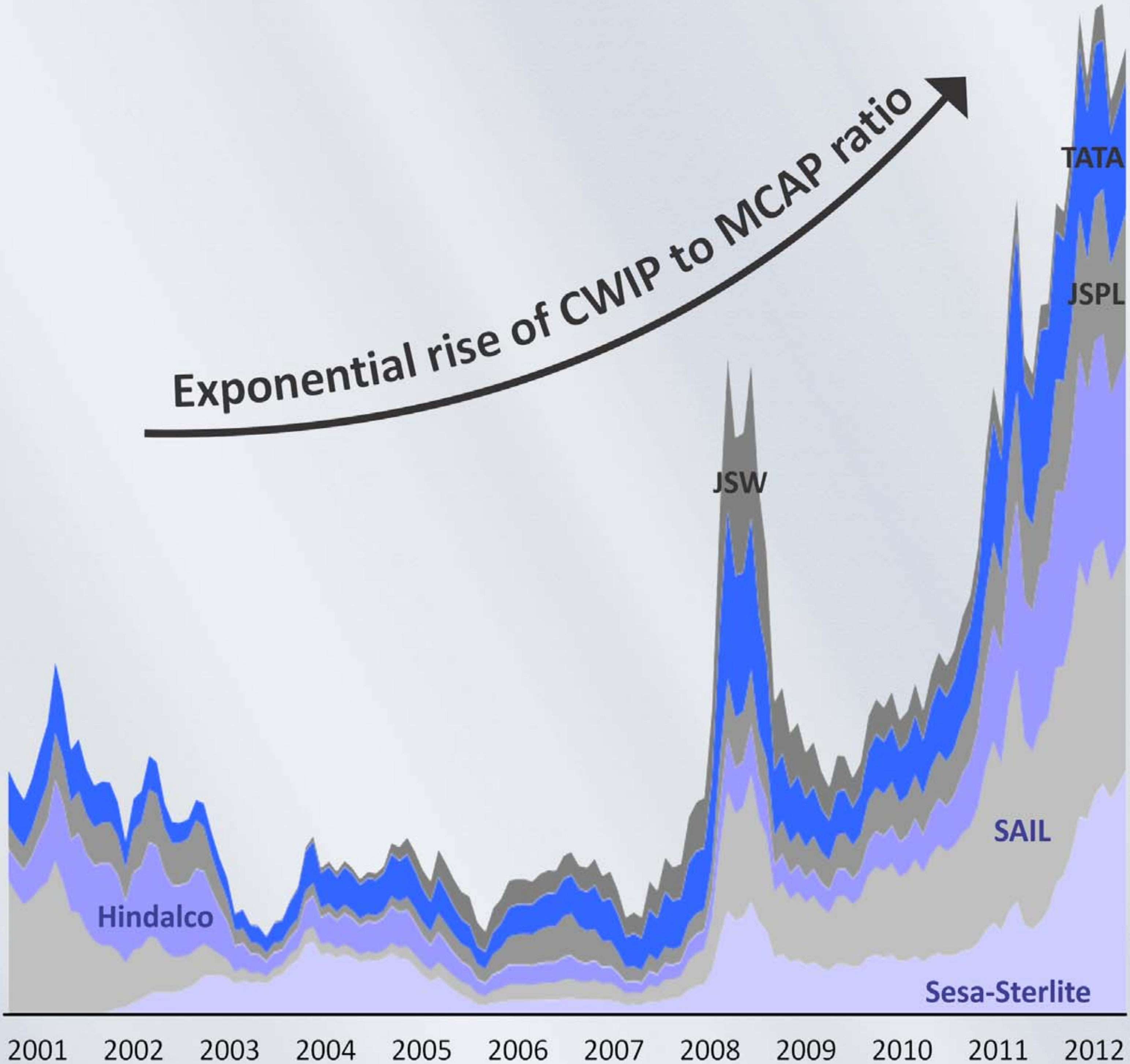
7 January 2013

Update | Sector: Metals

Metals



CWIP valuations demystified

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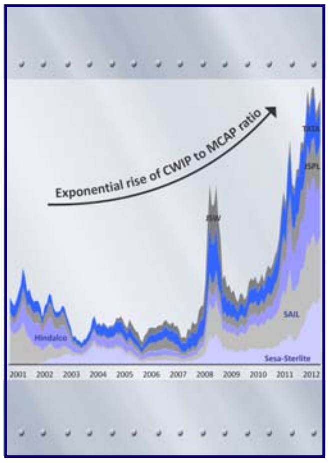
Metals: CWIP valuations demystified

*Prices as on 1 January 2013

Metals



Implied valuation of CWIP at steep discount

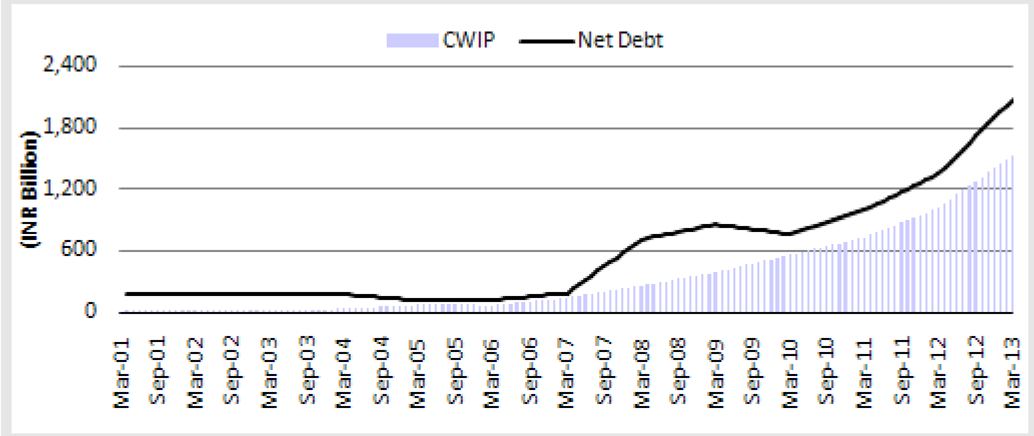
Sesa-Sterlite, Hindalco penalized far more than warranted; Buy

- **Despite 30-40% earnings growth, the market capitalization of metal companies has fallen by 30-35% over the last two-three years.**
- **The markets have de-rated metal stocks due to exponential growth in their capital work in progress (CWIP) and resultant increase in debt.**
- **As the various projects start generating cash flows and capex intensity peaks over the next two years, net debt should start coming off.**
- **Our valuation exercise indicates that while there is still some downside in Jindal Steel & Power and Tata Steel, Sesa-Sterlite and Hindalco could see re-rating.**
- **We reiterate Buy on Sesa-Sterlite and Hindalco, and maintain Sell on Tata Steel, SAIL and JSW Steel. We downgrade Jindal Steel & Power to Sell.**

Aggregate CWIP has increased exponentially

Indian metal companies – Sesa-Sterlite, Hindalco, Tata Steel, SAIL, JSW Steel, and Jindal Steel & Power – have invested INR2.6t over FY08-FY13 as compared to just INR406b over FY01-07. Rising investment intensity and project delays on account of various factors have driven an exponential increase in metal companies' aggregate CWIP (capital work in progress) to INR1.5t. Net debt has grown even faster to INR2.1t (~USD38b) due to additional burden of acquisitions like Corus at USD14b and Novelis at USD6b, despite equity infusion of USD12.5b and operating cash flow of INR2.6t.

Exponential rise in CWIP has driven up net debt



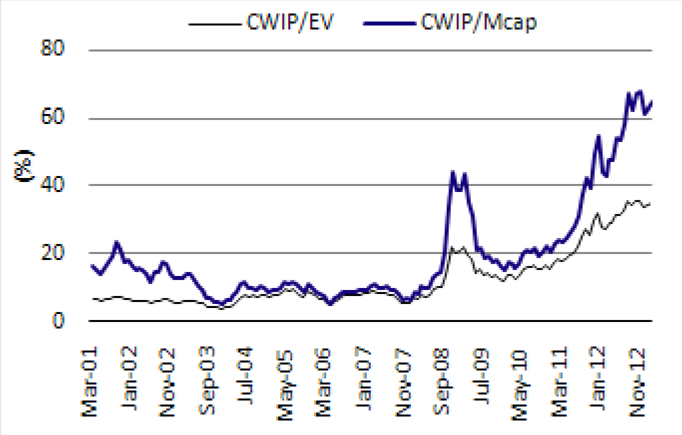
Note: Aggregate of top-6 listed Indian metal companies   Source: Company, MOSL

CWIP/MCap and CWIP/EV at all-time high

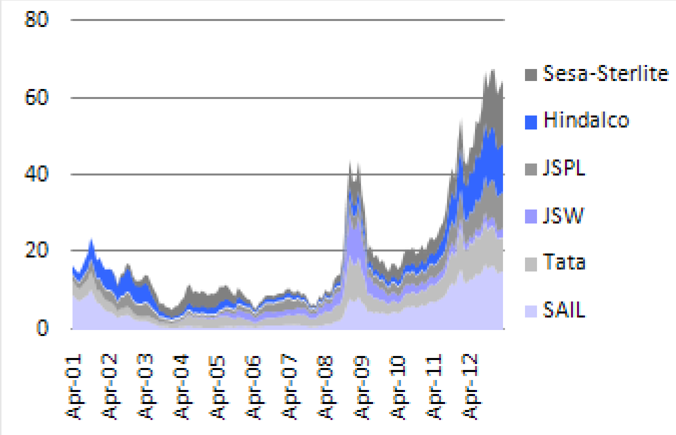
The significance/leverage of CWIP has never been as high as it is now, which is evident from the exponential rise in the ratios (1) CWIP to market capitalization (MCap), and (2) CWIP to enterprise value (EV). CWIP now stands at 67% of the total market capitalization of the six metal companies, up from ~10% during FY03-08. Even during the financial crisis of 2008 when MCap had crashed much below the intrinsic value of companies, the CWIP/MCap ratio had risen to just 44%. The CWIP/EV ratio has increased from below 10% until FY08 to 35%.

Investors are advised to refer through disclosures made at the end of the Research Report.

CWIP/MCap has risen sharply to 67%



Except JSW Steel, every company has 10-20% share in aggregate CWIP

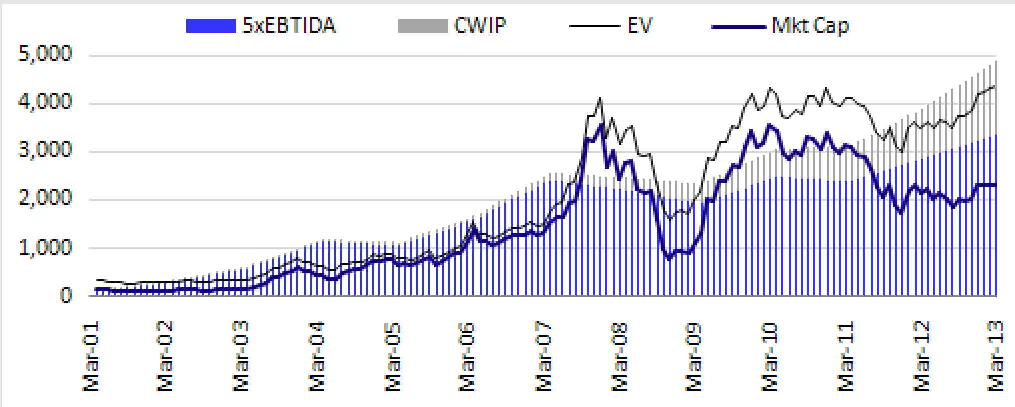


Source: Company, MOSL

Implied valuation of CWIP at heavy discount...

With increasing debt, the markets have de-rated metal companies' market cap below the intrinsic value of operating assets (measured as 5x one-year forward EBITDA). In other words, CWIP is being discounted heavily, perhaps for the right reasons – the IRR of projects has declined much below the companies' WACC. We believe investors are willing to value growth companies at EV/EBITDA of 6-6.5x v/s EV/EBITDA of 5x for mature steady state companies. This implies that investors are willing to tolerate CWIP/EV of 20-30% provided overall net debt to EBITDA is maintained within striking range of 2x. Despite 30-40% earnings growth, the market capitalization of metal companies has fallen by 30-35% over the last two-three years. Higher CWIP/EV of 35% is dragging market capitalization, resulting in CWIP/MCap ballooning out of control to 67%. The leverage of CWIP with respect to current valuations has never been so important – it has the potential to offset commodity price compression if domestic demand for metals starts accelerating to absorb new capacities and IRR starts improving.

Though earnings have grown, market cap has declined in the last two-three years (INR b)



Source: Company, MOSL

Five companies (Sesa-Sterlite, HNDL, JSP, TATA and SAIL) together will have a CWIP of INR1.3t in FY14. On calculating the implied valuation of CWIP in the intrinsic value (EV of 5x EBITDA), we find that CWIP is being valued at a 16% discount. However ex JSP discount to CWIP is whooping 35%. In case of Sesa-Sterlite, most of the CWIP is written off. HNDL and SAIL's CWIP is valued at a discount of 33% and 5%, respectively. However, JSP and TATA's CWIP is valued at a premium of 151% and 33%, respectively.

Implied valuation of CWIP vs DCF calculation of CWIP (INR b)

S.N.	Company	Rating	CMP (INR)	Shares (m)	CWIP FY14 (ac)	Implied Net Debt	Implied EV (a)	Implied 5xEBITDA (b)	Implied CWIP ic=a-b	Implied Discount (%) (1-ic/ac)
1	Hindalco	Buy	134	1,991	235	399	666	509	158	33
2	Sesa-Sterlite	Buy	199	2,965	464	416	1,006	924	82	82
3	JSP	Sell	462	935	134	255	687	349	337	-151
4	Tata	Sell	438	971	200	635	1,061	795	266	-33
5	SAIL	Sell	93	4,130	256	275	659	417	242	5
	Total				**1,289**	**1,981**	**4,079**	**2,994**	**1,085**	**16**

Source: Company, MOSL

…and at variance with DCF-based valuation

We have juxtaposed the implied valuation of CWIP against our DCF-based valuation. According to our calculations, CWIP of Jindal Steel & Power and Tata Steel should be valued at a discount of 40% and 33%, respectively instead of a premium of 151% and 33%. Also, the markets appear to have penalized Sesa-Sterlite and Hindalco far more than is warranted, in our opinion.

Implied valuaton of CWIP vs DCF calculation of CWIP (INR b)

Company	Rating	CMP 1-Jan (INR)	Shares (m)	CWIP FY14 (ac)	Implied Net Debt	Implied EV (a)	Implied 5xEBITDA (b)	Implied CWIP ic=a-b	Implied Discount (%) (1-ic/ac)	DCF CapEx (d)	DCF NPV (e)	DCF CWIP dc=d-e	DCF Discount (%) (1-dc/dc)
Hindalco	Buy	134	1,991	235	399	666	509	158	33	393	-48	345	12
Sesa-Sterlite	Buy	199	2,965	464	416	1,006	924	82	82	522	-266	255	51
JSPL	Sell	462	935	134	255	687	349	337	-151	286	-114	172	40
Tata	Sell	438	971	200	635	1,061	795	266	-33	441	-144	297	33
SAIL	Sell	93	4,130	256	275	659	417	242	5	721	-418	303	58
Total				**1,289**	**1,981**	**4,079**	**2,994**	**1,085**	**16**	**1,969**	**-942**	**1,028**	**48**

Source: Company, MOSL

Still some downside in Jindal Steel & Power, Tata Steel

Jindal Steel & Power: The implied valuation of CWIP is at 151% premium. The market appears to consider projects like Angul as value accretive due to captive coal mine, Uktal B1, which is at final stages of lease signing, and availability of low cost pellets. Also, Jindal Power's 1,000MW commands higher valuations due to low cost of power generation and freedom to sell at attractive merchant rates. However, we believe that increasing project cost due to repeated delays, shrinking margins in the power business, and change in regulations regarding transfer pricing of iron ore in Odisha have resulted in the NPV of the Angul project turning negative. According to our calculations the CWIP should attract 40% discount instead.

Tata Steel: The implied valuation of CWIP is at 33% premium. The Odisha project is perceived as value accretive because iron ore will be sourced from captive mines. However, repeated delays have led to an increase in project cost. Phase-1 of the 3mtpa capacity has seen project cost rising to INR250b, implying specific cost of USD1,500/ton – nearly 50% more expensive than the benchmark or at 60% premium to the valuation of capacities around the world. According to our calculation, the CWIP should attract 33% discount instead.

- **Sesa-Sterlite and Hindalco could see re-rating**

Sesa-Sterlite: The implied discount is 82% against our calculation of 51% for Sesa-Sterlite. It is additionally getting de-rated for its group structure. The cash flows of Hindustan Zinc and Cairn India are not fungible to service the heavily leveraged balance sheets of other businesses. There lies an opportunity for re-rating if minority stake in Hindustan Zinc and Balco is bought out from the Government of India (GoI). The GoI is under pressing need to meet its disinvestment targets and manage budget deficit. Thus, the probability of the event has increased. Thereafter, the possible merger of Hindustan Zinc and Balco will facilitate debt servicing and relieve balance sheet stress.

Hindalco: The implied valuation of CWIP is at 33% discount against our calculation of 12%. Hindalco has the largest lever on CWIP, with CWIP/MCap at 114% and CWIP/EV at 46% because of the USD7.5b investment in the aluminum segment to derive benefits from the allotted bauxite and coal resources. Though not entirely trouble-free, the allocation of bauxite and coal mines to Hindalco has largely been non-controversial, barring Mahan. With MoEF clearance, the Mahan coal block too is out of the woods. The greenfield projects may not generate significant cash flows at current LME prices of aluminum and the NPV is a negative INR48b. Utkal Alumina and Mahan are at an advanced stage of completion. If not Mahan, Utkal is most likely to generate positive cash flow right from the beginning and has the potential to expand capacity further at low marginal cost. NPV of the projects is highly sensitive to LME prices and we believe that LME prices of aluminum are at the bottom of the cycle.

- **NMDC has no material CWIP**

NMDC has no material CWIP because it has not undertaken asset heavy projects so far. Therefore, we have kept it outside our study on CWIP. Its balance sheet is debt free with cash surplus of ~USD4b due to strong cash flows. RoCE is still attractive in the range of 22-26% despite being diluted by low yielding cash surpluses. The RoIC is extremely attractive and ranges 200-300% because of its high quality iron ore assets coupled with low cost operations.

Both volumes and prices will drive earnings at cagr of 16.3% to INR22.4/share over FY13-15. Volumes will be driven by logistics de-bottlenecking and new 11B & Kumarsway mines. Indian iron ore pricing is witnessing favorable dynamics due to growing demand from Indian steel mills and reduced capacities of merchant mines due to recent investigations/action in illegal and unchecked mining. High export duty and other surcharges are increasingly becoming irrelevant in curtailing the pricing power of Indian iron ore mines. The pricing of iron ore fines will inch upwards and closer to prices of lumps with commissioning of new merchant pellet plants in India over 1-2 years. This will boost the average iron ore realization for NMDC irrespective of international market dynamics.

Although the investment of INR155b in setting 3mtpa steel plant has low IRR, the project will not dent valuations materially because it can be funded purely from the interest income of surplus cash on balance sheet due to tardy execution. If NMDC is able to get intended additional iron ore resources, the IRR of project will be attractive.

The stock trades at attractive EV/EBITDA of 3.6xFY15 and EV/ton of USD5. The dividend yield is attractive at 4-5%. We value the stock at INR209/share based on 5x FY15 EV/EBITDA. Maintain **Buy**.

Investment cycle to peak in two years

As these projects start generating cash flows over the next two years and capex intensity peaks, net debt should start coming off. The NPV of almost every project is eroding due to falling IRR while the WACC is rising. However, there might be an opportunity for equity value to grow because the investment cycles of most companies will be peaking within two years for the following reasons:

1. Bearish outlook on metal prices and falling IRR has discouraged companies from announcing new greenfield projects. Also, they have shelved difficult projects, where only marginal amounts have been spent. Investments will, however, continue in projects that are already at advanced stages.
2. Most of the projects that commenced during 2005-2008 have already travelled the troubled road and are at advanced stages of completion. Therefore, further execution delays are likely to be limited.

Using alternative approaches to valuation to factor uncertainties

We have adopted two alternative approaches to value projects to factor uncertainties regarding execution. In both approaches, we have valued core operational assets at an EV of 5x one-year forward EBITDA and the power business based on DCF.

1. **SOTP:** We have valued operational assets as mentioned above. We have adjusted the CWIP against the NPV of the projects.
2. **FY20 valuations discounted for five years:** We arrive at FY20 valuations to factor in completion of all ongoing projects and the possible delays. We have discounted these valuations backwards for five years by cost of equity. We believe five years is a fairly long period to account for unforeseen delays. Most projects will be completed much before FY20.

Please refer to our Update on the Steel sector, Downhill Run, dated 29 August 2012

Under each of the two approaches, we have considered two scenarios.

1. **Base case scenario:** Iron ore and coking coal prices fall to USD83/ton and USD125/ton, respectively over 12-16 months due to stagnating demand from the steel sector and growing supplies from new projects. Aluminum prices are at the bottom of the cycle from the margin perspective and USD2,000/ton is a good support level. Zinc and lead prices remain at ~USD2,000/ton.
2. **Optimistic scenario:** Iron ore and coking coal prices at USD106/ton and USD170/ton, respectively. Aluminum prices increase to USD2,500/ton on some recovery in physical and investment demand. Zinc and lead prices increased to ~USD2,500/ton.

Downgrading Jindal Steel & Power to Sell; our top picks: NMDC, Hindalco, Sesa-Sterlite

Based on the above exercise, we draw the following conclusions:

- **Hindalco** has significant upside in 3 of the 4 situations, though the weighted average IRR of projects is only 6.7%. We **reiterate Buy**.
- **Sesa-Sterlite** has upside in 2 of the 4 situations, though its projects have low IRR. **Maintain Buy**.

- **Tata Steel** has downside in 3 of the 4 situations. **Maintain Sell**.
- **Jindal Steel & Power and SAIL** have downside in all the 4 situations. We **downgrade Jindal Steel & Power to Sell**. Also, we **maintain Sell on SAIL**.
- **JSW Steel** does not have significant CWIP due to project delays and is the most efficient and fastest growing steel company. It is best placed to weather the volatility in input and steel prices. However, the pricing dynamics of iron ore have turned adverse due to change in demand-supply equation in Karnataka, which will progressively eat into margins and equity value. We maintain **Sell**.
- **NMDC** has no material CWIP because it has not undertaken asset heavy projects so far. Its balance sheet is debt free with cash surplus of ~USD4b due to strong cash flows. The stock trades at attractive EV/EBITDA of 3.9xFY15 and EV/ton of USD5. It is our most preferred pick. We maintain **Buy**.

Summary of target prices and recommendations

S.N.	Company	CMP	Rating	Target	SOTP		FY20 discounted 6yr		CapEx	NPV	IRR
				Price	Base	Optimistic	Base	Optimistic	(INR b)	(INR b)	(%)
1	Hindalco	134	Buy	185	149	242	131	193	393	-48	6.7
2	Sesa-Sterlite	199	Buy	205	182	331	165	248	522	-266	3.3
3	Tata	438	Sell	230	182	348	412	514	441	-144	9.1
4	JSP	462	Sell	356	172	269	202	279	286	-114	4.3
5	SAIL	93	Sell	59	-52	-5	44	74	721	-480	2.8
6	JSW*	807	Sell	478							
7	NMDC	169	Buy	209							

Source: Company, MOSL

*Coking coal price is practically pass-through for converters; iron ore costs dynamics are adverse & independent.
There is no significant CapEx delays which is resulting in disproportionate CWIP on balance sheet
#Base case assumptions: Iron ore (USD83/t fob for 63.5% Fe); coking coal (USD125/t fob), al/zn/pb at USD2,000/t
Optimistic assumptions: Iron ore (USD106/t fob); coking coal (USD170/t fob), al(USD2,500/t) zn&pb(USD2,500/t)

Valuations summary

	Rating	CMP	P/E (x)			EV/EBITDA (x)			P/B (x)			RoE (%)		
		(INR)	FY13E	FY14E	FY15E	FY13E	FY14E	FY15E	FY13E	FY14E	FY15E	FY13E	FY14E	FY15E
Tata Steel	Sell	438	55.3	9.1	8.8	8.5	6.7	6.6	1.7	1.5	1.4	3.0	17.8	16.3
SAIL	Sell	93	15.9	11.1	13.6	9.1	7.9	7.9	0.9	0.9	0.8	5.9	8.1	6.3
JSW Steel (Merged)	Sell	812	21.4	21.5	12.1	7.7	7.8	6.8	1.3	1.3	1.2	6.2	6.1	10.4
JSPL	Sell	462	12.4	12.1	10.9	8.9	10.2	9.1	2.2	1.9	1.6	18.6	17.0	16.1
NMDC	Buy	169	10.2	9.1	7.5	6.0	5.1	3.9	2.3	2.0	1.7	26.3	22.8	22.9
Sesa Sterlite	Buy	199	5.1	5.9	6.1	5.7	5.4	5.1	0.8	0.7	0.6	15.9	12.2	11.0
Hindalco	Buy	134	7.0	6.5	5.9	7.6	6.5	5.5	1.3	1.1	1.0	20.6	18.8	17.4

Source: Company, MOSL

Annexure

Cost of Equity (%)

	Tata	SAIL	JSW	JSP	HNDL	Sesa-Stlt
A. Risk free rate (91 day T-bill)	8.2	8.2	8.2	8.2	8.2	8.2
B. Beta (adj.) with Sensex (x)	1.275	1.24	1.56	1.24	1.35	1.4
C. Market Premium	8.0	8.0	8.0	8.0	8.0	8.0
K. Cost of Equity (A+BxC)	**18.3**	**18.1**	**20.6**	**18.1**	**18.9**	**19.3**

Source: Company, MOSL

Companies

BSE Sensex: 19,581 **S&P CNX: 5,951** **7 January 2013**

7 January 2013

Update | Sector: Metals

Hindalco

BSE SENSEX	S&P CNX
19,581	5,951

Bloomberg	HNDL IN
Equity Shares (m)	1,990.0
52-Week Range (INR)	165/100
1,6,12 Rel. Perf. (%)	14/-4/-11
M.Cap. (INR b)	266.7
M.Cap. (USD b)	4.9

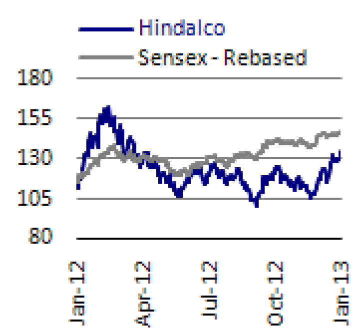
Valuation summary (INR b)

Y/E March	2013E	2014E	2015E
Sales	816.0	854.6	935.8
EBITDA	87.0	101.7	116.8
NP	38.1	41.2	45.3
Adj. EPS (INR)	19.1	20.7	22.7
EPS Gr(%)	12.1	8.2	9.9
BV/Sh. (INR)	100.9	119.9	140.8
RoE (%)	20.6	18.8	17.4
RoCE (%)	7.5	8.2	8.9
Payout (%)	9.2	8.5	7.7
Valuation			
P/E (x)	7.0	6.5	5.9
P/BV	1.3	1.1	1.0
EV/EBITDA (x)	7.6	6.5	5.5
Div. Yield (%)	1.1	1.1	1.1

Shareholding pattern (%)

As on	Sep-12	Jun-12	Sep-11
Promoter	32.1	32.1	32.1
Dom. Inst	14.8	15.2	14.1
Foreign	37.3	36.5	39.4
Others	15.9	16.2	14.4

Stock performance (1 year)



CMP: INR134 | **TP: INR185** | **Buy**

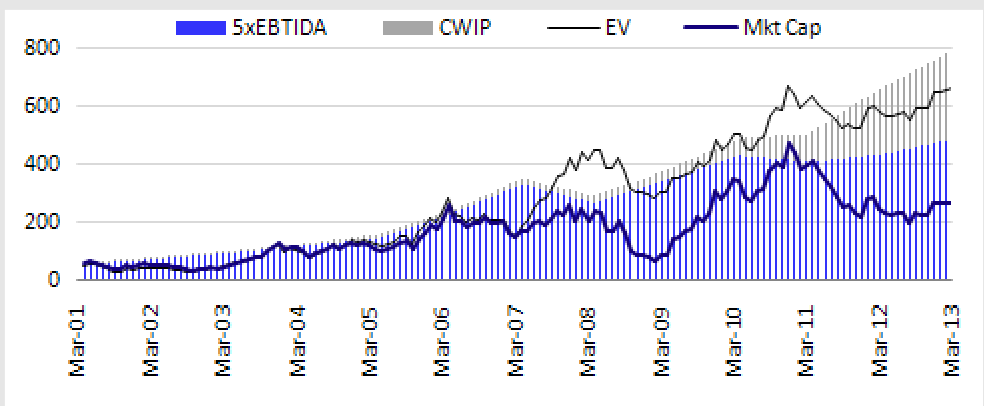
Largest CWIP/MCap turning favorable

Debt to peak soon, with projects turning free cash flow positive; reiterate Buy

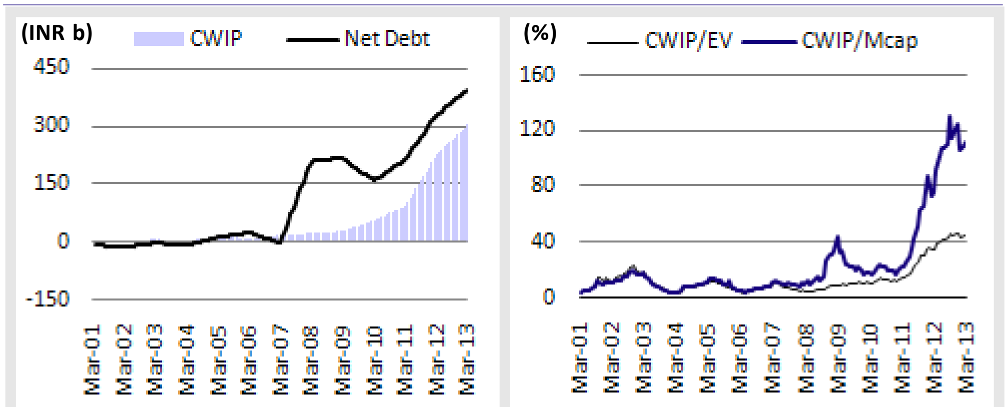
- **Hindalco Industries (HNDL) has the largest lever on CWIP, with CWIP/MCap of 114%. Though its investments in the Mahan and Aditya Aluminum projects have low IRR, its investments in Utkal Alumina and Novelis are value accretive.**
- **We believe the conversion business of Novelis and copper TcRc provide steady cash flows, resilience and sustainability to HNDL. The primary aluminum business is at the bottom of the cycle from the perspective of margins.**
- **The implied valuation of CWIP is at a steep 33% discount, which is far more than warranted. Our two alternative valuation approaches suggest equity value of INR131 and INR149 in the base case, and INR193 and INR242 per share in the optimistic case.**
- **As the capex intensity peaks in 12 months and Utkal Alumina starts generating positive cash flows, we believe the stock will get re-rated. We maintain Buy.**

Hindalco Industries (HNDL) has a profitable business of aluminum and copper smelting in India. It also owns Novelis' flat rolled products (FRP) business. As the conversion business accounts for ~70% of its cash flows, they are relatively less volatile. Also, HNDL has been able to consistently grow the value of its operating assets. However, heavy investments and delays in unfinished projects have resulted in mounting debt on the balance sheet, which in turn, has put pressure on equity value.

