Macquarie Research Equities

INDIA

Indian steel sector

29 August 2008

Inside

Indian steel companies

Ticker	Rec	TP (Rs)	CMP (Rs)	% upside
TATA IN	OP	1,416	572	148%
JSTL IN	OP	1,631	748	118%
SAIL IN	OP	196	148	32%

Source: Macquarie Research, August 2008

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Safe and sound

Steel price – little downside risk

We see little risk to our forecasts and consensus of steel prices for the following reasons.

- **Indian domestic spot steel prices are US$200/t lower than global prices:** Reeling under government pressure, the Indian steel industry has not been able to raise prices in tandem with global prices. We believe the gap of US$200/t provides a huge cushion as global prices correct.
- **Export and deemed export sales to see realisation fall – but were analysts building higher prices?** Though global steel prices have peaked slightly earlier than our expectation, we do not see too much downward correction. Also sales under this segment in India are limited to about 0–30% for different companies and we believe will have limited impact.
- **Demand – continues to outpace supply**

Steel demand in India has been growing at 12% pa over the past 5 years outpacing production. This has turned India into a net importer of steel last year and we expect India to become an even larger importer every year hereon.

- **Supply response further constrained:** Supply response has been constrained by issues of iron ore mine allocation, land acquisition and environmental clearances. Recent political developments in Jharkhand state, rising capital and interest costs, and weakness in equity markets will further delay the supply response.
- **Demand slowdown only marginal:** The diversity of Indian states ensures at all times that some laggard states are catching up while some overheated ones cool off. The order backlog of infrastructure companies remains strong, as does order inflow for capital goods manufacturers. Auto sector demand has also shown signs of revival in the past two quarters.

Raw material integration – the next driver

Most Indian steel companies are aggressively looking to increase integration of raw materials. The cost reduction possible with captive sources of coking coal and iron ore over current market prices can lead to more than the doubling of operating margins. We see this as the next major earnings driver for Indian steel companies.

Valuations – extremely attractive

All steel stocks are trading at the lower end of the band seen historically on all valuation parameters be it PER, EV/EBITDA or P/BV.

Our top picks: Given the limitation of steel price increases over the next few quarters, we prefer the volume growth and improving raw material integration of **JSW Steel**, which is **our top pick**. We continue to like **Tata Steel** for its incredibly **cheap valuations**. **SAIL** is the **least risky**, in our view; it offers pure domestic exposure but with a slower growth profile.

Safe and sound

Steel price – little downside risk

Steel prices have started correcting internationally driven by a seasonal slowdown in demand, increased export from China and fears of a slowdown in demand in China. However, we see little risk to our forecasts and consensus estimates of steel prices for the following reasons.

- **Indian domestic spot steel prices are US$200/t lower than global prices:** Inflation has posed a big worry for the government, more so when it enters into last year before elections. Reeling under government pressure, the Indian steel industry has not been able to raise prices in tandem with global prices. As a result domestic steel prices are now US$200/t below global steel prices. We believe this provides a huge cushion as global prices correct. Also, with India remaining a net importer of steel, steel prices in India can even remain at a premium to the landed steel price.
- **Export and deemed export sales to see realisation fall – but were analysts building higher prices?** We have been expecting a slowdown in global steel prices, but only later in the year; hence, we had been assuming a US$77/t fall in FY10 to US$1,001/t from US$1,078/t assumed for FY09. However, slowing demand in China owing to the Beijing Olympics and the widening gap between Chinese steel prices and global steel prices have prompted Chinese steel companies to resort to huge exports. Going forward, we expect limited steel production growth in China due to coking coal and coke shortages, and expect Chinese exports to be reduced dramatically after September. Also the rising cost of steel making should limit the fall in steel prices. Further, in the event of a larger slowdown in demand globally, we expect production cuts in the US and Europe to keep prices strong. Sales under this segment in India are about 0–30% for the various companies, but given the confusion arising from export taxes, consensus has not factored in higher steel prices for this segment. This is reflected in higher than consensus earnings in 1Q FY09 results.

Demand – continues to outpace supply

Steel demand in India has been growing at 12% pa over the past 5 years outpacing production. This has turned India into a net importer of steel last year and we expect India to become an even larger importer every year hereon.

- **Supply response further constrained:** Supply response has been constrained by issues of iron ore mine allocation, land acquisition and environmental clearances. Recent political developments in Jharkhand state, rising capital and interest costs and weakness in equity markets should further delay the supply response. We expect only brownfield expansions to be commissioned in the next two years. Even with brownfield expansions, equipment delivery schedules can throw a spanner in the works.
- **Demand slowdown only marginal:** The diversity of Indian states ensures at all times that some laggard states are catching up while some overheated ones cool off. Urbanisation and infrastructure building continue to be key drivers for steel demand. The order backlog of the infrastructure companies remains strong, as does order inflow for capital goods manufacturers. Auto sector demand has also shown signs of revival in the past two quarters.

Raw material integration – the next driver

The sharp rise in iron ore and coking coal costs over the past 2–3 years has widened the gap between the haves and have-nots. A steel company purchasing raw material by contract is on an average spending US$300/t, while a company with 100% captive sources would be spending close to US$100/t. Thus, there is a rush among steel companies to acquire raw material companies.

Most Indian steel companies are also aggressively looking to increase integration of raw materials. The cost reduction possible with captive sources of coking coal and iron ore over current market prices could lead to more than the doubling of operating margins. We see this as the next major earnings driver for Indian steel companies.

Valuations – extremely attractive

All steel stocks are trading at the lower end of their historical valuations.

All steel stocks are trading at the lower end of the band seen historically on all valuation parameters be it PER, EV/EBITDA or P/BV. Even on a replacement cost basis, they are trading at a discount of 30–50%.

Our top picks: With our assumption of a limited increase in steel prices over the next few quarters, the drivers of earnings should shift back to volume growth and raw material integration. On this account, we prefer the volume growth and improving raw material integration of **JSW Steel**, which is **our top pick**. It is the only steel stock with a 22% CAGR for FY09E–11E, even with our assumption of a falling steel price. Based on the stock's current PER of just 5.6x, we believe that even the volume growth is not being fully discounted let alone the huge potential for raw material integration.

We like Tata Steel for its cheap valuations and JSW Steel for its earnings

We continue to like **Tata Steel** for its **cheap valuations**. It is trading at a low PER, of below 3x. Even at severely low consensus estimates (we are 70% ahead of consensus), it is trading at just 4.6x PER. The stock has been in a downtrend, even though the company's coking coal initiative in Mozambique shows immense potential.

We think **SAIL** is the **least risky** stock given its lower commodity price risk due to its 100% domestic focus. Also in this inflationary environment, risk-averse investors can take comfort in Rs34/share cash on its books. But low risk also comes with lower growth, as we expect SAIL's 60% capacity expansion will most likely be delayed by a year.

Among these three, SAIL has the lowest sensitivity to steel prices with FY3/09 EPS changing 4.5% for every 1% change in steel price from our estimates. On the other hand Tata Steel's FY3/09 EPS changes by 6.7% for every 1% change in steel price and JSW Steel's FY3/09 EPS changes by 5.9% for every 1% movement in steel price from our assumptions.

Fig 1 Comparative valuation of Indian steel companies

					PER		EV/EBITDA		P/BV		RoE		EV/t
Company	**Ticker**	**Rating**	**TP (Rs)**	**Upside**	**FY09E**	**FY10E**	**FY09E**	**FY10E**	**FY09E**	**FY10E**	**FY09E**	**FY10E**	**(US$)**
Tata Steel	TATA IN	OP	1,416	148%	2.9x	3.9x	2.7x	3.2x	1.0x	0.9x	35%	24%	701
JSW Steel	JSTL IN	OP	1,631	118%	5.5x	4.5x	3.5x	2.8x	1.5x	1.1x	27%	25%	715
SAIL	SAIL IN	OP	196	32%	7.7x	7.6x	3.3x	3.8x	2.1x	1.8x	28%	23%	609

Source: Bloomberg, Macquarie Research, August 2008

Steel prices – low downside risk

We were expecting steel prices to peak later this year and this was reflected in our global steel forecasts of US$1,078/t for FY09 and US$1,001/t for FY10. However, driven by a general slowdown in demand and a sharp rise in exports from China, steel prices have corrected earlier than expected.

Price correction mainly in billets and long products, which had gone well beyond our assumptions

Global steel price correction has been sharp mostly in billets and long products. The prices of these products had gone well beyond our assumptions and even beyond business logic. There is no possibility of billets selling higher than hot rolled coil (HRC) prices on a sustained basis. Steel price data (Figure 2) clearly highlights that HRC prices have slipped just 3–4% vs the 30% slide in prices for billets and long products.

Fig 2 Selected steel prices (US$/t unless otherwise specified)

			Jul-25	Aug-26	% change
Europe	HRC	Ex-works (Eur/t)	765	755	-1.3%
Europe	HRC	CIF ((Eur/t)	760	735	-3.3%
Europe	HRC	fob Black Sea	1110	960	-13.5%
Europe	Rebar	Ex-works (Eur/t, N.Eur)	740	740	0.0%
Europe	Rebar	Ex-Turkey	1485	1000	-32.7%
Europe	Scrap	HMS fob Rotterdam	610	520	-14.8%
Europe	Scrap	A3 fob Black Sea	590	515	-12.7%
USA	HRC	Ex-works Indiana	1067.5	1025	-4.0%
USA	HRC	CIF Houston	1040	1015	-2.4%
USA	Rebar	Ex-works US Se	1000	970	-3.0%
USA	Rebar	CIF Houston	1150	1080	-6.1%
LME	billet	Mediterranean	1040	765	-26.4%
LME	billet	Far East	920	700	-23.9%

Source: Platts Steel Market Daily, LME, August 2008

Going forward, we expect the following:

- Chinese steel production is likely to remain constrained on account of high cost of coking coal and coke. Already, we are receiving reports of the closure of some small steel mills. Following the Beijing Olympics, production would reveal the extent of closure due to this.
- This is likely to limit Chinese steel exports. Typically, the Chinese government imposes restrictions whenever steel exports have grown to more than 10% of domestic production.
- In the case of a larger-than-expected slowdown in global steel demand, we expect steel production cuts in the US and Europe to keep the prices at reasonably high levels.

As a consequence, we see little risk to our or consensus steel price assumptions for domestic prices in India. Under pressure from the government, Indian steel companies have not been able to raise steel prices, and at current pricing, they lag global pricing by US$200/t.

Indian companies did try to adopt differential pricing scheme to charge higher for export sales and deemed export sales. However, we believe that consensus has not really factored in the higher steel price assumption even for this segment due to the sharp rise and greater focus on domestic prices. This was reflected in better-than-expected operating margins in the 1Q FY09 results. Hence, we do not see any downgrades due to this.

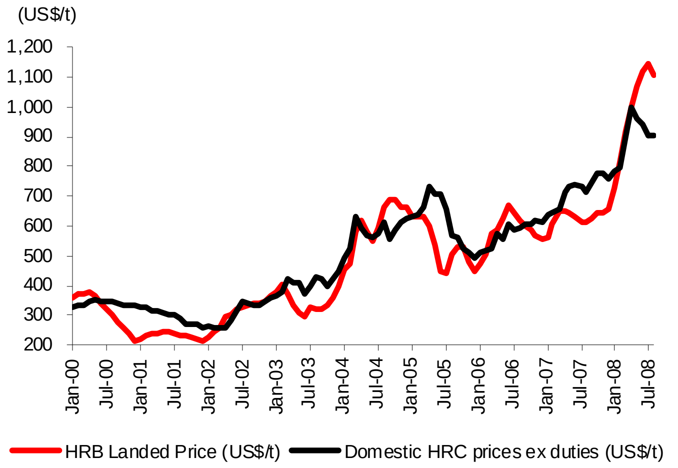
Increased discount to global steel prices to act as cushion

Indian steel prices subdued due to government intervention

Indian steel prices should have been trading at a premium to landed price of imports due to shortage in the country. However, the Indian government, keen to control rising inflation, has been exerting informal pressure on steel companies to discourage them from increasing prices. The government even imposed export taxes to reduce the possibility of steel being diverted to the lucrative export market. The industry eventually agreed on a self-imposed three-month moratorium in order to get these export taxes waived. This moratorium period ended on 7 August. However, given that we are now entering a seasonally soft period for demand and inflation is still high, domestic steel prices are unlikely to rise this quarter.

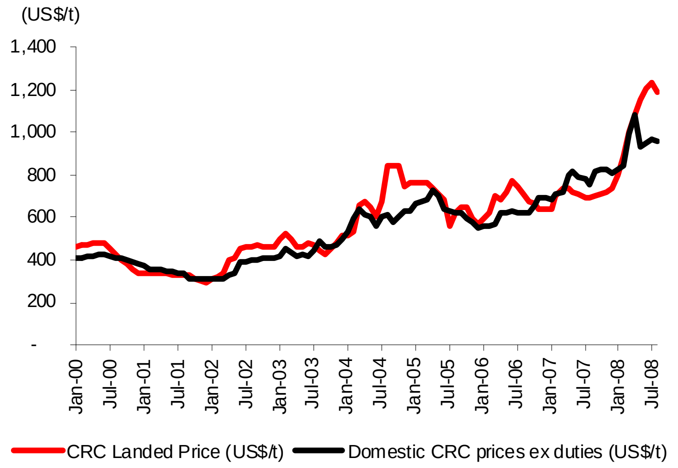
Despite manufacturers not raising steel prices, dealers and retailers have been reaping high margins, taking advantage of the steel shortage. We expect the current weakness to eat into the dealer margins, but it should not hurt the steel companies' realisation.

Fig 3 Import landed vs domestic HRC price



Source: World Steel Dynamics, Macquarie Research, August 2008

Fig 4 Import landed vs domestic CRC price



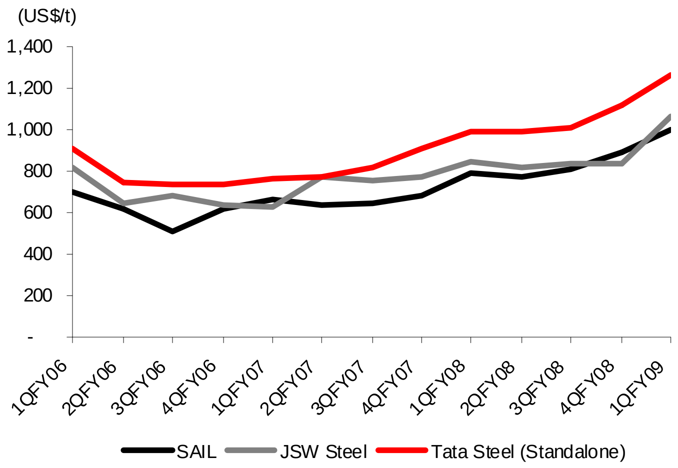
Source: World Steel Dynamics, Macquarie Research, August 2008

Higher prices for exports & deemed exports may see some pressure

Some Indian steel companies have been able to charge global steel prices for their exports and deemed exports (sales to processing companies who export the finished product). The realisation from this set of sales is likely to dip, along with a correction in global steel prices. However, this segment accounts for only 0–30% of sales for various companies. Moreover, most analysts are now building in these high prices in their forecasts due to the confusion arising from the domestic price freeze and export taxes.

