Company Focus

18 September 2007 | 40 pages

JSW Steel (JSTL.BO)

Initiation of coverage ☑

Initiating at Buy: Volume, Value and Lower Costs

- **Target price Rs822** — We initiate on JSTL at Buy (1M). JSTL is a growing, integrated steel producer with scope for controlling input costs and adding further value. This, along with its recent US acquisition, should help EPS grow at a 20% CAGR through FY10E. The stock is at a 23% discount to the domestic sector's FY09E P/E of 7x. Our target price is set at a cons. FY09E P/E of 6.5x.
- **Volume growth, lower costs** — We expect JSTL's volumes to grow 32% through FY10E. Product mix should improve on the back of its new CR mill and value added by exporting slabs to its US subsidiary. Costs are expected to be lower due to increased captive iron ore, coke, power, and a beneficiation plant.
- **Potential to enhance EBITDA at US plant** — Though the recent acquisition of a plate and pipe mill in the US at an adjusted EV/EBITDA of 12.2x was not cheap, JSTL believes it can easily double EBITDA to US\$144m, and even further with better preventive maintenance and capex of US\$61m.
- **Déjà vu** — We feel European steel in 2008 will likely be a repeat of 2005 with freight rates at all-time highs, strong demand, a weak dollar, and good conversion margins. We believe that there is a high chance of a surprise increase in input costs, a drop in OECD 2008 consumption, and a 2H08 fall in steel prices. We expect HR prices of US\$620/t in 2008 and US\$569/t in 2009.
- **Risk factors** — (1) Weakness in steel prices; (2) Appreciation of the rupee vs. the US\$; (3) Delays in access to captive iron ore; and (4) Delays in expansions.

Buy/Medium Risk	**1M**
Price (17 Sep 07)	Rs679.85
Target price	Rs822.00
Expected share price return	20.9%
Expected dividend yield	2.9%
Expected total return	**23.9%**
Market Cap	Rs111,481M
	US\$2,762M

Price Performance (RIC: JSTL.BO, BB: JSTL IN)

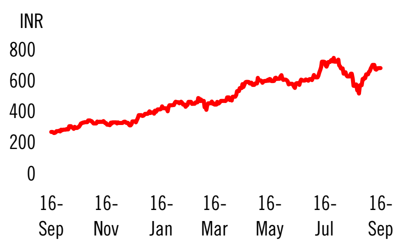

Figure 1. JSW Steel — Statistical Abstract

Year end	Net Profit	EPS	EPS growth	P/E	EPS cons	Con EPS growth	P/E cons	EV/EBITDA cons	ROE
31 Mar	(Rsm)	(Rs)	(%)	(x)	(Rs)	(%)	(x)	(x)	(%)
FY05	7,834	58.3		11.7	60.7		11.2	5.9	26
FY06	5,615	33.7	-42	20.1	35.8	-41%	19.0	9.2	13
FY07	12,474	74.1	120	9.2	76.9	115%	8.8	5.5	23
FY08E	18,290	104.5	41	6.5	107.6	40%	6.3	5.2	26
FY09E	19,450	111.2	6	6.1	126.2	17%	5.4	4.8	23
FY10E	18,901	108.0	-3	6.3	132.2	5%	5.1	4.5	19

Source: Company Reports, Citi Investment Research estimates

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See Appendix A-1 for Analyst Certification and important disclosures.

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Fiscal year end 31-Mar	2006	2007	2008E	2009E	2010E
Valuation Ratios					
P/E adjusted (x)	20.1	9.2	6.5	6.1	6.3
EV/EBITDA adjusted (x)	9.5	5.6	4.4	4.4	4.6
P/BV (x)	2.6	2.1	1.7	1.4	1.2
Dividend yield (%)	1.2	1.8	2.9	3.2	2.9
Per Share Data (Rs)					
EPS adjusted	33.74	74.12	104.45	111.20	108.00
EPS reported	33.74	74.12	104.45	111.20	108.00
BVPS	259.73	324.13	402.25	487.71	572.31
DPS	8.00	12.50	20.00	22.00	20.00
Profit & Loss (RsM)					
Net sales	61,363	85,944	99,632	123,311	153,476
Operating expenses	-49,189	-63,459	-69,142	-89,419	-117,725
EBIT	**12,174**	**22,486**	**30,490**	**33,892**	**35,750**
Net interest expense	-3,640	-3,995	-4,248	-6,728	-9,680
Non-operating/exceptionals	0	0	0	0	0
Pre-tax profit	**8,534**	**18,490**	**26,242**	**27,165**	**26,070**
Tax	-2,919	-6,017	-7,951	-7,715	-7,169
Extraord./Min.Int./Pref.div.	-318	-319	-326	-326	-326
Reported net income	**5,297**	**12,155**	**17,964**	**19,123**	**18,575**
Adjusted earnings	5,297	12,155	17,964	19,123	18,575
Adjusted EBITDA	16,232	27,468	36,035	41,251	46,294
Growth Rates (%)					
Sales	-6.0	40.1	15.9	23.8	24.5
EBIT adjusted	-32.2	84.7	35.6	11.2	5.5
EBITDA adjusted	-24.7	69.2	31.2	14.5	12.2
EPS adjusted	-42.1	119.7	40.9	6.5	-2.9
Cash Flow (RsM)					
Operating cash flow	**18,636**	**28,223**	**32,497**	**33,221**	**36,715**
Depreciation/amortization	4,058	4,982	5,545	7,358	10,543
Net working capital	2,636	3,134	-953	-560	-2,055
Investing cash flow	**-15,927**	**-22,446**	**-43,785**	**-57,268**	**-47,254**
Capital expenditure	-15,956	-22,853	-39,984	-59,730	-48,900
Acquisitions/disposals	0	-1,079	-7,263	-1,000	-1,400
Financing cash flow	**-2,945**	**-3,388**	**66,755**	**22,405**	**-4,433**
Borrowings	-937	1,383	69,371	33,484	10,000
Dividends paid	-1,054	-4,087	-326	-4,351	-4,753
Change in cash	**-236**	**2,389**	**55,467**	**-1,641**	**-14,971**
Balance Sheet (RsM)					
Total assets	**113,369**	**130,655**	**227,855**	**284,461**	**317,179**
Cash & cash equivalent	989	3,378	58,845	57,204	42,232
Accounts receivable	2,413	2,452	2,730	3,716	6,307
Net fixed assets	83,799	101,920	136,359	188,731	227,088
Total liabilities	**69,807**	**74,714**	**155,886**	**197,795**	**215,963**
Accounts payable	17,266	19,874	19,828	24,753	30,380
Total Debt	40,961	41,730	111,101	144,585	154,585
Shareholders' funds	**43,562**	**55,941**	**71,969**	**86,666**	**101,216**
Profitability/Solvency Ratios (%)					
EBITDA margin adjusted	26.5	32.0	36.2	33.5	30.2
ROE adjusted	15.2	25.9	29.4	25.0	20.4
ROIC adjusted	11.3	16.9	18.7	16.0	13.6
Net debt to equity	91.8	68.6	72.6	100.8	111.0
Total debt to capital	48.5	42.7	60.7	62.5	60.4

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Contents

Investment Strategy

We expect consolidated earnings to grow at a CAGR of 20% through FY10E. Our target price of Rs822 is based on a P/E of 6.5x, in line with the current valuation range

We initiate coverage on JSTL at Buy/Medium Risk (1M). We expect steel prices to be steady over the next 12 months and forecast an HRC price of US$620/t (+4% yoy) for 2008. India's steel demand growth should remain buoyant and Indian companies are likely to gain from any decline in Chinese exports. JSTL should benefit from this scenario given its robust crude steel volume growth (CAGR of 32% through FY10E). JSTL's use of both Corex and blast furnace technologies has helped keep cost of production low (HR cost was US$294/t in FY07). Going forward, we expect costs to be lower due to increased captive iron ore, coke, power, and a beneficiation plant. The new CR mill and the sale of surplus value-added slabs to its new U.S. subsidiary should also add to consolidated earnings. We expect consolidated earnings to grow at a CAGR of 20% through FY10E. Our target price of Rs822 is based on a P/E of 6.5x, in line with the current valuation range. At our target price, the stock would trade at a consolidated EV/EBITDA of 5.3x.

Key positives

Strong volume growth

We expect JSTL's crude steel production volumes to grow at a CAGR of 32% through FY10

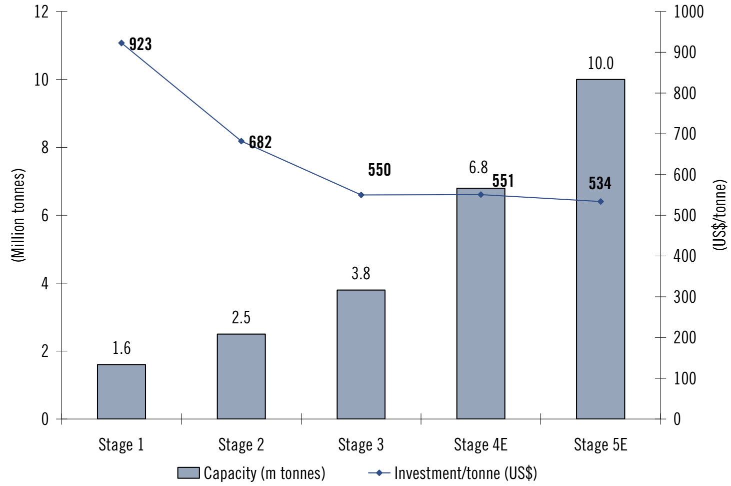
JSTL currently has a crude steel capacity of 3.8m tpa. The company is setting up another blast furnace with a capacity of 2.8m tpa (capex Rs53bn). This along with a 0.2m tpa modification to its first blast furnace will increase overall crude steel capacity to 6.8m tpa by December 2008, which is approximately three to four months ahead of schedule. Crude steel capacity is being further expanded by 3.2m tpa to 10m tpa (capex Rs70bn) by September 2010. As the expansions are at the existing location, these should be completed on schedule. As a result of these expansions, we expect crude steel production volumes to grow at a CAGR of 32% through FY10. In addition to the announced capex of Rs171bn up to 2011, JSTL recently announced further spending which takes total capex to Rs197bn, of which about 55% will be financed through debt.