Market cap under pressure due to mounting debt (INR b)



Debt is rising largely due to exponential growth in CWIP



Largest CWIP/Mcap lever...

HNDL has undertaken USD6b of capex in India and USD1.5b of capex at Novelis. Indian projects have suffered execution delays and there have been complications in developing the bauxite and coal mines. Novelis' projects are, however, on schedule and within budget. Currently, HNDL's CWIP/MCap is 114%, the highest in the Indian Metals sector. Its CWIP/EV is a whopping 46%, well beyond the tolerable limit of 20-30%.

Despite low weighted average IRR (WAIRR) of 6.7% and negative NPV (-INR48b) at current LME aluminum prices of USD2,000/ton, HNDL has ventured into investing USD7.5b largely in India to derive benefits from allotted bauxite and coal resources. Though not entirely trouble-free, the allocation of bauxite and coal mines to Hindalco has largely been non-controversial, barring Mahan. With MoEF clearance, the Mahan coal block too is out of the woods.

If the coal mines do not come through, the WAIRR will decline to 2.6% at LME aluminum prices of USD2,000/ton but will increase to 7.7% if LME prices move up to USD2,500/ton. If the coal mines are successfully developed and LME prices too improve to USD2,500/ton, the WAIRR will increase to 10.6%.

Summary: Projects of Hindalco (INR m)

Project	CapEx		NPV	IRR (%)	Remarks
	Total	O/S as on Sep2012			
Utkal	72,000	28,000	8,991	12.2	Captive bauxite FY14 onwards
Mahan	107,000	21,000	-41,496	5.1	Coal mine FY16 onwards
Aditya	131,950	64,950	-54,024	3.6	Coal mine FY17 onwards
Novelis	82,500	35,750	38,224	8.8	EBITDA/T = USD300
Total	**393,450**	**149,700**	**-48,305**	**6.7**	LME (ali) at USD2000/T
CapEx in FY13H2 & FY14		130,215			WAIRR = 10.6% at ali of USD2500/T
O/S as on Mar 14		19,485			

Source: Company, MOSL

Has traveled the troubled path...

Project delays and cost escalations have de-rated the stock. The implied valuation of CWIP is at heavy discount of 33% and is steeper than a 12% discount according to DCF calculations. Though not entirely trouble-free, the allocation of bauxite and coal mines to Hindalco has largely been non-controversial, barring Mahan. With MoEF clearance, the Mahan coal block too is out of the woods. The greenfield projects may not generate significant cash flows at current LME prices of aluminum and the NPV is a negative INR48b. Utkal Alumina and Mahan are at an advanced stage of completion. If not Mahan, Utkal is most likely to generate positive cash flow right from the beginning and has the potential to expand capacity further at low marginal cost. NPV of the projects is highly sensitive to LME prices and we believe that LME prices of aluminum are at the bottom of the cycle. Its heavy investment in greenfield projects and peaking capex intensity will be a source of significant upside.

High share of conversion business lends stability to cash flows

HNDL derives ~70% of its cash flows from the conversion business; these are relatively stable. We believe that the primary aluminum smelting business, which accounts for the remaining 30% of its cash flows, is at the bottom of the margin cycle.

CWIP/Mcap lever turning favorable as project's turn free cash flow positive; Re-iterate Buy

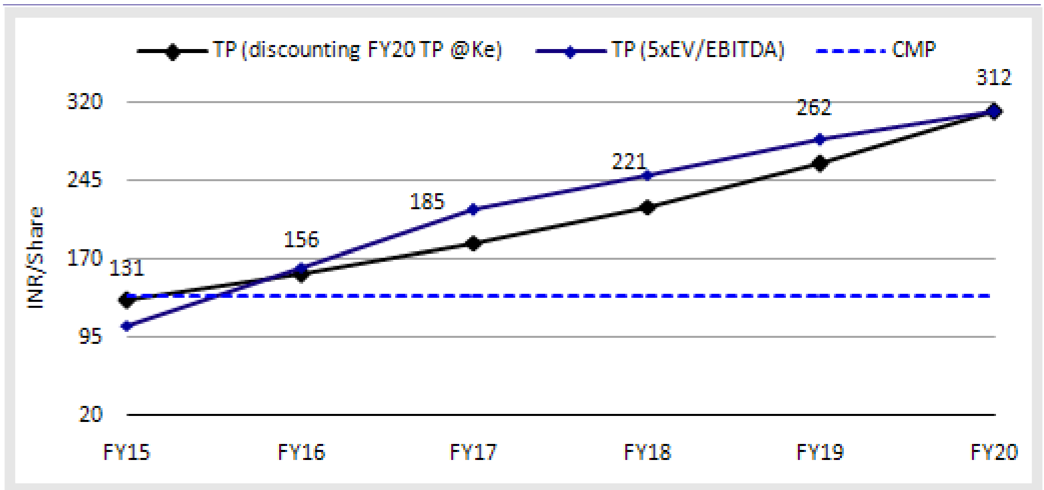
We expect the stock to get re-rated as the capex intensity peaks over next 1 year and project's free cash flows turn positive. Applying our two alternative approaches to valuation, we find that HNDL has significant upside in 3 of the 4 situations. We re-iterate our **Buy** recommendation.

1. **SOTP:** We have valued operational assets at an EV of 5x one-year forward EBITDA. We have adjusted the CWIP against the NPV of the projects. HNDL's valuations are highly sensitive to LME aluminum prices. In the base case scenario, where we assume LME aluminum prices of USD2,000/ton, we arrive at a value of INR149/share. In the optimistic scenario, where we assume LME aluminum prices of USD2,500/ton, we arrive at a value of INR242/share.
2. **FY20 valuations discounted for five years:** We arrive at FY20 valuations to factor in completion of all ongoing projects and the possible delays. We have discounted these valuations backwards for five years by HNDL's cost of equity of 18.9%. In the base case scenario, where we assume LME aluminum prices of USD2,000/ton, we arrive at a value of INR131/share. In the optimistic scenario, where we assume LME aluminum prices of USD2,500/ton, we arrive at a value of INR193/share.

SOTP Valuation

FY14 EBITDA	101,717
EV/EBITDA	5
Enterprise Value(1x2)	508,585
add: CWIP	234,879
add: NPV	-48,305
less: Net Debt	399,345
Equity value	295,813
Equity value per share	149

Target Price (TP): Base case

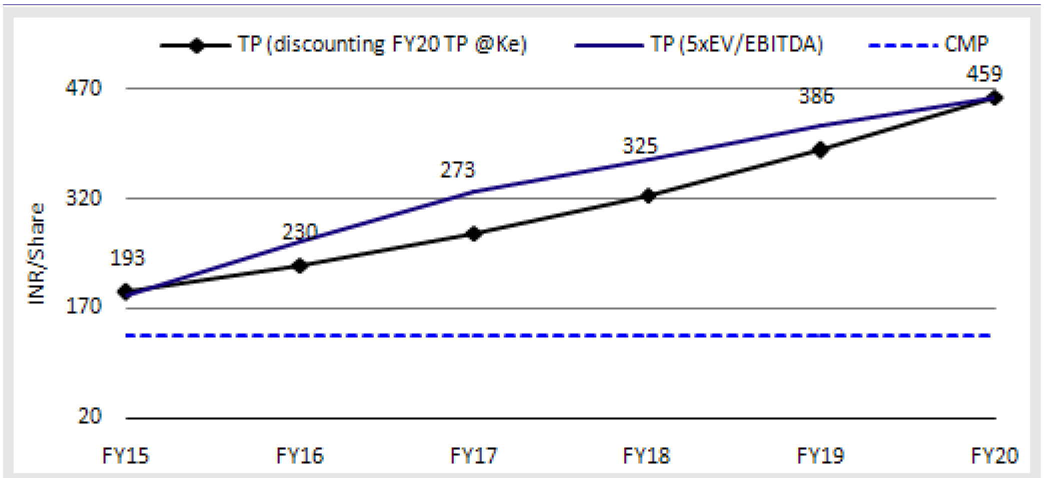


Key assumptions: Captive coal & bauxite; ali at USD2000/t

SOTP Valuation

FY14 EBITDA	118,217
EV/EBITDA	5
Enterprise Value(1x2)	591,085
add: CWIP	234,879
add: NPV	55,242
less: Net Debt	399,345
Equity value	481,861
Equity value per share	242

Target Price (TP): Optimistic scenario



Key assumptions: Captive coal & bauxite; ali at USD2500/t

Target price calculations (INR m)

S.N.	Project	Equity value based on 5xEV/EBTIDA (project cost adjusted in net debt)						
		FY14	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**
1	Utkal		63,861	66,550	66,550	66,550	66,550	66,550
2	Mahan		4,003	51,683	54,129	54,642	55,205	55,825
3	Aditya		1,060	6,661	52,076	55,303	58,111	59,022
4	Novelis		12,375	24,750	37,125	49,500	61,875	61,875
	Total equity in projects		81,299	149,644	209,879	225,994	241,741	243,271
	add:current Operations@5xEV/EBITDA	508,585	508,585	508,585	508,585	508,585	508,585	508,585
	Less: Net Debt (incl. projects)	399,345	377,340	335,110	285,675	234,884	183,356	130,765
	Net Equity value for company	109,240	212,543	323,119	432,789	499,694	566,970	621,091
	No. of share (m)	1,990	1,990	1,990	1,990	1,990	1,990	1,990
	TP (INR/share)		107	162	217	251	285	312
	TP (discounting back from FY20@Ke)		**131**	**156**	**185**	**221**	**262**	**312**
	Current market Cap		266,660	266,660	266,660	266,660	266,660	266,660
	Upside (%)		-2	16	38	65	96	133

Source: Company, MOSL

- **Utkal Alumina: NPV of INR9b; IRR of 12.2%**

HNDL had initiated the Utkal Alumina project in JV with Alcan in 1993. At that time, it owned 55% stake in the project. The mining lease for the bauxite mine at Baphlimali, with reserves of 198m tons, was executed between the Odisha government and Orissa Mining Corporation (OMC) on 17 February 1998. This was transferred to Utkal Alumina on 10 November 2010.

The project was originally expected to cost INR48b for 1mtpa capacity. Commercial production was scheduled by March 2009. Subsequently, in 2007, HNDL bought out Alcan and the scope of the project was revised to 1.5mtpa at slightly higher capex of INR56b. The project required 6,578 acres of land, which has mostly been acquired. The timeline for initial production was revised to July 2011. However, the project has seen further delays and cost escalation. Protests by NGOs regarding rehabilitation and resettlement (R&R) have contributed to the delays.

The project cost has been revised to INR72b and production is now expected to start in FY14. Bauxite will initially be transported by a 20km road from the mine to the refinery. The conveyor is also expected to be ready by the end of FY14. By the end of September 2012, INR44b were already spent. Since the mine capacity is 8.5mtpa, HNDL has already obtained MoEF permission to expand capacity to 3mtpa and has made suitable provisions in the design and layout. We believe that once the teething problems are behind, this project will be a significant driver for overall earnings growth.

Free cash flow to firm (INR m)

	FY13	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**...FY37**	
a. EBITDA		8,963	12,772	13,310	13,310	13,310	13,310	13,310	13,310	
b. Depreciation		2,828	2,856	2,885	2,914	2,943	2,972	3,002	3,555	
c. NOPLAT=(a-b)*(1-Tax rate)		4,908	7,933	8,340	8,317	8,294	8,270	8,246	6,828	
d. Capex		-700	-707	-714	-721	-728	-736	-743	-880	
e. change in Working Capital		-2,172	-923	-130	0	0	0	0	0	**Terminal**
FCFF (c+b+d+e)	**-72,000**	**4,864**	**9,159**	**10,381**	**10,509**	**10,508**	**10,507**	**10,505**	**9,504**	**value**
Present Value (Cumulative)	8,991	82,005	86,394	86,984	86,419	85,661	84,818	83,883	53,936	50,141

Source: Company, MOSL

Utkal is one of the few greenfield projects in the Indian Metals space with positive NPV (INR9b or USD163m) at current LME aluminum prices. With captive bauxite, the IRR of the project ranges from 4.3% at alumina prices of USD280/ton to 28.1% at alumina prices of USD560/ton. We have assumed cost of bauxite at USD10/ton. In the absence of bauxite mine, the IRR and NPV will decline significantly (summarized in the exhibits below), as the cost of bauxite will increase to USD30-50/ton. The IRR will be substantially higher when HNDL expands capacity further to 3mtpa at marginally lower specific capex.

Utkal Alumina: Net present value (USD million)

Bauxite USD/ton \ Alumina USD/ton	160	200	240	280	320	360	400	440	480	520	560
10	(1,682)	(1,309)	(936)	(563)	(190)	183	557	930	1,303	1,676	2,049
15	(1,824)	(1,451)	(1,078)	(705)	(332)	41	415	788	1,161	1,534	1,907
20	(1,966)	(1,593)	(1,220)	(847)	(474)	(101)	272	646	1,019	1,392	1,765
30	(2,250)	(1,877)	(1,504)	(1,131)	(758)	(385)	(12)	361	735	1,108	1,481
40	(2,534)	(2,161)	(1,788)	(1,415)	(1,042)	(669)	(296)	77	451	824	1,197
50	(2,818)	(2,445)	(2,072)	(1,699)	(1,326)	(953)	(580)	(207)	166	540	913
60	(3,102)	(2,729)	(2,356)	(1,983)	(1,610)	(1,237)	(864)	(491)	(118)	255	629

Source: MOSL

Utkal Alumina: Internal rate of return (IRR, %)

Bauxite USD/ton \ Alumina USD/ton	160	200	240	280	320	360	400	440	480	520	560
10	-	-	(1.1)	4.3	8.5	12.2	15.6	18.9	22.1	25.1	28.1
15	-	-	(3.9)	2.4	7.0	10.8	14.4	17.7	20.9	23.9	27.0
20	-	-	-	0.4	5.4	9.4	13.0	16.4	19.6	22.8	25.8
30	-	-	-	-	1.7	6.4	10.3	13.9	17.2	20.4	23.5
40	-	-	-	-	(3.0)	3.0	7.4	11.2	14.7	17.9	21.1
50	-	-	-	-	-	(1.2)	4.1	8.3	12.0	15.4	18.7
60	-	-	-	-	-	-	0.3	5.2	9.3	12.9	16.2

Source: MOSL

Key assumptions

USD/INR =	55.0	Cost of equity =	19%
CPC/LME =	8%	Interest rate =	10%
Alumina/LME =	15%	Debt/Equity =	70/30
Import duty =	5%	Tax rate =	20%

Source: MOSL

■ Mahan: NPV of –INR41b; IRR of 5.1%

HNDL is setting up a 359ktpa smelter along with 900MW of CPP spread over 3,750 acres of land near Bargawan in Madhya Pradesh at a capex of INR82b. This project has been allotted the Mahan coal block in JV with the Essar group, which is located near the project site. The project was expected to commission by the end of July 2011 but ran into trouble when Mr Jayram Ramesh, then the Minister of Environment and Forests (MoEF), rejected the forest clearance for the coal mine.

Since captive coal remains at the core of project viability, construction work at the smelter site has also slowed down, resulting in escalation of project cost to INR107b.

Free cash flow to firm (INR m)

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY37	
a. EBITDA		750	801	10,337	10,826	10,928	11,041	11,165	13,671	
b. Depreciation		4,242	4,284	4,327	4,371	4,414	4,458	4,503	5,333	
c. NOPLAT=(a-b)*(1-T)		-2,794	-2,787	4,808	5,164	5,211	5,266	5,330	6,671	
d. Capex		-1,050	-1,061	-1,071	-1,082	-1,093	-1,104	-1,115	-1,320	
e. change in Working Capital		-1,792	-2,201	-226	-184	-11	-12	-14	0	**Terminal**
FCFF (c+b+d+e)	**-107,000**	**-1,393**	**-1,764**	**7,838**	**8,269**	**8,522**	**8,608**	**8,704**	**10,684**	**value**
Present Value (Cumulative)	-41,496	60,241	68,432	77,917	78,872	79,502	79,951	80,364	60,272	56,389

Source: Company, MOSL

Viability of the project largely depends on availability of coal from the captive mine in the vicinity. Since the project cost has escalated multiple times due to delays, its NPV is negative. We have assumed that cost of power will be INR3/kwh (excluding interest and depreciation) until FY15. Thereafter, coal will be available from the captive mine, post which the cost of power should drop to INR1/kwh.

Mahan: Net present value (USD million)

Power INR/kwh (Fuel + O&M cost)	LME USD/ton										
	1,600	1,700	1,800	1,900	2,000	2,250	2,500	2,700	2,800	2,900	3,000
1.0	(1,263)	(1,136)	(1,009)	(882)	(754)	(437)	(119)	135	262	389	516
1.5	(1,481)	(1,353)	(1,226)	(1,099)	(972)	(655)	(337)	(83)	44	171	298
2.0	(1,698)	(1,571)	(1,444)	(1,317)	(1,190)	(872)	(555)	(301)	(174)	(47)	81
2.5	(1,916)	(1,789)	(1,662)	(1,535)	(1,408)	(1,090)	(773)	(519)	(391)	(264)	(137)
3.0	(2,134)	(2,007)	(1,880)	(1,753)	(1,626)	(1,308)	(990)	(736)	(609)	(482)	(355)
3.5	(2,352)	(2,225)	(2,098)	(1,971)	(1,844)	(1,526)	(1,208)	(954)	(827)	(700)	(573)
4.0	(2,570)	(2,443)	(2,316)	(2,188)	(2,061)	(1,744)	(1,426)	(1,172)	(1,045)	(918)	(791)

Source: MOSL

Mahan: Internal rate of return (IRR, %)

Power INR/kwh (Fuel + O&M cost)	LME USD/ton										
	1,600	1,700	1,800	1,900	2,000	2,250	2,500	2,700	2,800	2,900	3,000
1.0	0.4	1.7	2.9	4.1	5.1	7.6	9.8	11.4	12.2	13.0	13.7
1.5	(2.5)	(0.8)	0.7	2.0	3.2	5.9	8.2	10.0	10.8	11.6	12.4
2.0	-	-	(2.2)	(0.5)	0.9	4.0	6.6	8.5	9.4	10.2	11.1
2.5	-	-	-	-	(1.9)	1.8	4.8	6.8	7.8	8.7	9.6
3.0	-	-	-	-	-	(0.8)	2.7	5.0	6.1	7.1	8.0
3.5	-	-	-	-	-	-	0.2	2.9	4.1	5.2	6.3
4.0	-	-	-	-	-	-	(2.9)	0.5	1.9	3.2	4.4

Source: MOSL

- **Aditya Aluminum: NPV of –INR54b; IRR of 3.6%**

HNDL is setting up a 359ktpa smelter along with 900MW of CPP spread over 3,328 acres at Lapanga in Odisha at a capex of INR132b. The project was originally expected to be completed at a capex of INR82b by October 2011. Until September 2012, INR67b had already been spent. We expect the project to commence production in FY15 and ramp up during FY16. 3mtpa of coal is expected to be available from the Odisha captive mine in JV with Mahanadi Coalfields and Nevyeli Lignite.

Free cash flow to firm (INR m)

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY37	
a. EBITDA			212	1,332	10,415	11,061	11,622	11,804	13,671	
b. Depreciation			5,278	5,331	5,384	5,438	5,492	5,547	6,570	
c. NOPLAT=(a-b)*(1-T)			-4,053	-3,199	4,025	4,498	4,904	5,006	5,681	
d. Capex			0	-1,320	-1,333	-1,346	-1,359	-1,373	-1,626	**Terminal**
e. change in Working Capital			-507	-2,677	-882	-233	-192	-20	0	**Value**
FCFF (c+b+d+e)		**-131,950**	**718**	**-1,865**	**7,195**	**8,357**	**8,845**	**9,160**	**10,625**	**56,079**
Present Value (Cumulative)	-54,024	-60,876	64,205	70,731	80,577	82,475	83,424	83,992	59,940	56,079

Source: Company, MOSL

As in the case of Mahan, viability of Aditya Aluminum hinges upon availability of captive coal at low cost – production cost increases by ~USD500/ton if coal is purchased. Even with captive mine, the IRR of project is only 3.6% at LME aluminum price of USD2,000/ton. At higher LME prices, the IRR and NPV improve significantly.