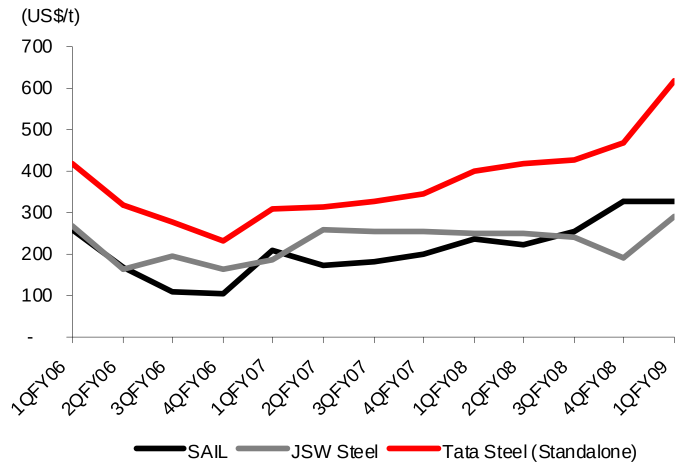
This was reflected in higher-than-expected sales realisation for 1Q FY09 results for all the three steel companies under our coverage.

Fig 5 Quarterly sales realisation of Indian steel companies



Source: Company data, Macquarie Research, August 2008

Fig 6 Quarterly EBITDA/t of Indian steel companies



Adjusted for employee cost provisioning for SAIL in 4Q FY08 and 1Q FY09

Source: Company data, Macquarie Research, August 2008

Demand – continues to outpace supply

Domestic demand for steel has taken off sharply since 2004 while supply has continued at the same pace. This turned India into a net importer of steel last year. Steel companies are conscious of the faster demand and have lined up investments totalling US$80bn to increase the capacity beyond 100mtpa. However, most greenfield projects are delayed by at least 1–2 years, and we expect demand will continue to outpace supply at least till FY12.

Fig 7 India to remain net importer for some time

(mtpa)	FY08E	FY09E	FY10E	FY11E	FY12E
Crude steel capacity	62	70	86	103	127
Crude steel production	57	60	70	85	103
Capacity util (%)	91%	85%	82%	83%	81%
Finished steel production	51	54	63	77	93
Demand	52	60	69	79	91
Demand growth (%)	.	15%	15%	15%	15%
Gap @ 15% demand	**-1**	**-6**	**-6**	**-3**	**2**
Gap @10% demand growth	-1	-3	-3	1	6
Gap @12% demand growth	-1	-4	-4	0	4

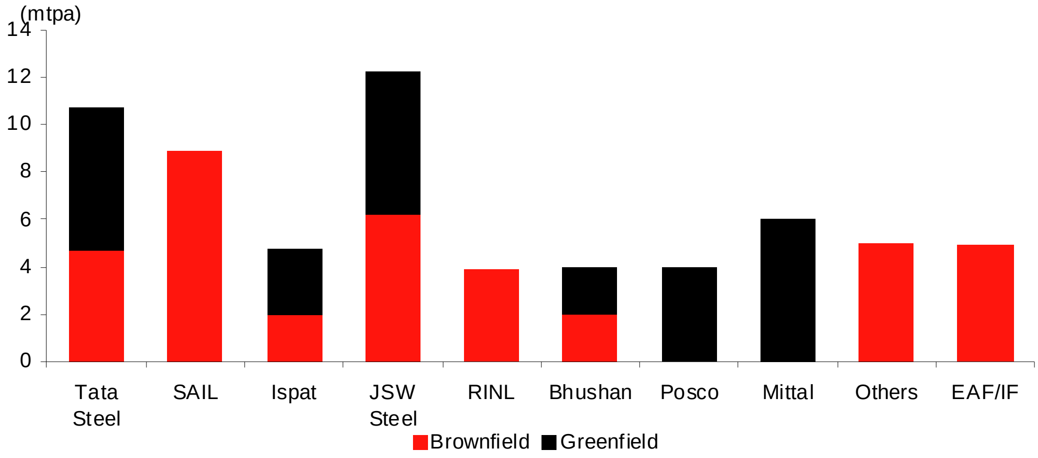
Source: Macquarie Research, August 2008

Supply response further constrained

Greenfield capacities coming under increasing pressure

All the greenfield projects have been struggling on account of delays in the allotment of iron ore reserves, land acquisition and environmental clearance. We expect delays to further exacerbate other newly arisen issues such as the instability of state government of Jharkhand, lack of availability of funding (both equity and debt) due to the liquidity crunch in the market and rising capital costs.

Fig 8 Capacity additions, FY09–12 – uncertainty over greenfield additions

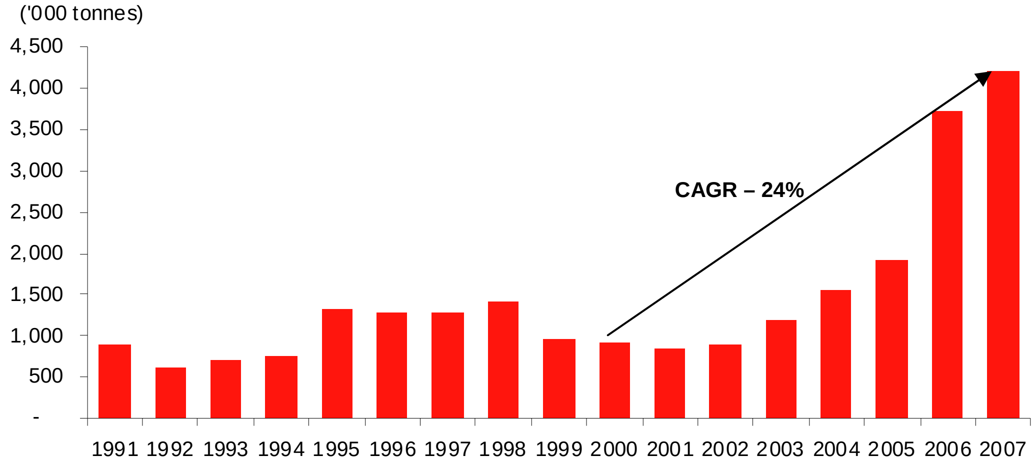


Source: Company data, Macquarie Research, August 2008

Lower domestic production has been compensated by higher imports. In fact, imports have grown at a CAGR of 24% in the past 7 years. We expect this trend to continue.

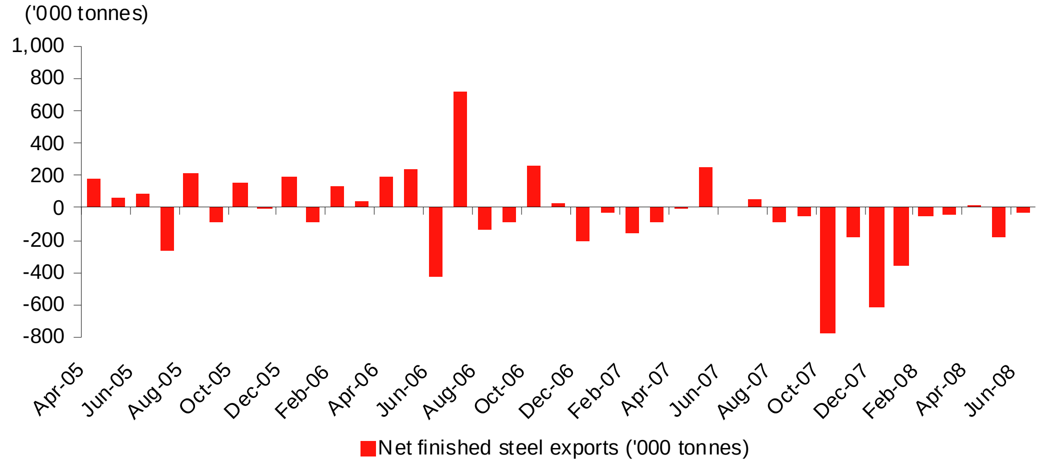
India has turned net importer of steel for the first time

Fig 9 Finished steel imports – India



Source: JPA, Macquarie Research, August 2008

Fig 10 Net exports – India turns net importer



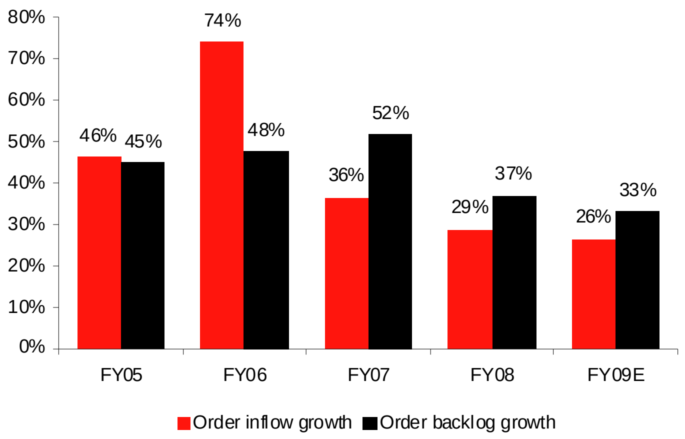
Source: JPA, Macquarie Research, August 2008

Demand slowdown only marginal

India's structural story remains intact

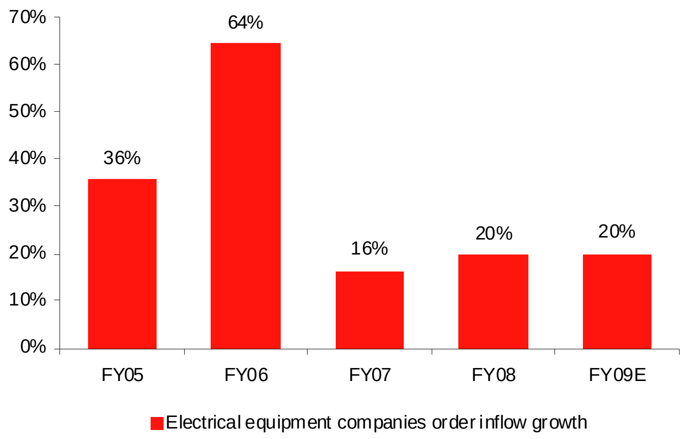
Steel demand in India, as with any developing country, is dominated by the construction sector, followed by the automobile and capital goods sectors. Although there have been some concerns about a slowdown in demand, due to high inflation and reduced affordability in the urban housing sector, we see no softening in the infrastructure and capital goods sectors. After a minor blip, the auto sector appears to be on the path of recovery.

Fig 11 Order inflow growth of construction companies



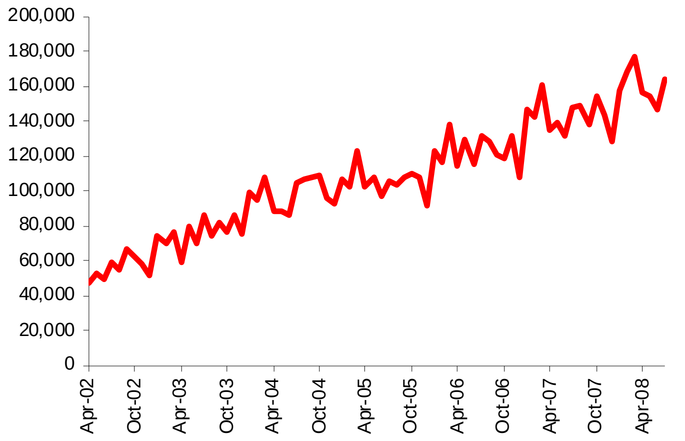
Source: Macquarie Research, August 2008

Fig 12 Order inflow growth of electrical companies



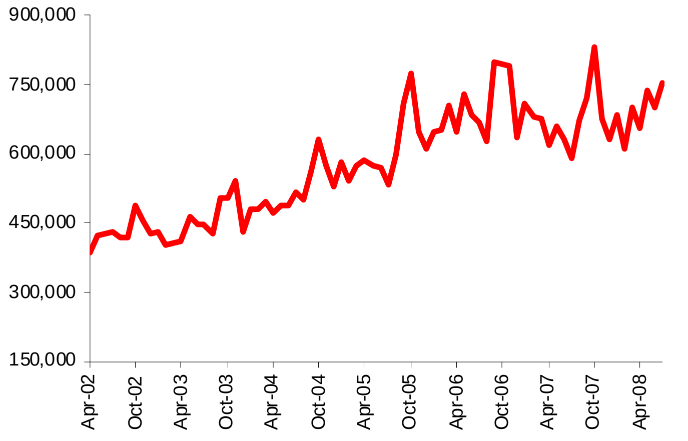
Source: Macquarie Research, August 2008

Fig 13 Cars & Utility Vehicles vehicles monthly sales data



Source: SIAM, Macquarie Research, August 2008

Fig 14 Two-wheeler monthly sales data



Source: SIAM, Macquarie Research, August 2008

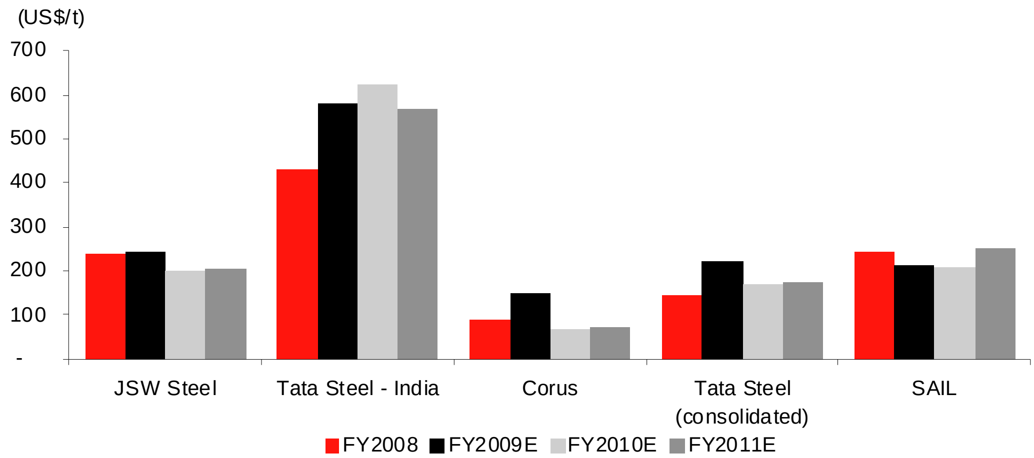
Raw material integration – the next driver

Raw materials costs – iron ore and coking coal at current prices – comprise almost 70% of the total cost of making steel. The sudden 200% increase in coking coal prices and sustained increase in iron ore prices have made steel companies eager to capture a part of the profit achieved by the mining companies. Steel industry leader Arcelor Mittal is aggressively looking to add captive sources for both iron ore and coking coal.

JSW Steel and Tata Steel have big raw material asset acquisition plans

The difference between the profitability of a fully integrated steel company with its own raw material and one without any raw material has widened quite sharply. This can be seen in the operating margins of Tata Steel's India operations (which are almost fully based on captive raw material) at US$620/t and JSW Steel (which is more or less is based on purchased raw material) at about US$250/t.

