COMPANY UPDATE

Bharat Heavy Electricals (BHEL.BO)

Sell



Price war in power equipment market is on; reiterate Conviction Sell

What's changed

Larsen & Toubro (L&T) today announced an EPC order win valued at Rs69bn from Maha Genco (Maharashtra State electricity company) for a 3X660MW Supercritical Power plant.

The price for this order is about 25% lower than the average pricing we have seen for new orders in the Indian power equipment sector until now.

Implications

We believe this trend of intense competition (as seen in the order win for L&T today) will only scale up as new players with domestic manufacturing capabilities continue to ramp-up operations. We believe this will result in a loss of pricing power and market share for BHEL, leading to declining blended returns and margins. We estimate return on capital for the company will be under pressure for all incremental orders and look for a decline of 320bps over next three years.

Our Sell rating (Conviction List) on BHEL is predicated on the thesis of structural changes in the Indian power equipment market which we believe are negative for the company: 1) increasing competition leading to pricing pressure, 2) lower margins on all supercritical category orders (technology sharing payments), and 3) average delivery periods staying high in spite of increased capacity (regional vendor network difficult to expand).

Valuation

Our 12-month P/B-based target price implies 39% downside potential from current levels. The stock is currently trading at 7.0X 12-month fwd BVPS and 27X 12-month fwd EPS (premiums of 18% and 30% respectively to its own 5-year median), which we believe doesn't price in the structural headwinds outlined above.

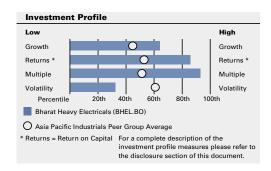
Key risks

Favourable regulatory changes such as import duties on equipment; steel price volatility impacting margins as orders for steel are placed in advance.

INVESTMENT LIST MEMBERSHIP

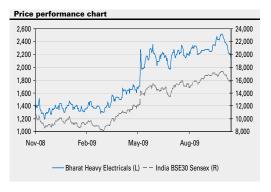
Asia Pacific Sell List Asia Pacific Conviction Sell List Coverage View: Neutral

India: Capital Goods



Key data	Current
Price (Rs)	2,153.50
12 month price target (Rs)	1,355.00
Market cap (Rs mn / US\$ mn)	1,054,181.3 / 22,446.1
Foreign ownership (%)	17.0

3/09	3/10E	3/11E	3/12E
63.64	80.52	90.80	103.89
8.9	26.5	12.8	14.4
63.64	80.52	90.80	103.89
63.64	80.52	90.80	103.89
33.8	26.7	23.7	20.7
8.2	6.6	5.4	4.5
25.7	29.5	25.5	21.2
0.9	1.0	1.1	1.2
26.3	27.3	25.2	23.8
	63.64 8.9 63.64 63.64 33.8 8.2 25.7 0.9	63.64 80.52 8.9 26.5 63.64 80.52 63.64 80.52 33.8 26.6 25.7 29.5 0.9 1.0	63.64 80.52 90.80 8.9 26.5 12.8 63.64 80.52 90.80 63.64 80.52 90.80 33.8 26.7 23.7 8.2 6.6 5.4 25.7 29.5 25.5 0.9 1.0 1.1



Share price performance (%)	3 month	6 month	12 month
Absolute	(8.1)	30.4	60.6
Rel. to India BSE30 Sensex	(5.0)	(3.5)	7.8
Source: Company data Goldman Sache Researc	h estimates FactS	at Price as of 1:	1/03/2009 close

Ishan Sethi

+91(22)6616-9048 | ishan.sethi@gs.com Goldman Sachs India SPL Vaishnavi Kandalla (212) 934-9859 | vaishnavi.kandalla@gs.com Goldman Sachs India SPL The Goldman Sachs Group, Inc. does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. For Reg AC certification, see the end of the text. Other important disclosures follow the Reg AC certification, or go to www.gs.com/research/hedge.html. Analysts employed by non-US affiliates are not registered/qualified as research analysts with FINRA in the U.S.

