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QUARTERLY COMMODITY INSIGHTS
BULLETIN



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Iron Ore

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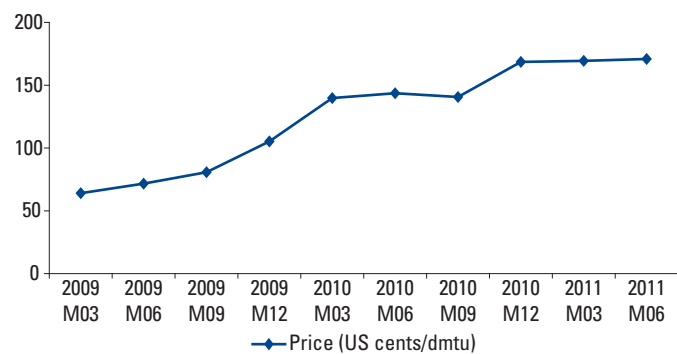
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Commodity outlook

Between March-end and June 2011, iron ore prices were almost flat, increasing by only about 1 percent during the period, as shown in Figure 1. However, the year-on-year (y-o-y) growth (June 2010–June 2011) was 19 percent. Support for the prices came in the form of China's urbanization drive, weather disruptions in Australia and Brazil, increased restrictions on Indian exports (especially in the states of Karnataka and Orissa), slow project ramp-ups, port delays and the political uncertainties in the Middle East. Overall, the prices started trading at US\$173.9 per ton on April 1, peaked to US\$183.3 per ton on both April 14 and May 4, and ended at a low of US\$166.8 per ton on June 30.

- Vale has forecasted that the prices will remain flat in the third quarter of 2011. Nevertheless, analysts predict the long-term price levels to come down to US\$63- mid US\$70s by 2015.

Figure 1: Iron Ore fines (62% Fe, CFR Tianjin port) spot prices



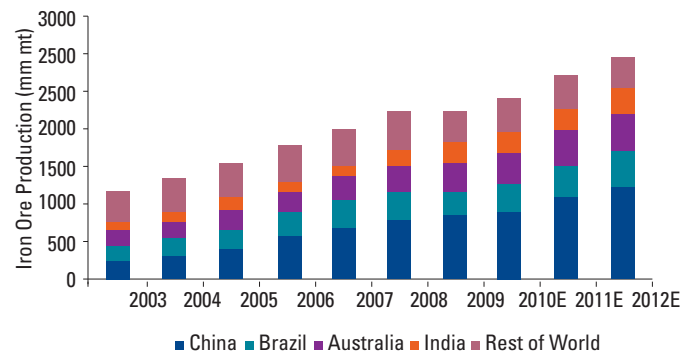
Source: IMF

Supply and demand

- In the short and medium term, the supply conditions in the world iron ore market are expected to remain disrupted, due to infrastructural delays, environmental issues and permits.

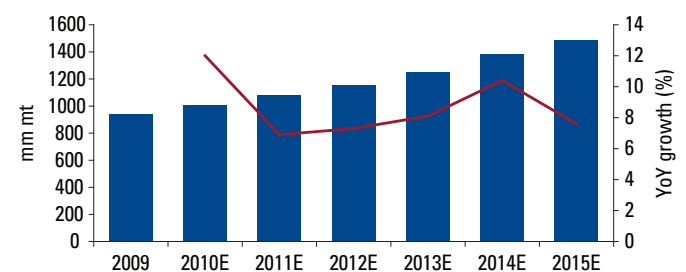
- In the long term, however, China plans to increase its production, from 1.1 billion tons in 2010 to 1.5 billion tons by 2015, to reduce its dependence on imports.
- According to a July 2010 report published by Global Industry Analysts, global iron ore consumption is expected to exceed 1.7 billion tons by 2015.
- India also offers a very promising outlook in terms of iron ore demand, as its government intends to double its infrastructure investments, to US\$1 trillion, over 2012–17.
- In 2011, the big three miners — Vale, BHP Billiton and Rio Tinto — represented about 70 percent of the seaborne market. The three companies also plan to spend US\$45 billion on mines.
- By 2013, the seaborne demand is expected to reach 1,300 million tons, a 37 percent increase over 2009 levels.