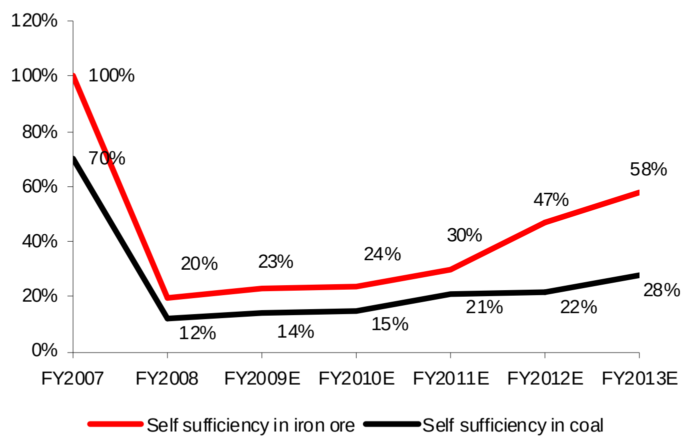
Fig 15 EBITDA/t of saleable steel



Source: Company data, Macquarie Research, August 2008

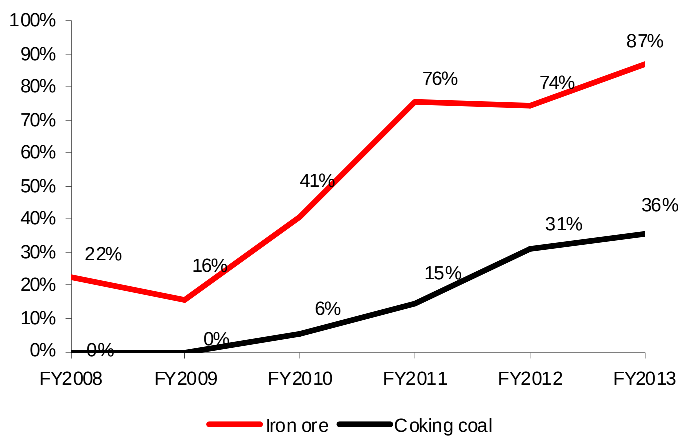
Indian steel companies have been on the lookout for captive sources of raw material for the past 2–3years and thus have a headstart over most other steel companies. Both Tata Steel and JSW Steel plan to have at least 50% captive sources for their iron ore and coking coal needs over the next 3–4 years.

Fig 16 Tata Steel – raw material integration level



Source: Company data, Macquarie Research, August 2008

Fig 17 JSW Steel – raw material integration level



Source: Company data, Macquarie Research, August 2008

Valuations – incredibly attractive

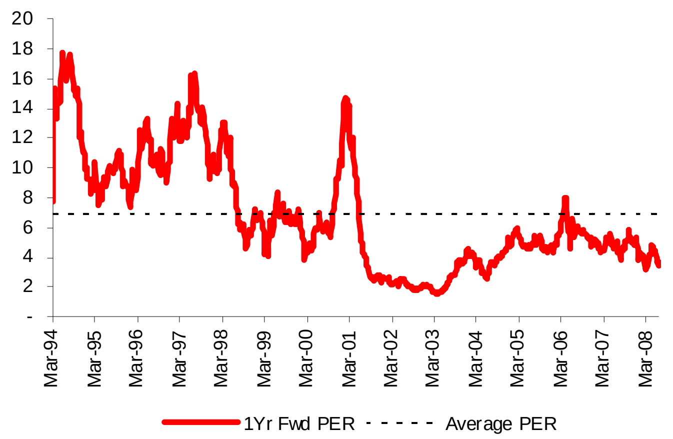
Indian steel companies are trading at historically low valuations with attractive growth profile

All three steel stocks are trading at historically low valuations, even though the outlook for steel has improved tremendously over the past 3–4 years. Even on a peer comparison basis, Indian stocks look very cheap due to apprehensions about government intervention to limit the rise in steel prices. We believe the current softening sentiment on steel stocks is a great opportunity to take exposure at extremely attractive valuations.

Valuations look attractive, relative to historical levels

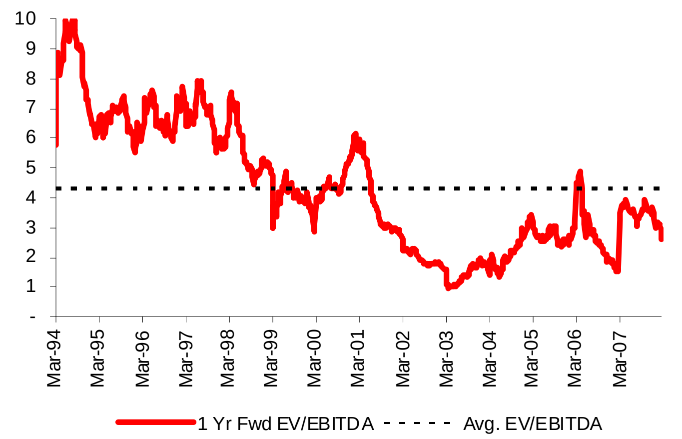
A look at the charts below reveals that we are nearing the lower end of the valuations bands. We expect clarity to emerge on steel prices by October, and expect steel stocks to re-rate.

Fig 18 Tata Steel – 1-year forward PER



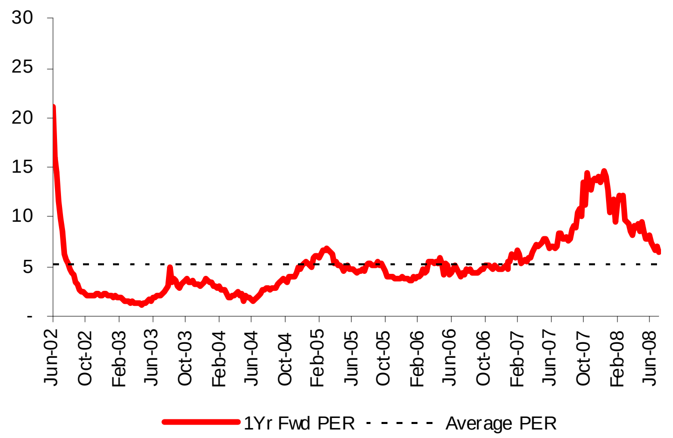
Source: Factset, Macquarie Research, August 2008

Fig 19 Tata Steel – 1-year forward EV/EBITDA



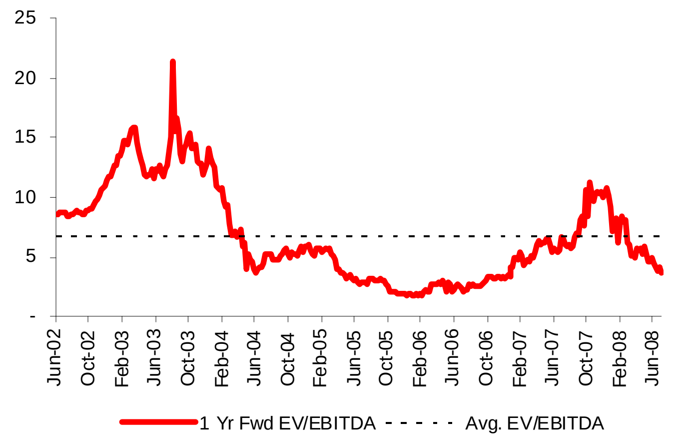
Source: Factset, Macquarie Research, August 2008

Fig 20 SAIL – 1-year forward PER



Source: Factset, Macquarie Research, August 2008

Fig 21 SAIL – 1-year forward EV/EBITDA



Source: Factset, Macquarie Research, August 2008

Comparative valuations – Indian stocks among the cheapest

Tata Steel is the cheapest stock among all the steel stocks covered regionally by us. JSW Steel with one of the best growth profiles is the second cheapest stock.

Fig 22 Comparative valuation - rated steel stocks (Asia Pac)

			PER			EV/EBITDA			P/BV		
Company Name	**Country**	**Reco**	**CY07/ FY08**	**CY08/FY0 9**	**CY09/ FY10**	**CY07/ FY08**	**CY08/ FY09**	**CY09/ FY10**	**CY07/ FY08**	**CY08/ FY09**	**CY09/ FY10**
Nippon Steel	Japan	UP	9.5x	11.1x	15.1x	5.6x	5.5x	6.5x	2.5x	2.2x	2.0x
China Steel Corp	Taiwan	UP	9.1x	9.3x	11.5x	7.8x	8.5x	9.6x	2.1x	1.9x	1.9x
JFE Holdings	Japan	UP	10.4x	9.3x	12.4x	5.4x	5.2x	6.0x	1.4x	1.5x	1.4x
POSCO	Korea	OP	11.0x	7.7x	7.7x	7.0x	5.2x	5.3x	1.7x	1.4x	1.2x
Hyundai Steel	Korea	OP	8.5x	5.8x	5.4x	7.8x	6.0x	5.2x	1.1x	0.9x	0.8x
Dongkuk Steel Mill	Korea	OP	6.9x	5.9x	6.1x	5.5x	3.3x	3.5x	1.1x	1.0x	0.8x
Angang Steel	China	OP	7.6x	6.2x	5.6x	5.3x	4.3x	3.5x	1.3x	1.1x	1.0x
Maanshan	China	OP	8.0x	6.4x	7.2x	6.1x	3.2x	3.0x	0.9x	0.8x	0.8x
SAIL	**India**	**OP**	**8.2x**	**7.7x**	**7.6x**	**4.4x**	**4.3x**	**4.3x**	**2.7x**	**2.1x**	**1.8x**
Tata Steel	**India**	**OP**	**3.6x**	**2.9x**	**3.8x**	**5.1x**	**3.1x**	**4.0x**	**1.2x**	**1.0x**	**0.9x**
JSW Steel	**India**	**OP**	**8.6x**	**5.5x**	**4.5x**	**8.9x**	**5.5x**	**5.1x**	**1.8x**	**1.4x**	**1.1x**

Source: Company data, Macquarie Research, August 2008

Fig 23 Consensus estimates of non-rated steel companies

		Market Cap	Current	PER		EV/EBITDA	
Ticker	**Company**	**(US$m)**	**Price**	**1 Yr. Fwd**	**2 Yr. Fwd**	**1 Yr. Fwd.**	**2 Yr. Fwd.**
US							
AKS-US	AK Steel Holding Corp.	5,841	52.1	10.4x	8.6x	5.4x	4.1x
NUE-US	Nucor Corp.	16,497	52.1	7.4x	7.0x	4.2x	3.5x
STLD-US	Steel Dynamics Inc.	4,956	24.7	6.4x	6.2x	4.7x	3.9x
X-US	United States Steel	15,531	132.2	6.3x	5.6x	4.1x	2.9x
Europe							
ACX-ES	Acerinox S.A.	3,324	13.1	10.7x	8.4x	6.3x	5.2x
MTP-FR	ArcelorMittal SA	75,774	52.3	6.6x	6.4x	4.9x	4.5x
SSAB.A-SE	SSAB Svenskt Stal AB	37,319	155.0	7.0x	6.2x	3.7x	3.2x
TKA-DE	ThyssenKrupp AG	17,184	33.4	7.7x	6.9x	3.9x	3.9x
VOE-AT	voestalpine AG	6,068	36.9	6.2x	5.7x	4.7x	4.1x
Asia Pacific							
600019-CN	Baoshan Iron & Steel	108,574	6.2	6.4x	5.9x	3.3x	3.1x
600005-CN	Wuhan Iron & Steel	54,004	6.9	6.0x	6.1x	3.9x	3.9x
India							
532286-IN	Jindal Steel & Power	290,700	1,880	11.8x	9.1x	8.2x	5.8x

Source: Factset, Macquarie Research, August 2008

INDIA

Tata Steel

29 August 2008

TATA IN		**Outperform**
Stock price as of 28 Aug 08	Rs	571.80
12-month target	Rs	1,416.00
Upside/downside	%	+147.6
Valuation	Rs	1,416.00
- PER		
GICS sector		materials
Market cap	Rs m	417,853
30-day avg turnover	US$m	76.9
Market cap	US$m	9,548
Number shares on issue	m	730.8

Investment fundamentals

Year end 31 Mar		2008A	2009E	2010E	2011E
Total revenue	bn	1,315.4	1,974.4	1,939.2	1,898.1
EBITDA	bn	179.9	317.8	245.7	252.4
EBITDA growth	%	158.0	76.6	-22.7	2.7
Reported profit	bn	123.5	170.5	128.2	127.4
Adjusted profit	bn	62.2	168.2	126.0	125.2
EPS rep	Rs	158.57	197.56	148.62	147.71
EPS rep growth	%	146.8	24.6	-24.8	-0.6
EPS adj	Rs	80.17	195.00	146.06	145.14
EPS adj growth	%	20.4	143.2	-25.1	-0.6
PE rep	x	3.6	2.9	3.8	3.9
PE adj	x	7.1	2.9	3.9	3.9
Total DPS	Rs	15.98	16.00	16.00	17.00
Total div yield	%	2.8	2.8	2.8	3.0
ROA	%	17.8	19.9	13.2	11.9
ROE	%	25.8	40.3	24.3	21.0
EV/EBITDA	x	5.1	3.1	4.0	3.9
Net debt/equity	%	140.9	94.4	79.8	75.4
Price/book	x	1.2	1.0	0.9	0.8

TATA IN rel SENSEX performance, & rec history

Source: Datastream, Macquarie Research, August 2008
(all figures in INR unless noted)

Analyst

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Cheapest steel stock

Event

- **Fundamentally sound:** We have reviewed our numbers given the seasonal weakness in steel prices and we see no reason to cut our estimates because our assumptions are substantially below the peak steel prices seen. Also, we have updated our numbers to reflect the recently released annual report. We have marginally adjusted our earnings estimates by -2.6%, 4.8% and 3.6% for FY3/09–11, respectively.

Impact

- **Tata Steel – India operations (50% of total consolidated profit) at no price risk:** Indian steel prices are running about US$200/t lower than global steel prices. As such, we see little risk to our estimates. In fact, in 1Q FY3/09 standalone results, Tata Steel managed to post an operating margin of US$620/t vs our assumption of US$582/t for the full year.
- **Corus on track to meet our 70% above-consensus estimates:** We are building in US$60/t of margin expansion for Corus. We expect US$30/t to be achieved due to operational savings, and we expect the remaining US$30/t margin expansion to be easily achieved even if steel prices were to fall by US$100/t during the rest of the year. The consolidated results released today were 100% above market expectations and increase our confidence in our estimates.
- **We have left enough buffers for earnings shortfall:** We have not built in any earnings from the newly commissioned 180kt ferro chrome unit in South Africa that can add around US$400m to EBITDA, from indicated cost savings of US$150m at Tata Steel's India operations and from synergy benefits (expected to be around US$450m) beyond US$100m of tax synergies.
- **Raw material integration to drive earnings after FY3/10:** Tata Steel has initiated efforts to secure coking coal from Mozambique and iron ore from the Ivory Coast for Corus. We expect these efforts to start contributing in FY3/11.

Earnings revision

- We have updated our EPS estimates for FY3/09–11 by -2.6%, 4.8% and 3.6%, respectively, to reflect the Asian subsidiaries' profitability and the release of the annual report.

Price catalyst

- 12-month price target: Rs1,416.00 based on a PER methodology.
- Catalyst: Clarity on Corus margin expansion expected by the end of August on reporting of consolidated 1Q results.

Action and recommendation

- **Cheapest steel stock:** Tata Steel is trading at very attractive valuations of less than a 3x PER and around a 1.1x P/BV on FY3/09E. We expect consensus earnings upgrades to drive the stock price upwards.

1Q FY3/09 consolidated numbers – extremely strong

- Tata Steel has reported strong 1Q FY3/09 consolidated numbers that were 100% above Street estimates and that beat our estimates by 15% due to lower tax rates.
- Given a lack of data points, it is difficult to provide too much of an operating comparison, but given that Tata Steel has already achieved Rs45/sh of fully diluted EPS, we see a significant risk to the consensus full-year estimate of Rs117.
- There are some concerns about dropping steel prices; we believe that our global steel forecasts are not at too much risk because we were already assuming lower steel prices. We may have to review our estimates marginally if steel prices fall by more than US$100/t from current levels.