Aditya Aluminum: Net present value (USD million)

		LME USD/ton										
		1,600	1,700	1,800	1,900	2,000	2,250	2,500	2,700	2,800	2,900	3,000
Power INR/kwh (Fuel + O&M cost)	1.0	(1,416)	(1,308)	(1,199)	(1,091)	(982)	(711)	(440)	(223)	(115)	(6)	102
	1.5	(1,609)	(1,501)	(1,392)	(1,284)	(1,175)	(904)	(633)	(416)	(308)	(200)	(91)
	2.0	(1,802)	(1,694)	(1,585)	(1,477)	(1,368)	(1,097)	(826)	(609)	(501)	(393)	(284)
	2.5	(1,995)	(1,887)	(1,778)	(1,670)	(1,561)	(1,290)	(1,019)	(802)	(694)	(586)	(477)
	3.0	(2,188)	(2,080)	(1,971)	(1,863)	(1,754)	(1,483)	(1,212)	(996)	(887)	(779)	(670)
	3.5	(2,381)	(2,273)	(2,164)	(2,056)	(1,947)	(1,676)	(1,405)	(1,189)	(1,080)	(972)	(863)
	4.0	(2,574)	(2,466)	(2,357)	(2,249)	(2,141)	(1,869)	(1,598)	(1,382)	(1,273)	(1,165)	(1,056)

Source: MOSL

Aditya Aluminum: Internal rate of return (IRR, %)

		LME USD/ton										
		1,600	1,700	1,800	1,900	2,000	2,250	2,500	2,700	2,800	2,900	3,000
Power INR/kwh (Fuel + O&M cost)	1.0	(0.7)	0.5	1.6	2.6	3.6	5.8	7.7	9.1	9.8	10.4	11.1
	1.5	(3.4)	(1.9)	(0.5)	0.7	1.8	4.2	6.3	7.8	8.5	9.2	9.9
	2.0	-	-	(3.2)	(1.7)	(0.3)	2.5	4.8	6.5	7.2	8.0	8.7
	2.5	-	-	-	-	(3.0)	0.5	3.1	5.0	5.8	6.6	7.4
	3.0	-	-	-	-	-	(2.0)	1.2	3.3	4.2	5.1	6.0
	3.5	-	-	-	-	-	-	(1.0)	1.4	2.5	3.5	4.4
	4.0	-	-	-	-	-	-	(3.9)	(0.8)	0.4	1.6	2.7

Source: MOSL

Hindalco: Target price calculation (INR m, FY15E)

EBITDA	116,844
EV/EBTIDAx	5.0
Target EV	584,219
Net Debt	371,119
Equity Value	213,099
A. (INR/share)	107
CWIP	177,158
B. (INR/share)	89
C. CWIP discount factor (%)	12
Target Price A+B*C (INR/share)	**185**

Source: MOSL

Financials and Valuation

Income Statement (Consolidated) (INR Million)

Y/E March	2011	2012	2013E	2014E	2015E
Net sales	**720,779**	**808,214**	**816,015**	**854,565**	**935,793**
Change (%)	18.7	12.1	1.0	4.7	9.5
Total Expenses	634,910	726,316	729,054	752,848	818,949
EBITDA	**85,868**	**81,897**	**86,961**	**101,717**	**116,844**
% of Net Sales	11.9	10.1	10.7	11.9	12.5
Depn. & Amortization	27,500	28,699	25,156	28,909	33,460
EBIT	**58,368**	**53,199**	**61,805**	**72,808**	**83,384**
Net Interest	14,411	17,579	17,446	22,677	28,782
Other income	4,309	7,831	7,435	4,905	5,792
PBT before EO	**48,266**	**43,450**	**51,794**	**55,036**	**60,394**
EO income	-9,834		-2,727		
PBT after EO	**38,432**	**43,450**	**49,068**	**55,036**	**60,394**
Current tax	9,739	7,862	8,616	9,155	9,406
Deffered tax	-100		3,985	3,618	4,659
Tax	9,638	7,862	12,601	12,773	14,065
Rate (%)	25.1	18.1	25.7	23.2	23.3
Reported PAT	**28,793**	**35,587**	**36,467**	**42,263**	**46,329**
Minority interests	3,659	2,113	1,144	1,089	1,089
Share of asso.	29	496	29	29	29
Adjusted PAT	**34,998**	**33,970**	**38,079**	**41,203**	**45,269**
Change (%)	279.5	-2.9	12.1	8.2	9.9

Balance Sheet (INR Million)

Y/E March	2011	2012	2013E	2014E	2015E
Share Capital	1,990	1,991	1,991	1,991	1,991
Reserves	288,243	317,123	348,981	386,690	428,466
Net Worth	**290,233**	**319,113**	**350,972**	**388,681**	**430,456**
Minority Interest	22,169	17,091	18,235	19,324	20,414
Total Loans	294,602	410,419	450,419	460,419	470,421
Deferred Tax Liability	37,596	36,050	40,035	43,653	48,312
Capital Employed	**644,601**	**782,673**	**859,660**	**912,077**	**969,603**
Gross Block	392,654	428,945	480,162	619,062	719,162
Less: Accum. Deprn.	158,014	186,608	211,763	240,672	274,132
Net Fixed Assets	**234,640**	**242,338**	**268,399**	**378,390**	**445,030**
Goodwill on consolidation	123,940	150,097	150,097	150,097	150,097
Capital WIP	92,518	227,981	304,287	234,879	177,158
Investments	18,742	17,483	17,483	17,483	17,483
Curr. Assets	**378,856**	**376,124**	**353,479**	**370,873**	**430,787**
Inventory	137,420	132,460	134,480	141,542	155,042
Account Receivables	75,411	80,172	82,682	86,320	94,507
Cash and Bank Balance	80,680	81,556	54,380	61,074	99,302
Others	85,346	81,937	81,937	81,937	81,937
Curr. Liability & Prov.	**204,095**	**231,350**	**234,083**	**239,645**	**250,952**
Account Payables	104,334	110,522	113,255	118,817	130,124
Provisions & Others	99,761	120,828	120,828	120,828	120,828
Net Current Assets	**174,761**	**144,775**	**119,395**	**131,228**	**179,835**
Appl. of Funds	**644,601**	**782,673**	**859,660**	**912,077**	**969,603**

E: MOSL Estimates

Financials and Valuation

Ratios (Consolidated)

Y/E March	2011	2012	2013E	2014E	2015E
Basic (INR)					
EPS	17.6	17.1	19.1	20.7	22.7
Cash EPS	28.3	32.3	31.0	35.8	40.1
BV/Share (adj.)	83.6	84.9	100.9	119.9	140.8
DPS	1.5	1.5	1.5	1.5	1.5
Payout (%)	10.0	10.3	9.2	8.5	7.7
Valuation (x)					
P/E		7.9	7.0	6.5	5.9
Cash P/E		4.1	4.3	3.7	3.3
P/BV		1.6	1.3	1.1	1.0
EV/Sales		0.7	0.8	0.8	0.7
EV/EBITDA		7.3	7.6	6.5	5.5
Dividend Yield (%)		1.1	1.1	1.1	1.1
Return Ratios (%)					
RoE	23.1	20.3	20.6	18.8	17.4
RoCE (pre-tax)	10.1	7.5	7.5	8.2	8.9
RoIC (pre-tax)	14.5	11.7	13.2	13.5	13.1
Working Capital Ratios					
Fixed Asset Turnover (x)	1.8	1.9	1.7	1.4	1.3
Asset Turnover (x)	1.1	1.0	0.9	0.9	1.0
Debtor (Days)	38.2	36.2	37.0	36.9	36.9
Inventory (Days)	69.6	59.8	60.2	60.5	60.5
Leverage Ratio (x)					
Current Ratio	1.9	1.6	1.5	1.5	1.7
Interest Cover Ratio	4.1	3.0	3.5	3.2	2.9
Debt/Equity	1.3	1.9	2.0	1.7	1.3

Cash Flow Statement (INR Million)

Y/E March	2011	2012	2013E	2014E	2015E
EBITDA	**85,868**	**81,897**	**86,961**	**101,717**	**116,844**
Non - cash expense	-3,393	14,415	-2727		
tax paid	-13,131	-10,901	-8,616	-9,155	-9,406
Change in working Capital	-7,084	-9,322	-1,797	-5,138	-10,380
CF from Op. Activity	**62,260**	**76,090**	**73,822**	**87,424**	**97,059**
(Inc)/Dec in FA + CWIP	-77,598	-124,007	-127,523	-69,493	-42,379
(Pur)/Sale of Invest. & yield thereon	1,847	-13,277	7,464	4,933	5,821
Others	4,945	-5,660			
CF from Inv. Activity	**-70,806**	**-142,945**	**-120,059**	**-64,559**	**-36,557**
Equity raised/(repaid)	99	10,861			
Debt raised/(repaid)	37,384	89,511	40,000	10,000	10,002
Interest	-25,410	-28,531	-17,446	-22,677	-28,782
Dividend (incl. tax)	-3,838	-4,110	-3,494	-3,494	-3,494
CF from Fin. Activity	**8,236**	**67,731**	**19,061**	**-16,170**	**-22,273**
(Inc)/Dec in Cash	**-310**	**876**	**-27,176**	**6,694**	**38,228**
Add: Opening Balance	80,990	80,680	81,556	54,380	61,074
Closing Balance	**80,680**	**81,556**	**54,380**	**61,074**	**99,302**

E: MOSL Estimates

Jindal Steel & Power

BSE SENSEX	S&P CNX
19,581	5,951

Bloomberg	JSP IN
Equity Shares (m)	934.8
52-Week Range (INR)	663/321
1,6,12 Rel. Perf. (%)	14/-10/-25
M.Cap. (INR b)	431.9
M.Cap. (USD b)	7.9

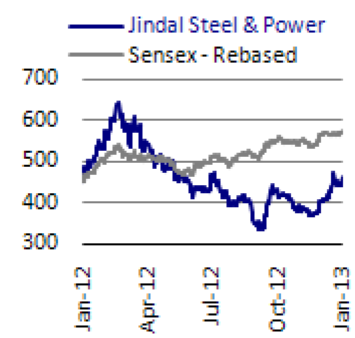
Valuation summary (INR b)

Y/E March	2013E	2014E	2015E
Sales	202.9	214.6	265.4
EBITDA	65.0	75.1	94.3
Adj. PAT	35.0	35.8	39.5
Adj. EPS (INR)	37.4	38.3	42.2
EPS Gr(%)	-11.8	2.6	10.3
BV/Sh. (INR)	207.7	242.3	280.9
RoE (%)	18.6	17.0	16.1
RoCE (%)	13.0	12.0	11.9
Payout (%)	5.5	5.4	4.9
Valuation			
P/E (x)	12.4	12.1	10.9
P/BV	2.2	1.9	1.6
EV/EBITDA (x)	10.2	9.1	7.7
Div. Yield (%)	0.4	0.4	0.4

Shareholding pattern (%)

As on	Sep-12	Jun-12	Sep-11
Promoter	59.0	59.0	58.6
Dom. Inst	6.5	7.3	7.5
Foreign	23.2	21.9	22.9
Others	11.4	11.8	11.1

Stock performance (1 year)



CMP: INR462 | **TP: INR356** | **Sell**

Implied valuation of CWIP at 151% premium

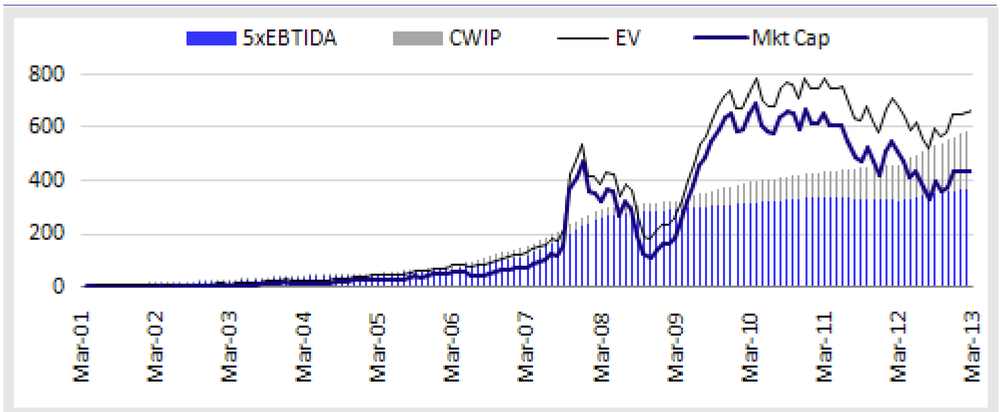
Earnings declining; downgrading to Sell

- **Jindal Steel & Power (JSP) delivered 46% earnings CAGR over FY00-11 due to focus on investment in high RoI / short payback projects and benefit of captive iron ore and coal mines. Given its equally strong pipeline of projects, the stock got re-rated to factor growth.**
- **However, over FY12-14, JSP's earnings have been declining at a compounded rate of 5% due to margin compression and project delays. Gains on account of use of zero cost iron ore inventories are clouding the shrinkage in the underlying steel business earnings. Non-disclosure of such inventories is a regulatory risk.**
- **With the shift in focus from asset-light growth to capex-intensive growth and hurdles in execution, the CWIP/MCap and CWIP/EV ratios have started mounting. However, the implied valuation of CWIP is at a 151% premium to our DCF-based valuation.**
- **Our two alternative valuation approaches suggest equity value of INR172/share and INR202/ share in the base case, and INR269/share and INR279/share in the optimistic case. We downgrade the stock to Sell.**

After massive re-rating over FY08-10…

JSP's steel business benefitted from 10x increase in iron ore prices and 6x increase in coking coal prices over the last 10-12 years. Similarly, its power business benefitted from high merchant power rates. Captive thermal coal and iron ore mines helped to keep the cost of production of steel and power under check. Further, JSP kept its balance sheet light by investing in only high RoI businesses rather than pursuing large ambitions in the asset-heavy steel or power businesses. The cost of the completed projects has already been fully recovered (see exhibit, CWIP catching up with net debt). High growth in earnings and absence of dilution led to massive re-rating of the stock during FY08-10; low earnings volatility reduced the cost of equity. The basis of valuation shifted from EV/EBITDA to P/E to capture the high growth and strong pipeline of projects.

CWIP at significant premium (INR b)



Source: Company, MOSL

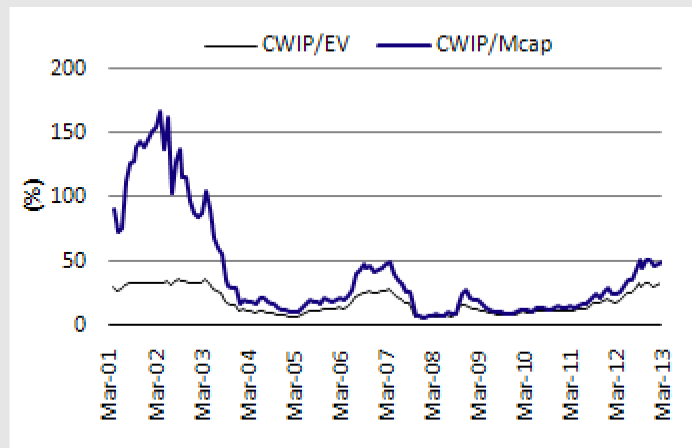
…the stock got de-rated due to corporate governance issues

Towards the end of 2009, JSP filed a DRHP for the listing of its power business. The DRHP revealed that 3.57% of Jindal Power's equity has been allotted to related parties at throw-away prices in comparison to the intrinsic value and/or the target valuation for listing. Further, certain assets like overseas oil & gas investments were stripped off. Though Jindal Power did not get listed, JSP got de-rated due to concerns relating to corporate governance.

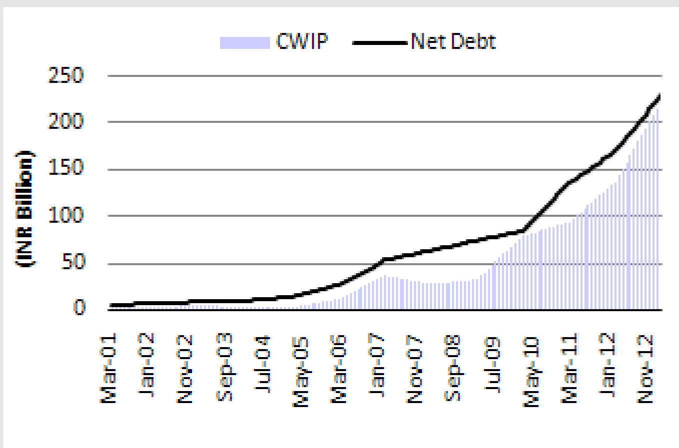
Also, there has been a shift from asset-light model

With rising market cap and cash flows, JSP switched its strategy from asset light growth to asset heavy growth. It drew plans to invest USD31b to raise steel capacity to 32mtpa and power capacity to 13GW over 10 years. Most of its projects are held up or are progressing slowly due to multiple issues. In FY12, EBITDA yield of the gross block was 29% (GB/EBITDA of 3.5x) for the operating steel business. However, new projects have significantly lower yields, e.g. 8.6% (GB/EBITDA of 11.6x) for the Angul project, despite captive coal mines. The cost of the Angul greenfield project has seen inflation of 50-70% due to delays and problems from local inhabitants near the site. Also, the envisaged cost of iron ore and thermal coal has seen high inflation due to decline or stagnation in mine production because of clamp-down on illegal iron ore mining and environmental issues.

Ratios had started rising



CWIP catching up with net debt



Source: Company, MOSL

Summary: Active projects (INR m)

Project	CapEx Total	CapEx O/S post FY14	NPV	IRR (%)	Remarks
Tamnar 1	50,000		165,131		Project cost is fully recovered
Tamnar 2	136,000	41,487	-13,315	8.9	Assumed power is sold at CERC guideline
Angul	150,000		-100,492	0.1	cost of gas at USD7.5/mmbtu using captive coal
Total	**336,000**		**51,324**		
Projects*	286,000	41,487	-113,807	4.3	Although JSP is investing in various projects, but there is no clear visibility on time line

*no contribution in earnings until FY14
Source: Company, MOSL

In addition to two active projects, i.e. Tamnar-2 and Angul, JSP has committed investments in a number of coal mining projects in African countries, Indonesia, Australia and Mongolia. These projects are in initial stages of development and will require large capital commitment for rail and port infrastructure. Therefore, we believe that these projects will be a drag on JSP's equity value in the initial 5-10 years.

As at the end of FY13, JSP will have CWIP of ~INR223b outstanding of the INR286b capex, which will have an NPV of –INR114b. The CWIP/MCap ratio, though not as bad as in FY02, has risen sharply to 52%. The CWIP/EV ratio has increased to 34%. Cash flows from high yield operating assets are now being deployed in low yield projects. This will drive further de-rating of the stock, in our view. Our SOTP value has gradually declined from INR728/share (as per our report dated 18 July 2011) to INR356/share because of the following reasons:

- The value of the steel and CPP business has declined from INR342/share to INR186/share due to delays in the 1.5mtpa steel and 810MW CPP project at Angul, and the 540MW CPP project at Raigarh. The profitability of 1,350MW has been far lower than expected due to higher than expected fuel cost and inability to sell power in the merchant market due to regulatory hurdles.
- The value of Jindal Power has declined from INR337/share to INR145/share due to repeated delays in initiating power projects of 1,980MW at Goda and Dumka in Jharkhand because of uncertainty regarding coal blocks and tardy land acquisition. Tamnar-2 has been delayed due to temporary suspension of ToR (terms of reference) for the project.
- The Bolivia project was closed with losses of ~INR5b (INR5/share) instead of value of INR21/share in our SOTP.

Sum of the part valuations

Equity Valuation	Business Segment	Method	Valuation multiple	Value (INR m)	Rationale (INR/sh)	
Iron & Steel	Steel, Power	FY14E PER (x)	10.0	172,080	184	This is equal to FY14 EV/EBITDA of 5.8x
Shadeed	Steel	FY14E PER (x)	10.0	24,472	26	1.5mtpa DRI plant, Attractive 22 year gas supply contract
Rockland & GNM	Coal	Mkt Cap		2,046	2	Coal tenaments in Australia
Jindal Power	Power	DCF (to equity)		112,721	121	1000MW Capacity for Tamnar 1
Tamnar II	Power	DCF (to equity)		21,869	23	2400MW capacity for Tamnar 2
SOTP				**333,188**	**356**	

Our concerns on the business have increased

Over the last 12 months, our concerns on the business have increased.

- The high margin Tamnar-1 (1,000MW) plant may be forced to sell power on long-term power purchase agreement by the regulator. This could result in significant reduction in earnings.
- The steel business may not be able to source iron ore from Sarda Mines at low prices. The Odisha government will be implementing e-auction from 1 April 2013. This will lead to significantly higher transfer price. Although the transfer pricing between Sarda Mines and JSP has already changed significantly, it has not reflected in the recent quarterly margins and earnings, as the decline in recurring earnings has been offset by gains on zero cost iron ore inventory.
- The steel business has benefitted from high coking coal and iron ore prices. We believe that the prices of both iron ore and coking coal will decline over the next 12-16 months due to stagnation in demand from the steel sector and growing supply from new raw material projects. We have highlighted this view in our recent Sector Update, Downhill Run, dated 29 August 2012. Recurrent earnings/margins could be squeezed significantly.
- Zero cost iron ore inventories are not disclosed on the balance sheet. Also, JSP does not share this information publically. In the absence of clarity, this remains a source of regulatory risk.

Downgrading stock recommendation to Sell

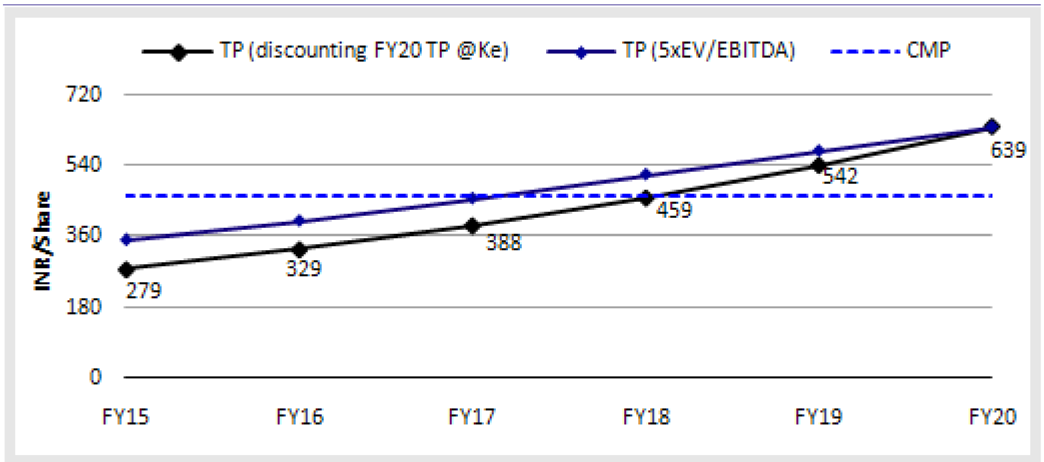
Applying our two alternative approaches to valuation, we find that JSP has downside in all of the four situations. We downgrade our stock recommendation from Neutral to Sell.

1. **SOTP:** We have valued operational assets at an EV of 5x one-year forward EBITDA. We have adjusted the CWIP against the NPV of the projects to capture their intrinsic value. JSP's valuations are highly sensitive to steel/iron ore prices. In the base case scenario, where we assume iron ore prices of USD83/ton and coking coal prices of USD125/ton, we arrive at a value of INR172/share. In the optimistic scenario, where we assume iron ore prices of USD106/ton and coking coal prices of USD170/ton, we arrive at a value of INR269/share.
2. **FY20 valuations discounted for five years:** We arrive at FY20 valuations to factor in completion of all ongoing projects and the possible delays. We have discounted these valuations backwards for five years by JSP's cost of equity of 18.1%. In the base case scenario, we arrive at a value of INR202/share. In the optimistic scenario, we arrive at a value of INR279/share.

SOTP Valuation

FY13 EBITDA	
(excl. JPL-T1 & Angul)	19,016
EV/EBITDA (x)	5
EV (excl JPL-T1) (1x2)	95,081
JPL-T1 valuation	165,131
Angul valuation	33,863
Total EV (3+4+5)	294,074
add: CWIP	134,272
add: NPV	-13,315
less: Net Debt	254,687
Equity value	160,344
Equity value per share	172

Target Price (TP): Optimistic Scenario

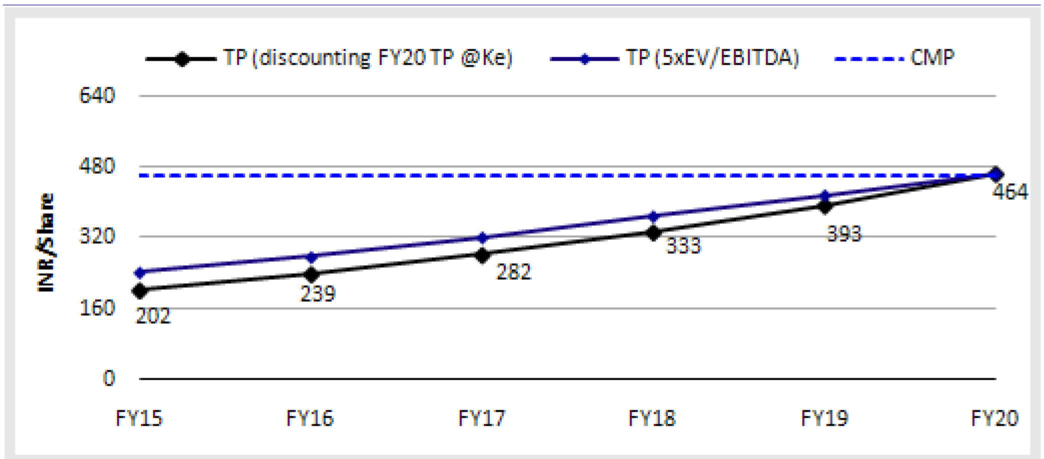


Key assumption: iron ore at USD106/t; coking coal at USD170/t

SOTP Valuation

FY13 EBITDA	
(excl. JPL-T1 & Angul)	31,147
EV/EBITDA (x)	5
EV (excl JPL-T1) (1x2)	155,735
JPL-T1 valuation	165,131
Angul valuation	64,532
Total EV (3+4+5)	385,397
add: CWIP	134,272
add: NPV	-13,315
less: Net Debt	254,687
Equity value	251,667
Equity value per share	269

Target Price (TP): Base case



Key assumption: iron ore at USD106/t; coking coal at USD170/t

Target price calculations

S.N.		ProjectEquity value based on 5xEV/EBTIDA (project cost adjusted in net debt)						
		FY14	FY15	FY16	FY17	FY18	FY19	FY20
1	Tamnar 2 (FCFF-DCF based)		143,797	141,554	138,348	136,021	133,529	130,804
2	Angul (5xEV/EBITDA)		33,863	33,863	33,863	33,863	33,863	33,863
3	Tamnar 1 (FCFF-DCF based)	165,131	166,156	167,688	169,113	170,337	171,326	172,514
4	Raigarh (3mtpa steel & 893MW of CPP)	151,171	151,171	151,171	151,171	151,171	151,171	151,171
5	Other mining business	-1,589	-1,589	-1,589	-1,589	-1,589	-1,589	-1,589
	Total EV for company	314,713	493,398	492,687	490,905	489,803	488,300	486,762
	Less: Net Debt (incl. projects)	254,687	266,325	233,357	190,206	144,716	99,211	52,847
	Net Equity value for company	60,026	227,073	259,329	300,699	345,087	389,088	433,916
	No. of share (m)		935	935	935	935	935	935
	TP (INR/share)		243	277	322	369	416	464
	TP (discounting back from FY20@Ke)		**202**	**239**	**282**	**333**	**393**	**464**
	Current market Cap		431,878	431,878	431,878	431,878	431,878	431,878
	Upside (%) w.r.t. CMP		-56	-48	-39	-28	-15	0

Source: Company, MOSL

Key assumptions

USD/INR =	55.0	Cost of equity =	18.3%
Iron ore prices =	83	Interest rate =	10%
Coking coal =	125	Debt/project cost =	50%
HRC =	443	Tax rate =	20%

Source: MOSL

Financials and Valuation

Income Statement (Consolidated) (INR Million)

Y/E March	2011	2012	2013E	2014E	2015E
Net sales	**131,122**	**182,086**	**202,876**	**214,563**	**265,444**
Change (%)	18.2	38.9	11.4	5.8	23.7
Total Expenses	67,960	114,154	137,882	139,482	171,154
EBITDA	**63,162**	**67,932**	**64,994**	**75,081**	**94,290**
% of Net Sales	48.2	37.3	32.0	35.0	35.5
Depn. & Amortization	11,510	13,865	14,263	18,239	25,297
EBIT	**51,652**	**54,067**	**50,731**	**56,842**	**68,992**
Net Interest	2,596	3,600	6,854	10,785	17,124
Other income	815	1,419	1,388	1,548	259
PBT before EO	**49,871**	**51,886**	**45,264**	**47,605**	**52,127**
EO income			-5,741	0	0
PBT after EO	**49,871**	**51,886**	**39,523**	**47,605**	**52,127**
Tax	11,830	11,863	10,175	11,433	11,991
Rate (%)	23.7	22.9	25.7	24.0	23.0
Reported PAT	**38,040**	**40,023**	**29,347**	**36,173**	**40,136**
Minority interests	659	574	447	527	812
Share of Associates	158	200	310	200	200
Adjusted PAT	**37,539**	**39,649**	**34,952**	**35,846**	**39,525**
Change (%)	4.7	5.6	-11.8	2.6	10.3

Balance Sheet (Consolidated) (INR Million)

Y/E March	2011	2012	2013E	2014E	2015E
Share Capital	934	935	935	935	935
Reserves	140,169	180,176	193,247	225,595	261,621
Net Worth	**141,103**	**181,111**	**194,182**	**226,530**	**262,556**
Minority Interest	2,335	3,071	3,477	4,061	4,929
Total Loans	139,728	170,908	230,455	290,955	344,955
Deferred Tax Liability	10,055	11,920	13,281	14,724	15,886
Capital Employed	**293,221**	**367,010**	**441,395**	**536,269**	**628,326**
Gross Block	192,756	223,301	224,002	389,168	457,660
Less: Accum. Deprn.	44,321	58,360	73,066	91,306	116,603
Net Fixed Assets	**148,435**	**164,940**	**150,936**	**297,862**	**341,057**
Capital WIP	93,809	136,520	222,536	134,272	165,988
Good will	1,018	918	1,018	1,018	1,018
Investments	2,979	3,776	5,001	5,001	5,001
Curr. Assets	**114,648**	**143,922**	**152,478**	**191,173**	**212,382**
Inventory	27,734	35,795	35,693	38,057	40,424
Account Receivables	11,537	13,068	18,238	19,453	22,095
Cash and Bank Balance	4,640	1,492	1,151	36,268	52,467
loans & advances and others	70,737	93,567	97,396	97,396	97,396
Curr. Liability & Prov.	**67,668**	**83,066**	**90,572**	**93,056**	**97,119**
Account Payables	22,736	29,110	36,110	38,594	42,657
Provisions & Others	44,933	53,956	54,462	54,462	54,462
Net Current Assets	**46,980**	**60,856**	**61,905**	**98,117**	**115,263**
Appl. of Funds	**293,221**	**367,010**	**441,395**	**536,270**	**628,326**

E: MOSL Estimates

Financials and Valuation

Ratios (Consolidated)

