Hindustan Zinc

Initiating Coverage

NEUTRAL

Price	**Rs334**
Target Price	**-**
Investment Period	**-**

Stock Info

Sector	Base Metals
Market Cap (Rs cr)	14,111
Beta	0.7
52 Week High / Low	814/217
Avg Daily Volume	60478
Face Value (Rs)	10
BSE Sensex	10,100
Nifty	3,078
BSE Code	500188
NSE Code	HINDZINC
Reuters Code	HZNC.BO
Bloomberg Code	HZ@IN

Shareholding Pattern (%)	
Promoters/Govt.	94.5
MF / Banks / Indian FIs	1.4
FII / NRIs / OCBs	2.2
Indian Public / Others	1.9

Abs.	3m	1yr	3yrs
Sensex (%)	(24.3)	(47.2)	7.3
HZL (%)	(31.1)	(57.8)	35.0

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Missing the Zing

Hindustan zinc Ltd (HZL) is the largest and only integrated zinc company in India with around 85% of the market share of India's zinc market. It is also one of the lowest cost producers of zinc with good quality zinc mines and huge zinc reserves. HZL currently has a zinc-lead capacity of 7.54lakh tonnes and is planning to expand it to 1mn tonnes by 2010. At Rs334, HZL is trading at 5.4x and 7.9x FY2009E and FY2010E Earnings, respectively. However, it is trading at EV/EBIDTA of 1.6x and 1.8x FY2009E and FY2010E EBIDTA, respectively. We assign the down-cycle average EV/EBIDTA of 2.5x to HZL and arrive at a Target Price of Rs364. However, due to the weak zinc outlook going forward, an expected surplus in next 2 years and falling zinc prices and margins, ***we initiate coverage on the stock with a Neutral recommendation.***

- **Strong Volume growth driven by expansions:** HZL has expanded its zinc capacity by 63% from 4.11lakh tonnes in FY2007 to 6.69lakh tonnes in April 2008, along with power capacity additions of 148.8MW during the same period. HZL further plans to increase its Zinc and Lead capacity from 6.69lakh tonnes and 85,000 tonnes to 8.79lakh tonnes and 1.85lakh tonnes respectively by 2010, taking its total Zinc-Lead capacity to 1.06mn tonnes. HZL also plans to increase its Power capacity from 341.2MW to 518.2MW during the same period, to contain power costs. On the back of capacity expansions, we expect HZL to post a CAGR volume growth of 17.6% over FY2008-10E.

- **Low cost producer of Zinc:** HZL is one of the lowest cost producers of zinc with integrated operations right from zinc mining to smelting. Company has huge reserves of good quality zinc with Rampura Agucha mine (average zinc grade of 13%) being one of the largest mines in the world. HZL's zinc reserves can last for next 20-25 years. We believe that its low cost advantage insulates itself from the volatility in the zinc prices.

- **Global Zinc market continues to be in surplus:** LME- Zinc prices have corrected by more than 50% in last couple of months and are currently hovering in the range of US $1,000-1,100/tonne. We believe that due to the expected surplus through 2008 and 2009, LME- Zinc prices will not rebound significantly from current levels and expect it to average lower in FY2009 and FY2010 from FY2008 levels. However, downside is limited for the zinc prices, with 40-50% of the cost curve worldwide higher than the current LME prices.

Key Financials

Y/E March (Rs cr)	FY2007	FY2008	FY2009E	FY2010E
Net Sales	**8,560**	**7,878**	**5,431**	**4,490**
% chg	*120.8*	*(8.0)*	*(31.1)*	*(17.3)*
Net Profit	**4,442**	**4,396**	**2,622**	**1,792**
% chg	*201.7*	*(1.0)*	*(40.4)*	*(31.7)*
FDEPS (Rs)	**105.1**	**104.0**	**62.1**	**42.4**
EBITDA Margins (%)	74.8	68.3	52.1	42.4
P/E (x)	3.2	3.2	5.4	7.9
P/BV(x)	1.8	1.2	1.0	0.9
RoE (%)	80.3	45.1	20.0	11.8
RoCE (%)	73.4	43.6	19.5	11.6
EV/Sales (x)	1.1	0.8	0.8	0.8
EV/EBITDA (x)	1.5	1.2	1.6	1.8

Source: Company, Angel Research

Business Model

HZL is the largest and integrated zinc company in India with a marketshare of around 85%

Hindustan Zinc (HZL) is the largest and only integrated zinc company in India with a marketshare of around 85%. It is also one of the lowest cost producers of zinc with the best quality zinc mines. HZL currently has total zinc capacity of 6.69lakh tonnes, which has been expanded from 4.11lakh tonnes in April 2008. HZL also expanded its captive power capacity from 192.4MW in FY2007 to 341.2MW in FY2008. HZL is a fully integrated zinc company having captive zinc mines namely Rampura Agucha Mine, Zawar Mines, Rajpura Dariba Mines and Sindesar Khurd Mine. All these mines are located in Rajasthan with total reserves of around 80mn tonnes and annual mining capacity of 7.1mn tonnes as of FY2008. Rampura Agucha mine is the biggest mine of HZL and meets almost 90% of its concentrate requirement. It is also one of the five largest mines in the world with a higher zinc grade of 13%. This provides HZL the biggest advantage in the global zinc market and helps it to be the lowest cost producer in the world. HZL's smelters are situated at Chanderiya (Rajasthan), Debari (Rajasthan) and Visakhapatnam (AP) with a combined zinc capacity of 6.69lakh tonnes and lead capacity of 85,000 tonnes at the end of FY2008.

Exhibit 1: HZL - Business Model (FY2008)

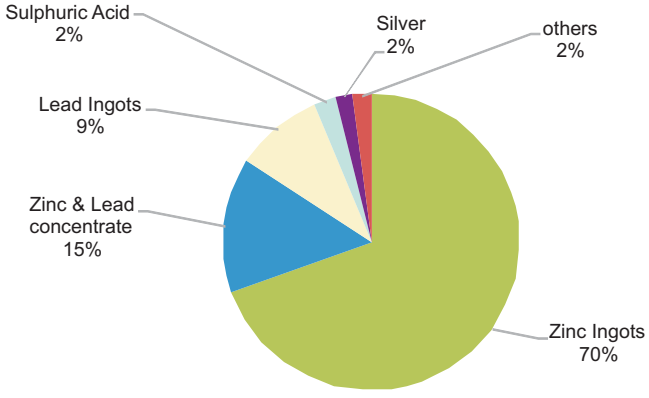
Mining	Smelting- Zinc/Lead	Captive Power
Rampura Agucha Mine (Rajasthan) Reserves: 63.5mtpa Capacity: 5.0mtpa Zinc Grade (%) : 13.0 **Zawar Mines (Rajasthan)** Reserves: 7.2mtpa Capacity: 1.2mtpa Zinc Grade (%) : 3.9 **Rajpura Dariba Mines (Rajasthan)** Reserves: 7.1mtpa Capacity: 0.6mtpa Zinc Grade (%): 6.2 **Sindesar Khurd Mine (Rajasthan)** Reserves: 2.0mtpa Capacity: 0.3mtpa Zinc Grade (%): 5.3	**Chanderiya smelting (Rajasthan)** Zinc - 5,25,000tpa Lead- 85,000tpa **Debari Zinc smelter (Rajasthan)** Zinc - 88,000tpa Lead-0mtpa **Vizag smelter (AP)** Zinc-56,000tpa Lead-0mtpa	**Chanderiya (Rajasthan)** 234 MW (Coal based) **Samana (Gujarat)** 88.8 MW (Wind Power) **Gadag (Karnataka)** 18.4 MW (Wind Power)
Total	**Total**	**Total**
Reserves: 79.7 **Capacity: 7.1**	**Zinc: 6,69,000** **Lead: 85,000**	**341.2**

Source: Company, Angel Research

Segment-wise Performance

HZL also produces sulphuric acid and silver as these are bye products of zinc and lead mining and smelting process. However, most of HZL's Revenue (around 70%) comes from zinc ingots, while 25% comes from lead and zinc-lead concentrate sales. The rest of the Revenues are contributed by bye product sales like sulphuric acid, silver and others.

Exhibit 2: HZL - Segment-wise Revenues (FY2008)



Source: Company, Angel Research

Investment Argument

Capacity expansions to fuel volumes

HZL has increased it zinc capacity by 1,70,000tpa in December 2007 and by 88,000tpa in April 2008, taking its total zinc capacity to 6.69lakh tonnes

HZL is on the verge of rapid expansion of its smelting, mining and power capacities to take advantage of the deficit in the Indian zinc market. HZL has increased it zinc smelting capacity at its Chanderiya smelting complex (Rajasthan) by commissioning 1,70,000tpa hydrometallurgical zinc smelter (Hydro II) in December 2007. Further, the zinc smelting capacity has been increased by 88,000tpa through de-bottlenecking at Chanderiya and Debari in April 2008, taking its total zinc capacity to 6.69lakh tonnes. HZL has also expanded capacity at Rampura Agucha mine from 3.75mn tonnes to 5mn tonnes in 2008.

Exhibit 3: HZL- Capacity Expansions/completed

Tonnes	Zinc Smelting (FY2007)	Expansion/ December 2007	Expansion /April 2008	Expanded Capacity (FY2009)
Chanderiya smelting complex	275,000	170,000	80,000	525,000
Debari Zinc smelter	80,000	0	8,000	88,000
Vizag smelter	56,000	0	0	56,000
Total	**411,000**	**170,000**	**88,000**	**669,000**

Source: Company, Angel Research

Power capacity expanded to contain costs

HZL has also enhanced its power capacity from 192.4MW by end of FY2007 to 341.2MW in FY2008

Along with zinc capacity, HZL has also enhanced its power capacity from 192.4MW by end of FY2007 to 341.2MW in FY2008. HZL commissioned its 80MW coal-based captive power plant (CPP) at Chanderiya in 2008. Company had also commissioned 68.8MW Wind Power capacity in Gujarat and Karnataka, taking its total wind power capacity to 107.2MW at the end of FY2008.

