



Margin Outlook for Indian Steelmakers Weakens

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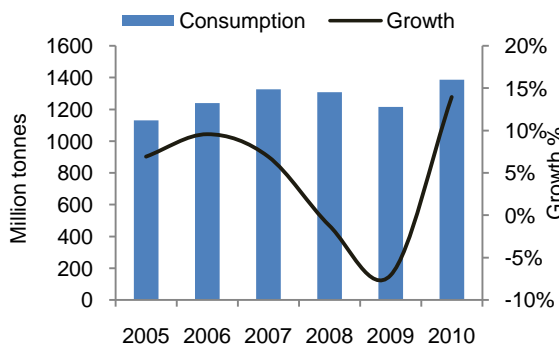
- ICRA believes the margin outlook for Indian steel companies has weakened in recent months, notwithstanding the improvement in operating profitability reported by large Indian steel companies since the lows of the fourth quarter (Q4) of the financial year (FY)¹ 2008-09. The improvement in operating profitability over the last eight quarters was aided by the gradual recovery in global steel demand brought about by the large economic stimulus packages announced by various nations in the aftermath of the global financial crisis in 2008. However, in the current calendar year, global demand conditions have deteriorated, with growth prospects appearing uncertain in developed countries even as China, the largest steel consuming nation in the world, presents the possibility of a slowdown in steel demand following its Government's attempts to prevent overheating of the Chinese economy.
- Growth in steel consumption in India has slowed down significantly to around 2.5% in the first six months of the current financial year from around 14.5% in the corresponding period of last year, with project offtake slowing down and other macroeconomic challenges also cropping up. Nevertheless, large steel capacity expansion projects are likely to get commissioned in the short to medium term. In ICRA's estimates, almost 25 million tonnes of new capacity, which is about 30% the country's current production capacity, is expected to be commissioned in the next 18-24 months, which in turn could alter the domestic demand-supply position, thereby keeping realisations under check, notwithstanding any benefit that may accrue to steel players from a depreciating currency.
- The improvement in steel industry conditions post-Q4 2008-09 led to a rise in the prices of the key raw materials as well, with international prices of both iron ore and coking coal recovering significantly after 2009. The raw materials industries being highly concentrated and with bottlenecks for incremental supply persisting, raw material prices are likely to stay buoyant in the short to medium term. And, steelmaking being a raw material intensive activity, high raw material prices would dent the profitability of steel producers, especially in a weak demand-supply scenario which is likely to constrain the ability of producers to pass on cost increases. The higher capital charges arising out of expansion projects currently being commissioned would also add to the pressures on the net margins of the steelmakers concerned, especially in a scenario of high interest rates, as is currently prevailing in the country. On the other hand, higher working capital requirements to operate expanded capacities, especially in a buoyant raw material price scenario, along with the contractual obligation to service project debt following the commissioning of expansion projects, are expected to exert some pressure on the liquidity profile of such companies.

¹ April 1 to March 31

Background

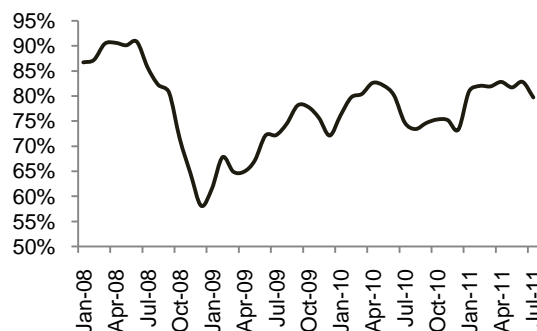
Global apparent crude steel consumption had reported a healthy compounded annual growth rate (CAGR) of 6% during the period between calendar years (CY) 2000 and 2008, till it was hit by the global economic crisis in the second half of CY 2008. As a result, global crude steel consumption, as *Chart 1* shows, declined by about 1% in CY 2008 and by about 7% during CY2009, on a year-on-year basis. Steel prices also corrected by as much as 50% between August 2008 and March 2009. International prices of key raw materials also followed the trend. Global steel capacity utilisation levels, which were at 85-90% in the first half of 2008, therefore dipped to below 60% in December 2008 (*Chart 2*).