Y/E March	2011	2012	2013E	2014E	2015E
Basic (INR)					
EPS	40.1	42.4	37.4	38.3	42.2
Cash EPS	53.0	57.6	46.7	58.2	70.0
BV/Share	151.0	193.7	207.7	242.3	280.9
DPS	1.5	1.6	2.0	2.0	2.0
Payout (%)	3.8	3.9	5.5	5.4	4.9
Valuation (x)					
P/E		10.9	12.4	12.1	10.9
Cash P/E		8.0	9.9	7.9	6.6
P/BV		2.4	2.2	1.9	1.6
EV/Sales		3.3	3.3	3.2	2.7
EV/EBITDA		8.9	10.2	9.1	7.7
Dividend Yield (%)		0.3	0.4	0.4	0.4
Return Ratios (%)					
RoE	30.5	24.6	18.6	17.0	16.1
RoCE (pre-tax)	21.3	16.9	13.0	12.0	11.9
RoIC (pre-tax)	33.7	26.1	23.3	19.9	18.1
Working Capital Ratios					
Fixed Asset Turnover (x)	0.7	0.8	0.9	0.6	0.6
Asset Turnover (x)	0.4	0.5	0.5	0.4	0.4
Debtor (Days)	32.1	26.2	32.8	33.1	30.4
Inventory (Days)	21.2	19.7	17.6	17.7	15.2
Leverage Ratio (x)					
Interest Cover Ratio	19.9	15.0	7.4	5.3	4.0
Debt/Equity	1.0	0.9	1.2	1.1	1.1

Cash Flow Statement (Consolidated) (INR Million)

Y/E March	2011	2012	2013E	2014E	2015E
Pre-tax profit	**49,871**	**51,886**	**39,523**	**47,605**	**52,127**
Depreciation	11,510	13,865	14,263	18,239	25,297
(Inc)/Dec in Wkg. Cap.	-25,857	-17,024	-1,390	-1,095	-947
Tax paid	-10,230	-9,999	-8,140	-9,995	-10,835
Other operating activities	1,235	840	-14,281	-1,316	-1,316
CF from Op. Activity	**26,528**	**39,568**	**29,974**	**53,439**	**64,327**
(Inc)/Dec in FA + CWIP	-75,471	-73,254	-86,718	-76,902	-100,208
(Pur)/Sale of Investments	206	-797	-1,225	0	0
CF from Inv. Activity	**-75,265**	**-74,052**	**-87,942**	**-76,902**	**-100,208**
Equity raised/(repaid)	3	1	0	0	0
Debt raised/(repaid)	53,685	31,180	59,547	60,500	54,000
Dividend (incl. tax)	-1,439	-1,536	-1,920	-1,920	-1,920
Other financing activities		1,663			
CF from Fin. Activity	**52,249**	**31,307**	**57,627**	**58,580**	**52,080**
(Inc)/Dec in Cash	3,512	-3,177	-341	35,117	16,199
Add: Opening Balance	1,128	4,640	1,492	1,151	36,268
Closing Balance	**4,640**	**1,492**	**1,151**	**36,268**	**52,467**

E: MOSL Estimates

7 January 2013

Update | Sector: Metals

JSW Steel

BSE SENSEX	S&P CNX
19,581	5,951

Bloomberg	JSTL IN
Equity Shares (m)	223.1
52-Week Range (INR)	885/503
1,6,12 Rel. Perf. (%)	11/7/37
M.Cap. (INR b)	185.4
M.Cap. (USD b)	3.4

Valuation summary (INR b)*

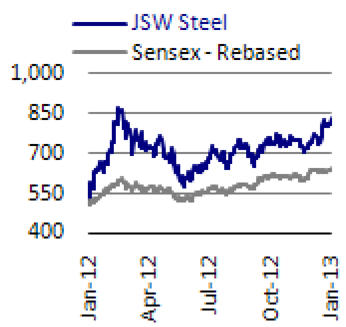
Y/E March	2013E	2014E	2015E
Sales	476.2	465.0	500.7
EBITDA	70.8	72.5	83.1
Adj. PAT	9.4	9.3	16.6
Adj. EPS (INR)	38.9	38.6	68.5
EPS Gr(%)	-41.6	-0.6	77.2
BV/Sh. (INR)	628.2	633.9	676.9
RoE (%)	6.2	6.1	10.4
RoCE (%)	8.7	8.5	9.8
Payout (%)	22.6	22.7	12.8
Valuation			
P/E (x)	21.4	21.5	12.1
P/BV	1.3	1.3	1.2
EV/EBITDA (x)	7.7	7.8	6.8
Div. Yield (%)	0.9	0.9	0.9

*Post merger JSW-ISPAT

Shareholding pattern (%)

As on	Sep-12	Jun-12	Sep-11
Promoter	38.6	38.6	38.3
Dom. Inst	4.7	4.7	4.6
Foreign	41.8	41.3	42.8
Others	14.9	15.3	14.4

Stock performance (1 year)



CMP: INR831	TP: INR478	Sell

No pile-up of CWIP, but balance sheet leveraged

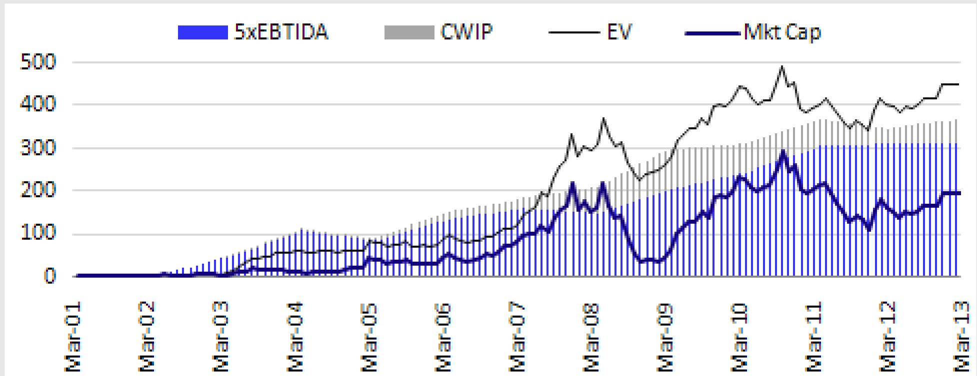
Margins to come under pressure; Sell

- **JSW Steel (JSTL) has been the best executor of projects among Indian metal companies, and has avoided piling up CWIP on its balance sheet.**
- **However, its balance sheet has got leveraged due to expensive investments in overseas plate & pipe mill, and iron ore / coking coal mines in the Americas. It also acquired the debt-laden Ispat industries, recently.**
- **We continue to admire JSTL's operating efficiencies and execution skills, but are concerned about continued availability of attractively priced iron ore fines. We expect the prices of iron ore fines to move up to bridge the gap vis-à-vis the prices of pellets and/or lumps.**
- **As the availability of attractively priced iron ore fines gets constrained, JSTL's margins will come under pressure. We reiterate Sell.**

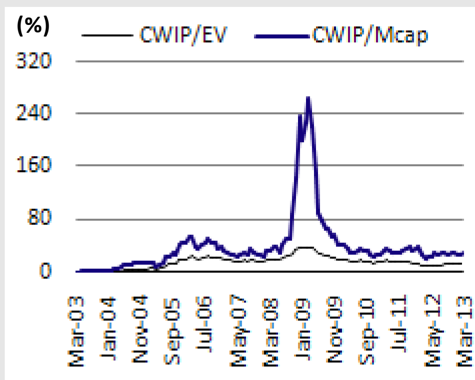
Superior execution skills have helped to avoid pile-up of CWIP

JSW Steel (JSTL) has been the best executor of projects among Indian metal companies, with very comfortable CWIP/MCap and CWIP/EV ratios. There was, however, one exception in its history – JSTL's CWIP/MCap had spiked immediately after the financial crisis of 2008 due to the double whammy of (1) CWIP on account of its new ~3mtpa blast furnace, whose commissioning was delayed due to demand collapse, and (2) pressure on market cap due to debt burden. However, the recovery was equally swift, once the banking system normalized.

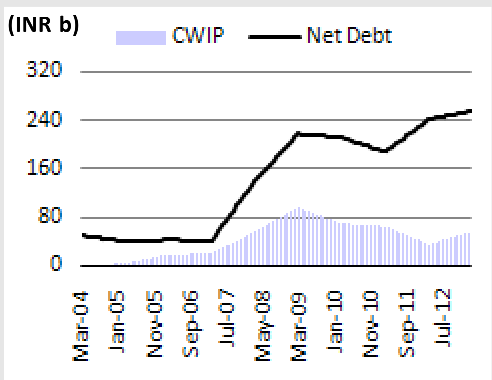
CWIP at comfortable levels (INR b)



Ratios at much lower levels than industry



Expensive investment led to high debt level



Profitable business in India, but overseas investments prove expensive

JSTL has a profitable steel business in India and has been the fastest growing steel company in the world. In the last five years, it has invested USD900m in US plate & pipe mill, USD250m in Chile iron ore mines, and USD100m in US coking coal mine. None of its overseas acquisitions have been profitable and there is no visibility of turnaround, given the global economic slowdown, high cost structure, and strategic / technological disadvantage. We believe it is fair to treat them as sunk investments.

Acquisition of debt-laden Ispat Industries to provide growth opportunity...

The recent acquisition of Ispat Industries (Dolvi) will provide growth opportunity to the JSW Steel group, especially given that growing through brownfield expansion in Karnataka and greenfield projects in eastern states like West Bengal is challenging. The Supreme Court imposed a cap on total iron ore production in Karnataka, limiting the opportunity to grow steel production in the state. Similarly, the IRR of its steel project in West Bengal has taken a hit due to delays in developing its coal mine due to regulatory and political confusion. Further, iron ore availability has become difficult for non-integrated steel plants due to drop in India’s iron ore production post the Shah Commission investigation.

...but adds to balance sheet leverage

Post merger, the Dovi plant will be the key driver for future expansions. Dolvi (near Mumbai) has the advantage of an in-plant jetty to receive coal and iron ore from the sea route and proximity to re-rollers in western India. JSTL is pursuing projects to set up coke-oven batteries, pellet plants and captive power plants at Dolvi, which will have high IRR because of productivity gains and internal utilization of waste energy. Similarly, it is investing in CAPL (downstream facility) at Vijay Nagar to cater to the auto industry and improve its product mix. In the absence of publically available information to accurately calculate the profitability of these projects, we value them at project cost.

Margins to come under pressure; maintain Sell

We expect margins of USD125/ton and volumes of 9.4m tons in FY14 from the erstwhile JSTL operations. We remain concerned that margins will come under pressure due to changed iron ore pricing dynamics in India, which has (perhaps temporarily) turned net importer of iron ore. Our target price for JSTL is INR478/share (EV of 5x FY14E EBITDA), which implies 42% downside. We maintain **Sell**.

Target price calculations (INR m)

Year	2015E
EBITDA	83,086
Target EBITDA multiple	5.0
Target EV	415,430
less: Net Debt (INR m)	366,179
add: CWIP	66,335
Residual equity value	115,586
No. of shares	242
Target price (INR)	**478**

Source: Company, MOSL

Financials and Valuation

Income Statement (Consolidated, JSW-Ispat merged from FY13) (INR Million)

Y/E March	2011	2012	2013E	2014E	2015E
Net sales	**241,059**	**343,681**	**476,228**	**465,014**	**500,731**
Change (%)	27.2	42.6	7.0	-1.7	9.9
Total Expenses	192,380	282,662	405,424	392,528	417,645
EBITDA	**48,679**	**61,019**	**70,805**	**72,485**	**83,086**
% of Net Sales	20.2	17.8	16.9	17.4	17.0
Depn. & Amortization	15,597	19,332	28,530	29,069	29,069
EBIT	**33,082**	**41,687**	**42,275**	**43,417**	**54,017**
Net Interest	10,603	14,273	28,343	31,132	31,132
Other income	1,900	769	3,170	1,495	1,545
PBT before EO	**24,379**	**28,183**	**17,102**	**13,779**	**24,430**
EO income		-15,353	-1,645		
PBT after EO	**24,379**	**12,830**	**15,457**	**13,779**	**24,430**
Tax	7,785	5,002	9,040	4,134	7,573
Rate (%)	31.9	39.0	42.5	30.0	31.0
Reported PAT	**16,594**	**7,828**	**6,416**	**6,395**	**13,677**
Minority interests	-239	189	-384	-524	-524
Share of Associates	707	-2,262			
Preference dividend	279	279	828	828	828
Adj. PAT (after MI & Asso)	**16,783**	**14,844**	**9,393**	**9,341**	**16,552**
Change (%)	40.4	-11.6	-39.6	-14.9	68.0

Balance Sheet (INR Million)

Y/E March	2011	2012	2013E	2014E	2015E
Share Capital	2,231	2,231	2,417	2,417	2,417
Reserves	163,062	165,265	149,430	150,819	161,219
Net Worth	**165,293**	**167,496**	**151,847**	**153,236**	**163,636**
Minority Interest	2,219	2,177	1,793	1,270	746
Total Loans	211,203	274,301	359,941	379,941	399,941
Deferred Tax Liability	20,494	27,250	10,849	15,037	25,908
Capital Employed	**399,209**	**471,223**	**524,430**	**549,483**	**590,231**
Gross Block	337,771	426,895	596,378	627,878	687,878
Less: Accum. Deprn.	68,732	88,775	185,364	214,433	243,501
Net Fixed Assets	**269,039**	**338,121**	**411,014**	**413,446**	**444,377**
Capital WIP	65,078	35,703	56,335	76,335	66,335
Investments	26,437	18,856	4,441	4,441	4,441
Curr. Assets	**98,329**	**146,453**	**166,884**	**166,873**	**191,093**
Inventory	44,097	57,893	84,222	82,115	87,986
Account Receivables	9,334	15,394	22,540	21,947	23,415
Cash and Bank Balance	23,170	32,653	14,193	16,881	33,762
Others	21,729	40,514	45,930	45,930	45,930
Curr. Liability & Prov.	**59,674**	**67,910**	**114,245**	**111,612**	**116,015**
Account Payables	29,622	41,039	86,916	84,283	88,686
Provisions & Others	30,052	26,871	27,329	27,329	27,329
Net Current Assets	**38,655**	**78,543**	**52,639**	**55,261**	**75,078**
Appl. of Funds	**399,209**	**471,223**	**524,430**	**549,483**	**590,231**

E: MOSL Estimates

Financials and Valuation

Ratios (Consolidated, JSW-Ispat merged from FY13)

Y/E March	2011	2012	2013E	2014E	2015E
Basic (INR)					
EPS	**75.2**	**66.5**	**38.9**	**38.6**	**68.5**
Cash EPS	144.3	121.7	144.6	146.7	176.8
BV/Share	740.8	750.7	628.2	633.9	676.9
DPS	12.3	7.5	7.5	7.5	7.5
Payout (%)	20.9	15.4	19.3	19.4	11.0
Valuation (x)					
P/E		12.5	21.4	21.5	12.1
Cash P/E		6.8	5.7	5.7	4.7
P/BV		1.1	1.3	1.3	1.2
EV/Sales		1.2	1.1	1.2	1.1
EV/EBITDA		7.0	7.7	7.8	6.8
Dividend Yield (%)		0.9	0.9	0.9	0.9
Return Ratios (%)					
RoE	12.3	8.9	6.2	6.1	10.4
RoCE (pre-tax)	9.9	9.2	8.7	8.5	9.8
RoIC (pre-tax)	12.5	12.5	9.4	9.6	11.5
Working Capital Ratios					
Debtor (Days)	14	16	17	17	17
Inventory (Days)	67	61	65	64	64
Creditors(Days)	45	44	67	66	65
Leverage Ratio (x)					
Debt/Equity	1.1	1.4	2.3	2.4	2.2

Cash Flow Statement (Consolidated) (INR Million)

Y/E March	2011	2012	2013E	2014E	2015E
EBITDA	**48,679**	**61,019**	**70,805**	**72,485**	**83,086**
(Inc)/Dec in Wkg. Cap.	-13,137	-30,404	4,933	66	-2,936
Tax Paid	-4,269	-4,113	-3,074	-3,197	59
CF from Op. Activity	**31,273**	**26,502**	**72,660**	**69,354**	**80,209**
(Inc)/Dec in FA + CWIP	-52,994	-59,750	-51,500	-51,500	-50,000
(Pur)/Sale of Investments	-266	7,581			
Acquisition in subsidiaries	-23,598				
Int. & Dividend Income	526	769	3,170	1,495	1,545
CF from Inv. Activity	**-76,331**	**-51,400**	**-48,330**	**-50,005**	**-48,455**
Equity raised/(repaid)	59,356				
Debt raised/(repaid)	4,008	63,098	1,611	20,000	20,000
Dividend (incl. tax)	-2,397	-2,284	-3,271	-2,237	-2,237
Interest paid	-10,007	-14,273	-28,343	-31,132	-31,132
Other financing	-281	-12,159	-4,883	-3,292	-1,504
CF from Fin. Activity	**50,679**	**34,382**	**-34,887**	**-16,661**	**-14,874**
(Inc)/Dec in Cash	**5,621**	**9,484**	**-10,557**	**2,688**	**16,881**
Add: opening Balance	3,030	23,170	24,750	14,193	16,881
Margin Money & debenture balance	14,518				
Closing Balance	**23,170**	**32,653**	**14,193**	**16,881**	**33,762**

E: MOSL Estimates

SAIL

BSE SENSEX	S&P CNX
19,581	5,951

Bloomberg	SAIL IN
Equity Shares (m)	4,130.4
52-Week Range (INR)	116/76
1,6,12 Rel. Perf. (%)	13/-12/-13
M.Cap. (INR b)	384.1
M.Cap. (USD b)	7.0

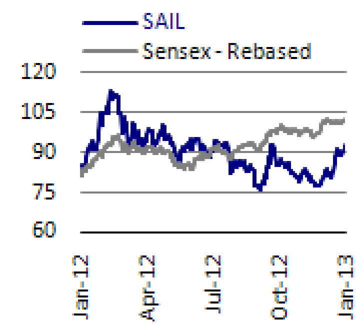
Valuation summary (INR b)

Y/E March	2013E	2014E	2015E
Sales	444.0	488.1	524.0
EBITDA	59.6	83.4	88.5
NP	24.2	34.6	28.3
Adj. EPS (INR)	5.9	8.4	6.8
EPS Gr(%)	-35.8	42.9	-18.2
BV/Sh. (INR)	100.7	106.7	111.2
RoE (%)	5.9	8.1	6.3
RoCE (%)	7.3	8.5	7.6
Payout (%)	42.4	28.0	34.2
Valuation			
P/E (x)	15.9	11.1	13.6
P/BV	0.9	0.9	0.8
EV/EBITDA (x)	9.1	7.9	7.9
Div. Yield (%)	2.2	2.2	2.2

Shareholding pattern (%)

As on	Sep-12	Jun-12	Sep-11
Promoter	85.8	85.8	85.8
Dom. Inst	7.6	7.9	7.5
Foreign	3.6	3.3	4.1
Others	3.0	3.0	2.6

Stock performance (1 year)



CMP: INR93 **TP: INR59** **Sell**

Structural increase in conversion cost; margins shrinking

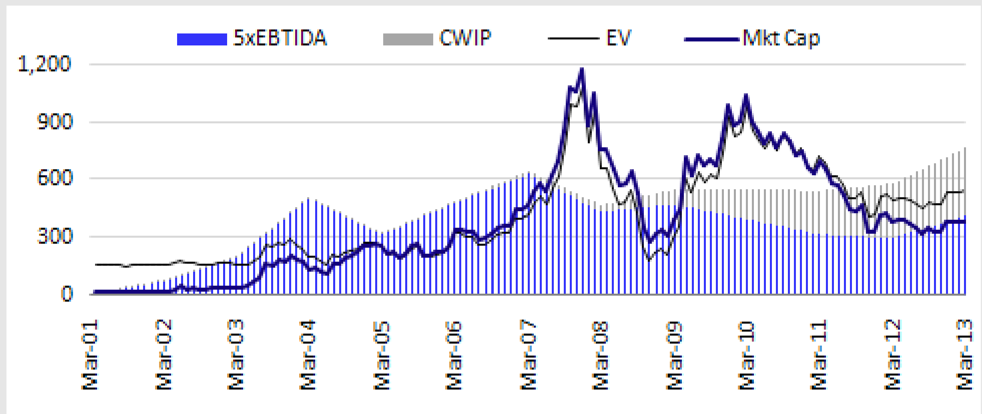
Valuation exercise indicates more downside; Sell

- **SAIL's growth plan involving a capex of INR721b and shrinking margins have been drags on its market cap. Though it has already spent INR456b, volume growth remains elusive due to project delays.**
- **CWIP/MCap has ballooned to 92%. Cumulatively, SAIL's projects have a weighted average internal rate of return (WAIRR) of 5.3% and an NPV of –INR344b provided iron ore and coking coal prices stay at USD106/ton FOB and USD170/ton FOB, an optimistic scenario. WAIRR and NPV will fall further to 2.8% and –INR418b if iron ore and coking coal prices were to fall to USD83/ton FOB and USD125/ton FOB, respectively, which is our base case.**
- **Our two alternative valuation approaches suggest equity value of –52/share and 44/share in the base case, and -INR5/share and INR74/share in the optimistic case. SAIL is structurally moving up the industry conversion cost curve due to inflation in wages, fuel and other operating costs. Though volume growth will drive earnings, the spreads because of iron ore advantage will shrink. We maintain Sell.**

Has traversed the full circle

SAIL seems to have traversed the full circle in the last 10-12 years. At the beginning of the last decade, it had low profitability, high debt and near zero equity value. CWIP/MCap was 40%, though this is no benchmark, as MCap was very small (EV comprised largely of debt). Thereafter, its fortunes turned due to the boom in the sector and complete absence of capex until FY08. From net debt of ~INR140b in FY01, the balance sheet had net cash surplus of INR111b by the end of FY08, which led to massive re-rating and huge stock performance (stock was up >50x in 7 years). Even during the financial crisis of 2008, SAIL outperformed the sector due to its strong balance sheet. Since FY09, however, SAIL's earnings have come under pressure due to inflation of wages, lack of volume growth, related productivity gain and increased financial leverage, with net debt increasing by ~INR400b on account of INR721b capex. The stock has witnessed de-rating and market cap has dipped below 5x one-year forward EBITDA.

CWIP mounting on INR721b capex (INR b)



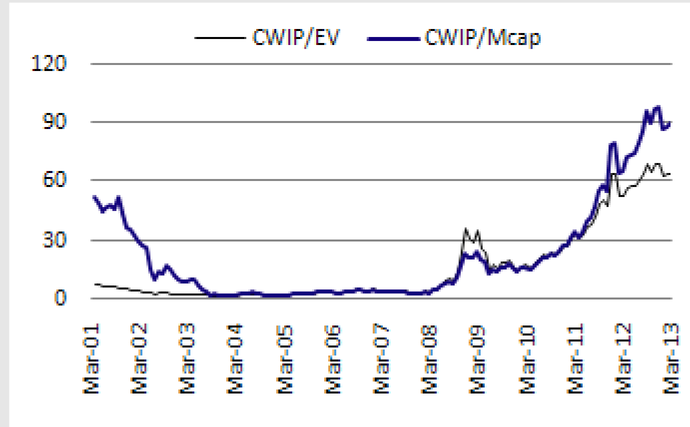
Source: Company, MOSL

SAIL's CWIP/MCap ratio has zoomed past its historical high of 50% in FY01 to 92% in FY13. This is the second highest in the Metals sector after Hindalco. The ratio is worse than the last two cyclical distresses in FY00-01 and FY09. The question is, once the capex cycle peaks for SAIL over the next 2-3 years, can we expect significant returns?

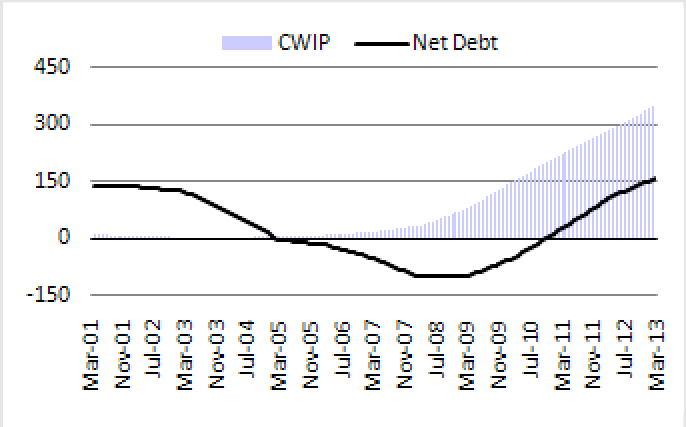
Cumulative capex estimated at INR721b

SAIL is undertaking expansion and modernization across plants to increase its saleable steel capacity from 12.4mtpa to 20.2mtpa. The total capital outlay for the project is INR721b, of which it has already incurred INR456b until September 2012. We expect various capacities to commence operations over FY14-16, with 6-18 months delay from the current schedule.

Ratios above industry average (%)



Debt rising in synce with increasing CWIP (INR b)



Source: Company, MOSL

At steel prices USD518/ton (HRC FOB) and iron ore prices at USD106/ton, SAIL's projects will have an NPV of –INR344b, with an IRR of 5.3%. This is an optimistic scenario, in our view. In our base case scenario (please refer to our recent Sector Update, Downhill Run), where we have assumed that iron ore prices will correct to USD83/ton, with corresponding correction of USD39/ton in steel prices and EBITDA per ton (please note we are ignoring coking coal prices here because SAIL hardly has any captive mines and its earnings, therefore, have low sensitivity to coking coal prices), the total NPV will be –INR480b, with an IRR of 2.8%. Lower iron ore prices will reduce the benefit of iron ore integration significantly, leading to lower NPV. We believe that spreads between prices of inputs like iron ore, coking coal, etc and steel prices will remain subdued due to huge overcapacity in the steel sector. Hence, change in raw material prices will be completely passed through in steel prices.

Summary: Projects of SAIL (INR m)

Project	CapEx		NPV	IRR	Remarks
	Total	O/S as on Sep-12		(%)	
Bhilai Steel Plant	172,660	95,380	-115,780	0.5	capacity will expand by 2.3mtpa to 6.6mtpa
ISP Burnpur	164,080	27,310	-114,706	0.6	2.4mtpa of new capacity
Roorkela	118,120	32,210	-75,598	2.3	capacity will expand by 2.1mtpa to 4mtpa
BSL, DSP, Sp.steel etc	111,020	18,570	-73,086	0.7	about 1.5mtpa of additional production
Others (cost savings $30/t)	155,460	133,160	-38,525	9.4	replacing ingot casting route with concasts
Total	**721,340**	**306,630**	**-417,695**	**2.8**	
CapEx in FY13-14		273,000			
O/S as on Mar 14		33,630			

Source: Company, MOSL

SAIL: Target price calculation

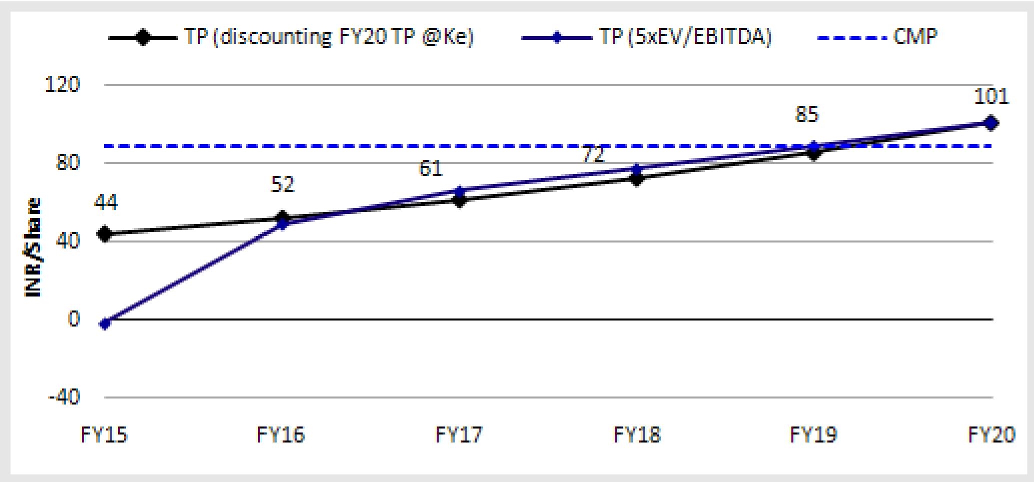
(INR m)	FY15E
EBITDA	88,488
Target EBITDA multiple (x)	5.0
Target EV	442,438
Net Debt	317,261
add: CWIP (50% disc.)	118,078
Residual MCap	243,255
Target Price (INR)	**59**

Valuation exercise indicates more downside; Sell

Applying our two alternative approaches to valuation, we find that SAIL has downside in all 4 situations.