Exhibit 4: Power capacities (FY2008)

Location	Power Capacity (MW)	Type
Samana (Gujarat)	88.8	Wind
Gadag (Karnataka)	18.4	Wind
Chanderiya Smelting Complex	234	Coal
Total	**341.2**	

Source: Company, Angel Research

HZL targets to be the world's largest Zinc-Lead integrated company by 2010

HZL plans to expand its Zinc-Lead capacity to 1.06mn tonnes, making it one of the world's largest Zinc-Lead integrated companies by 2010. In line with the group's philosophy of being a fully self-reliant producer of power, a captive thermal power plant with a capacity of 160MW will also be set up at Rajpura Dariba, taking its total power capacity to 518.2MW by 2010. On expanded power capacity, HZL will be able to source 90% of its power requirements from the captive sources.

HZL plans to expand its Zinc-Lead capacity to 1.06mn tonnes

Exhibit 5: Smelting & Power Capacity expansions (tonnes)

Projects	Locations	Capacity	Completion Date
Zinc Smelting	Rajpura Dariba	2,10,000	2010
Lead smelting	Rajpura Dariba	1,00,000	2010
Power (MW)	Rajpura Dariba	160	2010

Source: Company, Angel Research

Huge Zinc reserves to support expansions

To support the increased capacities, HZL will also increase its ore production capacity at various mines

To support the increased smelting capacities, HZL will also increase its ore production capacity at the Rampura Agucha mine from 5mtpa to 6mtpa. Ore production at the Sindesar Khurd mine, the new mine in HZL's mining portfolio, will also be increased from 0.3mtpa to 1.5mtpa. HZL will also start mining activity at the Kayar mine, which will have production capacity of 0.3mtpa.

Exhibit 6: Zinc Mining Capacity expansions (mtpa)

Locations	Capacity	Completion Date
Rampura Agucha	1.0	2010
Sindesar Khurd	1.2	H12012
Kayar Mine	0.3	H12012

Source: Company, Angel Research

The zinc and lead smelters, the 160MW CPP and the Rampura Agucha mine expansion will be completed by mid-2010. However, expansions at the Sindesar Khurd and Kayar mines will be completed in phases by early 2012.

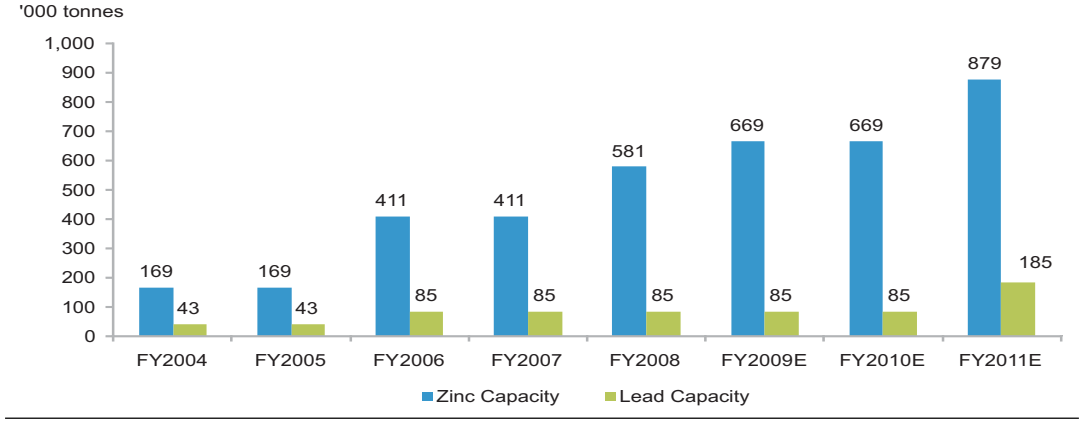
Sufficient cash to fund capex

Total investment in the above-mentioned projects is estimated at Rs3,600cr. This investment includes cost of the smelters, CPPs, mine development and shaft sinking and other infrastructure. The expansion will utilise the same technology and project management skills that successfully delivered the Chanderiya II expansion project ahead of schedule.

HZL to fund the capex through internal accruals as it is sitting on a sufficient cash of around Rs9,000cr

HZL proposes to fund the entire capex through internal accruals as it is sitting on a sufficient cash of around Rs9,000cr. Post completion of these projects, HZL will become one of the largest integrated zinc-lead producers in the world with zinc-lead capacity of 1.06mn tonnes by 2010, an increase of almost 115% over FY2007. We expect HZL to benefit from the expansions as it will be able to replace imports in the zinc deficit Indian market and win further marketshare.

Exhibit 7: Capacity ramp up



Source: Company, Angel Research

Led by capacity expansions, we expect zinc sales volumes to grow at a CAGR of 17.6% over FY2008-10E. We expect zinc volumes to grow 24.2% yoy to 5,28,600 tonnes in FY2009E and 11.4% yoy to 5,88,700 tonnes in FY2010E.

HZL- One of the lowest cost producers

HZL is one of the lowest cost zinc manufacturers in the world with huge reserves of high quality captive zinc mines, which meet the entire zinc concentrate requirements of the company. HZL operates three underground mines viz. Sindesar Khurd, Rajpura Dariba, Zawar and the mechanised open cast Rampura Agucha mine in Rajasthan. Notably, HZL's cost of zinc production in FY2008 excluding royalties stood at US $686/tonne as against the cost of production of around US $1,100-1,200/tonne for most high-cost manufacturers across the world. Royalties, which are LME-linked, stood at US $198/tonne in FY2008. Hence, including royalties, HZL's cost of production stood at US $884/tonne in FY2008. We believe that the cost of production for the company would decline going forward with decline in the raw material prices.

Rampua Agucha - HZL's gold

Rampura Agucha mine is the second largest in the world and one of the most cost-efficient Zinc mines

HZL's Rajasthan-based Rampura Agucha mines enjoy maximum competitive advantage. It is the second largest in terms of zinc reserves. The mine has total reserves of 63.5mn tonnes and resource of 43.8mn tonnes, with average reserve grade of 13.0% zinc and 1.9% of lead. The proven and probable zinc reserves are estimated to be around 8.3mn tonnes. The mine has ore extraction capacity of 5.0mtpa and achieved annual output of 4.0mn tonnes in FY08. The mine meets around 90% of the company's concentrate requirement. It is also one of the most cost-efficient Zinc mines in the world. With low stripping ratio and being the large open-cast mine, its mining cost is also among the best in industry.

Exhibit 8: Top Zinc Mines

Mine	Location	Company	Proven & Probable Reserves (mt)	Zn content (%)	Proven & Probable Zinc (mt)	Annual Output (mt)
Red Dog	Alaska	Teck Cominco	85.0	17.3	14.7	0.6
Rampura Agucha	India	Hindustan Zinc Limited	63.5	13.0	8.3	5.0
Century	Australia	Oz Minerals	46.2	11.2	5.2	0.9
Antamina	Peru	BHP/Noranda/ TCK/ Mitsubishi	745.0	0.6	4.7	0.2
Mt Isa - Black Star	Australia	Xstrata	32.5	5.1	1.7	0.3
Lisheen	Ireland	Anglo American	9.7	11.9	1.6	0.2
Tara	Ireland	Boliden	17.8	7.7	1.4	0.2
Brunswick	New Brunswick	Xstrata	11.1	8.5	1.0	0.3
Greens Creek	Alaska	Hecla / Rio Tinto	8.5	10.2	0.9	0.1
Perseverance (Matagami)	Quebec	Xstrata/ Donner Metals	5.0	13.8	0.7	0.2

Source: Company, Angel Research

Increasing Reserves through aggressive explorations

HZL has been on the verge of extensive explorations to increase the reserves of its zinc mines

HZL has been on the verge of extensive explorations to increase the reserves of its zinc mines. Exploration at the Rampura Agucha mines has met with good results. As of FY2004, Rampura Agucha mine reserves stood at 40mn tonnes with an average grade of 12.8% zinc and 1.9% lead. Following extensive drilling, reserves increased by 13.3mn tonnes or approximately 33% to 53.4mn tonnes in FY2006 with an average grade of 12.8% of zinc and 2% of lead after depletion. The reserves currently have increased to 63.5mn tonnes with an average grade of around 13% zinc. The company's combined reserves and resources position has increased by 22.9mn tonnes from 209.4mn tonnes in FY2007 to 232.3mn tonnes in FY2008 and is currently at 255mn tonnes. HZL estimates the remaining mine life at Rampura Agucha to be approximately 12 years. The two other underground mines at Rajpura Dariba and Zawar, which meet around 5% each of the company's ore requirement and have six and four years of mine life left respectively, on current reserves.

