18 March 2010 (No. of pages: 33)

India Research Trip Report (Mainly Steel, Automobile Sectors)

Big elephant shifting to acceleration mode; will India follow China?

Japanese report: 11 Mar 10

Financial Research Center
Jiro Iokibe
Hirosuke Tai

Summary

- During 2-6 March, we visited India and interviewed representatives of Indian and Japanese firms in Mumbai and Delhi (including factory visits). We visited mainly local steel, machinery, automotive firms as well as Japanese general trading houses.

- Our view on the Indian economy after our research trip is as follows: (1) the Indian economy has entered a sustainable growth stage, with significantly strong economic sentiment, (2) it will take some time before infrastructure is improved, which is a major challenge, but we confirmed steady progress, and (3) growth is less explosive than in the Chinese economy, but more stable and sustainable expansion is likely. Nevertheless, the Indian economy is unlikely to be able to make up for negatives in the case of a slowdown in China, at least for the next five years.

- We now expect the automobile and motorcycle industries to show sustainable growth supported by increased population and diffusion rates as well as economic growth. Establishing infrastructure in electric power, water supply and sewer systems, railway, and roads will provide a huge business opportunity for capital goods and general trading firms. On the other hand, the need for lower selling prices and delivery delays are risks. Japanese players need to establish risk control systems in cooperation with the government given the large scale of many projects.

- India's domestic crude steel production rose 3% y/y to 56.6 million MT in 2009. There are a lot of plans for new blast furnace projects and capacity additions by major domestic steel makers and foreign firms including Posco and ArcelorMittal. The Indian Ministry of Steel expects annual crude steel production to reach 124 million MT in FY11 and 295 million MT in FY19. However, some new projects are facing delays mainly due to the land appropriation problem. Based on our visit to three Indian steel companies, we confirmed that (1) firms are eager to increase steel production, (2) success in appropriating land for new projects varies by company, and (3) local iron ore production sites allow for cheap procurement, a major advantage.

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- The iron grade of India's ore is high, and production costs at the mining stage are a low $10-15 per MT. However, export taxes (5%-10%) are imposed, in addition to high railway shipping and port costs. The Indian government has made a policy of prioritizing domestic iron ore supply. Thus, there is a strong likelihood that growth in iron ore exports from India will cool off over the medium term. Currently, India imports more coal than it exports. Over the medium term, India is expected to step up metallurgical coal imports in line with growing steel production and increase thermal coal imports for large-scale coal-fired power generation.

- Indian operations by major Japanese trading houses contribute only a small proportion to their overall earnings, although they intend to enhance operations there. Cumulative Indian investments range from only Y10 billion to Y20 billion each, with the main trading fields in automobiles, chemicals, iron ore and other natural resources, and machinery.

Contents

Note: Most Indian firms close FY in March if not otherwise specified.

Firms/institutions Visited

	City	Company	Code
2 Mar	Mumbai	JSW Steel	JSTL IN
		Tata Motors	TTMT IN
		Itochu	8001 JT
3 Mar	Delhi	Japanese Chamber of Commerce & Industry in India	-
		Sumitomo Corporation	8053 JT
		Bharat Heavy Electricals	BHEL IN
		Marubeni	8002 JT
4 Mar	Delhi	Steel Authority of India	SAIL IN
		Mitsui & Co.	8031 JT
		Hero Honda	HH IN
5 Mar	Delhi	Kobelco Construction Equipment India	-
		Oil and Natural Gas Corporation (ONGC)	ONGC IN
		Jindal Steel & Power	JSP IN
6 Mar	Delhi	Maruti Suzuki India	MSIL IN

Overview of Indian Economy

Will India follow China?

The main purpose of the India research trip was to assess current local economic conditions, especially the burgeoning automotive and steel industries.

The Indian economy recovered from the global economic downturn ahead of other regions. Our focal points included (1) economic sentiment there and (2) sustainability of the recovery. In a broader sense, we focused on whether (1) India will follow China and (2) the Indian economy can cover negatives in the case of a slowdown in China.

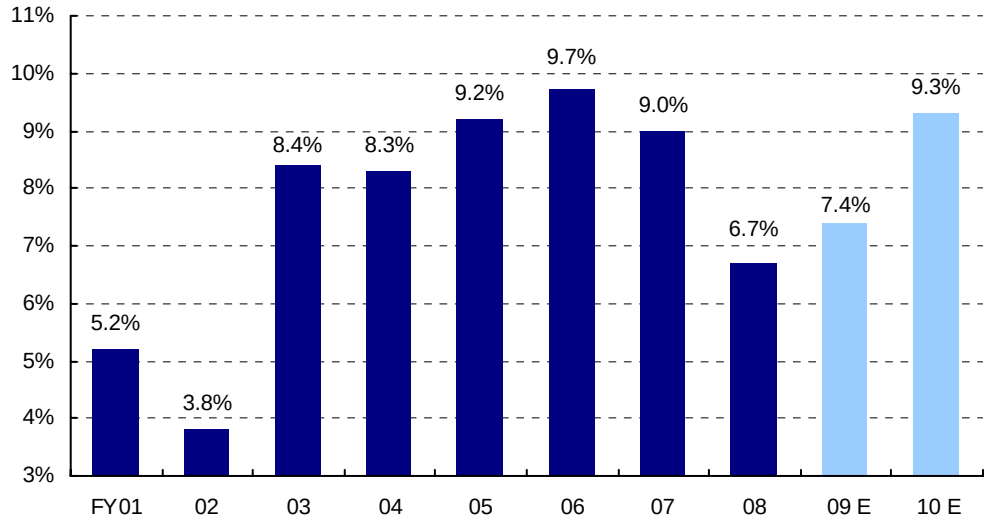
Our view on Indian economy

Our view on the Indian economy after our research trip is as follows: (1) the Indian economy has entered a sustainable growth stage, with significantly strong economic sentiment, (2) it will take some time to improve infrastructure, which is a challenge, but we confirmed steady progress, and (3) growth is less explosive than in the Chinese economy, but more stable and sustainable expansion is likely. Nevertheless, the Indian economy is unlikely to be able to make up for negatives in the case of a slowdown in China, at least for the next five years.

Indian economy shifting to acceleration mode

Our impression of the Indian economy is that its long-dormant potential power is moving actively. Although there are no high-rise buildings like in China, we saw some metro construction projects and civil engineering work in Delhi, which has an extraordinary number of passenger cars and motorcycles. According to Maruti Suzuki India dealers, customers have to wait several months before they can get a new car delivered, verifying sharp growth in automobile and motorcycle sales. The growth potential of the Indian economy is considered strong, judging from the young population structure (average age is 24 for population of 1.1 billion; people younger than 25 account for 54% of total) and low per capita GDP ($1,068/person in 2008). We now think that the big elephant that is the Indian economy is shifting to an acceleration mode.

Real GDP Growth in India **Chart 1**



Source: Bloomberg; compiled by Daiwa Securities CM.
E: Daiwa Securities CM Singapore estimates.

Challenge is infrastructure establishment

It could take some time before infrastructure is improved, which is a challenge, given the shortage of financial resources and the land expropriation problem. Most staff at Japanese firms there (including general trading houses) pointed out that poor infrastructure is an obstacle for business activities and the biggest factor holding back economic growth. In particular, infrastructure in railway transport, port facilities, and electric power supply is weak. For cargo railway transport, we heard that it sometimes takes five days from Delhi to Mumbai (1,500 km) due to prioritizing passenger transport. As electric power supply capacity is short, there were blackouts several times at hotels or offices during our stay.

As an aside, we had some meetings with executives of major Indian firms, but they did not appear to be particularly conscious of China.

Ranking in Infrastructure Establishment (universe: 133 nations) **Chart 2**

	Overall	Road	Railway	Port facilities	Airline	Electric power supply	Telephone
India	**89**	**89**	**20**	**90**	**65**	**106**	**103**
China	**66**	**50**	**27**	**61**	**80**	**61**	**49**
Japan	17	22	2	34	53	11	30

Source: World Economic Forum; compiled by Daiwa Securities CM.

Jiro Iokibe

Maruti Suzuki India (MSIL IN)

Business Overview

50% share in India

The firm is an automobile maker with a nearly 50% share in the Indian market. It was established in 1981 as a joint venture (Maruti Udyog at that time) by the Indian government and Suzuki Motor. The firm started to supply quality cars at reasonable prices for Indian people in 1983, with the launch of the *Maruti 800* (*Alto* in Japan).

Initially, the No. 1 Gurgaon plant was in charge of all production activities. In 1994 (13 years after foundation) when the firm achieved cumulative production volume of one million units, the No. 2 plant started operations. The firm drove market growth via boosting production volume by one million units per three years (two million in 1997, three million in 2000).

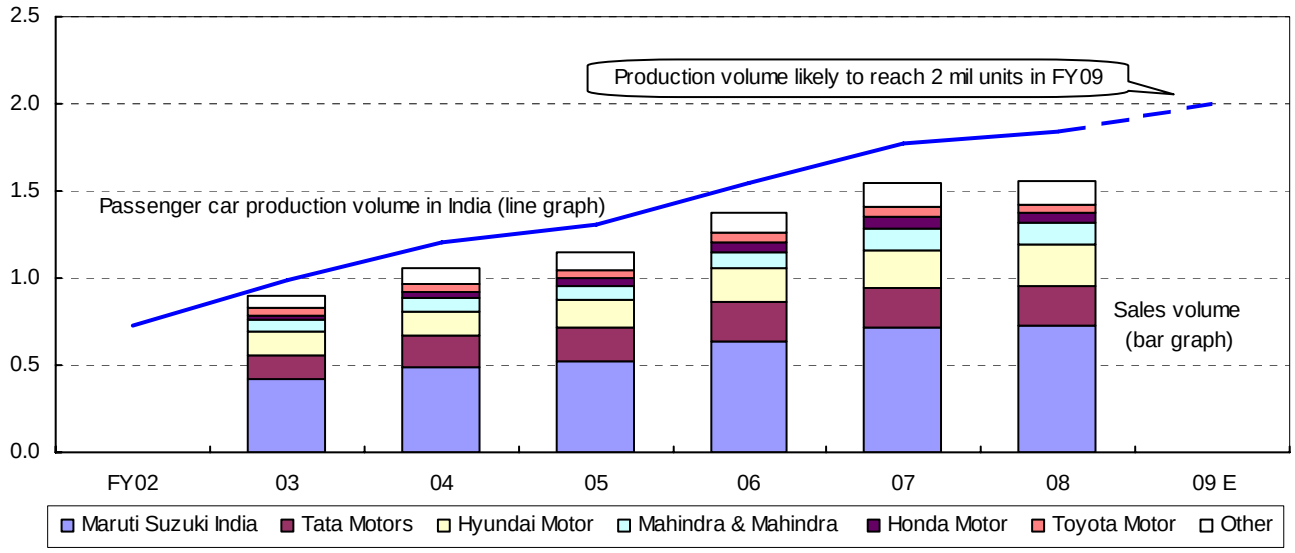
The No. 3 Gurgaon plant was opened in 1999 and the Manesar plant in 2007 in order to raise production capacity. Current annual production capacity is 700,000 units at the Gurgaon plant and 350,000 at the Manesar. Furthermore, the firm is to add a production line (200,000-250,000 units/year) in the Manesar plant in January 2012. There are about 4,500 employees at Gurgaon and 2,500 at Manesar.