1. **SOTP:** We have valued operational assets at an EV of 5x one-year forward EBITDA. We have adjusted the CWIP against the NPV of the projects to capture their intrinsic value. SAIL's valuations are highly sensitive to steel/iron ore prices. In the base case scenario, where we assume iron ore prices of USD83/ton, we arrive at a value of –INR52/share. In the optimistic scenario, where we assume iron ore prices of USD106/ton FOB, we arrive at a value of -INR5/share.
2. **FY20 valuations discounted for five years:** We arrive at FY20 valuations to factor in completion of all ongoing projects and the possible delays. We have discounted these valuations backwards for five years by SAIL's cost of equity of 18.1%. In the base case scenario, we arrive at a value of INR44/share. In the optimistic scenario, we arrive at a value of INR74/share.

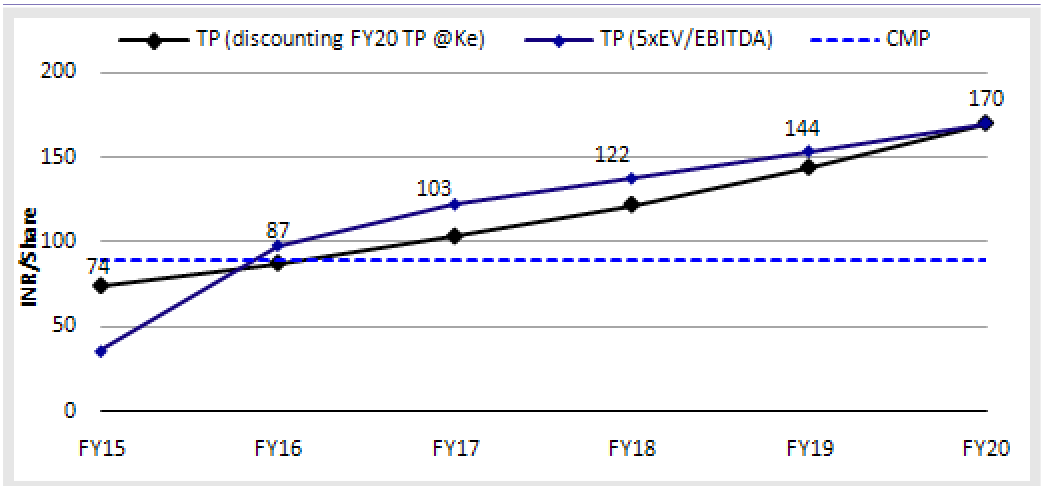
Target price (TP): Base case (Iron ore @ USD83/t fob)



SOTP Valuation

FY14 EBITDA	44,107
EV/EBITDA	5
Enterprise Value(1x2)	220,536
add: CWIP	256,157
add: NPV	-417,695
less: Net Debt	275,095
Equity value	-216,097
Equity value per share	-52

Target price (TP): Optimistic case (Iron ore @ USD106/t fob)



SOTP Valuation

FY14 EBITDA	68,408
EV/EBITDA	5
Enterprise Value(1x2)	342,039
add: CWIP	256,157
add: NPV	-344,303
less: Net Debt	275,095
Equity value	-21,202
Equity value per share	-5

Target price calculations (INR m)

S.N.	Project	Equity value based on 5xEV/EBTIDA (project cost adjusted in net debt)						
		FY14	FY15	FY16	FY17	FY18	FY19	FY20
1	Bhilai Steel Plant			28,850	44,236	44,236	44,236	44,236
2	ISP Burnpur		26,028	34,704	41,645	41,645	41,645	41,645
3	Roorkela		24,387	32,516	38,612	38,612	38,612	38,612
4	BSL, DSP, Sp.			28,850	28,850	28,850	28,850	28,850
5	Others (cost savings $30/t)			101,277	101,277	101,277	101,277	101,277
	Total equity in projects		50,415	226,197	254,621	254,621	254,621	254,621
	add:current Operations@5xEV/EBITDA	220,536	220,536	220,536	220,536	220,536	220,536	220,536
	Less: Net Debt (incl. projects)	275,095	277,811	244,386	203,287	156,144	107,858	58,321
	Net Equity value for company		-6,860	202,347	271,870	319,013	367,298	416,836
	No. of share (m)		4,130	4,130	4,130	4,130	4,130	4,130
	TP (INR/share)		-2	49	66	77	89	101
	TP (discounting back from FY20@Ke)	**37**	**44**	**52**	**61**	**72**	**85**	**101**
	Current market Cap		384,127	384,127	384,127	384,127	384,127	384,127
	Upside (%)		-102	-47	-29	-17	-4	9

Source: Company, MOSL

■ Bhilai Steel Plant (BSP)

Bhilai Steel Plant (BSP) is SAIL's largest facility, with saleable steel capacity of 4.3mtpa. It produces rails, heavy steel plates, wire rods and structural steel. Currently, it sources iron ore from its captive iron ore mine, Dalli Rajhara. It is developing a 12mtpa mine at Rowghat for future raw material requirement, as the Dalli Rajhara mine is nearing the end of its life. It has planned capex of INR173b to enhance saleable steel capacity from 4.3mtpa to 6.6mtpa. SAIL is adding coke oven battery, sinter plant, blast furnace VIII (2.8mtpa), SMS, billet/bloom caster, universal rail mill, bar & rod mill, and is augmenting existing auxiliary facilities. The scheduled commissioning date for most of its facilities is September 2013, but we expect actual production to start in FY16. According to our calculations, the project has an NPV of –INR94b, with an IRR of 3.8% in the optimistic scenario. The NPV will further reduce to –INR116b, with an IRR of 0.5% in the base case scenario.

Free cash flow to firm (INR m)

	FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY39	
a. EBITDA			5,770	8,847	8,847	8,847	8,847	8,847	
b. Depreciation			6,906	6,975	7,045	7,116	7,187	8,682	
c. NOPLAT=(a-b)*(1-Tax rate)			-909	1,497	1,442	1,385	1,328	115	
d. Capex			0	-1,727	-1,744	-1,761	-1,779	-2,149	
e. change in Working Capital			**-5,467**	**-2,916**	**0**	**0**	**0**	**0**	**Terminal**
FCFF (c+b+d+e)		-172,660	530	3,831	6,743	6,740	6,736	6,649	**Value**
Present Value (Cumulative)		-115,780	39,696	44,740	47,191	47,075	46,945	38,186	36,747

Source: Company, MOSL

Bhilai Steel Plant: Net present value (USD million)

Iron ore USD/T	Coking coal prices USD/ton 90	110	130	150	170	190	210	230	250	270	290
60	(2,796)	(2,799)	(2,803)	(2,806)	(2,809)	(2,813)	(2,816)	(2,819)	(2,823)	(2,826)	(2,829)
70	(2,602)	(2,605)	(2,609)	(2,612)	(2,615)	(2,619)	(2,622)	(2,625)	(2,628)	(2,632)	(2,635)
80	(2,408)	(2,411)	(2,414)	(2,418)	(2,421)	(2,424)	(2,428)	(2,431)	(2,434)	(2,438)	(2,441)
90	(2,214)	(2,217)	(2,220)	(2,224)	(2,227)	(2,230)	(2,234)	(2,237)	(2,240)	(2,244)	(2,247)
100	(2,020)	(2,023)	(2,026)	(2,030)	(2,033)	(2,036)	(2,039)	(2,043)	(2,046)	(2,049)	(2,053)
110	(1,825)	(1,829)	(1,832)	(1,835)	(1,839)	(1,842)	(1,845)	(1,849)	(1,852)	(1,855)	(1,859)
120	(1,631)	(1,635)	(1,638)	(1,641)	(1,645)	(1,648)	(1,651)	(1,655)	(1,658)	(1,661)	(1,664)

Source: MOSL

Bhilai Steel Plant: Internal rate of return (IRR, %)

Iron ore USD/T	Coking coal prices USD/ton 90	110	130	150	170	190	210	230	250	270	290
60	-	-	-	-	-	-	-	-	-	-	-
70	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)
80	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
90	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
100	3.1	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
110	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2
120	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.4	5.4

Source: MOSL

Key assumptions

USD/INR =	55.0	Cost of equity =	18%
Iron ore prices =	83	Interest rate =	10%
Coking coal=	170	Debt/project cost =	40%
HRC =	479	Tax rate =	20%

Source: MOSL

Our sensitivity analysis indicates that BSP's expansion and modernization will result in negative NPV for the most likely range of iron ore and coking coal prices. The NPV turns positive at iron ore realization of USD177/ton due to the benefits of SAIL's 100% iron ore integration. NPV sensitivity to coking coal prices is low, as SAIL depends upon external sourcing of coking coal. Any change in coking coal prices also translates into similar change in steel realization.

■ Rourkela Steel Plant (RSP)

SAIL's Rourkela Steel Plant (RSP) has saleable steel capacity of 2.1mtpa. It produces various flats, tubular and coated products to cater to the Power, Oil & Gas and Packaging sectors. It gets iron ore from its captive iron ore mine at Barsua. It has planned capex of INR118b to enhance its saleable steel capacity from 2.1mtpa to 4mtpa. It is also adding coke oven battery, sinter plant, blast furnace V (2.9mtpa), plate mill and is augmenting SMS II. The coke oven battery and sinter plant have already started. The scheduled commissioning date for most of its facilities is March 2013 and we expect enhanced capacity to run at 32% utilization in FY14, the first year of operations. According to our calculations, the project will have an NPV of –INR59b, with an IRR of 5.4% in the optimistic scenario. The NPV will reduce further to –INR76b, with an IRR of 2.3% in the base case scenario.

Free cash flow to firm (INR m)

		FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY39	
a. EBITDA		2,439	4,877	6,503	7,722	7,722	7,722	7,722	7,722	
b. Depreciation		4,725	4,772	4,820	4,868	4,917	4,966	5,015	6,059	
c. NOPLAT=(a-b)*(1-Tax rate)		-1,829	84	1,347	2,284	2,245	2,205	2,166	1,164	
d. Capex		0	-1,181	-1,193	-1,205	-1,217	-1,229	-1,241	-1,500	
e. change in Working Capital		-2,187	-2,187	-1,458	-1,093	0	0	0	0	**Terminal**
FCFF (c+b+d+e)	**-118,120**	**709**	**1,488**	**3,516**	**4,853**	**5,944**	**5,942**	**5,940**	**5,724**	**value**
Present Value (Cumulative)	-75,598	31,302	35,238	38,698	40,616	41,466	41,344	41,208	32,881	31,642

Source: Company, MOSL

Rourkela Steel Plant: Net present value (USD million)

Iron ore USD/T	Coking coal prices USD/ton										
	90	**110**	**130**	**150**	**170**	**190**	**210**	**230**	**250**	**270**	**290**
60	(1,866)	(1,868)	(1,870)	(1,873)	(1,875)	(1,878)	(1,880)	(1,883)	(1,885)	(1,888)	(1,890)
70	(1,721)	(1,723)	(1,726)	(1,728)	(1,731)	(1,733)	(1,736)	(1,738)	(1,741)	(1,743)	(1,745)
80	(1,576)	(1,579)	(1,581)	(1,584)	(1,586)	(1,589)	(1,591)	(1,594)	(1,596)	(1,598)	(1,601)
90	(1,432)	(1,434)	(1,437)	(1,439)	(1,442)	(1,444)	(1,447)	(1,449)	(1,451)	(1,454)	(1,456)
100	(1,287)	(1,290)	(1,292)	(1,295)	(1,297)	(1,299)	(1,302)	(1,304)	(1,307)	(1,309)	(1,312)
110	(1,143)	(1,145)	(1,148)	(1,150)	(1,152)	(1,155)	(1,157)	(1,160)	(1,162)	(1,165)	(1,167)
120	(998)	(1,001)	(1,003)	(1,005)	(1,008)	(1,010)	(1,013)	(1,015)	(1,018)	(1,020)	(1,023)

Source: MOSL

Rourkela Steel Plant: Internal rate of return (IRR, %)

Iron ore USD/T	Coking coal prices USD/ton										
	90	**110**	**130**	**150**	**170**	**190**	**210**	**230**	**250**	**270**	**290**
60	-	-	-	-	-	-	-	-	-	-	-
70	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	(0.0)	(0.0)	(0.0)
80	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7
90	3.4	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
100	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.6	4.6	4.6
110	6.0	6.0	6.0	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
120	7.2	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.0

Source: MOSL

Our sensitivity analysis indicates that RSP's expansion and modernization will result in negative NPV for the most likely range of iron ore and coking coal prices. The NPV turns positive at iron ore realization of USD161/ton due to the benefits of SAIL's 100% iron ore integration. NPV sensitivity to coking coal prices is low, as SAIL depends upon external sourcing of coking coal. Any change in coking coal prices also translates into similar change in steel realization.

■ ISSCO Steel Plant (ISP)

The ISSCO Steel Plant (ISP) has saleable steel capacity of 0.3mtpa. It produces steel structures, special sections as well as pig iron. It gets metallurgical coke from captive mines at Chasnalla and Jitpur, and thermal coal from captive mines at Gua. It is also developing mines at Chiria. It has planned capex of INR118b to enhance saleable steel capacity from 0.3mtpa to 2.4mtpa. It is also adding coke oven battery, sinter plant, blast furnace (2.7mtpa), BOF, billet caster, HSM, bar mill and wire rod mill. The coke oven battery and sinter plant have already started. Commissioning of individual facilities began in May 2012, while the major facilities are expected to be commissioned by March 2013. We expect its capacity to run at 25% utilization in FY14, the first year of operations. According to our calculations, the project will have an NPV of –INR94b, with an IRR of 3.9% in the optimistic scenario. The NPV will further reduce to –INR115b, with an IRR of 0.6% in the base case scenario.

Free cash flow to firm (INR m)

		FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY39	
a. EBITDA		2,082	5,206	6,941	8,329	8,329	8,329	8,329	8,329	
b. Depreciation		6,563	6,629	6,695	6,762	6,830	6,898	6,967	8,417	
c. NOPLAT=(a-b)*(1-Tax rate)		-3,585	-1,139	197	1,254	1,200	1,145	1,090	-61	
d. Capex		0	-1,641	-1,657	-1,674	-1,691	-1,707	-1,724	-2,083	
e. change in Working Capital		-2,187	-3,280	-1,822	-1,458	0	0	0	0	**Terminal**
FCFF (c+b+d+e)	**-164,080**	**792**	**569**	**3,412**	**4,884**	**6,339**	**6,335**	**6,332**	**6,272**	**Value**
Present Value (Cumulative)	-114,706	32,350	36,360	40,896	43,226	44,411	44,308	44,195	36,022	34,664

Source: Company, MOSL

ISSCO Steel Plant: Net present value (USD million)

Iron ore USD/T	Coking coal prices USD/ton										
	90	110	130	150	170	190	210	230	250	270	290
60	(2,743)	(2,746)	(2,749)	(2,752)	(2,755)	(2,758)	(2,761)	(2,764)	(2,767)	(2,770)	(2,773)
70	(2,563)	(2,566)	(2,569)	(2,572)	(2,575)	(2,578)	(2,581)	(2,584)	(2,587)	(2,590)	(2,593)
80	(2,383)	(2,386)	(2,389)	(2,392)	(2,395)	(2,398)	(2,401)	(2,404)	(2,407)	(2,410)	(2,413)
90	(2,203)	(2,206)	(2,209)	(2,212)	(2,215)	(2,218)	(2,221)	(2,224)	(2,227)	(2,230)	(2,233)
100	(2,023)	(2,026)	(2,029)	(2,032)	(2,035)	(2,038)	(2,041)	(2,044)	(2,047)	(2,050)	(2,053)
110	(1,843)	(1,846)	(1,849)	(1,852)	(1,855)	(1,858)	(1,861)	(1,864)	(1,867)	(1,870)	(1,873)
120	(1,663)	(1,666)	(1,669)	(1,672)	(1,675)	(1,678)	(1,681)	(1,684)	(1,687)	(1,690)	(1,693)

Source: MOSL

ISSCO Steel Plant: Internal rate of return (IRR, %)

Iron ore USD/T	Coking coal prices USD/ton										
	90	110	130	150	170	190	210	230	250	270	290
60	-	-	-	-	-	-	-	-	-	-	-
70	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)
80	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
90	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
100	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
110	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.3	4.3	4.3
120	5.6	5.6	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5

Source: MOSL

Our sensitivity analysis indicates that ISP's expansion and modernization will result in negative NPV for the most likely range of iron ore and coking coal prices. The NPV turns positive at iron ore realization of USD182/ton due to the benefits of SAIL's 100% iron ore integration. NPV sensitivity to coking coal prices is low, as SAIL depends upon external sourcing of coking coal. Any change in coking coal prices also translates into similar change in steel realization.

■ Capacity upgradation at BSL, DSP, VISL, SSP and ASP

Apart from adding capacity through new furnaces in BSP, RSP and ISP, SAIL is also increasing capacity at the following facilities through modernization and repair. Total capacity expansion at BSL, DSP, VISL, ASP and SSP combined is 1.5mtpa of saleable steel. Although individual facilities have started commissioning, we expect meaningful contribution to begin from FY16.

Bokaro Steel Plant (BSL): BSL has saleable steel capacity of 3.3mtpa. It produces mainly flat products and special grade steel. It gets iron ore from its captive iron ore mines at Kiriburu, Meghahataburu, Bhawanathpur, Tulsidamar and Kuteshwar. It has planned capex of INR63.3b to enhance saleable steel capacity from 3.3mtpa to 4.2mtpa. It is adding a CRM facility while upgrading/rebuilding two coke oven batteries, two blast furnaces, SMS, HSM and augmenting raw material handling facilities.

Durgapur Steel Plant (DSP): DSP has saleable steel capacity of 1.8mtpa. Its product mix includes mainly semis, structural and merchant products. It gets iron ore from captive mines at Bolani in Orissa. It is expanding capacity to 2.1mtpa through modernization and upgradation of existing facilities. It is rebuilding its coke oven battery while adding bloom caster, structural mill, oxygen plant and is upgrading raw material handling facilities. Total capital outlay for the project is INR29b.

Visvesvaraya Iron and Steel Plant (VISL): VISL has saleable steel capacity of 0.1mtpa, which is being expanded to 0.2mtpa. It produces special alloy and forged steel. It sources iron ore from NMDC.

Alloy Steels Plant (ASP): ASP has saleable steel capacity of 0.2mtpa, which is being expanded to 0.4mtpa. It produces special alloy and stainless steel. SAIL recently signed an MoU with Kobe Steel to set up a 0.5mtpa iron ore nugget plant at ASP based on ITmk3 technology.

Salem Steel Plant (SSP): SSP has saleable steel capacity of 0.3mtpa, which is being expanded to 0.34mtpa. It is adding SMS and CRM facilities, and is augmenting other facilities, for which entire capex of INR19b has already been incurred. It produces mainly stainless steel products.

We estimate that SAIL's various upgradation measures at BSL, DSP, SSP, ASP and VISL will involve cumulative capex of INR111b. According to our calculations, these projects will have an NPV of –INR58b, with an IRR of 4.1% in the optimistic scenario, where we assume iron ore prices of USD106/ton. The NPV will further reduce to –INR73b, with an IRR of 0.7% in the base case scenario, where we assume iron ore prices of USD83/ton.

Free cash flow to firm (INR m)

	FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY39	
a. EBITDA			5,770	5,770	5,770	5,770	5,770	5,770	
b. Depreciation			4,441	4,485	4,530	4,575	4,621	5,583	
c. NOPLAT=(a-b)*(1-Tax rate)			1,063	1,028	992	956	919	131	
d. Capex			0	-1,110	-1,121	-1,133	-1,144	-1,382	
e. change in Working Capital			-5,467	0	0	0	0	0	**Terminal**
FCFF (c+b+d+e)		**-111,020**	**37**	**4,403**	**4,401**	**4,399**	**4,396**	**4,332**	**value**
Present Value (Cumulative)		-73,086	27,087	30,853	30,782	30,704	30,617	24,881	23,943

Source: Company, MOSL

Net present value (USD million)

Iron ore USD/T	Coking coal prices USD/ton										
	90	110	130	150	170	190	210	230	250	270	290
60	(1,787)	(1,790)	(1,792)	(1,794)	(1,796)	(1,799)	(1,801)	(1,803)	(1,805)	(1,808)	(1,810)
70	(1,655)	(1,657)	(1,659)	(1,662)	(1,664)	(1,666)	(1,668)	(1,671)	(1,673)	(1,675)	(1,677)
80	(1,522)	(1,525)	(1,527)	(1,529)	(1,531)	(1,534)	(1,536)	(1,538)	(1,540)	(1,543)	(1,545)
90	(1,390)	(1,392)	(1,394)	(1,397)	(1,399)	(1,401)	(1,403)	(1,406)	(1,408)	(1,410)	(1,412)
100	(1,257)	(1,260)	(1,262)	(1,264)	(1,266)	(1,269)	(1,271)	(1,273)	(1,275)	(1,278)	(1,280)
110	(1,125)	(1,127)	(1,129)	(1,131)	(1,134)	(1,136)	(1,138)	(1,141)	(1,143)	(1,145)	(1,147)
120	(992)	(994)	(997)	(999)	(1,001)	(1,003)	(1,006)	(1,008)	(1,010)	(1,013)	(1,015)

Internal rate of return (IRR, %)

Iron ore USD/T	Coking coal prices USD/ton										
	90	110	130	150	170	190	210	230	250	270	290
60	-	-	-	-	-	-	-	-	-	-	-
70	(1.6)	(1.6)	(1.6)	(1.6)	(1.6)	(1.7)	(1.7)	(1.7)	(1.7)	(1.7)	(1.7)
80	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
90	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
100	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2	3.2
110	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.5
120	5.9	5.9	5.9	5.9	5.8	5.8	5.8	5.8	5.8	5.8	5.8

Source: MOSL

Our sensitivity analysis indicates that capacity upgradation at BSL, DSP, VISL, SSP and ASP will result in negative NPV for the most likely range of iron ore and coking coal prices. The NPV turns positive at iron ore realization of USD170/ton due to the benefits of SAIL's 100% iron ore integration. NPV sensitivity to coking coal prices is low, as SAIL depends upon external sourcing of coking coal. Any change in coking coal prices also translates into similar change in steel realization.

- **Value addition, development of new mine, technological upgradation**

Apart from adding capacity through new furnaces and upgradation/repair of old facilities, SAIL has also undertaken various cost saving measures such as improving product mix, augmenting old mines, developing new mines and technological upgradation. The cumulative capex for such measures is close to INR155b. We expect cost savings of USD30/ton on existing production on account of these measures. According to our calculations, these initiatives will have an NPV of –INR39b, with an IRR of 9.4%.