Chart 1: Trend in Global Apparent Crude Steel Consumption



Source: World Steel Association, ICRA Research

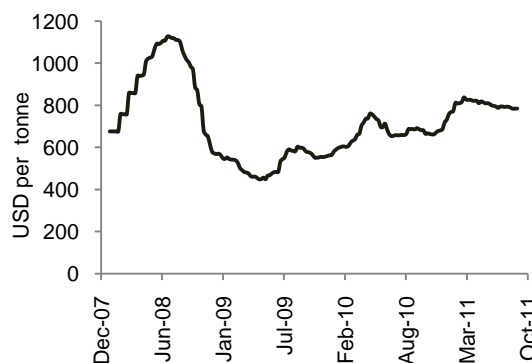
Chart 2: Global Steel Capacity Utilisation Trend



Source: World Steel Association, ICRA Research

Governments in major countries responded to the 2008 financial crisis by announcing large stimulus packages, thus providing the impetus to drive economic activities. The stimulus packages started taking effect from the second half of 2009. The steel industry also displayed signs of recovery, and in this it was aided by the gradual easing of global liquidity conditions. As a result, international steel prices could post a gradual recovery after Q1 FY2010 as *Chart 3* shows.

Chart 3: Trend in World HRC Prices



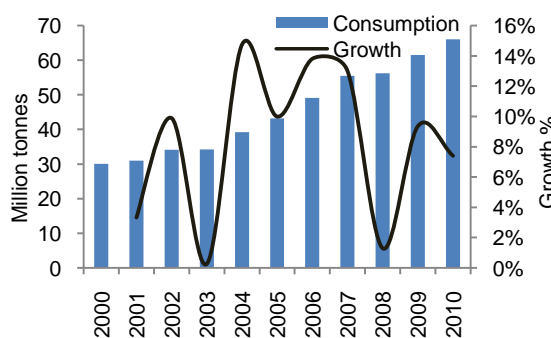
Source: Bloomberg, ICRA Research

Post-Q4 FY2009, margin recovery for Indian players prompted by a correction in raw material prices and gradual recovery in steel prices

India is currently the fourth largest steel producer in the world, having produced about 68 million tonnes of crude steel during CY2010. Crude steel production in the country increased at a CAGR of about 9.8% during the last decade (2000-2010), supported by demand from the key consumer segments of construction, capital goods, and automobiles.

As *Chart 4* exhibits, Indian steel consumption, which had been growing at double digits before the global crisis, slowed down significantly in CY2008 to a rate less than 2%. However, the momentum picked up again in 2009, supported by growth in infrastructure

Chart 4: Trend in Indian Apparent Crude Steel Consumption

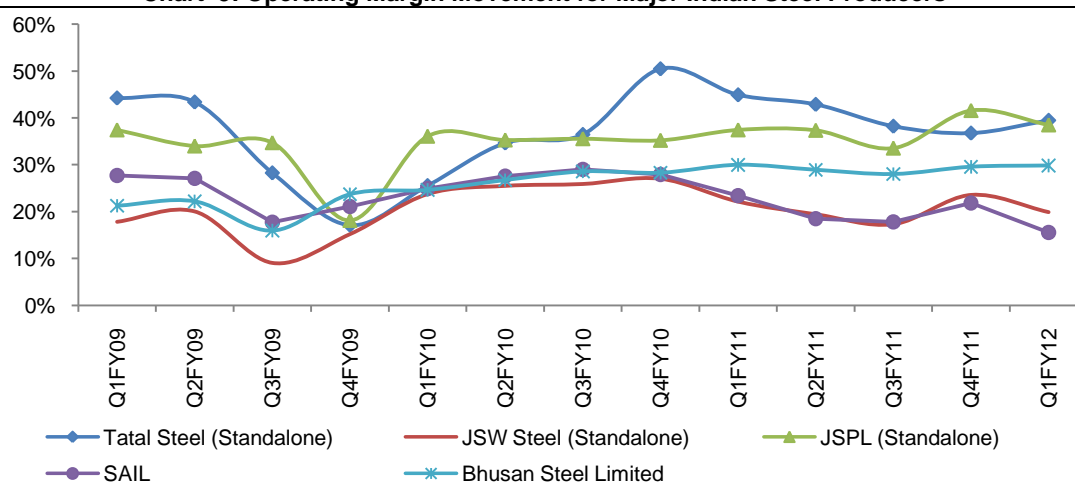


Source: World Steel Association, ICRA Research

related investments. The construction industry accounts for about 65% of the total domestic steel consumption, and is expected to remain the key demand driver, going forward.

