Steel is undoubtedly the one metal that has helped build most modern societies — and nations. And, as a nation of 1.3 billion people steps on the threshold of a new era, DhanBank PRU examines the nature of the beast that is the Indian steel industry.
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Why Steel?

Rapid progress in recent times has put India’s already poor and ageing infrastructure under pressure. The Indian government has sharply increased investment in infrastructure with several ambitious projects in the pipeline.

Looking to achieve a 9-10% GDP growth rate, the government plans to increase spending on infrastructure to 10% of the GDP from the current 4.8%. The finance ministry has provided Rs 1,73,552 crore for infrastructure development in FY11, which constitutes over 46% of the total planned allocation. All sectors falling under infrastructure are going to use steel intensively.

The Indian economy shifted to the 8-9% growth rate trajectory in the 2004-09 period, causing a sharp pick-up in steel consumption, which registered a compounded annual growth rate (CAGR) of 13.7% during that time.

The National Steel Policy 2005 was announced by the government to cater to the diversified steel demand and to achieve global cost competitiveness, quality and efficiency in production.

The focus is to take indigenous production to 110 million tonnes by 2019-20, with a CAGR of 7.3% per annum. Currently, India’s steel production capacity falls short of demand and the gap has to be filled with imports.

The Indian steel industry had made marginal additions to its capacities in the decade up to 2003-04. The new greenfield projects and massive expansions announced by leading producers may take the country’s production capacity to the proposed level by 2019-20.

However, China’s economic slowdown (global demand is mostly determined by China’s appetite for the metal) and turbulence due to the European sovereign crisis has engendered a bleak economic outlook. Therefore, it won’t be surprising if the global demand-supply equilibrium earlier estimated by the World Steel Association slips into an over-supply situation by 2011.

This premonition has already caused some easing of global prices. In the past 3-4 weeks, global steel prices have weakened to the extent of $80-100 per tonne. Domestic prices have softened as well recently.

Unlike global markets, India doesn’t have any demand-related problems in the medium to long term. However, in the coming months, demand from the construction sector, which slows down during monsoon, is likely to put further pressure on domestic prices.

In short, the Indian steel industry stands at an interesting intersection of cross-roads — while robust domestic demand should ensure complete off-take of domestic production, the global influences acting on steel prices might keep local prices (and, hence, margins of domestic players) depressed in the short term. Against this backdrop, let’s take a look at the current scenario in the industry, the challenges it faces and the future outlook.
The Indian steel industry witnessed a period of strong growth in the period of 2003-07, with production and consumption increasing at CAGR of 13% and 11% respectively. But after the global financial crisis and liquidity crunch, domestic production and consumption remained flat in 2009. However, demand has picked up recently, stimulated by a huge thrust in infrastructure development and robust growth in automobiles.

According to a Centre for Monitoring the Indian Economy (CMIE) report, steel consumption is expected to accelerate to 9.5% in 2010-11 after growing by 7.9% in 2009-10. The World Steel Association has forecast that steel consumption in India will grow by 13.9% and 13.7% in 2010 and 2011, respectively. Steel demand in India is mainly driven by the construction sector, which consumes about 60% of the total production. The automobile sector consumes about 11%.

Demand Driver

India’s share in world crude steel production rose from 1.5% in 1981 to around 4.64% in 2009.

- India has emerged as the third largest steel producer in 2009.
- India also maintained its lead position as the world’s largest producer of direct reduced iron (DRI) or sponge.
Iron, a raw material for making steel with the help of electric arc furnaces, with around 21 million tonnes in 2008-09.

Faster growth in domestic demand, compared to production, has resulted in a surge in finished steel imports. India has turned into a net importer of steel in 2009-10 with Y-o-Y growth of 23%.

**Pricing Trend**

Indian domestic prices also reflect international prices (London Metal Exchange prices). During the sharp upturn in the first half of 2008, prices scaled over Rs 40,000 per tonne. However, they crashed by almost 50% to move below Rs 25,000 per tonne by the end of 2008-09.

Due to steep increase in raw material prices, world prices of hot rolled coil (HRC) had risen to $665/tonne at the end of March 2010. Domestic companies had to increase prices by Rs 500-3,000 per tonne across long and flat products, keeping in line with the rise in international prices.