Free cash flow to firm (INR m)

	FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY39	
a. EBITDA			20,255	20,255	20,255	20,255	20,255	20,255	
b. Depreciation			6,218	6,281	6,343	6,407	6,471	7,818	
c. NOPLAT=(a-b)*(1-T)			11,230	11,180	11,130	11,079	11,028	8,707	
d. Capex			0	-1,555	-1,570	-1,586	-1,602	-1,935	**Terminal**
FCFF (c+b+d)		**-155,460**	**17,448**	**15,906**	**15,903**	**15,900**	**15,897**	**14,589**	**Value**
Present Value (Cumulative)		-38,525	111,218	109,386	108,840	108,220	107,515	83,847	80,696

Value addition: Net present value (USD million)

Margin improvement due to investment in Continuous casting (USD/ton)										
5	10	15	20	25	30	35	40	45	50	55
(2,426)	(2,098)	(1,770)	(1,442)	(1,114)	(786)	(458)	(130)	198	526	854

Value addition: Internal rate of return (IRR, %)

Coking coal prices USD/ton										
5	10	15	20	25	30	35	40	45	50	55
-	(0.1)	2.7	5.2	7.4	9.4	11.3	13.2	15.1	16.9	18.7

Source: MOSL

Financials and Valuation

Income Statement (Consolidated) (INR Million)

Y/E March	2011	2012	2013E	2014E	2015E
Net Sales	**433,994**	**466,582**	**443,974**	**488,067**	**523,997**
Change (%)	7.0	7.5	-4.8	9.9	7.4
Total Expenditure	354,567	402,541	384,411	404,656	435,510
EBIDTA	**79,427**	**64,041**	**59,563**	**83,411**	**88,488**
Change (%)	-16.0	-19.4	-7.0	40.0	6.1
% of Sales	18.3	13.7	13.4	17.1	16.9
Depreciation	16,030	16,859	21,129	25,197	29,068
EBIT	63,398	47,182	38,434	58,214	59,419
Interest	5,724	7,782	9,091	12,741	16,215
Other income	14,923	16,046	8,037	3,183	1,303
PBT before EO	**72,597**	**55,446**	**37,380**	**48,655**	**44,507**
Extra ordinary Item	1,239	-2,620	-2,151		
PBT	**73,836**	**52,826**	**35,229**	**48,655**	**44,507**
Total Tax	23,696	16,897	12,427	14,079	16,232
Effective Rate (%)	32.1	32.0	35.3	28.9	36.5
Reported PAT	**50,140**	**35,930**	**22,803**	**34,577**	**28,275**
Change (%)	-26.8	-28.3	-36.5	51.6	-18.2
Minority Interest	1.8				
Adjusted PAT	**49,296**	**37,711**	**24,195**	**34,576**	**28,274**
Change (%)	-27.7	-23.5	-35.8	42.9	-18.2

Balance Sheet (Consolidated) (INR Million)

Y/E March	2011	2012	2013E	2014E	2015E
Share Capital	41,304	41,305	41,305	41,305	41,305
Reserves and Surplus	334,823	361,426	374,564	399,475	418,084
Share holders fund	376,127	402,732	415,869	440,780	459,390
Loans	204,751	173,606	237,101	322,169	344,345
Deferred Tax Liability	15,567	17,817	17,817	17,817	17,817
Minority Interest	12				
Capital Employed	596,457	594,155	670,788	780,766	821,552
Gross Fixed Assets	404,391	440,657	490,657	740,657	840,657
Less: Depreciation	238,301	253,014	274,143	299,340	328,408
Net Fixed Assets	**166,091**	**187,643**	**216,514**	**441,317**	**512,249**
Capital WIP	224,220	283,157	353,157	256,157	236,157
Investments	608	685	685	685	685
Curr. Assets, Loans & Advances					
Inventory	115,069	138,989	121,637	133,717	143,561
Sundry Debtors	40,799	48,478	42,573	46,801	50,246
Cash & Bank Balances	177,490	66,623	76,979	47,074	27,084
Interest Receivable/Accrued	25,146	22,669	22,669	22,669	22,669
Loans and Advances	31,549	36,711	36,711	36,711	36,711
Current Liabilities					
Sundry Creditors	32,651	33,236	42,573	46,801	50,246
Other Current Liabilities	91,210	97,603	97,603	97,603	97,603
Provisions	60,654	59,962	59,962	59,962	59,962
Net Current Assets	**205,538**	**122,670**	**100,431**	**82,607**	**72,461**
Application of Funds	**596,457**	**594,155**	**670,788**	**780,766**	**821,552**

E: MOSL Estimates

Financials and Valuation

Ratios (Consolidated)

Y/E March	2011	2012	2013E	2014E	2015E
Basic (INR)					
EPS	**11.9**	**9.1**	**5.9**	**8.4**	**6.8**
Cash EPS	16.0	12.8	10.6	14.5	13.9
Book Value per Share	91.1	97.5	100.7	106.7	111.2
Dividend Per Share	2.4	2.0	2.0	2.0	2.0
Valuation (x)					
P/E		10.2	15.9	11.1	13.6
Cash PE		7.3	8.7	6.4	6.7
EV/EBITDA		7.7	9.1	7.9	7.9
EV/Sales		1.1	1.2	1.4	1.3
EV(USD/Ton)		788	1,196	1,182	1,154
Price to Book Value		1.0	0.9	0.9	0.8
Profitability Ratios (%)					
RoE	13.8	9.7	5.9	8.1	6.3
RoCE (pre-tax)	13.9	10.6	7.3	8.5	7.6
RoIC (pre-tax)	37.2	21.6	15.9	16.2	11.5
Turnover Ratios					
Debtors (Days)	34	38	35	35	35
Inventory (Days)	97	109	100	100	100
Creditors (Days)	34	30	35	35	35
Leverage Ratio					
Debt/Equity (x)	0.1	0.3	0.4	0.6	0.7

Cash Flow Statement (INR Million)

Y/E March	2011	2012	2013E	2014E	2015E
OP/(Loss) before Tax	73,836	52,826	35,229	48,655	44,507
Depreciation & Amort.	16,030	16,859	21,129	25,197	29,068
Interest Paid	5,724	7,782	9,091	12,741	16,215
Direct Taxes Paid	-24,293	-15,234	-11,805	-13,426	-15,547
(Inc)/Dec in Working Capital	-32,517	-27,999	32,594	-12,080	-9,844
CF from Oper. Activity	**38,779**	**34,234**	**86,238**	**61,087**	**64,400**
Other Items	1,247	-1,242	-632	-663	-695
CF after EO Items	**40,026**	**32,993**	**85,606**	**60,424**	**63,704**
(Inc)/Dec in FA & CWIP	-100,595	-95,202	-120,000	-153,000	-80,000
(Inc)/Dec in Misc Exp.	4				
(Pur)/Sale of Invest.	-162	-77			
CF from Inv. Activity	**-100,753**	**-95,279**	**-120,000**	**-153,000**	**-80,000**
Free Cash Flows	-61,974	-61,045	-33,762	-91,913	-15,600
Issue of Shares		1			
Inc / (Dec) in Debt	28,373	-31,145	63,495	85,068	22,176
Interest Paid	-5,724	-7,782	-9,091	-12,741	-16,215
Dividends Paid	-11,617	-9,655	-9,655	-9,655	-9,655
CF from Finan. Activity	**11,032**	**-48,580**	**44,750**	**62,671**	**-3,694**
Inc / (Dec) in Cash	**-49,695**	**-110,867**	**10,356**	**-29,905**	**-19,990**
Add: Opening Balance	227,185	177,490	66,623	76,979	47,074
Closing Balance	**177,490**	**66,623**	**76,979**	**47,074**	**27,084**

E: MOSL Estimates

Sesa Sterlite

BSE SENSEX	S&P CNX
19,581	5,951

Bloomberg	SESA IN
Equity Shares (m)	869.1
52-Week Range (INR)	270/153
1,6,12 Rel. Perf. (%)	8/-11/-5
M.Cap. (INR b)	173.0
M.Cap. (USD b)	3.1

Valuation summary (INR b)

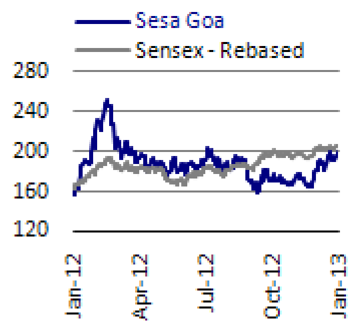
Y/E March	2013E	2014E	2015E
Sales	722.0	731.8	759.0
EBITDA*	181.1	184.9	188.5
NP	116.7	99.2	97.2
Adj. EPS (INR)	39.4	33.5	32.8
EPS Gr(%)	26.9	-3.5	-16.7
BV/Sh. (INR)	72.7	96.8	120.5
RoE (%)	15.9	12.2	11.0
RoCE (%)	24.1	13.0	11.9
Payout (%)	10.4	12.2	12.5
Valuation			
P/E (x)	5.1	5.9	6.1
P/BV	0.8	0.7	0.6
EV/EBITDA (x)*	5.7	5.4	5.1
Div. Yield (%)	3.1	3.1	3.1

*Attributable

Shareholding pattern (%)

As on	Sep-12	Jun-12	Sep-11
Promoter	55.1	55.1	55.1
Dom. Inst	4.2	4.3	5.2
Foreign	27.0	26.4	24.1
Others	13.7	14.1	15.7

Stock performance (1 year)



CMP: INR199 | **TP: INR205** | **Buy**

Implied valuation of CWIP at 82% discount

Simpler group structure will re-rate stock; maintain Buy

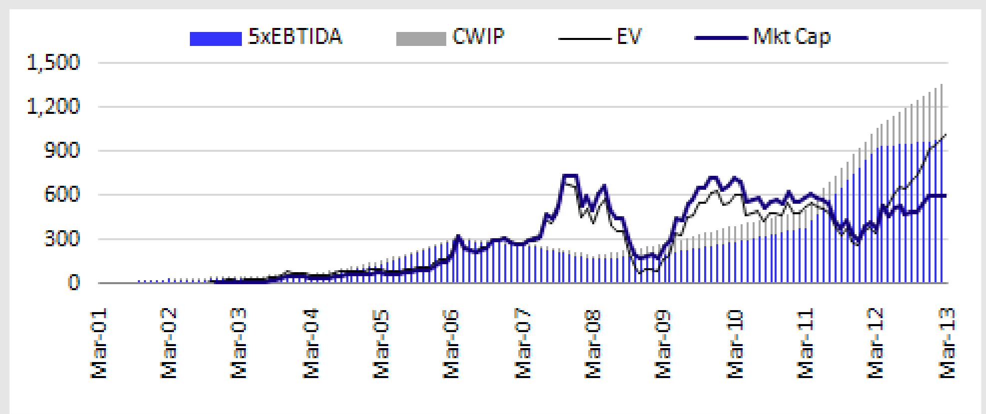
- **Sesa-Sterlite has witnessed considerable de-rating due to its burgeoning CWIP. Financial stress on the merged entity's balance sheet due to leveraged buyout of Cairn India and Vedanta Aluminum acquisition, and temporary suspension of iron ore mining in Goa has resulted in further de-rating.**
- **Sesa-Sterlite's CWIP/MCap ratio has ballooned to 67%. The implied valuation of its CWIP is at 82% discount. With capex intensity peaking and LME prices at the bottom from the margins perspective, we do not anticipate further increase in the discount.**
- **The highly probable buyout of remaining stake in Hindustan Zinc and its subsequent merger with Sesa-Sterlite will relieve balance sheet stress and re-rate the stock.**
- **Our two alternative valuation approaches suggest equity value of INR182/share and INR165/share in the base case, and INR331/share and INR248/share in the optimistic case. We maintain Buy.**

The Sesa-Sterlite group has undertaken projects totaling INR797b, of which projects worth INR522b will not be contributing to the merged entity's earnings even in FY14 due to project delays. By the end of FY13, net debt will be INR436b and CWIP will be INR398b. By the end of FY14, CWIP will increase further to INR466b, while net debt will increase to INR706b (ex-Cairn India cash) if the minority stakes in Hindustan Zinc and Balco are also bought out in all cash offer and merged with Sesa-Sterlite.

CWIP/MCap at 67%; CWIP/EV at 39%

CWIP/MCap has increased to 67% and CWIP/EV has increased to 39%. These ratios are much beyond the acceptable range of 20-30% for growth companies. Earnings have grown through both the organic and inorganic routes; yet the market cap has come under pressure (despite equity infusion of USD3.5b-4b) due to investment in low IRR projects and leveraged buyout of Cairn India. High debt in low cash flow businesses and non-fungible surplus cash in Hindustan Zinc and Cairn India has de-rated the stock.

CWIP burgeoning (INR b)



Source: Company, MOSL

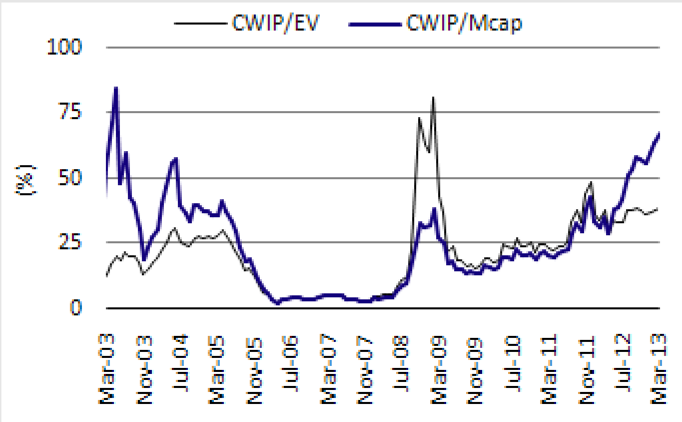
Summary: Projects of Sesa-Sterlite (INR m)

Project	CapEx Total	CapEx O/S post FY14	NPV	IRR (%)	Remarks
Lanjigarh (1.6mtpa Alumina +90MW CPP)	57,750		-37,171	-0.2	Operating asset, LME=USD2000/t
VAL phase 1 (500ktpa Ali smlter + 1215MW CPP)	113,465		-74,033	-0.1	Operating asset, LME=USD2000/t
SEL (2400MW)	104,500		-13,855	7.9	Operating asset, rate of INR3.3/kwh
Sesa Goa			93,767		Operating asset, but closed due to mining ban
VAL phase 2 (1.25mtpa Ali)	253,000	74,250	-257,796		Project is put on hold because of cash losses at current LME
Balco (325ktpa + 600MW)	73,975		-19,352	7.8	Near completion
Balco 600MW surplus CPP	34,375		-7,531	7.6	Near completion
Talwandi Sabo (1980MW)	118,250	35,475	-42,413	5.4	commissioning during FY14-15
Liberia	42,075	37,868	-13,381	5.8	Production start in FY15
Total	**797,390**	**147,593**	**-371,765**		
Projects*	521,675	147,593	-266,223	3.3	

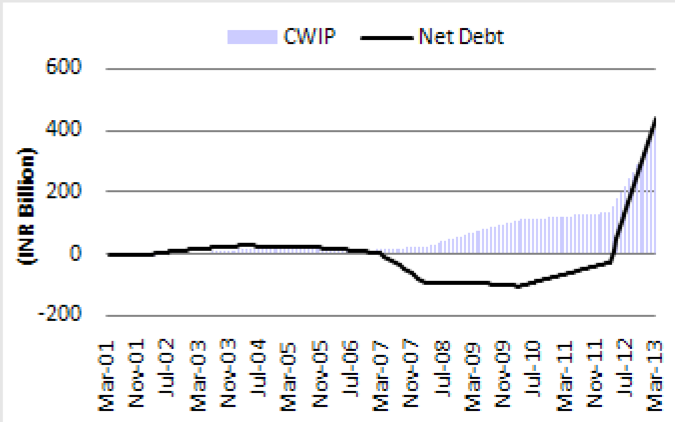
*no contribution in earnings until FY14

Source: Company, MOSL

Ratios have started rising



Net Debt increasing in sync with CWIP



Target price calculations (INR m)

S.N.	Project	FY14	FY15	FY16	FY17	FY18	FY19	FY20
		Equity value based on 5xEV/EBTIDA (CapEx & cash flows adjusted in debt)						
1	Lanjigarh (1.6mtpa Alumina +90MW CPP)		10,805	13,506	13,506	13,506	13,506	13,506
2	VAL phase 1 (500ktpa Ali smlter + 1215MW CPP)		22,719	20,698	18,029	19,986	22,139	24,506
3	SEL (2400MW)		89,482	89,592	87,272	83,533	80,492	77,396
4	Sesa Goa		105,773	111,038	110,341	109,583	108,759	107,862
5	VAL phase 2 (1.25mtpa Ali) --- Project is on hold ---							
6	Balco (325ktpa + 600MW)		28,388	37,817	39,446	40,105	40,830	41,627
7	Balco 600MW surplus CPP		21,226	25,876	28,201	28,201	28,201	27,675
8	Talwandi Sabo (1980MW)		85,752	87,399	85,124	81,444	78,403	75,343
9	Liberia		1,801	3,602	7,205	14,410	21,615	21,615
	Total equity in new projects (4+5+6+7+8+9)		242,939	265,733	270,316	273,743	277,807	274,122
	add:5xEV/EBITDA (excl. Cairn)	684,036	684,036	684,036	684,036	684,036	684,036	684,036
	add: Cairn India equity (58.9%)	392,950	437,760	487,680	543,292	605,247	674,266	751,156
	Less: Net Debt*	706,356	722,305	706,076	677,613	630,766	579,758	523,655
	Net Equity value for company (incl. 1+2+3+4)	370,629	642,430	731,373	820,031	932,260	1,056,352	1,185,658
	No. of share (m)	2,965	2,965	2,965	2,965	2,965	2,965	2,965
	TP (INR/share)		217	247	277	314	356	400
	TP (discounting back from FY20@Ke)		**165**	**197**	**235**	**281**	**335**	**400**
	Current market Cap		590,035	590,035	590,035	590,035	590,035	590,035
	Upside (%) w.r.t. CMP		9	24	39	58	79	101

*(incl. HZL&Balco buyout; Ex Cairn)

Source: Company, MOSL

Expect stock re-rating; maintain Buy

Applying our two alternative approaches to valuation, we find that Sesa-Sterlite has significant upside in 2 of the 4 situations.

1. **SOTP:** We have valued operational assets (ex Cairn India) at an EV of 5x one-year forward EBITDA. We have adjusted the CWIP against the NPV of the projects to capture their intrinsic value. For Cairn India, we have used our Oil & Gas team's DCF-based valuation of INR350/share. In the base case scenario, where we assume LME aluminum lead and zinc prices of USD2,000/ton and iron ore prices of USD83/ton, we arrive at a value of INR182/share for Sesa-Sterlite. In the optimistic scenario, where we assume LME aluminum, lead and zinc prices of USD2,500/ton and iron ore prices of USD106/ton, we arrive at a value of INR331/share.
2. **FY20 valuations discounted for five years:** We arrive at FY20 valuations to factor in completion of all ongoing projects and the possible delays. We have discounted these valuations backwards for five years by Sesa-Sterlite's cost of equity of 19.3%. We have added the value of Cairn India stake separately. In the base case scenario, where we assume LME aluminum, lead and zinc prices of USD2,000/ton and iron ore prices of USD83/ton, we arrive at a value of INR165/share. In the optimistic scenario, where we assume LME aluminum, lead and zinc prices of USD2,500/ton and iron ore prices of USD106/ton, we arrive at a value of INR248/share.

Assumptions

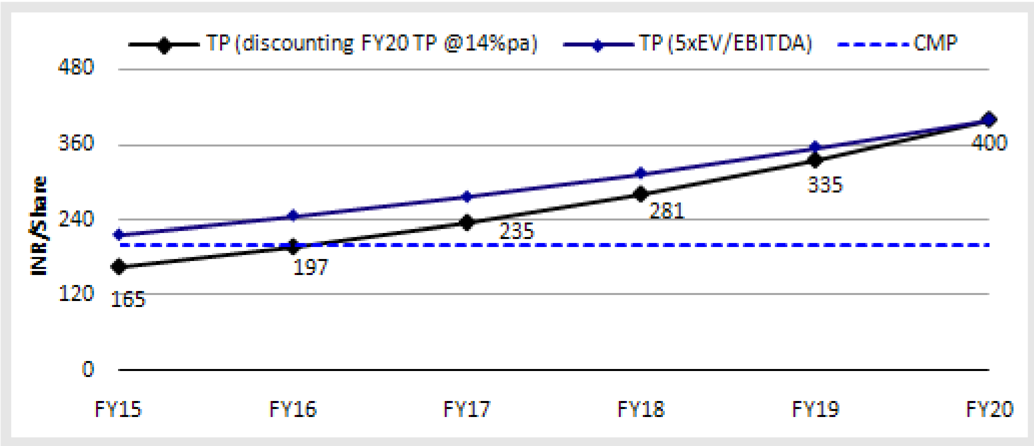
- Projects worth INR522b, which will not be contributing to FY14 earnings, will have a combined weighted average IRR (WAIRR) of just 3.3% and negative NPV (-INR266b after adjusting for the unspent INR74b on the stalled VAL phase-2 project). Therefore, we believe it is fair to adjust this amount from the CWIP in the valuation of Sesa-Sterlite.
- Sesa-Sterlite has undertaken numerous projects to significantly enhance its aluminum, energy and iron ore capacities. The capex is heavily skewed in favor of aluminum (64% share of capex), where NPV is significantly negative due to suppressed LME prices and low level of backward integration. Most of these projects have very low IRR, particularly VAL phase-2, which will incur cash losses at current LME prices. The valuation of Sesa-Sterlite will continue to be undermined by these projects until and unless it is able to get coal and bauxite mining projects operational.
- We believe that Sesa-Sterlite will be able to buy out minority stakes in Hindustan Zinc and Balco in the near term, given the government's eagerness to meet its divestment targets. We have, therefore, valued Sesa-Sterlite assuming 100% buyout of Hindustan Zinc and Balco. We have assumed buyout at the upper limit (to be conservative) of INR249b to achieve 100% stake in both Hindustan Zinc and Balco.

SOTP Valuation

FY14 EBITDA	129,895
EV/EBITDA	5
Enterprise Value(1x2)	649,475
add: Cairn	392,950
add: Sesa Goa DCF	105,773
add: CWIP	364,538
add: NPV	-266,223
less: Net Debt	706,356
Equity value	540,156
Equity value per share	182

Key assumption: iron ore at USD83/t; ali at USD2000/t

Target Price (TP): Optimistic scenario

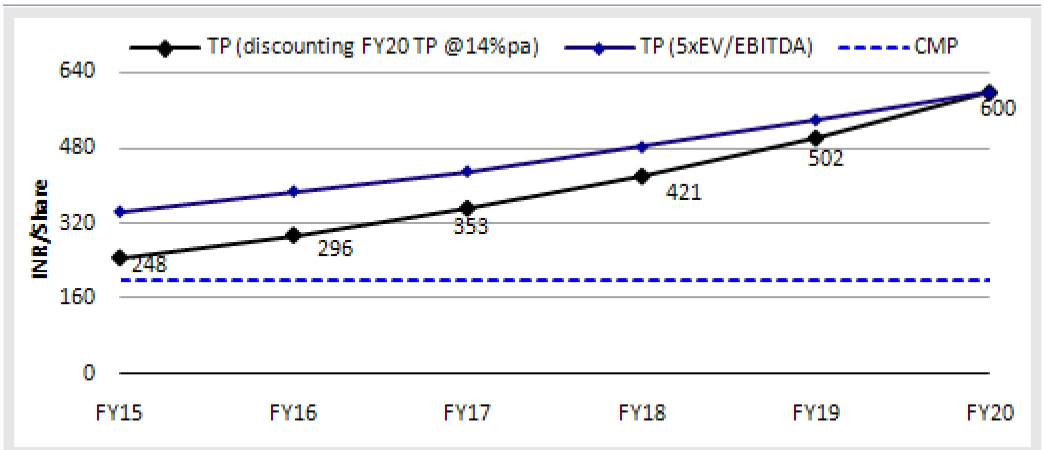


SOTP Valuation

FY14 EBITDA	176,107
EV/EBITDA	5
Enterprise Value(1x2)	880,537
add: Cairn	392,950
add: Sesa Goa DCF	163,436
add: CWIP	364,538
add: NPV	-151,958
less: Net Debt	668,031
Equity value	981,471
Equity value per share	331

Key assumption: iron ore at USD106/t; ali at USD2500/t

Target Price (TP): Base case



Source: MOSL

■ VAL Phase-2 (1.25mtpa expansion): NPV of –INR258b

Vedanta Aluminum (VAL) plans to expand its smelting capacity at Jharsuguda by 1.25mtpa from the current 0.5mtpa. Total capex for the project is INR253b (including partial work on refinery expansion). About INR179b has already been incurred, but the project has been halted due to falling IRR and uncertainty regarding bauxite and coal. The project will not be able to recover its cash cost due to absence of captive bauxite and coal, and suppressed LME prices. VAL's earlier attempt to get cheap bauxite through Niyamgiri mines ran into regulatory hurdles. Total project NPV is -INR258b due to cash losses at current LME prices. We believe Sesa-Sterlite is better off not committing any more capital until and unless it has visibility of cheaper raw material supply and higher LME prices.

Free cash flow to firm (INR m)

	FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY37	
a. EBITDA		-894	-1,787	-2,681	-3,574	-4,468	-5,361	-10,722	
b. Depreciation		10,815	11,517	12,227	12,943	13,666	13,803	16,347	
c. NOPLAT=(a-b)*(1-Tax rate)		-9,367	-10,644	-11,926	-13,214	-14,507	-15,331	-21,655	
d. Capex		-17,380	-17,554	-17,729	-17,907	-18,086	-3,417	-4,046	**Terminal**
e. change in Working Capital		-1,207	-1,207	-1,207	-1,207	-1,207	-1,207	0	**value**
FCFF (c+b+d+e)	**-178,750**	**-17,138**	**-17,887**	**-18,635**	**-19,384**	**-20,133**	**-6,152**	**-9,355**	**-48,279**

Source: Company, MOSL

Project NPV to remain negative unless it gets cheaper power and LME prices increase

Power INR/kwh (Fuel + O&M cost)	LME USD/ton										
	1,600	**1,700**	**1,800**	**1,900**	**2,000**	**2,250**	**2,500**	**2,700**	**2,800**	**2,900**	**3,000**
1.0	(3,254)	(3,008)	(2,762)	(2,516)	(2,269)	(1,654)	(1,039)	(546)	(300)	(54)	192
1.5	(3,780)	(3,533)	(3,287)	(3,041)	(2,795)	(2,180)	(1,564)	(1,072)	(826)	(580)	(334)
2.0	(4,305)	(4,059)	(3,813)	(3,567)	(3,321)	(2,705)	(2,090)	(1,598)	(1,351)	(1,105)	(859)
2.5	(4,831)	(4,585)	(4,339)	(4,092)	(3,846)	(3,231)	(2,616)	(2,123)	(1,877)	(1,631)	(1,385)
3.0	(5,356)	(5,110)	(4,864)	(4,618)	(4,372)	(3,756)	(3,141)	(2,649)	(2,403)	(2,157)	(1,910)
3.5	(5,882)	(5,636)	(5,390)	(5,144)	(4,897)	(4,282)	(3,667)	(3,174)	(2,928)	(2,682)	(2,436)
4.0	(6,408)	(6,161)	(5,915)	(5,669)	(5,423)	(4,808)	(4,192)	(3,700)	(3,454)	(3,208)	(2,962)

Source: MOSL

Key assumptions

USD/INR =	55.0	Cost of equity =	19%
CPC/LME =	8%	Interest rate =	10%
Alumina/LME =	15%	Debt/Equity =	70/30
Import duty =	5%	Tax rate =	20%

Source: MOSL

■ 1mtpa Lanjigarh Refinery: NPV of -INR37b; IRR of -0.2%

VAL operates a 1mtpa alumina refinery at Lanjigarh, Odisha along with 3x30MW coal-fired cogeneration plant. It has signed an MoU with the Odisha government under which it will receive 150mtpa of bauxite through Orissa Mining Corporation (OMC). However, OMC so far has not been able to supply bauxite for the refinery. As a result, the refinery is operating at low capacity utilization. VAL had earlier planned to expand the refinery capacity to 5mtpa (60% construction work completed), but has deferred the expansion due to lack of regulatory clearances for the proposed expansion.

To achieve raw material security, it has invested INR2b for 24.7% stake in L&T promoted Raykal Aluminium, which holds bauxite mining licenses in Odisha. It has the right to acquire 100% stake over a period of time for INR18.1b, subject to achievement of certain milestones. However, there is a long way to go before mining can start; therefore, we have not factored this in our estimates.

The total project cost is estimated to be INR58b. Our calculations indicate that the project delivers an NPV of -INR37b, with an IRR of -0.2%, owing to lack of captive bauxite. However, captive bauxite mine coupled with higher realizations might lead to positive NPV.

Free cash flow to firm (INR m)

		FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY37	
a. EBITDA			2,161	2,701	2,701	2,701	2,701	2,701	2,701	
b. Depreciation			2,333	2,356	2,380	2,404	2,428	2,452	2,904	
c. NOPLAT=(a-b)*(1-Tax rate)			-138	276	257	238	219	199	-142	
d. Capex			-578	-583	-589	-595	-601	-607	-719	**Terminal**
e. change in Working Capital			-434	-434	0	0	0	0	0	**value**
FCFF (c+b+d+e)		**-57,750**	**1,183**	**1,615**	**2,048**	**2,047**	**2,046**	**2,044**	**2,043**	**10,546**
Present Value (Cumulative)	-37,171	16,340	17,020	17,347	17,277	17,200	17,116	10,451	9,527	

Source: Company, MOSL

NPV INRb

Bauxite USD/T	Alumina USD/ton										
	160	200	240	280	320	360	400	440	480	520	560
10	(1,448)	(1,196)	(944)	(692)	(440)	(188)	64	316	568	820	1,072
15	(1,544)	(1,291)	(1,039)	(787)	(535)	(283)	(31)	221	473	725	977
20	(1,639)	(1,387)	(1,134)	(882)	(630)	(378)	(126)	126	378	630	882
30	(1,829)	(1,577)	(1,325)	(1,073)	(820)	(568)	(316)	(64)	188	440	692
40	(2,019)	(1,767)	(1,515)	(1,263)	(1,011)	(759)	(506)	(254)	(2)	250	502
50	(2,209)	(1,957)	(1,705)	(1,453)	(1,201)	(949)	(697)	(445)	(193)	60	312
60	(2,399)	(2,147)	(1,895)	(1,643)	(1,391)	(1,139)	(887)	(635)	(383)	(131)	121

Source: MOSL

- **VAL Phase-1 (500ktpa smelter; 9x135MW CPP): NPV of –INR74b; IRR of –0.1%**

VAL operates a 500ktpa smelter and 9x135MW CPP at Jharsuguda, Odisha. It has spent INR113b on the project. It is adding 1.25mtpa smelter capacity, which is 80% complete, but is currently on hold due to cash losses at current LME prices. According to our calculations, the project has an NPV of –INR74b on account of lack of backward integration and suppressed LME prices. The project IIR is –0.1%; VAL will continue to make losses in the current pricing environment. However, the project becomes NPV positive on lower cost of power (INR1/KWH) even at current LME prices. The associated 9x135MW power plant has partial coal linkage from Coal India.