Market Environment

Domestic demand likely reached two million units in FY09

In FY08, automobile sales volume in India was around 1.55 million units, of which some 700,000 were sold by Maruti Suzuki India (market share of 47%). For comparison, Hyundai Motor ranked second (240,000 units; market share of 16%), Tata Motors ranked third (230,000, 15%), and Mahindra & Mahindra ranked fourth (120,000, 8%). Meanwhile, Japanese Honda Motor and Toyota Motor had only about 3% market share each. Total sales volume in India is likely to grow to around two million units in FY09, though breakdown by maker has not been disclosed.

Passenger Car Market in India (mil units) **Chart 3**



Source: Company materials; compiled by Daiwa Securities CM.
E: Daiwa Securities CM estimates.

Operations

Very short takt time of about 63 seconds

We visited the Gurgaon plant (three production lines), which has a three-decade history. The average takt time there is only about 63 seconds (vs. 60 seconds at light car Kyushu plant of Daihatsu Motor). Steel is procured as follows: 52% from domestic Tata Steel and Bhushan Steel and 48% from overseas including POSCO. The steel is processed by six press machines (all made by Komatsu; maximum 4,000 MT). The company said that productivity is almost the same as at Suzuki Motor's Hamamatsu plant, though comparable data was not disclosed. As a reference, some Y50 billion in capex is necessary for a plant with production capacity of 300,000 units/year. At the Gurgaon plant site, the firm also has an engine plant with a production capacity of 480,000 units/year (started in 2008).

Higher leverage to income than Japan

Automobile purchasers pay 28% of the selling price in cash and use financing for the remaining 72%. While the average selling price of the *Maruti 800* is 230,000 rupees (Y480,000), the average monthly income for the purchaser group is about 25,000 rupees (Y50,000), indicating high leverage compared to Japan. In addition, gasoline in India costs 50 rupee/liter (Y100/liter), but this translates into Y1,000/liter given the gap in price levels between the two countries. Thus, the running cost burden is not necessary light. According to the company, the average replacement period is around four years and a used car market already exists in India, the scale of which is almost same as that of the new car market.

Hirosuke Tai

Hero Honda

Business Overview

Honda has 26% stake

The Indian market has long been dominated by local private firms, but the partial economic liberalization since the latter half of the 1980s ushered in many overseas players. Teaming up with Hero Group, Honda formed Hero Honda in 1984. The firm's primary focus rests on motorcycles, though it has debuted one scooter model recently. Honda has a 26% stake in Hero Honda.

Honda established wholly owned subsidiary Honda Motorcycle & Scooters India (HMSI) in 1999 as the India government further loosened regulations, allowing foreign players to own a 100% stake in an India-based company. Instead of boosting its stake in Hero Honda, it formed a separate company to focus on the scooter market, while ensuring no cannibalization between the two.

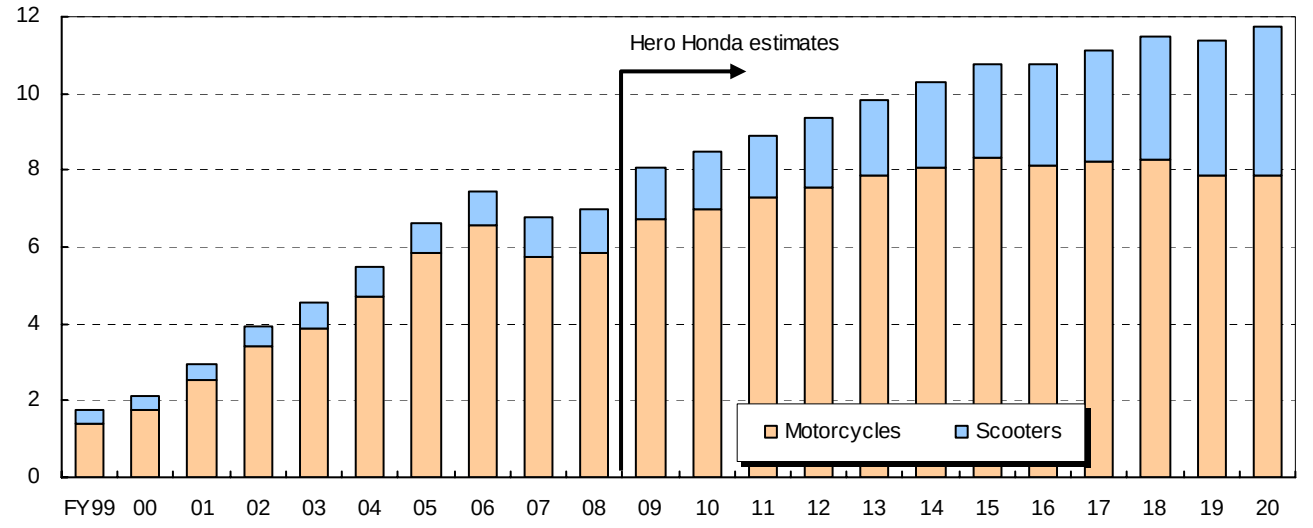
At the start-up, HMSI entered into an agreement with Hero Honda that prohibited entry into the two-wheeler market by HMSI for the first five years. Although gradual cannibalization has emerged recently, Hero Honda considers the competition minor, citing that (1) its lineups include just one scooter model, and (2) HMSI's two-wheelers are geared to sports, targeting customers with different tastes.

Market Environment

Indian two-wheeler demand to expand to 8.6 million units

In FY09, Indian two-wheeler demand is likely to expand to 8.6 million units in volume, with motorcycles accounting for 6.7 million, scooters, 1.4 million, and mopeds (75 cc or below), the rest. The figures for motorcycles and scooters would quadruple those in FY00 (1.7 million, 400,000).

India's Two-wheeler Market (mil units) **Chart 4**

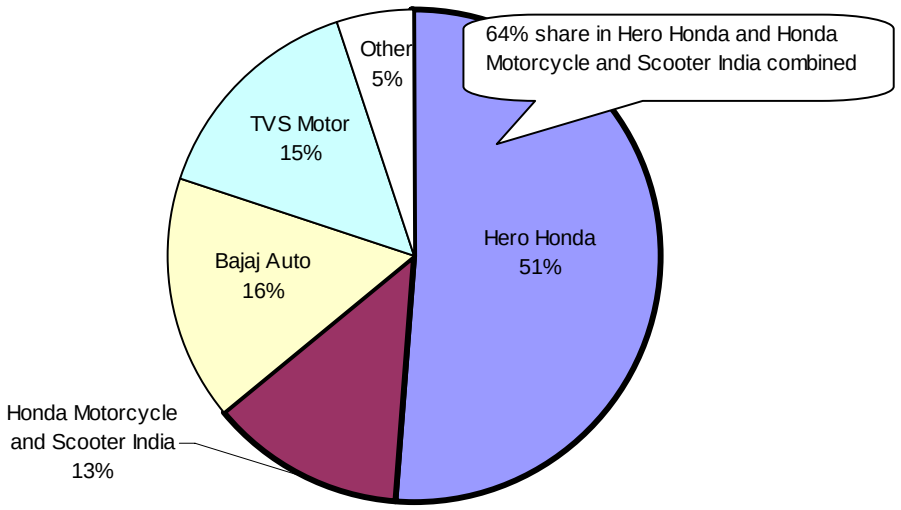


Source: Company materials; compiled by Daiwa Securities CM.

Honda commands 64% share

In the two companies combined, Honda boasts a commanding 64% share in the Indian market (Hero Honda, 51%; HMSI, 13%), followed by Bajaj Auto (16%) and TVS Motor (15%). Both Yamaha Motor and Suzuki Motor have only 2-3%.

Share Breakdown in India's Two-wheeler Market (FY09 estimates) Chart 5



Source: Company materials; compiled by Daiwa Securities CM.

In FY09, Hero Honda expects Indian demand for two-wheelers to rise to 8.6 million units and the country's production volume to reach 14 million. Of this, the firm anticipates 4.5 million units, a world record per-company production volume for the tenth straight year. Grand River (China; 3 million units) and Astra Honda (Indonesia; just under 3 million) will likely follow Hero Honda.

India's two-wheeler demand to top 12 million units in FY15

In March 2010, Hero Honda and HMSI are to boost their production capacity to 5.4 million and 1.55 million units, respectively. In addition, HMSI plans to invest 5 billion rupees in a second plant in Rajasthan State with production capacity of 600,000 units/year (state approval already granted). The firm envisages 1.2 million units/year for this factory in FY15, which would bring the two companies' combined capacity to 8.15 million/year. In this scenario, India's total two-wheeler demand would reach 12.7 million units (assuming two firms' share stays at 64% in 2015), outpacing Hero Honda's demand outlook (Chart).

Honda Group's Production Base in India Chart 6

	Capacity (mil units/yr.)		Workforce	Space (000 m^2)
	Feb 2010	Mar 2010-		
Hero Honda				
Dharuhera plant	1.95	1.95	4,500	248
Gurgaon plant	1.95	1.95	6,300	280
Haridwar plant	1.25	1.50	2,700	469
Total	5.15	5.40	13,500	997
Honda Motorcycle and Scooter India				
Manesar plant	1.25	1.55		
Honda Group Total	6.40	6.95		

Source: Company materials; compiled by Daiwa Securities CM.

Operations

Weighting of 100 cc model in total sales; 83%

At Hero Honda, the mainstay *Splendor* (100 cc engine) accounts for 83% of total sales volume. *Splendor* sells for around 40,000 rupees, while 125 cc and 150 cc models sell for 45,000 and 60,000 rupees, representing just under 10% and 5% of total sales volume. The 223 cc motorcycle accounts for a minor portion.

The firm has roughly 4,000 dealerships, including 700 core affiliated dealers. Its dealerships outnumber BAJAJ's 2,000-2,500 and continue to increase by 500 annually.