Figure 2: Global iron ore production – Forecast



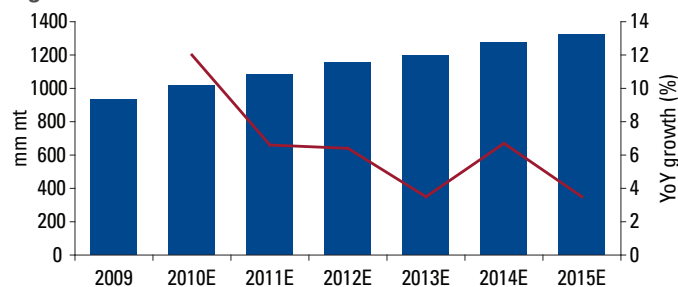
Source: BlackIron

Figure 3: Total seaborne supply of iron ore



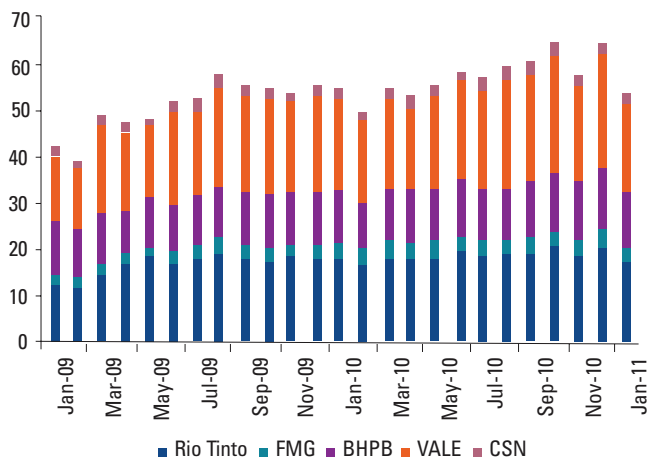
Source: UBS & BlackIron

Figure 4: Total seaborne demand of iron ore



Source: UBS & BlackIron

Figure 5: Seaborne supply dynamics – Disruptions (million tons)



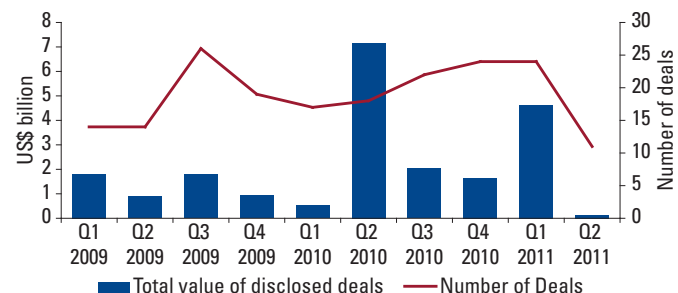
Source: Trade Data, Credit Suisse Estimates

- In January 2011, the supply of iron ore from Australia, Brazil and South Africa was disrupted owing to floods and cyclones.
- In the fourth quarter of 2010, the Indian monsoon lowered exports, and analysts anticipate that the current 2011 monsoon season will also add to supply uncertainties.

Ownership changes

The total value of completed deals in the iron ore sector plummeted from US\$7.17 billion in the second quarter of 2010 to US\$121.4 million in the second quarter of 2011, as shown in Figure 6. This is well below the US\$4.62 billion deal value in the first quarter of 2011.

Figure 6: Value of completed deals in iron ore sector



Source: Thomson One Banker

In the second quarter of 2011, 11 deals were completed, 24 were pending and another 11 were intended.

- Vale authorized the repurchase of 64.8 million ordinary shares and 98.368 million preference shares for US\$3 billion in open market transactions.
- Chinese firm Shandong Huayang Technology agreed to acquire three Chinese iron ore mining companies and a 30 percent stake in Shandong Jinding Mineral for US\$427.11 million.
- Atlas Iron of Australia intends to acquire the remaining 86.96 percent interest in Ferraus, another Australian mining firm, in exchange for 206.492 million Atlas shares valued at US\$223.47 million.
- Several shareholding transfers were observed in China and Hong Kong — about 11 deals (10 pending and one intended) worth US\$744.64 million were recorded.