However, recent concerns over China’s economy and the Euro zone turbulence, leading to a softening of global demand, has resulted in weakening of steel prices on LME (London Metal Exchange). According to CMIE, which has quoted figures from the Steel Business Briefing, global hot rolled coil (HRC) prices had declined by 5% to $728 per tonne by the end of May from $763 on April 30, 2010.

By end June, prices fell to around $665 per tonne. HRC prices, a benchmark for flat steel, are hovering around Rs 27,000-35,000 per tonne – down by Rs 6,000. In June, prices of flat steel – used for automobile and white goods -- were cut by Rs 2000-3,000 per tonne.

**Raw Materials**

India is blessed with large reserves of iron ore, which takes care of a major part of Indian steel industry’s raw material requirement. But, ironically, India has very little reserves of high quality coking coal. In order to achieve the production target of 110 million tonnes by 2019-20 as announced in the National Steel Policy 2005, India will need iron ore production of 194 million tonnes per annum (mtpa).

The current level of 200mtpa will be sufficient to cater to the Indian steel industry’s requirement if it is entirely channelised for domestic production.

<table>
<thead>
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<th>Particulars</th>
<th>Total Reserves (bn tonne)</th>
<th>Annual Production (mt)</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>Iron Ore</td>
<td>25</td>
<td>207</td>
<td>13 bn tonnes can be mined, allotted to main players</td>
</tr>
<tr>
<td>Thermal coal</td>
<td>258</td>
<td>425</td>
<td>Captive blocks allotted to most players</td>
</tr>
<tr>
<td>Coking Coal</td>
<td>32</td>
<td>20</td>
<td>Most of the reserves are of high ash, not of much use</td>
</tr>
</tbody>
</table>

Source: FIMI
Industry Structure

The Indian steel industry has been classified into main producers (SAIL, Tata steel and Rashtriya Ispat Nigam), major producers (plants with crude steel making capacity of over 0.5 million tonnes – Essar Steel, JSW Steel, Jindal Steel and Power and Ispat Industries) and other producers. ‘Other producers’ consists of numerous companies producing crude steel, finished steel (long/flat product), pig iron and sponge iron.

Major Players

In response to the favorable demand outlook, domestic and global producers have announced major steel projects in India. According to the Steel Ministry’s annual report for 2008-09 (the latest available), various states have signed MoUs for 222 projects with cumulative capacity of around 276 mtpa, scheduled for completion by the end of 2019-20. However, it is unlikely that all these projects will actually fructify. Interestingly, Chhattisgarh has signed 74 MoUs for a capacity of only 56.61 million tones, taking the average project capacity to 0.765 million tones.

- During the 11th five year plan, the Scheme For Promotion Of Research And Development In Iron & Steel Sector has been approved with a budgetary provision of Rs 118 crore for implementation. The objective of the scheme is to develop path-breaking technologies in an environment-friendly manner.
- The Planning Commission for the 11th five year plan (2007-12) has projected a total demand of 70.34 million tonnes for finished steel and total production of 80.23 million tonnes of crude steel by 2011-12.

SAIL

World Steel Dynamics (WSD), a leading steel information service provider, has ranked state-owned steel maker Steel Authority of India (SAIL) second in its list of world-class companies in the field. Korean steel maker Posco is ranked first.

The WSD ranking is based on 23 parameters that include size, expansion plan, adoption of new technology and products, pricing power, raw material security, labour and energy cost.

With a production capacity of 13 million tonnes, SAIL is the largest domestic player with forward and backward integration, enjoying a market share of about 20%. It has access to captive resources — this is, 100% of its iron ore requirements and 60% of its coking coal needs come from self-owned mines.

SAIL produces and sells a broad range of steel products — both in flat and long categories — which includes hot/cold rolled products, galvanised products, railway products, bars and rods, structural and other alloy steels.
The company has the distinction of being India’s largest producer of iron ore after NMDC. This gives SAIL a competitive edge over others in terms of iron ore sourcing. The company is currently implementing a modernisation and expansion plan through the brown field route to expand its capacity of saleable steel to over 23 million tonnes by FY12.

The company has five integrated steel plants -- at Rourkela, Bhilai, Bokaro, Durgapur and Burnpur. It also has three special steel plants -- at Salem, Durgapur and Visvesvaraya (Karnataka).