Exhibit 9: Mines & Reserves (mn tonnes)

Mines	Reserves	Capacity	Zinc Grade %
Rampura Agucha Mine	63.5	5.0	13.0
Zawar Mines	7.2	1.2	3.9
Rajpura Dariba Mines	7.1	0.6	6.2
Sindesar Khurd Mine	2.0	0.3	5.3
Total	**79.7**	**7.1**	

Source: Company, Angel Research

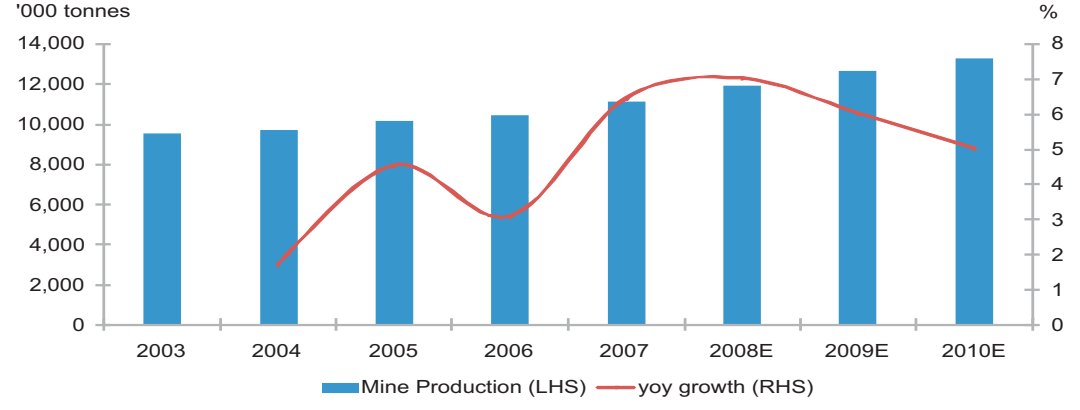
Global Zinc market continues to be in surplus

The world zinc market is expected to be in surplus through 2008 and 2009

The world zinc market is expected to be in surplus through 2008 and 2009 with huge capacities in zinc mining and refining expected to come up and demand not keeping pace with supply.

In 2007, the world zinc mine production increased by around 6.4% yoy to 11.1mn tonnes as against mere 3.1% growth in 2006. The increase in mine supply was mainly due to higher production in China, India and Australia and additional supplies from new mines in Bolivia, Peru and Canada. The largest recently commissioned mine is Apex Silver's San Cristobal operation in Bolivia (0.24mtpa), which began production in August 2007 is expected to ramp up output in 2008 and 2009, respectively. Other mines that recently commenced operations include the Minera Milpo's Cerro Lindo mine (0.11mtpa) in Peru, which began production in July 2007, the Xstrata's Perseverance mine (0.11mtpa) in Canada, which was commissioned in July 2008.

Exhibit 10: Mine Production, Growth trend



Source- ILZSG, Angel Research

Notably, the world's zinc mine output this far has registered 7.1% growth yoy in the first nine months of 2008 to 8.8mn tonnes and is expected to continue to grow owing to the expected commissioning of Goldcorp's Penasquito mine in Mexico (0.19mtpa), expansion of Xstrata's Mt Isa zinc-lead concentrator (0.15mtpa, scheduled for completion towards late 2008), and possible start up of Herald Resources' Dairi mine (0.11mtpa) in Indonesia. There has been significant investment in zinc mining in China as well. According to International Lead and Zinc Study Group forecasts, China's zinc mine output is set to rise by around 10% in 2008 with a similar increase in 2009. The world's zinc mine production is estimated to grow by 7% and 6% to 11.9mn tonnes and 12.6mn tonnes in 2008 and 2009, respectively.

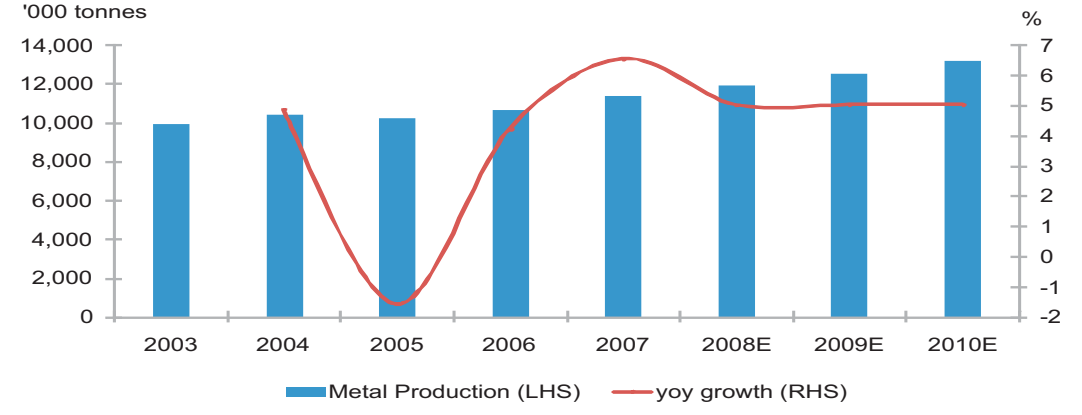
Refined metals production on the rise

Refined metal production will grow by 5% to 11.9mn tonnes in 2008 and 5% to 12.5mn tonnes yoy in 2009

In 2007, the world zinc smelter production increased by 6.5% yoy to 11.4mn tonnes as against 4.2% growth registered in 2006. We believe refined metal production will grow by 5% to 11.9mn tonnes in 2008 and 5% to 12.5mn tonnes yoy in 2009. Production is expected to increase on account of several expansion programmes globally. Notable among them, the Peru refinery

Votorantim's Cajamarquill increased capacity by 30,000tpa towards late 2007 and plans to further expand capacity by 0.18mtpa over the next two years. HZL, India too completed 0.17mtpa expansion of its Chanderiya refinery at the end of 2007 and further 88,000tpa by April 2008. HZL proposes to further expand capacity by 0.21mn tonnes going ahead. Nonfemet too expects to commission its 70,000tpa Shooguan zinc refinery in China by end 2008.

Exhibit 11: Refined Zinc Production, Growth trend



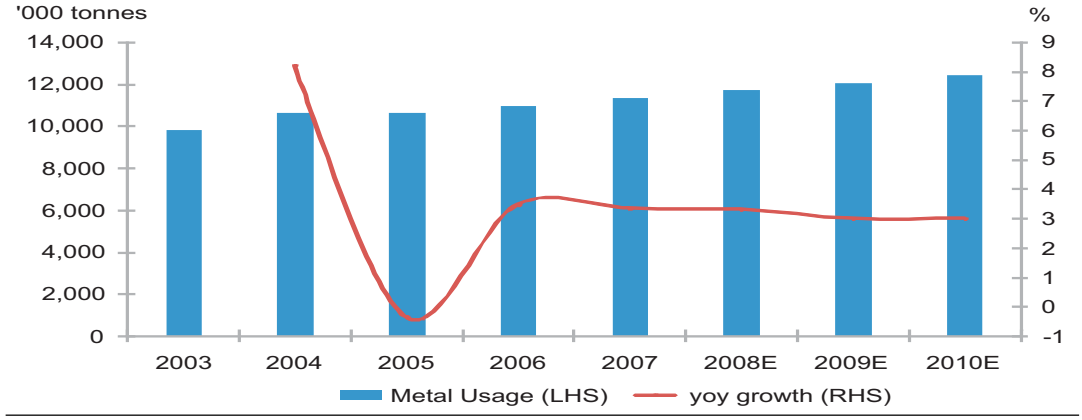
Source- ILZSG, Angel Research

...however, consumption to lag supply

Globally, refined metal consumption is expected to grow at a rate of 3.3% and 3% in 2008 and 2009 respectively

Global usage of refined metal increased 3.3% in 2007 to 11.3mn tonnes maintaining balance in the market for the year. Higher consumption in developing countries like China and India drove this increased consumption in 2007. Globally, refined metal consumption is expected to grow at a decent rate of 3.3% in 2008 to 11.7mn tonnes. This growth in consumption is expected to be mainly driven by the fast growing China, which is estimated to register 13% growth in 2008 *(Source: ILZSG)*. Notably, growth in consumption in 2008 (Jan-Sept) stood at 3.6%. However, due to the global slowdown and liquidity crunch we expect consumption of refined metal to grow at a slower pace of around 3% to 12mn tonnes in 2009. The growth rate in China is also expected to temper to 7.6% in 2009 impacted by the overall slowdown. However, consumption growth in the OECD economies is estimated to be flat. For 2008 and 2009, consumption growth in the US and Europe is forecast to be flat owing to the tight credit market conditions, which has reduced construction activity.

Exhibit 12: Zinc Consumption, Growth trend



Source- ILZSG, Angel Research

Zinc market continues to be in surplus

We expect global zinc surplus to increase to 0.2mn tonnes and 0.4mn tonnes in 2008 and 2009

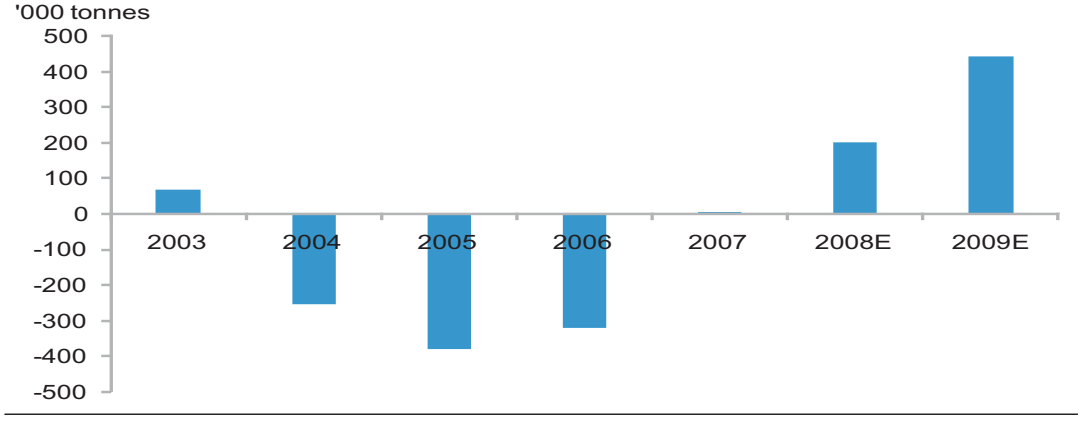
The world zinc market is expected to be in surplus through 2008 and 2009 with huge capacities in zinc mining and refining expected to come up and demand not keeping pace with supply. We expect global zinc surplus to increase to 0.2mn tonnes and 0.4mn tonnes in 2008 and 2009. In 2008, this far, zinc surplus has been around 0.1mn tonnes as against an almost balanced situation during the corresponding period of last year.

