

BSE SENSEX

31,892

S&P CNX

9,974



Stock Info

Bloomberg	VEDL IN
Equity Shares (m)	3,717
52-Week Range (INR)	315 / 159
1, 6, 12 Rel. Per (%)	14/7/72
M.Cap. (INR b)	1,168.5
M.Cap. (USD b)	18.2
Avg Val, INRm	2943
Free float (%)	49.9

Financials Snapshot (INR b)

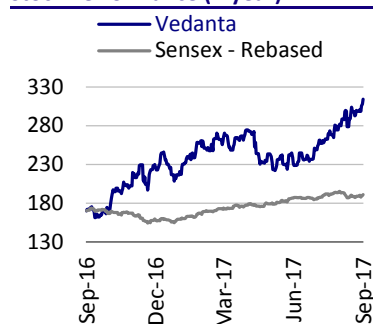
Y/E Mar	2017	2018E	2019E
Net Sales	722.3	833.3	1,026.4
EBITDA	213.3	252.3	349.4
PAT	56.3	88.8	139.2
EPS (INR)	15.1	23.9	37.4
Gr. (%)	-79.1	57.9	56.7
BV/Sh (INR)	162.7	174.3	193.3
RoE (%)	9.7	14.2	20.4
RoCE (%)	12.4	14.4	19.1
P/E (x)	20.4	12.9	8.2
P/BV (x)	1.9	1.8	1.6

Shareholding pattern (%)

As On	Jun-17	Mar-17	Jun-16
Promoter	50.1	62.9	62.9
DII	13.4	7.0	7.3
FII	17.8	16.4	15.3
Others	18.7	13.7	14.5

FII Includes depository receipts

Stock Performance (1-year)


CMP: INR314 TP: INR361(+15%)
Buy

Zinc day - production to grow after a hiatus of 6 years

Raising estimates and target price; Maintain BUY

We interacted with the management of Hindustan Zinc (HZL) and Zinc-international (ZI) during Vedanta's (VEDL) Zinc day at Udaipur on 30th Aug and visited S. K. mines (SKM) and Debari Smelter on 31st Aug., 2017. VEDL is targeting to increase Zinc-lead mine production at CAGR of ~15% over FY17-20E to ~1.6mt. We have upgraded volumes, earnings and target price. Key highlights.

HZL: after an hiatus of 6 years, mine production to grow 27%

- Expansion of mines by 20% to 1.2mtpa is on track. Shaft sinking at both Rampur Agucha and SKM has reached respective deepest points. Full commissioning of shafts is expected during FY19E. Therefore, we expect mine production to grow at CAGR of ~8.4% to 1.15mt in FY20E.
- Exploration of Zawar and Kayad group of mines is yielding positive results. Some very rich silver pockets are found during exploration.

HZL: targeting to double silver production to 1000t

- Silver production will get a boost as well, increasing from 452t in FY17 to 700t by FY20E, on higher output from silver rich SKM.
- HZL has planned recovery from waste material of zinc concentrate and tailings for the first time, which has potential of additional 300t recovery.

ZI: Gamsberg phase 1 on track for full 250kt production in FY20E

- Mine production is expected to increase from ~155kt in FY17 to ~420kt by FY20E on ramp-up of Gamsberg. Average cost of production at ZI is expected to decline to below \$1,100/t due to lower cost at Gamsberg.
- Gamsberg is on path for commercial production from mid-CY18 and full ramp-up in FY20E. Despite high magnesium impurities, the ore has discovered good price in the market place. Nearly 40% of production is already sold.

Raising estimates and target price; Maintain BUY

- We are raising estimates for mine production by 6/14% to 1,050/1,155kt, silver production by 6/19% to 580/667kt for HZL in FY19/FY20E and by 14% to 330kt for ZI in FY20E. CoP at ZI is reduced by USD250 to USD1250/t in FY20E.
- We are also raising zinc LME assumption by 6% to USD3,400/t for FY19E as the short term outlook has turned more bullish.
- Aluminum prices are trading stronger on supply side management in China. We are raising the LME assumption by USD175 to USD2,000/t.
- HZL's EBITDA is increased by 8/12% to INR162/171b for FY19E/FY20E and HZL's target price has increased to INR322/share (earlier INR301) based on 6.5xEV/EBITDA for FY19E. Maintain Neutral.
- VEDL's consolidated EBITDA has increased by 9/11% to INR349/379b for FY19E/FY20E and target price has increased to INR361/share (earlier INR316) based on FY19E sum-of-the-parts valuation, 16% Upside. Maintain BUY.
- **Risk:** VEDL's volumes and earnings have high leverage to commodity prices.

