DIRECTORATE FOR SCIENCE, TECHNOLOGY AND INDUSTRY
STEEL COMMITTEE

INDIA

INDIAN STEEL OUTLOOK

Joint India/OECD/IISI Workshop, New Delhi (India), 16-17 May 2006.

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INDIAN STEEL OUTLOOK

IISI-OECD CONFERENCE
Date: 16th May, 2006

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MACRO ECONOMIC ENVIRONMENT - INDIA

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ECONOMIC PARAMETERS ARE FAVOURABLE

Source: Citigroup estimates
& Sector Wise Growth is Likely to Be Robust...

Source: Tata Steel

Indian Economy is Expected to Surpass Japan by 2032
IN SUMMARY THE FUTURE IS UPBEAT

- Ranked 4th in the world on GDP - Purchasing Power Parity basis, 11th in absolute terms. (IMF)
- > 8% GDP growth targeted in 2006-07 - second only to China; aspirational 10 % growth looks possible
- Continuously improving macro economic factors
- A strong demographic profile: with a large consumer base
- Growing urbanization
- Stable social and political environment

STEEL: DEMAND ANALYSIS, INDIA

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India will be a part of The new Steel world ...
GROWTH IN CONSTRUCTION IS LEAD BY RAPID GROWTH IN HOUSING SECTOR & …

- A growth of 24% expected till FY 07, with an expenditure of Rs 1,400 bn
- Housing shortage of 41 million units estimated as per 10th five year (02-07)
- There is a need to invest over Rs.4,000 bn over 10 years
- Estimated that every INR 1 invested in housing / construction adds 78 paise to the GDP

Source: National Housing Bank, HDFC, Cris-Infac, www.dwge.com

.. INVESTMENT IN INFRASTRUCTURE SEGMENT

## PROJECTED INVESTMENT Till 2012 by Committee on Infrastructure

<table>
<thead>
<tr>
<th>Segment</th>
<th>FY 03</th>
<th>FY 04</th>
<th>FY 05</th>
<th>FY 06</th>
<th>FY 07</th>
<th>Planned Exp in next 5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airports</td>
<td>20</td>
<td>15</td>
<td>15</td>
<td>24</td>
<td>25</td>
<td>400</td>
</tr>
<tr>
<td>Irrigation</td>
<td>151</td>
<td>139</td>
<td>208</td>
<td>222</td>
<td>252</td>
<td>1300</td>
</tr>
<tr>
<td>Ports</td>
<td>7</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td>20</td>
<td>500</td>
</tr>
<tr>
<td>Power</td>
<td>232</td>
<td>312</td>
<td>340</td>
<td>350</td>
<td>346</td>
<td>2000</td>
</tr>
<tr>
<td>Railways</td>
<td>121</td>
<td>135</td>
<td>153</td>
<td>146</td>
<td>140</td>
<td>750</td>
</tr>
<tr>
<td>Roads</td>
<td>206</td>
<td>190</td>
<td>199</td>
<td>212</td>
<td>213</td>
<td>1700</td>
</tr>
<tr>
<td>Telecom</td>
<td>133</td>
<td>126</td>
<td>89</td>
<td>116</td>
<td>116</td>
<td>800</td>
</tr>
<tr>
<td>Urban Infra.</td>
<td>162</td>
<td>174</td>
<td>184</td>
<td>220</td>
<td>250</td>
<td>1400</td>
</tr>
</tbody>
</table>

India has potential to absorb US $ 150 billion in next five years in the infrastructure sector alone.

The tenth plan investment in infrastructure has been revised to Rs. 11,088 Billion from earlier 10,894 Billion during mid term appraisal.
While automotive would register the highest growth

- Government focus on infrastructure & Roads
- Availability of consumer finance at low interest rates
- Excise Duty reduction & Tax SOP’s by government to boost demand
- Higher disposable income – Double working households on the rise

The overall growth in demand of steel is therefore healthy

ADC: India (till FY-12)

Source: Tata Steel Estimates
STEEL: SUPPLY ANALYSIS, INDIA

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STEEL PRODUCTION HAS JUMPED SINCE THE ECONOMIC LIBERALIZATION

<table>
<thead>
<tr>
<th>YEAR</th>
<th>CAGR (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950-'93</td>
<td>6.5</td>
</tr>
<tr>
<td>1993-'05</td>
<td>8.8</td>
</tr>
</tbody>
</table>

All fig in million tonnes

CRUDE STEEL PRODUCTION IN INDIA (million tonnes)
6 MAJOR PRODUCERS ACCOUNT FOR 66% OF TOTAL FINISHED PRODUCTION

<table>
<thead>
<tr>
<th>Segment</th>
<th>Production in million tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISPAT</td>
<td>2.1</td>
</tr>
<tr>
<td>JSW</td>
<td>2.2</td>
</tr>
<tr>
<td>ESSAR</td>
<td>2.6</td>
</tr>
<tr>
<td>RINL</td>
<td>3.0</td>
</tr>
<tr>
<td>TSL</td>
<td>4.6</td>
</tr>
<tr>
<td>SAIL + IISCO</td>
<td>9.2</td>
</tr>
<tr>
<td>OTHERS</td>
<td>12.3</td>
</tr>
</tbody>
</table>

FLAT PRODUCT IS MORE CONSOLIDATED WHEREAS LONG PRODUCT IS HIGHLY FRAGMENTED.

源: JPC, Team Analysis

CAPACITY UTILIZATION ARE STRETCHED..