Key developments

- The uncertainty over the long-term prices of iron ore has given opportunities to emerging producers such as African Minerals and London Mining. By 2012, African Minerals plans to produce 12 million tons of iron ore per annum, and London Mining 1.8 million tons.
- In April 2010, the pricing mechanism of iron ore was changed from the 40-year-old annual benchmark system to a quarterly pricing system. In principle, the new system is more stable than a spot pricing mechanism, as it fixes the price for a quarter in advance.
- Western Australian magnetite producers — Murchison's Jack Hills, Sinosteel Midwest's Weld Range projects and Gindalbie Metals' Karara — plan to increase their capacity by 40 million metric tons per year, starting 2014. However, this may get delayed due to port development issues.
- Vedanta/Sesa Goa plans to increase its production from 22 million metric tons per year to 50 million metric tons per year in two to three years. However, environmental uncertainties, higher taxes and a ban on iron ore exports in Karnataka might hamper the production growth.
- Minas Rio, an Anglo-American venture, plans to reach a capacity of 26 million tons by 2015. However, due to the strict environmental permissioning processes in Brazil and project designing changes, it is dealing with a delay of around 18 months.
- Vale's expansion in Carajas experienced environmental permissioning issues, are driving the company's costs higher. It is likely to start full production in 2014. Additional brownfield expansions of 45 million tons per annum (mtpa) have also been proposed.

Table 1: Top deals (completed), Q2 2011

Date announced	Target	Target nation	Acquirer	Acquirer nation	Status	Value of transaction (US\$ million)
May 19, 2011	Pinnacle Group Assets Ltd	Sierra Leone	Cape Lambert Resources Ltd	Australia	Completed	52.26
May 11, 2011	SPG Mineracao Ltd	Brazil	Severstal'	Russian Fed	Completed	49.00
June 3, 2011	CMC Guernsey Ltd	Guernsey	Ferrum Resources Ltd	United States	Completed	13.50
May 18, 2011	Centaurus Metals Ltd	Australia	Lujeta Pty Ltd	Australia	Completed	5.32
April 13, 2011	Adriana Resources-Licenses(2)	Canada	Cap-Ex Ventures Ltd	Canada	Completed	1.28

Source: Thomson One Banker

Regulatory updates

A number of countries are putting trade restrictions on iron ore. China has tightened its import policy to improve its

bargaining power with the Big Three and control the spiraling prices. India imposed restrictions on its export to curb illegal mining and protect its domestic steel industry.

Table 2: List of recent regulations for iron ore industry

Country	Regulation	Description
China	Setting up an iron ore import agency system	<ul style="list-style-type: none"> The Department of Commerce plans to set up an iron ore import agency system to monitor and control the iron ore inventory at Chinese ports.
China	Imported iron ore qualification standard	<ul style="list-style-type: none"> China Iron and Steel Association established an imported iron ore qualification standard to control the grade, water content and sulfur content in the imports.
West Africa	Establishing a unified mining code for the region	<ul style="list-style-type: none"> Economic Community of West African States instituted a unified mining code that all 15 member countries have to adopt by 2014. Sierra Leone — which has reserves estimated at 5 billion tons — is one of the community members.
India	Karnataka export ban	<ul style="list-style-type: none"> The state of Karnataka banned iron ore exports following some illegal mining in the area. The ban affected the exports adversely. According to the data from the Federation of Indian Mineral Industries (FIMI), exports stand at 85.43 million tones in 2011, a fall of 18 percent from 2010. Although the ban was lifted in April 2011, it has become difficult to procure trade permits.
India	Export duties raised	<ul style="list-style-type: none"> In 2011, India quadrupled the export duty on iron ore fines from 5 percent to 20 percent, as it seeks to curb exports.
India	Issuance of NOC for every iron ore shipment	<ul style="list-style-type: none"> The Mormugao Port Trust, a leading iron ore exporting port in India, has started issuing a No Objection Certificate for every iron ore shipment with a view to curb illegal export.
Guinea	Country's mining laws amended to increase government stake	<ul style="list-style-type: none"> The government changed the country's mining laws to raise its stake from 15 percent to 33 percent in mining projects. However, this will not affect the existing contracts.
India	Launch of iron ore future contracts	<ul style="list-style-type: none"> The Forward Markets Commission allowed the Multi Commodity Exchange of India (MCX) to launch iron ore futures contract. MCX's iron ore future contract aims to become the benchmark of Indian iron ore fines export market.
Australia	Australia's West State increases iron ore tax	<ul style="list-style-type: none"> On May 19, 2011, Western Australia increased its levy on production of iron ore fines. The state announced that it will raise the royalty charged on the production from 5.6 percent in 2011 to 7.5 percent in 2013. As a result, the mining groups in the country are worried about their cost implications.
Brazil	A new regulatory mining framework to restrict foreign capital in exploration of natural resources	<ul style="list-style-type: none"> The new regulations are aimed at limiting the Chinese ventures in iron ore mining. As per the new bill, large deposits will be auctioned and companies serving the local markets will be charged lower royalties. Currently, Brazil has no restrictions on the exploration of its mineral deposits.
India	Orissa seeks a ban on iron ore exports	<ul style="list-style-type: none"> The state government of Orissa pushed the Central Government for an export ban for downstream usage.