Figure 2. Capex Plan for FY08-11 (Rs bn)

Particulars	Total Capex	Internal Accruals	Equity/ Others	Total	Debt: Tied up	Debt: To be tied up	Total Debt
Capex plan up to 2011	171.0	69.5	6.5	**76.0**	56.6	38.4	**95.0**
Beneficiation plant	8.5	3.5	-	**3.5**	-	5.0	**5.0**
300 MW Power plant	10.3	2.6	-	**2.6**	7.8	-	**7.8**
US acquisition	7.6	7.6	-	**7.6**	-	-	**0.0**
	197.4	**83.2**	**6.5**	**89.7**	**64.4**	**43.4**	**107.8**

Source: Company Reports

Figure 3. JSTL's Proposed Expansion Plan and Investment Cost Per Tonne



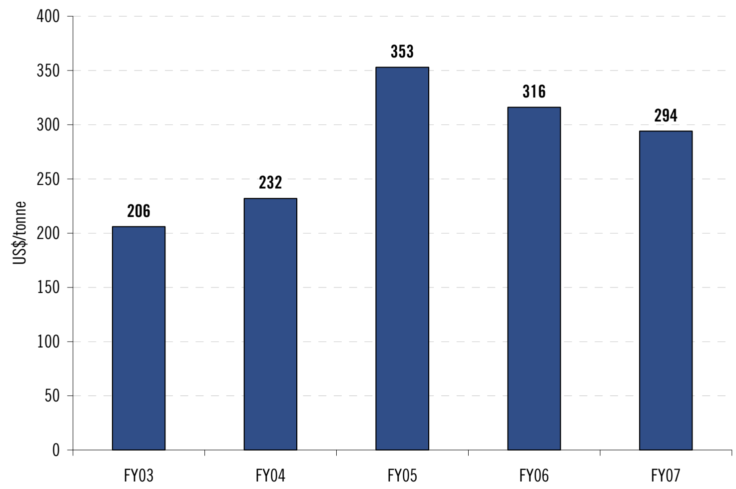
Source: Company Reports

Scope for controlling input costs

Corex process mainly uses soft coking coal which is cheaper than coke

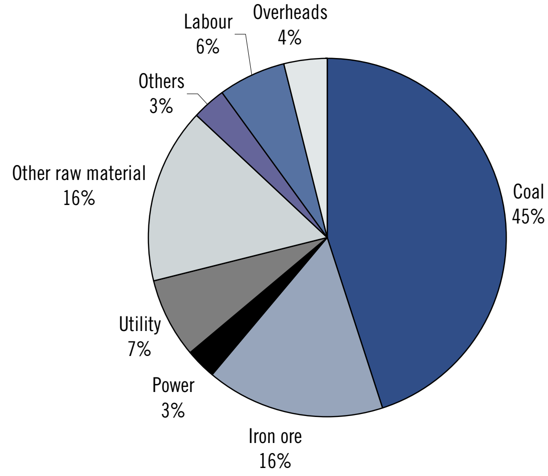
- **Technology/process mix helps reduce costs:** JSTL's mix of steel processes has helped reduce its cost of production. Of the current crude steel capacity of 3.8m tpa, 1.6m tpa uses the Corex process, while the rest uses blast furnace technology. The advantage of the Corex technology is that it generates gas which can be used to generate power (approximately 100MW for each unit of 0.8m tpa). The Corex process also mainly uses soft coking coal which is cheaper than coke, which is mainly used in the conventional blast furnace route. There are several initiatives by JSTL (as discussed below) which should help reduce input costs in the coming years.

Figure 4. HR Coil Production Cost Trend



Source: Company Reports

Figure 5. Operating Cost Breakdown – FY07



Source: Company Reports

The company's in-house iron ore is expected to increase to about 22% in FY08, about 40% in FY10, and 50% thereafter

- **Share of captive iron ore to rise:** In FY07, due to rising production and delay in allocation of new mines, JSTL could only meet 16% of its iron ore requirements from captive sources. The balance was sourced from National Mineral Development Corp (NMDC) and other private mine owners in the vicinity. The company expects to gradually increase the proportion of in-house iron ore to about 22% in FY08, about 40% in FY10, and 50% in subsequent years. The increase in proportion of captive iron ore usage should help save about Rs650m in FY08E, Rs2.4bn in FY09E, and as much as Rs5.4bn in FY10E.

The coke capacity of 1.2m tpa is expected to be hiked by 1.5m tpa by August 2008

- **Coke plant expansion:** As coke prices tend to be quite volatile, JSTL is increasing its capacity of coke batteries, so as to avoid buying coke from outside sources. The current coke capacity of 1.2m tpa is expected to be hiked by a further 1.5m tpa by August 2008 to enhance in-house coke availability. The waste gas of the coke plant is used to generate power, also helping to bring down costs.

The company plans to increase power capacity to meet around 90% of its usage during FY08-10

- **Captive power:** Along with the expansion in crude steel capacity, JSTL is also increasing its captive power capacity. Its current capacity of 190MW will be enhanced to 230MW by December 2007. The company plans to take power capacity to 530MW by September 2008 and to 560MW by FY10. As a result, JSTL should help ensure that it has captive power to meet around 90% of its usage during FY08-10. There will be a further 300MW hike in power capacity to 860MW to meet the requirements of JSTL's expansion to 10m tpa.

The beneficiation plant should lead to cost savings

- **Iron ore beneficiation:** In a recent announcement, JSTL stated that they planned to set up a beneficiation plant at a total capex of Rs8.5bn. The beneficiation plant will come up in two phases of 10m tpa each. The first phase will be completed by September 2008 and the second by September

2010. The plant will beneficiate lower grade iron ore (Fe content of 58%) which will be cheaper and is available in abundant quantities around the plant. The total amount of beneficiated ore that can be produced at full capacity will be 15m tpa. In addition to the lower cost of iron ore, the company has indicated that the beneficiation plant should lead to cost savings due to lower consumption of fluxes and coke, and better productivity in the manufacturing process. According to company estimates, the likely net savings (adjusted for volumes) could be around Rs800m in FY09E and Rs3-4bn in FY10E.

JSTL hopes to meet about 60% of its coking coal requirements from captive mines in about 18-24 months

- **Longer term benefit from coal mines:** JSTL is making efforts to improve the in-house availability of coking coal. (1) It has been jointly allotted a coking coal mine in Jharkhand (Rohne coal block) for meeting the coking coal requirements of its existing plant in Karnataka and the proposed plant in Jharkhand. JSTL and the two other allottees expect to finalise the JV in about three months. The mine output is expected to be 8m tpa and will be divided by the three companies. JSTL's share is 69%. JSTL expects to get coking coal from the mines in about 18-24 months and, given the ash content of the coal, expects the captive coal to meet about 60% of its requirements. (2) The company is also looking to acquire coal blocks in Mozambique, Africa, in order to become self sufficient in coking coal over a period of time. The due diligence on the coal blocks have been encouraging but further due diligence is required to assess the coal quality and suitability for use in steel manufacturing. Also further investment for transport infrastructure is required before the project is viable. JSTL expects to invest US$23m subject to milestones, and the Mozambique project is expected to be complete by FY10.

Increase in value addition

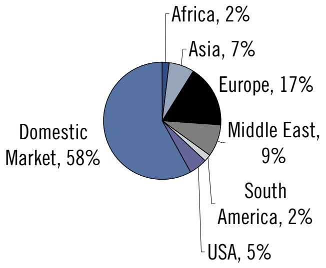
The expansion plan of crude steel is also accompanied by an increase in value added products as discussed below:

- The Hot Rolled Coil (HRC) capacity is being increased from 2.5m tpa in FY07 to 3.2m tpa in FY09 and 5.2m tpa in FY10. The HRC capacity can be increased by a further 3m tpa with a marginal investment.
- JSTL is increasing its capacity of Cold Rolled Products by 1m tpa. This will be able to produce higher value added products (CRCA/HRPO) used for the outer body panels of the auto and CV industry. As the new cold rolling mill is being set up at Vijaynagar, Karnataka, it is in proximity to the automobile factories in south India.
- The company is setting up a rod and bar mill by December 2008 which will enable it to manufacture long products. These products are expected to show strong growth particularly due to the infrastructure plans by the government.
- The company has about 0.9-1m tpa of surplus slabs which it currently sells as commodity grade slab. JSTL plans to make better quality slabs in India, which will help increase average realizations. This will in turn be exported to meet the specific requirements of its recent acquisition of pipe and plate

capacity in the U.S. In the U.S., it will be further processed into value added products, such as plates which sell at an average price of around US$900-1,000/tonne and pipes which sell at ~US$1,200-1300/tonne.

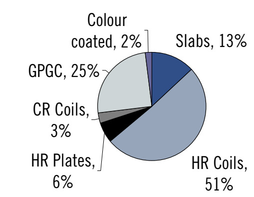
- Taking forward the strategy of developing value added facilities in developed economies, JSTL has agreed to take over a Service Centre in the UK which is located at Newport, South Wales. The annual steel processing capacity of the company is 0.15m tpa, with most of the output directed towards the construction sector. JSTL expects to use the expertise of the service centre to enhance its product mix in India and the UK and expand its market presence in UK and Europe.

Figure 6. Geographical Sales Distribution–FY07



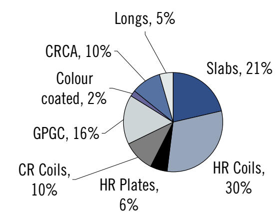
Source: Company Reports

Figure 7. Product Mix – FY07



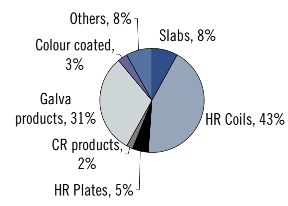
Source: Company Reports

Figure 8. Product Mix – FY09E



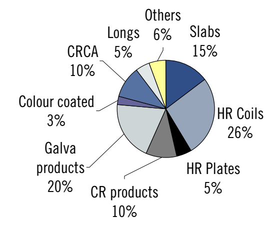
Source: Citi Investment Research estimates

Figure 9. Revenue Share – FY07



Source: Company Reports

Figure 10. Revenue Share – FY09E



Source: Citi Investment Research estimates

Income from carbon credit

The company is eligible for 7.67 million CERs

In April 2005, the company commissioned a 100MW captive power plant using waste gases as a Clean Development Mechanism (CDM) Project. As a result, JSTL is eligible for a total of 7.67 million Certified Emission Reductions (CERs) from April 2005 to March 2015. The company has already sold accrued CER of 1.34 million at €14.9 per CER and received Rs1.11bn for the period April 2005 to December 2006. The company is also working on one more project which will help generate 9 million CERs over ten years. This has not yet been incorporated in our forecasts.

South West Port Ltd

JSTL has entered into a take or pay agreement with South West Port Ltd, an associate company, which operates a port in Goa. The capacity of the port in Goa has been increased from 5m tpa to 7m tpa in May 2007. Raw materials are imported through the ports at Goa and Chennai, while exports go through the ports at Goa, Chennai, Mumbai, and JNPT.

Long-term projects

JSTL plans to set up two plants of 10m tonnes each at Jharkhand and West Bengal over the next 3-12 years

In addition to the 10m tpa of crude steel capacity being set up at the existing site in Vijaynagar in Karnataka, the company has begun preliminary work on setting up two steel plants at greenfield locations in the long term. These will each have a capacity of 10m tpa (capex of each is Rs350bn). These capacities will be set up in phases over the next three to twelve years in the states of Jharkhand and West Bengal. The government has allotted coking coal mines in Jharkhand which are to be used for the existing capacity in Karnataka and for the new capacity being set up in Jharkhand.

Details of US Acquisition

Value addition in the US

In an effort to expand its geographical distribution and enhance its value addition, JSTL has acquired three companies in the United States – Jindal United Steel Corp (1m tpa plate mill), Saw Pipes USA (0.5m tpa pipe mill), and Jindal Enterprises LLC (0.3m tpa of double jointing and coating capacity). JSTL plans to merge the three companies into one single operating entity in which it will hold a 90% stake. The facilities are located in Baytown in Texas, USA, a region which has strong demand for pipes used by the oil and gas industry. Even if there is a slowdown in the U.S., we expect the demand for pipes to remain firm as substantial investments in the sector are expected over the next few years.

JSTL will convert the surplus commodity grade slabs to high grade and export them to the US plants

JSTL has some quantities of surplus commodity grade slabs which it sells at around US$500/tonne. It plans to convert these to high grade slabs (can be sold at US$600/tonne) which can then be exported to the plants in the US. The slabs can be converted into value added products such as plates and pipes for which the selling prices are in the range of US$900-1,300/tonne.