As *Chart 5* below shows, the profitability of large Indian steel players was hit by the sharp decline in steel prices in the second half of FY2009. However, a correction in the prices of key raw materials, besides the recovery in steel prices and domestic demand conditions, led to a gradual improvement in margins after the third and fourth quarters of FY2009. As depicted in *Chart 5*, the margins of players like Tata Steel Limited (TSL) and Jindal Steel and Power Limited (JSPL) have shown superior performance because of the captive raw material sources that they have. On the other hand, the margins of Steel Authority of India Limited (SAIL) and JSW Steel Limited (JSW) have remained at lower levels because of their dependence on the external markets for coal (in the case of SAIL, which also reported an increase in employee expenses during FY2011), and both iron ore and coal (in the case of JSW). Nevertheless, the profitability of steel players in India was in general at higher levels in Q1 FY2012 as compared with the second half of FY2009.

Chart 5: Operating Margin Movement for Major Indian Steel Producers



Source: Company data, ICRA Research

ICRA however believes that despite this improvement in margins for Indian steel producers, their profitability could come under renewed pressure in the near to medium term because of several factors, as discussed in the following section of this note.

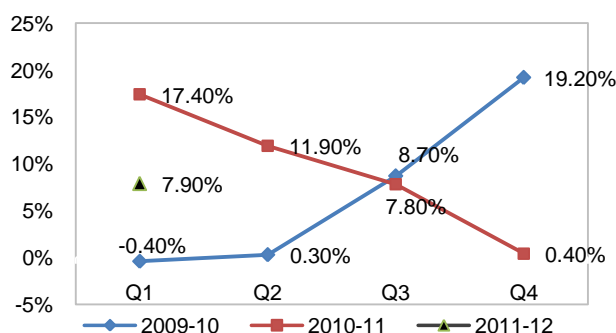
Demand conditions report weakening in the country

Indian steel consumption is expected to witness some moderation going forward, given the continuing slowdown in demand from key consuming sectors. The major steel consuming sectors in India include construction (~65%), capital goods (~15%), and automobiles (~8%). Already, there has been a slowdown in project offtake in India for a variety of reasons, including problems over land acquisition, resettlement and rehabilitation, uncertainty in global economic outlook, and a sharp increase in interest rates in the country. The prevailing high interest rates are also likely to keep demand growth in the rate-sensitive sectors like automobiles, real estate and housing at moderate levels.

The above factors have already had a considerable impact on gross fixed capital

formation (GFCF), as *Chart 6* shows. Although the growth in GFCF in Q1 FY2012 has been higher than that in the preceding quarter, it remains at a significantly lower level compared with the corresponding previous (i.e. Q1, FY2011). Reflecting this trend, the apparent steel consumption in India in the first six

Chart 6: Trend in Gross Fixed Capital Formation



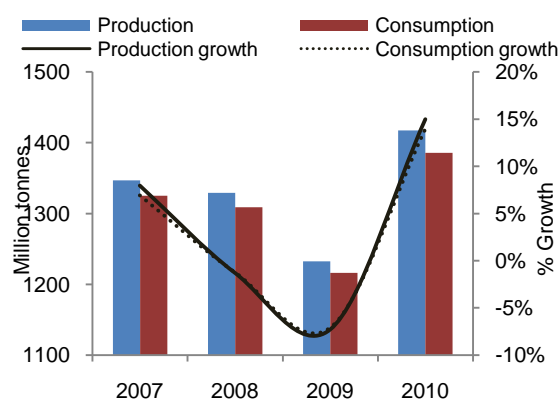
Source: CSO, ICRA Research

months of FY2012 grew nominally by around 2.5%² as against about 14.5% growth rate recorded in the corresponding period of the previous year. Thus, although the long-term demand outlook for the Indian steel industry remains favourable (given India's expected economic growth rate), the growth outlook for the near to medium term is weaker, in ICRA's opinion.