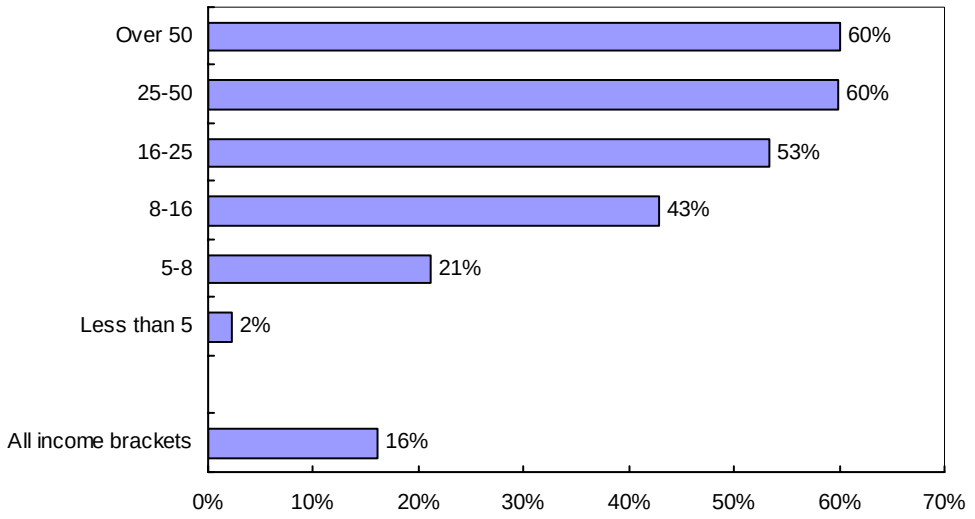
At Hero Honda, customers who take out motorcycle loans account for just over 40% in the total, while cash-paying customers represent the rest. Generally speaking, the monthly income of *Splendor* purchasers averages 10,000 rupees (Y20,000), indicating the motorcycle is still a relatively big-ticket item there.

Hero Honda's Sales Breakdown by Engine Class **Chart 7**

Displacement (cc)	% to total sales	Price (000 rupee)	Income brackets of main purchasers (000 rupee/month)
100	83	35-45	8-10
125	10	45	10-13
150	5	55-60	
223	2	90	

Source: Company materials; compiled by Daiwa Securities CM.

Two-wheeler Ownership by Household Income (CY08; 000 rupee) **Chart 8**



Source: Company materials; compiled by Daiwa Securities CM.

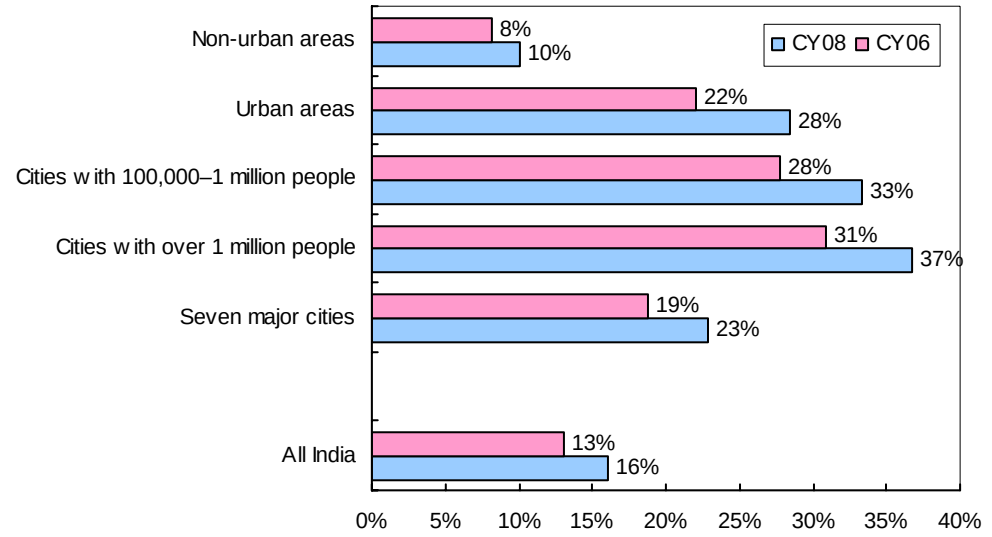
Impressive takt time; manufactures 5,000 units/day

Although specific figures are not disclosed, factory profitability at Hero Honda seems high given (1) an impressive 18-20 second takt time, (2) production volume of 5,000 units/day (per-line production of 2,000 units/day), (3) consistent use of its original 90 cc engine for the cab model with some enhancement, (4) the fact that local sourcing accounts for an impressive 95% of total procurement (even recently opened Haridwar factory sources high 75% of parts locally). However, a labor union was formed at Dharuhera factory and workers at Gurgaon followed suit in 2009, so wage negotiations may sour (factory wages based on production volume).

Motorbike ownership still hovered at 16% in 2008

Of the 1.2 billion Indian population, 450 million (near 40% of total) are from the firm's target income bracket (100,000-500,000 rupees). In 2020 it expects 620 million people (near 50%) to fall under this income group, with total population reaching just over 1.3 billion. By simple arithmetic, the expected rise in the income bracket would translate to a maximum 17 million units in annual demand, which looks hefty. That said, motorbike ownership in the total population stood at only 16% in 2008, below 35% in Thailand and Vietnam and 20% in Indonesia. These figures seem to suggest significant room for growth. Apart from the market outlook, our interview with company officials also dealt with dealership inventory, but this topic has never become an issue for the president.

Two-wheeler Penetration Rate in India **Chart 9**



Source: Company materials; compiled by Daiwa Securities CM.

Hirosuke Tai

Kobelco Construction Equipment India

Business Overview

20MT hydraulic excavators represent half of total sales

We visited Kobelco Construction Equipment India, the Indian base of Kobelco Construction Machinery, a subsidiary in which Kobe Steel has an 80% stake. Founded in February 2007, the Delhi-based firm has a branch office in Chennai and employs 53 to conduct sales, offer services, and provide dealership training across India. Of total sales, 20 MT class hydraulic excavators account for 50%, 6 MT/10-13 MT class, 25%, and mining equipment, the rest.

Market Environment

India uses equipment for longest

We think two factors characterize the Indian market. First, hydraulic excavators are typically used for long hours in India, making durability a more important factor than in China and elsewhere. Specifically, operating time often lasts as long as 20 hours/day (4,000-5,000 hours/year). Of note, the Indian government prohibits the use of satellite monitoring systems due to Indo-Pakistani relations.

Second, the Indian government has been slow to act on greenhouse gas emission controls. Specifically, it still allows sales of Tier I equipment, for which gas emission is calculated by the most lenient IPCC (Intergovernmental Panel on Climate Change) approach, while advanced economies such as Japan, Europe and the US mandate compliance with the stricter 2006 emission standards.

Telcon, a joint venture between Hitachi Construction Machinery and TATA Group, has just over a 40% share in the Indian hydraulic excavator market, followed by L&T Komatsu, a joint venture between Komatsu and L&T Group (just over 30%), then Volvo and JCB. In the 20 MT class alone, L&T Komatsu has just over a 40% market share and Telcon about 35%. Kobelco shares are minimal in both the overall market and the 20 MT category largely because the firm imports finished products, while Komatsu and Telcon manufacture locally. More specifically, the firm lags peers as (1) its selling prices are 10% higher due to import taxes and other factors, and (2) its distribution network has yet to expand (details later).

Commercial customers, loose deadline, characterize projects in India

China is also growing rapidly, but is apparently different from India in two aspects. First, Indian customers are primarily corporations, while they are mostly individuals in China. Second, projects typically face time management issues in India (vs. rush construction in China). While the difference partly stems from cultural differences, it also reflects the fact that Indian municipal governments mandate employers to retain certain headcounts in a bid to provide jobs.

Indian market represents just over 10% of Chinese market

The Indian excavator market has grown roughly 30% annually since FY03, reaching 5,000 units in FY05 and then 10,000 in FY07. Although the fallout from the financial crisis will likely depress the figure to roughly 8,000 in FY09, growth potential seems intact with volume possibly reaching 30,000 at around 2015. The market size is still small in India vs. the likely 80,000 units in China in FY09, but our focus rests more on India's significant growth potential.

Operations

New plant to come online in Sep. 2010

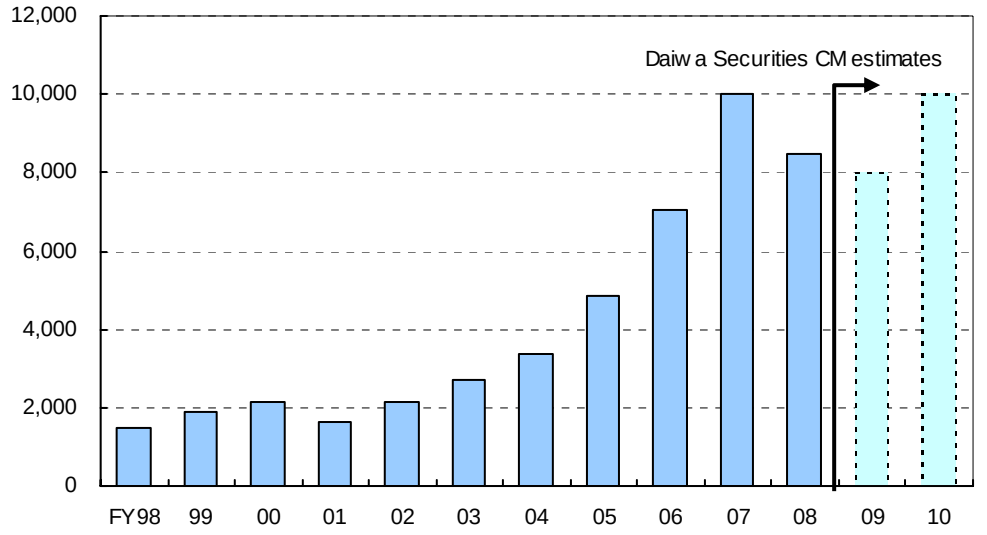
Although the firm currently manufactures products in Japan and Thailand and exports them to India, a local production facility will come online in the suburb of Chennai in September 2010. The firm plans to start mass production from January 2011 in a bid to quintuple current sales (3 billion rupees) down the road. The investments entail Y900 million in capex and 150 workers.

The firm is searching for local parts suppliers, but even after local production kicks off, it will likely continue to primarily import key components such as engines (supplied by Hino Motor) and hydraulic equipment.

The firm sells Tier III models, but L&T Komatsu handles Tier II and Telcon still markets a Tier I model, which results in a gap in selling prices. For example, it sells 20 MT hydraulic excavators at 5 million rupees, which are 4.4 million rupees at Komatsu, or 4 million rupees at Telcon. However, excluding import tax, the firm's selling prices are slightly lower than the other two.

The firm has 45 branches and 15 dealerships in 27 states. Customers typically make a 10% down-payment and borrow the rest from non-banks such as ICICI. Thus, the firm is exposed to no direct default risks.

Demand for Hydraulic Excavators in India (units) **Chart 10**



Source: Company materials; compiled by Daiwa Securities CM.

Hirosuke Tai

Bharat Heavy Electricals Limited (BHEL)

Business Overview

Manufacturer in energy and electric industries

This is an India-listed manufacturer in the energy and electric industry with a 68% stake owned by the government. The firm's business portfolio resembles those at Mitsubishi Heavy Industries and Kawasaki Heavy Industries. The power generation-related business accounts for 75% of its total sales.