Potential to enhance EBITDA

According to JSTL, the combined EBITDA of the target companies was US$13m. Adjusting this by consolidating the profits of the U.S. branch offices gives an EBITDA of US$73.5m for the year ended June 2007. JSTL feels that this EBITDA can be enhanced to US$144m by adjusting for the following:

- Profits from sale of plates being recorded in the U.S. company's books (rather than in the books of the Indian company) can contribute US$12m p.a.
- Non-recurrence of exceptional legal expenses and writeoffs of US$3m.
- Full year profits from the new coating line (only operational for one quarter in y/e June 2007) can contribute US$12m in a full year.
- A combination of (1) savings from rationalizing slab purchases from one source, (2) lower generation of scrap which is currently sold at a loss, (3) lower labour costs, and (4) interest cost savings due to better credit terms, can help generate ~US$43m of additional EBITDA.

JSTL feels that EBITDA can be further enhanced due to better preventive maintenance and with a capex of US$61m. Both these can help improve utilisation levels and reduce per tonne costs.

Funding of acquisition

The combined value of the three U.S. companies is US$900m. In order to finance the 90% stake, the funds required are US$940m, which includes US$130m towards working capital. Of the total amount of US$940m, US$380m will be forex debt with recourse to JSTL. JSTL has the flexibility to shift up to US$230m of recourse debt to the target company, subject to compliance with debt to EBITDA covenants. The balance US$560m is being raised as a loan in the books of the target company. The interest rate is 1.5% above LIBOR for the recourse debt and 3% above LIBOR for the non-recourse debt.

The acquisition appears expensive at an EV/EBITDA multiple of 12.2x

Based on the adjusted EBITDA of US$73.5m, the valuation multiple works out to an EV/EBITDA of 12.2x, which was not cheap particularly compared to our global average steel forward EV/EBITDA multiple of ~5.6x for CY07E. However, the acquisition multiple would fall to an EV/EBITDA of 6.3x if we normalize the EBITDA based on the adjustments as indicated above by the company. The initial reaction to the acquisition was indeed negative and the stock fell 10% in the days following the announcement of the U.S. acquisition.

Figure 11. Proposed Funding Structure for U.S. Acquisition

	(US$m)
EV of the 3 target companies	
Jindal United Steel Corp	320
Saw Pipes USA	530
Jindal Enterprises LLC	50
Total EV of target	**900**
Working capital required	**130**
Total funding required	**1,030**
Proposed structure	
SPV Netherlands (100% sub of JSW Steel)	
Loan guaranteed by JSW Steel (18 months)	150
Total (A)	**150**
SPV I US (100% sub of SPV Netherlands)	
Loan from seller	43
External loan (30 months)*	230
* Flexibility to shift to target co. subject to compliance of Debt/EBITDA covenant	
Total (B)	**273**
SPV II US (90% sub of SPV I US)	
Equity retained by seller	47
Senior non-recourse debt (7 years)	430
Working capital debt (5 years)	130
Total (C)	**607**
Total funding planned (A+B+C)	**1,030**

Source: Company Reports, Citi Investment Research

Target Company – Indicative Forecasts

There is limited historical financial information available on the target companies. Our forecasts are largely based on the inputs provided by JSTL on likely production and cost trends.

Figure 12. Target Company – Indicative Estimates

Rs m	FY08E	FY09E	FY10E
EBITDA	2,924	8,697	11,665
PAT	36	2,432	3,837
PAT attributable to JSW Steel (90%)	**32**	**2,189**	**3,453**
No. of shares (m)	172	172	172
Incremental EPS for JSW Steel (Rs)	**0.2**	**12.7**	**20.1**

Source: Company Reports, Citi Investment Research estimates

Risks

Lower selling prices

Our forecasts for JSTL are based on price forecasts provided by our European steel team. For Hot Rolled Coils, these are US$599/tonne for FY08E, US$620/tonne for FY09E, and US$569/tonne for FY10E. We give below the sensitivity of JSTL's profits based on different HRC prices for FY08E and FY09E.

Figure 13. Sensitivity to Steel Prices – FY08E

US$/t (HRC)	550	599*	650
PAT - standalone (Rs bn)	13.4	18.3	23.3
PAT - consolidated (Rs bn)	13.7	18.6	23.6
EPS - consolidated (Rs)	79.3	107.6	136.8

Source: Citi Investment Research estimates * Base case

Figure 14. Sensitivity to Steel Prices – FY09E

US$/t (HRC)	570	620*	670
PAT - standalone (Rs bn)	13.7	19.5	25.2
PAT - consolidated (Rs bn)	16.0	21.8	27.6
EPS - consolidated (Rs)	92.5	126.2	159.9

* Base case. Sensitivities are based on the assumptions that the prices for HR, CR and Galvanized steel products will rise/fall by US$50/t in each case. However, CR and galvanized product prices are less volatile than HR prices.

Source: Citi Investment Research estimates

Trends in US$ exchange rates

A key factor for JSTL's profit forecasts is the likely trend in the US$ versus the rupee. This is because domestic prices are based on the landed cost of imported steel. Also export prices are expressed in rupee terms. Our economics team expects a steady appreciation in the rupee versus the dollar and have forecasted average Rs/US$ exchange rates of Rs41.8, Rs40, and Rs39 for FY08E, FY09E, and FY10E, respectively. We give below the sensitivity to JSTL's profits based on different exchange rates.

Figure 15. Sensitivity to Rs/US$ Rate – FY08E

Rs/US$	40.0	41.8*	44.0
PAT - standalone (Rs bn)	16.4	18.3	20.8
PAT - consolidated (Rs bn)	16.6	18.6	21.1
EPS - consolidated (Rs)	96.4	107.6	122.1

Source: Citi Investment Research estimates *Base case

Figure 16. Sensitivity to Rs/US$ Rate – FY09E

Rs/US$	**38.0**	**40.0***	**42.0**
PAT - standalone (Rs bn)	16.5	19.5	22.4
PAT - consolidated (Rs bn)	18.8	21.8	24.8
EPS - consolidated (Rs)	108.8	126.2	143.6

Source: Citi Investment Research estimates *Base case

Delays in access to captive iron ore

JSTL has been allotted a mine in Karnataka with reserves of 60m tpa, which will help enhance its captive iron ore to around 2.5m tpa from 1.5m tpa now. However, there has been a stay order passed for which there is likely to be a hearing by end-September. Additionally, JSTL needs two more approvals which are expected by end-FY08, enabling it to have additional iron ore by FY09. Any delay in the court decision or in getting approvals would adversely impact JSTL's earnings, as the company would need to purchase a higher proportion of iron ore from non-captive sources.

Delays in expansion

One of the key drivers for our earnings growth for JSTL is the strong CAGR volume growth of 32% expected through FY10E. This is dependant on the planned expansions coming through on time. While we do not expect any delay in completion of the first phase, any postponements would adversely impact our earnings forecasts.

Valuations

JSTL has changed quite substantially over the past five years. This along with a substantial increase in international steel prices has led to a re-rating of the stock.

P/E

We have analysed JSTL's P/E trading band since FY05. JSTL has seen several changes in form over the past five years and also grown in size since then. JSW Steel was formed as a result of the merger between Jindal Vijaynagar Steel (upstream integrated steel producer) and Jindal Iron and Steel (downstream products) in April 2003. Subsequently, the company reached its present form in FY05, when three other businesses which included the blast furnace, coke oven batteries, and power plant were merged with it.

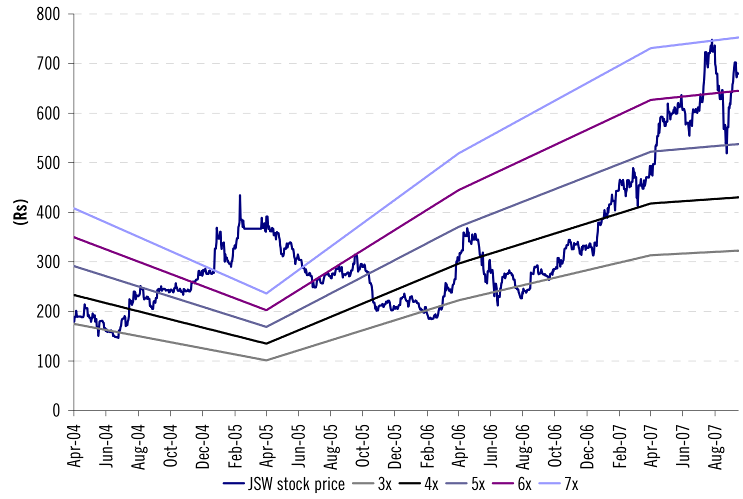
JSTL currently trades at a 23% discount to domestic sector's P/E of 7x for FY09E

Through most of its trading history since FY05, JSTL has traded in a P/E band of 3-5x. Steel stocks have generally traded at a discount to the Sensex during FY05-FY06. Additionally, JSTL's valuations have generally been at a discount to the other integrated steel majors which are larger in size, and have enjoyed higher margins. The steel price trend has also been another key driver for the stock price. Steel prices did well during 2004, which led to JSTL's valuations getting re-rated during this period. Subsequently steel stocks fell in FY06 due to a fall in international steel prices. Since April 2007, valuations have moved upwards supported by better steel prices and on the back of its plans to expand capacity quickly from a level of 3.8m tpa to 10m tpa by 2010 at competitive capex costs.

Our target P/E multiple is in line with current valuation range

We use P/E as our preferred valuation metric for JSTL as we expect the company's stock price to be driven by earnings momentum. Our target multiple of 6.5x FY09E consolidated EPS is the mid-point of JSTL's valuation range since April 2007, when the sector was re-rated to reflect M&A activity and growth prospects. Our target P/E is in line with the current re-rated P/E range because we expect strong volume growth, higher value addition, and lower average production costs over FY08-10. An upward re-rating going forward is unlikely as we do not expect steel prices to rise significantly from current levels. More so, in FY09 we expect pressure from higher prices for raw materials such as iron ore and coal, for which JSTL relies on outside purchases.

Figure 17. JSTL's Rolling P/E Band Chart

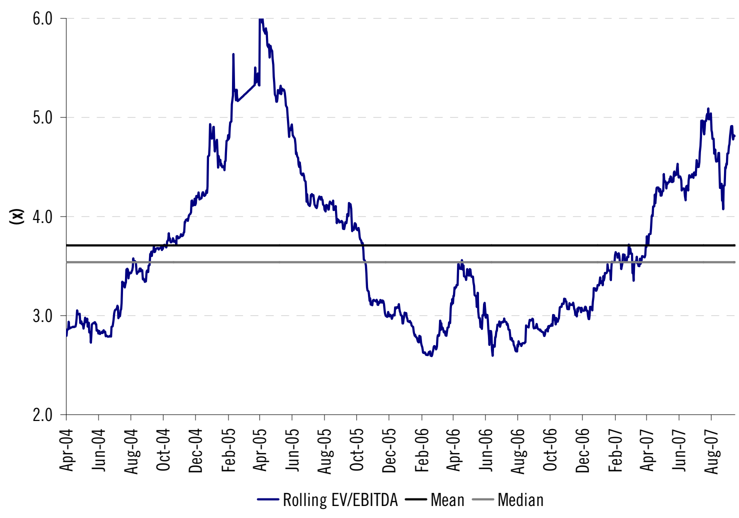


Source: Company Reports, Citi Investment Research

EV/EBITDA

JSTL's rolling forward EV/EBITDA has been trading in a wide range in the three year period from FY05. The mean during this period has been 3.7x. The recent upward trend in steel prices along with the rapid expected growth in volumes has led to EV/EBITDA trading in a range of 4x-5x. At our target price, the stock would trade at a consolidated EV/EBITDA multiple of 5.3x.

Figure 18. JSTL's Rolling EV/EBITDA Chart



Source: Company Reports, Citi Investment Research

Comparison with global majors

The table below shows that JSTL appears cheap versus our global steel coverage universe. On a P/E basis it trades at 5.4x for FY09E, at a discount to our steel coverage universe (average of 10.3x for CY08E). On an EV/EBITDA basis it trades at 4.8x for FY09E, compared to the global average of 5.5x for CY08E.