Tata Steel

Tata Steel is the world’s sixth largest steel company, with an existing annual consolidated crude steel production capacity of 30 mtpa (6mt in India, 22mt from Corus and the rest from Thailand and Singapore). The company is the world’s second most geographically diversified steel-maker. It enjoys a market share of 11% in India. With high backward integration, it is the lowest cost producer in the world. Tata Steel’s European division, Corus, has cut production due to Europe’s recessionary environment. It has a current product mix of 65:35 (Long: flat).

JSW Steel

JSW Steel, the flagship company of the JSW Group, is India’s second largest private producer with a capacity of 7.8 million tonnes on a stand-alone basis. The company’s upstream steel-making facility is located in Vijayanagar, Karnataka, and the downstream facility in Maharashtra. The company has a presence in the overseas market too, mainly with the Houston Plate & Pipe Mill in the US, an iron ore mine in Chile and a coking coal mine in Mozambique.

The company’s products range from MS slabs, HRCs to value-added products like galvanised coils/sheets and CRCs/sheets to long products. The company is on the verge of a major expansion plan of adding 3.2 million tonnes to its current capacity of 7.8 million tonnes in India, which will take the current capacity to 11 million tonnes by 2011.
Comparison

With the recent steep increase in raw material prices, non integrated players like JSW Steel, which have no captive resource, will be at a major disadvantage compared to other major players.

If we compare the debt/equity ratios of all major players, Tata Steel’s balance sheet looks really strained (With a d/e ratio of around 1.7 for 2009-10). Tata Steel is highly leveraged, especially after the acquisition of Corus in 2006, and also with major expansion plans for the near future.

In the current scenario, where weak demand has lead to an adverse effect on international prices, Tata Steel’s balance sheet is under further pressure. SAIL is cash rich and less leveraged, with sufficient cash flow for its huge expansion plans. It is less affected by price changes.

Note: The cost pressures for steel companies are unlikely to ease in the first half of FY11. This will threaten profit margins, particularly in the July-September quarter (Q2), as sluggish demand prevents producers from raising prices even as they are plagued by high input cost.
Global Scenario

The global steel industry’s growth has been robust during 2003-2008, marked by increasing consolidation among large players. Steel consumption and production expanded at a CAGR of 6.5% during the time. However, the trend had a sharp reversal in the second half of FY08 with a huge slowdown in both production and consumption.

With major steel producing nations cutting production, and with a bleak overall GDP forecast for the next two years, we expect world steel production and consumption to increase only by 2% in 2010-11.

Whatever little growth projection has been made for the global steel industry is mainly based on the performance of developing countries like India and China. In fact, we expect future growth also to be driven by these countries.

Chinese Economy

Figures from the World Steel Association show that approximately 158 million tonnes of steel were produced in China during the first quarter of the year. In addition, steel production peaked at 55.4 million tonnes in April 2010, a 27% increase on April 2009, representing the highest amount of crude steel that China has ever produced in a single month. This dramatic surge in production has led to price correction in the past few weeks in China.

In January 2010, Chinese steel prices were approximately $500 per tonne, rising to a peak of $700 per tonne in early April. However, overproduction has led to prices falling back to $550 per tonne by mid-May.

The revival of demand in the sector was led by China after the global crisis. China is the biggest consumer as well as producer of steel. It accounted for 47.7% of world steel consumption in 2009. Hence, the over-production and subsequent decline of prices will have significant effect on global market.

Recent changes have changed the scenario to some extent. China, is removing the incentive on commodity exports. With effect from July 15, 2010, China will lift the 9% export rebate on commodities, including steel products such as hot and cold rolled coil grades and certain long products. These products form a major chunk of China’s commodities exports.

Meanwhile, the renminbi has been gradually appreciating. This, along with the removal of export incentives on commodities, could hit its export competitiveness. This will go in favour of the rest of the world, which has been grappling with excess capacity. Producers in the west recently announced cutbacks as demand from steel consuming industries like auto and construction slipped. The world’s top steel maker ArcelorMittal has announced idling of three European blast furnaces due to low demand.