Exhibit 13: World Zinc Demand and Supply

'000 tonnes	2003	2004	2005	2006	2007	2008E	2009E
Mine Production	9,545	9,709	10,149	10,461	11,134	11,913	12,628
yoy growth %		*1.7*	*4.5*	*3.1*	*6.4*	*7.0*	*6.0*
Metal Production	9,912	10,392	10,229	10,658	11,353	11,921	12,517
yoy growth %		*4.8*	*(1.6)*	*4.2*	*6.5*	*5.0*	*5.0*
Metal Usage	9,842	10,647	10,611	10,979	11,346	11,720	12,072
yoy growth %		*8.2*	*(0.3)*	*3.5*	*3.3*	*3.3*	*3.0*
Surplus/(Deficit)	70	(255)	(382)	(321)	7	200	445
LME-Zinc (US $/t)	900	1,108	1,615	3,570	3,000	1,800	1,150

Source- ILZSG, LME, Angel Research

Exhibit 14: Surplus/Deficit in World Zinc market



Source- ILZSG, Angel Research

China - Key to growth

Chinese demand is forecast to rise by 13.2% in 2008 and 7.6% in 2009

China is the key growth driver for the global zinc industry controlling over one-third of the global zinc production and consumption. Refined zinc metal production in China grew by a substantial 18.3% in 2007 to 3.74mn tonnes, contributing almost 30% to world zinc production. Global zinc consumption was led by Chinese consumption which grew in excess of 15% in 2007 to 3.6mn tonnes.

Exhibit 15: China - Demand/ supply

'000 tonnes	2003	2004	2005	2006	2007
Metal Production	2,319	2,720	2,776	3,163	3,743
yoy %	*7.6*	*17.3*	*2.1*	*13.9*	*18.3*
Metal Usage	2,350	2,820	3,037	3,115	3,585
yoy %	*16.9*	*20.0*	*7.7*	*2.6*	*15.1*

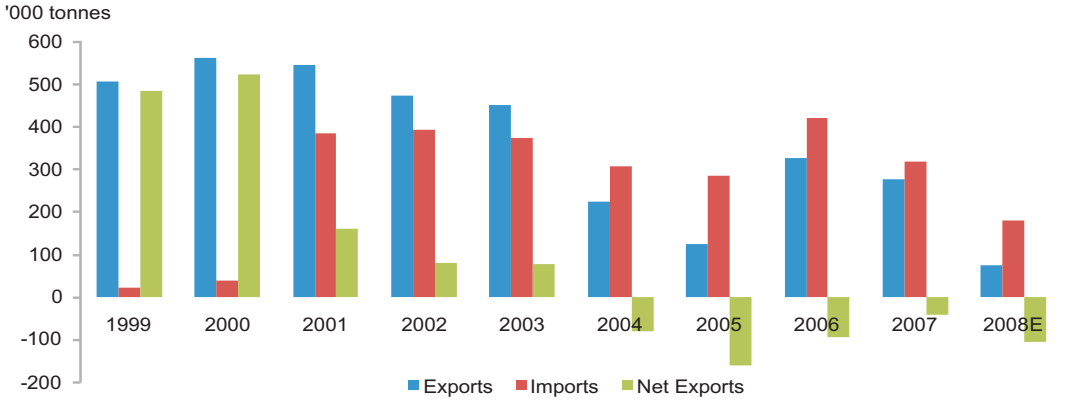
Source- ILZSG, ABARE, AngelResearch

According to ILZSG, in 2008, Chinese demand is forecast to rise by 13.2%, slightly lower than it was in 2007. However, in 2009, the rate of increase in usage is expected to drag down more significantly to 7.6% owing to the slowdown in the economy.

China continues to be net importer

During the first eight months of 2008, Chinese imports plunged by almost 37% yoy to 1,25,499 tonnes of refined zinc. Its exports also declined a substantial 78.4% to 50,952 tonnes of refined zinc due to higher domestic prices and tax changes. The Chinese government has imposed 5% and 15% export tax on 99.99 and 99.95 zinc respectively, since January 2008. Hence, China continued to be net importer of zinc to the tune of 74,547 tonnes during the first eight months of 2008. ILZSG estimates that China will import 1,60,000- 2,00,000 tonnes in 2008, while exports are estimated at 1,00,000 tonnes. Overall, China will continue to be net importer of refined zinc to the tune of 60,000-1,00,000 tonnes in 2008.

Exhibit 16: Chinese Zinc Exports & Imports



Source- ILZSG, ABARE, Angel Research

India Scenario

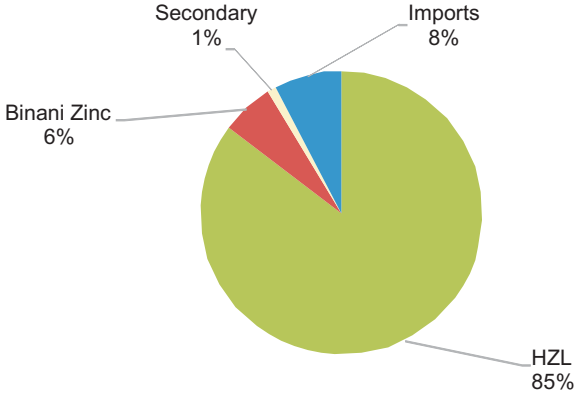
HZL- Biggest beneficiary of deficit in Indian Zinc market

HZL is India's only integrated zinc producer with operations spanning from mining to smelting of zinc

In 2007, India's zinc production stood at a mere 4% of the world's total production at 0.45mn tonnes. HZL is India's main and only integrated zinc producer with operations spanning from mining to smelting of zinc. Competitor, Binani Zinc, is a relatively smaller zinc smelter with smelting capacity of 38,000tpa as of FY2008. India's zinc consumption has been growing at an average 8% in the last couple of years driven by strong consumption in the galvanised steel segment, which is the main growth driver for zinc in India. However, India has been a net importer of zinc, with demand outstripping supply. We believe going ahead huge capacity expansions by HZL will help reduce the country's imports to some extent. HZL expects to increase its marketshare in the country from 85% in FY2008 when its announced capacity expansions plans come on stream.

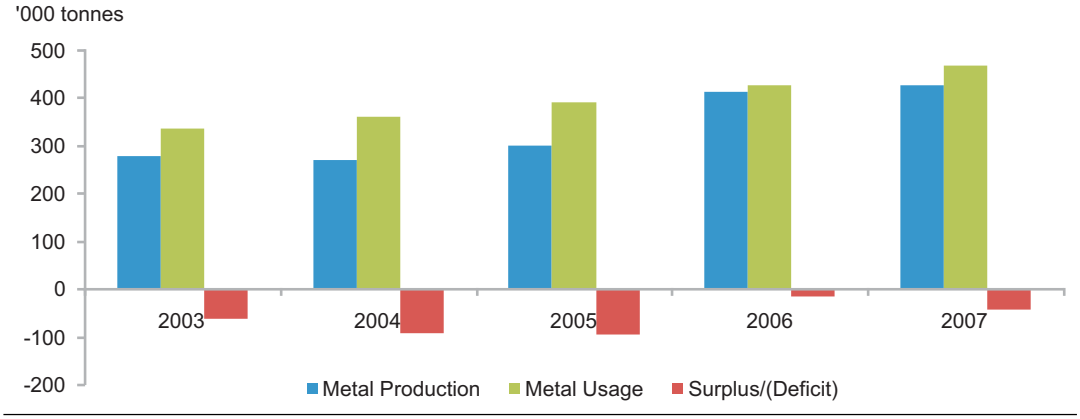
HZL expects to increase its marketshare in the country with the expansion of its smelting capacity

Exhibit 17: HZL- Marketshare - FY2008



Source: Company, Industry, Angel Research

Exhibit 18: India- Zinc Demand/Supply



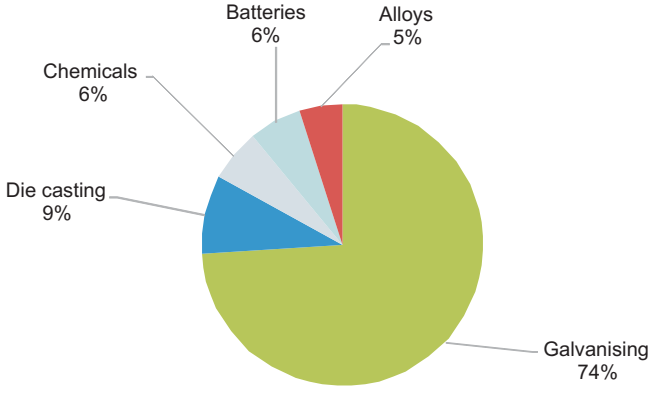
Source: ABARE, Industry, Angel Research

Demand drivers

In India, 74% of zinc is accounted by steel galvanizing compared to 50% worldwide

In India, 74% of zinc is accounted by steel galvanizing in the Steel Sector compared to 50% worldwide. Going ahead, the country's galvanising capacity is set to grow in excess of 10%, which would accelerate demand for zinc. The Construction and Automobile industries account for majority of the galvanising applications.