70 export destinations

The firm's core offerings include boilers (technological partner: Alstom, France), steam turbines (Siemens, Germany), and gas turbines (General Electric, US). The firm currently serves 70 nations, including India.

Operations

The firm is currently capable of supplying turbines of up to 10 GW capacity for thermal power generation, almost double the FY07 level (6 GW). This contrasts with Mitsubishi Heavy Industries' 8-10 GW. It plans to boost capacity further to 14 GW in FY10 and to 20 GW in FY12. The plan underscores substantial capex plans in India.

National plan calls for 50% market shares

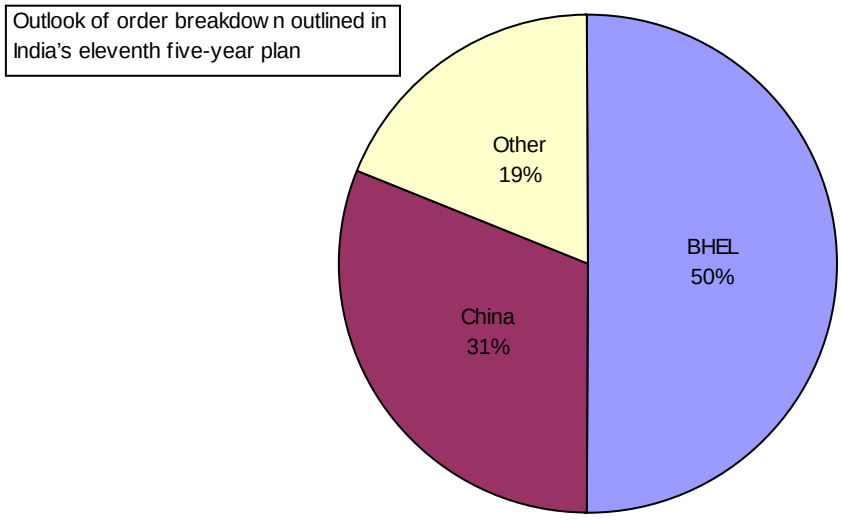
India's eleventh five-year plan through 2012 calls for a 50% market share (42 GW) in turbines for thermal power generation. Thus, capacity expansion and a shorter lead time are musts for Bharat Heavy Electricals. The twelfth plan through 2018 calls for a 100 GW power plant, another major business opportunity for the firm.

High profitability

The firm boasts high profitability. The worsened market environment eroded margins slightly y/y in FY09, but the EBITDA-to-sales ratio still stood at around 20%, well above 8% at both Mitsubishi Heavy Industries and Kawasaki Heavy Industries.

In April 2007, Mitsubishi Heavy Industries and L&T Group established a joint venture in Delhi to manufacture/sell supercritical pressure boilers. The joint venture is investing Y25 billion in launching a new production facility of up to 4 GW/year capacity in Hajira, Gujarat State (online in 2010). The new plant will use 500,000-1 million kW supercritical pressure steam turbines and boilers designed/manufactured by L&T.

Order Outlook for Steam Turbines in India **Chart 11**



Source: Company materials; compiled by Daiwa Securities CM.

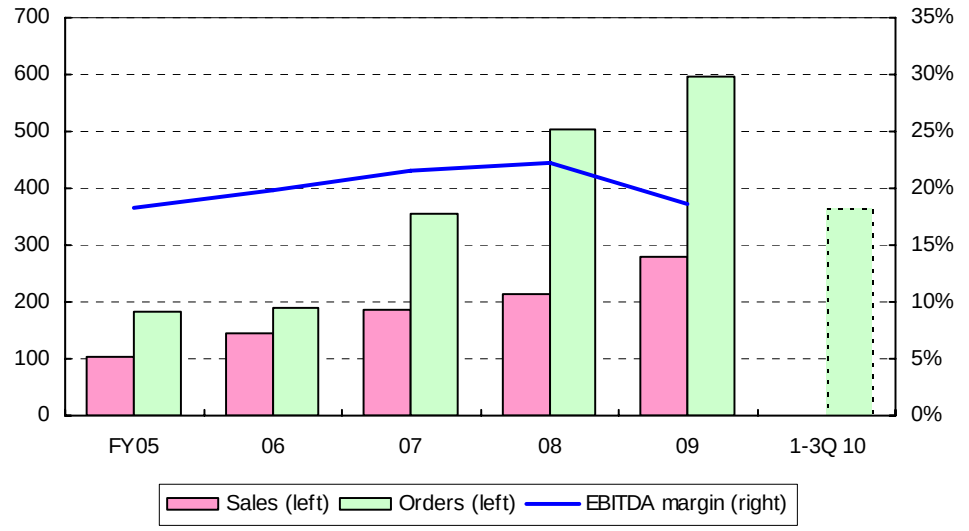
Competition with overseas rivals posing threat

We think two factors are posing a threat. First, a host of Chinese and South Korean rivals, such as Harbin Boilers (China), Dongfang Electric (China), Shanghai Electric (China), Doosan Heavy Industries and Construction (South Korea), and Hyundai Heavy Industries (South Korea), have made their entry into the Indian market. Second, a specification requirement for plant construction has become tougher (details below).

Shifting to supercritical pressure boilers critical

Supercritical pressure boilers are becoming mainstream at coal thermal power plants. Although start-up costs are higher, ultra supercritical pressure boilers produce greater power with less energy and are most advantageous in terms of total expenses incorporating running costs, followed by supercritical pressure boilers and superheated boilers. Notably, India's thirteenth five-year plan expects supercritical pressure boilers to account for 100% of total orders, rising from 60% in the twelfth and 23% in the eleventh plan. Thus, a shift to supercritical pressure boilers will likely prove a near-term challenge.

BHEL's Earnings Trends (bil rupee) **Chart 12**



Source: Company materials; compiled by Daiwa Securities CM.

Breakdown of Orders for Supercritical Pressure Boilers and Turbine Generators for Power Plants in India **Chart 17**

	Total orders for boilers	Nationality of boiler suppliers					Nationality of turbine generator suppliers			
		India	China	South Korea	Russia	Italy	India	China	Japan	Russia
Central government	3	1	0	1	1	0	1	0	0	2
State government	2	2	0	0	0	0	2	0	0	0
Private	13	2	9	1	0	1	2	9	1	1
Total	18	5	9	2	1	1	5	9	1	3
Capacity (gigawatt)	34.6	8.2	17.2	6.0	2.0	1.3				

Source: Company materials; compiled by Daiwa Securities CM.

Hirosuke Tai

Tata Motors (TAMT IN)

Business Outline

Holds more than 60% of Indian market for CVs, around 14% for passenger vehicles

The firm's share of India's market is more than 60% for commercial vehicles (CVs" and around 14% for passenger vehicles. Ninety percent of production is for the domestic market. Domestic unit sales increased an average of 11% during FY03-FY08, but this was broadly in line with the average growth rate in India's total domestic unit sales.

Tata Motors currently employs roughly 24,000 people and has four production bases in India. Operations at the first plant, in Jamshedpur, started in 1945. A second plant in Pune opened in 1960. Sites in Lucknow and Uttarakhand began manufacturing in 1992 and 2007, respectively. The firm makes only sedans (10-15% of production), small cars (60%), and utility vehicles (25-30%).

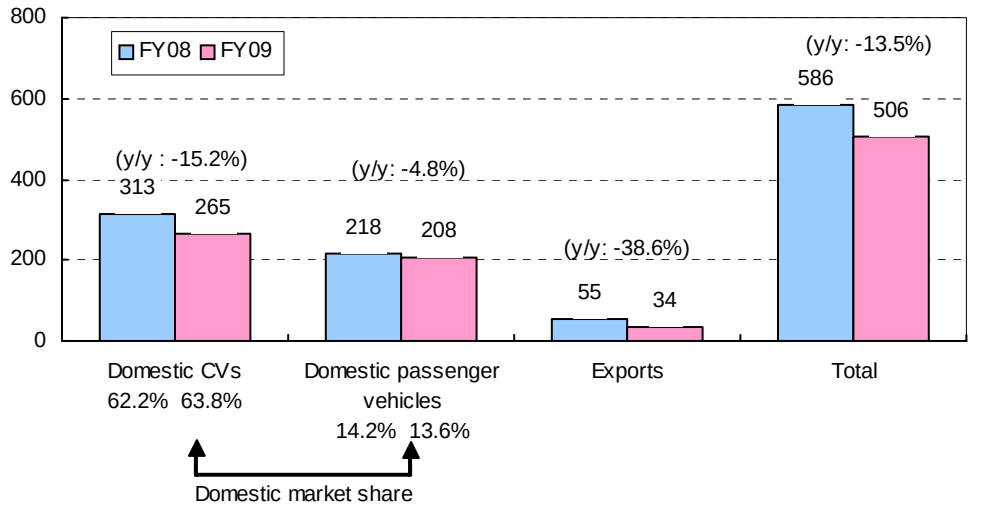
Tata Nano unveiled in Jan. 2008

The company announced plans for the ultra low-priced *Tata Nano* in January 2008. Spending on R&D and production capacity for the car, which hit the market in March 2009, totaled approximately Y50 billion. The firm reports there are already around 100,000 locked-in orders and that production, currently at an annualized 250,000 vehicles, looks set to soon rise to 350,000. There are three different classes, with the Rs180,000 (Y360,000) version accounting for 50% of orders followed by the Rs140,000 (30%) and the Rs120,000 (20%). We observed three *Tata Nano*s during our one week stay in India. Although quality is said to have been compromised in some aspects due to the extremely low price, our first-hand impression was positive.

EV launch in 2010

Tata Motors plans to release an electric vehicle in 2010. Powered by a Li-ion battery, the car is expected to hold its own it terms of driving distance compared to rivals.

Tata's Unit Sales and Market Share in India (000) **Chart 18**



Source: Company materials; compiled by Daiwa Securities CM.

Hirosuke Tai

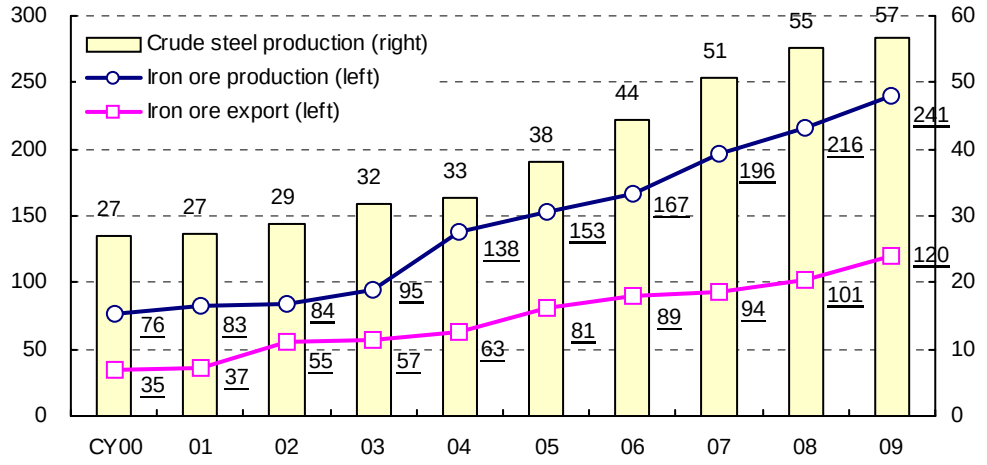
Trends in Steel and Materials

Trips to SAIL, JSW, JSPL

We visited three Indian iron and steel companies, SAIL, JSW Steel, and Jindal Steel and Power. We observed that (1) firms are eager to increase steel production, (2) success in appropriating land for new projects varies by company, and (3) local iron ore production sites allow for cheap procurements, a major advantage.