Current weakness in world economy points to likely slowdown in global steel demand too

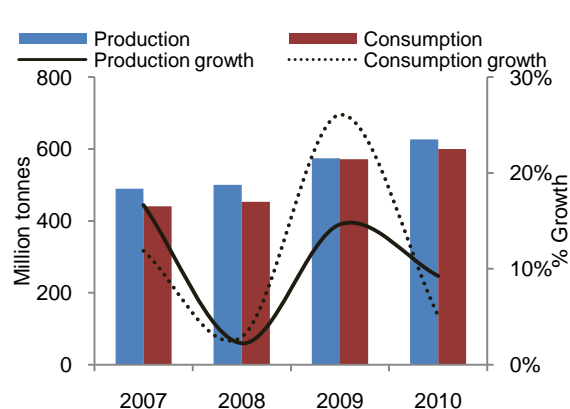
As *Chart 7* brings out, overall crude steel production and consumption in the world grew by around 15% each in CY2010 from the lows of CY2009. The developed economies, viz. the EU and the USA, led the recovery process by posting consumption growth rates of around 24% and 45% respectively, during CY2010. Chinese consumption, which accounts for almost 45% of the global steel consumption, however grew at a much slower rate of around 5% in CY2010 (*Chart 8*).

Chart 7: Trends in World Crude Steel Production and Consumption



Source: World Steel Association, ICRA Research

Chart 8: Trends in Chinese Crude Steel Production and Consumption



Source: World Steel Association, ICRA Research

Notwithstanding the significant growth in steel consumption in developed countries in CY2010, consumption in these regions is yet to recover to the pre-crisis levels. In addition, the outlook for steel demand in developed economies has deteriorated in recent months because of their weak macroeconomic conditions. The annualised real GDP growth in the USA in the first six months of 2011 was 0.8%, much lower than the level of about 2.5% forecasted by the International Monetary Fund (IMF) in June 2011. The growth rate in the EU economy too is likely to be lower than the 1.8% posted in CY2010, with strong economies like Germany exhibiting weak economic performance in the current year so far. Reflecting this trend, the overall Eurozone economic growth slowed sharply to 0.2% in the second quarter of CY2011, from 0.8% in the preceding three months. The construction industry, which accounts for around 50% of global steel demand, remains weak, with the construction index in the EU remaining significantly lower than what it was in the pre-crisis months. Additionally, a number of EU countries have recently faced a sovereign debt crisis situation. With the growing fears of a contagion effect spreading to some of the larger economies, the focus of macroeconomic management in the EU has shifted to fiscal consolidation and austerity measures, which in turn is likely to have a dampening effect on steel demand in EU countries.

China has been the key driving force behind the growth in global steel output over the last decade (2000-2010), accounting for close to 88% of the incremental steel production in the world during this period. While world steel production during the decade increased at a CAGR of about 5%, Chinese steel production reported a CAGR of over 17% during the same period. However, the Chinese economy has been facing inflationary conditions of late, and this has led to the Chinese authorities raising interest rates a number of times since September 2010. This is likely to cause a slowdown in construction activities in China, which would adversely impact the country's demand for steel. Consequently, the Chinese Iron and Steel Authority (CISA) has projected a muted 5-6% growth in steel demand in China over the ongoing 12th five-year plan period (2011-15).

² As per the monthly report of Joint Plant Committee (JPC)

China, the EU and the USA accounted for over 60% of the global crude steel consumption in CY2010. The unfavourable outlook for steel demand growth in these regions is therefore likely to have a bearing on global steel consumption, at least in the near to medium term, when it is expected to grow at a much slower rate compared with the double-digit growth rate posted in CY2010. The World Steel Association, in its October 2011 publication, has projected a growth rate of 5-6% in steel demand in both CY2011 and CY2012. ICRA believes that this weak demand outlook would also keep international steel prices under check over this period.

Prospect of domestic overcapacity looms in the medium term as large capacities get added

All the major domestic steel producers have embarked on capacity addition, a significant portion of which is expected to be commissioned over the short to medium term³. Thus, in ICRA's estimates, almost 25 million tonnes of new capacity, which is about 30% the country's current production capacity, is expected to be commissioned in the next 18-24 months. The rate of this capacity addition is likely to outpace domestic demand growth in the medium term, given the slowdown in demand growth expected over this period. Thus, the domestic steel industry is likely to face overcapacity in the medium term, which in turn is likely to push up domestic competition as well as exports, making India a net exporter of steel (it is currently a net importer). Further, while around 60% of the Indian demand is for long products, a significant majority of the new capacities would produce flat steel products. Given that long products are likely to maintain a higher consumption pattern in India, driven by the infrastructure and construction sectors, the capacity mismatch is also likely to prompt producers to explore export markets. However, in the absence of the 5% duty protection available in the domestic market, export realisations are likely to be lower. All these factors, along with the higher capital charges for companies commissioning large projects, are likely to affect the margins of steel producers adversely in the near to medium term, especially given the high interest rates prevailing in the country.