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Investors are advised to refer through important disclosures made at the last page of the Research Report.

Motilal Oswal research is available on www.motilaloswal.com/Institutional-Equities, Bloomberg, Thomson Reuters, Factset and S&P Capital.

Hindustan Zinc

After a hiatus of 6 years, mine production to grow 27%

- HZL has reserves and resources of ~404mt and metal of 36mt in FY17.
- HZL is on track to complete expansion of mines to 1.2mtpa during FY19E. Shaft sinking at both Rampur Agucha (RA) and SKM has reached its deepest point. Equipment installation is in progress.
- Full commissioning of shafts is expected during FY19E. Hence, we expect mine production to grow at CAGR of ~8.4% over FY17-20E.
- Exploration of Zawar and Kayad group of mines is yielding positive results. Some very rich silver pockets are found.
- Smelter capacity is expanded from 1,028kt in FY17 to 1,200kt, in line with the mine plan. The upgrade is at existing plants through cell addition, process optimization and facility up gradation.
- Cost of production will increase in FY18E and FY19E during the commissioning phases, but will normalize to USD800/t (ex-royalty) in FY20E.

Exhibit 1: Mine capacity expansion

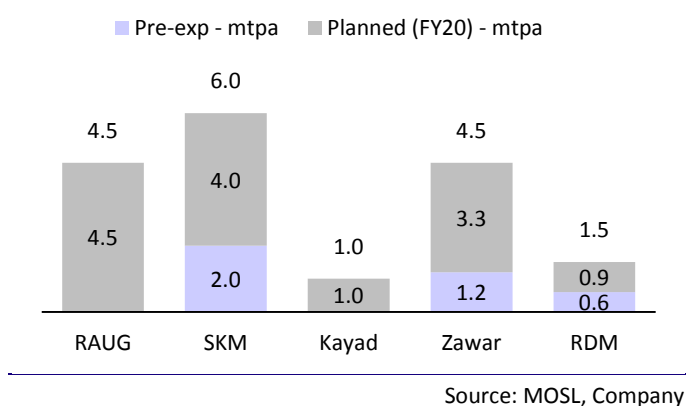


Exhibit 2: Shifting to under-ground mining

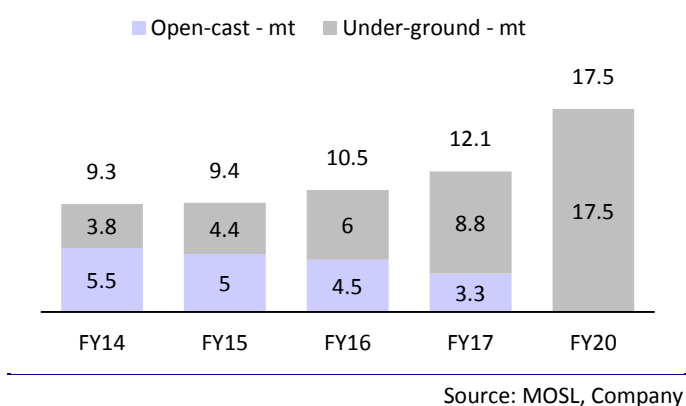
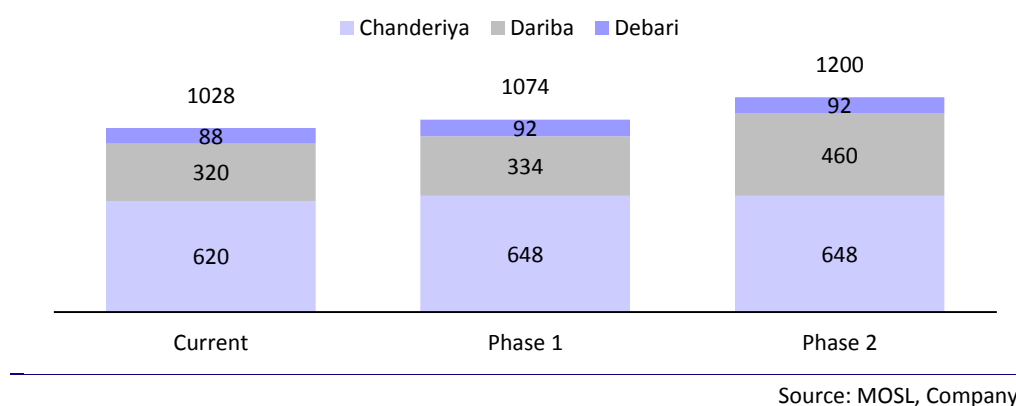