Bharat Heavy Electricals: Summary financials

Profit model (Rs mn)	3/09	3/10E	3/11E	3/12E	Balance sheet (Rs mn)	3/09	3/10E	3/11E	3/12
Total revenue	264,914.0	314,502.0	376,887.3	451,787.8	Cash & equivalents	103,294.6	88,038.7	83,472.1	123,894.
Cost of goods sold	(160,897.2)	(192,445.7)	(233,257.8)	(283,228.6)	Accounts receivable	160,715.3	190,798.8	228,646.1	274,086.
SG&A	(82,633.0)	(93,848.1)	(111,959.2)	(132,314.0)	Inventory	78,919.9	104,024.7	126,085.3	153,096.
R&D					Other current assets	26,921.7	26,921.7	26,921.7	26,921.
Other operating profit/(expense)	0.0	0.0	0.0	0.0	Total current assets	369,851.5	409,783.9	465,125.2	577,998.
EBITDA	24,814.5	32,768.4	38,077.4	43,925.7	Net PP&E	25,941.2	64,671.0	106,932.3	109,643.
Depreciation & amortization	(3,430.7)	(4,560.3)	(6,407.1)	(7,680.4)	Net intangibles	2,276.6	2,276.4	2,276.4	2,276.
EBIT	21,383.8	28,208.2	31,670.3	36,245.3	Total investments	18,469.4	18,469.4	18,469.4	18,469.
Interest income	7,662.6	9,296.5	7,923.5	7,512.5	Other long-term assets	0.0	0.0	0.0	0.
Interest expense	(351.8)	(133.2)	(133.2)	(133.2)	Total assets	416,538.7	495,200.7	592,803.3	708,387.
Income/(loss) from uncons. subs.	0.0	0.0	0.0	0.0		,	,	,	,
Others	19,684.9	23,270.3	27,886.2	33,428.1	Accounts payable	58,981.1	67,208.6	80,540.3	96,546.
Pretax profits	48,379.5	60,641.7	67,346.7	77,052.7	Short-term debt	489.7	489.7	489.7	489.
Income tax	(17,227.8)	(21,224.6)	(22,897.9)	(26,197.9)	Other current liabilities	209,499.2	248,714.4	298,049.9	357,282.
Minorities	0.0	0.0	0.0	0.0	Total current liabilities	268,970.0	316,412.7	379,079.9	454,318.
Willionties	0.0	0.0	0.0	0.0		1,175.9	· ·		1,175.
Not income and another dividends	24 454 7	20 417 1	44 440 0	E0 0E4 0	Long-term debt		1,175.9	1,175.9	
Net income pre-preferred dividends	31,151.7	39,417.1	44,448.8	50,854.8	Other long-term liabilities	17,165.4	18,023.7	18,924.9	19,871.
Preferred dividends	0.0	0.0	0.0	0.0	Total long-term liabilities	18,341.3	19,199.6	20,100.8	21,047.
Net income (pre-exceptionals)	31,151.7	39,417.1	44,448.8	50,854.8	Total liabilities	287,311.3	335,612.3	399,180.6	475,365.
Post-tax exceptionals	0.0	0.0	0.0	0.0					
Net income	31,151.7	39,417.1	44,448.8	50,854.8	Preferred shares	0.0	0.0	0.0	0.
					Total common equity	129,227.4	159,588.4	193,622.7	233,021.
EPS (basic, pre-except) (Rs)	63.64	80.52	90.80	103.89	Minority interest	0.0	0.0	0.0	0.