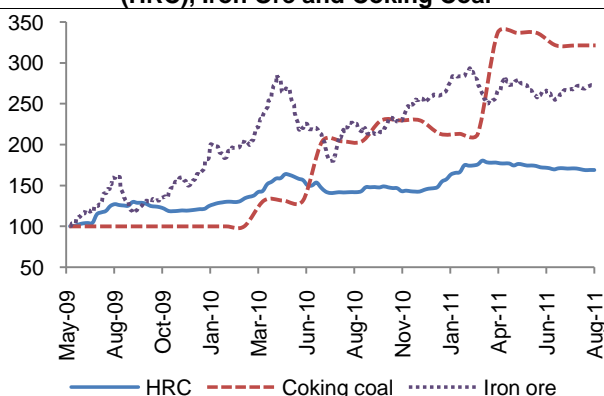
Following a sharp correction, raw material prices have staged a sharp recovery

Crude steel production through the blast furnace (BF) route has displayed an increasing trend over the last one decade, with the share of the same in total global steel production rising to around 70% from around 60% in CY2000. Steel produced through the electric arc furnace (EAF) and induction furnace (IF) routes account for the balance 30% of the global steel production at present. The primary raw materials for the production of crude steel via the BF route are iron ore and metallurgical coke (produced from coking coal). The BF route of steelmaking requires around 0.7 tonnes of coking coal and around 1.6 tonnes of iron ore for every tonne of BF output. The EAF and IF routes use sponge iron and steel scrap to produce steel.

Raw material costs account for around 70% of the cost of production for steel players without any captive raw material sources, and for around 45% of the cost of production for players with captive sources. Thus, raw material prices are an important profitability driver for steel companies.

After reaching all-time highs in the first half of CY2008, iron ore and coking coal prices crashed, following a slowdown in global steel production. Thereafter, raw material prices started recovering from the second half of CY2009, supported by a recovery in steel production. However, both the iron ore and coking coal industries are highly concentrated, as against the more fragmented steel industry.

Chart 9: Trends in Indexed Prices of Hot Rolled Coil (HRC), Iron Ore and Coking Coal



Source: Bloomberg, ICRA Research

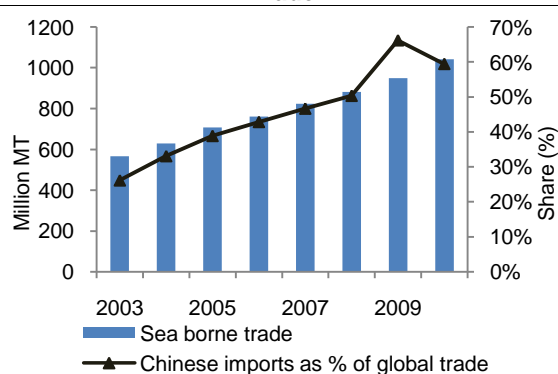
³ SAIL (10 million tonnes per annum, or MTPA), RINL (3 MTPA), Tata Steel (3 MTPA), and Essar Steel (4.5 MTPA) are some of the players with large projects which are likely to be commissioned over the next 18-24 months.

Therefore, the increase in prices has been much higher for the raw materials than for steel, as *Chart 9* above brings out.

Scenario in iron ore

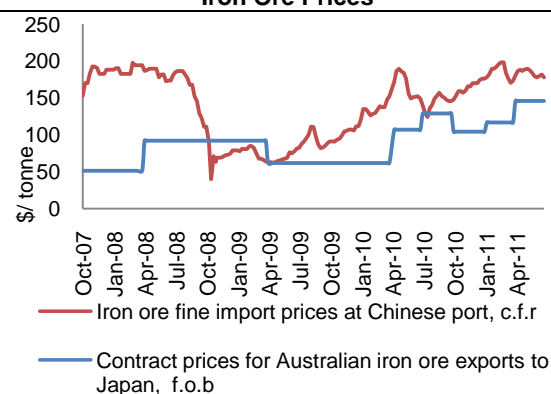
The overall global supply of iron ore increased at a CAGR of 7.9% over the period 2003-2010, driven by the increase in steel production. The total ore production in CY2010 stood at around 1.9 billion tonnes, of which over 50% was traded internationally. China's share of the sea borne trade of iron ore doubled from less than 30% in CY2003 to almost 60% in CY2010 because of the low quality of Chinese domestic iron ore and the inability of the domestic miners to keep pace with the increase in steel production (refer *Chart 10*). The supply of iron ore, on the other hand, is largely concentrated in the hands of three big mining companies: Vale (Brazil), BHP Billiton (Australia), and Rio Tinto (Australia). These big three miners account for around two-thirds of the total sea borne iron ore market, and therefore, command significant pricing power.