Figure 19. Global Valuations

Company Name	Reuters Code	Rating	Market Cap	Share				P/E (x)			EV/EBITDA (x)		
			USD $m	Ccy	Price	Target	Upside	2006A	2007E	2008E	2006A	2007E	2008E
UK/Europe													
Acerinox	ACX.MC	2M	6,596	EUR	18.3	18.0	-2%	7.81	8.79	10.43	5.09	5.76	6.48
Arcelor-Mittal	MTP.PA	2M	100,895	EUR	49.2	50.0	2%	6.47	9.02	9.52		5.71	5.73
ThyssenKrupp AG	TKAG.DE	2M	26,966	EUR	40.2	40.0	0%	7.61	9.94	9.00	3.80	4.53	5.21
TUBACEX	TUB.MC	2M	1,137	EUR	6.2	7.7	25%	19.46	13.05	12.03	12.10	9.27	8.20
Eastern Europe, South Africa & Latin America													
Severstal	CHMF.RTS	1M	18,290	USD	18.2	21.0	16%	10.41	7.87	10.02	3.04	4.21	4.93
Companhia Siderurgica Nacional	CSNA3.SA	1H	15,329	BRL	113.2	158.0	40%	14.39	8.54	10.91	5.88	6.21	6.12
Gerdau SA	GGBR4.SA	2H	15,430	BRL	43.6	56.0	28%	7.39	9.85	8.60	4.99	5.80	5.09
Evraz Group	HK1q.L	2M	17,924	USD	51.1	33.0	-35%	6.24	14.56	16.06	3.77	8.12	9.36
Kumba Iron Ore Ltd	KIOJ.J	1M	10,843	ZAR	245.8	226.0	-8%	10.51	18.96	12.41		9.75	6.86
Mittal Steel South Africa Ltd	MLAJ.J	1M	7,782	ZAR	124.8	180.0	44%	7.14	7.14	7.24	3.92	4.26	4.26
Mechel Steel Group	MTL.N	1M	6,552	USD	47.2	52.0	10%	5.36	5.80	6.72	3.50	3.27	3.29
Novolipetckii Metallurgicheskii	NLMK.RTS	1M	19,478	USD	3.3	3.2	-2%	5.98	8.47	10.75	3.87	4.90	5.79
Grupo Simec SAB de C V	SIMECB.MX	1H	1,549	MXN	35.8	54.0	51%	8.35	10.30	7.56	5.75	5.18	3.29
Usiminas	USIM5.SA	1H	12,948	BRL	112.2	140.0	25%	6.29	7.05	7.44	3.77	4.08	3.75
Australia													
Bluescope Steel Ltd	BSL.AX	3H	6,351	AUD	10.3	9.4	-9%	9.72	12.60	16.38	5.97	6.79	7.75
OneSteel Ltd	OST.AX	1M	4,813	AUD	6.6	6.7	2%	12.78	14.34	12.38	7.40	7.57	6.95
Sims Group Ltd	SGM.AX	2H	3,326	AUD	31.4	27.0	-14%	10.10	13.18	16.31	6.18	7.91	9.42
Steel & Tube Holdings Ltd	STU.NZ	2H	289	NZD	4.6	4.3	-8%	13.48	13.93	13.49	8.32	8.55	8.31
North America													
Allegheny Technologies Inc	ATI.N	1H	9,723	USD	95.1	124.0	30%	11.66	12.54	11.13	6.75	7.15	5.75
Commercial Metals Co	CMC.N	1H	3,342	USD	27.9	40.0	43%	8.30	9.58	8.18	4.88	5.29	4.27
Nucor Corp	NUE.N	1M	17,092	USD	57.1	80.0	40%	8.98	12.24	10.04	4.58	6.02	5.38
Steel Dynamics Inc	STLD.O	1H	3,947	USD	43.5	58.0	33%	7.33	10.18	9.05	3.85	5.64	5.14
United States Steel Corp	X.N	1H	10,833	USD	91.6	118.0	29%	5.69	9.51	8.08	3.24	5.73	4.77
Steel								**8.12**	**10.33**	**10.29**	**4.51**	**5.63**	**5.45**

Source: Powered by dataCentral

Financial Summary

Figure 20. Operating Data

YE March 31	FY05	FY06	FY07	FY08E	FY09E	FY10E
Average Exchange Rate	44.9	44.3	45.3	41.8	40.0	39.0
HRC US$/t	569	427	547	599	620	569
CRC US$/t	660	548	580	703	720	664
Wire Rods US$/t		431	533	623	696	481
Bars US$/t		523	610	651	703	521
Capacity (m tonnes)						
Crude Steel	2.50	2.50	3.80	3.80	6.80	6.80
Slabs	2.50	2.50	3.80	3.80	5.30	5.30
Longs	0.00	0.00	0.00	0.00	1.50	1.50
HRC	2.00	2.00	2.50	2.50	3.20	5.20
HR Plates	0.28	0.28	0.28	0.32	0.32	0.32
CRC	1.00	1.00	1.00	2.00	2.00	2.00
GP/GC/Galvalume	0.90	0.90	0.90	0.90	0.90	0.90
Colour coated	0.00	0.10	0.10	0.10	0.10	0.10
CRCA	0.00	0.00	0.00	0.00	0.80	0.80
Long products	0.00	0.00	0.00	0.00	1.50	1.50
Sales (m tonnes)						
Slabs	0.04	0.00	0.35	0.48	0.89	1.01
HRC	1.05	1.19	1.39	1.56	1.42	2.08
HR Plates	0.02	0.07	0.15	0.21	0.24	0.24
CRC	0.05	0.08	0.07	0.33	0.26	0.34
GP/GC/Galvalume	0.68	0.76	0.66	0.66	0.67	0.71
Colour coated	0.00	0.01	0.05	0.08	0.09	0.09
CRCA	0.00	0.00	0.00	0.00	0.40	0.48
Long products	0.00	0.00	0.00	0.00	0.19	1.13

Source: Company Reports and Citi Investment Research estimates

Figure 21. Profit and Loss Statement (Rs m)

YE March 31	FY05	FY06	FY07	FY08E	FY09E	FY10E
Gross sales	**68,859**	**67,223**	**93,373**	**108,749**	**134,119**	**168,191**
Net sales	**65,294**	**61,363**	**85,944**	**99,632**	**123,311**	**153,476**
Operating expenses	43,930	45,268	58,866	67,058	85,522	110,228
Operating profit	**21,364**	**16,094**	**27,078**	**32,573**	**37,789**	**43,247**
Other income	190	138	390	3,462	3,462	3,046
EBITDA	**21,553**	**16,232**	**27,468**	**36,035**	**41,251**	**46,294**
EBITDA margin (%)	33%	26%	32%	36%	33%	30%
Depreciation	3,595	4,058	4,982	5,545	7,358	10,543
PBIT	**17,958**	**12,174**	**22,486**	**30,490**	**33,892**	**35,750**
Interest	4,699	3,640	3,995	4,248	6,728	9,680
Extraordinary income	1,467	4,485	661	188	0	0
PBT	**14,726**	**13,019**	**19,152**	**26,429**	**27,165**	**26,070**
Total Tax	6,025	4,454	6,232	8,008	7,715	7,169
Effective tax rate %	41%	34%	33%	30%	28%	28%
Reported PAT	**8,701**	**8,565**	**12,920**	**18,421**	**19,450**	**18,901**
Adjusted PBT (excl extraordinaries)	**13,259**	**8,534**	**18,490**	**26,242**	**27,165**	**26,070**
Tax on adjusted PBT	5,425	2,919	6,017	7,951	7,715	7,169
Adjusted PAT (excl extraordinaries)	**7,834**	**5,615**	**12,474**	**18,290**	**19,450**	**18,901**
Profit margin (%)	12%	9%	15%	18%	16%	12%
Consolidated Net Profit	**7,834**	**5,615**	**12,613**	**18,513**	**21,701**	**22,739**
Consolidated EPS (Rs)	61	36	77	108	126	132

Note: PAT differs from the PAT reported on page 2 as the PAT on page 2 deducts preference dividend.

Source: Company Reports and Citi Investment Research estimates

Figure 22. Balance Sheet (Rs m)

YE March 31	FY05	FY06	FY07	FY08E	FY09E	FY10E
Net fixed Assets	**64,257**	**83,799**	**101,920**	**136,359**	**188,731**	**227,088**
Gross Block	75,203	83,684	105,128	126,891	200,541	228,521
Acc. Depreciation	14,439	18,505	23,237	28,782	36,140	46,683
Net Block	60,764	65,180	81,891	98,109	164,401	181,838
CWIP	3,493	18,620	20,029	38,250	24,330	45,250
Investments	**2,296**	**851**	**1,929**	**9,192**	**10,192**	**11,592**
Current Assets	**18,940**	**25,679**	**24,856**	**81,445**	**85,538**	**78,499**
Inventories	7,434	9,242	10,114	9,870	12,618	15,960
Sundry Debtors	2,666	2,413	2,452	2,730	3,716	6,307
Cash And Bank Balance	1,225	989	3,378	58,845	57,204	42,232
Other Current Assets	7,615	7,898	5,493	6,000	7,000	8,000
Loans & Advances	0	5,137	3,420	4,000	5,000	6,000
Current Liabilities and provisions	**16,083**	**21,426**	**22,857**	**31,486**	**36,652**	**41,691**
Sundry Creditors	11,580	17,266	19,874	19,828	24,753	30,380
Other Liabilities	2,180	2,003	2,336	2,550	2,800	3,050
Provisions	2,323	2,158	648	9,108	9,100	8,261
Miscellaneous Expenditure	**3,506**	**3,040**	**1,949**	**859**	**0**	**0**
Overall Capital employed	**72,916**	**91,943**	**107,797**	**196,369**	**247,809**	**275,488**
Shareholders Funds	**28,707**	**40,772**	**53,150**	**69,179**	**83,876**	**98,426**
Share capital	1,290	1,570	1,640	1,720	1,720	1,720
Share application	0	0	218	0	0	0
Shares Forfeited	611	611	610	610	610	610
Share Premium	139	1,631	3,465	5,561	5,561	5,561
Other Reserves	26,667	36,961	47,218	61,288	75,984	90,535
10% Preference capital	**2,790**	**2,790**	**2,790**	**2,790**	**2,790**	**2,790**
Loan Funds	**38,364**	**40,961**	**41,730**	**111,101**	**144,585**	**154,585**
Deferred tax liability	**3,055**	**7,420**	**10,127**	**13,298**	**16,558**	**19,686**
Total sources of Funds	**72,916**	**91,943**	**107,797**	**196,369**	**247,809**	**275,488**

Source: Company Reports and Citi Investment Research estimates

Figure 23. Cash Flow Statement and Stock Metrics

YE March 31	FY05	FY06	FY07	FY08E	FY09E	FY10E
Cashflow (Rs m)						
Net cash from operations	20,027	18,636	28,223	32,497	33,221	36,715
Net cash from investing	-4,138	-15,927	-22,446	-43,785	-57,268	-47,254
Net cash flow from financing	-15,077	-2,945	-3,388	66,755	22,405	-4,433
Net cash flow	**812**	**-236**	**2,389**	**55,467**	**-1,641**	**-14,971**
Stock Metrics						
No. of shares (m)	129	157	164	172	172	172
Book value per share (Rs)	222	260	324	402	488	572
EPS (Rs)	58	34	74	104	111	108
CFPS (Rs)	86	60	105	137	154	169
Net Debt/EBITDA (x)	1.72	2.46	1.39	1.44	2.11	2.42
Debt/Tangible net worth (x)	1.34	1.00	0.79	1.61	1.72	1.57
Net debt/equity (x)	1.29	0.98	0.72	0.75	1.04	1.14
ROE (%)	26%	13%	23%	26%	23%	19%
ROCE (%)	17%	10%	15%	11%	11%	10%
Preference dividend (Rs m)	317	318	319	326	326	326
Total dividend (Rs m)	1,174	1,432	2,345	4,024	4,427	4,024
DPS (Rs)	8.0	8.0	12.5	20.0	22.0	20.0
Dividend payout (%)	16%	27%	19%	22%	23%	22%

Source: Company Reports and Citi Investment Research estimates

Indian Steel Outlook

Industry Background

The Indian steel industry was deregulated in 1991, following which there has been substantial growth in steel capacities, largely driven by the private sector. In FY92, finished steel production was 16m tonnes and consumption was 15m tonnes. With growing domestic demand, and more and more players coming in and expanding capacity, finished steel production since then has tripled. In FY07, finished steel production according to the Joint Plant Committee was around 49m tonnes, growing at a CAGR of 10% since FY03.