Free cash flow to firm (INR m)

	FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY37	
a. EBITDA	4,103	4,544	4,140	3,606	3,997	4,428	4,901	5,573	
b. Depreciation	4,584	4,630	4,676	4,723	4,770	4,818	4,866	5,763	
c. NOPLAT=(a-b)*(1-Tax rate)	-385	-69	-429	-894	-618	-312	28	-152	
d. Capex	-1,135	-1,146	-1,157	-1,169	-1,181	-1,193	-1,204	-1,426	
e. change in Working Capital	489	-49	45	59	-43	-48	-52	0	**Terminal**
FCFF (c+b+d+e)	**-113,465**	**3,366**	**3,134**	**2,719**	**2,928**	**3,266**	**3,637**	**4,184**	**value**
Present Value (Cumulative)	-74,033	30,990	31,157	31,576	32,458	33,231	33,755	21,208	19,442

Source: Company, MOSL

NPV (INR b)

Power INR/kwh (Fuel + O&M cost)	LME USD/ton										
	1,600	1,700	1,800	1,900	2,000	2,250	2,500	2,700	2,800	2,900	3,000
1.0	(956)	(745)	(534)	(322)	(111)	417	945	1,367	1,579	1,790	2,001
1.5	(1,368)	(1,156)	(945)	(734)	(523)	5	533	956	1,167	1,378	1,589
2.0	(1,779)	(1,568)	(1,357)	(1,146)	(934)	(406)	122	544	755	967	1,178
2.5	(2,191)	(1,980)	(1,769)	(1,557)	(1,346)	(818)	(290)	133	344	555	766
3.0	(2,603)	(2,391)	(2,180)	(1,969)	(1,758)	(1,230)	(702)	(279)	(68)	143	355
3.5	(3,014)	(2,803)	(2,592)	(2,381)	(2,169)	(1,641)	(1,113)	(691)	(480)	(268)	(57)
4.0	(3,426)	(3,215)	(3,003)	(2,792)	(2,581)	(2,053)	(1,525)	(1,102)	(891)	(680)	(469)

VAL Phase-1: Internal rate of return (IRR, %)

Power INR/kwh (Fuel + O&M cost)	LME USD/ton										
	1,600	1,700	1,800	1,900	2,000	2,250	2,500	2,700	2,800	2,900	3,000
1.0	3.9	5.8	7.5	9.1	10.6	14.2	17.7	20.4	21.7	23.1	24.4
1.5	(0.4)	2.0	4.1	5.9	7.6	11.4	15.0	17.7	19.1	20.4	21.8
2.0	-	-	(0.3)	2.1	4.2	8.5	12.2	15.1	16.4	17.8	19.2
2.5	-	-	-	-	(0.1)	5.2	9.3	12.3	13.7	15.1	16.5
3.0	-	-	-	-	-	1.3	6.2	9.4	10.9	12.4	13.8
3.5	-	-	-	-	-	-	2.5	6.3	8.0	9.5	11.0
4.0	-	-	-	-	-	-	(2.4)	2.7	4.6	6.4	8.0

Source: MOSL

Balco (325ktpa + 600MW) expansion: NPV of –INR19.4b; IRR of 7.8%

Balco is expanding its smelter capacity by 325ktpa and is adding 4x300MW power capacity. We have valued only 2x300MW, which will serve captive requirements, under this head. We have valued the excess 2x300MW power capacity independently. Phase-wise commissioning has begun and the first metal tapping is expected in FY13. The 211mtpa coal block at Durgapur-II/Taraimar is awaiting stage-2 forest clearance. The cost of power is expected to be lower post availability of captive coal. However, it will need to procure alumina from external sources. The total project cost is likely to be INR74b. In the absence of captive coal and at current LME prices, we expect the project to deliver an NPV of –INR19.4b.

Free cash flow to firm (INR m)

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY37	
a. EBITDA			5,678	7,563	7,889	8,021	8,166	8,325	10,111	
b. Depreciation			2,989	3,018	3,049	3,079	3,110	3,141	3,720	
c. NOPLAT=(a-b)*(1-Tax rate)			2,151	3,636	3,872	3,954	4,045	4,148	5,113	
d. Capex			-740	-747	-755	-762	-770	-777	-921	
e. change in Working Capital			-2,594	-1,192	-282	-15	-16	-18	0	**Terminal**
FCFF (c+b+d+e)		**-73,975**	**1,806**	**4,716**	**5,885**	**6,256**	**6,369**	**6,493**	**7,912**	**value**
Present Value (Cumulative)		-19,352	52,416	56,588	58,325	59,091	59,574	59,998	40,071	36,728

Project NPV (USD m) is negative due to depressed LME and external bauxite purchase

Power INR/kwh (Fuel + O&M cost)	LME USD/ton										
	1,600	**1,700**	**1,800**	**1,900**	**2,000**	**2,250**	**2,500**	**2,700**	**2,800**	**2,900**	**3,000**
1.0	(817)	(701)	(585)	(468)	(352)	(61)	230	462	579	695	811
1.5	(1,053)	(937)	(820)	(704)	(588)	(297)	(6)	227	343	459	576
2.0	(1,289)	(1,172)	(1,056)	(940)	(823)	(533)	(242)	(9)	107	224	340
2.5	(1,524)	(1,408)	(1,292)	(1,175)	(1,059)	(768)	(477)	(245)	(128)	(12)	104
3.0	(1,760)	(1,644)	(1,528)	(1,411)	(1,295)	(1,004)	(713)	(481)	(364)	(248)	(132)
3.5	(1,996)	(1,880)	(1,763)	(1,647)	(1,531)	(1,240)	(949)	(716)	(600)	(484)	(367)
4.0	(2,232)	(2,115)	(1,999)	(1,883)	(1,766)	(1,476)	(1,185)	(952)	(836)	(719)	(603)

Source: MOSL

Balco 600MW excess power: NPV of –INR7.5b; IRR of 7.6%

We have valued the 2x300MW power capacity, which will be in excess of Balco's captive requirement, independently. The total project cost is expected to be INR17.5b. The cost of power is likely to be lower post availability of captive coal. We expect the project to deliver an NPV of –INR7.5b; the implied IRR would be 7.6%.

Free cash flow to firm (INR m)

	FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY37	
a. EBITDA		4,245	5,175	5,640	5,640	5,640	5,535	5,325	
b. Depreciation		1,994	2,034	2,074	2,116	2,179	2,245	3,923	
c. NOPLAT=(a-b)*(1-Tax rate)		1,806	2,520	2,860	2,827	2,776	2,639	1,124	
d. Capex		0	-688	-701	-715	-1,094	-1,127	-3,221	**Terminal**
e. change in Working Capital		-2,829	-435	-218	0	0	37	0	**value**
FCFF (c+b+d+e)	**-34,375**	**970**	**3,430**	**4,015**	**4,227**	**3,861**	**3,794**	**1,826**	**10,666**

NPV (INR Billion)

Coal cost (INR/ton)	Power rate (INR/kwh) 2.0	2.5	3.0	3.5	4.0
500	(13)	(2)	8	19	30
650	(16)	(5)	6	16	27
800	(18)	(8)	3	14	25
1,000	(22)	(11)	(0)	11	21
1,500	(30)	(19)	(9)	2	13

IRR (%)

Coal cost (INR/ton)	Power rate (INR/kwh) 2.0	2.5	3.0	3.5	4.0
500	4.1	10.2	15.0	19.2	23.0
650	2.2	9.0	13.9	18.2	22.1
800	(0.1)	7.6	12.8	17.2	21.2
1,000	(5.0)	5.7	11.3	15.9	19.9
1,500	-	(1.1)	7.1	12.3	16.7

■ Talwandi Sabo Power Project: NPV of –INR42.4b; IRR of 5.4%

STLT subsidiary, Sterlite Energy, is setting up a 3x660MW thermal power plant at Punjab. It will supply 100% of its power to Punjab State Electricity Board (PSEB) for 25 years at a fixed RoE. The coal linkages for the project are in place. Production is expected to start in FY14, with full ramp-up in FY16. The total project cost is estimated to be INR118b. We expect the project to deliver an NPV of –INR42.4b and an IRR of 5.4%.

Free cash flow to firm (INR m)

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY34	
a. EBITDA			12,110	16,814	17,955	17,955	17,955	17,336	16,097	
b. Depreciation			3,515	5,905	6,023	6,144	6,328	6,518	11,391	
c. NOPLAT=(a-b)*(1-Tax rate)			6,893	8,749	9,570	9,473	9,325	8,676	3,774	
d. Capex	-37,250	-20,000	-15,600	-1,212	-2,036	-2,077	-3,178	-3,273	-9,352	
e. change in Working Capital			-11,560	-5,156	-1,157	0	0	221	0	**Terminal**
FCFF (c+b+d+e)	**-37,250**	**-20,000**	**-16,752**	**8,286**	**12,399**	**13,540**	**12,475**	**12,141**	**5,813**	**value**
Present value cumulative		-42,413	61,837	85,752	87,399	85,124	81,444	78,403	75,343	30,323

Source: Company, MOSL

NPV (INR Billion)

Coal cost (INR/ton)	Power rate (INR/kwh) 2.0	3.0	4.0	5.0	7.0
3,000	(40)	(37)	(34)	(31)	(25)
3,500	(42)	(39)	(36)	(33)	(26)
4,000	(45)	(42)	(38)	(35)	(28)
4,500	(48)	(44)	(41)	(37)	(29)
5,000	(51)	(47)	(43)	(39)	(31)

IRR (%)

Coal cost (INR/ton)	Power rate (INR/kwh) 2.0	3.0	4.0	5.0	7.0
3,000	5.7	6.1	6.5	6.9	7.6
3,500	5.4	5.8	6.3	6.7	7.5
4,000	5.0	5.5	6.0	6.4	7.3
4,500	4.7	5.2	5.7	6.2	7.1
5,000	4.3	4.9	5.4	6.0	7.0

■ Jharsuguda Power Project: NPV of –INR14b; IRR of 7.9%

Sterlite Energy, a wholly-owned subsidiary of Sterlite Industries, is developing a 4x600MW independent power plant (IPP) at Jharsuguda, Odisha. Three units of 600MW are already operational while the fourth is currently under trial run. The Hirakud Reservoir is being used as a water source and coal is being derived from the IB Valley Coalfield. It has linkage for 9.5mtpa of E/F grade coal. Though the Rampia Coal Block allocated for the project (Sterlite Energy's share: 112.22mtpa) will suffice for ~1,000MW, it is yet to be operational. Long-term PPA has been signed with GRIDCO, giving it the right to purchase up to 718MW. Sterlite Energy intends to supply power to Vedanta Aluminium for its proposed 1.25mtpa aluminum smelter expansion project at the adjacent site. It plans to sell the production from one 600MW unit on merchant basis. The project capex is USD104.5b. We expect the project to deliver an NPV of –INR14b and an IRR of 7.9%. However, starting of coal mine will lead to higher IRR and positive NPV at current merchant rates of ~INR3.3/KWH.

Free cash flow to firm (INR m)

	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY34	
a. EBITDA		9,181	12,242	13,862	17,102	18,722	18,722	18,722	18,167	17,057	
b. Depreciation		3,574	6,082	6,203	6,327	6,454	6,583	6,780	6,984	12,205	
c. NOPLAT=(a-b)*(1-Tax rate)		4,497	4,940	6,142	8,641	9,839	9,736	9,577	8,969	3,891	
d. Capex		-21,217	-11,232	-2,097	-2,139	-2,182	-2,225	-3,405	-3,507	-10,021	**Terminal**
e. change in Working Capital		-4,111	-3,485	-1,162	-2,323	-1,162	0	0	200	0	**value**
FCFF (c+b+d+e)	**-81,017**	**-17,257**	**-3,695**	**9,087**	**10,507**	**12,950**	**14,093**	**12,953**	**12,646**	**6,076**	**35,389**
NPV	**-13,855**										

Source: Company, MOSL

NPV (INR Billion)

Coal cost (INR/ton)	Power rate (INR/kwh) 2.0	2.5	3.0	3.3	4.0
1,500	(95)	(40)	13	44	114
2,000	(139)	(83)	(29)	3	74
2,200	(157)	(100)	(46)	(14)	58
3,000	(232)	(172)	(115)	(82)	(7)
3,500	(281)	(219)	(160)	(126)	(49)

IRR (%)

Coal cost (INR/ton)	Power rate (INR/kwh) 2.0	2.5	3.0	3.3	4.0
1,500	-	4	11	14	21
2,000	-	-	6	10	17
2,200	-	-	3	8	16
3,000	-	-	-	-	9
3,500	-	-	-	-	3

■ Western Cluster, Liberia: NPV of –INR26b; IRR of 5.8%

Sesa Goa acquired 51% stake in Western Cluster Limited, Liberia for USD90m in 2011. In the first phase of operations, it intends ramp up production to 10mtpa. However, we are factoring peak production of 6mtpa from FY19. The total estimated capex for the project is INR82.5b. The company is guiding for first shipment from the mine in FY14. It plans to invest INR4b-4.5b in the project in FY13. We expect the project to deliver an NPV of –INR26b at iron ore price of USD83/ton, with IRR of 5.8%.

Free cash flow to firm (INR m)

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY39	
a. EBITDA			706	1,413	2,825	5,651	8,476	8,476	8,476	
b. Depreciation			3,300	4,323	5,356	5,410	5,464	5,519	6,667	
c. NOPLAT=(a-b)*(1-Tax rate)			-2,075	-2,328	-2,025	193	2,410	2,366	1,447	
d. Capex			-25,575	-25,575	-25,831	-1,339	-1,352	-1,366	-1,650	
e. change in Working Capital			-227	-227	-453	-906	-906	0	0	**Terminal**
FCFF (c+b+d+e)		**-8,250**	**-24,576**	**-23,807**	**-22,952**	**3,357**	**5,615**	**6,519**	**6,464**	**value**
Present Value (Cumulative)		-26,236	-20,978	1,206	25,150	50,970	53,425	53,902	32,753	30,024

Source: Company, MOSL

NPV (INR b)

Iron ore prices USD/ton									
70	80	90	100	110	120	130	140	150	160
(865)	(612)	(358)	(104)	150	403	657	911	1,165	1,418

IRR Matrix (%)

Iron ore prices USD/ton									
70	80	90	100	110	120	130	140	150	160
1	5	8	10	13	15	17	19	21	23

Iron ore mining in Goa and Karnataka

NPV of INR94bSesa Goa's standalone mining operations in Goa and Karnataka have been impacted due to a ban on mining in the state. Production is unlikely to resume anytime soon. We have assumed a volume of 12m tons for FY15 (9.8m tons in Goa and 2.2m tons in Karnataka), much lower than the earlier annual run rate due to increased regulatory vigil. We believe Sesa Goa's mining operations will continue to yield positive NPV, owing to low cost of operations. We expect the project to deliver an NPV of INR94b.

Free cash flow to firm (INR m)

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY45
a. EBITDA			17,516	17,516	17,516	17,516	17,516	17,516	17,516
b. Depreciation			1,200	1,236	1,273	1,311	1,351	1,391	2,913
c. NOPLAT=(a-b)*(1-Tax rate)			13,053	13,024	12,994	12,964	12,932	12,900	11,683
d. Capex			-900	-900	-927	-955	-983	-1,013	-2,121
e. change in Working Capital			-5,076	0	0	0	0	0	0
FCFF (c+b+d+e)			**8,277**	**13,360**	**13,340**	**13,320**	**13,300**	**13,278**	**12,474**
Present Value (Cumulative)		93,767	105,773	111,038	110,341	109,583	108,759	107,862	11,198

Source: Company, MOSL

NPV (INR b)

Iron ore prices USD/ton									
70	80	90	100	110	120	130	140	150	160
71	88	106	124	142	160	177	195	213	231

SESA-Sterlite: SOTP (INR b)

	Net Sales	EBITDA (A)	PAT	Net Debt (G)	Net Worth	Valuations Basis (B)	EV C=(AxB)	CWIP (D)	Disc(%) (F)	Equity Value C-G+D*(1-F)	Stake (%)	Attrib. Equity	INR/ share
Stand-alone #	343	47	-10	672	381	5.0xEBITDA	236	181	51	-348	100	-348	-117
Hindustan Zinc	131	71	70	-318	278	5.0xEBITDA	354	4	0	677	64.9	439	148
Balco	42	7	3	57	25	5.0xEBITDA	34	94	51	23	51	12	4
CMT+TSPL+interseg.	19	5	-6	92	-559	5.0xEBITDA	24	101	51	-19	100	-19	-6
Zinc International	45	13	10	-72	111	3.5xEBITDA	44	0		116	100	116	39
Cairn India	178	93	66	-242	300	363=Cairn TP		112		691	59.0	407	137
Total	759	235	133	188	536			492			SOTP	608	205

Financials and Valuation

Income Statement (Consolidated) (INR Million)

Y/E March	FY11	FY12	FY13E	FY14E	FY15E
Net Sales	**92,051**	**683,698**	**722,037**	**731,760**	**759,031**
Change (%)	57.1	642.7	5.6	1.3	3.7
Total Expenses	39,988	433,987	460,694	464,984	491,575
EBITDA	**52,063**	**249,712**	**261,344**	**266,776**	**267,456**
Change (YoY %)	65.4	379.6	4.7	2.1	0.3
As % of Net Sales	56.6	36.5	36.2	36.5	35.2
Depn. & Amortization	964	44,751	49,707	59,348	61,570
EBIT	**51,099**	**204,961**	**211,636**	**207,428**	**205,885**
Net Interest	901	37,568	42,931	54,272	57,208
Other income	5,399	31,380	42,686	41,505	42,951
PBT	**55,597**	**198,773**	**211,391**	**194,661**	**191,628**
Current tax	13,442	46,213	37,716	24,220	29,519
Deffered tax	-70	-10,037	-15,487	2,731	-1,543
Tax	13,372	36,177	22,229	26,951	27,976
Rate (%)	24.1	18.2	10.5	13.8	14.6
PAT	**42,225**	**162,596**	**189,162**	**167,710**	**163,652**
Minority interests	0	59,803	72,447	68,533	66,484
Attrib. PAT (after MI & asso)	42,225	102,793	116,715	99,177	97,168
Change (YoY %)	60.6	143.4	13.5	-15.0	-2.0

E: MOSL Estimates; FY11 (SESA); FY12-14 are post merger

Balance Sheet (INR Million)

Y/E March	FY11	FY12	FY13E	FY14E	FY15E
Share Capital	869	29,648	29,648	29,648	29,648
Reserves	127,235	661,279	748,728	820,306	890,588
Net Worth	**128,104**	**690,928**	**778,377**	**849,954**	**920,237**
Minority Interest	0	320,470	376,979	430,965	483,485
Total Loans	9,995	686,914	729,914	777,914	801,914
Deferred Tax Liability	682	29,866	36,338	42,691	42,935
Capital Employed	**138,781**	**1,728,178**	**1,921,607**	**2,101,524**	**2,248,570**
Gross Block	15,903	621,488	671,620	722,175	768,555
Less: Accum. Deprn.	6,492	159,344	196,763	237,477	279,294
Net Fixed Assets	**9,411**	**462,143**	**474,856**	**484,698**	**489,261**
Goodwill	14,745	562,956	562,956	562,957	562,957
Capital WIP	7,287	325,850	398,933	463,763	491,963
Investments	1	158,033	207,374	266,423	324,731
Associates	0	3,292	3,292	3,292	3,292
Liquid invest.(of above)	0	143,937	193,278	252,328	310,636
Curr. Assets	**124,530**	**378,894**	**427,415**	**474,286**	**534,392**
Inventory	7,374	68,321	66,655	65,786	67,008
Account Receivables	6,830	41,805	41,186	41,177	42,900
Cash and Bank Balance	96,968	162,334	199,445	246,687	303,105
Loans and advances	13,358	106,433	120,129	120,637	121,379
Curr. Liability & Prov.	**17,193**	**159,698**	**149,927**	**150,603**	**154,734**
Account Payables	11,695	73,586	72,812	72,674	75,878
Provisions & Others	5,498	86,112	77,116	77,929	78,855
Net Curr. Assets	**107,337**	**219,196**	**277,487**	**323,683**	**379,658**
Appl. of Funds	**138,781**	**1,728,178**	**1,921,607**	**2,101,524**	**2,248,570**

E: MOSL Estimates; FY10&11 (SESA); FY12-14 are post merger

Financials and Valuation

Ratios (Consolidated)

Y/E March	FY11	FY12	FY13E	FY14E	FY15E
Basic (INR)					
EPS	48.6	34.7	39.4	33.5	32.8
Cash EPS	49.7	49.8	56.1	53.5	53.5
BV/Share (ex-goodwill)	130.4	43.2	72.7	96.8	120.5
BV/Share (incl.-goodwill)	147.4	233.0	262.5	286.7	310.4
DPS	3.5	3.5	3.5	3.5	3.5
Payout (%)	7.2	10.1	8.9	10.5	10.7
Valuation (x)					
P/E		5.7	5.1	5.9	6.1
Cash P/E		4.0	3.5	3.7	3.7
P/BV (incl.-goodwill)		0.9	0.8	0.7	0.6
EV/Sales		1.5	1.4	1.4	1.3
EV/EBITDA		5.8	5.7	5.4	5.1
Dividend Yield (%)		3.1	3.1	3.1	3.1
Return Ratios (%)					
RoE	40.7	17.0	15.9	12.2	11.0
RoCE (pre-tax)	40.7	25.3	24.1	13.0	11.9
RoIC (pre-tax)	159.3	36.7	36.7	18.8	18.3
Working Capital Ratios					
Fixed Asset Turnover (x)	5.8	1.1	1.1	1.0	1.0
Receivable (Days)	27	22	21	21	21
Inventory (Days)	29	36	34	33	32
Leverage Ratio (x)					
Current Ratio	7.2	2.4	2.9	3.1	3.5
Interest Cover Ratio	56.7	5.5	4.9	3.8	3.6

Cash Flow Statement (INR Million)

Y/E March	FY11	FY12	FY13E	FY14E	FY15E
EBITDA	**52,063**	**249,712**	**261,344**	**266,776**	**267,456**
Non cash expenditure (income)	1,270	0	10,588	32,568	33,790
(Inc)/Dec in Wkg. Cap.	-1,570	-46,492	-21,181	1,046	443
Tax paid	-13,372	-36,177	-37,716	-24,220	-29,519
CF from Op. Activity	**38,391**	**167,043**	**191,859**	**211,035**	**204,589**
(Inc)/Dec in FA + CWIP	-9,637	-82,645	-123,215	-115,385	-74,580
(Pur)/Sale of Investments	0	-13,002	-49,341	-59,049	-58,308
Interest & Dividend Income	5,399	21,966	29,880	29,054	30,065
Loans and advances	-2,056				
CF from Inv. Activity	**-6,294**	**-630,256**	**-142,676**	**-145,380**	**-102,822**
Equity raised/(repaid)	9,376				
Debt raised/(repaid)	-9,611	559,633	43,000	48,000	24,000
Dividend (incl. tax)	-3,559	-12,141	-12,141	-12,141	-12,141
Interest paid	-901	-37,568	-42,931	-54,272	-57,208
Other financing activities		18,655			
CF from Fin. Activity	**-4,696**	**528,579**	**-12,072**	**-18,413**	**-45,348**
(Inc)/Dec in Cash	**27,401**	**65,367**	**37,111**	**47,241**	**56,419**
Add: Opening Balance	69,566	96,968	162,334	199,445	246,687
Closing Balance	**96,968**	**162,334**	**199,445**	**246,687**	**303,105**

E: MOSL Estimates

Tata Steel

BSE SENSEX	S&P CNX
19,581	5,951

TATA STEEL

Bloomberg	TATA IN
Equity Shares (m)	971.4
52-Week Range (INR)	501/332
1,6,12 Rel. Perf. (%)	12/-14/4
M.Cap. (INR b)	425.5
M.Cap. (USD b)	7.7

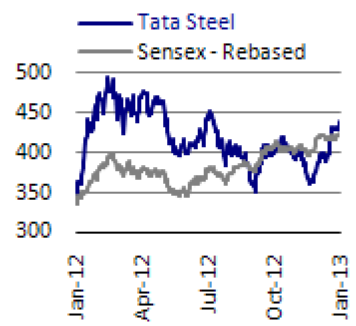
Valuation summary (INR b)

Y/E March	2013	2014E	2015E
Sales	1,360	1,372	1,393
EBITDA	121	159	164
Adj. PAT	7.7	46.9	48.4
Adj. EPS (INR)	7.9	48.3	49.8
EPS Gr(%)	-57.4	509.6	3.2
BV/Sh. (INR)	255.1	288.9	324.2
RoE (%)	3.0	17.8	16.3
RoCE (%)	6.9	10.0	10.0
Payout (%)	211.4	28.1	27.3
Valuation			
P/E (x)	55.3	9.1	8.8
P/BV	1.7	1.5	1.4
EV/EBITDA (x)	8.5	6.7	6.6
Div. Yield (%)	2.7	2.7	2.7

Shareholding pattern (%)

As on	Sep-12	Jun-12	Sep-11
Promoter	31.4	31.4	30.7
Dom. Inst	27.3	28.7	27.7
Foreign	16.6	15.8	17.2
Others	24.7	24.1	24.4

Stock performance (1 year)



CMP: INR438 | **TP: INR230** | **Sell**

Implied valuation of CWIP at 33% premium

Further downside possible; maintain Sell

- **For Tata Steel (TATA), CWIP has not been as much of a problem as the burden of debt on account of Corus' acquisition and the dip in the latter's margins post the financial crisis of 2008. High debt and Corus' volatile margins have introduced volatility into earnings and market capitalization, despite equity infusion of USD4b.**
- **TATA has commissioned two new blast furnaces at Jamshedpur in 2008 and 2012. The Odisha project has witnessed delays and cost escalation due to protests from local inhabitants. Phase-1 of the 3mtpa capacity is now expected to cost INR250b, which implies specific capex of USD1,515/ton. This is ~50% higher than the benchmark USD1,000/ton.**
- **The Odisha project has been the primary reason behind the rise in CWIP. Capex at its Canadian facilities is also contributing to the CWIP.**
- **The implied valuation of CWIP is at 33% premium. Our two alternative valuation approaches suggest equity value of INR182/share and INR412/share in the base case, and INR348/share and INR514/share in the optimistic case. We maintain Sell.**

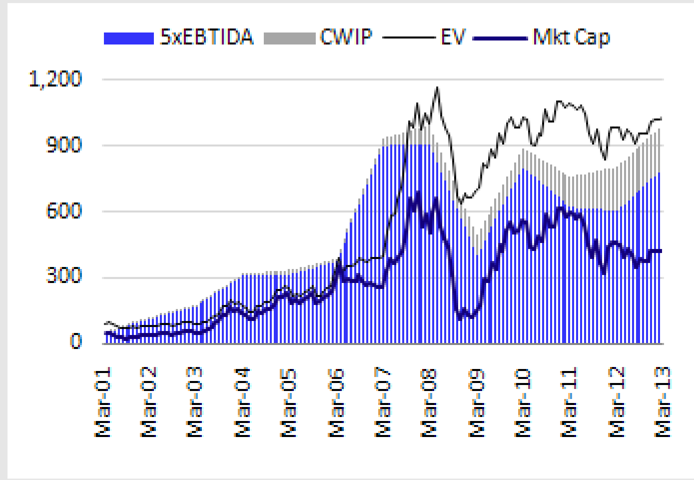
Tata Steel India has recently undergone 2.9mtpa brownfield expansion at Jamshedpur. It is planning 6mtpa greenfield expansion in Odisha in two phases of 3mtpa each. It also has 80% stake in the DSO (Direct shipping ore) project in Canada, with the balance 20% stake owned by New Millennium Iron Corporation (NML). (Tata Steel has 27.4% stake in NML). Cumulatively, the capex of all the three projects is expected to be INR441b. In an optimistic scenario of iron ore prices at USD106/ton, all the three projects combined will have an NPV of –INR80b, with an IRR of 11.9%. In our base case scenario of iron ore prices at USD83/ton, the combined NPV will decline further to –INR144b, with an IRR of 9.1%. Lower iron ore prices will result in reduced iron ore integration benefits as well as lower realizations for the DSO project.