Exhibit 3: Smelter capacity expansion plan – kt

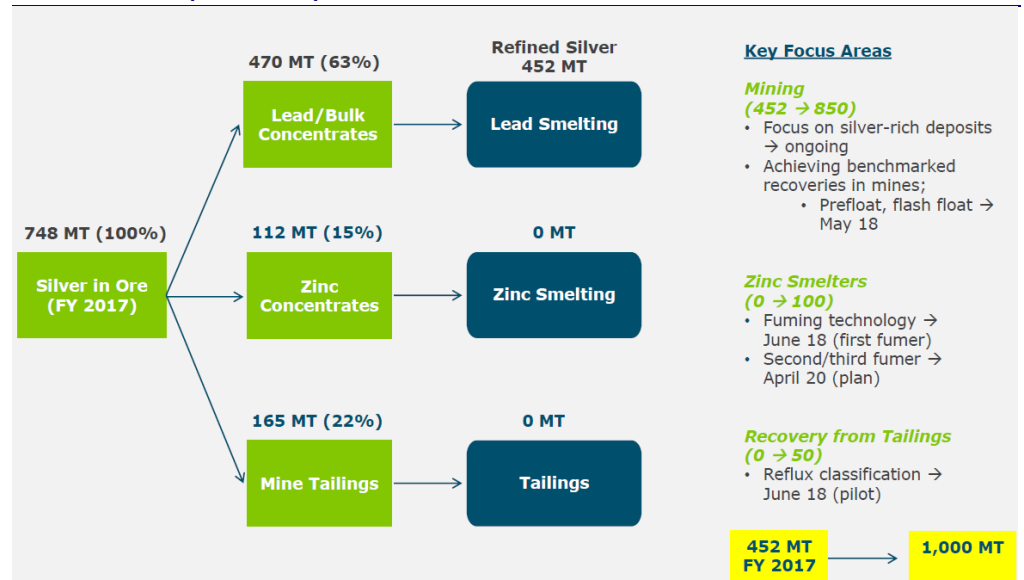


HZL- silver: targeting 300t enhanced recovery

1000t vision

- Silver production will get a boost as well, increasing from 452t in FY17 to 700t by FY20E, on higher output from silver rich SKM.
- Silver is being recovered from lead concentrate only, which accounts to 63% recovery. HZL has planned enhanced recovery from waste material of zinc concentrate and tailings, which has potential of additional 300t.
- One 35ktpa Fumer is already ordered to recover silver from waste material of zinc smelting. It is likely to get commissioned in June 2018. Depending upon the success, two more Fumers will be ordered. Thus, 100t of enhanced recovery is panned.
- For recovery of silver from tailings, a pilot project is expected to be commissioned by June 2018.