Exhibit 19: Zinc Application (India) - First Use



Source: ILZSG, Brook Hunt, Angel Research

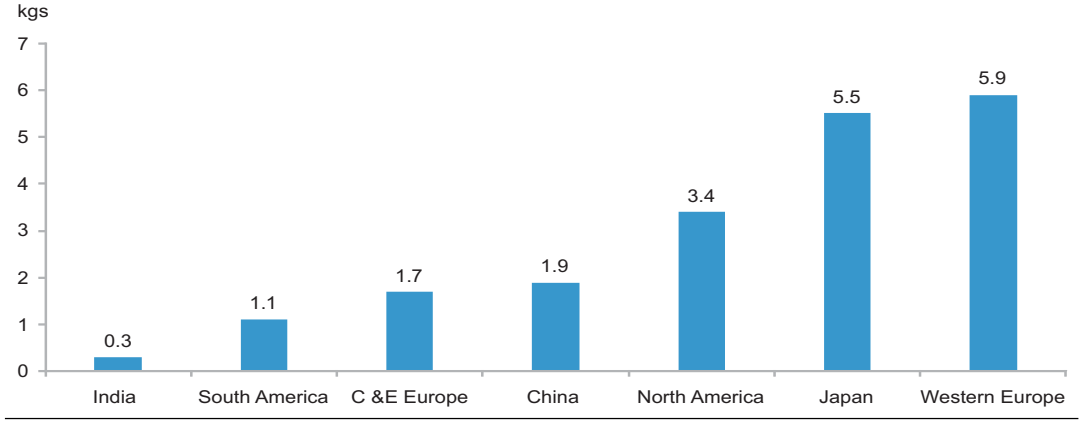
Slowdown in Steel Sector to affect zinc consumption in short term

Expected slowdown in steel consumption would have negative impact on zinc consumption in India in the short term

Expected slowdown in steel consumption resulting from the overall economic slowdown, sluggish Automobile and Real Estate Sectors would have negative impact on zinc consumption in India in the short term. However, with the very low per capita consumption of zinc, India's long-term zinc consumption growth remains intact. India's per capita zinc consumption stands at just 0.3kg compared to China's 1.9kg, Western Europe's 5.9kg and 3.4kg in North America. This indicates the significant growth potential for zinc in the domestic market which we believe would grow in tandem with GDP growth.

India's per capita zinc consumption is just 0.3kg compared to China's 1.9kg and Western Europe's 5.9kg

Exhibit 20: Per capita consumption of Zinc



Source: ILZSG, World Bank, IZA, Angel Research

Price Outlook

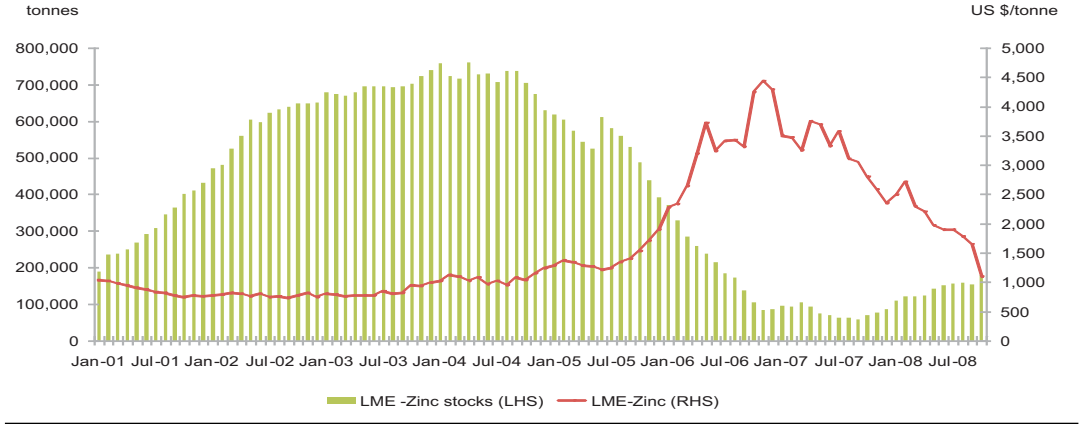
LME- Zinc prices collapsed on rising stocks

LME- Zinc prices in last couple of months have collapsed by more than 50% due to economic slowdown

The LME- Zinc prices in last couple of months have collapsed by more than 50% led by rising stocks and demand destruction due to global economic slowdown. The World spot zinc prices averaged at US $2,000/tonne during January-October 2008, almost 41% lower than the average price of US $3,360/tonne during the same period of 2007. Spot price of zinc is estimated to average at US $1,520/tonne on LME in FY2009 from the average of US $3,000/tonne in FY2008. Forecasts of average zinc prices ruling lower have mainly been on account of increasing world supplies resulting from commencement of new mines and refineries. In FY2010, we expect zinc prices to average at US $1,150/tonne that is further 24.3% down yoy due to an expected surplus in the zinc market.

In FY2010, we expect zinc prices to average at US $1,150/tonne, further 24.3% down yoy

Exhibit 21: LME Zinc Stocks, Prices



Source: LME, Angel Research

Production cuts across the globe

The biggest upside risk to the LME zinc prices is the major production cuts across the globe. Falling zinc prices (currently US $1,100/tonne), which is now even lower than the marginal cost of production for 40-50% of the zinc smelters worldwide has resulted in mines and smelters announcing closures to limit further downside to LME zinc prices. Consider, production cost for the zinc producers who do not have captive zinc mines unlike HZL, is US $1,100-1,200/tonne, which is at the current LME-zinc price. Such companies are turning unviable and cutting production in their attempts to limit excess supply of zinc in the global markets.

Production cuts announced by major zinc companies in the world:

Korea Zinc, one of the largest zinc refiners, will reduce output by 45,000 tonnes until the end of 2009, slashing output to battle falling prices and weak demand.

Also, Belgium's Nyrstar, the world's top zinc producer, with zinc output of more than 1mn tonnes in 2007, would cut production by 25,000 tonnes this year and another 1,30,000 tonnes in the first half of 2009.

In China, Huludao Zinc, the country's second-biggest zinc firm, shut 1,05,000 tonnes of annual zinc production capacity, 27% of its total, last month.

We believe that possible positive impact from loss of production due to major production cuts would be offset by the demand slowdown globally and would not have a favorable impact on demand-supply. However, major production cuts globally would limit downside of LME zinc prices.

Lead in surplus

Global refined lead production grew by a mere 1.8% yoy to 8mn tonnes in 2007. However, lead production during January-September 2008 grew by 7.3% to 6.4mn tonnes. According to ILZSG, escalation in Chinese lead production was the main driver behind an increase in world production of refined lead. The expansion was spurred by rises in Russia and UK. Output was also higher in Canada, India, Kazakhstan and the US. Global lead production is expected to grow 6.8% and 3.8% in 2008 and 2009 to 8.6mn tonnes and 8.9mn tonnes, respectively.

Global usage of lead to grow by 5.7% and 4.0% in 2008 and 2009 respectively

Global demand for refined lead increased 5.8% to 6.4mn tonnes during January-September 2008 primarily due to strong growth in China. According to ILZSG, global usage of lead is expected to grow by 5.7% and 4.0% to 8.6mn tonnes and 8.9mn tonnes in 2008 and 2009 respectively, driven by growth in demand for Chinese lead by 19% and 9.5% in 2008 and 2009, respectively.

Exhibit 22: World Lead Demand/Supply

'000 tonnes	2003	2004	2005	2006	2007	2008E	2009E
Mine Production	3,113	3,123	3,412	3,515	3,569	3,890	4,085
yoy %		*0.3*	*9.3*	*3.0*	*1.5*	*9.0*	*5.0*
Metal Production	6,787	6,998	7,632	7,922	8,066	8,614	8,942
yoy %		*3.1*	*9.1*	*3.8*	*1.8*	*6.8*	*3.8*
Metal Usage	6,844	7,296	7,803	8,061	8,133	8,597	8,897
yoy %		*6.6*	*6.9*	*3.3*	*0.9*	*5.7*	*3.5*
Surplus/(Deficit)	(57)	(298)	(171)	(139)	(67)	18	44

Source- ILZSG

Exhibit 23: World Lead Demand/Supply in 2008

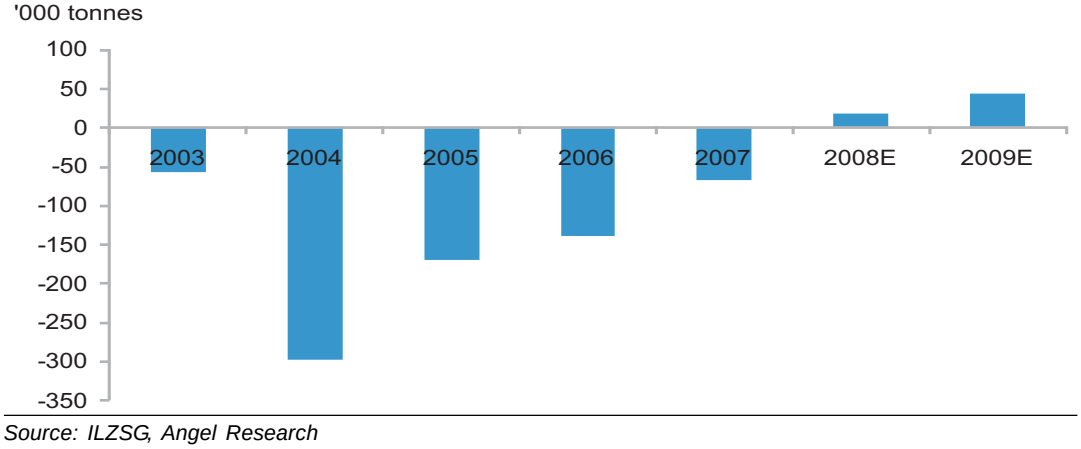
'000 tonnes	Jan-Sept 2008	Jan-Sept 2007	*yoy %*
Mine Production	2,891	2,651	*9.1*
Metal Production	6,462	6,023	*7.3*
Metal Usage	6,427	6,074	*5.8*
Surplus/(Deficit)	35	(51)	
LME-Lead (US $/t)	2,368	2,370	*(0.1)*

Source- ILZSG, Angel Research

Lead market is also expected to in surplus through 2008 and 2009

Hence, world lead market is also expected to in surplus through 2008 and 2009 to the tune of 18,000 tonnes and 44,000 tonnes respectively.