In FY07, six companies accounted for ~68% of the crude steel production

The main producers of steel in India are SAIL, Tata Steel, RINL, JSTL, Ispat, and Essar Steel. These six companies accounted for around 68% of the crude steel production in FY07. SAIL, Tata Steel and RINL produce steel using the blast furnace/basic oxygen furnace (BF/BOF) which uses iron ore and coal/coke as the inputs for producing finished steel. As coking coal is in short supply in India, some steel producers such as Essar Steel and Ispat are now using alternative technologies such as EAF which use sponge iron and steel scrap as the raw materials. JSTL uses the Corex technology (in addition to blast furnace technology) which mainly uses iron ore and coal and less of coking coal. The rest of the industry is made up of secondary producers and processors who produce pig iron and sponge iron, and units which use scrap, sponge iron and pig iron to produce steel.

Strong demand growth to continue

We expect domestic consumption to grow at least 10% in the next few years

Domestic steel consumption in FY07 was 44m tonnes, growth of 11% yoy. The main growth driver in the past three years, when demand grew by a CAGR of 12%, was the construction sector (driven by industrialization, urbanization, and the automobile sector). Going forward, we expect the steel sector to benefit from the main consuming sectors such as construction, automobile, and capital goods. India's infrastructure investment in the eleventh five year plan (2007-2012) is expected to be more than US$300bn on urban infrastructure, irrigation, roads, railways, power, ports, airports, which should lead to higher steel consumption. Strong demand domestically for automobiles and the growing preference for India as an automobile hub, should lead to the sector growing at 10-11% p.a. over the next few years. The growth in the user industries should lead to at least 10% p.a. growth in domestic steel consumption over the next few years.

Figure 24. Expenditure Estimates of Different Sectors Across India

Infrastructure Facilities	Investment (US$ bn)
Road	48
Railways	80
Port	13
Airport	9
Power	200
Total	**350**

Source: Company Reports, Planning Commission

Figure 25. Finished Steel – Domestic Demand and Supply (M Tonnes)

YE March 31	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08E	FY 09E	FY 10E
Total Production - Finished Steel	**33.67**	**36.96**	**40.06**	**44.54**	**49.39**	**52.97**	**58.28**	**66.46**
Growth (%)	9.9%	9.8%	8.4%	11.2%	10.9%	7.2%	10.0%	14.0%
Imports	1.51	1.54	2.11	3.85	4.10	4.79	4.90	4.90
Exports	4.51	4.84	4.38	4.48	4.75	4.86	4.95	7.00
Inter plant Transfer/Stock Variation	1.78	2.49	3.39	4.73	5.00	4.75	4.75	4.75
Finished Steel Consumption	**28.90**	**31.17**	**34.39**	**39.19**	**43.74**	**48.14**	**53.48**	**59.61**
Growth (%)	5.3%	7.9%	10.3%	13.9%	11.6%	10.1%	11.1%	11.5%

Source: JPC, Citi Investment Research estimates

Raw material outlook

India has a natural advantage as a steel producing nation due to its abundant resources of iron ore, non-coking coal, and skilled work force. This helps make India among the lowest cost steel producers in the world. However, this advantage is somewhat reduced by dependence on imported coking coal and inadequate infrastructure.

Iron ore prices are expected to go up 30% in FY09

Iron ore: The proven and prospective reserves of iron ore are around 25 bn tonnes. These are largely found in the states of Chhatisgarh, Jharkand and Orissa, Karnataka and Goa. Of the major producers in India, Tata Steel, and SAIL enjoy the advantage of 100% captive ore. Iron ore prices are expected to go up around 30% in FY09.

Coking coal prices are likely to settle around US$125/t FOB in FY09

Coking Coal: India does not have adequate reserves of good quality low ash coking coal. As a result steel producers import around 70% of their prime coking coal requirements and blend it with domestic coal. This dependence is likely to continue with one estimate stating that 80-85% of prime coking coal requirements would be imported over the next 10-15 years. Coking coal prices are expected to rise to around US$125/tonne in FY09 from around US$96/tonne FOB in FY08, based on the current high spot rates. Given the rising trend in coking coal prices, JSTL is reducing the proportion of coking coal it uses and replacing it with soft and semi soft coal.

Major expansion plans in the offing

Most of the large steel producers are going ahead with substantial hikes to capacity. The private sector producers such as JSTL and Tata Steel are setting up brownfield capacities which will add 6.2m tpa for JSTL and 5m tpa for Tata Steel, taking both to 10m tpa by 2010. In the longer term, there are even bigger plans. Tata Steel plans to add about 23m tpa at three locations, JSTL plans 20m tpa, and SAIL plans 10m tpa (and may increase this). Foreign majors such as Posco and Arcelor Mittal are also keen to enter the Indian market, but are still awaiting clearances for their greenfield plants. Posco is planning 12m tpa in phases and Arcelor Mittal has announced a 12m tpa project in Jharkhand and another similar sized project in Orissa.

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This section is extracted from our published note *European Steel*, 7 September 2007

International Steel Outlook

2008 Déjà vu 2005

2007 has all the similarities of 2005: freight rates are at all-time highs, strong demand, a weak dollar and good conversion margins. There have been a few changes. This year demand in Europe has been good, with the US more lacklustre, our Steel Input Index is 50% higher and there has been a spate of Global M&A.

We believe that 2008 is likely to play out in a similar manner to that of 2005.

Recall 2005

- All-time high prices in H105.
- A 71.5% increase in Iron Ore prices.
- A 66% increase in Coking Prices.
- Inventory builds to all-time highs.
- H205 a 10% drop in consumption.
- Steel prices fall 35%.

What hasn't changed

- US dollar is weak and this has been priced.
- Freight rates are at all-time highs.
- Conversion Margins are close to peak levels in Europe.
- CIR is forecasting a significant increase in iron ore prices.

What has changed?

- Demand looks more robust.
- Saudi Arabia is financing $1 trillion dollars of spending over the next 15 years.
- Supply has proven disciplined, albeit in favourable circumstances.
- China has altered its export tax regime.
- Market fears have moved to US soft or hard landing, previously we would have replaced US with China.

Strategy favours those with integration

Just like last time, iron ore prices look set to increase and they could surprise to the upside according our Commodity Analyst, Alan Heap. We think that this poses a significant threat to steel producers. For those with iron ore integration, this poses a significant opportunity.

We think that prices will be unable to match the cost base pressure and margins will suffer in 2008E.

Price Revisions

We are increasing our price forecasts for HRC for 2007E and 2008E by 2.5% and 9.2% respectively. We are increasing our rebar price benchmark by 1.6% and 15% respectively.

Figure 26. Simplified, Revised Price Deck

		2005	2006	2007E	2008E	2009E	2010E
Rebar	$/t	438	510	651	703	521	544
HRC	$/t	477	503	599	620	569	569
CRC	$/t	589	620	703	720	664	664
Fe Ore	USc/MTU	56	72	80	100	106	93
Scrap	$/t	192	217	271	299	232	244
Percentage							
Rebar				1.6%	14.9%	6.2%	6.2%
HRC				2.5%	9.2%	6.1%	6.1%
CRC				-1.6%	4.7%	5.2%	5.2%
Fe Ore				0.0%	6.5%	8.3%	8.3%
Scrap				0.0%	7.3%	6.5%	6.5%

Source: Citi Investment Research and CRU

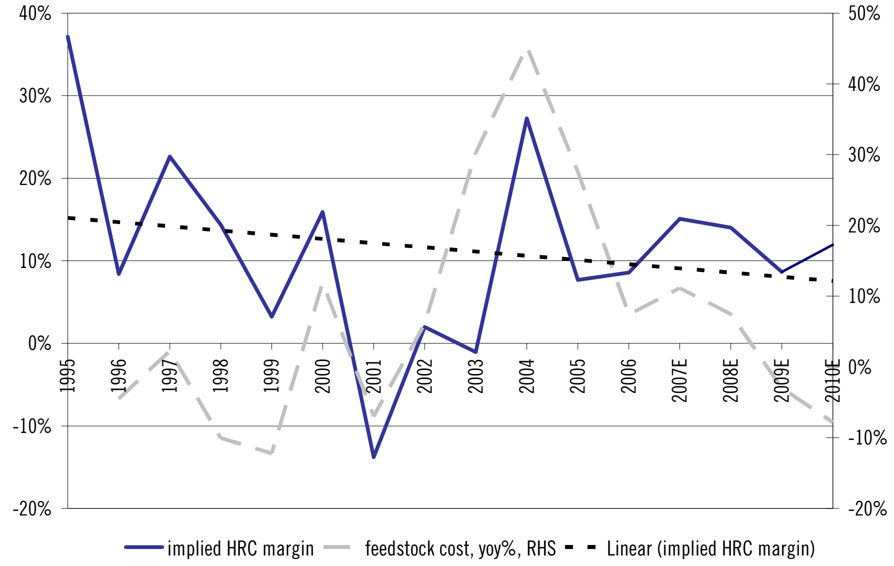
We see the following as the key drivers to our changes:

- **Increasing iron ore price** – We are now forecasting a 30% increase in iron ore prices in 2008E contracts.
- **Partial cost price pass-through** – We are increasing our prices to reflect some cost-pass through; however we think that given the magnitude of the price changes, there will be a hit to non-mining integrated steel producers.
- **Benign steel pricing environment** – We think that the steel pricing environment is benign. There is a lack of a new wave of demand in the global market but demand remains supported from strong emerging market demand, especially in the Middle East. At the same time, the supply side threat of China looks to be fading, at least in theory. Removal of tax rebates and concerted efforts to remove inefficient capacity should restrict the marginal tonne of supply from China.
- **Macroeconomics** – A US softening could pose a threat, however we think this threat is much reduced versus previous cycles. We note our Steel-Weighted IP.

Implications from our changes

The implication of a c.9% increase in feedstock is to lower the conversion margin moderately in HRC. We illustrate this in the figure below. There is a strong correlation between a rising cost base and increasing HRC margin. We will show later that conversion margins are, in our opinion, the best indicator for iron ore contract prices.