EPS (basic, post-except) (Rs)	63.64	80.52	90.80	103.89					
EPS (diluted, post-except) (Rs)	63.64	80.52	90.80	103.89	Total liabilities & equity	416,538.7	495,200.7	592,803.3	708,387.
DPS (Rs)	18.50	21.28	23.40	25.74					
Dividend payout ratio (%)	29.1	26.4	25.8	24.8	BVPS (Rs)	263.99	326.01	395.54	476.0
Free cash flow yield (%)	3.5	(0.9)	0.3	4.7					
Growth & margins (%)	3/09	3/10E	3/11E	3/12E	Ratios	3/09	3/10E	3/11E	3/12
Sales growth	37.2	18.7	19.8	19.9	ROE (%)	26.3	27.3	25.2	23.
EBITDA growth	(0.4)	32.1	16.2	15.4	ROA (%)	8.6	8.6	8.2	7.8
EBIT growth	(2.6)	31.9	12.3	14.4	ROACE (%)	100.7	66.4	42.5	41.
Net income growth	8.9	26.5	12.8	14.4	Inventory days	154.6	173.5	180.0	179.
EPS growth	8.9	26.5	12.8	14.4	Receivables days	193.2	204.0	203.1	203.
Gross margin	39.3	38.8	38.1	37.3	Payable days	117.1	119.7	115.6	114.
EBITDA margin	9.4	10.4	10.1	9.7	Net debt/equity (%)	(78.6)	(54.1)	(42.3)	(52.5
EBIT margin	8.1	9.0	8.4	8.0	Interest cover - EBIT (X)	NM	NM	NM	NN
					Valuation	3/09	3/10E	3/11E	3/12
Cash flow statement (Rs mn)	3/09	3/10E	3/11E	3/12E					
Net income pre-preferred dividends	31,151.7	39,417.1	44,448.8	50,854.8	P/E (analyst) (X)	33.8	26.7	23.7	20.
D&A add-back	3,430.7	4,560.3	6,407.1	7,680.4	P/B (X)	8.2	6.6	5.4	4.
Minorities interests add-back	0.0	0.0	0.0	0.0	EV/EBITDA (X)	25.7	29.5	25.5	21.
Net (inc)/dec working capital	13,765.1	(7,745.6)	2,759.3	2,787.9	Dividend yield (%)	0.9	1.0	1.1	1.
Other operating cash flow	(13,715.7)	(8,305.0)	(6,889.0)	(6,433.0)	, (/0/	0.0			
Cash flow from operations	34,631.8	27,926.8	46,726.1	54,890.1					
Capital expenditures	(10 EC1 7)	(42.200.0)	(49 660 4)	(10.201.1)					
Capital expenditures	(13,561.7)	(43,290.0)	(48,668.4)	(10,391.1)					
Acquisitions	0.0	0.0	0.0	0.0					
Divestitures	318.0	0.0	0.0	0.0					
Others	8,225.4	9,163.3	7,790.2	7,379.2					
Cash flow from investments	(5,018.3)	(34,126.8)	(40,878.2)	(3,011.9)					
Dividends paid (common & pref)	(8,945.7)	(9,056.1)	(10,414.5)	(11,456.0)					
Inc/(dec) in debt	(1,331.5)	0.0	0.0	0.0					
Common stock issuance (repurchase)	0.0	0.0	0.0	0.0					
Other financing cash flows	(343.5)	(133.2)	(133.2)	(133.2)					
	(040.0)	(100.2)	(100.2)	(100.2)					
· ·	(10 620 7)	(9 199 //)	(10 547 8)	(11 529 2)					
Cash flow from financing Total cash flow	(10,620.7) 19,336.3	(9,189.4) (15,256.1)	(10,547.8) (4,566.6)	(11,589.2) 40,422.2	Note: Last actual year may include repor	ted and actimated data			