Exhibit 4: Silver portfolio – potential of 1,000t



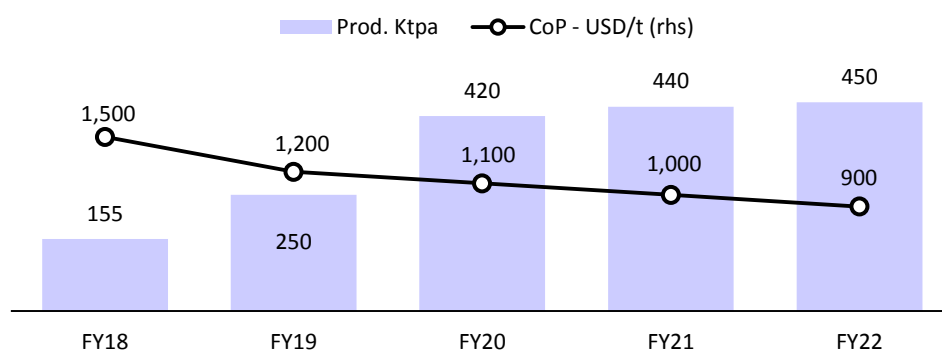
Source: MOSL, Company

Zinc-international

Gramsberg and mine life extension to drive strong growth

- Zinc-international (ZI) has reserve and resource (R&R) of 306mt (H&L is 404mt) ore equivalent to 22mt MIC (H&L is ~36mt) by the end of FY17.
- Mine production is expected to increase from ~155kt in FY17 to ~420kt by FY20E on ramp-up of Gamsberg.
- Gamsberg is on path for commercial production from mid-CY18 and full ramp-up in FY20E.
- **Skorpion:** mine life is extended by 4 years by pushing further the pit 112. The ore body is still continuing. Further exploration is in progress, which may extend the mine life further.
- The plan to modify the refinery at Skorpion for treating sulfide ore from Gamsberg project has been abandoned. Despite high magnesium impurities, the ore from Gamsberg mine has discovered good price in the market place. Nearly 40% of production is already sold.
- Average cost of production at ZI is expected to decline to below USD1,100/t due to lower cost at Gamsberg. However, we are currently factoring USD1250/t in our models.

Exhibit 5: Zinc international production and CoP guidance



Source: MOSL, Company

Production guidance of 250ktpa in FY20E

Gramsberg – On track for Phase-1 (250ktpa) commissioning by mid-CY18

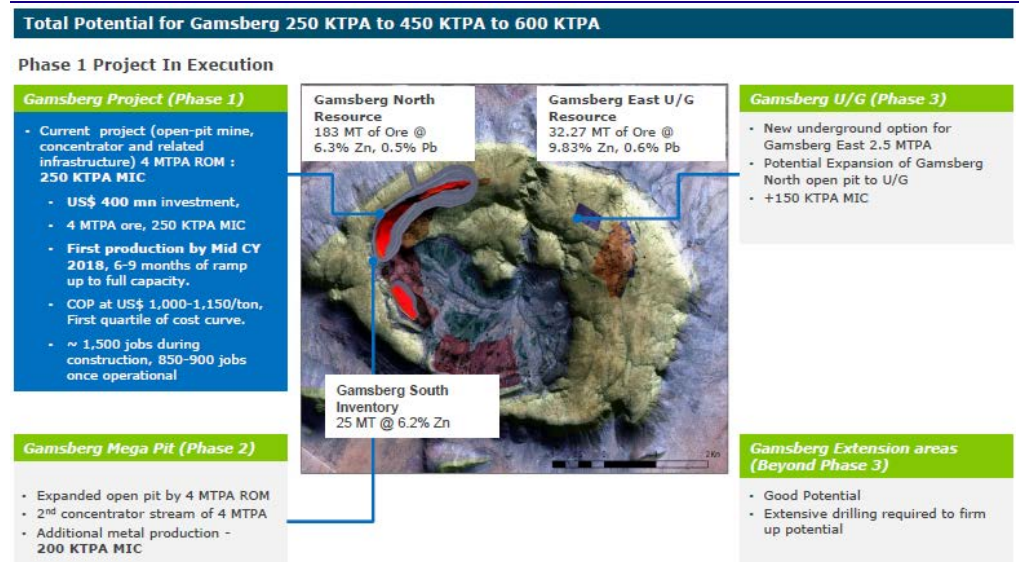
- Gamsberg has reserves and resources of ~215mt and metal of 15.8mt.
- Gramsberg has production potential of ~600ktpa which will be explored in phases. Phase-1 of 250ktpa is currently under-development. Phase-2 of 200ktpa is an extension of Phase-1 open-cast mining. Phase-3 of 150ktpa is underground.
- Phase-1 is progressing well. Bulk pre-stripping started in April 2017. Pre-stripping volumes ramped up to 3.5mt/m in June 2017. Pre-stripping of >25mt of 65mt was completed as on July 2017.
- Phase-1 first ore production is targeted in early CY18. Bulk production will commence from mid-CY18. It would take 9-12months for full ramp-up to 250ktpa.

Guidance:

- Production of 100kt in FY19E and full ramp-up of Phase1 to 250ktpa in FY20E.

- Gramsberg is in first quartile of the global cost curve. Cost of production is expected to range USD1,000-1,150/t.
- Gramsberg has adopted an outsourced approach. Mining is based on variable cost of production mode, based on output.

Exhibit 6: Gramsberg prospect



Source: MOSL, Company

Skorpion – Mine life extended, under-ground potential evaluated

Mine life extended through deeper-drilling.

