestic hot rolled coil prices (the primary indicator of Chinese steel prices) have either fallen or stayed flat every quarter since April-June 2010, and many market participants expect this trend to continue.

Coking coal vs iron ore spot prices



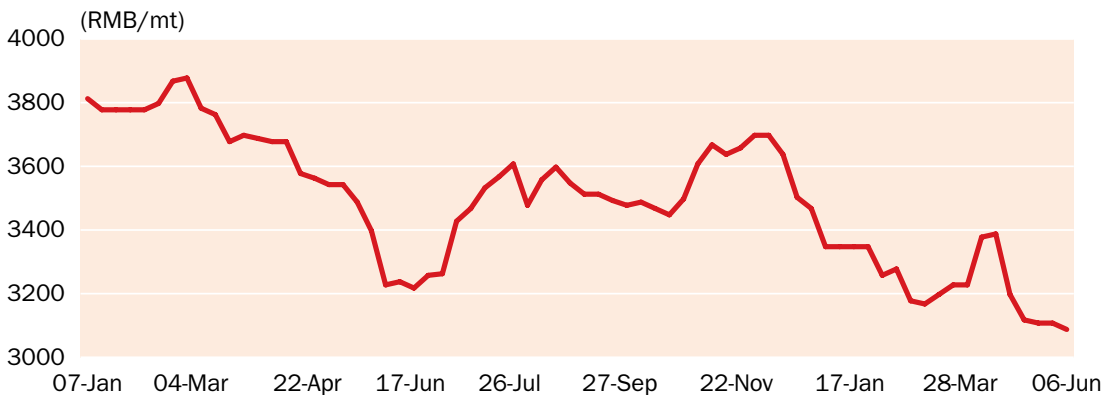
Source: Platts

Indicative steel margins



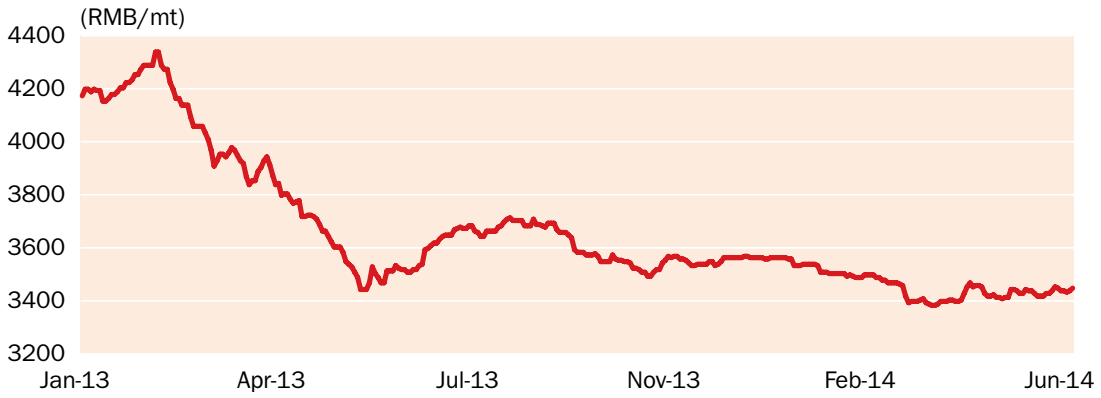
With iron ore prices at around $90/mt, a large chunk of domestic Chinese iron ore production should be uneconomic and therefore in danger of being switched off. The question is whether enough will be turned off to provide price support for imported material. According to consultancy Shanghai Metals Market, China's concentrate capacity (66% Fe basis) costs more than $110/mt to produce. State-owned miners are less exposed to the market as they are often linked to steel mills; while others are protected by being geographically isolated from the import market. Therefore, a larger chunk of domestic production could be 'sticky' than in the past, and prove to be more resistant to lower prices.

China domestic rebar prices (incl. 17% VAT)



Source: Platts

China domestic flat prices (incl. 17% VAT)



Source: Platts

THE FUTURE?