Steel mills are concentrated in Jharkhand, Orissa, and Chhattisgarh, eastern states rich in iron ore. Domestic crude steel production rose 3% y/y in 2009 to 56.6 million MT. It has grown 2.1-fold over the past ten years, but is still only about one tenth of China's (568 million MT in 2009) and roughly half of Japan's (119 million MT in 2008, 88 million MT in 2009). Steel material consumption per capita is only 45 kg (around 350 kg in China, 600 kg in Japan). Looking at end markets, 49% of steel products were used by construction firms, 29% by machinery manufacturers, 15% by secondary steel processors, and 4% by auto makers in FY07 (Apr 2007-Mar 2008). Of the 54.52 million MT of crude steel produced in the same time period, blast furnace production accounted for 47%, electric furnaces 20%, and induction heating furnaces 33%. Direct reduced iron (sponge iron) from domestic thermal coal came to 20.8 million MT. India is the world's largest producer of direct reduced iron, which is used as a material in making pig iron.

Indian Iron Ore Production and Exports/Crude Steel Production (mil MT)
Chart 19



Source: Indian Department of Commerce, CEIC, AME; compiled by Daiwa Securities CM; Some estimates by Daiwa Securities CM.

Much interest in new blast furnace projects, but progress faces challenges

There are several new blast furnace projects slated in India. Charts 20 and 21 demonstrate domestic and foreign companies have been increasing capacity, especially in the above-mentioned states with ample high-grade iron ore, and are moving forward with blast furnace construction. However, these projects tend to face delays due to problems with land appropriation and other factors. The Korean firm Posco's efforts to build an integrated mill by developing an iron ore mine in Orissa have been met with setbacks as local residents oppose the purchase of the land and approval for iron ore mining rights has been delayed. Posco announced its plan for the mill in 2005 and at the time intended to start construction in 2006 and complete the project in 2010.

Difficulties with land acquisitions

The Indian Ministry of Steel estimates annual crude steel production capacity is currently around 65 million MT and expects it to reach 124 million MT in FY11 and 295 million MT in FY19. However, delays in projects such as the one mentioned above will make it difficult to double production capacity within the next two years. That said, Bhushan Steel, started production with a new blast furnace in Orissa in January 2010, albeit on a small scale (2.2 million MT/year). As another encouraging example, JSW Steel's plans to build new blast furnaces in Orissa and western Bengal are going forward without land acquisition hang-ups thanks to the firm's success in getting the understanding and cooperation of local residents.

Crude steel production may break 100 million MT mark in 2015

India's annual crude steel production volume continues to grow at a rate of more than 10%, and we think it could reach 100 million MT in 2015 and 200 million MT in 2020. In comparison, China produced more than 50 million MT for the first time in 1986 but took until 1996 to reach 100 million MT and another seven years to hit 200 million MT. India shifted to a net importer of steel products in FY07. In FY08, it imported 5.78 million MT and exported 3.75 million MT. If domestic steel consumption (GDP elasticity estimated at 1.3) continues to grow 10-15% annually in volume terms due to expansion in the Indian economy, net imports of steel products should rise further.

Slated Crude Steel Capacity Additions at Indian Iron & Steel Firms (mil MT) **Chart 20**

Company	Current capacity (A)	Capacity after additions (B)	Increase (B) – (A)	Amount at new sites
SAIL	14.0	26.6	12.6	-
Tata Steel	6.8	33.0	26.2	23.0
JSW Steel	7.8	31.6	23.8	21.0
Essar Steel	4.6	21.6	17.0	12.0
Ispat Industries	3.6	3.6	-	-
JSPL	2.4	17.4	15.0	12.0
Bhushan Steel	-	7.5	7.5	7.5
ArcelorMittal	-	24.0	24.0	24.0
POSCO India	-	12.0	12.0	12.0
NMDC	-	13.0	13.0	13.0

Source: Report on Indian iron and steel demand and supply by Japan Iron & Steel Federation; compiled by Daiwa Securities CM.

Indian Crude Steel Production and Iron & Steel Projects (mil MT) **Chart 21**

Steel making capacity / crude steel production

FY	Capacity	Production	Capacity utilization rate (%)
03	43.9	38.7	88.2
04	48.0	43.4	90.5
05	51.2	46.5	90.8
06	56.8	50.8	89.4
07	59.8	53.9	90.0
08	64.4	54.5	84.7

Iron & steel projects

State	Proposals	Production capacity
Orissa	49	75.66
Jharkhand	65	104.23
Chhattisgarh	74	56.61
West Bengal	12	21.00
Other	22	18.20
Total	222	275.70

Source: Indian Ministry of Steel Annual Report 2008/2009; compiled by Daiwa Securities CM.

Iron ore

India ranks third in the world in iron ore exports. Annual production volume was 241 million MT in 2009, of which 120 million MT were exported. Reserves are around 25 billion MT. The grade of India's iron ore is high (Fe content around 60%) and personnel expenses are cheap. Thus, production costs at the mining stage are a low $10-15 per MT. On the other hand, export FOB costs from inland mines fall in the range of $50-60 per MT due to export taxes (5% for fine ore, 10% for lump ore) on top of high railway shipping and port costs. Sesa Goa, which has a mine near Port Goa, reports export FOB costs of around $13-14 per MT.

Growth in iron ore exports to slow

The Indian government has made a policy of prioritizing domestic iron ore supply. As such, there is a strong likelihood that growth in iron ore shipments from India will cool off over the medium term. Export tax hikes were announced and implemented in December 2009, raising the rates for fine ore and lump ore from 0% to 5% and 5% to 10%, respectively. Further hikes are rumored often.

Coal imports on uptrend

India imports more coal than it exports. As of April 2009, proven coal reserves stood at a high 267.2 billion MT. However, the quality of the coal is low due to high ash content so India must rely on imports, especially for metallurgical coal. Its proven metallurgical coal reserves are only 4.6 billion MT. It imported roughly 70 million MT of coal in 2009, of which 29.5 million MT was metallurgical coal and 42 million MT was thermal coal. Over the medium term, India is expected to step up metallurgical coal imports in line with growing steel production and increase thermal coal imports for large-scale coal-fired power generation.

Indian Iron & Steel — Chart 22

	Mills
A	ASAIL, Bhilai (Chhattisgarh)
B	SAIL, Durgapur(West Bengal)
C	SAIL, Durgapur (Orissa)
D	SAIL, Bokaro (Jharkhand)
E	SAIL, IISCO (West Bengal)
F	RINL, Virago (Andhra Pradesh)
G	Tata, Jamshedpur (Jharkhand)
H	Essar, Hazira (Gujarat)
I	Ispat, Dolvi (Maharashtra)
J	JSW, Vijayanagar (Karnataka)

New mill projects
Jharkhand
Tata, JSW, ArcelorMittal, JSPL
Orissa
Tata, JSPL, ArcelorMittal, Posco
West Bengal
JSW
Chhattisgarh
Tata, NMDC
Karnataka
NMDC

	Major iron ore mines
1	Barajamda
2	Bailadila (NMDC)
3	Goa
4	Donimalai (NMDC)
5	Bellary/Hospet
6	Kudremukh
	Major ports
a	Paradeep
b	Visakhapatnam
c	Chennai
d	New Mangalore
e	mormugao

Source: Various materials; compiled by Daiwa Securities CM.

Jiro Iokibe

Steel Authority of India (SAIL IN)

Company Overview

Operates five blast furnaces (mainly in eastern region)

SAIL is India's largest state-run steel maker. In 2008, it ranked 20th in the world for crude steel production (13.66 million MT). It is second only to Tata Steel (24.39 million MT), owner of Corus of the UK, in terms of global crude steel production among Indian firms. The government holds 86% of SAIL's stock, but this figure looks set to fall to 68% as the government plans to sell off shares. In addition to five blast furnace integrated mills in eastern India, SAIL has two mills for stainless and special steel production. The five blast furnaces are located at the Bhilai, Bokaro, Durgapur, Rourkela, and IISCO sites. All are close to the firm's iron ore mines.

100% of iron ore self-supplied

SAIL is unique in that 100% of the iron ore it uses comes from its own mines. It has a total of seven mines in Orissa and Jharkhand. It plans to expand two existing mines in Bolani and Gua and build a new one in Rowghat to bolster its iron ore supply as it raises steel production capacity.

Interview with Company Officials

We visited SAIL's headquarters in Dehli.

Business characteristics

SAIL's biggest strength is its ability to procure 100% of the iron ore it needs from its own mines. Because new blast furnaces can be built at existing sites, the firm does not face problems with land acquisitions when increasing capacity. Its major challenges are raising productivity and improving manufacturing technology.

Plans for capacity increases

The company holds the top share (25%) of India's steel market. It produces 14.4 million MT of pig iron, 13.4 million MT of crude steel, and 12.5 million MT of steel products annually. It is currently in the process of increasing production capacity, a plan split into two stages. The first stage aims to lift annual production to 23.5 million MT of pig iron, 21.4 million MT of crude steel, and 20.2 million MT of crude steel products in FY11 (Apr 2011-Mar 2012). As new blast furnaces will be constructed at existing plants, there is no need to acquire new land. The second stage of the plan involves increasing productivity and improving technology with the goal of ultimately raising annual production to 26.2 million MT of pig iron, 24.6 million MT of crude steel, and 23.1 million MT of steel products. The first and second stages of the plan are expected to cost $8 billion and $5 billion, respectively.

Product weightings, end markets

Sheet products make up 55% of total production, followed by long products such as steel bars, wire rods, and shaped steel at 45%. Around 20-25% of offerings are currently shipped in their semi-processed forms (slabs, billets, blooms), but the company has set its sights on increasing added value by beefing up rolling process capacity. By end market, 60% of products are used in infrastructure and construction and 30% in manufacturing (5% in auto production).

Headcount

The number of employees has declined from 180,000 ten years ago to 117,000. Despite the capacity increases, headcount looks set to fall to 100,000 in FY11. Every year 5,000-7,000 workers are lost through natural attrition.