- Skorpion has reserves and resources of ~26mt and contained metal is 2.7mt.
- The mine was planned to close in FY15. The life is extended by 4 years through deeper-drilling.
- Skorpions' ore body bulges out at depth which results in accumulation of metal at deeper levels, hence deeper drilling. Pit-112 is currently being drilled.
- Current drilling has indicated potential for higher grades post-pit 112. An under-ground study is being done to evaluate potential.
- Skorpion produced 85kt zinc metal in FY17. Guidance is for 91kt in FY18E, while target is to achieve 150ktpa in FY25E.

BMM

- BMM has reserves and resources of ~65mt and contained metal of 3.1mt.
- Metal concentrate production was 70ktpa in FY17. Guidance is for a similar level in FY18. The target is to reach >100ktpa by FY25. Production would be enhanced with the Swartberg Phase 2 project.

Zinc price outlook remains bullish

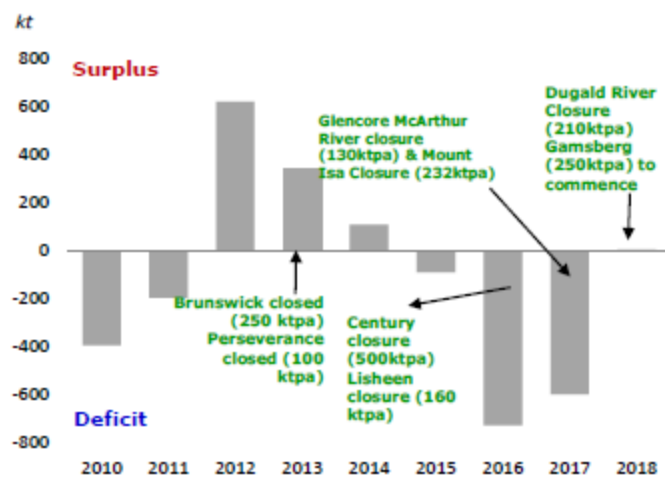
Raising metal price assumption to USD3400/t for FY19E

Zinc warehouse stocks are at seven year low.

Zinc market to remain in deficit in 2017, expected to balance in 2018

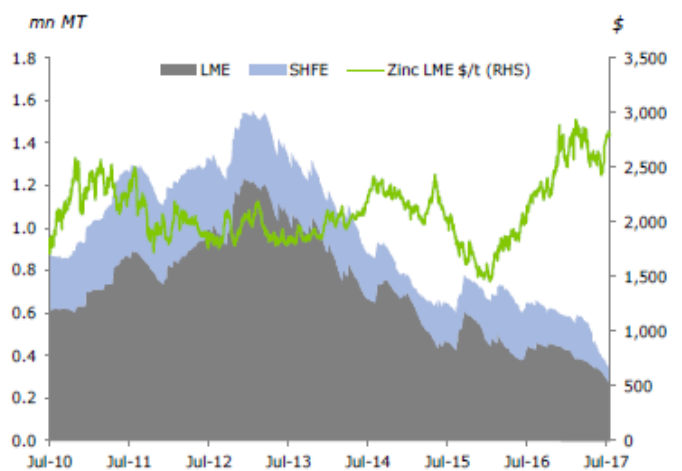
- Global zinc concentrate market was in deficit of ~650kt in 2016. Market is expected to remain in a deficit of 550-600kt in 2017. It is however expected to balance in 2018 on commissioning of VEDL's Gamsberg mine (250ktpa), Dugald River project (210ktpa) and increase in production in China.
- Zinc stocks at exchanges have declined to 11 days of global consumption, a seven year low.
- Global zinc metal demand is expected to grow at 2.8% in 2018. India demand is expected to grow at 5.1% in 2018.
- We are raising the metal price assumption to USD3400/t for FY19E.