Summary: Key Projects (INR m)

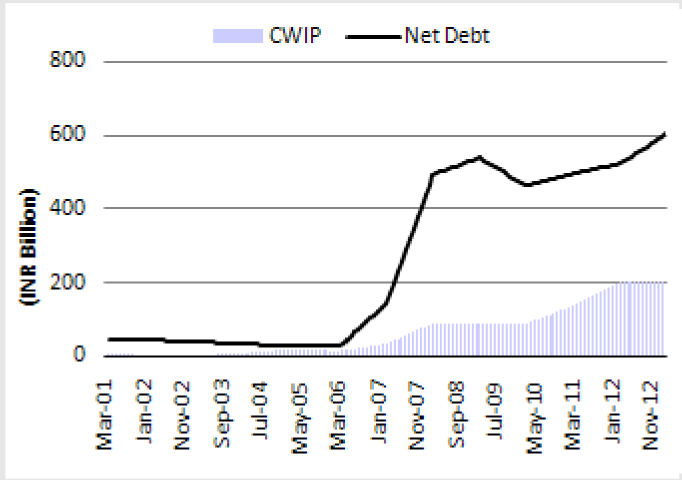
Project	CapEx Total	CapEx O/S as on Mar-14	NPV	IRR (%)	Remarks
Jamshedpur (JSR)	160,000	0	-25,338	12.1	80% C.U. in FY14; 100% ramp up in FY15
Odisha (ODS)	250,000	96,900	-104,795	7.2	54% C.U in FY16; full ramp up by FY19
New Millenium	30,800	0	-13,421	8.7	2m ton in FY14; 4.2mtpa FY15 onwards
Total	**440,800**	**96,900**	**-143,554**	**9.1**	

Source: Company, MOSL

CWIP not a problem...



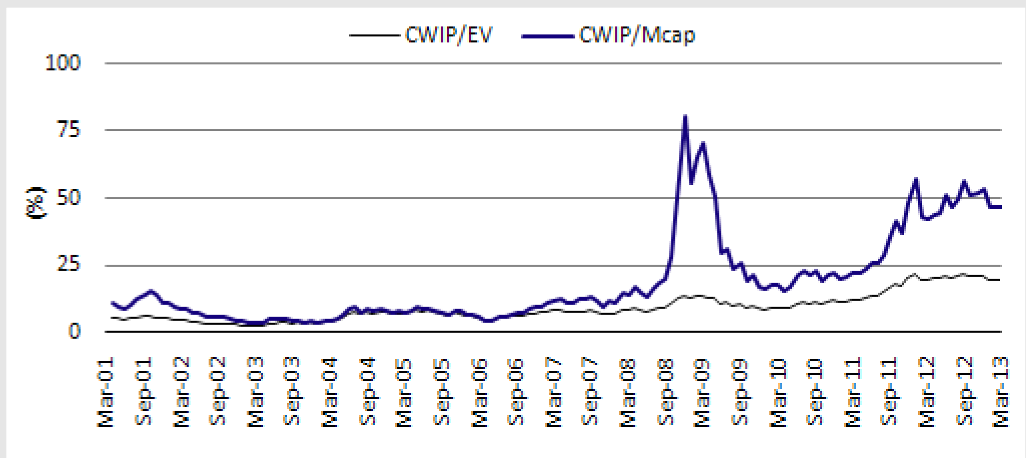
...but rising debt level is a concern



Source: Company, MOSL

The CWIP/EV ratio remains comfortable at ~20%. Though CWIP/MCap has deteriorated sharply in recent years to ~47%, it is lower than the 2008 financial crisis.

CWIP/EV at comfortable levels of 20%



Source: Company, MOSL

TATA SOTP - (INR m, FY15E)

India	
EBITDA per ton (USD)	212
Sales (m tons)	10
EBITDA-India	115,804
Target EBITDA multiple	5.0
EV (India) - (a)	579,018.9
INR/share	596.1
TSE and other subs.	
EBITDA per ton (USD)	51.5
Sales (m tons)	17.5
EBITDA	49,077.8
Target EBITDA multiple	5.0
EV (TSE) - (b)	245,388.9
INR/share	252.6
Target EV (c=a+b)	824,408
Net Debt (d)	646,379
INR/share	665.4
Investments (e)	90,511
INR/share	93.2
Equity value (f=c-d+e*50%)	223,285
Target Price	**230**

Valuation exercise indicates more downside; Sell

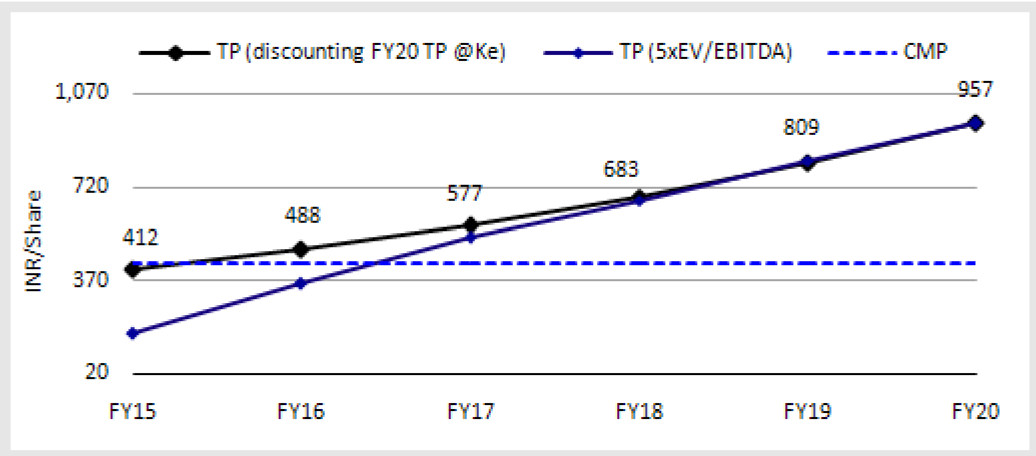
Applying our two alternative approaches to valuation, we find that Tata Steel (TATA) has downside in 3 of the 4 situations. We maintain our **Sell** recommendation.

1. **SOTP:** We have valued operational assets at an EV of 5x one-year forward EBITDA. We have adjusted the CWIP against the NPV of the projects to capture their intrinsic value. TATA's valuations are highly sensitive to steel/iron ore prices. In the base case scenario, where we assume iron ore prices of USD83/ton, we arrive at a value of INR182/share. In the optimistic scenario, where we assume iron ore prices of USD106/ton FOB, we arrive at a value of INR348/share.
2. **FY20 valuations discounted for five years:** We arrive at FY20 valuations to factor in completion of all ongoing projects and the possible delays. We have discounted these valuations backwards for five years by TATA's cost of equity of 18.3%. In the base case scenario, where we assume iron ore prices of USD83/ton, we arrive at a value of INR412/share. In the optimistic scenario, where we assume iron ore prices of USD106/ton, we arrive at a value of INR514/share.

SOTP Valuation

FY14 EBITDA	125,685
EV/EBITDA	5
Enterprise Value(1x2)	628,427
add: Jamshedpur (JSR-3mtpa)	126,974
add: CWIP	200,397
add: NPV	-143,554
less: Net Debt	635,355
Equity value	176,890
Equity value per share	182

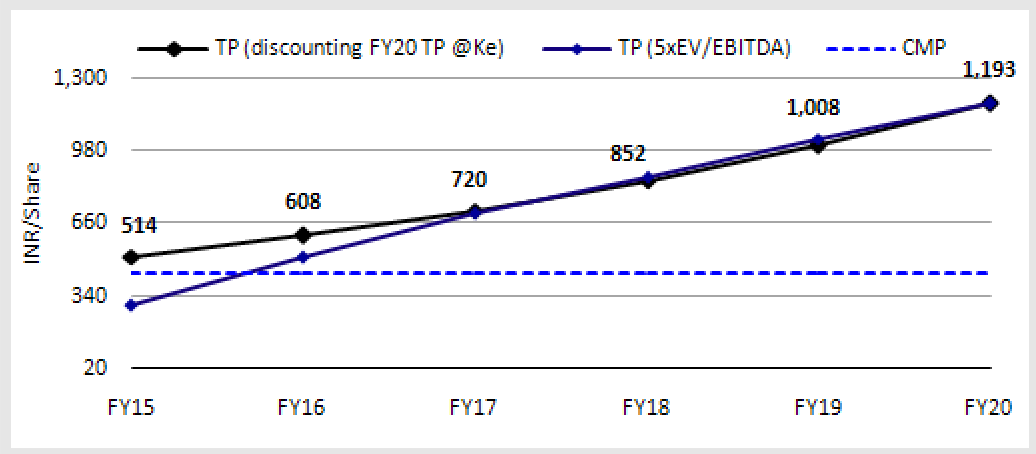
Target price (TP): Base case (Iron ore @ USD83/t fob)



SOTP Valuation

FY14 EBITDA	139,879
EV/EBITDA	5
Enterprise Value(1x2)	699,394
add: Jamshedpur (JSR-3mtpa)	153,586
add: CWIP	200,397
add: NPV	-79,853
less: Net Debt	635,355
Equity value	338,169
Equity value per share	348

Target price (TP): Optimistic scenario (Iron ore @ USD106/t fob)



Source: Company, MOSL

Target price calculations (INR m)

S.N.	Project	Equity value based on 5xEV/EBTIDA (assuming project cost is w/off)						
		FY14	FY15	FY16	FY17	FY18	FY19	FY20
1	Jamshedpur (JSR-3mtpa)	101,579	126,974	137,132	142,211	142,211	142,211	142,211
2	Odisha (ODS)			79,897	122,508	133,161	149,141	149,141
3	New Millenium (NML)		18,161	18,161	18,161	18,161	18,161	18,161
	Total equity in projects	101,579	145,134	235,189	282,879	293,532	309,512	309,512
	add:current Operations@5xEV/EBITDA	628,427	628,427	628,427	628,427	628,427	628,427	628,427
	Less: Net Debt (incl. projects)	635,355	607,826	516,474	397,585	272,199	142,730	8,211
	Net Equity value for company	94,651	165,735	347,142	513,722	649,761	795,209	929,728
	No. of share (m)		971	971	971	971	971	971
	TP (INR/share)		171	357	529	669	819	957
	TP (discounting back from FY20@Ke)		**412**	**488**	**577**	**683**	**809**	**957**
	Current market Cap		425,478	425,478	425,478	425,478	425,478	425,478
	Upside (%)		-6	11	32	56	85	119

Source: Company, MOSL

■ Jamshedpur 2.9mtpa expansion: NPV of –INR25b; IRR of 12.1%

TATA has commissioned most of the facilities in its 2.9mtpa brownfield expansion at Jamshedpur. This has resulted in crude steel capacity of Indian operations expanding from 6.8mtpa to 9.7mtpa. Incremental volume of 1mtpa is expected from the project in FY13. The project included setting up of a 6mtpa pellet plant, two coke oven batteries of 0.7mtpa each, 2.9mtpa blast furnace, LD shop, thin slab caster, 2.4mtpa rolling mill for HRC, expansion of captive mines at Noamundi and Joda, and expansion of ancillary support systems. The total project capex was INR160b. According to our calculations, the project has an NPV of –ve INR22m, with an IRR of 14.7%, in the optimistic scenario. In the base case scenario, the NPV reduces to –INR25.3b, with an IRR of 12.1%.

Free Cash Flow to firm (INR m)

		FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY39	
a. EBITDA		20,316	25,395	27,426	28,442	28,442	28,442	28,442	28,442	
b. Depreciation		6,400	6,464	6,529	6,594	6,660	6,726	6,794	8,208	
c. NOPLAT=(a-b)*(1-Tax rate)		11,133	15,145	16,718	17,479	17,426	17,373	17,319	14,164	
d. Capex		0	-1,600	-1,616	-1,632	-1,648	-1,665	-1,682	-2,032	
e. change in Working Capital		-9,280	-2,320	-928	-464	0	0	0	0	**Terminal**
FCFF (c+b+d+e)	**-160,000**	**8,253**	**17,689**	**20,703**	**21,976**	**22,437**	**22,434**	**22,431**	**20,340**	**Value**
Present Value (Cumulative)	-25,338	130,860	142,247	144,771	144,638	143,213	141,125	138,743	17,872	110,811

Source: Company, MOSL

Project delivers positive NPV (USD m) if Iron ore prices remains higher than USD106/t

Iron ore USD/T	Coking coal prices USD/ton										
	90	**110**	**130**	**150**	**170**	**190**	**210**	**230**	**250**	**270**	**290**
60	(1,018)	(1,022)	(1,026)	(1,030)	(1,034)	(1,038)	(1,042)	(1,046)	(1,050)	(1,054)	(1,057)
70	(793)	(797)	(801)	(805)	(809)	(813)	(817)	(821)	(825)	(829)	(833)
80	(569)	(573)	(577)	(581)	(584)	(588)	(592)	(596)	(600)	(604)	(608)
90	(344)	(348)	(352)	(356)	(360)	(364)	(368)	(372)	(376)	(380)	(384)
100	(119)	(123)	(127)	(131)	(135)	(139)	(143)	(147)	(151)	(155)	(159)
110	105	101	97	93	89	85	81	78	74	70	66
120	330	326	322	318	314	310	306	302	298	294	290

Source: MOSL

IRR (%)

Iron ore USD/T	Coking coal prices USD/ton										
	90	**110**	**130**	**150**	**170**	**190**	**210**	**230**	**250**	**270**	**290**
60	9.3	9.3	9.3	9.2	9.2	9.2	9.2	9.2	9.2	9.1	9.1
70	10.5	10.5	10.5	10.5	10.5	10.5	10.4	10.4	10.4	10.4	10.4
80	11.8	11.7	11.7	11.7	11.7	11.7	11.7	11.6	11.6	11.6	11.6
90	13.0	12.9	12.9	12.9	12.9	12.9	12.8	12.8	12.8	12.8	12.8
100	14.1	14.1	14.1	14.1	14.0	14.0	14.0	14.0	14.0	14.0	13.9
110	15.3	15.3	15.2	15.2	15.2	15.2	15.2	15.1	15.1	15.1	15.1
120	16.4	16.4	16.4	16.3	16.3	16.3	16.3	16.3	16.2	16.2	16.2

Source: MOSL

Key assumptions

USD/INR =	55.0	Cost of equity =	18%
Iron ore prices=	83	Interest rate =	10%
Coking coal=	170	Debt/project cost =	40%
HRC =	479	Tax rate =	20%

Source: MOSL

Our sensitivity analysis indicates that the Jamshedpur expansion is likely to result in positive NPV at iron ore above USD106/ton owing to lower cost of brownfield expansion and relatively high level of integration. However, for iron ore prices below USD106/ ton, NPV turns negative. NPV sensitivity to coking coal prices is low, as incremental capacity will have to depend upon external sourcing of coking coal. Any change in coking coal prices translates into similar change in steel realization.

- **Odisha 6mtpa Greenfield expansion: NPV of –INR105b; IRR of 7.2%**

TATA plans to add 6mtpa steel capacity at Kalinganagar, Odisha, comprising mainly of flat products. It plans to complete the expansion in two phases of 3mtpa each. Ordering of equipment for the first phase has been completed while civil and construction work is currently under progress. The project will comprise major facilities like sinter plant, pellet plant, coke plant, blast furnace, steel melt shop, hot strip mill, cold rolling mill, and raw material handling units.

The first phase is scheduled for commissioning by 2014 while the second phase is on schedule to commission in 18-24 months after the commissioning of the first phase. Raw material security is yet to come through for the project, as its application for iron ore mine is still pending. In the interim, it will be relying on existing mines. The total project cost, which was estimated at INR345b, is likely to be revised upwards, given the significant INR depreciation, general inflation and project delays.

We are building in only the first phase of the expansion in our calculations. We have assumed INR250b as the project cost for the first phase of 3mtpa. The project NPV remains negative due to higher cost, though margins are expected to be in the same range as the Jamshedpur expansion. The NPV turns positive at iron ore prices of over USD185/ton. According to our calculations, the project has an NPV of –INR81b, with an IRR of 9.1%, in the optimistic scenario. In the base case scenario, the NPV reduces to –INR105b, with an IRR of 7.2%.

Free Cash Flow to firm (INR m)

	FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY39	
a. EBITDA			15,979	24,502	26,632	29,828	29,828	29,828	
b. Depreciation			10,000	10,100	10,201	10,303	10,406	12,572	
c. NOPLAT=(a-b)*(1-Tax rate)			4,783	11,521	13,145	15,620	15,538	12,080	
d. Capex			0	-2,500	-2,525	-2,550	-2,576	-3,112	
e. change in Working Capital			-6,960	-3,712	-928	-1,392	0	0	**Terminal**
FCFF (c+b+d+e)		**-250,000**	**7,823**	**15,409**	**19,893**	**21,981**	**23,368**	**21,539**	**value**
Present Value (Cumulative)		-104,795	129,477	141,086	145,724	146,537	145,377	18,926	117,322

Source: Company, MOSL

Project delivers negative NPV (USD m) mostly due to high cost of project

Iron ore USD/T	Coking coal prices USD/ton 90	110	130	150	170	190	210	230	250	270	290
60	(2,608)	(2,612)	(2,616)	(2,619)	(2,623)	(2,627)	(2,631)	(2,635)	(2,638)	(2,642)	(2,646)
70	(2,397)	(2,401)	(2,405)	(2,409)	(2,413)	(2,416)	(2,420)	(2,424)	(2,428)	(2,432)	(2,435)
80	(2,187)	(2,190)	(2,194)	(2,198)	(2,202)	(2,206)	(2,209)	(2,213)	(2,217)	(2,221)	(2,225)
90	(1,976)	(1,980)	(1,984)	(1,987)	(1,991)	(1,995)	(1,999)	(2,003)	(2,006)	(2,010)	(2,014)
100	(1,765)	(1,769)	(1,773)	(1,777)	(1,781)	(1,784)	(1,788)	(1,792)	(1,796)	(1,800)	(1,803)
110	(1,555)	(1,558)	(1,562)	(1,566)	(1,570)	(1,574)	(1,577)	(1,581)	(1,585)	(1,589)	(1,593)
120	(1,344)	(1,348)	(1,352)	(1,355)	(1,359)	(1,363)	(1,367)	(1,371)	(1,374)	(1,378)	(1,382)

Source: MOSL

IRR (%)

Iron ore USD/T	Coking coal prices USD/ton 90	110	130	150	170	190	210	230	250	270	290
60	5.2	5.2	5.2	5.2	5.2	5.1	5.1	5.1	5.1	5.1	5.1
70	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.0	6.0	6.0
80	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.9	6.9	6.9	6.9
90	7.9	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
100	8.7	8.7	8.7	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
110	9.5	9.5	9.5	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
120	10.3	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2

Source: MOSL

Our sensitivity analysis indicates that the Odisha expansion (phase-1) is likely to result in negative NPV owing to high project cost, despite full iron ore integration. However, for iron ore prices above USD185/ton, the NPV turns positive. NPV sensitivity to coking coal prices is low, as the entire capacity will have to depend upon external sourcing of coking coal. Any change in coking coal prices also translates into similar change in steel realization.

DSO Project, Canada

In 2008, TATA entered into an agreement with New Millennium Iron Corporation (NML), a Canadian listed mining company, to develop iron ore projects in northern Quebec and Newfoundland & Labrador. NML planned to develop the Direct Shipping Ore (DSO) Project, having estimated proven and probable reserves of 64.1m tons, and the Taconite Projects, namely Labmag and Kemag, with a combined resource size of 5.65b tons. TATA later acquired 27.4% stake in NML through a 100% subsidiary. It also acquired 80% equity in Tata Steel Minerals Canada (TSMC), a JV between TATA and NML formed for the development of the DSO Project.

The total project cost is expected to be INR31b. Iron ore shipments from the project have already begun and are likely to ramp up gradually to 6m tons in FY16. The project has positive NPV at iron ore prices above USD100/ton. In the optimistic scenario, where we assume iron ore prices of USD106/ton, the project has a positive NPV of INR1.2b, with an IRR of 19.1%. In the base case, where we assume iron ore prices of USD83/ton, NPV works out to –INR13.4b, with an IRR of 8.7%.

Free Cash Flow to firm (INR m)

	FY14	FY15	FY16	FY17	FY18	FY19	FY20	...FY39	
a. EBITDA		4,249	4,249	4,249	4,249	4,249	4,249	4,249	
b. Depreciation		1,232	1,244	1,257	1,269	1,282	1,295	1,564	
c. NOPLAT=(a-b)*(1-Tax rate)		2,112	2,103	2,095	2,086	2,077	2,068	1,879	
d. Capex		-308	-308	-311	-314	-317	-321	-387	
e. change in Working Capital	-1,970	0	0	0	0	0	0		**Terminal**
FCFF (c+b+d+e)	**-30,800**	**1,066**	**3,040**	**3,040**	**3,041**	**3,042**	**3,042**	**3,056**	**Value**
Present Value (Cumulative)	-13,421	14,916	16,586	16,590	16,594	16,597	16,601	16,651	16,649

Source: Company, MOSL

Project delivers positive NPV (USD m) if Iron ore prices remains higher than USD90/t

Iron ore prices USD/ton 60	70	80	90	100	110	120	130	140	150	160
(573)	(443)	(313)	(183)	(53)	77	207	337	467	597	726

Source: MOSL

Financials and Valuation

Income Statement (Consolidated) (INR Million)

Y/E March	2011	2012	2013E	2014E	2015E
Net Sales	**1,187,531**	**1,328,997**	**1,360,256**	**1,371,955**	**1,393,081**
Change (%)	16.0	11.9	2.4	0.9	1.5
EBITDA	**159,956**	**124,168**	**120,671**	**158,989**	**163,591**
% of Net Sales	13.5	9.3	8.9	11.6	11.7
Depn. & Amortization	44,148	45,167	55,264	57,619	58,341
EBIT	115,808	79,001	65,407	101,370	105,251
Finace cost	27,700	42,501	41,948	46,209	47,921
Other income	2,809	15,730	9,567	9,448	9,563
PBT before EO	**90,917**	**52,231**	**33,026**	**64,610**	**66,893**
EO income	30,103	33,619	-1,874		
PBT after EO	**121,020**	**85,850**	**31,152**	**64,610**	**66,893**
Tax	32,459	36,365	24,701	16,110	16,935
Rate (%)	26.8	42.4	79.3	24.9	25.3
Reported PAT	**88,561**	**49,485**	**6,451**	**48,500**	**49,958**
Minority interest P/L	-603	-1,731	-915	-109	-114
Share of asso. PAT	664	2,681	1,071	913	950
PAT (After MI & asso.)	**89,827**	**53,898**	**8,437**	**49,522**	**51,023**
Div. on Pref. /Hybrid Sec.		2,225	2,616	2,616	2,616
Adjusted PAT	59,724	18,054	7,695	46,906	48,406
Change (%)	-n/a-	-69.8	-57.4	509.6	3.2

Balance Sheet (Consolidated) (INR Million)

Y/E March	2011	2012	2013E	2014E	2015E
Share Capital	9,587	9,714	9,714	9,714	9,714
Reserves	346,226	420,672	411,624	444,468	478,807
Net Worth	**355,814**	**430,386**	**421,339**	**454,183**	**488,521**
Minority Interest	8,889	10,912	9,997	9,888	9,774
Total Loans	635,201	644,028	644,028	646,028	649,028
Deferred Tax Liability	20,126	24,424	27,815	27,815	27,815
Capital Employed	**1,020,030**	**1,109,749**	**1,103,178**	**1,137,913**	**1,175,137**
Gross Block	981,023	1,133,047	1,253,047	1,373,047	1,473,047
Less: Accum. Deprn.	615,338	712,043	767,307	824,926	883,266
Net Fixed Assets	**365,685**	**421,003**	**485,740**	**548,121**	**589,780**
Capital WIP	135,508	200,397	200,397	200,397	200,397
Investments	46,881	26,229	26,229	26,229	26,229
Goodwill on consolidation	152,982	173,546	173,546	173,546	173,546
Other assets	87,181	84,833	84,833	84,833	84,833
Curr. Assets	**564,890**	**565,779**	**496,715**	**470,671**	**469,130**
Inventory	240,552	255,980	260,871	263,115	267,166
Account Receivables	148,119	148,785	156,523	157,869	160,300
Cash & Bank Balance	140,183	122,000	40,307	10,673	2,649
Others	36,035	39,015	39,015	39,015	39,015
Curr. Liability & Prov.	**333,097**	**362,038**	**364,282**	**365,884**	**368,778**
Account Payables	171,162	184,093	186,336	187,939	190,833
Provisions & Others	161,935	177,945	177,945	177,945	177,945
Net Current Assets	**231,793**	**203,741**	**132,433**	**104,787**	**100,352**
Appl. of Funds	**1,020,030**	**1,109,749**	**1,103,178**	**1,137,913**	**1,175,137**

E: MOSL Estimates

Financials and Valuation

Ratios (Consolidated)

Y/E March	2011	2012	2013E	2014E	2015E
Basic (INR)					
EPS	**62.3**	**18.6**	**7.9**	**48.3**	**49.8**
Cash EPS	138.3	97.4	63.5	109.2	111.5
BV/Share	211.4	264.4	255.1	288.9	324.2
DPS	12.0	12.0	12.0	12.0	12.0
Payout (%)	21.9	74.6	177.2	29.1	28.2
Valuation (x)					
P/E		23.6	55.3	9.1	8.8
Cash P/E		4.5	6.9	4.0	3.9
P/BV		1.7	1.7	1.5	1.4
EV/Sales		0.7	0.8	0.8	0.8
EV/EBITDA		7.6	8.5	6.7	6.6
Dividend Yield (%)		2.7	2.7	2.7	2.7
Return Ratios (%)					
RoE	40.5	7.8	3.0	17.8	16.3
RoCE (pre-tax)	13.2	9.1	6.9	10.0	10.0
RoIC (pre-tax)	19.5	12.3	9.2	12.9	12.6
Working Capital Ratios					
Debtor (Days)	45.5	40.9	42.0	42.0	42.0
Inventory (Days)	73.9	70.3	70.0	70.0	70.0
Leverage Ratio (x)					
Debt/Equity	2.4	2.0	2.4	2.3	2.1

Cash Flow Statement (Consolidated) (INR Million)

Y/E March	2011	2012	2013E	2014E	2015E
EBITDA	**159,956**	**124,168**	**120,671**	**158,989**	**163,591**
Non cash exp. (income)	8,773	13,603	-2,693	-2,130	-2,130
(Inc)/Dec in Wkg. Cap.	-71,749	11,590	-10,385	-1,987	-3,589
Tax Paid	-32,351	-36,524	-21,310	-16,110	-16,935
Other operating activities			-82	3	35
CF from Op. Activity	**64,629**	**112,838**	**86,201**	**138,766**	**140,973**
(Inc)/Dec in FA + CWIP	-101,636	-119,586	-120,000	-120,000	-100,000
(Pur)/Sale of Investments	22,294	4,164			
Acquisition in subsidiaries	-647		-1,874		
Int. & Divident Income	3,518	6,194	9,567	9,448	9,563
Other investing activities	39,218	61,251			
CF from Inv. Activity	**-37,254**	**-47,978**	**-112,307**	**-110,552**	**-90,437**
Equity raised/(repaid)	45,568	6,045			
Debt raised/(repaid)	37,874	-39,803		2,000	3,000
Dividend (incl. tax)	-7,146	-11,639	-13,639	-13,639	-13,639
Interest & equiv. paid	-31,366	-37,646	-41,948	-46,209	-47,921
CF from Fin. Activity	**44,930**	**-83,043**	**-55,587**	**-57,847**	**-58,559**
(Inc)/Dec in Cash	**72,305**	**-18,184**	**-81,693**	**-29,634**	**-8,024**
Add: opening Balance	67,878	140,183	122,000	40,307	10,673
Closing Balance	**140,183**	**122,000**	**40,307**	**10,673**	**2,649**

E: MOSL Estimates

N O T E S

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