Cheap Imports

Also, the domestic steel sector may face threat from cheap imports. Especially with import duties (5%) on steel being among the world’s lowest in the world. Import pressures could consequently lead to pressure on margins of domestic companies on account of lower steel realisations. However, if the government increases the import duty, the domestic steel industry could get some degree of protection.
Growth Potential

- The government plans to raise infrastructure spending from the current 5% of the GDP to 10% by 2017.
  - Given India’s double-digit energy deficit, one third of the allocated amount or infrastructure spending is directed towards power sector. The Indian power sector may expect orders for over 100 giga watts, worth Rs 1.1 lakh crore over the next 2-3 years. Besides power plant construction, steel will also be extensively used in making pipelines and power equipment.
  - For the roads and bridges sector, the 11th five year plan envisages a total investment of approximately Rs 1.6 lakh crore. Construction of new ports, new terminals in existing ports, expanding the railway network and building new roads, especially ones involving bridges, will be the key drivers of steel demand.

- India’s per capita consumption is a dismal 47kg compared to the global 190kg and 250kg in China. Hence, the scope for improvement is huge. In rural areas, per capita consumption is a dismal 3kg.

- India has witnessed a significant upturn in steel demand, owing to the automobile sector. Increasing disposable income of the urban middle class, availability of easy credit terms and launch of new models by manufacturers, together have turned India into an auto hub. According to the Society of Indian Automobile Manufacturers (SIAM), the country’s auto industry is expected to grow by 10-15% in FY11.

Govt Measures And Budget 2010

- Finance minister Pranab Mukherjee provided Rs 1,73,552 core -- constituting over 46% of the total planned allocation -- for infrastructure development in Budget 2010.

- The steel ministry has stated that, going by MoUs signed by private producers with various state governments over the past few years, India’s capacity could potentially go up to 293 million tonnes by 2020. However, the National Steel Policy 2005 seems to be a bit more realistic with steel production target of only 110 million tonnes by 2019-20.

- Currently, import duty on steel items is 5%. There is none on raw materials such as scrap or coking coal. But, to protect long-term interests of domestic industry, the government recently hiked export duty on iron ore fines to 15%.

- Of the total outlay of around Rs 17,200 crore in Budget 2010 for the ministry of steel, Rs 12,254 crore (around 70%) has been provided for the Steel Authority of India (SAIL).
  - SAIL, which at 13mtpa production capacity is the biggest domestic steel player, is all set for major expansion and technology upgrades to make it more efficient and world class.

- A scheme for promotion of research and development in iron and steel sector in the 11th five year plan has been approved with a stipulated spending of Rs 118 crore.
Roadblocks

Some possible constraints to the otherwise remarkable growth could be:

**Rising Raw Material Prices**

Rising raw material prices had become a concern for steelmakers worldwide, including in India. Spot prices of iron ore and coking coal had risen by almost 60-70% from the 2009 levels. India’s largest iron ore producer, National Mineral Development Corp (NMDC), has already announced a provisional hike of 34-56% in base prices in April 2010.

While for iron ore fines, the hike is 34% to Rs 2,600 a tonne, for calibrated lump ore it is 46% to Rs 3,800. In March 2010, coking coal prices were hiked by almost 55% to $220/tonne for all long-term contracts. This will increase the cost pressure on companies. The recent demand softening and easing of steel prices have put pressure on raw material prices as well. Spot prices of iron ore fines have dropped about $60 a tonne and that of coking coal by $20 a tonne.

Ore prices are currently hovering at $120 a tonne and coking coal at $200 a tonne. The recent plunge in iron ore prices has been mainly driven by recent expectations of production cut in China as per the Steel Business Briefing survey.

However, as the $200 per tonne coking coal price contracts have begun to kick in from July, we expect prices to remain firm due to demand. Also, though prices have dropped, they are still higher than 2009 levels.

**Financing Capacity Expansion**

Steel is a capital intensive industry with high fixed cost. To reach the projected CAGR of 7.3%, projects of around 60mtpa will be needed to be commissioned in the next 3-4 years. Such large projects will need an investment of Rs 2.5 lakh crore. Profitability of domestic producers weakened in the second half of FY09. It has picked up in the last 3-4 quarters.

Still, internal accruals of manufacturers would be low compared to the estimates at the time of announcement of projects. With a steep hike in raw materials, profit margins will also be under severe pressure. So, dependence on external sources to finance the capital expenditure be larger.

Although the Indian equity market has recovered in recent times, its ability to fund such large projects remains uncertain given the scale of government borrowing scheduled for 2010-11.

Bank financing, however, remains a possibility since the Indian banking system still has some liquidity buffer at present. There could be uncertainty over the lender’s willingness to finance such large-scale projects in the event of steel prices falling again in future. The capital structure of the steel makers can deteriorate due to lower internal accruals and heavy capital expenditure.