Exhibit 7: Global zinc concentrate deficit - kt



Source: MOSL, Company

Exhibit 8: Warehouse stocks



Source: MOSL, Company

Exhibit 9: Sum of parts valuation

	EBITDA			EV	Enterprise Value			Volumes (kt/kbpd)			Prices (USDt/bbl)			EBITDA/t (USD)		
	FY18E	FY19E	FY20E	EBITDA(x)	FY18E	FY19E	FY20E	FY18E	FY19E	FY20E	FY18E	FY19E	FY20E	FY18E	FY19E	FY20E
VEDL (ex HZL)																
Copper	12	17	18	6.5	78	113	116	381	399	408	5,523	5,464	5,455	486	671	670
Aluminum	30	60	60	6.5	197	392	391	1,560	2,001	2,192	1,846	2,000	2,000	299	463	422
Iron ore	7	9	7	6.5	44	58	48	5,500	5,500	5,500	61	65	56	19	25	21
Power(TSPL)	13	13	12	DCF	87	80	76	PPA								
Power(other)	3	5	5	6.5	20	30	30	Merchant and RE								
Zinc-Int	14	21	40	6.5	89	138	258	156	182	330	2,947	3,400	3,200	1,359	1,800	1,850
Oil&Gas	50	62	66	DCF	160	145	132	165	192	207	50	55	55	13	14	13
Sub. Tot.	129	187	207	5.1	675	955	1,050									
Less: Net Debt					539	497	460	USD/INR Avg. --->			64.9	65.0	65.0			
Equity Value					137	458	590	USD/INR Y.end -->			65.0	65.0	65.0			
Hind. Zinc																
HZL	124	162	171	6.5	806	1,054	1,114	791	854	934	2,947	3,400	3,200	2,031	2,416	2,321
Less: Net Debt					-220	-305	-400	151	179	202	2,227	2,250	2,250			
Equity Value					1,027	1,360	1,514	465	545	628	41	41	41			
INR/share of HZL					243	322	358									
VEDL					Equity Value											
HZL@64.9%					666	882	982									
VEDL (ex HZL)					137	458	590									
Tot. Equity Value					803	1,341	1,572									
INR/share					216	361	423									

Source: MOSL, Company

Exhibit 10: Valuation and estimate changes

	EBITDA			EV	Enterprise Value			Volumes (kt/kbpd)			Prices (USD/t or bbl)		
	FY18E	FY19E	FY20E	EBITDA (x)	FY18E	FY19E	FY20E	FY18E	FY19E	FY20E	FY18E	FY19E	FY20E
Previous release													
Copper	12	17	18	6.5	78	113	115	381	399	408	5,523	5,464	5,455
Aluminum	33	44	47	6.5	214	288	309	1,560	2,001	2,192	1,846	1,825	1,825
Iron ore	7	9	8	6.5	45	59	49	5,500	5,500	5,500	61	65	56
Power(TSPL)	13	13	12	DCF	87	80	76	PPA					
Power(other)	3	5	5	6.5	20	30	30	Merchant and RE					
Zinc-Int	14	19	32	6.5	90	127	205	156	182	290	2,947	3,200	3,200
Oil&Gas	51	64	68	DCF	172	157	143	165	192	207	50	55	55
HZL	126	150	153	6.5	821	974	997	791	809	826	2,947	3,200	3,200
Total	259	321	343		1,527	1,826	1,923						
Changes(%)													
Copper	0	0	0		0	0	0						
Aluminum	-8	36	27		-8	36	27					10	10
Iron ore	-1	-2	-2		-1	-2	-2						
Power(TSPL)													
Power(other)													
Zinc-Int	-1	9	26		-1	9	26			14	6		
Oil&Gas	-1	-3	-4		-7	-7	-7						
HZL	-2	8	12		-2	8	12	6		13	6		
Total	-2	9	11		-3	10	13						

Source: MOSL, Company

Exhibit 11: Metal sector valuation

	Rating	Price (INR)	MCAP (USD M)	EPS			P/E (x)		EV/EBITDA(x)		P/B(x)	
				FY17E	FY18E	FY19E	FY18E	FY19E	FY18E	FY19E	FY18E	FY19E
Steel												
Tata Steel	Neutral	638	9,705	37.9	65.1	64.3	9.8	9.9	6.6	6.6	1.7	1.5
JSW Steel	Buy	255	9,642	14.8	21.9	25.7	11.6	9.9	8.0	7.3	2.3	1.9
JSPL	Buy	137	1,965	-20.9	-15.8	2.0	-8.7	68.2	9.8	6.7	0.4	0.4
SAIL	Sell	61	3,929	-6.2	-10.6	-4.2	-5.7	-14.5	34.9	14.7	0.8	0.8
Non-Ferrous												
Hindalco	Buy	238	7,698	16.2	22.0	26.3	10.8	9.1	6.5	5.7	1.5	1.3
Nalco	Neutral	72	2,910	3.7	3.8	4.2	19.2	17.2	7.9	7.1	1.3	1.3
Vedanta	Buy	308	14,307	15.1	23.9	37.4	12.9	8.2	7.5	5.0	1.8	1.6
Mining												
Coal India	Buy	238	23,540	14.9	18.3	19.1	13.0	12.5	7.0	6.8	5.8	5.5
Hindustan Zinc	Neutral	295	19,525	19.7	22.2	29.3	13.3	10.1	8.3	5.8	4.4	3.4
NMDC	Buy	127	7,853	10.0	12.4	12.1	10.2	10.4	6.4	6.4	1.7	1.6