Iron ore supply

The firm produced 23 million MT of iron ore in FY08, a level allowing it be totally self-sufficient. The Fe content is 62%. Existing mines have a lifespan of forty years. Production costs are $10-12 per ton, with transportation costs from mine to mill running Rp200-300 (around $4-6) per ton. The company plans to build new mines at two locations. It does not sell iron ore to outside firms.

Metallurgical coal supply

SAIL uses 14 million MT of metallurgical coal annually, of which 10 million MT are imported, mostly from Australia and Canada, and 4 million MT are bought domestically from Coal India. It does not presently use metallurgical coal from its own coal mines. Following capacity additions, it will likely import 17 million MT of metallurgical coal and procure 7 million MT domestically (4 million MT from Coal India, 3 million MT from its own mines).

Consolidated Earnings **Chart 23**

		FY02	03	04	05	06	07	08
Crude steel production	(000 MT)	11,087	11,828	11,827	13,177	13,194	13,649	13,148
(y/y %)		(5.9)	(6.7)	(0.0)	(11.4)	(0.1)	(3.4)	(-3.7)
Steel product shipments	(000 MT)	10,086	10,727	10,651	11,624	12,127	12,531	12,052
(y/y %)		(6.6)	(6.4)	(-0.7)	(9.1)	(4.3)	(3.3)	(-3.8)
Total revenue	(mil rupees)	187,068	233,632	315,986	297,136	359,697	419,819	463,099
(y/y %)		(20.1)	(24.9)	(35.2)	(-6.0)	(21.1)	(16.7)	(10.3)
Income before taxes	(mil rupees)	-4,630	27,279	94,637	57,822	95,188	115,896	95,443
Net income	(mil rupees)	-4,603	25,989	68,944	40,779	62,637	75,958	62,529
Net income margin	(%)	-2.5	11.1	21.8	13.7	17.4	18.1	13.5
(y/y %)		(loss)	(profit)	(165.3)	(-40.9)	(53.6)	(21.3)	(-17.7)

Source: Company materials; compiled by Daiwa Securities CM.

Quarterly Earnings (parent; mil rupees) **Chart 24**

	CY08 1Q	2Q	3Q	4Q	09 1Q	2Q	3Q	4Q	**(q/q)**	**(y/y)**
Total revenue	155,300	121,830	135,440	99,470	130,080	97,470	107,300	104,520	**(-2.6)**	**(5.1)**
EBITDA	40,340	31,660	34,340	16,840	25,680	24,160	29,250	29,900	**(2.2)**	**(77.6)**
EBITDA margin	26.0	26.0	25.4	16.9	19.7	24.8	27.3	28.6		
Income before taxes	36,650	27,930	30,670	12,560	22,870	20,060	25,190	25,400	**(0.8)**	**(102.2)**
Net income	23,770	18,350	20,100	8,430	14,870	13,260	16,630	16,800	**(1.0)**	**(99.3)**
Net income margin (%)	15.3	15.1	14.8	8.5	11.4	13.6	15.5	16.1		

Source: Company materials; compiled by Daiwa Securities CM.

Jiro Iokibe

JSW Steel (JSTL IN)

Company Overview

Core of Jindal Group

JSW Steel is India's largest private steel maker. Part of the Indian conglomerate O.P. Jindal, it is headed by Sajjan Jindal, the son of the founder. In 2008, it ranked third in India behind Tata Steel and SAIL and 69th in the world in terms of production (3.75 million MT). Current annual production capacity for crude steel is 7.8 million MT. In addition to two domestic blast furnaces in Vijayanagar, Karnakata (annual production capacity: 6.8 million MT) and Salem (1 million MT), it has two rolling mills. It employs roughly 7,500 people.

Interview with Company Officials

Proactive strategy

We visited the firm's headquarters in Mumbai. We were struck by management's aggressive plans, which include a strategic tie-up with JFE.

The firm continues to expand its crude steel production capacity. Annual crude steel production has climbed from 1.6 million MT in FY01 (Apr 2002-Mar 2003) to 7.8 million MT currently. Bolstered by a 3.2 million MT capacity increase at the Vijayanagar plant, the company aims to raise capacity to 11 million MT in FY10. Also, it has slated construction of two new blast furnaces in West Bengal and Jharkhand with expected annual production capacity of 10 million MT each, raising overall capacity to 32 million MT by 2020. The firm plans to have an 89% stake in the West Bengal furnace project, which should be completed in FY14. The firm has already acquired the land it needs and is currently engaged in corporate social responsibility initiatives involving local residents. It also plans to build a private power station for the coal mine at its metallurgical coal mining site.

Strategic tie-up with JFE

A tie-up with JFE will focus on automotive steel sheet technology, steel manufacturing technology, global expansion, and greater pricing power through joint procurement of materials. Capital participation will likely be in the form of an outright purchase of JSW shares or joint investment in blast furnace construction. As a side note, we noticed Japanese dolls given by JFE lined the entryway of JSW headquarters.

Iron ore procurement

JSW supplies 20% of its own iron ore. It purchases the rest from Indian firms, with half coming from NMDC, India's largest state-run iron ore firm, and half from spot procurements. Iron ore from its own mines costs approximately $11 per ton ($9 in production expenses, $2 in railway shipping fees). Iron ore purchased through long-term contracts with NMDC costs $42 per ton and spot procurements run $40 per ton. The company aims to supply 40% of its iron ore from its own mines by FY10 and 60-70% by FY12 by developing mines in Chile and the Karnataka, Tamil Nadu, and Jharkhand states.

Metallurgical coal procurement

The company currently procures all of its metallurgical coal from Australia and other outside sources. It plans to increase the ratio of self-supplied metallurgical coal to 50% by FY12 by building mines in Jharkhand. Although the quality is low, production costs are estimated at around $50 per ton with annual production of 5.6 million MT. The firm also holds coal mining rights in Mozambique.

Product weightings, end markets

In FY08, sixty-eight percent of the firm's offerings were flat (sheet) products and 32% belonged in the long category (steel bars, shaped steel). Infrastructure and construction accounted for 58% of total production, manufacturing (white goods, machinery) 30%, and auto manufacturing 10%. The export ratio was 17% for 1-3Q FY10. A quarter of products were semi-processed in FY09, but all sales will likely be for finished steel products from FY10-11.

Strong productivity, high ratio of interest-bearing debt

JSW's strong point is its high degree of productivity per employee. According to presentation materials, personnel costs per ton are $15 compared to $123 at SAIL and $85 at Tata Steel. The ratio of net long-term interest-bearing debt to shareholders' equity is a relatively high 1.07X for the parent and 1.53X for the group. Company officials stated they are maintaining the budget for current capacity increases within the amount of cash flow in order to reduce leverage.

Consolidated Earnings **Chart 25**

		FY06	07	08	(y/y %)
Crude steel production*	(000 MT)	2,652	3,627	3,724	**(2.7)**
Steel product shipments*	(000 MT)	2,674	3,405	3,428	**(0.7)**
Total revenue	(mil rupees)	86,996	126,052	161,047	**(27.8)**
Income before taxes	(mil rupees)	19,271	24,058	3,475	**(-85.6)**
Crude steel	(mil rupees)	20,533	25,198	13,489	**(-46.5)**
Electricity	(mil rupees)	2,731	4,406	1,627	**(-63.1)**
Other	(mil rupees)	0	61	132	**(117.0)**
Net financial income	(mil rupees)	-3,996	-5,730	-11,556	**(-)**
Other, headquarters	(mil rupees)	3	124	-216	**(-)**
Net income	(mil rupees)	13,039	16,400	2,749	**(-83.2)**
Net income margin	(%)	15.0	13.0	1.7	

Source: Company materials; compiled by Daiwa Securities CM.
* Parent

Consolidated Quarterly Earnings **Chart 26**

		CY08 1Q	2Q	3Q	4Q	09 1Q	2Q	3Q	4Q	(q/q)	(y/y)
Crude steel production	(000 MT)	1,295	975	1,001	782	966	1,376	1,541	1,469	**(-4.7)**	**(87.9)**
Steel product materials	(000 MT)	1,262	817	837	711	1,062	1,321	1,454	1,425	**(-2.0)**	**(100.4)**
Total revenue	(mil rupees)	42,914	44,794	46,841	33,191	36,221	40,138	47,565	48,228	**(1.4)**	**(45.3)**
Income before taxes	(mil rupees)	5,260	3,863	4,171	-2,595	-1,963	3,311	4,595	6,020	**(31.0)**	**(profit)**
Crude steel	(mil rupees)	6,787	6,468	7,891	468	166	5,557	6,191	7,830	**(26.5)**	**(16.7X)**
Electricity	(mil rupees)	770	639	169	-46	865	724	1,405	750	**(-46.7)**	**(profit)**
Other	(mil rupees)	41	-6	155	-1	-6	5	3	13	**(4.3X)**	**(profit)**
Financial income	(mil rupees)	-2,194	-2,348	-2,788	3,302	-3,119	-2,983	-3,019	-2,583	**(-)**	**(-)**
Other, headquarters	(mil rupees)	-144	-891	-1,255	-297	131	8	14	1	**(-)**	**(-)**
Net income	(mil rupees)	3,568	2,502	2,524	-1,878	-399	2,341	3,228	4,297	**(33.1)**	**(profit)**
Net income margin	(%)	8.3	5.6	5.4	-	-	5.8	6.8	8.9		

Source: Company materials; compiled by Daiwa Securities CM.

Jiro Iokibe

Jindal Steel & Power (JSP IN)

Corporate Profile

Main businesses are steel and power generation

Jindal Steel & Power Limited (JSPL), one of four core companies of O. P. Jindal Group, is managed by Naveen Jindal, the fourth son of the late Shri O. P. Jindal, the group founder. JSPL's core businesses are steel and power generation. The firm also has stakes in iron ore and coal mines as sources of materials for the core businesses, and is India's largest coal producer in the private sector. Main group companies are Jindal Power, Jindal Petroleum, Jindal Cement, and Jindal Steel Bolivia.

Eager to expand steel business

In the steel segment, JSPL operates a plant with annual production capacity of about 3 million MT in Raigarh, Chhattisgarh State (central India). The plant consists of two blast furnaces (annual production capacity of 1.65 MT) and one direct reduced iron (DRI, also called sponge iron) furnace (1.4 million MT). The latter is the world's largest in terms of production capacity. DRI is produced using thermal coal as a reductant.

JSPL plans to expand annual capacity by 3 million MT at the Raigarh plant. It also plans to set up two new plants. The first phase of the projects is as follows.

1) Integrated steel plant in Angul, Orissa State. Production capacity of 4 million MT for DRI furnace, 3 million MT for blast furnace, and 6 million MT for rolling lines; to come on line in 2011.
2) Integrated steel plant in Patratu, Jharkhand .State. Blast furnace capacity of 6 million MT .

The two plants will likely have power generation facilities.