<table>
<thead>
<tr>
<th>Sector</th>
<th>No. of Units</th>
<th>Total Capacity</th>
<th>Working Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRUDE STEEL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BF/BOF Steel</td>
<td>10</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>EAF</td>
<td>38</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td>Indn. Fce</td>
<td>750</td>
<td>16</td>
<td>12.4</td>
</tr>
<tr>
<td>Corex</td>
<td>1</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>42.0</td>
<td></td>
</tr>
</tbody>
</table>

源: JPC, Tata Steel est.
THUS SIGNIFICANT CAPACITIES ARE EXPECTED IN THE MEDIUM TERM

Both by Capacity Expansion by existing players * . . . . and New Entrants with the Greenfield projects...

* Incl their Greenfield Projects

Capacity Addition projected : ~ 50 Mill T in next decade.

THIS MAY LEAD TO EXCESS SUPPLY SITUATION IN THE COUNTRY (by FY-12)

GAP: ~ 20-25 mn T

All fig in million tonnes

DEMAND SIDE

SUPPLY SIDE
Being inherently competitive....

- Abundant Natural resources
- Human Resources
- Strategic Location

COST OF PRODN OF HRB (USD/MT)

India would emerge as a global hub

net steel exporters in BLACK
net steel importers in RED

India to play the key role in Steel Market dynamics
IN SUMMARY..

IISI-OECD CONFERENCE

• The economic indicators are all favorable for Growth.

• Indian steel industry exudes optimism

• Investment in infrastructure is crucial to step up demand for steel.

• Supply may have to be rationalized in line with the demand (Dom + exports)

• Integrated Mills would hold the key in future growth of Indian Steel supplies.

• New technologies to use indigenous natural resources would have to be developed.
• India will become the fastest growing economy out of 34 developed and emerging markets and 3rd largest economy by 2020.
• Current GDP per capita is USD 2500 and expected to be USD 5000 in 2020.
• Poverty ratio dropped from 50% of population in 1950 to 26% in 2005.
• Economic growth rose from 3.7% in 50s & 60s to +6% in 1980s.
• Current population growth rate of 1.5% to decrease to 1.3% in 2020.

• Household savings rate to increase to 30% from current 23%.
• About 100,000 MW new capacity (90% of present) will be added in power sector in next 7 years. This should also act as strong driver of steel growth.
• The Fiscal Responsibility and Budget Management Act, 2002 binds fiscal managers to specific deficit targets each year with a goal to bring down the total deficit and revenue deficit to 3% and 0% of the GDP by 2008-09.
• Literacy standards in 1951 was 18% and currently it is 65%.
• FDI inflow is 0.5% of GDP (USD 3 bn) in recent years as compared to 4% of GDP for China (USD 45 bn)
• One of the lowest electricity consumption at 365 units per capita as compared to 893 in China and 1729 in Brazil.

The Global Economic Forecast: Asia poised to be the emerging power house of growth

- In 2020, the US and China will still be the two largest economies in the world (in PPP)
- India leaves Japan behind and moves up to 3rd place
- India, Malaysia and China will post the highest GDP growth rates (above 5%) over 2006-20
- Ireland, the US and Spain are the rich countries expected to grow the most
Steel Consumption Vs. GDP

Steel Consumption and GDP per Capita in 2004

Bubble size represents the population

The growth in BRIC will double the steel demand by 2050

Source: internal analysis

Growth in key sectors will drive the steel demand

Key Sectors driving growth

- Infrastructure development
- Housing and urban development
- High degree of urbanizations
- High demand in the auto sector
- Capacity building in steel making

Only awaiting the right trigger.

> 150 MT, The present gap
Global Steel Demand Is Expected To Grow At ~3% Till 2015

Global steel demand
Million tons

<table>
<thead>
<tr>
<th>Decade of 1980’s</th>
<th>Decade of 1990’s</th>
<th>Decade of 2000</th>
<th>Future outlook</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980 582</td>
<td>1990 644</td>
<td>2000 785</td>
<td>2010E 1,113</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2002 834</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2003 887</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2010E</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015E</td>
<td></td>
</tr>
</tbody>
</table>

CAGR = 10% 2% 4.2% 2.5%

Decade of 1980’s
Decade of 1990’s
Decade of 2000
Future outlook

Source: IISI Factbook; McKinsey analysis

High availability of skilled labour*

* Data are based on responses from IMD’s annual Executive Opinion Survey. High score equates high availability of skilled labour.

Source: IMD Yearbook, 2004
FDI: Room to catch-up

USD bn

- China FDI Flows
- India FDI Flows

Source: UNCTAD

Inadequate expenditure mix

% of GDP

- Development expenditure
- Non-development expenditure

Source: Annual Report, Reserve Bank of India
Raw Material demand in India to increase by 13% to meet the rise in steel demand

Imperatives for 8% GDP Growth

- Manufacturing must grow at 11%
- This means a growth of 13% for Mining Industry if it has to contribute 5% to GDP by 2010 instead of 2.5% at present.
- 13% growth in mining has to be driven by few lead minerals such as coal, iron ore, supported by other minerals.

Robust growth in infrastructure, power, construction and steel sectors will drive the Steel Demand

In addition there will be investment for additional 25 mt capacity in steel itself by 2010. Potential for steel - 25-30% of the investment cost.
Sectoral Share in GDP

Year: 1971-2004

World total 2004: 1,057 million metric tons of crude steel

Production

Others comprise:
Africa 1.6% Central and South America 4.5%
Middle East 1.3% Australia and New Zealand 0.8%
Global steel demand poised for robust growth

Crude Steel Production (Million Tonnes)

The Early Years
The 1st Plateau
The 1st Surge
The 2nd Plateau
The 2nd Surge

CAGR 5%
CAGR 2%
CAGR 7%
CAGR 1%

Great Depression
Oil Crisis
Fall of USSR
Asian Financial Crisis

CAGR 2%
CAGR 5%
CAGR 5%
CAGR 1%