Fig 1 Tata Steel (consolidated) 1Q FY3/09 profitability

		1Q FY3/09	1Q FY3/08	*%chg YoY*	4Q FY3/08	*% chg QoQ*
Net Sales	Rsm	435,083	311,546	*40%*	360,579	*21%*
Total expenses	Rsm	365,207	262,502	*39%*	316,346	*15%*
EBITDA	Rsm	69,876	49,043	*42%*	44,233	*58%*
Depreciation	Rsm	11,050	10,298	*7%*	9,945	*11%*
Interest	Rsm	8,243	8,921	*-8%*	8,261	*0%*
Other income	Rsm	527	1,742	*-70%*	923	*-43%*
PBT (recurring)	Rsm	51,110	31,566	*62%*	26,950	*90%*
Exceptional items	Rsm	(3,034)	44,339		(3,339)	
PBT (reported)	Rsm	48,076	75,906	*-37%*	23,611	*104%*
Tax	Rsm	8,930	12,526	*-29%*	10,871	*-18%*
PAT (recurring)	Rsm	42,181	19,041	*122%*	16,079	*162%*
Net profit	Rsm	39,009	63,604	*-39%*	12,317	*217%*
EPS (recurring)	Rs	57.7	26.0	*122%*	22.0	*162%*

Source: Company data, Macquarie Research, August 2008

- The 1Q results represent 23% of our greatly out-of-consensus full-year EPS estimate of Rs197. Because of an expected increase in profitability due to a 30% capacity expansion of Indian operations, however, we believe that we are within striking distance.

Fig 2 Tata Steel (consolidated) 1Q FY3/09 numbers as % of FY3/09 estimates

		1Q FY3/09	FY3/09E	*1Q as % of FY*
Net Sales	Rsm	435,083	1,974,400	*22%*
Total expenses	Rsm	365,207	1,656,589	*22%*
EBITDA	Rsm	69,876	317,810	*22%*
Depreciation	Rsm	11,050	41,439	*27%*
Interest	Rsm	8,243	42,653	*19%*
Other income	Rsm	527	3,743	*14%*
PBT (recurring)	Rsm	51,110	237,462	*22%*
Exceptional items	Rsm	(3,034)	2,211	
PBT (reported)	Rsm	48,076	239,673	*20%*
Tax	Rsm	8,930	68,270	*13%*
PAT (recurring)	Rsm	42,181	171,403	*25%*
Net profit	Rsm	39,009	170,461	*23%*

Source: Macquarie Research, August 2008

- Comparing 1Q results after excluding Indian operations, the results represent 27% of our full-year estimates.
- With the commissioning of the 180ktpa ferro chrome project in South Africa, the realisation of operating savings and a not-so-sharp steel-price correction, we think that the best profitability will be reflected in 2Q results.
- Possible gains from synergy benefits can also help, as management has mentioned that it believes that synergy benefits can be greater than the initial estimate of US$450m and that it is getting a third-party audit to quantify the same.

Fig 3 Tata Steel (ex India operations) 1Q FY3/09 numbers as % of FY3/09 (ex India) estimates

		1Q FY3/09	FY3/09E	*1Q as % of FY*
Net Sales	Rsm	373,433	1,681,878	*22%*
Total expenses	Rsm	333,802	1,505,192	*22%*
EBITDA	Rsm	39,630	176,686	*22%*
Depreciation	Rsm	8,882	32,089	*28%*
Interest	Rsm	5,825	29,034	*20%*
Other income	Rsm	405	600	*67%*
PBT (recurring)	Rsm	25,328	116,163	*22%*
Exceptional items	Rsm	(0)	4,422	*0%*
PBT (reported)	Rsm	25,328	116,163	*22%*
Tax	Rsm	1,065	26,683	*4%*
Net profit	Rsm	24,125	88,538	*27%*

Source: Macquarie Research, August 2008

- In our view, 2Q results will be the best for Corus because the bulk of the price increases were made effective as of 1 July, while cost increases have been going up in step up fashion since 1Q.
- Also, we think that the commissioning of the company's rolling and coating facilities at its Ijmuiden facilities in June 2008 will drive the majority of the proposed operating savings of US$600m.
- A change in accounting policy for pension liability should help to cut the volatility in reported earnings. In FY3/08, the pension fund added US$1.5bn gains to its assets; in the current quarter, it has reported a US$1.2bn reduction in the value of assets. Now, instead of passing this through the profit and loss account, it will be adjusted against reserves and surplus.

Fig 4 Price increases announced by Corus during FY09

(US$/t)	Announcement date	WEF	Flat rolled	Cold rolled	Galvanized	Reversing mill plate	Structural	Strip products
UK	23-Jul-08	28-Sep-08					120	
UK	09-Jul-08	03-Aug-08				160		
UK	17-Jun-08	2QFY09	300	350	400			
UK	28-May-08	2QFY09				120		
UK	28-May-08	03-Aug-08					180	
Europe	21-May-08	2QFY09					160	200
Europe	15-Feb-08	1QFY09						154
UK	12-Feb-08	1QFY09	200	200	200			
UK	07-Feb-08	1QFY09				120	120	
Total - FY09			**500**	**550**	**600**	**400**	**580**	**354**

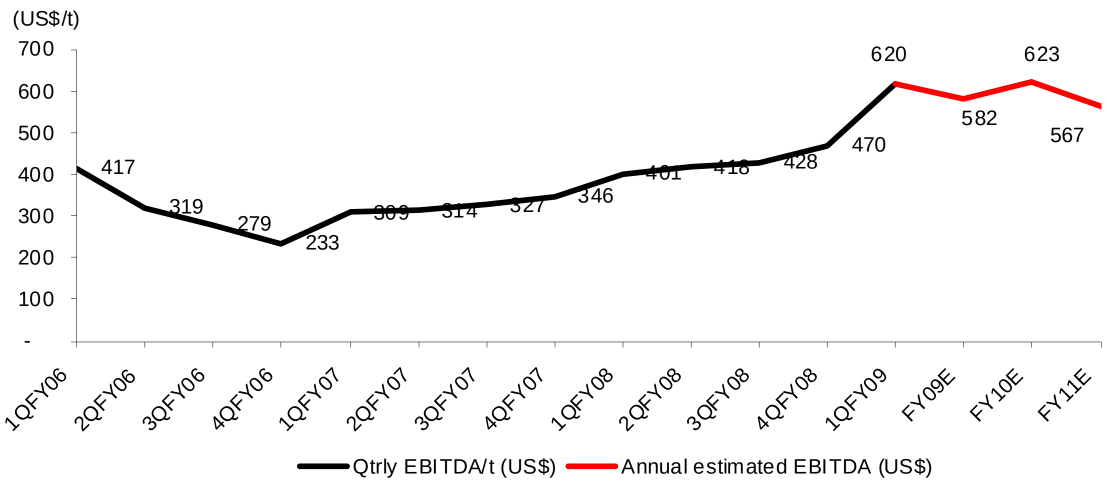
Source: Corus Website, August 2008

Little risk to Indian earnings

- Indian operations contribute 50% of the consolidated profits. Given that Indian domestic prices are US$200/t lower than global steel prices, we see little risk to our estimates.
- In 1Q FY3/09 results, Tata Steel achieved an EBITDA per ton of US$620/t vs our full-year estimate of US$582/t. We expect earnings to improve because we think that with the commissioning of its new blast furnace, the operating efficiencies will be far better.
- Given the government's resistance, some of the price increases in contract sales were affected mid-way through the 1Q, and the full effect will likely be visible only in 2Q.

Indian operations – on strong wicket

Fig 5 Tata Steel - EBITDA/t

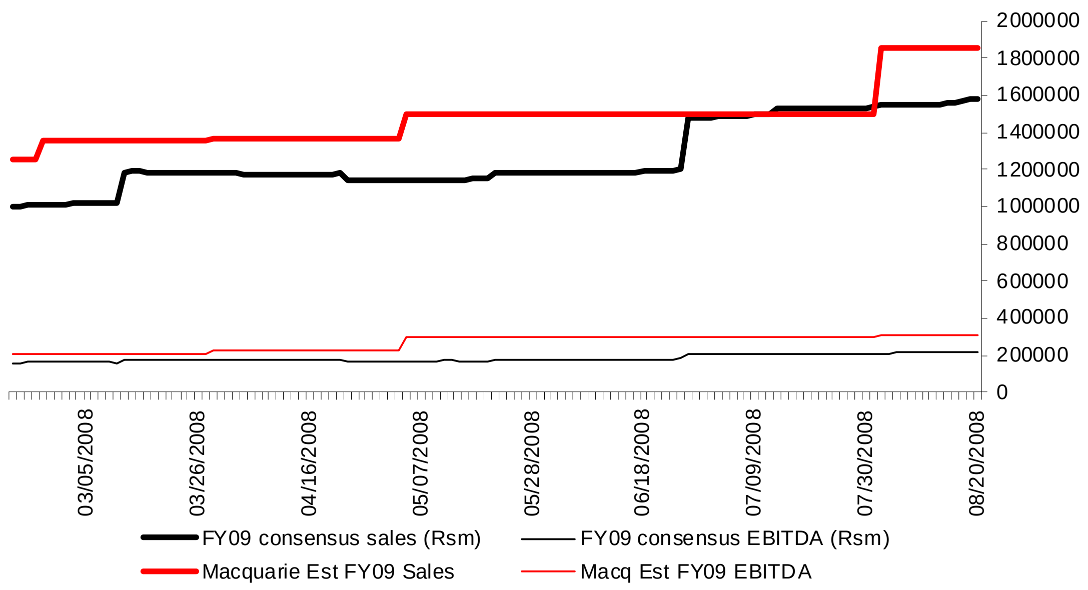


Source: Company data, Macquarie Research, August 2008

- The consensus has been playing catch-up with our estimates for quite some time. We expect this trend to continue and expect the consensus to catch up by 2Q results.

On course to meet our 70% above-consensus estimates

Fig 6 Tata Steel - Change in consensus sales and EBITDA



Source: Factset, Macquarie Research, August 2008

Upgrading our estimates – building in NatSteel and Thailand estimates

- We have built in the numbers from the recently released annual report, and because data remain scanty, we have rebuilt the model for Corus.
- Also, given the rising prominence of Asian operations, we have now built in the numbers for both NatSteel and Tata Steel – Thailand operations.

Fig 7 Tata Steel (consolidated) - change in estimates

	Old forecasts				New forecasts				% chg
	Sales	EBITDA	PAT	EPS (Rs)	Sales	EBITDA	PAT	EPS (Rs)	EPS
FY3/09E	1,857,120	308,154	174,920	202.9	1,974,400	317,810	170,461	197.6	*-2.6%*
FY3/10E	1,770,060	244,354	122,248	141.8	1,939,225	245,693	128,234	148.6	*4.8%*
FY3/11E	1,677,117	247,696	122,898	142.5	1,898,112	252,428	127,444	147.7	*3.6%*

Source: Macquarie Research, August 2008

Based on the following assumptions

Fig 8 Tata Steel (India) assumptions

	FY3/07	FY3/08	FY3/09E	FY3/10E	FY3/11E
USD/ INR	44.87	39.97	43.60	41.94	41.13
Saleable steel (m tonnes)	4.79	4.78	5.56	6.01	6.73
% change yoy		*-0.3%*	*16.3%*	*8.0%*	*12.0%*
Realization (USD/t)	**816**	**1,030**	**1,206**	**1,275**	**1,228**
% change yoy		*26.3%*	*17.1%*	*5.6%*	*-3.6%*
Iron ore cost/ t of steel (USD)	16	22	21	23	25
% change yoy		*36.6%*	*-3.6%*	*8.1%*	*6.1%*
Coal + coke cost/ t of steel (USD)	79	104	164	178	174
% change yoy		*31.3%*	*57.5%*	*8.2%*	*-2.4%*
Total RM cost/t of steel (USD)	138	171	226	243	244
% change yoy		*24.1%*	*32.0%*	*7.8%*	*0.3%*
Employee cost/ t of steel (USD)	64	79	67	70	69
% change yoy		*23.3%*	*-15.2%*	*4.0%*	*-1.7%*
Freight cost/t of steel (USD)	52	57	54	57	60
% change yoy		*10.6%*	*-6.5%*	*6.0%*	*5.0%*
Energy cost/t of steel (USD)	41	47	42	45	48
% change yoy		*14.3%*	*-8.8%*	*7.1%*	*5.0%*
Other operating cost/t of steel (USD)	175	221	206	206	210
% change yoy		*26.0%*	*-6.4%*	*-0.4%*	*2.3%*
Total cost/ t of steel (USD)	467	572	593	619	628
% change yoy		*22.5%*	*3.6%*	*4.3%*	*1.5%*
EBITDA/t of steel (USD)	**324**	**430**	**582**	**623**	**567**
% change yoy		*32.7%*	*35.3%*	*7.1%*	*-9.1%*

Source: Company data, Macquarie Research, August 2008

Fig 9 Corus assumptions

Corus	FY3/08	FY3/09E	FY3/10E	FY3/11E
Saleable steel (m tonnes)	23.1	23.6	24.0	24.5
Realization (USD/t)	**1,085**	**1,437**	**1,406**	**1,353**
% change yoy		*32.3%*	*-2.1%*	*-3.8%*
Iron ore cost/t of steel (USD)	80	157	157	157
% change yoy		*96.5%*	*0.0%*	*0.0%*
Coal cost/t of steel (USD)	52	132	178	165
% change yoy		*154.6%*	*35.3%*	*-7.4%*
Total RM cost/t of steel (USD)	156	319	364	347
% change yoy		*104.7%*	*14.2%*	*-4.8%*
Semifinished steel/t of steel (USD)	199	310	300	282
% change yoy		*55.6%*	*-3.4%*	*-5.8%*
Employee cost/ t of steel (USD)	135	120	121	120
% change yoy		*-11.1%*	*0.8%*	*-1.1%*
Powr cost/t of steel (USD)	37	41	41	39
% change yoy		*10.0%*	*-1.2%*	*-3.1%*
Other operating cost/t of steel (USD)	468	500	514	492
% change yoy		*6.8%*	*2.8%*	*-4.3%*
Total cost/t of steel (USD)	996	1,290	1,340	1,280
% change yoy		*29.6%*	*3.8%*	*-4.4%*
EBITDA/t of steel (USD)	**90**	**146**	**67**	**72**
% change yoy		*63.0%*	*-54.4%*	*8.7%*

Source: Company data, Macquarie Research, August 2008

Fig 10 Tata Steel (consolidated) assumptions

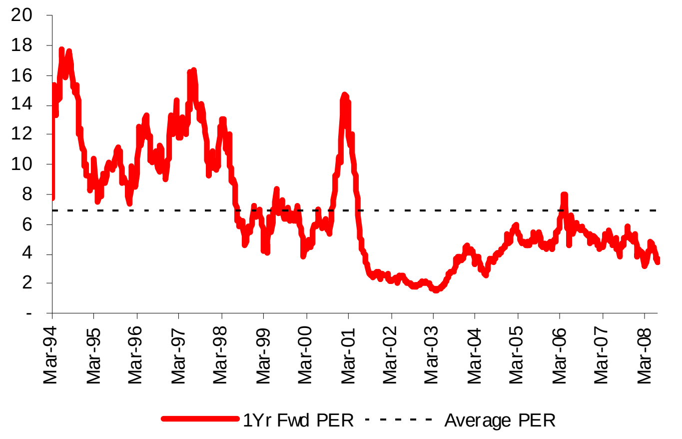
	FY3/07A	FY3/08	FY3/09E	FY3.10E	FY3/11E
Saleable steel (m tonnes)	4.79	31.80	33.18	34.30	35.70
% change yoy		*563.4%*	*4.3%*	*3.4%*	*4.1%*
Realization (USD/t)	816	1,035	1,365	1,348	1,293
% change yoy		*26.8%*	*31.9%*	*-1.2%*	*-4.1%*
EBITDA/t of steel (USD)	**324**	**142**	**220**	**171**	**172**
% change yoy		*-56.3%*	*55.2%*	*-22.2%*	*0.6%*

Source: Company data, Macquarie Research, August 2008

Valuations – at historical low

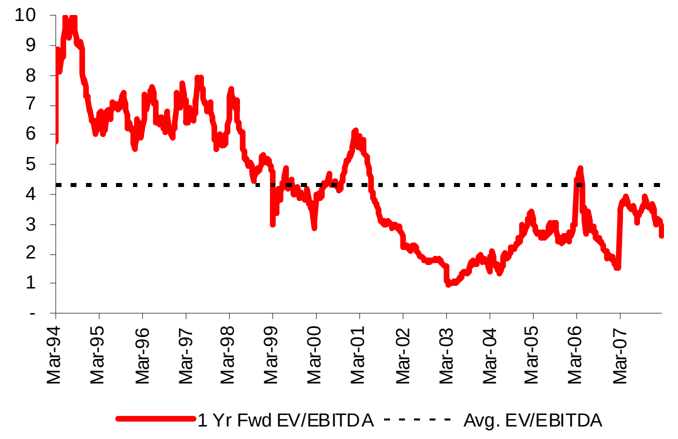
- Tata Steel is trading at less than a 3x FY3/09 PER and just around book value. We believe this is the right time to accumulate the stock for a strong re-rating as the steel market stabilises in the next 2–3 months.