Chart 10 : Scenario in World Iron Ore Sea Borne Trade



Source: ICRA Research

Chart 11: Trends in International Iron Ore Prices



Source: ICRA Research

Prices of iron ore rose steadily from 2005 to early 2008, driven by rising demand. Thereafter, with the onset of economic recession, the demand for iron ore from the steel industry reduced, with the result that spot iron ore prices fell to as low as US\$65 per tonne in Q4 CY2008 from around US\$180 per tonne in the preceding quarter. After that spot iron ore prices remained depressed in the first half of CY2009, but then from July 2009 showed a rising trend and improved to the pre-crisis levels by February 2011 (*Chart 11*).

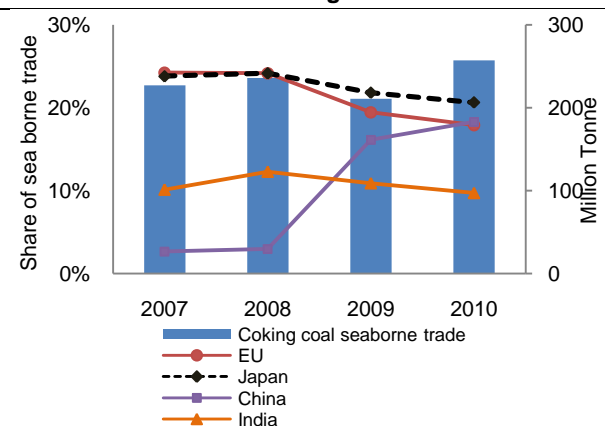
Delays in the commissioning of mining expansion projects, along with growth in steel production after 2009, have created a tight demand-supply position for iron ore globally. For instance, of the 500 million tonnes or so of fresh mining capacities slated for commissioning by 2010, only around half the target was actually commissioned till 2010. The major reasons for the delays include infrastructural bottlenecks, lack of technical manpower and reduced availability of credit in the aftermath of the global financial crisis. The supply tightness, along with the high supplier concentration in the industry, has enabled the major iron ore producers raise prices and also shift from the annual pricing system to a quarterly pricing system linked to the spot market. This has made contract prices of iron ore more volatile in recent quarters.

A number of big projects have already been announced by the three big miners (estimated at 25% of the current global production), which is likely to lead to some easing of the current tightness in the demand-supply situation. However, since most of such large expansions are expected to be commissioned CY2014 onwards, the demand-supply situation for iron ore is expected to remain tight in the short to medium term, which in turn is likely to keep iron ore prices at buoyant levels during this period. However, if the Chinese economy slows down significantly (paring its steel demand in the process), international iron ore prices are likely to weaken from the currently high levels, given the high Chinese share in international trade. Nevertheless, ICRA expects iron ore prices to remain at elevated levels compared with their historical trends over the near to medium term because of supply side constraints.

Scenario in coking coal

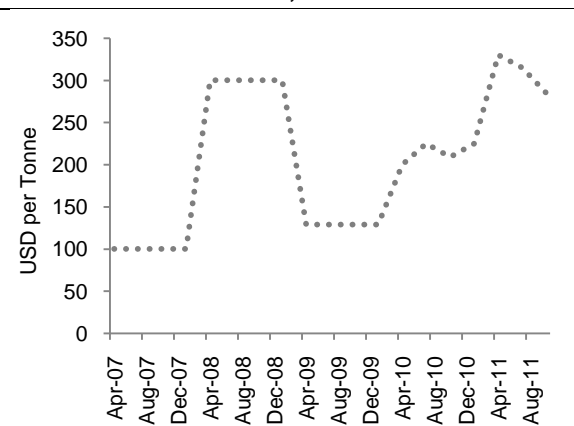
In CY2010, out of the around 840 million tonnes of coking coal produced globally, over 250 million tonnes were internationally traded through the sea route. Australia alone accounted for around 55% of the global coking coal exports, most of which went to Japan, China and India (refer *Chart 12*). Like iron ore, the international sea borne coking coal trade is quite concentrated, being dominated by five players: BHP Billiton, Anglo American, Xstrata, Rio Tinto (all in Australia) and Teck (Canada). These five accounted for around 55% of the market in CY2010.