Global market volatility

After S&P downgraded the US credit rating from AAA to AA+, Shanghai rebar futures fell about a percent to a one month low. Steel rebar prices weigh on prices of iron ore,

since iron ore is a key steelmaking component. Moreover, the European sovereign debt crisis also continues to frighten investors. On the Shanghai Futures Exchange, January rebar futures traded down to \$741 on August 8th, its lowest since July 4.

Future projects

Table 3: Major greenfield projects

Project name	Country	Operators	Commodity	Potential start year	Metal production (mt/annum)
Simandou	Guinea	Rio Tinto (95%), IFC (5 %)	Iron Ore	2015	70
Solomon	Australia	Fortesque	Iron Ore	2013	60
Roy Hill 1	Australia	Hancock Prospecting	Iron Ore	2013	55
Simandou-Zigota	Guinea	Vale (51%), BSG Resources (49%)	Iron Ore	2015	50
Carajás Serra Sul S11D*	Brazil	Vale	Iron Ore	H2 2014	90
Apolo*	Brazil	Vale	Iron Ore	2014	24
Tubarao VIII	Brazil	Vale	Iron Ore	H2 2012	7.5 (iron pellets)
Kolomela	South Africa	Anglo American (63.4%)	Iron Ore	2012	9
Minas Rio	Brazil	Anglo American (99.4%)	Iron Ore	H2 2013	26.5 (pellet feed)

Table 4: Major brownfield projects

Project name	Country	Operators	Commodity	Potential start year	Metal production (mt/annum)
Conceição Itabiritos*	Brazil	Vale	Iron ore	H2 2013	12 (pellet)
Conceição Itabiritos II	Brazil	Vale	Iron ore	H1 2014	13 (pellet feed), 6 (sinter feed)
Vargem Grande Itabiritos*	Brazil	Vale	Iron ore	H2 2013	10 (pellet feed)
Itabiritos Caue*	Brazil	Vale	Iron ore	2013	24 (19-pellet + 5-sinter)
Carajas Additional 40 mtpa	Brazil	Vale	Iron ore	end 2012	Construction of a dry processing plant
Samarco Fourth Pellet Plant	Brazil	Vale (50%) and BHP Billiton (50%)	Iron ore	H1 2014	8.3 (pellet feed)
WAIO Jimblebar Mine Expansion	Australia	BHP Billiton (96%)	Iron ore	Q1 2014	Increases mining and processing capacity to 35 mtpa

* projects yet to be approved

Note: Analysis covers major iron ore mining companies such as Vale, Rio Tinto, BHP Billiton, Anglo American and Xstrata.

- Vale, the world's largest producer of iron ore, has a large number of greenfield projects and brownfield expansions in the pipeline, which could boost its metal output by as much as 150 million tons. Carajas in Brazil is seen as the world's largest iron ore complex in which Vale is the sole owner.
- Brazil continues to be the hub of iron ore mining activities, with most projects concentrated here. Guinea's Simandou region is another rich resource.
- Anglo American has two big long-term projects in South Africa — Sishen's Concentrate and Sishen's Expansion Project 2 — which are estimated to add 20 mtpa iron ore pellets and 10 mtpa iron ore, respectively. Sishen's Concentrate is expected to come into full production in 2018 and Sishen's Expansion Project 2 in 2019.
- Rio Tinto is planning for greenfield explorations in Orissa, India, and has formed a joint venture with Orissa Mining Corporation. Greenfield and brownfield development opportunities are being studied in Pilbara (Australia), Corumba (Brazil) and Canada (through its consortium firm Iron Ore Company of Canada). The company recently accelerated its Pilbara expansion plans by six months to reach 333 mtpa by H1 2015.