Fig 11 Tata Steel - 1 Year Fwd PER



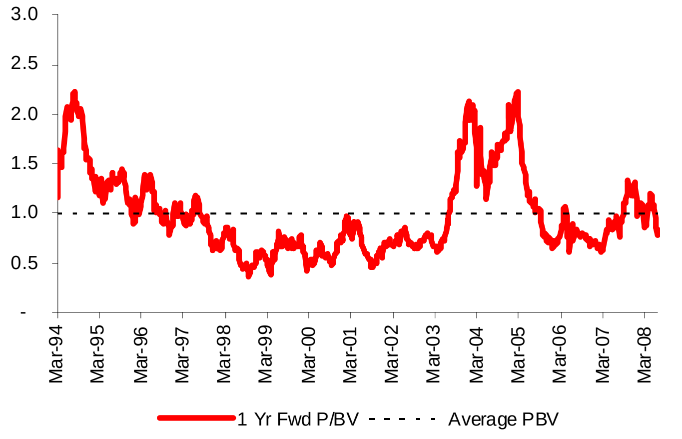
Source: Macquarie Research, August 2008

Fig 12 Tata Steel - 1 Year Fwd EV/EBITDA



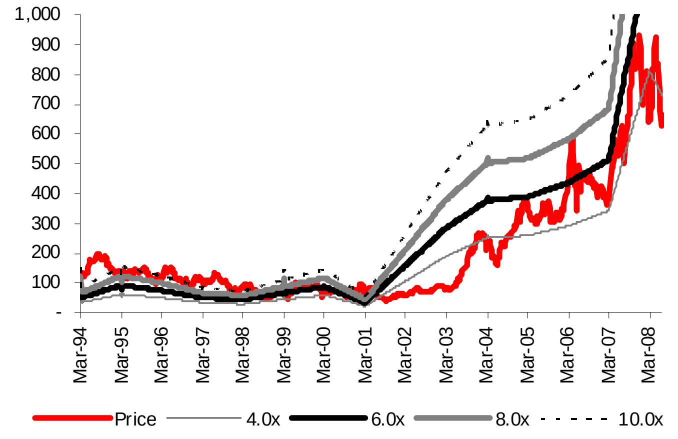
Source: Macquarie Research, August 2008

Fig 13 Tata Steel - 1 Year Fwd P/BV



Source: Macquarie Research, August 2008

Fig 14 Tata Steel - 1 Year Fwd P/BV



Source: Macquarie Research, August 2008

Tata Steel (TATA IN, Outperform, Target price: Rs1,416.00)

Profit & Loss		2004A	2005A	2006A	2007A
Revenue	**m**	**107,024**	**144,990**	**151,394**	**175520**
Gross Profit	**m**	**58,137**	**88,284**	**90,434**	**105665**
Cost of Goods Sold	m	48,887	56,706	60,960	69856
EBITDA	**m**	**34,954**	**60,454**	**59,315**	**69733**
Depreciation	m	6,251	6,188	7,751	8193
Amortisation of Goodwill	m	0	0	0	0
Other Amortisation	m	0	0	0	0
EBIT	**m**	**28,703**	**54,266**	**51,564**	**61540**
Net Interest Income	m	-1,222	-1,868	-1,184	-1739
Associates	m	0	0	0	0
Exceptionals	m	-2,227	-905	-528	-1521
Other Pre-Tax Income	m	1,405	1,480	2,548	4337
Pre-Tax Profit	**m**	**26,660**	**52,973**	**52,400**	**62617**
Tax Expense	m	-9,197	-18,231	-17,336	-20395
Net Profit	**m**	**17,462**	**34,742**	**35,064**	**42222**
Minority Interests	m	0	0	0	0
Reported Earnings	**m**	**17,462**	**34,742**	**35,064**	**42222**
Adjusted Earnings	**m**	**19,021**	**35,375**	**35,433**	**43743**

Profit & Loss		2008A	2009E	2010E	2011E
Revenue	**m**	**1,315,359**	**1,974,400**	**1,939,225**	**1,898,112**
Gross Profit	**m**	**179,930**	**317,810**	**245,693**	**252,428**
Cost of Goods Sold	m	1,135,428	1,656,589	1,693,532	1,645,684
EBITDA	**m**	**179,930**	**317,810**	**245,693**	**252,428**
Depreciation	m	41,370	41,439	37,375	39,986
Amortisation of Goodwill	m	0	0	0	0
Other Amortisation	m	0	0	0	0
EBIT	**m**	**138,560**	**276,371**	**208,319**	**212,442**
Net Interest Income	m	-41,838	-42,653	-39,436	-45,067
Associates	m	0	0	0	0
Exceptionals	m	61,244	2,211	2,211	2,211
Forex Gains / Losses	m	0	0	0	0
Other Pre-Tax Income	m	5,742	3,743	5,143	5,643
Pre-Tax Profit	**m**	**163,708**	**239,673**	**176,236**	**175,230**
Tax Expense	m	-40,493	-68,270	-48,225	-47,669
Net Profit	**m**	**123,216**	**171,403**	**128,011**	**127,562**
Minority Interests	m	282	-942	223	-118
Reported Earnings	**m**	**123,498**	**170,461**	**128,234**	**127,444**
Adjusted Earnings	**m**	**62,198**	**168,250**	**126,023**	**125,233**
EPS (rep)		158.57	197.56	148.62	147.71
EPS (adj)		80.17	195.00	146.06	145.14
EPS Growth (adj)	%	20.4	143.2	-25.1	-0.6
PE (rep)	x	3.6	2.9	3.8	3.9
PE (adj)	x	7.1	2.9	3.9	3.9
Total DPS		15.98	16.00	16.00	17.00
Total Div Yield	%	2.8	2.8	2.8	3.0
Weighted Average Shares	m	779	863	863	863
Period End Shares	m	731	863	863	863

Profit and Loss Ratios		2008A	2009E	2010E	2011E
Revenue Growth	%	649.4	50.1	-1.8	-2.1
EBITDA Growth	%	158.0	76.6	-22.7	2.7
EBIT Growth	%	125.2	99.5	-24.6	2.0
Gross Profit Margin	%	13.7	16.1	12.7	13.3
EBITDA Margin	%	13.7	16.1	12.7	13.3
EBIT Margin	%	10.5	14.0	10.7	11.2
Net Profit Margin	%	9.4	8.7	6.6	6.7
Payout Ratio	%	19.9	8.2	11.0	11.7
EV/EBITDA	x	5.1	3.1	4.0	3.9
EV/EBIT	x	6.6	3.6	4.7	4.6
Balance Sheet Ratios					
ROE	%	25.8	40.3	24.3	21.0
ROA	%	17.8	19.9	13.2	11.9
ROIC	%	64.9	23.4	15.7	15.8
Net Debt/Equity	%	140.9	94.4	79.8	75.4
Interest Cover	x	3.3	6.5	5.3	4.7
Price/Book	x	1.2	1.0	0.9	0.8
Book Value per Share		467.9	570.8	631.3	753.6

Cashflow Analysis		2008A	2009E	2010E	2011E
EBITDA	**m**	**179,931**	**317,810**	**245,693**	**252,428**
Tax Paid	m	-26,867	-68,270	-48,225	-47,669
Chgs in Working Cap	m	-19,777	33,298	-9,475	57,534
Net Interest Paid	m	0	0	0	0
Other	m	914	3,743	5,143	5,643
Operating Cashflow	**m**	**134,202**	**286,581**	**193,136**	**267,937**
Acquisitions	m	-377,787	0	0	0
Capex	m	-84,166	-86,350	-84,569	-82,163
Asset Sales	m	0	0	0	0
Other	m	0	0	0	0
Investing Cashflow	**m**	**-461,953**	**-86,350**	**-84,569**	**-82,163**
Dividend (Ordinary)	m	-9,478	-14,514	-14,514	-14,514
Equity Raised	m	103,540	408	-11,183	0
Debt Movements	m	169,753	-45,887	-25,900	73,620
Other	m	-58,687	-14,942	-15,215	-23,629
Financing Cashflow	**m**	**205,127**	**-74,935**	**-66,812**	**35,476**
Net Chg in Cash/Debt	**m**	**-122,624**	**125,295**	**41,755**	**221,251**

Balance Sheet		2008A	2009E	2010E	2011E
Cash	m	42,316	53,345	59,813	69,789
Receivables	m	186,963	235,692	264,267	308,341
Inventories	m	230,643	290,757	326,008	380,379
Investments	m	33,777	153,944	152,418	363,492
Fixed Assets	m	419,631	463,038	480,630	498,847
Intangibles	m	0	0	0	0
Other Assets	m	336,795	336,818	336,832	336,853
Total Assets	**m**	**1,250,125**	**1,533,595**	**1,619,968**	**1,957,701**
Payables	m	328,515	481,707	542,539	708,516
Short Term Debt	m	0	0	0	0
Long Term Debt	m	535,928	520,975	495,468	561,346
Provisions	m	0	0	0	0
Other Liabilities	m	35,447	35,805	35,805	35,806
Total Liabilities	**m**	**899,890**	**1,038,487**	**1,073,812**	**1,305,667**
Shareholders' Funds	m	341,909	492,485	544,697	650,234
Minority Interests	m	8,327	2,624	1,459	1,800
Other	m	0	0	0	0
Total S/H Equity	**m**	**350,236**	**495,109**	**546,156**	**652,034**
Total Liab & S/H Funds	**m**	**1,250,126**	**1,533,595**	**1,619,968**	**1,957,701**

All figures in INR unless noted.
Source: Macquarie Research, August 2008

INDIA

JSW Steel

29 August 2008

JSTL IN		**Outperform**
Stock price as of 28 Aug 08	Rs	747.90
12-month target	Rs	1,631.00
Upside/downside	%	+118.1
Valuation	Rs	1,631.00
- Sum of Parts		
GICS sector		materials
Market cap	Rs m	139,893
30-day avg turnover	US$m	15.8
Market cap	US$m	3,196
Number shares on issue	m	187.0

Investment fundamentals

Year end 31 Mar		2008A	2009E	2010E	2011E
Total revenue	bn	123.5	239.7	298.6	357.6
EBITDA	bn	33.7	61.1	66.4	79.6
EBITDA growth	%	19.5	81.4	8.7	19.9
Reported profit	bn	16.2	26.9	32.7	40.3
EPS rep	Rs	86.59	135.95	165.28	203.63
EPS rep growth	%	17.8	57.0	21.6	23.2
EPS adj growth	%	11.1	57.0	21.6	23.2
PE rep	x	8.6	5.5	4.5	3.7
Total DPS	Rs	14.00	14.20	14.40	14.60
Total div yield	%	1.9	1.9	1.9	2.0
ROA	%	13.4	16.6	14.4	15.4
ROE	%	24.1	29.4	27.2	25.9
EV/EBITDA	x	8.9	5.0	4.6	3.9
Net debt/equity	%	197.2	176.0	138.5	106.3
Price/book	x	1.8	1.4	1.1	0.8

JSTL IN rel SENSEX performance, & rec history

Source: Datastream, Macquarie Research, August 2008
(all figures in INR unless noted)

Analyst

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Fastest growing steel company

Event

- **Fundamentally sound:** We review our numbers given the seasonal weakness in steel prices and see no reason to cut estimates as our assumptions are below peak steel prices.

Impact

- **Indian domestic steel price way below global prices:** Indian steel prices are running around $200/t lower than global steel prices. With almost half the year already through, we think only a serious meltdown of steel prices would cause us to consider changing our assumptions.
- **Operating margins can surprise higher:** JSW Steel on a consolidated basis reported US$348/t of EBITDA in 1Q FY09 results against our estimate of US$288/t for the full year. Substantial volume growth due to commissioning of 2.8 million tonnes (mt) of expansion will reduce fixed costs further.
- **Lots of cost saving initiatives not built into our model:** JSW is building a 20mtpa iron ore beneficiation plant (10mt to be commissioned by October 2008), which could lead to 30% cost reductions due to usage of low grade iron ore. Captive coking coal benefits possible in FY3/10.
- **Significant visibility on raw material integration:** JSW has reported 150mt of iron ore reserves after exploring just 1% of its Chilean mining lease. Production is estimated around 3–4mt in FY10, to be increased to 20mt by FY13. JSW also indicated 188mt of coking coal reserves in one of the four mining leases explored in Mozambique. Expected 2mt production from FY10.
- **Earnings growth even with margin squeeze:** We forecast JSW Steel to show earnings CAGR of 22% over FY3/09–11E. Though we expect margins to get squeezed from US$288/t in FY3/09 to US$237/t and US$230/t for FY3/10E and FY3/11E, respectively.

Earnings revision

- No change.

Price catalyst

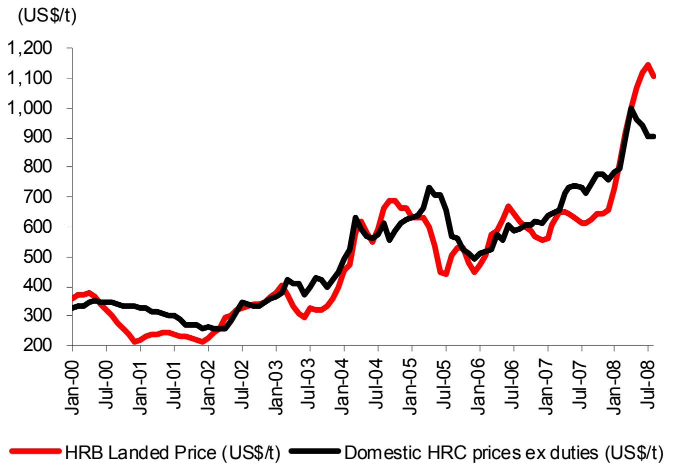
- 12-month price target: Rs1,631.00 based on a Sum of Parts methodology.
- Catalyst: Commissioning of its captive coke ovens, expansion by 3mt, and iron ore beneficiation plant in 2H FY09. Progress on raw material integration.