Chart 12: Scenario in World Sea Borne Coking Coal Trade



Source: ICRA Research

Chart 13: Trend in International Coking Coal Contract Prices, f.o.b. Australia



Source: ICRA Research

Following the recovery in steel production since July 2009, there has been a significant increase in the demand for coking coal from the steel industry, driven by strong import demand from Japan, China, India and Korea. China has recently emerged a major importer of coking coal because of the inability of its own coking coal miners⁴ to keep pace with the increase in its steel production. Thus, coking coal imports by China grew by about four times in 2009 on a year-on-year basis, pushing up China's share of the international trade to 16% from less than 3% in CY2007; the share rose further to 18% in CY2010, causing the shares of other major importing regions including India to decline from the levels of CY2008 (refer *Chart 12*). Since global coking coal production grew at a more moderate pace, this incremental demand from China tightened the demand-supply situation of coking coal to an extent.

As in the case of iron ore, contract prices of coking coal also reacted sharply to the 2008 global financial crisis, crashing from around US\$300 per tonne in October 2008 to around US\$130 per tonne in April 2009 (*Chart 13*). Thereafter, the prices remained at this level till the initial months of CY2010 and then started rising as demand from steel producers, especially those in China, kept increasing even as the tight supply situation in coking coal was aggravated by supply-side disruptions from early 2011. Coal production in Queensland (Australia), which accounts for over 80% of Australia's total coking coal production, was adversely affected by unseasonal heavy rains and floods in December 2010 that led to significant production cuts. As a result, spot prices of hard coking coal shot up to about US\$330 per tonne f.o.b. in January-February 2011, although the contract prices, which were settled earlier, remained at US\$225 per tonne during the January-March 2011 quarter. The sharp rise in spot prices led to the contract prices for the subsequent quarter being fixed at US\$330 per tonne on f.o.b. basis. However, partial recovery in Queensland production and a slowdown in demand from Japan, the largest importer of coking coal, in the aftermath of the devastating Tsunami and earthquake, led to some moderation in prices, with contract prices for the October – December 2011 quarter being fixed at US\$285 per tonne.

Traditionally, the market for coking coal followed an annual pricing system, but this practice was abandoned in favour of a quarterly pricing system in 2010, the change being driven largely by the higher bargaining power of the few coking coal suppliers. Further, BHP Billion Mitsubishi Alliance, (BMA) the

⁴ The recent consolidation in the Chinese coal mining industry has led to the closure of a number of mines.

largest Australian exporter of coking coal, has even started entering into monthly price contracts since April 2011, although a wider acceptance of such monthly contract remains to be seen. Nevertheless, such shortening of duration of contracts is expected to lead to considerable volatility in international coking coal prices, going forward.

Looking ahead, the demand for coking coal is expected to be driven by the demand mainly from Indian and Chinese steelmakers. Significant capacity addition in the Indian steel industry in the near to medium term is expected to drive up the demand for sea-borne coking coal, since India has been deficit in this. On the supply side, despatch from Queensland has improved in recent months. However, although new capacities have already been announced by the big coking coal miners in Queensland, the absence of supporting export infrastructure is likely to delay the commissioning of expansion projects in this area. New coking coal capacities are also being developed in Mozambique and Mongolia; but reportedly both these countries at present lack the infrastructure required to support large scale exports. As a result, no major fresh supply of coking coal is expected to enter the world market before CY2013, which in turn would keep coking coal prices at elevated levels relative to historical trends, although some more moderation may be expected once normal supplies from Queensland resume.

High raw material costs likely to exert further pressure on margins of Indian steel players

Indian steel producers have a raw material price advantage over their Asian peers like those in China, Korea and Japan as far as iron ore is concerned, given the domestic availability of ore. Domestic iron ore prices are generally lower than prices of internationally traded iron ore. India's annual iron ore production is over 200 million tonnes, of which 45-50% is generally exported. The recent increase in the export duty on iron ore was aimed at improving domestic availability. However, Indian exports largely consist of iron ore fines, which currently have limited use in the domestic steel industry. Large steel producers like SAIL, Tata Steel and JSPL have captive iron ore mines, while others procure iron ore from public sector undertakings like NMDC Limited, private miners, and traders.