Analyst Contributors

Ishan Sethi

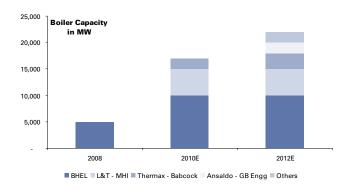
ishan.sethi@gs.com

Vaishnavi Kandalla

vaishnavi.kandalla@gs.com

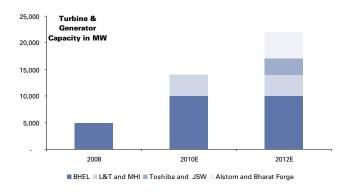
Exhibit 1: JVs announced by Indian and foreign players would imply a capacity of 16 GW – 21GW for boilers...

Expected boiler capacity in India by 2012E



Source: Central Electricity Authority, Goldman Sachs Research estimates.

Exhibit 2: ...and 14 GW to 22GW for turbines Expected Turbine – Generator capacity in India by 2012E



Source: Central Electricity Authority, Goldman Sachs Research estimates.

Exhibit 3: Margins on incremental orders are substantially lower than those on accumulated order book – will be reflected over time as a larger proportion of these orders start getting booked

Group EBIT (line items as reported)	2003	2004	2005	2006	2007	2008	2009E	2010E	2011E	2012E	2013E
											1
Blended EBITDA margin	10.9%	13.3%	7.8%	14.5%	17.7%	12.9%	9.4%	10.4%	10.1%	9.7%	8.5%
							(
Estimated EBITDA margin on incremental orders								8.9%	8.3%	8.0%	8.0%

Source: Company data, Goldman Sachs Research estimates.

Exhibit 4: Timely execution of existing order book is a challenge for BHEL, in our view; even with perfect execution, average delivery period could stay high for at least another two years

Order book and execution time periods for BHEL

2002	2003	2004	2005	2006	2007	2008	2009	2010E	2011E	2012E
23	23	23.0	24.0	28.0	30.5	31.0	31.0	29.1	28.3	28.3
3,407	3,448	3,909	4,521	5,344	6,177	7,150	9,153	11,860	14,652	17,564
5,435	6,870	10,283	13,333	13,429	18,033	27,484	35,963	38,335	36,870	32,479
4,285	4,881	7,164	7,596	6,764	11,686	16,216	19,254	14,232	13,187	13,173
			2.9	2.5	2.9	4.0	4.1	3.6	2.9	2.2
pletion			26	26	24	31	36	40	36	29
	23 3,407 5,435 4,285	23 23 3,407 3,448 5,435 6,870 4,285 4,881	23 23 23.0 3,407 3,448 3,909 5,435 6,870 10,283 4,285 4,881 7,164	23 23 23.0 24.0 3,407 3,448 3,909 4,521 5,435 6,870 10,283 13,333 4,285 4,881 7,164 7,596 2.9	23 23 23.0 24.0 28.0 3,407 3,448 3,909 4,521 5,344 5,435 6,870 10,283 13,333 13,429 4,285 4,881 7,164 7,596 6,764 2.9 2.5	23 23 23.0 24.0 28.0 30.5 3,407 3,448 3,909 4,521 5,344 6,177 5,435 6,870 10,283 13,333 13,429 18,033 4,285 4,881 7,164 7,596 6,764 11,686 2.9 2.5 2.9	23 23 23.0 24.0 28.0 30.5 31.0 3,407 3,448 3,909 4,521 5,344 6,177 7,150 5,435 6,870 10,283 13,333 13,429 18,033 27,484 4,285 4,881 7,164 7,596 6,764 11,686 16,216 2.9 2.5 2.9 4.0	23 23 23.0 24.0 28.0 30.5 31.0 31.0 3,407 3,448 3,909 4,521 5,344 6,177 7,150 9,153 5,435 6,870 10,283 13,333 13,429 18,033 27,484 35,963 4,285 4,881 7,164 7,596 6,764 11,686 16,216 19,254 2.9 2.5 2.9 4.0 4.1	23 23 23.0 24.0 28.0 30.5 31.0 31.0 29.1 3,407 3,448 3,909 4,521 5,344 6,177 7,150 9,153 11,860 5,435 6,870 10,283 13,333 13,429 18,033 27,484 35,963 38,335 4,285 4,881 7,164 7,596 6,764 11,686 16,216 19,254 14,232 2.9 2.5 2.9 4.0 4.1 3.6	23 23 23.0 24.0 28.0 30.5 31.0 31.0 29.1 28.3 3,407 3,448 3,909 4,521 5,344 6,177 7,150 9,153 11,860 14,652 5,435 6,870 10,283 13,333 13,429 18,033 27,484 35,963 38,335 36,870 4,285 4,881 7,164 7,596 6,764 11,686 16,216 19,254 14,232 13,187 2.9 2.5 2.9 4.0 4.1 3.6 2.9

Source: Company data, Goldman Sachs Research estimates.