Action and recommendation

- **Maintain Outperform and target price:** JSW has a robust earnings outlook, driven by strong volume growth, increasing raw material integration and an improving product mix. We believe that this is the best opportunity to accumulate shares of this fast-growing steel company at a PER of only 5.6x FY3/09E.

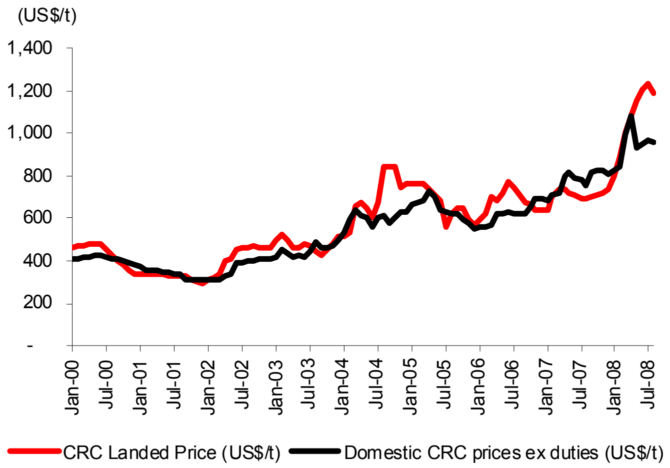
Indian domestic steel prices at a discount to landed import price

Fig 1 Import landed vs domestic HRC price



Source: Macquarie Research, August 2008

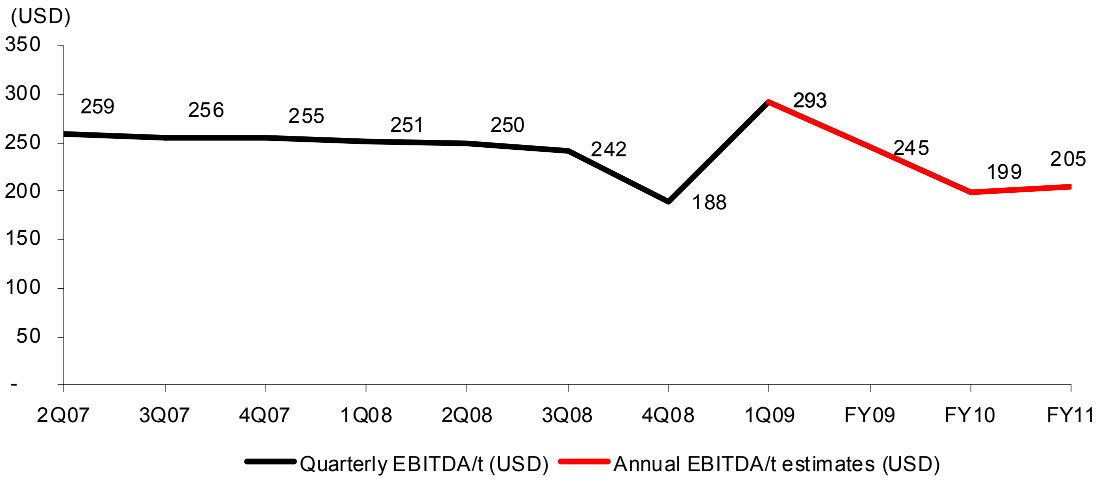
Fig 2 Import landed vs domestic CRC price



Source: Macquarie Research, August 2008

EBITDA margin – our estimate remains conservative

Fig 3 Quarterly historical vs annual estimate EBITDA/t

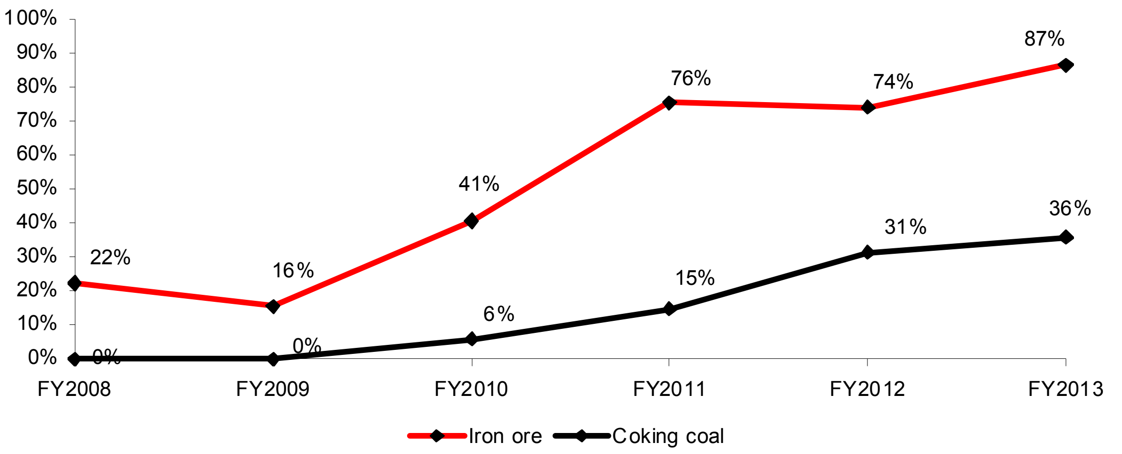


Source: Macquarie Research, August 2008

Raw material integration – improving visibility

- JSW has been taking lots of initiatives to increase its captive base of raw material.

Fig 4 Raw material integration for JSW Steel



Source: Macquarie Research, August 2008

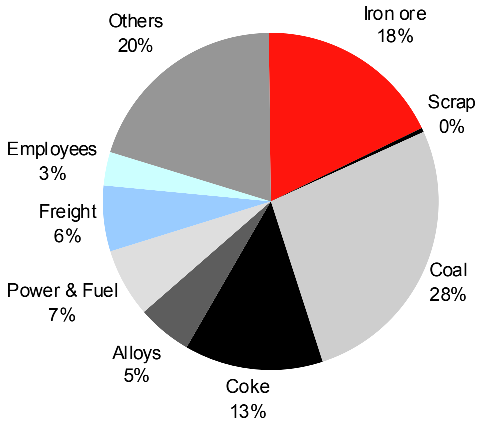
Iron ore – Chile

- JSW has until now explored just 1% of the mining lease and has reported 150mt of iron ore reserves. It expects to start production by 3Q FY09 once the beneficiation plants are commissioned.
- The cost of mining, beneficiation and transportation to the port is expected to be around US$26/t.
- Company expects to mine around 3−4mt in FY10, 6mt in FY11, 12mt in FY12 and 20mt in FY13.
- The main bottleneck is the current port which does not have capacity to handle more than 3−4mt. JSW Steel's sister concern is modernising the port.

Coking coal – Mozambique

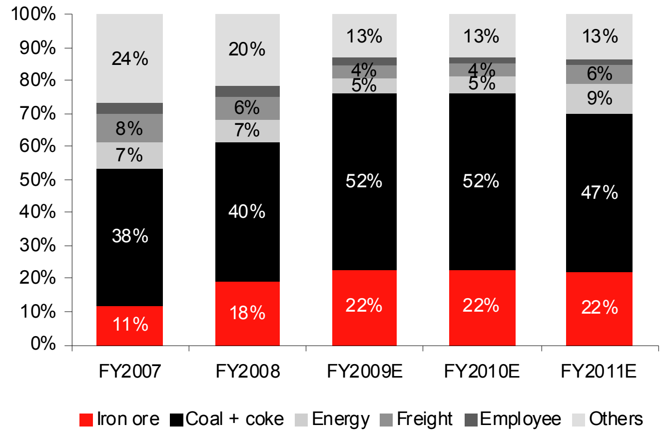
- JSW has acquired one more coking coal mining concession in Mozambique, taking the total tally to four.
- It has completed exploration in one of the blocks and has found 188mt of coking coal reserves.
- It plans to start production by 4Q FY09 ad expects to produce 2mt in FY10 and peak at 4.5mt from the first block.
- However, given that progress on rail link to the port is still some time away, reaching 2mt in FY10 looks a bit aggressive.

Fig 5 JSW Steel – cost structure (FY08)



Source: Macquarie Research, August 2008

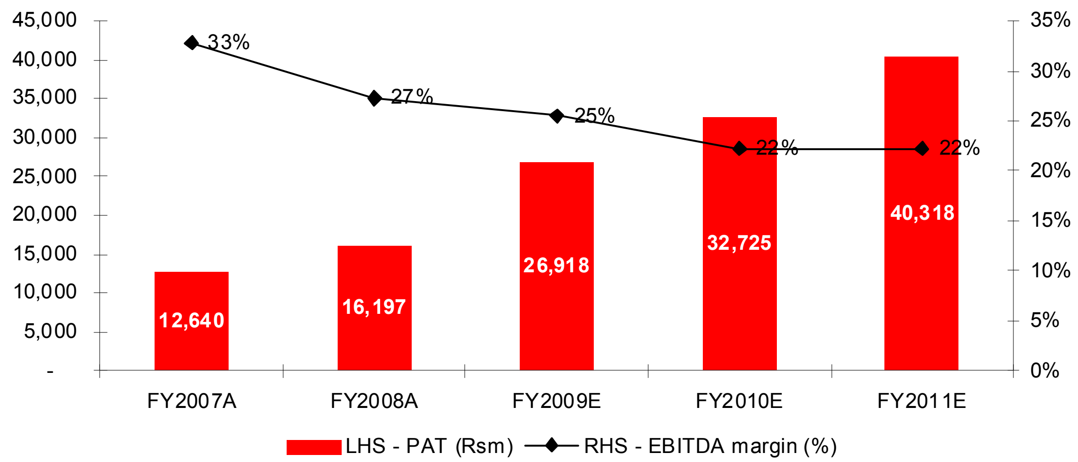
Fig 6 JSW Steel – cost breakup movement



Source: Macquarie Research, August 2008

High earnings growth even with declining margin assumptions

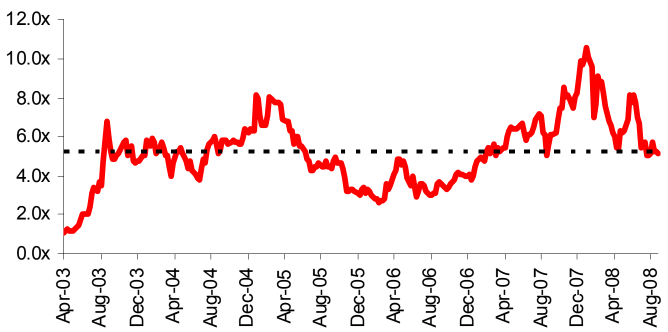
Fig 7 EBITDA margin vs profits



Source: Macquarie Research, August 2008

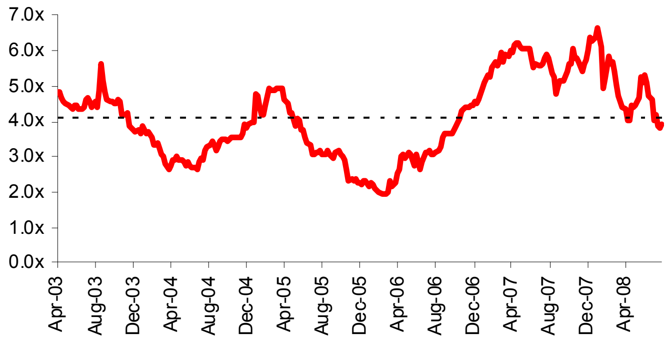
Valuations – very attractive

Fig 8 JSW Steel – 1 year fwd PER



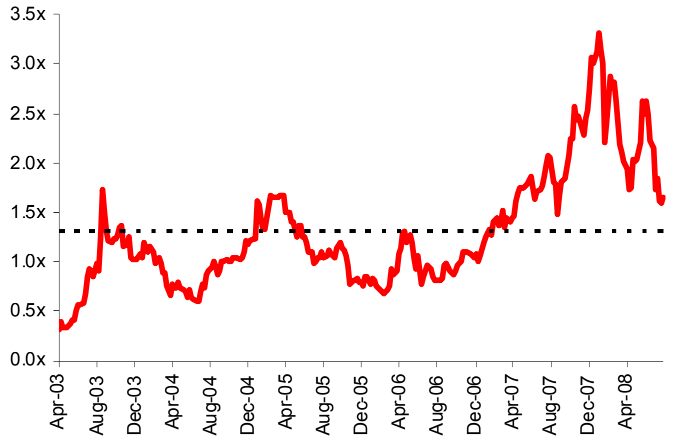
Source: Macquarie Research, August 2008

Fig 9 JSW Steel – 1 year fwd EV/EBITDA



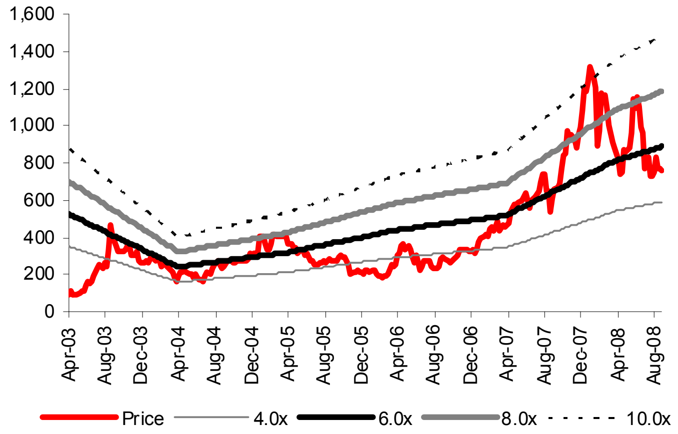
Source: Macquarie Research, August 2008

Fig 10 JSW Steel – 1 year fwd P/BV



Source: Macquarie Research, August 2008

Fig 11 JSW Steel – PER band



Source: Macquarie Research, August 2008

Key assumptions

Fig 12 JSW (standalone) – key assumptions

JSW Standalone	FY2007A	FY2008E	FY2009E	FY2010E	FY2011E
USD/ INR	44.9	40.0	43.6	41.9	41.1
Saleable steel (m tonnes)	2.67	3.41	4.86	6.68	8.40
% change yoy		*27%*	*43%*	*38%*	*26%*
Realization (USD/t)	717	831	1,026	976	963
% change yoy		*16%*	*23%*	*-5%*	*-1%*
Iron ore cost/ t of steel (USD)	53	107	174	174	165
% change yoy		*104%*	*63%*	*0%*	*-5%*
Coal + coke cost/ t of steel (USD)	183	236	407	408	357
% change yoy		*29%*	*72%*	*0%*	*-12%*
Total RM cost/t of steel (USD)	336	418	645	651	596
% change yoy		*25%*	*54%*	*1%*	*-8%*
Employee cost/ t of steel (USD)	15	20	14	13	12
% change yoy		*38%*	*-28%*	*-13%*	*-7%*
Other op cost/t of steel (USD)	131	154	121	113	151
% change yoy		*18%*	*-21%*	*-6%*	*33%*
Total cost/ t of steel (USD)	482	593	781	777	758
% change yoy		*23%*	*32%*	*-1%*	*-2%*
EBITDA/t of steel (USD)	**235**	**238**	**245**	**199**	**205**
% change yoy		*1%*	*3%*	*-19%*	*3%*