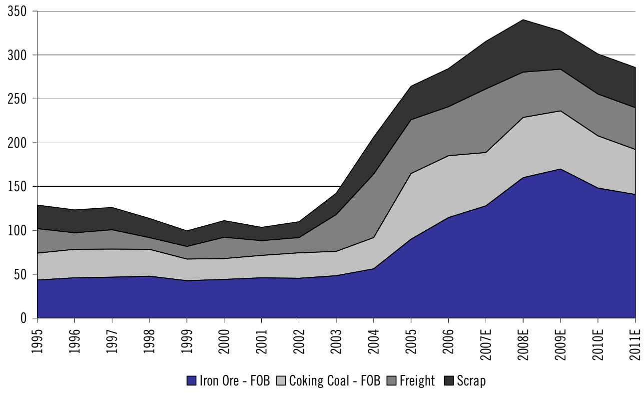
Figure 27. EU HRC Conversion Margin vs Input Cost, % change yoy



Source: Citi Investment Research and CRU

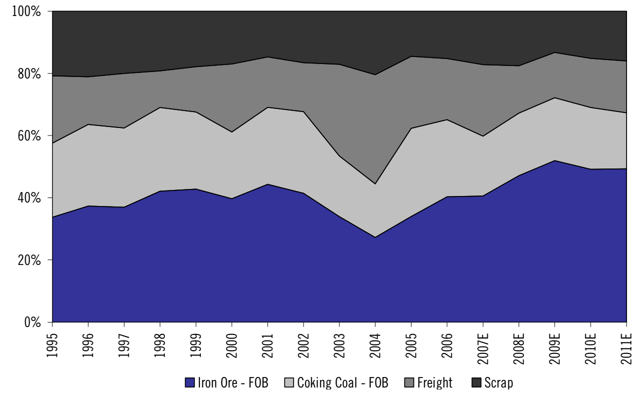
In 2008, we are expecting to see an increase in the cost base but at a slowing rate. Moreover, the raw materials component is increasing at a faster rate. We think that a 23% increase in coking coal and a 30% increase in iron ore will represent a significant challenge to negotiators to pass through to end-consumers.

Figure 28. Steel Input Cost Breakdown, $/t



Source: Citi Investment Research

Figure 29. Steel Input Cost Split, $/t

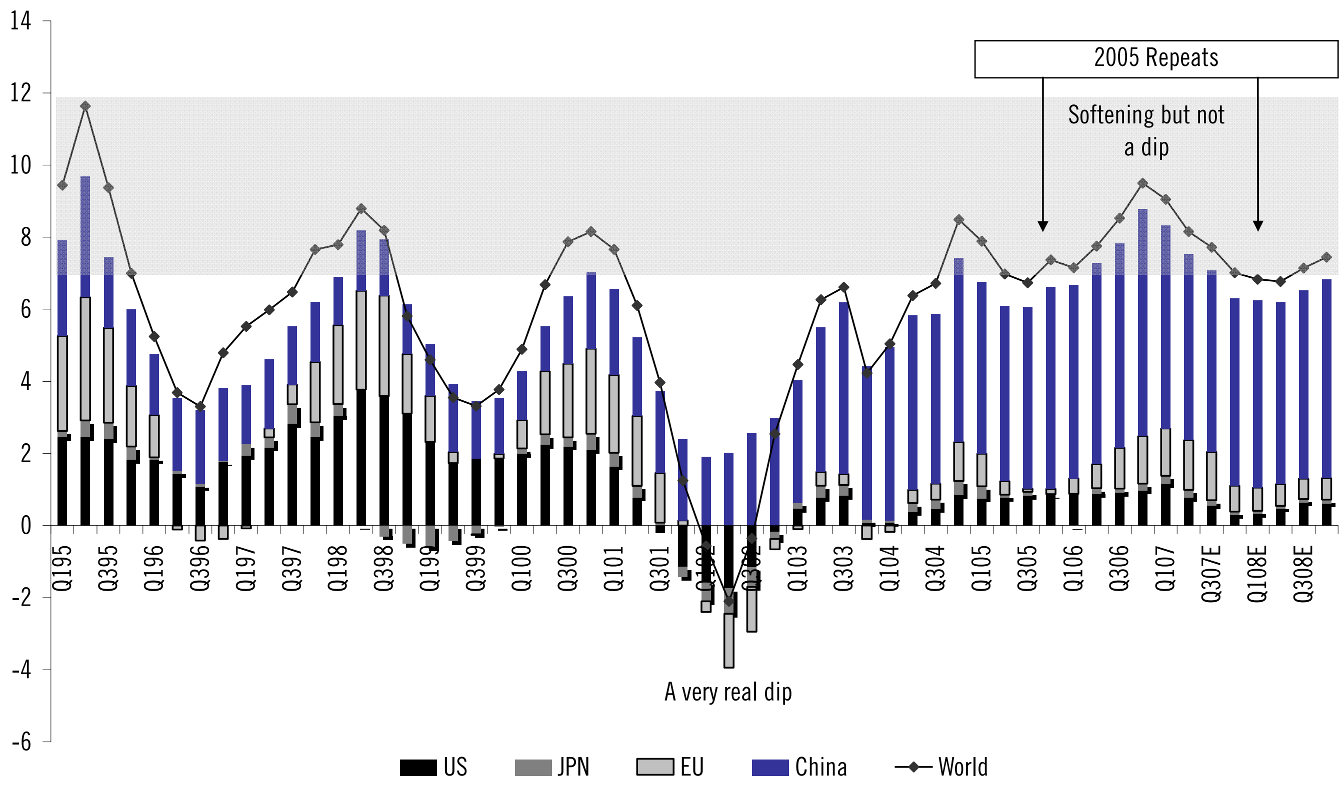


Source: Citi Investment Research

Demand set to soften from peak to high levels

We are forecasting Steel-Weighted IP growth of 8% and 7% for 2007E and 2008E, respectively. This is down from peak growth levels at 9.5% in Q406. This does not yet represent a significant enough dip to concern us on the demand outlook.

Figure 30. Global Steel Weighted Industrial Production, change year-on-year



Source: Citi Investment Research

As the figure above shows, we think that a softening in the US is likely to have less impact in the period 2002-2008E than in the period 1995-2002. This is because of the emergence of China. If there is to be a softening in the US, our thesis could be tested in full.

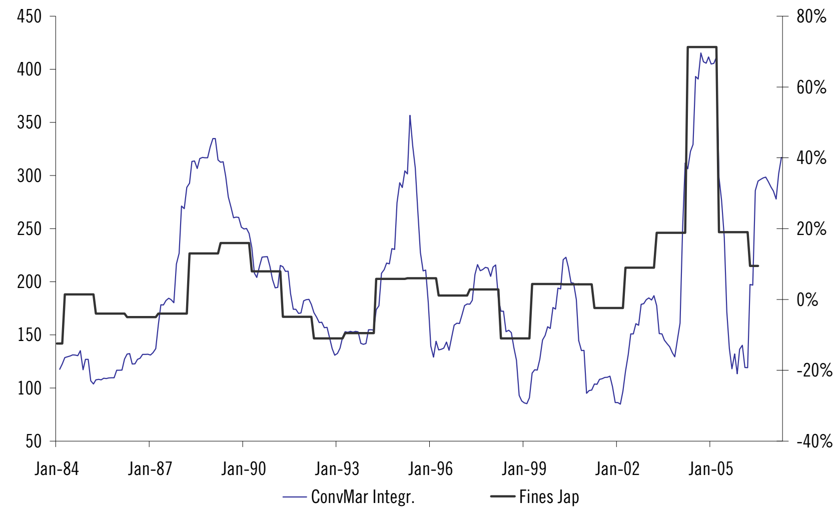
Iron Ore to place the squeeze on steel margins

Strong margin performance has seen a recovery in conversion margins in Europe close to the levels seen in 1989, 1995 and 2004. This has been assisted by a number of elements:

- Robust demand in Europe, Eastern Europe, Russia and the Middle East.
- Supply-side discipline, specifically from the US in late 2006 and early 2007.
- US$ depreciation which for European producers has seen a reduction in predominantly US$-based variable costs.

Looking at the relationship between EU conversion margins and 1-year lagged contract price changes, we think that there is scope for iron ore prices to exceed our revised 30% forecast.

Figure 31. European Conversion Margins and 1-year lagged iron ore price increases

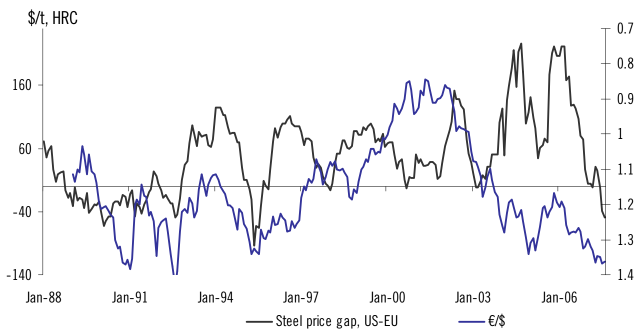


Source: Citi Investment Research

Remember the currency effect in Europe

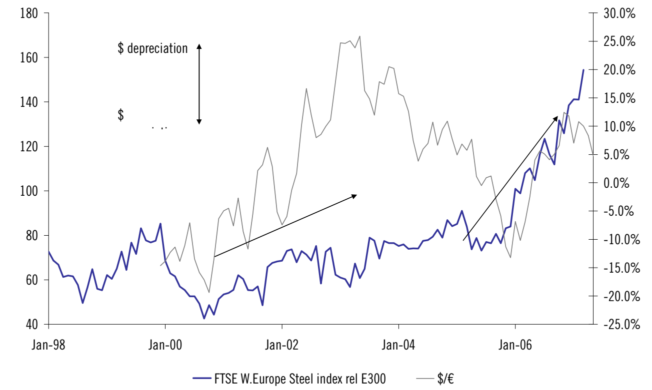
European steels have benefited considerably from $ depreciation. Prices which are set in local currencies have been robust, meanwhile the $ weakness has lowered the cost base.

Figure 32: US versus Europe steel price versus Euro



Source: Citi Investment Research

Figure 33. FTSE versus Europe versus Euro



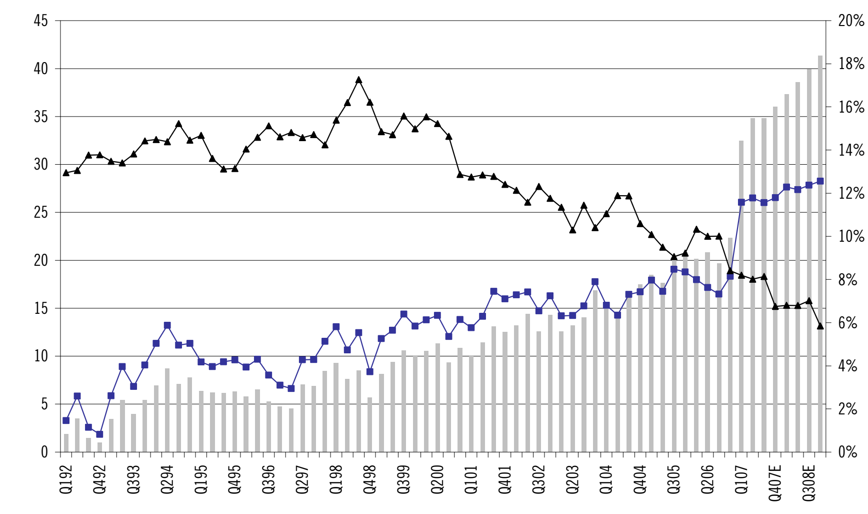
Source: Citi Investment Research

Emerging Markets Still Driving Markets – revisited

The Crux and the Crossover

2007 has seen what many would have thought impossible 20 years ago, our catch-all region "Other" region now consumes more steel than the US. This region includes South America, the Middle East, Emerging Europe and Emerging Asia.

Figure 34. "Other" consumption growth vs US and "Other" consumption as a % of the world



Source: Citi Investment Research

Middle East – Important and a low visibility market

We see the Middle East as one of the most important areas for steel consumption in the next two years. However, we acknowledge that there is limited consumption data and/or consultant attention to this segregated region. We think that this region's growth can offset any softening in the US demand. We place our expectations for the US region and "Other" region, which contains our Middle Eastern demand forecasts.