Exhibit 5: BHEL trades at a 72% premium to the median for global peers on 1-yr fwd P/E and at a 141% premium to the median for global peers on 1-yr fwd P/B

Snapshot of global peer valuations

	BB	Currency	Price	GS	Market Cap	P/E	(X)	EV/EB	ITDA (X)	P/B	3 (X)	ROI	E (%)	Sales C	AGR (%)	EPS CA	AGR (%)	EBITDA	margin (9
Companies	Ticker	Symbol	11/2/2009	Rating	US\$mn	1-yr fwd	2-yr fwd	1-yr fwd	2-yr fwd	1-yr fwd	2-yr fwd	1-yr fwd	2-yr fwd	1-yr	2-yr	1-yr	2-yr	1-yr fwd	2-yr fw
ndia Power Equipment																			
BHEL	BHEL IN	Indian Rupee	2,217	Sell*	23,109	27.5	24.4	30.5	26.4	6.8	5.6	25%	23%	19%	19%	27%	19%	10%	10%
ABB Ltd India	ABB IN	Indian Rupee	760	NC	3,201	31.7	27.2	21.5	18.2	6.2	5.1	22%	21%	8%	10%	-2%	6%	NA	NA
Siemens India Ltd	SIEM IN	Indian Rupee	532	NC	3,568	26.6	24.9	15.6	14.4	5.5	4.7	28%	23%	-8%	1%	13%	10%	12%	12%
Mcap - weighted Average (I	Лean)					27.9	24.8	27.8	24.1	6.6	5.4	25%	23%	14%	16%	22%	17%	9%	9%
M	edian					27.5	24.9	21.5	18.2	6.2	5.1	25%	23%	8%	10%	13%	10%	11%	11%
Asia Power Equipment																			
Dongfang Electric	1072 HK	Hong Kong Dollar	40	Sell*	4,541	19.4	19.2	11.7	9.5	10.3	7.8	53%	41%	15%	6%	210%	77%	7%	8%
Doosan Heavy Industries & Construction	n 034020 KS	South Korean Won	65,000	Neutral	5,769	57.0	16.3	15.2	11.6	1.8	1.6	3%	10%	15%	20%	-282%	NM	9%	10%
Harbin Power Engg. Company	1133 HK	Hong Kong Dollar	7	Neutral	1,281	12.6	12.3	2.6	1.5	1.0	0.9	8%	8%	-6%	-10%	-34%	-17%	5%	6%
Mitsubishi Electric	6503.T	Japanese Yen	671	Not Rated	15,920		20.2	8.6	6.3	1.6	1.5	-2%	8%	-10%	-2%	-255%	NM	6%	8%
Mitsubishi Heavy Industries	7011 JT	Japanese Yen	318	Sell	11,793		52.0	9.8	8.6	0.9	0.9	0%	2%	-11%	-7%	-82%	-8%	7%	9%
Shanghai Electric	2727 HK	Hong Kong Dollar	4	Neutral	5,923	13.8	14.5	6.5	6.1	1.8	1.7	13%	12%	-4%	0%	10%	3%	7%	7%
Mcap - weighted Average (I	Nean)					11.4	26.9	9.6	7.7	2.3	2.0	7%	10%	-3%	0%	-125%	6%	7%	8%
М	edian					16.6	17.8	9.2	7.4	1.7	1.6	6%	9%	-5%	-1%	-58%	-3%	7%	8%
North American Power Equipment																			
Emerson Electric	EMR US	U.S. Dollar	38	Neutral	28,501	17.4	19.1	9.4	9.5	3.4	3.5	20%	19%	-16%	-11%	-29%	-20%	16%	17%
General Electric	GE US	U.S. Dollar	14	Buv	153.932	14.1	15.7	12.5	11.6	1.3	1.2	9%	7%	-14%	-8%	-42%	-28%	8%	9%
Honeywell International	HON US	U.S. Dollar	36	Neutral	27,649	12.7	12.9	7.3	6.4	2.7	2.8	21%	22%	-15%	-7%	-24%	-14%	14%	16%
United Technologies	UTX US	U.S. Dollar	63	Buv	57.459	15.2	13.8	8.1	7.2	3.1	2.9	20%	21%	-12%	-6%	-16%	-4%	15%	16%
Mcap - weighted Average (I	Nean)					14.6	15.4	10.7	9.9	2.0	2.0	14%	13%	-14%	-8%	-34%	-20%	11%	12%
	edian					14.7	14.7	8.8	8.3	2.9	2.8	20%	20%	-15%	-8%	-27%	-17%	14%	16%
Europe Power Equipment																			
ABB Ltd	ABBN.VX	U.S. Dollar	19	Neutral	41.584	15.0	15.1	8.2	7.8	3.0	2.8	16%	16%	-9%	-3%	-28%	-16%	14%	14%
Alstom	ALSO PA	Furo	48	Neutral	20.355	11.4	11.9	5.7	5.6	3.7	3.0	33%	25%	6%	4%	9%	2%	11%	11%
Schneider Electric	SCHN.PA	Furo	72	Neutral	25.690	17.0	11.9	8.6	7.5	1.5	1.4	9%	12%	-14%	-6%	-46%	-12%	15%	17%
Siemens AG	SIEGn.DE	Euro	62	Buv	79.528	12.9	12.1	5.5	5.7	1.9	1.8	15%	15%	0%	-2%	171%	70%	13%	13%
Vestas Wind Systems	VWS.CO	Euro	357	Buv*	14,469	16.7	20.0	9.0	11.1	2.9	2.6	17%	13%	14%	9%	4%	-7%	15%	13%
Mcap - weighted Average (I					,	14.1	13.3	6.9	6.8	2.4	2.2	17%	16%	-2%	-1%	63%	25%	13%	13%
м	edian					15.0	12.1	8.2	7.5	2.9	2.6	16%	15%	0%	-2%	4%	-7%	14%	13%
Global Average			,		,														
Mcap - weighted Average (I	Mean) edian	·				14.9 16.0	16.2 16.0	10.2 8.8	9.4 8.2	2.5 2.8	2.2 2.7	15% 17%	14% 15%	-7% -7%	-4% -2%	-5% -20%	0% -5%	11% 11%	12% 11%