Source: MOSL, Company

Financials and Valuations

Income Statement						(INR Million)		
Y/E Mar	2013	2014	2015	2016	2017	2018E	2019E	2020E
Net Sales	25,544	725,850	749,223	642,618	722,250	833,284	1,026,350	1,111,517
Change (%)	-69.3	2,741.5	3.2	-14.2	12.4	15.4	23.2	8.3
EBITDA	4,808	256,640	221,381	151,516	213,319	252,303	349,390	378,787
EBITDA Margin (%)	18.8	35.4	29.5	23.6	29.5	30.3	34.0	34.1
Depreciation	1,975	84,250	71,616	85,724	62,915	64,816	72,651	78,689
EBIT	2,833	172,390	149,765	65,791	150,404	187,487	276,739	300,098
Interest	4,394	61,110	56,989	57,781	58,550	59,764	55,280	54,257
Other Income	539	23,090	28,910	44,436	45,806	43,008	37,917	45,022
Extraordinary items	0	580	-186,465	-337,847	-1,144	0	0	0
PBT	-1,022	134,950	-64,779	-285,402	136,516	170,732	259,375	290,863
Tax	-429	10,000	19,488	-106,776	37,783	45,571	69,231	77,636
Tax Rate (%)	42.0	7.4	-30.1	37.4	27.7	26.7	26.7	26.7
Min. Int. & Assoc. Share	0	73,430	42,704	-55,919	43,584	36,341	50,957	53,994
Reported PAT	-593	51,520	-126,970	-122,705	55,122	88,850	139,189	159,235
Adjusted PAT	-593	50,940	59,495	215,143	56,266	88,850	139,189	159,235
Change (%)	-102.1	-8,690.2	16.8	261.6	-73.8	57.9	56.7	14.4

Balance Sheet						(INR Million)		
Y/E Mar	2013	2014	2015	2016	2017	2018E	2019E	2020E
Share Capital	869	2,965	2,965	2,965	3,718	3,718	3,718	3,718
Reserves	173,885	727,122	584,398	437,427	601,284	644,309	715,046	797,519
Net Worth	174,754	730,087	587,363	440,392	605,001	648,027	718,764	801,237
Debt	45,015	805,660	777,054	812,934	906,308	827,997	797,897	797,897
Deferred Tax	253	27,352	82,551	-52,679	-54,084	-51,196	-46,808	-41,889
Total Capital Employed	220,022	1,901,073	1,914,733	1,566,258	1,596,505	1,600,449	1,696,430	1,837,817
Gross Fixed Assets	50,990	1,163,255	1,566,988	1,506,034	1,641,342	1,726,527	1,835,787	1,943,652
Less: Acc Depreciation	9,626	291,200	563,103	728,375	774,935	839,751	912,402	991,091
Net Fixed Assets	41,365	872,054	1,003,885	777,659	866,407	886,776	923,384	952,561
Capital WIP	7,225	431,277	400,234	279,260	176,709	149,412	91,935	40,635
Investments	158,820	2,086	323	488	729	759	761	763
Current Assets	21,481	835,766	749,569	809,719	871,531	821,101	956,991	1,128,900
Inventory	9,610	90,338	86,905	80,117	96,279	109,583	134,972	146,172
Debtors	1,424	46,537	35,604	25,279	34,093	38,811	47,803	51,769
Cash & Bank	2,130	453,850	505,582	570,460	610,119	541,668	643,176	799,919
Loans & Adv, Others	8,318	245,041	121,478	133,864	131,040	131,040	131,040	131,040
Curr Liabs & Provns	8,870	240,110	239,277	300,867	318,871	257,599	276,642	285,042
Curr. Liabilities	5,471	41,346	53,533	62,124	71,288	82,187	101,229	109,629
Provisions	3,398	198,764	185,744	238,743	247,583	175,413	175,413	175,413
Net Current Assets	12,612	595,656	510,292	508,852	552,660	563,501	680,349	843,858
Total Assets	220,022	1,901,073	1,914,733	1,566,258	1,596,505	1,600,449	1,696,430	1,837,817