We see an increasing demand outlook over the two regions combined, both in absolute and on a year-on-year basis. We think this element is currently poorly understood by the market, which places too much weight on US developments relative to the Middle East.

Saudi Arabia – the next wave

Many investors are familiar with the developments in Dubai and Qatar. However, we argue that two new countries are preparing for a new wave of development; Saudi Arabia and Abu Dhabi. Our research into the developments in Saudi Arabia draws to the announcement that Saudi intends to spend $1,000bn over the next 15 years, $78bn in 2007E (detailed in the figure below).

Figure 35. 2007 Saudi Projected Spend

Activities	Industrial	Service	Agricultural	Total - SARbn	Total - USDbn
No. of Projects	1,388	2,211	9	3,608	
Total finance - SAR bn	141.4	150.8	0.5	292.7	78
Saudi Share - SAR bn	76.5	103.7	0.1	180.5	48
Foreign Share - SAR bn	64.8	47.0	0.3	112.2	30

Source: SAGIA

We look more closely at assumptions for the $1,000bn in the table below. We crudely assume what percentage of the total spend that would fall on steel, which includes petro-chemical plants to new cities and infrastructure. We take a broad range of 4-16%, acknowledging that the lower end of the spectrum is more realistic. We then assume a rebar price of $550/tonne to suggest the total steel required. In order to give some relevance for the next five years, we assume that the steel portion would be front-end intensive, as expected in construction-orientated steels. We assume that 70% of the total steel requirements would be spent in the first five years.

Figure 36. Global Steel Consumption sensitivity to portion of Saudi project spend on steel

Steel portion of Spend As a %	$ bn	Tonnes of steel	In first 5 years per annum	As a % of 2006 World consumption
2%	20	36.4	5.1	0.5%
4%	40	72.7	10.2	1.0%
6%	60	109.1	15.3	1.4%
8%	80	145.5	20.4	1.9%
10%	100	181.8	25.5	2.4%
12%	120	218.2	30.5	2.9%

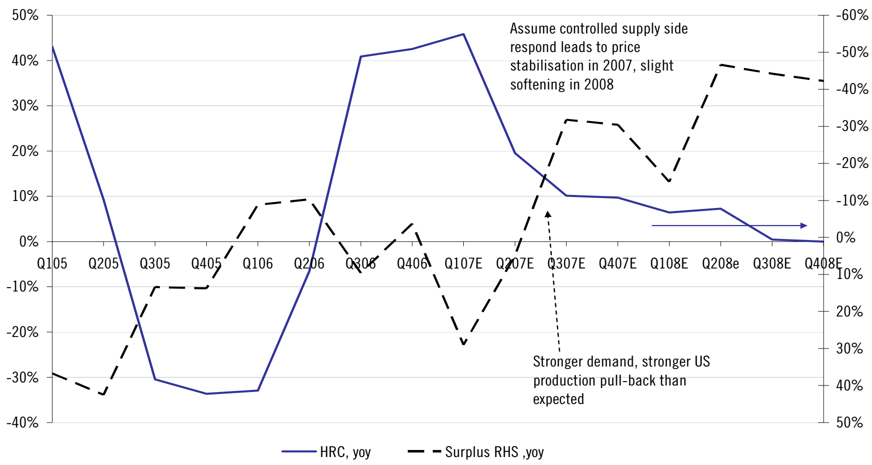
Source: Citi Investment Research

The implications are therefore that with a 4% steel spend, there would be additional demand of 10Mt over the first five years, equivalent to 1% increment to 2006 global steel consumption. Of course, this figure could be higher in the earlier years of development. Of course, there is a supply-side response, but the Middle East region is short on capacity at 22Mtpa and new builds could take two years, requiring infrastructure, delaying the speed to market.

Supply side – Control from OECD will continue to be tested

In the light of any potential softening in the US, we think that there could continue to be a necessity for supply-side discipline. In the past 18 months, this has been the key element, in addition to robust global demand, to supporting the US and European prices.

Figure 37. EU Export HRC prices y-o-y and Surplus Global Steel



Source: Citi Investment Research

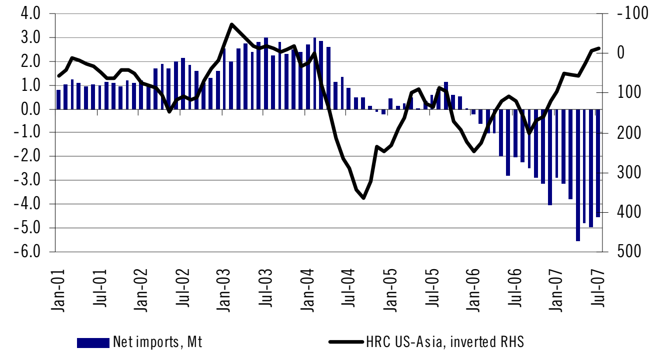
Good news and bad news from China

The good news is that the China tax changes occurred in June and July, with export tariffs on billet and steel products of 15% and 5%-10% respectively. Furthermore rebates have been reduced by c.8% on pipe, rail and steel sections. There was also speculation of a tacit reduction in exports to 10% of production, though this has been in dispute in the public forum.

The bad news is that this had little impact on that absolute level in exports, though these are early days following the changes.

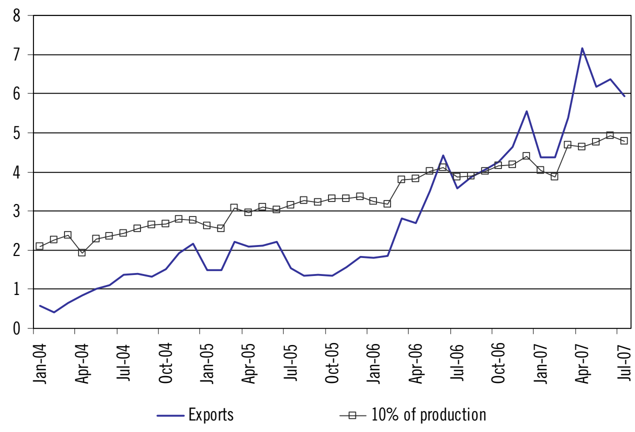
We see this as a positive turn of events for steel prices ex-China. With the government taking a more proactive stance to controlling the steel industry with all the powers at its disposal, we think that net exports will drop, in time.

Figure 38. US-Asia Price differential and China Finished Steel Net Exports



Source: Citi Investment Research, CRU and CEIC

Figure 39. Net exports vs 10% production level, Mt

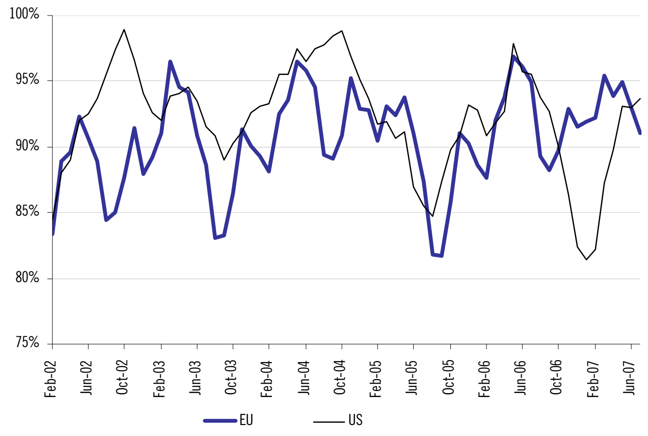


Source: Citi Investment Research, CRU and CEIC

US and European Production and Inventories

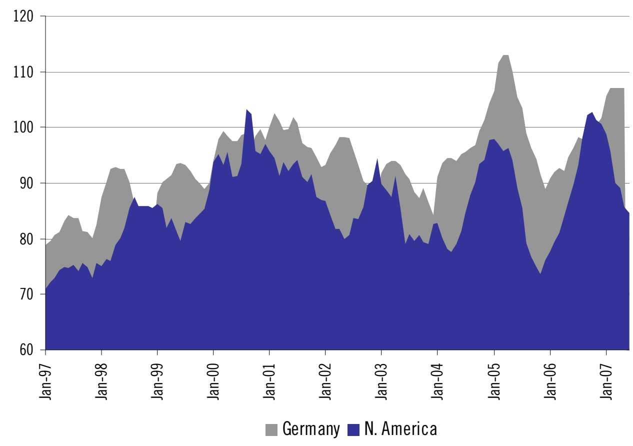
Strong production discipline in the US has brought inventories back in line. The bigger question now in the US is whether the demand will continue or whether tightening credit is going to limit expansions and industrial activity. This data does conclude that if there is a softening, then at least inventories are on the more southerly side of mean levels.

Figure 40. European and US capacity utilisation



Source: Citi Investment Research

Figure 41. US and European inventories



Source: Citi Investment Research

Europe, which has experienced more stable demand than the US, has made a less concerted effort on the supply side, allowing inventories to sustain high levels.

Figure 42. Detailed Steel Price Benchmark

		1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007E	2008E	2009E	2010E
Steel - Sections > 600mm	$/t	0	537	470	417	374	335	267	255	336	537	662	696	793	805	785	785
Steel - Sections < 600mm	$/t	352	446	405	378	320	255	233	248	336	611	608	526	540	543	605	605
Heavy prem	$/t	0	91	65	39	54	80	34	7	0	-74	54	169	253	262	180	180
Steel - Rebar	$/t	296	265	280	251	216	228	220	218	293	471	438	510	651	703	521	544
Steel - Wire rod	$/t	313	272	280	250	206	217	190	211	310	475	419	481	623	696	481	504
Steel - HRC	**$/t**	**404**	**276**	**330**	**281**	**239**	**297**	**213**	**257**	**289**	**515**	**477**	**503**	**599**	**620**	**569**	**569**
Steel - CRC	$/t	519	389	411	386	320	397	307	314	394	600	589	620	703	720	664	664
CR prem	$/t	115	114	81	106	81	100	95	57	105	85	112	117	104	100	95	95
Steel- HDG	$/t										447	624	614	725	826	731	727
Stainless - CR	$/t	2968	2392	2154	1882	1971	2428	1695	1615	1822	2742	2691	3628	5263	3471	2969	2803
Stainless - CM	$/t	2027	1613	1410	1341	1346	1623	1077	957	878	1360	1241	1437	1964	1500	1400	1586
Ni	$/lb	3.7	3.4	3.1	2.1	2.7	3.9	2.7	3.1	4.4	6.3	6.7	11.0	16.4	10.0	8.0	6.0
Cr	$/lb	0.73	0.45	0.48	0.43	0.36	0.30	0.37	0.29	0.42	0.68	0.68	0.63	1.01	0.53	0.40	0.40
Al	$/lb	0.81	0.68	0.72	0.62	0.62	0.70	0.65	0.61	0.65	0.77	0.86	1.17	1.20	1.20	0.76	0.78
Zn	$c/lb	47	47	60	47	49	51	40	35	38	48	63	148	156	175	110	103
Oil	$/bbl	17	20	20	13	18	28	24	25	29	41	56	66	63	60	55	55
Iron ore fines (JFY)	USc/MTU	27	29	29	30	27	28	29	28	30	35	56	72	80	100	106	93
Scrap	$/t	134	130	126	109	89	94	76	91	122	211	192	217	271	299	232	244
Coking coal (JFY)	$/t	51	54	54	51	41	40	43	48	46	59	125	118	102	114	110	100
Cu	$c/lb	133	104	102	75	71	82	72	71	81	130	167	305	315	350	300	300
Gold	$c/lb	384	387	345	295	280	265	165	146	160	315	418	565	283	260	300	268
Slab	$/t	265	239	248	228	197	225	194	213	238	466	414	398	549	570	519	519