Exhibit 24: World Lead Surplus/Deficit trend



Source: ILZSG, Angel Research

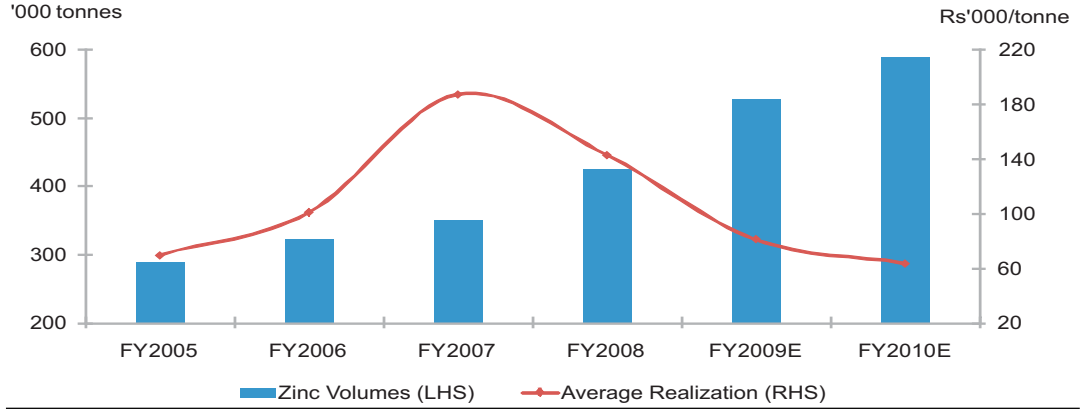
Financial Performance

Strong volumes while Realisations dip

We expect zinc sales volumes to grow at a CAGR of 17.6% over FY2008-10E

Led by capacity expansions, we expect zinc sales volumes to grow at a CAGR of 17.6% over FY2008-10E. We expect zinc volumes to grow 24.2% yoy to 5,28,567 tonnes in FY2009E and 11.4% yoy to 5,88,720 tonnes in FY2010E. However, due to the fall in LME prices, we expect average realisations for zinc to decline by a substantial 41.7% to Rs83,300/tonne in FY2009E and 25.4% yoy to Rs62,100/tonne in FY2010E.

Exhibit 25: Volumes, Realisation



Source: Company, Angel Research

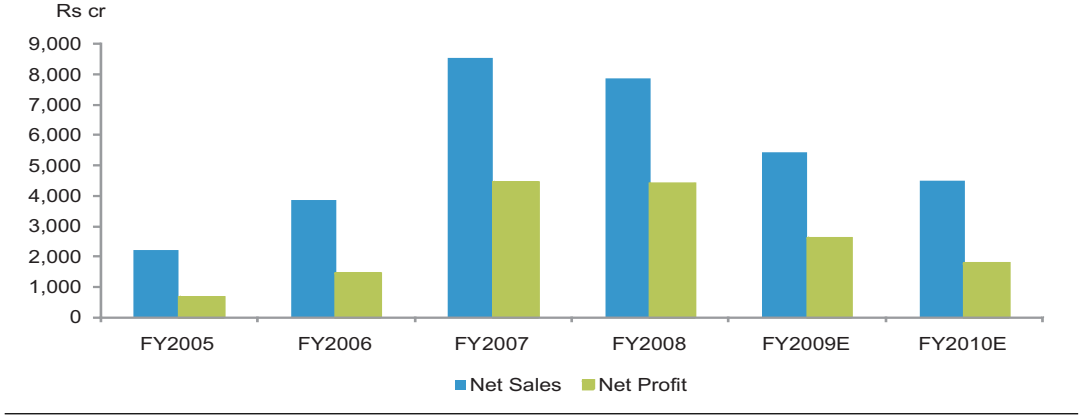
Revenues not to keep pace with volumes

We expect HZL's Revenues to decline at a CAGR of 24.5% over FY2008-10E

We expect HZL's Revenues to decline at a CAGR of 24.5% over FY2008-10E owing to steep decline in LME-zinc and lead prices consequently affecting the company's realisations. However, strong CAGR in volumes of 17.4% in the mentioned period would support Revenues. Net Profit is expected to de-grow in FY2009E and FY2010E mainly due to fall in realisations led by sharp fall in LME prices, which will drag down Margins. We expect Net profit to decline at a CAGR of 36.2% over FY2008-10E.

We expect Net profit to decline at a CAGR of 36.2% over FY2008-10E

Exhibit 26: Trend in Top-line, Bottom-line



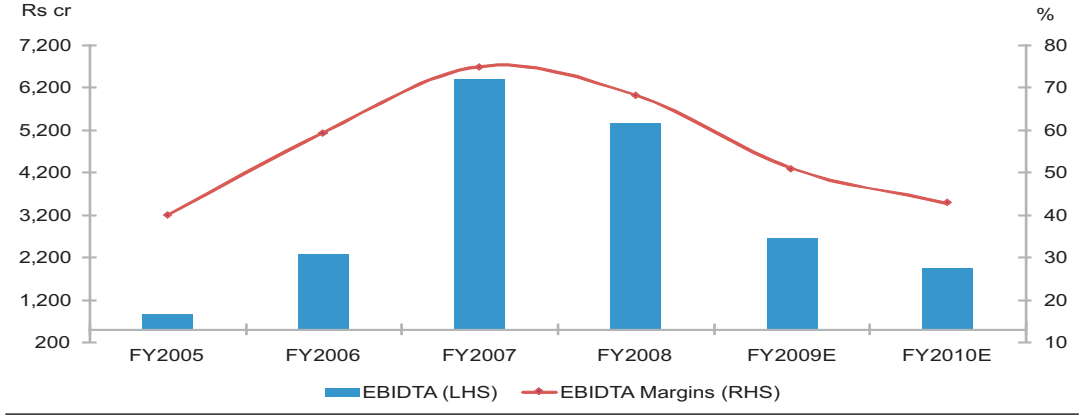
Source: Company, Angel Research

Margins to decline on sharp fall in LME

HZL's EBITDA Margins to decline by a substantial 2,580bp over FY2008-10E

We estimate HZL's EBITDA Margins to decline by a substantial 2,580bp over FY2008-10E due to sharp fall in the LME Zinc prices and realisations falling by 56.5% in the mentioned period. We expect Margins to decline from 68.3% in FY2008 to 52.1% in FY2009 and further to 42.4% in FY2010. However, HZL is one of the best zinc players in the world having quality zinc mines and low production cost of US $884/tonne in FY2008. We expect production cost to further decline due to the fall in raw material prices like met coke. Further, with increase in power capacity, HZL will also be able to save on power costs. Thus, low production costs and decline in power costs will to an extent cushion the fall in Margins.

Exhibit 27: EBIDTA, EBIDTA Margins



Source: Company, Angel Research

High Sensitivity to LME

HZL's earnings are highly sensitive to the LME- Zinc prices as its realizations are linked to the LME prices. Also the earnings are sensitive to the Rs/$ rate since LME prices are denominated in US $.

Exhibit 28: EPS Sensitivity Analysis (FY2010E)

		LME-Zinc price (US $/tonne)				
		950	1,050	**1,150**	1,250	1,350
Rs/$ rate	43	26.1	32.4	38.7	45.0	51.2
	44	27.7	34.1	40.5	47.0	53.4
	45	29.3	35.8	**42.4**	49.0	55.5
	46	30.8	37.6	44.3	51.0	57.7
	47	32.4	39.3	46.1	53.0	59.8
	48	34	41.0	48.0	55.0	62.0

Source: Company, Angel Research

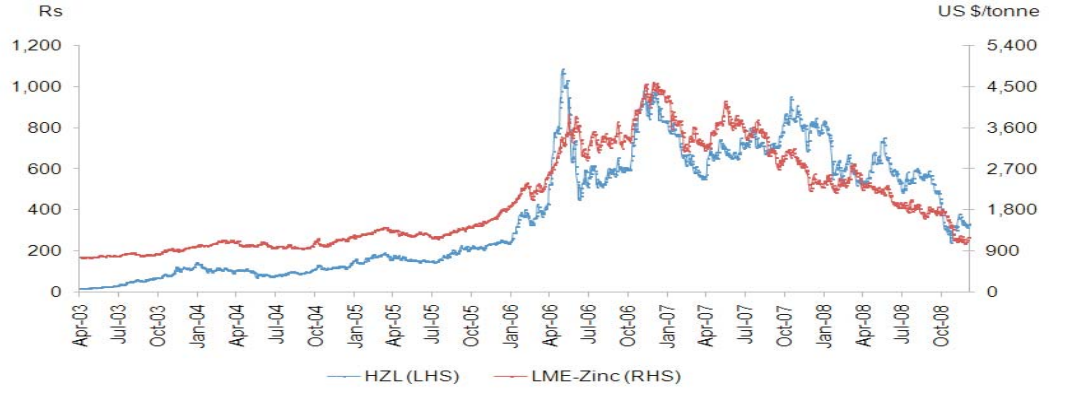
As indiacted by the sensitivity analysis, US $100/tonne (8.3%) decline in LME-Zinc prices from our base case of US $1,150/tonne in FY2010, will lead to fall in EPS by 15.6% in FY2010. Also, 1% appreciation in Rs/$ rate, will reduce EPS estimate by 4.5% in FY2010.

Outlook and Valuation

Commodity stocks generally tend to move in tandem with the commodity prices

Commodity stocks generally tend to move in tandem with the commodity prices. The same has been witnessed in HZL stock trend. It has been seen that the HZL stock moves in tandem with the LME zinc prices as shown in the chart below.