Although Indian iron ore prices are lower than international prices, domestic prices nevertheless follow the international trend. For instance, while iron ore prices have now risen around 170% over the lows of early 2009 in the international market, in India iron ore prices at mine heads have gone up by around 140%. Thus, in ICRA's view, the expected buoyancy in international prices would also keep domestic prices at high levels in the near to medium term, thereby adversely impacting the raw material costs of players without captive iron ore mines. In addition, the ongoing restrictions imposed by the Supreme Court on iron ore mining in Karnataka, and issues related to illegal mining, non-payment of royalty, environmental concerns etc. affecting the production in several mines in Goa and Orissa are likely to have an adverse effect on the capacity utilisation levels of several non-integrated steel producers dependent on these sources, at least in the near term.

Apart from iron ore, coking coal too is likely to exert pressure on Indian producers' raw material costs. Close to 40% of India's total steel output is produced via the BF route, making metallurgical coke (coke) a key raw material for steel production. Indian coking coal reserves are estimated at just 33.4 billion tonnes (that is, about 12.5% of the total coal reserves), most of which are of low quality, with a high ash content. Thus over 70% of the total coking coal requirement is currently imported, with imports from Australia accounting for about 80% of the total imports. ICRA expects India's coking coal imports to increase further as some large steel projects get commissioned in the next two years. Consequently, high price levels and the shift to quarterly/monthly pricing contracts internationally are likely to keep coking coal costs high for Indian consumers, besides increasing the volatility of such costs.

In India, around 60% of the total crude steel output is produced through the EAF/IF route. The primary charge for the EAF/IF usually consists of sponge iron (an intermediate product produced by reducing iron ore with non-coking coal)⁵, pig iron (output from BF), or a mixture of both and steel scrap. India is the largest producer of sponge iron in the world, accounting for around 38% of the world's entire sponge iron production (as of CY2010).

⁵ It takes around 1.5-1.6 tonnes of iron ore and around 1.2-1.8 tonnes of non-coking coal (depending on the quality) to produce 1 tonne of sponge iron

The domestic coal supply scenario is dominated by Coal India Limited (CIL), which accounts for over 85% of the domestic coal production, more than 90% of which is thermal or non-coking coal. With around 70% of Indian non-coking coal being used in the power sector, only a small proportion of CIL's total produce finds its way into steel making through the sponge iron route. In recent years, with significant coal-based power capacities having been commissioned, demand for non-coking coal in India has increased sharply. This, along with the supply-side bottlenecks, has led to an acute shortage in domestic coal availability, and the situation is likely to deteriorate further, going forward. Besides, apart from availability risks, domestic consumers face significant price risks too, given that CIL enjoys monopoly pricing power and has been raising the notified prices of its linkage coal periodically⁶. Coal prices in other channels like e-auctions, through which CIL sells around 10% of its coal, are significantly higher (almost 60%) than CIL's linkage coal prices, reflecting the tightness in availability. Moreover, imported coal is costlier than Indian coal, even on an adjusted basis for calorific value. Thus, steel producers using the EAF/IF route are exposed to significant margin risks, given their non-coking coal requirements.

Conclusion

ICRA's current outlook for the domestic steel sector has weakened because of an expected deterioration in the demand-supply equation on the back of macroeconomic challenges being faced by the country on one hand, and a rapidly increasing supply base on the other. This is likely to keep steel prices under check, notwithstanding any benefit that may arise from a depreciating domestic currency.

The prices of the key raw materials however are expected to remain buoyant in the near to medium term, given the concentrated industry structure and the supply-side bottlenecks. Since raw material costs account for the bulk of the total steel production cost, buoyant raw material prices are likely to keep production costs high even as weak demand conditions may make it difficult for steelmakers to pass on the cost-increases to consumers. This is likely to adversely impact the margins and cash flows of steel companies, especially the non-integrated ones. Many steel companies had embarked upon large capacity expansion projects earlier, the commissioning of which is likely to coincide with the expected industry downturn in the short to medium term. The credit profiles of these companies therefore are likely to deteriorate, since the overall returns from the projects would suffer, at least in the initial years. In addition, higher working capital requirements for operating expanded capacities, especially given the expected buoyancy in key raw material prices, and repayments of project debt are also likely to exert pressures on their liquidity positions.

⁶ In the latest round (February 2011), CIL raised coal prices by 30% for consumers other than power producers



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