Source: Citi Investment Research estimates

Figure 43. Global Supply and Demand Balance, Mt

per QUARTER average	Q105	Q205	Q305	Q405	Q106	Q206	Q306	Q406	Q107E	Q207E	Q307E	Q407E	Q108E	Q208e	Q308E	Q408E
Production, Millions of tonnes																
US	24.1	22.8	22.9	24.4	24.3	25.7	25.0	22.2	23.5	25.0	24.7	21.7	22.5	25.2	24.2	21.3
Jap	27.8	29.0	27.8	27.9	28.0	29.0	29.1	30.2	29.5	29.9	28.5	29.3	28.6	27.8	27.6	28.4
EU	48.7	47.7	42.8	47.2	48.5	51.7	47.6	49.4	54.0	54.4	47.2	48.5	52.6	50.7	46.2	47.5
OECD	106.4	106.1	100.3	106.3	105.9	112.1	108.0	107.2	112.7	115.1	105.7	104.8	109.4	109.3	103.3	102.4
China	77.4	86.4	90.1	94.2	92.6	106.3	109.0	113.7	114.4	123.7	130.7	136.5	131.6	146.6	150.4	156.9
CIS	27.6	27.4	27.1	29.6	27.6	30.2	30.2	30.8	31.0	31.7	30.2	30.5	31.0	30.8	30.2	30.5
Dev	20.9	21.9	22.2	22.5	21.6	21.2	22.6	23.9	23.7	23.7	22.8	24.1	23.7	21.4	22.8	24.1
Other	35.2	35.4	33.3	35.6	36.6	38.8	36.8	37.1	40.4	39.3	39.0	39.3	40.2	41.2	39.0	39.3
WORLD	**267.6**	**277.2**	**273.0**	**288.2**	**284.3**	**308.6**	**306.6**	**312.8**	**322.3**	**333.6**	**328.5**	**335.2**	**335.9**	**349.3**	**345.7**	**353.3**
Growth, year-on-year																
US	1%	-7%	-9%	-2%	1%	13%	9%	-9%	-3%	-3%	-1%	-2%	-4%	1%	-2%	-2%
Jap	1%	3%	-1%	-3%	1%	0%	4%	8%	5%	3%	-2%	-3%	-3%	-7%	-3%	-3%
EU	1%	-5%	-8%	-3%	0%	9%	11%	5%	11%	5%	-1%	-2%	-2%	-7%	-2%	-2%
OECD	0.9%	-2.2%	-5.1%	-2.2%	-0.5%	5.6%	7.7%	0.9%	6.4%	2.7%	-2.1%	-2.3%	-3.0%	-5.1%	-2.3%	-2.3%
China	27%	38%	30%	23%	20%	23%	21%	21%	24%	16%	20.0%	20.0%	15.0%	18.5%	15.0%	15.0%
CIS	0%	-1%	-5%	6%	0%	10%	12%	4%	12%	5%	0%	-1%	0%	-3%	0%	0%
Dev	3%	9%	7%	6%	3%	-3%	2%	6%	10%	12%	1%	1%	0%	-10%	0%	0%
Other	5%	0%	-6%	1%	4%	10%	11%	4%	10%	1%	6%	6%	-1%	5%	0%	0%
WORLD	8.0%	9.1%	5.2%	6.9%	6.2%	11.3%	12.3%	8.5%	13.4%	8.1%	7.2%	7.2%	4.2%	4.7%	5.2%	5.4%
Consumption, Millions of tonnes																
US	23.4	22.5	21.6	23.0	26.0	27.3	26.9	23.1	23.0	23.7	27.6	23.7	23.7	29.1	28.8	24.7
Jap	18.2	18.7	18.1	18.6	18.2	17.9	18.3	18.7	17.0	18.7	18.5	19.0	17.3	18.5	18.9	19.3
EU	42.9	40.6	36.9	40.3	44.4	48.7	46.6	49.5	51.0	51.5	48.0	50.7	52.3	51.6	49.1	51.8
OECD	93.7	91.2	85.0	90.5	97.3	103.5	101.0	100.0	109.1	112.7	104.3	103.4	103.5	109.9	107.3	106.3
China	69.7	76.7	82.7	85.0	83.4	93.0	91.0	96.0	96.2	103.3	106.5	112.3	111.7	125.4	122.2	128.7
CIS	9.1	8.5	10.2	11.6	10.1	11.1	12.3	11.4	11.0	12.1	12.6	13.2	12.2	12.6	13.0	13.4
Developing	41.1	42.8	40.5	41.5	40.9	44.8	44.9	44.6	31.6	32.7	47.0	46.6	42.7	48.9	49.1	48.7
Other	18.5	17.7	20.2	20.8	20.1	20.0	19.6	23.4	32.5	34.8	27.0	27.9	28.9	29.9	31.0	32.1
WORLD	**232.0**	**236.8**	**238.6**	**249.4**	**251.9**	**272.3**	**268.9**	**275.4**	**280.5**	**295.6**	**297.4**	**303.5**	**299.1**	**326.8**	**322.6**	**329.1**
Growth, year-on-year																
US	-5%	-16%	-21%	-8%	11%	21%	25%	0%	-12%	-13%	2%	3%	3%	23%	4%	4%
Jap	4%	3%	-1%	0%	0%	-4%	1%	1%	-6%	4%	1%	1%	2%	-1%	2%	2%
EU	4%	-6%	-8%	-7%	3%	20%	26%	23%	15%	6%	3%	2%	3%	0%	2%	2%
OECD	1.1%	-7.5%	-10.5%	-6.1%	3.8%	13.5%	18.8%	10.5%	12.2%	9.0%	3.2%	3.4%	-5.2%	-2.5%	2.9%	2.7%
China	9%	25%	27%	24%	20%	21%	10%	13%	15%	11%	17.0%	17.0%	16.1%	21.4%	14.7%	14.5%
CIS	-9%	-7%	-2%	12%	11%	30%	21%	-2%	9%	9%	2%	16%	11%	4%	3%	1%
Dev	3%	1%	-3%	-3%	0%	5%	11%	7%	-23%	-27%	4%	4%	35%	50%	5%	5%
Other	22%	23%	21%	19%	9%	13%	-3%	12%	61%	74%	38%	19%	-11%	-14%	15%	15%
WORLD	4.6%	4.9%	4.1%	5.9%	8.6%	15.0%	12.7%	10.4%	11.4%	8.5%	10.6%	10.2%	6.6%	10.6%	8.5%	8.4%

Source: Citi Investment Research estimates

Quant View

Attractive

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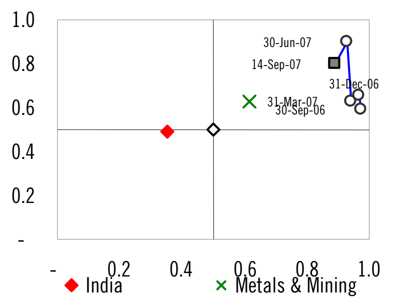
JSW Steel lies in the attractive corner of our value-momentum map, having maintained this position for most of the past year. JSW's current scores qualify it for being a Star stock. In spite of negative earnings revisions, flat price momentum enables the stock to maintain its value score (with momentum being affected, albeit slightly). On both fronts, the stock ranks above the Indian market as well as the Metals and Mining sector.

JSW is also a moderately high beta stock and appears to be partial to a weaker US dollar as well as value outperforming growth.

Radar Screen Quadrant Definitions

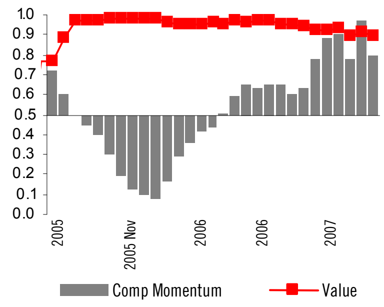
Glamor *Poor relative value but superior relative momentum*	**Attractive** *Superior relative value and superior relative momentum*
Unattractive *Poor relative value and poor relative momentum*	**Contrarian** *Superior relative value but poor relative momentum*

Figure 44. Radar Quadrant Chart History



Source: Citi Investment Research

Figure 45. Radar Valuation Momentum Ranks



Source: Citi Investment Research

Figure 46. Radar Model Inputs

IBES EPS (Actual and Estimates)			
FY(-2)	64.98	Implied Trend Growth %	12.9
FY(-1)	na	Trailing PE (x)	8.2
FY0	80.86	Implied Cost of Debt (%)	8.12
FY1	95.31	StdMktCap	(0.22)
FY2	109.03		

Source: Worldscope, I/B/E/S

Figure 47. Macro Sensitivity

Region	1.30	Commodity ex Oil	0.25
Local Market	0.95	Rising Oil Prices	0.02
Sector	0.86	Rising Asian IR's	0.14
Growth Outperforms Value	(1.77)	Rising EM Yields	0.18
SmallCaps Outperform LargeCaps	0.73	Weaker US$ (vs Asia)	1.37
Widening US Credit Spreads	(0.26)	Weaker ¥ (vs US$)	0.04

Source: Citi Investment Research

Company description

JSTL is one of India's largest integrated steel producers with crude steel capacity of 3.8m tpa. Of this capacity, 1.6m tpa uses the Corex process and the rest the blast furnace technology. JSTL manufactures flat steel products ranging from slabs to high-end colour coated steel products. Its upstream facilities are located in Vijaynagar, Karnataka, close to abundant iron ore deposits. JSTL plans to expand capacity to 6.8m tpa by FY09 and 10m tpa by Sep 2010. The expansion will be accompanied by adequate captive power and other inputs such as sinter and coke capacity. JSTL will also be setting up capacity for production of long products by Dec 2008. JSTL recently acquired plate (1m tpa) and pipe (0.5m tpa) capacity in the US, close to the main consumption centres of oil and gas production. In order to enhance its product mix and expand its market presence in the UK and Europe, JSTL has acquired a Service Centre in the UK, whose output is mainly directed towards the construction sector. In addition to its expansion plans at its existing site, JSTL has begun preliminary work on setting up two steel plants with an eventual size of 10m tpa over the next three to twelve years at greenfield locations in Jharkhand and West Bengal.

Appendix A-1

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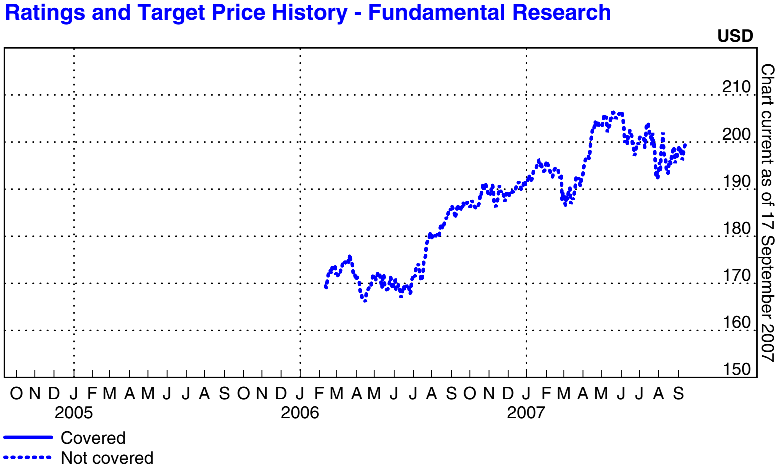
JSW Steel (JSTL.BO)

Ratings and Target Price History - Fundamental Research



#	Date	Rating	Target Price	Closing Price

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