Exhibit 29: LME-Zinc Prices v/s HZL Stock price trend



Source: LME, C-Line

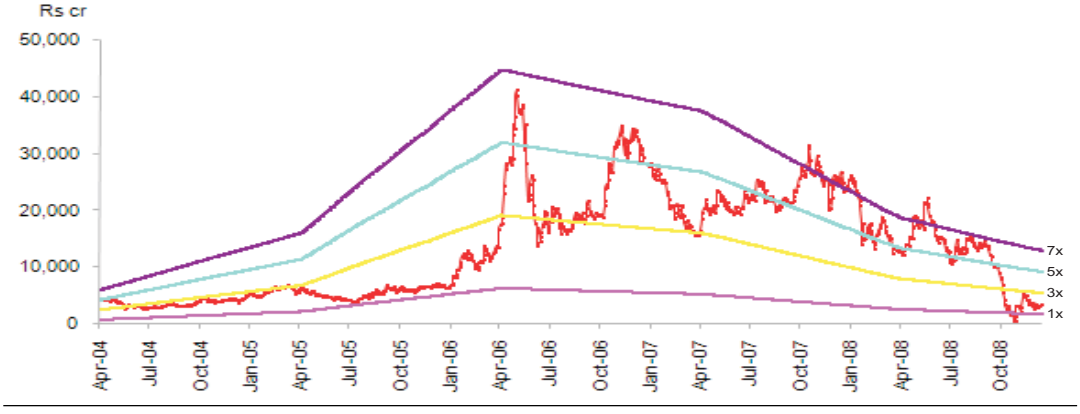
At Rs334, HZL is trading at 5.4x and 7.9x FY2009E and FY2010E Earnings, respectively. However, it is trading at EV/EBIDTA of 1.6x and 1.8x FY2009E and FY2010E EBIDTA, respectively. In the last downcycle (2002-2003) when the LME-Zinc prices were hovering in the range of US $850-900/tonne, HZL traded at an average P/E of 3-4x and traded at EV/EBIDTA of 2-3x. Historically, the stock has been trading in a wide valuation band depending on the industry cycle. Considering valuations of its global peers, on EV/EBIDTA, HZL is trading at a discount. However, we believe that HZL should trade on par with its efficient global peers on account of being one of the lowest cost producers of zinc. We believe that HZL is a fundamentally strong company with zero debt and substantial cash reserves on its books. We also believe that the recent fall in Zinc and Lead prices, demand slowdown on account of the economic slowdown are largely priced in. We assign the down-cycle average EV/EBIDTA of 2.5x to HZL and arrive at a Target Price of Rs364. However, due to the weak zinc outlook going forward, an expected surplus in next 2 years and falling zinc prices and margins, **we initiate coverage on the stock with a Neutral recommendation.**

Exhibit 30: Comparative Valuation

	Bloomberg Ticker	Year End	EBIDTA Margins (%)	RoE (%)	P/E		EV/EBIDTA	
			FY2010E	FY2010E	FY2009E	FY2010E	FY2009E	FY2010E
HZL	**HZ IN**	**March**	**42.4**	**11.8**	**5.4**	**7.9**	**1.6**	**1.8**
Xstrata	XTA LN	Dec	34.4	12.5	1.7	2.5	2.3	3.0
Korea Zinc	010130 KS	Dec	20.5	12.3	6.0	6.2	3.0	2.9
Umicore	UMI BR	Dec	5.2	13.5	6.5	8.0	4.5	5.3
Teck Cominco	TCK/B	Dec	43.4	14.2	1.15	1.3	0.8	0.7

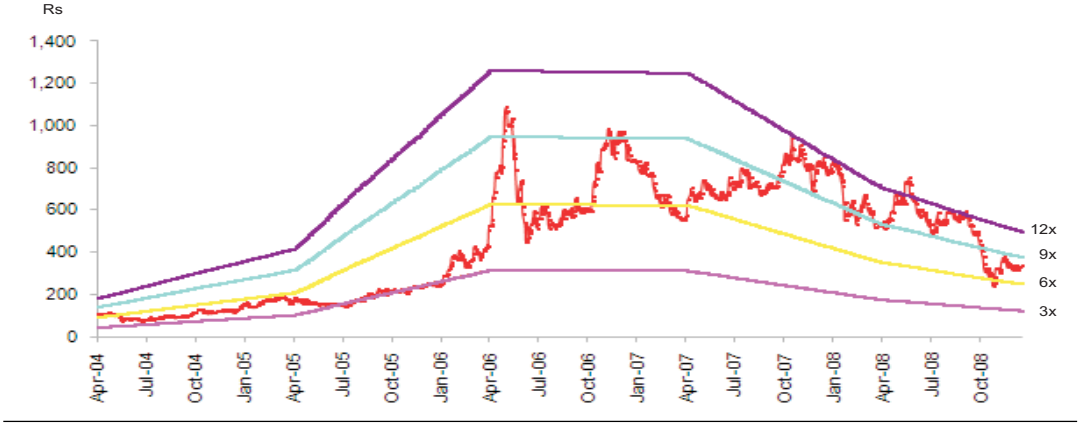
Source: Bloomberg, Angel Research

Exhibit 31: 1 Year forward EV/EBITDA Chart



Source: C-line, Angel Research

Exhibit 32: 1 Year forward P/E Band Chart



Source: C-line, Angel Research

Investment Concerns

Delay in Capacity Expansions

HZL is on the verge of rapid expansion of its Smelting, Power as well as Mining capacities. Volume growth coming in from this expansion is a major driver for the profitability in coming years. Delay in any such expansions would impact our profit estimates for the company.

Destructions in Demand drivers

HZL's products mainly see applications in the steel industry, which is suffering from the global economic slowdown. Many major steel companies have announced the production cuts globally and in India. Continued weak demand for steel, will affect the demand for zinc.

Volatility in LME Prices

Being into commodity, HZL's earnings are linked to the LME-Zinc and Lead prices. Wide variations in the LME Zinc and lead prices from our assumptions would impact our estimates.

Rupee Depreciation

HZL's realizations for Zinc and Lead are linked to the LME prices, which are denominated in dollar terms; any fluctuations in the Dollar-Rupee rate would have an impact on the domestic realizations of these commodities and consequently revenues of the company.

Disruptions in mines

Any disruption in the mining operations of the company due to any extra ordinary activities like earthquake, heavy rains, labour strikes etc will have an impact on the company's operations and hence the earnings.

All about Zinc

Introduction

Zinc is the twenty-third most common element in the Earth's crust and fourth most common metal in use after Iron, Aluminium and Copper. Zinc is a metallic chemical element. It has high resistance to atmospheric corrosion and is mainly used as a protective coating for iron and steel sheet and wires. Galvanised sheets are a prime example. The melting point of zinc is 419 deg C. Its symbol is Zn and atomic number is 30. In non-scientific terms it is sometimes called as spelter. Zinc is a moderately reactive bluish grey metal that tarnishes in moist air and burns in air with a bright bluish-green flame, giving off fumes of zinc oxide. It reacts with acids, alkalis and other non-metals. If not completely pure, zinc reacts with dilute acids to release hydrogen. The one common oxidation state of zinc is +2.

From 100 °C to 210 °C (212 °F to 410 °F) zinc is malleable and can easily be beaten into various shapes. Above 210 °C (410 °F), the metal becomes brittle and is pulverised by beating. Zinc is non-magnetic in nature.

The most heavily mined ores (sphalerite) tend to contain roughly 10% iron and 40-50% zinc. Zinc is extracted from minerals like sphalerite (zinc sulfide), smithsonite (zinc carbonate), hemimorphite (zinc silicate) and franklinite (a zinc spinel). Earth is estimated to have 46 years supply of zinc

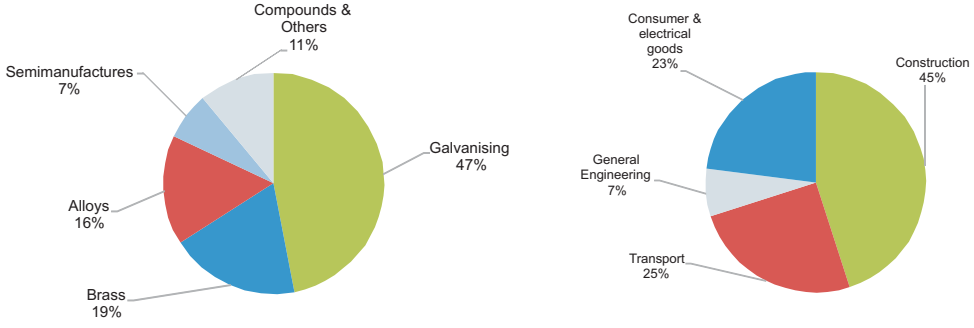
More importantly, zinc is fully recyclable and can be recycled indefinitely without loss of its physical or chemical properties. At present, approximately 70% of the zinc produced worldwide originates from mined ores and 30% from recycled or secondary zinc. Each year, the level of recycling is increasing with progress in technology of zinc production and recycling.

Zinc Application

Globally, nearly 50% of the amount is used for galvanising to protect steel from corrosion. Approximately 19% is used to produce brass and 16% goes into the production of zinc base alloys to supply eg. to the die casting industry. Significant amounts are also utilised for compounds such as zinc oxide and zinc sulfate and semi-manufactures including roofing, gutters and down-pipes.

These first use suppliers then convert zinc into a broad range of products. Main application areas include: construction (45%) followed by transport (25%), consumer goods & electrical appliances (23%) and general engineering (7%).