Much has been written about the brave new world of West African iron ore but little has eventuated to date. However, the region received a boost in May when Rio agreed an investment framework with the Guinean government regarding its 47%-owned $20 billion Simandou iron ore project in the African country. Simandou is arguably the single best remaining greenfield project left on the planet, but it requires 650km of new railway and a new port to be constructed, at a capital cost of at least $250/mt, it has been estimated.

Some ponder the logic of potentially investing so much in a project when prices are currently depressed due to the expansion tons from Australian producers. But if China requires another 60-70 million mt/year of iron ore to feed its albeit more modest steel output growth, as some analysts estimate, the appeal of the African project becomes more apparent.

Importantly, China appears extremely serious about tackling the country's worsening pollution problems. This has already resulted in a shift towards using higher grade iron ore in steelmaking as it is less polluting. This will likely lead to a falling away of much non-traditional imported iron ore supply, which is typically lower quality. Further, much of the recent new supply wave has been lower grade material; Fortescue's product grades around 58.5% Fe.

As previously mentioned, Vale plans to bring on more high grade material in Brazil, but the company has missed most of its expansion targets in recent years so further delays would not be a surprise. Other new projects and expansion programs around the globe have generally failed to come anywhere near their intended production dates. This has resulted in the big three of Vale, Rio and BHP regaining their market dominance, and along with Fortescue, the trio will likely consolidate their position in coming years.

Most analysts predict long-run prices will be around the $75-80/mt range because of the supply surge. This would still leave the big three with margins of more than $35/mt – which could be considered healthy when selling hundreds of millions of tons – but less for Fortescue and smaller miners. Whether it provides enough of an incentive to invest billions of dollars in new projects, however, then becomes questionable. This is why some market watchers believe prices cannot remain at those kinds of levels indefinitely. Producers must be incentivized by robust enough prices. If not, supply aspirations will be curtailed and the supply-balance will swing back towards producers, restoring high iron ore prices.

IRON ORE MINING IN THE PILBARA

Photo: Platts

APPENDIX

Chinese monthly iron ore imports	
Month	**Volume (unit: million mt)**
01-01-2012	59.28
01-02-2012	64.98
01-03-2012	62.87
01-04-2012	57.69
01-05-2012	63.84
01-06-2012	58.31
01-07-2012	57.87
01-08-2012	62.45
01-09-2012	65.01
01-10-2012	56.43
01-11-2012	65.78
01-12-2012	70.94
01-01-2013	65.5
01-02-2013	56.42
01-03-2013	64.5
01-04-2013	67.15
01-05-2013	68.6
01-06-2013	62.3
01-07-2013	73.14
01-08-2013	69.01
01-09-2013	74.6
01-10-2013	67.8
01-11-2013	77.8
01-12-2013	73.4
01-01-2014	86.8
01-02-2014	63.2
01-03-2014	73.9
01-04-2014	83.4
01-05-2014	77.4

Source: China customs

China iron ore imports 2004-2013	
Year	**Imports (Mil Mt)**
2004	208.1
2005	275.2
2006	326.3
2007	383.7
2008	444.1
2009	628.4
2010	619.1
2011	687
2012	745.5
2013	820.3

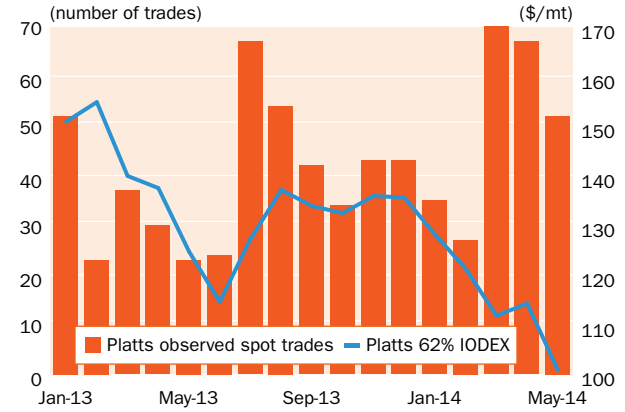
Source: China customs, GTIS

January-April 2012-2014 iron ore supply growth			
	Imports (Mil Mt)	**Additional tons y-o-y**	**Growth y-o-y %**
Jan-May 2012	308.7	25.3	9
Jan-May 2013	322.2	13.5	4.4
Jan-May 2014	384.7	62.5	19.4