Source: Macquarie Research, August 2008

Fig 13 JSW (consolidated) – key assumptions

JSW Consolidated		FY2008E	FY2009E	FY2010E	FY2011E
Saleable steel (m tonnes)	2.67	3.41	4.86	6.68	8.40
% change yoy		*27%*	*43%*	*38%*	*26%*
Realization (USD/t)	717	907	1,132	1,066	1,035
% change yoy		*27%*	*25%*	*-6%*	*-3%*
Total cost/t of steel (USD)	482	660	844	829	805
% change yoy		*37%*	*28%*	*-2%*	*-3%*
EBITDA/t of steel (USD)	**235**	**247**	**288**	**237**	**230**
% change yoy		*5%*	*17%*	*-18%*	*-3%*

Source: Macquarie Research, August 2008

JSW Steel (JSTL IN, Outperform, Target price: Rs1,631.00)

Profit & Loss		2004A	2005A	2006A	2007A
Revenue	**m**	**32,798**	**66,794**	**62,155**	**85944**
Gross Profit	**m**	**11,891**	**21,527**	**19,121**	**30036**
Cost of Goods Sold	m	20,907	45,267	43,034	55909
EBITDA	**m**	**10,604**	**20,240**	**17,576**	**28168**
Depreciation	m	3,129	3,595	4,058	4982
Amortisation of Goodwill	m	0	0	0	0
Other Amortisation	m	0	0	0	0
EBIT	**m**	**7,475**	**16,645**	**13,518**	**23185**
Net Interest Income	m	-4,093	-4,699	-3,603	-3996
Associates	m	0	0	0	0
Exceptionals	m	3,268	-638	-618	-1090
Other Pre-Tax Income	m	252	190	3,830	1052
Pre-Tax Profit	**m**	**6,902**	**11,498**	**13,126**	**19151**
Tax Expense	m	-1,615	-6,025	-4,454	-6232
Net Profit	**m**	**5,287**	**5,473**	**8,673**	**12919**
Minority Interests	m	0	0	0	0
Reported Earnings	**m**	**5,008**	**5,194**	**8,394**	**12640**
Adjusted Earnings	**m**	**2,720**	**5,641**	**8,826**	**13403**

Profit & Loss		2008A	2009E	2010E	2011E
Revenue	**m**	**123,455**	**239,740**	**298,639**	**357,624**
Gross Profit	**m**	**36,020**	**63,918**	**70,089**	**84,089**
Cost of Goods Sold	m	87,436	175,822	228,550	273,535
EBITDA	**m**	**33,673**	**61,070**	**66,384**	**79,571**
Depreciation	m	7,419	10,796	12,869	13,889
Amortisation of Goodwill	m	0	0	0	0
Other Amortisation	m	0	0	0	0
EBIT	**m**	**26,254**	**50,274**	**53,516**	**65,682**
Net Interest Income	m	-5,730	-10,568	-11,317	-10,724
Associates	m	0	0	0	0
Exceptionals	m	0	0	0	0
Forex Gains / Losses	m	0	0	0	0
Other Pre-Tax Income	m	3,723	-1,651	4,040	2,040
Pre-Tax Profit	**m**	**24,246**	**38,055**	**46,239**	**56,998**
Tax Expense	m	-7,658	-10,661	-12,946	-16,225
Net Profit	**m**	**16,589**	**27,393**	**33,292**	**40,773**
Minority Interests	m	-102	-196	-289	-176
Reported Earnings	**m**	**16,197**	**26,918**	**32,725**	**40,318**
Adjusted Earnings	**m**	**16,197**	**26,918**	**32,725**	**40,318**
EPS (rep)		86.59	135.95	165.28	203.63
EPS (adj)		86.59	135.95	165.28	203.63
EPS Growth (adj)	%	11.1	57.0	21.6	23.2
PE (rep)	x	8.6	5.5	4.5	3.7
PE (adj)	x	8.6	5.5	4.5	3.7
Total DPS		14.00	14.20	14.40	14.60
Total Div Yield	%	1.9	1.9	1.9	2.0
Weighted Average Shares	m	187	198	198	198
Period End Shares	m	187	198	198	198

Profit and Loss Ratios		2008A	2009E	2010E	2011E
Revenue Growth	%	43.6	94.2	24.6	19.8
EBITDA Growth	%	19.5	81.4	8.7	19.9
EBIT Growth	%	13.2	91.5	6.4	22.7
Gross Profit Margin	%	29.2	26.7	23.5	23.5
EBITDA Margin	%	27.3	25.5	22.2	22.2
EBIT Margin	%	21.3	21.0	17.9	18.4
Net Profit Margin	%	13.4	11.4	11.1	11.4
Payout Ratio	%	16.2	10.4	8.7	7.2
EV/EBITDA	x	8.9	5.0	4.6	3.9
EV/EBIT	x	11.4	6.1	5.7	4.7
Balance Sheet Ratios					
ROE	%	24.1	29.4	27.2	25.9
ROA	%	13.4	16.6	14.4	15.4
ROIC	%	15.5	15.1	13.1	14.2
Net Debt/Equity	%	197.2	176.0	138.5	106.3
Interest Cover	x	4.6	4.8	4.7	6.1
Price/Book	x	1.8	1.4	1.1	0.8
Book Value per Share		421.8	527.0	688.2	882.5

Cashflow Analysis		2008A	2009E	2010E	2011E
EBITDA	**m**	**34,912**	**69,055**	**75,561**	**86,905**
Tax Paid	m	0	0	0	0
Chgs in Working Cap	m	7,856	5,539	2,813	2,832
Net Interest Paid	m	-5,730	-10,568	-11,317	-10,724
Other	m	-1,142	-6,305	-8,535	-11,016
Operating Cashflow	**m**	**35,896**	**57,720**	**58,522**	**67,997**
Acquisitions	m	0	0	0	0
Capex	m	-52,443	-36,819	-36,000	-36,000
Asset Sales	m	0	0	0	0
Other	m	-5,883	0	0	0
Investing Cashflow	**m**	**-58,326**	**-36,819**	**-36,000**	**-36,000**
Dividend (Ordinary)	m	-3,405	-3,622	-3,669	-3,717
Equity Raised	m	1,557	110	0	0
Debt Movements	m	79,632	10,650	-4,650	-2,986
Other	m	0	0	0	0
Financing Cashflow	**m**	**77,784**	**7,137**	**-8,319**	**-6,702**
Net Chg in Cash/Debt	**m**	**55,354**	**28,038**	**14,202**	**25,295**

Balance Sheet		2008A	2009E	2010E	2011E
Cash	m	4,715	27,430	39,043	60,544
Receivables	m	5,391	10,488	13,077	15,683
Inventories	m	21,817	42,448	52,926	63,475
Investments	m	2,158	2,158	2,158	2,158
Fixed Assets	m	208,017	234,039	257,171	279,282
Intangibles	m	7,831	7,831	7,831	7,831
Other Assets	m	11,822	20,601	25,060	29,549
Total Assets	**m**	**261,750**	**344,995**	**397,266**	**458,522**
Payables	m	0	0	0	0
Short Term Debt	m	42,679	83,037	103,534	124,170
Long Term Debt	m	121,362	132,012	127,362	124,377
Provisions	m	4,385	8,531	10,637	12,758
Other Liabilities	m	12,517	14,834	17,205	20,374
Total Liabilities	**m**	**180,944**	**238,414**	**258,738**	**281,678**
Shareholders' Funds	m	78,888	104,337	136,268	174,735
Minority Interests	m	1,919	2,245	2,260	2,109
Other	m	0	0	0	0
Total S/H Equity	**m**	**80,807**	**106,582**	**138,528**	**176,844**
Total Liab & S/H Funds	**m**	**261,751**	**344,995**	**397,266**	**458,522**

All figures in INR unless noted.
Source: Macquarie Research, August 2008

INDIA

Steel Authority of India

29 August 2008

SAIL IN		**Outperform**
Stock price as of 28 Aug 08	Rs	148.40
12-month target	Rs	196.00
Upside/downside	%	+32.1
Valuation	Rs	196.00
- PER		
GICS sector		materials
Market cap	Rs m	612,951
30-day avg turnover	US$m	37.9
Market cap	US$m	14,005
Number shares on issue	m	4,130

Investment fundamentals

Year end 31 Mar		2008A	2009E	2010E	2011E
Total revenue	bn	406.7	575.7	628.3	691.0
EBITDA	bn	118.9	122.8	121.2	163.2
EBITDA growth	%	15.5	3.3	-1.3	34.7
Reported profit	bn	76.0	81.1	81.9	101.5
EPS rep	Rs	18.39	19.63	19.83	24.57
EPS rep growth	%	21.3	6.7	1.0	23.9
EPS adj growth	%	21.3	6.7	1.0	23.9
PE rep	x	8.1	7.6	7.5	6.0
Total DPS	Rs	3.70	3.00	3.00	4.00
Total div yield	%	2.5	2.0	2.0	2.7
ROA	%	27.6	23.4	19.6	23.1
ROE	%	37.3	30.8	25.2	25.8
EV/EBITDA	x	4.3	4.2	4.2	3.1
Net debt/equity	%	-43.1	-52.2	-18.8	-1.9
Price/book	x	2.6	2.1	1.7	1.4

SAIL IN rel SENSEX performance, & rec history

Source: Datastream, Macquarie Research, August 2008
(all figures in INR unless noted)

Analysts

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Least risky

Event

- **Fundamentally sound:** We review our numbers given the seasonal weakness in steel prices and see no reason to cut estimates as our assumptions are way below the peak steel prices seen. Also, we have updated numbers for the recently released annual report.

Impact

- **Indian domestic steel prices way below global prices:** Indian steel prices are ruling about US$200/t lower than global steel prices. Also, with almost half the year already through, we will require a serious meltdown of steel prices to change our assumptions.
- **Operating margins can surprise higher:** SAIL reported US$323/t of EBITDA adjusted for extra wage provisioning in 1Q FY3/09 results against our estimate of US$239/t for the full year.
- **Wage provisioning far in excess:** SAIL has made provisions to the tune of Rs34.6bn to provide for a possible wage hike under the sixth pay commission effective 1 January 2007. The provisioning is equivalent to 70% of the annual salary bill on FY3/07 and is way beyond the 20–40% increase proposed by the commission.
- **Cash on the books, safe haven under inflationary environment:** SAIL boasts US$3.47bn in cash on the books as of March 2008. This translates into Rs34/sh, or more than 22% of market cap.
- **Growth will remain low compared with peers:** Though we like SAIL on its valuations, we think it will continue to lag its peers in growth. We expect its 60% expansion to 23Mnt capacity to be delayed to FY3/12, against the announced completion by FY3/11.

Earnings revision

- We have marginally adjusted numbers for the release of annual reports. FY3/09, FY3/10 and FY3/11 estimates have been adjusted by 0.7%, -0.2% and -1%, respectively.

Price catalyst

- 12-month price target: Rs196.00 based on a PER methodology.
- Catalyst: Better clarity on its staff costs and other expenditure costs in 2Q results.

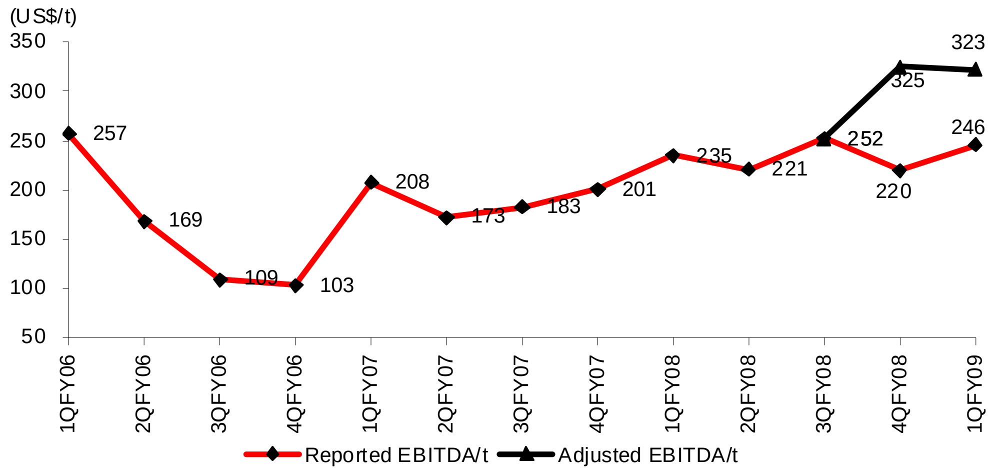
Action and recommendation

- **Least risky with attractive valuations:** SAIL appears to be the least risky value play to ride these turbulent times due to low commodity-price risk and a cash-rich balance sheet. It is trading at just 4.4x on EV/EBITDA, one of the lowest among our coverage.

EBITDA margin – our estimate remains conservative even as the company tries to mask profitability

- We believe that SAIL has tried to shove its excellent profit numbers behind the fog screen in the past two quarters due to constant scrutiny by the government. In 4Q FY3/08, the company made provisions of Rs16bn for probable wage revisions and made a virtual repeat in 1Q FY3/09, with a provision of Rs8.6bn for the same purpose. Adjusting for this provisioning, the company recorded EBITDA per tonne of more than US$320 in the past two quarters.

Fig 1 SAIL tries to hide its profitability through provisioning

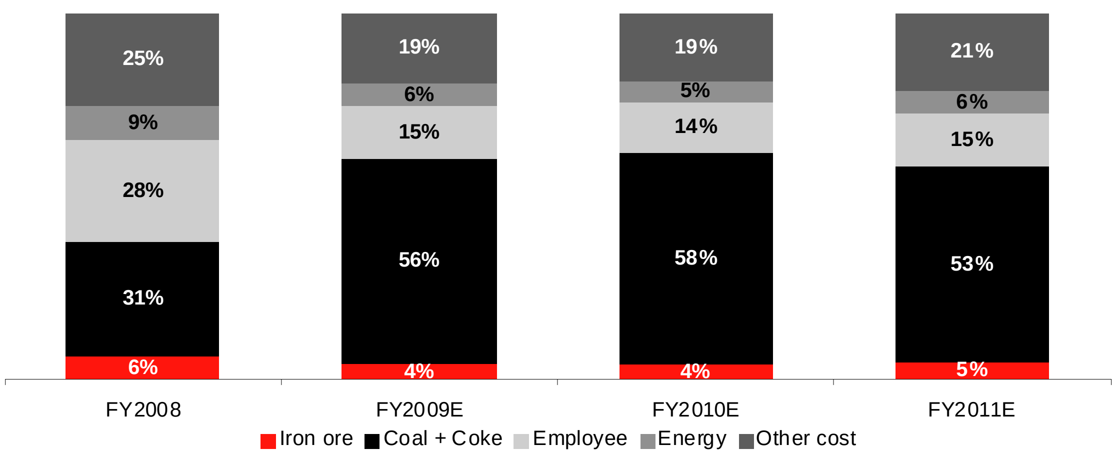


Adjusted for employee cost provisioning during 4QFY08 and 1QFY09

Source: Macquarie Research, August 2008

- SAIL's coal cost was very low during 1Q FY3/09 as its annual coal contracts run from July to June. Consequently, cost pressure will kick in only from 2Q FY3/09. We estimate 12% compression in EBITDA/t in FY3/09 over FY3/08.