Exhibit 33: Zinc Application (Global)



Source: ILZSG, Brook Hunt, Angel Research

Exhibit 34: Zinc- Properties, Applications and End Use

Properties	Applications	End Use
Reactivity with iron, Corrosion resistance, Electrochemical	Corrosion protection for steel (galvanizing, zinc thermal spraying, electroplating, zinc-rich paints)	Building/construction, energy/ power, steel furniture, agriculture, automotive/transport
Low melting point, Fluidity, Capacity for surface treatment, Strength	Die casting and gravity casting	Automotive equipment, household appliances, fittings, toys, tools, etc.
Alloying characteristics	Brass (copper-zinc alloy), aluminium alloys, magnesium alloys	Building/construction, fittings, automotive and electrical components, etc.
Formability	Rolled zinc sheet	Building/construction
Electrochemical	Batteries	Automotive/transport, computers, medical equipment, consumer products
Chemical	Zinc Powders/Dust	Tyres, all rubber goods, paint pigments, ceramic glazes, electrostatic copying paper.
Essential nutrient	Zinc compounds	Food industry, animal feed, fertilizers
Healing	Zinc compounds	Pharmaceutical industry, cosmetics industry

Source: Worldzinc.com, Angel Research

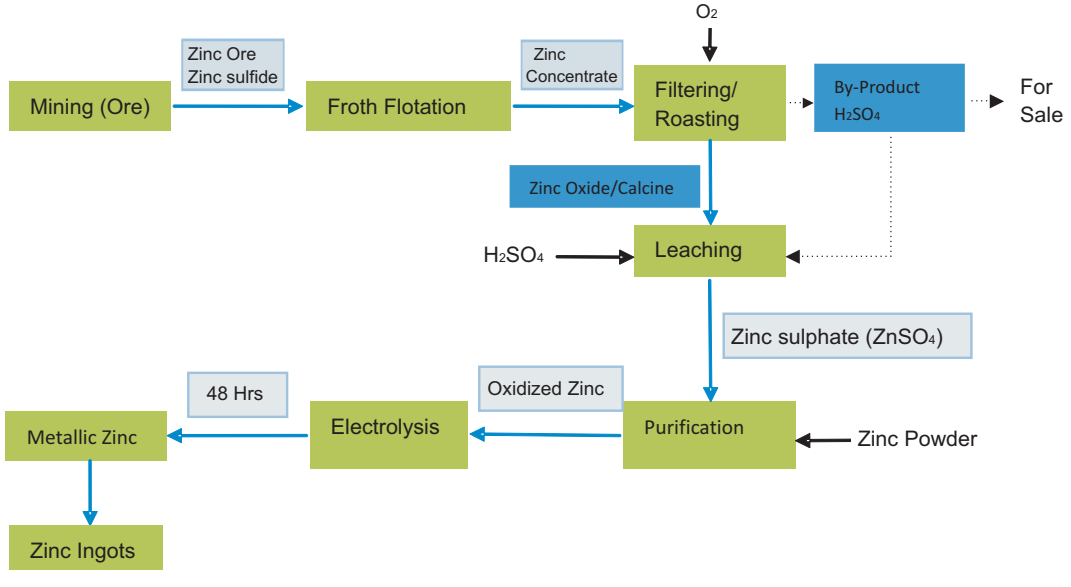
Zinc Manufacturing

Zinc manufacturing starts with mining of zinc ores. The ore occurs in the form of zinc sulfide (sphalerite), zinc carbonate (smithsonite) and zinc silicate (calimine). The zinc ore contains compounds like manganese and iron and is also mined in conjunction with silver and lead ores. Zinc manufacturing essentially involves following stages:

- Mining
- Filtering
- Purification
- Froth Flotation
- Leaching
- Electrolysis

The mined and milled zinc ore is converted into zinc concentrate (ZnS) through the **frost flotation method.** This process involves grinding the zinc ore into fine powder, mixing it with water, pine oil, and flotation chemicals, and then agitating the mixture to "float" the zinc to the surface. The next stage involves roasting of the zinc concentrate to zinc oxide (ZnO) in the presence of oxygen (ie. air), the sulphur being converted to sulphur dioxide (SO2) gas. The sulphur dioxide is then further oxidised to sulphur trioxide (SO3), which is dissolved in strong sulphuric acid. The process gives sulphur dioxide as a major by-product that can be sold and reused for leaching, up to two tonnes being produced for every one tonne of zinc in some smelters.

Exhibit 35: Zinc Manufacturing Process chart



Source: Williamhunter

Impure zinc oxide, called calcine, is then **leached** (ie. reacted with) sulphuric acid to dissolve the zinc, producing impure zinc sulphate (ZnSO4). Zinc sulphate so produced is separated from the remaining solids and passes to the next step, which is **purification**. By adding powdered zinc to the solution, the zinc is oxidised and dissolves, with the opposite side of the reaction being reduction of other dissolved metals back to their metallic form. The refined solution is then **electrolysed** in a cell fitted with a lead anode and an aluminium cathode. The cathode is immersed in the solution for 48 hours during which time the zinc is deposited on the aluminium cathode from which it is subsequently stripped. The metallic **sheets peeled** from the aluminium cathode blanks are finally melted in a furnace and then cast into ingots for sale.

Profit & Loss Statement

Rs crore

Y/E March	FY2007	FY2008	FY2009E	FY2010E
Net Sales	**8,560**	**7,878**	**5,431**	**4,490**
% chg	*120.8*	*(8.0)*	*(31.1)*	*(17.3)*
Total Expenditure	2,153	2,499	2,599	2,585
EBITDA	**6,407**	**5,378**	**2,832**	**1,905**
% of Net Sales	*74.8*	*68.3*	*52.1*	*42.4*
Other Income	231.3	851.6	760.4	628.7
Depreciation	156.1	220.5	287.1	320.7
Interest	28.4	24.2	28.0	28.0
PBT	**6,454**	**5,985**	**3,278**	**2,185**
% of Net Sales	*75.4*	*76.0*	*60.3*	*48.7*
Tax	2,012	1,589	656	393
Effective Tax Rate (%)	*31.2*	*26.6*	*20.0*	*18.0*
PAT	**4,442**	**4,396**	**2,622**	**1,792**
% chg	*201.7*	*(1.0)*	*(40.4)*	*(31.7)*
FDEPS	**105.1**	**104.0**	**62.1**	**42.4**
% chg	*201.7*	*(1.0)*	*(40.4)*	*(31.7)*

Balance Sheet

Rs crore

Y/E March	FY2007	FY2008	FY2009E	FY2010E
SOURCES OF FUNDS				
Equity Share Capital	422.5	422.5	422.5	422.5
Reserves & Surplus	7,205	11,426	13,901	15,592
Shareholders' Funds	**7,627**	**11,848**	**14,323**	**16,014**
Total Loans	0.4	0.4	0.4	0.4
Deferred Tax Liability	300.6	459.7	459.7	459.7
Total Liabilities	**7,928**	**12,308**	**14,783**	**16,474**
APPLICATION OF FUNDS				
Gross Block	3,500	5,182	5,982	6,682
Less: Acc. Depreciation	1,264	1485	1,772	2,092
Net Block	**2,236**	**3,697**	**4,210**	**4,589**
Capital Work-in-progress	635.0	465.5	665.5	965.5
Investments	**4,403**	**6,332**	**6,332**	**6,332**
Current Assets	1481	2712	4,560	5,580
Less: Current Liabilities	826.8	898.4	984.5	992.6
Net Current Assets	**654**	**1,813**	**3,575**	**4,587**
Mis.expenses	0	0	0	0
Total Assets	**7,928**	**12,308**	**14,783**	**16,474**

Cash Flow Statement

Rs crore

Y/E March	FY2007	FY2008	FY2009E	FY2010E
Profit before tax	6,454	5,985	3,278	2,185
Depreciation	156.1	220.5	287.1	320.7
Change in working capital	(97.7)	(84.1)	(132.8)	(6.8)
Income taxes paid	2,012	1,589	656	393
Cash from operations	**4,696**	**4,701**	**3,042**	**2,120**
Change in Fixed assets	1,087	1,512	1,000	1,000
Free cash flows	**3,609**	**3,188**	**2,042**	**1,120**
Change in Investments	2,798	1,929	0.0	0.0
Change in Share capital	0.0	0.0	0.0	0.0
Change in Debt	(557.6)	0.0	0.0	0.0
Dividend / dividend tax paid	244.0	247.2	147.3	100.6
Others	37.2	231.2	0.0	0.0
Cash from fin. act.	**(3,563)**	**(1,945)**	**(147)**	**(101)**
Net inc./(dec.) in cash	46	1,243	1,895	1,019
Opening cash balance	74	120	1,363	3,258
Closing cash balance	**120**	**1,363**	**3,257**	**4,276**

Key Ratios

Y/E March	FY2007	FY2008	FY2009E	FY2010E
Per Share Data (Rs)				
EPS	105.1	104.0	62.1	42.4
Cash EPS	108.8	109.3	68.9	50.0
DPS	5.8	5.8	3.5	2.4
Book value per share	180.5	280.4	339.0	379.0
Operating Ratios (%)				
Sales growth	120.8	(8.0)	(31.1)	(17.3)
EBITDA margins	74.8	68.3	52.1	42.4
Net profit margins	51.9	55.8	48.3	39.9
Return ratios (%)				
RoE	80.3	45.1	20.0	11.8
RoCE	73.4	43.6	19.5	11.6
Dividend payout	5.5	5.6	5.6	5.6
Valuation ratios (x)				
P/E	3.2	3.2	5.4	7.9
P/BV	1.8	1.2	1.0	0.9
EV/Sales	1.1	0.8	0.8	0.8
EV/EBITDA	1.5	1.2	1.6	1.8

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Ratings (Returns) :	**Buy (Upside > 15%)**	**Accumulate (Upside upto 15%)**	**Neutral (5 to -5%)**
	Reduce (Downside upto 15%)	**Sell (Downside > 15%)**	

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