Financials and Valuations

Ratios

Y/E Mar	2013	2014	2015	2016	2017	2018E	2019E	2020E
Basic (INR)								
EPS	-0.7	17.2	20.1	72.6	15.1	23.9	37.4	42.8
Cash EPS	1.6	45.6	44.2	101.5	32.1	41.3	57.0	64.0
Book Value	201.1	246.2	198.1	148.5	162.7	174.3	193.3	215.5
DPS	3.5	3.3	3.5	5.9	19.5	7.4	11.8	13.4
Payout (incl. Div. Tax.)	-615.5	22.7	20.9	9.7	154.2	37.4	38.0	37.6
Valuation(x)								
P/E						12.9	8.2	7.2
Price / Book Value						1.8	1.6	1.4
EV/Sales						1.8	1.4	1.2
EV/EBITDA						7.5	5.0	4.2
Dividend Yield (%)						2.4	3.8	4.3
Profitability Ratios (%)								
RoE	-0.4	7.7	9.0	41.9	9.7	14.2	20.4	21.0
RoCE	1.6	18.4	9.4	6.3	12.4	14.4	19.1	19.5
RoIC (pre-tax)	1.4	20.7	10.5	5.5	15.2	18.3	26.2	28.7
Turnover Ratios (%)								
Asset Turnover (x)	0.7	1.6	0.8	0.7	0.9	1.0	1.1	1.2
Debtors (No. of Days)	20	23	17	14	17	17	17	17
Inventory (No. of Days)	137	45	42	46	49	48	48	48
Creditors (No. of Days)	78	21	26	35	36	36	36	36
Leverage Ratios (%)								
Net Debt/Equity (x)	0.2	0.5	0.5	0.6	0.5	0.4	0.2	0.0

Cash Flow Statement

(INR Million)

Y/E Mar	2013	2014	2015	2016	2017	2018E	2019E	2020E
Adjusted EBITDA	4,808	256,640	221,381	151,516	213,319	252,303	349,390	378,787
Non cash opr. exp (inc)	-1,426	-46,653	15,811	-254	1,559	0	0	0
(Inc)/Dec in Wkg. Cap.	-2,818	-10,239	-25,345	39,820	-7,404	-79,292	-15,339	-6,767
Tax Paid	429	-43,741	-33,796	-24,513	-20,438	-42,683	-64,844	-72,716
Other operating activities	0	0	0	0	0	0	0	0
CF from Op. Activity	993	156,008	178,051	166,568	187,036	130,328	269,206	299,304
(Inc)/Dec in FA & CWIP	-733	-72,836	-106,561	-54,975	-55,010	-57,889	-51,783	-56,565
Free cash flows	260	83,172	71,490	111,593	132,026	72,440	217,424	242,739
(Pur)/Sale of Invt	19,088	-4,105	71,972	19,262	26,986	0	0	0
Others	-26,443	14,967	4,371	10,548	-18,687	43,008	37,917	45,022
CF from Inv. Activity	-8,088	-61,974	-30,218	-25,165	-46,712	-14,880	-13,866	-11,543
Inc/(Dec) in Net Worth	0	0	0	0	-1,010	0	0	0
Inc / (Dec) in Debt	7,602	18,380	-45,596	12,278	91,499	-79,078	-30,100	0
Interest Paid	-4,394	-46,752	-62,898	-57,966	-61,501	-59,764	-55,280	-54,257
Divd Paid (incl Tax) & Others	0	-22,144	-31,063	-30,838	-129,653	-45,058	-68,452	-76,762
CF from Fin. Activity	3,208	-50,516	-139,558	-76,526	-100,665	-183,899	-153,832	-131,019
Inc/(Dec) in Cash	-3,887	43,518	8,276	64,878	39,660	-68,451	101,508	156,743
Add: Opening Balance	6,017	410,333	453,850	505,582	570,460	610,119	541,668	643,176
Closing Balance	2,130	453,850	462,126	570,460	610,119	541,668	643,176	799,919

NOTES

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