Source: China customs

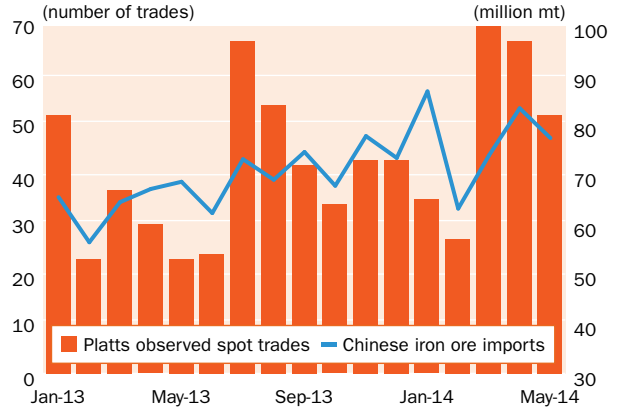
APPENDIX

Spot trades versus iron ore prices



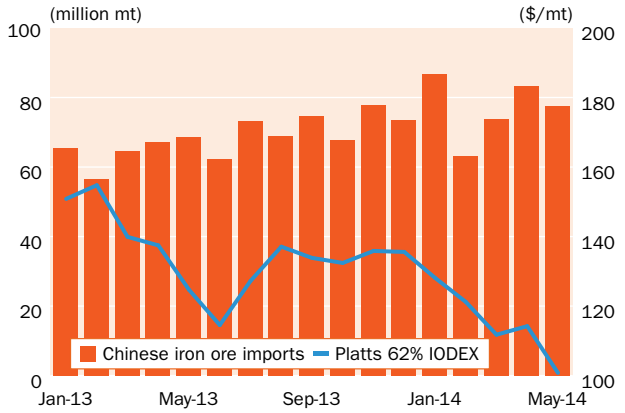
Source: Platts

Spot trades versus iron ore imports



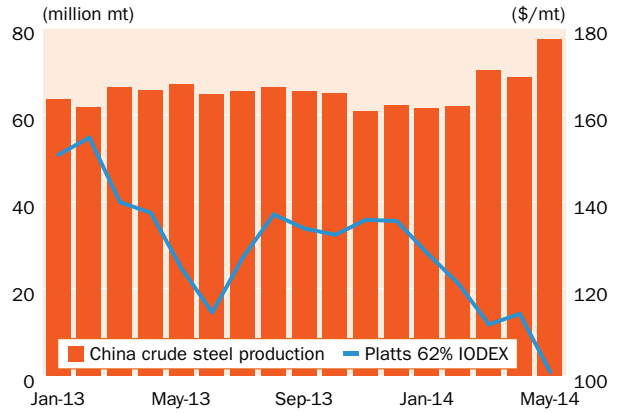
Source: Platts, China Customs

Iron ore prices versus imports



Source: Platts, China Customs

Crude steel output versus iron ore prices



Source: Platts, China Customs

FOR MORE INFORMATION CONTACT:

Paul Bartholomew:
paul.bartholomew@platts.com
+61 3 9631 2096

FOR MORE INFORMATION, PLEASE CONTACT THE PLATTS SALES OFFICE NEAREST YOU:

Web www.platts.com
E-mail support@platts.com

NORTH AMERICA
+1-800-PLATTS8 (toll-free)
+1-212-904-3070 (direct)

EMEA
+44-(0)20-7176-6111

LATIN AMERICA
+54-11-4804-1890

ASIA-PACIFIC
+65-6530-6430

RUSSIA
+7-495-783-4141

STSR00X 0814