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<tr>
<th>Major Players</th>
<th>Expansion Plan</th>
<th>Capex Requirement (Rs crore)</th>
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<tbody>
<tr>
<td>SAIL</td>
<td>23mt</td>
<td>54,000</td>
</tr>
<tr>
<td>Tata Steel</td>
<td>23mt</td>
<td>70,000</td>
</tr>
<tr>
<td>JSW steel</td>
<td>10mt</td>
<td>10,000</td>
</tr>
</tbody>
</table>
Indian Steel Sector: A SWOT Analysis

Strengths

- Sixth largest iron ore reserves (25 billion tonnes) after Ukraine, Brazil, Russia, China and Australia.
- It has the third largest pool of technical manpower capable of understanding and assimilating new technology. Considering the quality of its labour force, the Indian steel industry’s low unit labour cost is reflected in the cost of production. (SAIL is one of the world’s lowest cost producers).

Weakness

Unavailability of certain key raw materials (such as, coking coal) poses a challenge for the industry. Major players depend mainly on imports. With prices peaking in global market, this adds to cost of production. Most of the weaknesses in India are, however, classified as systemic deficiencies.

- Low labor productivity: The advantage of cheap labour gets offset by low productivity. For instance, while Tata Steel’s productivity is 214 tonnes/man-year, for POSCO it is 1,345 tonnes/man-year.
- High cost of capital: Steel is a capital intensive industry.
- High cost of basic inputs and services: High administered prices of essential inputs such as electricity puts the industry at a disadvantage. Freight rates too have risen to Rs 400/tonne.
- Delay in adoption of new technology.
- Lack of expenditure in research and development

The Indian steel industry also lacks international competitiveness on determinants like product quality, product design, on time delivery and distribution network.

Opportunity

- The emphasis on infrastructure development to achieve a GDP growth rate of 10% in itself presents a huge opportunity for the steel industry’s growth.
- Unexplored rural market: The Indian rural market remains fairly unexposed to the multiple use of steel. Per capita consumption in rural area is as low as 3kg. Enhancing the application of steel in rural areas assumes a much greater significance now in increasing consumption.
- Export market penetration: It is estimated that world steel consumption will double in next 25 years. Quality improvement in Indian steel, combined with India’s low-cost advantage, will definitely help make substantial gains in the export market, especially in China.

Threats

- India has turned into a net importer in 2009-10. Indian manufacturers face a threat from cheap imports of China. Although government has already taken measures by raising the import duty as well as imposing an anti-dumping duty on certain high-end stainless steel products, there is a tangible gap between domestic production and consumption which has to be filled by imports.
- India has turned into a net importer in 2009-10. Indian manufacturers face a threat from cheap imports of China. Although government has already taken measures by raising the import duty as well as imposing an anti-dumping duty on certain high-end stainless steel products.
- Technological change: For developing country like India, where capital itself is costly, technological obsolescence is a major threat.
- Low import duty on steel.
- Substitutes: Increasingly steel is being replaced by aluminium in the automobile sector to reduce vehicle weightage. In addition, huge sums of R&D funding have been committed across the world to test whether plastics can replace steel in terms of strength and durability.
Annexure

The products of major steel players in India are broadly divided into three categories: long, flat and semi finished.

Flat Products

Products such as hot rolled coil, sheets and skelp, cold roll coil and GP/GC sheets fall in the flat product category. Cs are primarily used to make pipes and have many direct industrial and manufacturing applications, including construction of tanks, railway cars, bicycle frames, ships, engineering and military equipment and automobiles.

Tata Steel is the largest producer of HRCs, sheet and skelp in India. Cold rolled sheets and coils are primarily for precision tubes, containers, bicycles, furniture. They are also used in the automobile industry to make car body panels, besides in consumer durables such as washing machines and refrigerators.

Long products

Bars and rods fall in this category and are used by the construction industry.

Semi finished

Major steel players produce semi finished products including booms, billets and slabs that are converted to finished product in their processing plants and to some extent sold to re-rollers for conversion to finished products.

Other products

Railway Products: Railway products, including rails, wheels and axles, sleeper and fish plates (used to connect and strengthen rails), are produced through a process of hot rolling blooms in the finishing mills and forging ingots and blooms in the forging press or hammer. Railway products are used primarily to upgrade and expand the existing railway network in India.
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