Second-largest power generation firm in India

JSPL is also India's second-largest private sector electric power firm with generation capacity of 1,400 MW (total of external sales and in-house use). Its main power plant is thermal (1,000 MW) in Raigarh, Chhattisgarh State, which came on line in September 2007.

To exploit iron ore mines in Bolivia

Moreover, JSPL is eager to develop resources overseas in order to secure material procurement channels—it planning a project in Bolivia with estimated iron ore reserves of 20 billion MT via alliances with the country's government. The firm also plans to construct iron ore pelletization and DRI plants there.

Highlights of Company Visit to New Delhi Headquarters

Unique business mix

JSPL is implementing an aggressive expansion plan, as JSW Steel, an O. P. Jindal Group company, is doing so. Although JSPL's self-sufficiency in iron ore is low, its business mix is unique, as it includes DRI, train rails, and power generation.

Largest DRI maker

Some 1.4 MT of thermal coal and 1.7 MT of iron ore are required to produce one MT of DRI. At the DRI furnace, the firm raises Fe content of DRI to 84-85%. It uses DRI for steel manufacturing and also sells to other companies.

Main steel product prices

Current selling prices of its steel products in India are $650-700/MT for hot-rolled steel sheets, $800/MT for train rails, and $250/MT for pig iron. DRI production cost is $150/MT.

Self-sufficiency is 50% for iron ore, 50% for metallurgical coal, and 100% for thermal coal.

Metallurgical coal procurement

JSPL has agreed with metallurgical coal suppliers on the purchase of carryover (undelivered coal from previous year's contract) for one to two years starting April 2009, with 60% of carryover for Apr 09-Mar 10 and 40% for Apr 10-Mar 11. Metallurgical coal inventories were 600,000 MT at end-March 2009 (annual requirement: 1.5 million MT).

Product difference between JSPL and JSW Steel

JSPL mainly produces long steel products (such as bar steel, section steel, and wire rod), while JSW chiefly manufactures sheets. JSPL said that the two firms cooperate at strategic levels, but have yet to do so at the marketing level. Going forward, the two are scheduled to construct blast furnaces with capacity of about 4,000 m^3. With this in mind, JSPL may be considering cooperation at the engineering level.

Plan to list Jindal Power

JSPL is planning to list Jindal Power Limited through an IPO.

Consolidated Earnings (mil rupees) **Chart 23**

	FY06	07	08	(y/y %)
Revenue	35,488	55,387	108,510	**(95.9)**
Iron & steel	33,036	52,721	74,822	**(41.9)**
Power	5,315	6,622	40,774	**(515.7)**
Others	307	218	501	**(129.9)**
Inter-segment revenue	-3,460	-4,671	-7,587	**(-)**
Pretax income	9,409	15,177	38,111	**(151.1)**
Iron & steel	8,932	17,357	19,378	**(11.6)**
Power	2,855	4,016	21,579	**(437.4)**
Others	25	49	87	**(79.6)**
Net interest expense	-1,501	-2,732	-4,567	**(-)**
Un-allocable expenditure	-903	-3,513	1,633	**(-)**
Net income	6,991	12,496	30,072	**(140.7)**
Net income margin (%)	19.7	22.6	27.7	

Source: Company materials; compiled by Daiwa Securities CM.

Quarterly Consolidated Business Performance (mil rupees) **Chart 24**

		CY08			09					
		2Q	3Q	4Q	1Q	2Q	3Q	4Q	(q/q %)	(y/y %)
Steel production volume	(000 MT)	675	343	373	454	758	454	547	**(20.4)**	**(46.9)**
Steel sales volume	(000 MT)	353	396	305	477	458	404	398	**(-1.5)**	**(30.4)**
Power generation volume	(mil kWh)	1,648	683	736	725	2,821	701	761	**(8.6)**	**(3.4)**
Power sales volume	(mil kWh)	993	265	302	294	2,253	323	399	**(23.5)**	**(32.0)**
Revenue		21,705	28,592	29,486	28,728	27,486	24,453	26,871	**(9.9)**	**(-8.9)**
Iron & steel		18,361	21,516	17,142	17,803	15,068	15,001	16,721	**(11.5)**	**(-2.5)**
Power		4,309	8,599	13,741	14,126	14,161	11,091	11,902	**(7.3)**	**(-13.4)**
Others		115	134	194	58	101	176	226	**(28.6)**	**(16.5)**
Inter-segment revenue		-1,080	-1,657	-1,592	-3,259	-1,844	-1,815	-1,978	**(-)**	**(-)**
Pretax income		6,065	9,480	11,751	10,816	12,752	9,862	11,100	**(12.6)**	**(-5.5)**
Iron & steel		6,884	7,188	5,050	257	3,739	3,761	4,288	**(14.0)**	**(-15.1)**
Power		1,686	5,299	9,817	4,777	10,596	8,094	8,927	**(10.3)**	**(-9.1)**
Others		15	10	48	14	24	18	-290	**(loss)**	**(loss)**
Net interest expense		-998	-1,220	-1,902	-447	-1,188	-1,172	-1,075	**(-)**	**(-)**
Un-allocable expenditure		-1,522	-1,797	-1,263	6,215	-420	-840	-750	**(-)**	**(-)**
Net income		4,437	7,623	9,033	8,979	9,885	8,084	8,744	**(8.2)**	**(-3.2)**
Net income margin	(%)	20.4	26.7	30.6	31.3	36.0	33.1	32.5		

Source: Company materials; compiled by Daiwa Securities CM.

Jiro Iokibe

Japanese Trading Houses' Strategies for India

Indian operations still small

Major Japanese trading houses have Indian subsidiaries in New Delhi. However, these operations contribute only a small proportion to overall earnings, although they intend to enhance operations there. Net income is only several hundred million yen at these subsidiaries. They mainly trade automobiles, chemicals, iron ore and other natural resources, and machinery. Cumulative Indian investments range from only Y10 billion to Y20 billion at the houses, excluding those in Sesa Goa (iron ore miner) in which Mitsui had taken a 51% stake before selling in 2007.

Will Indian investments expand?

We believe Japanese trading houses can play the role of arrangers and coordinators for large projects, including infrastructure, in India. However, they do not seem eager to do so, given high risks with forex fluctuation and work delays, as well as the large gap in business practices vs. global standards. Nonetheless, we believe the trading houses need to invest in Indian firms with high growth potential or form strategic alliances with the aim of improving their global business portfolio mix over the medium to long term. Thus, we expect a more aggressive stance toward India going forward.

Japanese Trading Houses' Strategies for India — **Chart 25**

	Itochu	Marubeni	Mitsui & Co.	Sumitomo	Mitsubishi	Sojitz
Main investments	**Chemicals** PTA Production of plastic shopping bags and garbage bags **Textiles/food**	**To strengthen Indian-related businesses** **Three focus areas** **Materials area** Chemicals Synthetic fiber materials (MCC PTA) Resin compounds Paper & pulp **Consumer-related area** Foods Lifestyle **Auto-related area** Alliance with Hino Motors	**Logistics infrastructure business** To aim to become India's largest logistics solutions provider To expand logistics bases To support Delhi-Mumbai Industrial Corridor project led by both Indian and Japanese governments **Motorcycle business** Alliance with Yamaha Motor To take stakes in manufacturing and sales firms To set up financial services firm **To expand commodity products business** Chemicals To take stake in ISC (resin material maker) Iron ore Continuing export business to Japan after selling Sesa Goa to other firm	**Auto-related** Production of commercial vehicles Production of automotive casting parts Production of automotive steel pipes After-sales services for Maruti Suzuki India vehicles Production of small casting products **Infrastructure-related** Metro signal and communications systems Renovation for hydraulic power plants Forged steel wheels for train cars **Food and agriculture** Sale of agricultural machinery	**Six focus areas** **Resource and energy transactions** **Alliances with major local firms** **Subway and airport projects in major cities** Delhi Metro project Bangalore Metro project **Domestic demand-related, centering on consumer sector** Synthetic fiber materials (MCC PTA) Transport and storage of frozen products Fertilizer materials **Utilization of India as manpower supply base** **To exploit new trading areas to cover personnel costs**	**Machinery** IT services for US Sale of auto production facilities **Chemicals and functional materials** Industrial salt Soda ash of Tata Chemicals Synthetic fiber materials (MCC PTA) **Recent moves** Railway transport and logistics businesses Construction of sales network for imported tires Closer tie-up with Tata Group
Loans & investments and loan guarantees (net; as of end-1H FY09; Y bil)	1.8	10.3	11.3	16.0	-	-
No. of investment projects	12	8	7	14	12	10
Turnover (Y bil)	7.0	138.1	272.6	About 70.0	About 130.0	70.8
Major products (% of total)	Chemicals 95 Textiles/food 5	Energy 26 Chemicals 21 Metal resources 18	Chemicals 39 Energy 33 Metal resources 7 Steel 6	Automobile Resource/Energy Chemicals	Chemicals About 40 Machinery About 30 Energy About 20	Machinery 46 Chemical/Functional materials 24 Energy/Metal 23 Consumer-related 6
No. of stationed staff	12	17	27	13	19	13
No. of local staff	44	62	177	83	116	54

Source: Brains, various materials; compiled by Daiwa Securities CM.
Notes: 1) Note that definition of loans & investments and loan guarantees differs among firms.
2) Loans & investments and loan guarantees based on company materials.

Main Indian Subsidiaries and Affiliates of Major Japanese Trading Houses **Chart 26**

Indian firms	Capital	Stake (%)	Main businesses
Itochu Corp			
Narendra Plastic	68 mil rupees	29.9	Production and sale of plastic shopping bags, garbage bags, and carrier bags
Marubeni Corp			
Ravva Oil (Singapore)	$0.07 mil	12.5	Exploitation, production, and sale of crude oil and natural gas
VMT Spinning	210 mil rupees	9.4	Production and sale of cotton yarn
MCC PTA India	7,393 mil rupees	6	Production and sale of PTA (synthetic fiber materials); group firm of Mitsubishi Chemical HD
PPN Power Generating	4,900 mil rupees	26	Construction, ownership, and operation of Pillaiperumalnallur combined thermal power plant
Dainichi Color India	$8 mil	30	Production and sale of functional resin compounds
Hino Motors Sales India	200 mil rupees	35	Sale of Hino buses and trucks
Mitsui & Co Ltd			
Transystem Logistics International	Authorized 100 Paid-in 80 mil rupees	51	Transport of auto parts, vehicles, and automotive supplies in India
Okuma India	30 mil rupees	49	After-sales services for Okuma machine tools
India Yamaha Motor	5,600 mil rupees	30	Production and sale of motorcycles
Sumitomo Corp			
Swaraj Mazda	105 mil rupees	53.5	Production and sale of trucks and buses
India Steel Summit	1,078 mil rupees	100	Coil center, production of press parts and molds, and trading
Kubota Agricultural Machinery India	500 mil rupees	40	Sale of tractors, combines, and rice-planting machines
Munjal Kiriu Industries	50 mil rupees	8.4	Production and sale of automotive casting parts and cast products
ANS Steel Tubes	200 mil rupees	24.5	Production of automotive and motorcycle steel pipes based on electric resistance welding
JJ Impex (Delhi)	88 mil rupees	49.1	After-sales services for Maruti Suzuki India vehicles, used vehicle sales
Mitsubishi Corp			
Snowman Frozen Foods	823 mil rupees	35.3	Cold-storage warehouse and transport businesses (joint venture with Nichirei and local company)
MCC PTA India	7,393 mil rupees	10	Production and sale of PTA (synthetic fiber materials); group firm of Mitsubishi Chemical HD
Hi-Tech Arai	56 mil rupees	14.3	Production and sale of reed valves and oil seals
MC Craftsman Machinery	210 mil rupees	90	Sale of electrodischargers and after-sales services
Shin-Etsu Polymer India	350 mil rupees	15	Production of mobile phone key-pad
Deccan Fine Chemicals	430 mil rupees	19.5	Outsourcing manufacturer of agrochemical bulk and intermediates
Sojitz			
NMTronics India	3 mil rupees	100	Sale of electronic parts mounters, and after-sales services
Samvardhana Motherson Finance	-	10	Auto parts business
MCC PTA India	7,393 mil rupees	8	Production and sale of PTA (synthetic fiber materials); group firm of Mitsubishi Chemical HD
IFGL Refractories	346 mil rupees	10	Production of refractories

Source: Brains, various materials; compiled by Daiwa Securities CM.