Fig 2 SAIL – cost-breakup movement



Source: Macquarie Research, August 2008

Adjusting our numbers for annual report

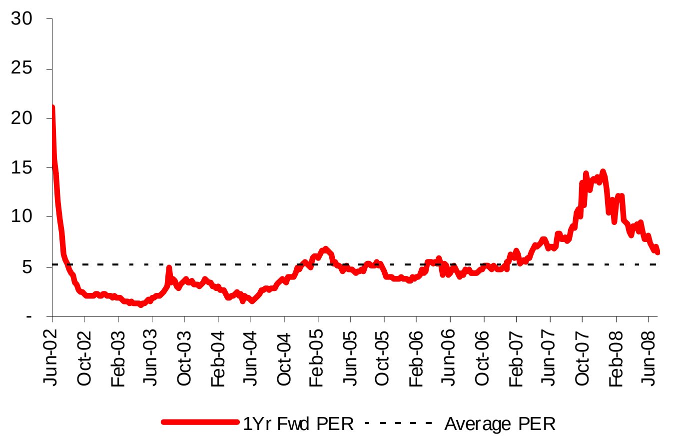
Fig 3 Marginal change in our estimates

	Old forecasts				New forecasts				% chg
SAIL	**Sales**	**EBITDA**	**PAT**	**EPS (Rs)**	**Sales**	**EBITDA**	**PAT**	**EPS (Rs)**	***EPS***
FY3/09E	552,463	119,193	80,497	19.5	575,658	122,789	81,072	19.6	*0.7%*
FY3/10E	604,844	122,890	82,051	19.9	628,292	121,157	81,909	19.8	*-0.2%*
FY3/11E	671,226	166,493	102,506	24.8	690,954	163,179	101,500	24.6	*-1.0%*

Source: Macquarie Research, August 2008

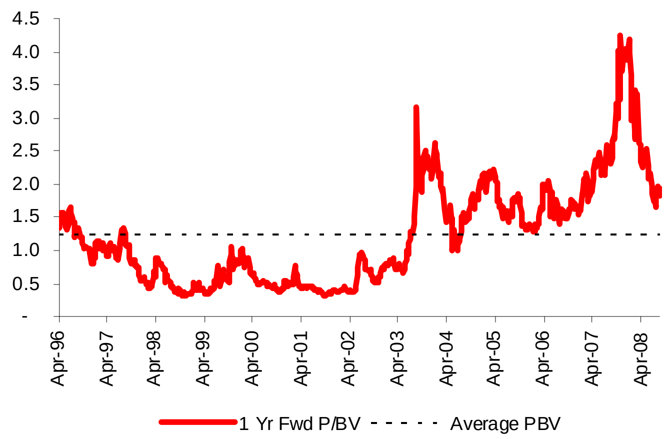
Attractive valuations

Fig 4 SAIL – one-year fwd PER



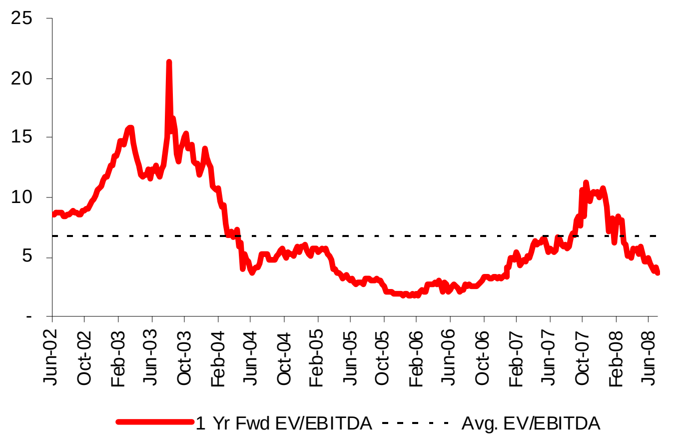
Source: Macquarie Research, August 2008

Fig 5 SAIL – one-year fwd P/BV



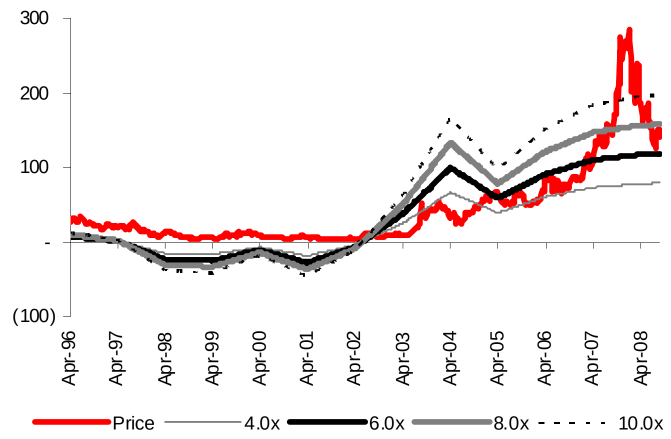
Source: Macquarie Research, August 2008

Fig 6 SAIL – one-year fwd EV/EBITDA



Source: Macquarie Research, August 2008

Fig 7 SAIL – PER band



Source: Macquarie Research, August 2008

Key assumptions

Fig 8 SAIL – key assumptions

Key Assumptions	**FY2008**	**FY2009E**	**FY2010E**	**FY2011E**
USD/ INR	39.97	43.60	41.94	41.13
Saleable steel (m tonnes)	12.31	13.29	13.86	15.88
% change YoY	*3.7%*	*7.9%*	*4.3%*	*14.6%*
Realization (USD/t)	826	993	1,081	1,058
% change YoY	*24.0%*	*20.2%*	*8.8%*	*-2.1%*
Iron ore cost/ t of steel (USD)	35	33	35	37
% change YoY	*25.4%*	*-5.9%*	*6.0%*	*6.0%*
Coal cost/ t of steel (USD)	167	404	471	404
% change YoY	*5.1%*	*141.2%*	*16.7%*	*-14.3%*
Total raw material cost/t of steel (USD)	253	503	575	508
% change YoY	*11.1%*	*99.0%*	*14.2%*	*-11.6%*
Employee cost/ t of steel (USD)	163	116	125	120
% change YoY	*68.5%*	*-29.0%*	*7.7%*	*-3.9%*
Total cost/ t of steel (USD)	585	782	873	808
% change YoY	*23.9%*	*33.6%*	*11.7%*	*-7.4%*
EBITDA/t of steel (USD)	**242**	**212**	**208**	**250**
% change YoY	*24.3%*	*-12.3%*	*-1.6%*	*19.9%*

Source: Macquarie Research, August 2008

Steel Authority of India (SAIL IN, Outperform, Target price: Rs196.00)

Profit & Loss		2004A	2005A	2006A	2007A
Revenue	**m**	**232,250**	**311,024**	**290,586**	**354124**
Gross Profit	**m**	**111,067**	**179,369**	**139,013**	**181790**
Cost of Goods Sold	m	121,183	131,655	151,573	172333
EBITDA	**m**	**47,555**	**110,238**	**69,729**	**102923**
Depreciation	m	11,950	12,047	12,571	12635
Amortisation of Goodwill	m	0	0	0	0
Other Amortisation	m	0	0	0	0
EBIT	**m**	**35,605**	**98,191**	**57,158**	**90287**
Net Interest Income	m	-9,501	-6,362	-4,842	-3444
Associates	m	0	0	0	0
Exceptionals	m	0	0	0	0
Other Pre-Tax Income	m	1,145	2,805	5,405	8202
Pre-Tax Profit	**m**	**27,249**	**94,634**	**57,720**	**95045**
Tax Expense	m	-1,263	-25,687	-17,109	-32405
Net Profit	**m**	**25,986**	**68,947**	**40,612**	**62640**
Minority Interests	m	-3	5	2	1
Reported Earnings	**m**	**25,989**	**68,942**	**40,610**	**62639**
Adjusted Earnings	**m**	**25,989**	**68,942**	**40,610**	**62639**

Profit & Loss		2008A	2009E	2010E	2011E
Revenue	**m**	**406,719**	**575,658**	**628,292**	**690,954**
Gross Profit	**m**	**229,886**	**224,204**	**230,919**	**285,305**
Cost of Goods Sold	m	176,833	351,454	397,373	405,649
EBITDA	**m**	**118,882**	**122,789**	**121,157**	**163,179**
Depreciation	m	12,355	13,583	14,226	19,550
Amortisation of Goodwill	m	0	0	0	0
Other Amortisation	m	0	0	0	0
EBIT	**m**	**106,527**	**109,206**	**106,930**	**143,629**
Net Interest Income	m	-2,594	-2,138	-1,944	-1,944
Associates	m	0	0	0	0
Exceptionals	m	0	0	0	0
Forex Gains / Losses	m	0	0	0	0
Other Pre-Tax Income	m	11,913	13,940	17,271	9,813
Pre-Tax Profit	**m**	**115,846**	**121,008**	**122,258**	**151,499**
Tax Expense	m	-39,878	-39,933	-40,345	-49,995
Net Profit	**m**	**75,968**	**81,075**	**81,913**	**101,504**
Minority Interests	m	-3	-4	-4	-4
Reported Earnings	**m**	**75,964**	**81,072**	**81,909**	**101,500**
Adjusted Earnings	**m**	**75,964**	**81,072**	**81,909**	**101,500**
EPS (rep)		18.39	19.63	19.83	24.57
EPS (adj)		18.39	19.63	19.83	24.57
EPS Growth (adj)	%	21.3	6.7	1.0	23.9
PE (rep)	x	8.1	7.6	7.5	6.0
PE (adj)	x	8.1	7.6	7.5	6.0
Total DPS		3.70	3.00	3.00	4.00
Total Div Yield	%	2.5	2.0	2.0	2.7
Weighted Average Shares	m	4,130	4,130	4,130	4,130
Period End Shares	m	4,130	4,130	4,130	4,130

Profit and Loss Ratios		2008A	2009E	2010E	2011E
Revenue Growth	%	14.9	41.5	9.1	10.0
EBITDA Growth	%	15.5	3.3	-1.3	34.7
EBIT Growth	%	18.0	2.5	-2.1	34.3
Gross Profit Margin	%	56.5	38.9	36.8	41.3
EBITDA Margin	%	29.2	21.3	19.3	23.6
EBIT Margin	%	26.2	19.0	17.0	20.8
Net Profit Margin	%	18.7	14.1	13.0	14.7
Payout Ratio	%	20.1	15.3	15.1	16.3
EV/EBITDA	x	4.3	4.2	4.2	3.1
EV/EBIT	x	4.8	4.7	4.8	3.6
Balance Sheet Ratios					
ROE	%	37.3	30.8	25.2	25.8
ROA	%	27.6	23.4	19.6	23.1
ROIC	%	56.8	55.3	51.0	33.4
Net Debt/Equity	%	-43.1	-52.2	-18.8	-1.9
Interest Cover	x	41.1	51.1	55.0	73.9
Price/Book	x	2.6	2.1	1.7	1.4
Book Value per Share		56.4	71.2	85.8	104.6

Cashflow Analysis		2008A	2009E	2010E	2011E
EBITDA	**m**	**118,882**	**122,789**	**121,157**	**163,179**
Tax Paid	m	-39,878	-39,933	-40,345	-49,995
Chgs in Working Cap	m	-36,506	-28,131	-23,008	-31,480
Net Interest Paid	m	-2,594	-2,138	-1,944	-1,944
Other	m	11,913	13,940	17,271	9,813
Operating Cashflow	**m**	**51,817**	**66,527**	**73,131**	**89,574**
Acquisitions	m	0	0	0	0
Capex	m	-20,070	-50,000	-155,210	-143,829
Asset Sales	m	0	0	0	0
Other	m	-83	4,631	105,224	79,921
Investing Cashflow	**m**	**-20,153**	**-45,369**	**-49,986**	**-63,908**
Dividend (Ordinary)	m	-17,893	-19,682	-21,650	-23,815
Equity Raised	m	0	0	0	1
Debt Movements	m	-7,513	0	0	0
Other	m	0	0	0	0
Financing Cashflow	**m**	**-25,405**	**-19,682**	**-21,650**	**-23,814**
Net Chg in Cash/Debt	**m**	**6,259**	**1,476**	**1,495**	**1,852**

Balance Sheet		2008A	2009E	2010E	2011E
Cash	m	139,331	192,574	105,380	46,926
Receivables	m	31,103	23,657	25,820	30,288
Inventories	m	69,541	70,972	77,461	87,079
Investments	m	358	358	358	358
Fixed Assets	m	154,275	190,692	331,676	455,954
Intangibles	m	0	0	0	0
Other Assets	m	28,250	32,813	38,434	45,303
Total Assets	**m**	**422,857**	**511,065**	**579,129**	**665,908**
Payables	m	66,465	94,066	102,665	112,903
Short Term Debt	m	0	0	0	0
Long Term Debt	m	38,876	38,876	38,876	38,876
Provisions	m	68,995	69,685	70,382	71,086
Other Liabilities	m	15,644	14,167	12,676	10,828
Total Liabilities	**m**	**189,980**	**216,795**	**224,600**	**233,693**
Shareholders' Funds	m	232,873	294,263	354,522	432,207
Minority Interests	m	4	8	8	8
Other	m	0	0	0	0
Total S/H Equity	**m**	**232,877**	**294,271**	**354,530**	**432,215**
Total Liab & S/H Funds	**m**	**422,857**	**511,065**	**579,129**	**665,908**

All figures in INR unless noted.
Source: Macquarie Research, August 2008

Important disclosures:

Recommendation definitions

Macquarie - Australia/New Zealand
Outperform – return >5% in excess of benchmark return (>2.5% in excess for listed property trusts)
Neutral – return within 5% of benchmark return (within 2.5% for listed property trusts)
Underperform – return >5% below benchmark return (>2.5% below for listed property trusts)

Macquarie – Asia/Europe
Outperform – expected return >+10%
Neutral – expected return from -10% to +10%
Underperform – expected return <-10%

Macquarie First South - South Africa
Outperform – expected return >+10%
Neutral – expected return from -10% to +10%
Underperform – expected return <-10%

Macquarie - Canada
Outperform – return >5% in excess of benchmark return
Neutral – return within 5% of benchmark return
Underperform – return >5% below benchmark return

Macquarie - USA
Outperform (Buy) – return >5% in excess of benchmark return
Neutral (Hold) – return within 5% of benchmark return
Underperform (Sell)– return >5% below benchmark return

Recommendations – 12 months

Note: Quant recommendations may differ from Fundamental Analyst recommendations

Volatility index definition*

This is calculated from the volatility of historic price movements.

Very high–highest risk – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative.

High – stock should be expected to move up or down at least 40–60% in a year – investors should be aware this stock could be speculative.

Medium – stock should be expected to move up or down at least 30–40% in a year.

Low–medium – stock should be expected to move up or down at least 25–30% in a year.

Low – stock should be expected to move up or down at least 15–25% in a year.
* Applicable to Australian/NZ stocks only

Financial definitions

All "Adjusted" data items have had the following adjustments made:
Added back:goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense
Excluded:non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests

EPS = adjusted net profit / efpowa*
ROA = adjusted ebit / average total assets
ROA Banks/Insurance = adjusted net profit /average total assets
ROE = adjusted net profit / average shareholders funds
Gross cashflow = adjusted net profit + depreciation
*equivalent fully paid ordinary weighted average number of shares

All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

Recommendation proportions – For quarter ending 30 June 2008

	AU/NZ	Asia	RSA	USA	CA	EUR
Outperform	41.88%	66.96%	66.13%	50.82%	71.01%	43.00%
Neutral	42.96%	16.30%	22.58%	44.26%	24.64%	48.00%
Underperform	15.16%	16.74%	11.29%	4.92%	4.35%	9.00%

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