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Reference
Sesa Goa (SESA IN)

Corporate Profile

Iron ore miner, but diversifying into metallurgical coke and pig iron

A major Indian mining firm, Sesa Goa is mainly engaged in iron ore production and sales. In recent years, however, the firm has been diversifying into metallurgical coke and pig iron production. Mitsui had held a 51% stake in the Indian firm via its subsidiary, but sold the subsidiary to Vedanta Resources of the UK in 2007.

India's largest iron ore exporter

Sesa Goa is India's largest private sector iron ore exporter, with a 20% share of the country's total iron ore exports. In FY08 (ended Mar 2009), the firm produced 15.1 million MT of iron ore, of which 14.5 million MT was exported. Its main mines are in western India, including the Sonshi and Codli in Goa State, and the Chitradurga in Karnataka State. It also operates the Barbil mine in Orissa State in the east.

Earnings Trends Chart 27

		FY02	03	04	05	06	07	08
Iron ore sales volume	(mil MT)	6.88	8.56	9.81	9.56	10.87	12.39	15.10
(y/y %)		(48.8)	(24.4)	(14.6)	(-2.6)	(13.7)	(14.0)	(21.9)
Exports (direct routes)	(mil MT)	3.83	5.33	6.45	6.83	7.66	10.18	14.09
Exports (indirect routes)	(mil MT)	2.54	2.78	2.87	2.16	2.46	1.41	0.41
Others	(mil MT)	0.51	0.45	0.49	0.57	0.75	0.80	0.61
Revenue	(mil rupees)	5,997	8,946	15,440	18,739	22,630	38,971	51,831
(y/y %)		(17.0)	(49.2)	(72.6)	(21.4)	(20.8)	(72.2)	(33.0)
Iron ore	(mil rupees)	3,565	5,679	10,359	14,965	17,940	32,422	42,824
(y/y %)		(25.7)	(59.3)	(82.4)	(44.5)	(19.9)	(80.7)	(32.1)
Direct costs	(mil rupees)	4,990	5,874	7,687	9,553	12,316	14,784	23,498
Indirect costs	(mil rupees)	133	157	193	266	235	410	672
Depreciation	(mil rupees)	250	283	320	296	393	500	517
EBIT	(mil rupees)	625	2,633	7,240	8,624	9,687	23,277	27,144
EBIT margin	(%)	10.4	29.4	46.9	46.0	42.8	59.7	52.4
(y/y %)		(37.5)	(321.3)	(175.0)	(19.1)	(12.3)	(140.3)	(16.6)
Net income	(mil rupees)	236	1,654	4,732	5,712	6,461	15,416	19,881
Net income margin	(%)	3.9	18.5	30.6	30.5	28.6	39.6	38.4
(y/y %)		(164.0)	(599.6)	(186.1)	(20.7)	(13.1)	(138.6)	(29.0)

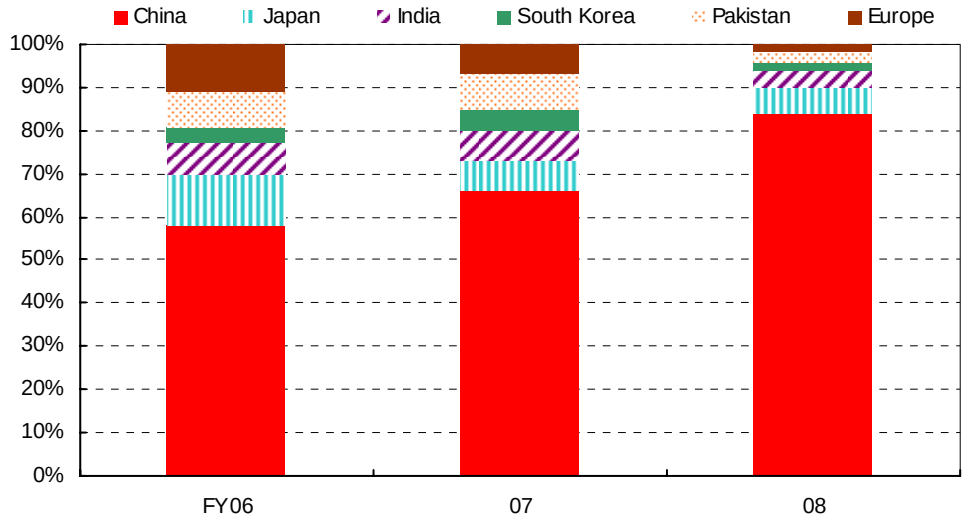
Source: Company materials; compiled by Daiwa Securities CM.

Quarterly Consolidated Earnings (mil rupees) Chart 28

	CY08				09					
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	(q/q %)	(y/y %)
Revenue	17,323	13,412	9,211	14,206	15,002	10,867	6,280	20,216	**(221.9)**	**(42.3)**
Iron ore	15,373	11,170	6,601	12,484	12,825	8,557	3,986	17,266	**(333.2)**	**(38.3)**
Pretax income	12,293	8,545	4,543	6,069	7,944	5,110	2,198	11,210	**(410.1)**	**(84.7)**
Net income	8,116	6,331	3,366	4,708	5,476	4,223	1,665	8,275	**(397.1)**	**(75.8)**
Net income margin (%)	46.8	47.2	36.5	33.1	36.5	38.9	26.5	40.9		

Source: Company materials; compiled by Daiwa Securities CM.

Iron Ore Sales Mix by Country **Chart 29**



Source: Company materials; compiled by Daiwa Securities CM.

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NMDC (NMDC IN)

Corporate Profile

State-owned firm and India's largest iron ore producer

NMDC is a listed mining firm but 98% (as of end-2009) of its shares are owned by the central government. As India's largest iron ore producer, the firm earns most of its earnings in that business, but it is also involved in diamond mining. It is keen to invest in mines and explore resources overseas.

Most iron ore goes to domestic users

In FY08 (ended Mar 2009), NMDC sold 26.47 million MT of iron ore, of which 22.6 million MT (85%) went to domestic users. Its main mines are the Donimalai and Kumaraswamy in western India and the Kirandul and Bacheli in the east.

Business Performance Trends Chart 30

		FY00	01	02	03	04	05	06	07	08
Iron ore production volume	(mil MT)	15.05	15.63	16.97	17.96	20.74	22.92	26.23	29.82	28.52
(y/y %)			(3.9)	(8.6)	(5.8)	(15.5)	(10.5)	(14.4)	(13.7)	(-4.4)
Iron ore sales volume	(mil MT)	18.15	17.46	19.51	20.66	23.22	24.85	25.59	28.18	26.47
(y/y %)			(-3.8)	(11.7)	(5.9)	(12.4)	(7.0)	(3.0)	(10.1)	(-6.1)
Domestic	(mil MT)	10.03	9.76	11.34	13.60	15.68	18.80	22.33	24.41	22.60
Exports (via MMTC)	(mil MT)	7.15	5.99	6.15	6.12	6.65	6.05	3.26	3.78	3.87
Exports (Direct routes)	(mil MT)	0.97	1.71	2.02	0.95	0.89	0.00	0.00	0.00	0.00
Revenue	(mil rupees)	10,879	12,681	12,934	15,327	23,315	39,153	45,340	64,120	85,755
(y/y %)			(16.6)	(2.0)	(18.5)	(52.1)	(67.9)	(15.8)	(41.4)	(33.7)
Iron ore	(mil rupees)	9,870	10,930	11,773	14,114	21,806	36,695	41,709	57,053	75,591
(y/y %)			(10.7)	(7.7)	(19.9)	(54.5)	(68.3)	(13.7)	(36.8)	(32.5)
EBITDA	(mil rupees)	3,521	3,889	4,625	6,700	12,875	28,838	35,783	50,075	37,218
Depreciation	(mil rupees)	361	399	423	540	638	1,137	800	600	736
EBIT	(mil rupees)	3,160	3,490	4,202	6,160	12,237	27,701	34,983	49,475	36,482
EBIT margin	(%)	29.1	27.5	32.5	40.2	52.5	70.8	77.2	77.2	42.5
(y/y %)			(10.4)	(20.4)	(46.6)	(98.6)	(126.4)	(26.3)	(41.4)	(-26.3)
Net income	(mil rupees)	2,350	2,566	3,122	4,326	7,554	18,278	23,202	32,510	43,724
Net income margin	(%)	21.6	20.2	24.1	28.2	32.4	46.7	51.2	50.7	51.0
(y/y %)			(9.2)	(21.7)	(38.6)	(74.6)	(142.0)	(26.9)	(40.1)	(34.5)

Source: Company materials; compiled by Daiwa Securities CM.

Quarterly Consolidated Earnings (mil rupees) Chart 31

	CY08				09					
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	(q/q)	(y/y)
Revenue	18,945	16,732	16,173	23,375	19,361	12,781	13,901	15,876	**(14.2)**	**(-32.1)**
Iron ore	18,936	16,723	16,164	23,375	19,329	12,756	13,867	15,840	**(14.2)**	**(-32.2)**
Pretax income	15,581	14,885	14,358	21,618	15,622	11,721	11,675	13,030	**(11.6)**	**(-39.7)**
Net income	10,170	9,813	9,449	14,250	10,212	7,738	7,709	8,600	**(11.6)**	**(-39.6)**
Net income margin (%)	53.7	58.7	58.4	61.0	52.7	60.5	55.5	54.2		

Source: Company materials; compiled by Daiwa Securities CM.

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