^{*}Stock is on our regional Conviction list. NC = Not Covered.

For important disclosures, please go to http://www.gs.com/research/hedge.html.

Source: Bloomberg, Goldman Sachs Research estimates.

Stock mentioned in the text: Larsen & Toubro (LART.BO, share price of Rs1,525.6 as of the close on 3 Nov., Neutral)

Reg AC

I, Ishan Sethi, hereby certify that all of the views expressed in this report accurately reflect my personal views about the subject company or companies and its or their securities. I also certify that no part of my compensation was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in this report.

Investment Profile

The Goldman Sachs Investment Profile provides investment context for a security by comparing key attributes of that security to its peer group and market. The four key attributes depicted are: growth, returns, multiple and volatility. Growth, returns and multiple are indexed based on composites of several methodologies to determine the stocks percentile ranking within the region's coverage universe.

The precise calculation of each metric may vary depending on the fiscal year, industry and region but the standard approach is as follows:

Growth is a composite of next year's estimate over current year's estimate, e.g. EPS, EBITDA, Revenue. **Return** is a year one prospective aggregate of various return on capital measures, e.g. CROCI, ROACE, and ROE. **Multiple** is a composite of one-year forward valuation ratios, e.g. P/E, dividend yield, EV/FCF, EV/EBITDA, EV/DACF, Price/Book. **Volatility** is measured as trailing twelve-month volatility adjusted for dividends.

Quantum

Quantum is Goldman Sachs' proprietary database providing access to detailed financial statement histories, forecasts and ratios. It can be used for in-depth analysis of a single company, or to make comparisons between companies in different sectors and markets.

Disclosures

Coverage group(s) of stocks by primary analyst(s)

Ishan Sethi: Asia Pacific Media, India Tactical.

Asia Pacific Media: Alibaba.com, Cheil Worldwide, Ctrip.com International, Dish TV India, Focus Media, Megastudy, NCsoft, Netease, New Oriental Education & Technology Group Inc. (ADR), NHN, Shanda Interactive Entertainment, SINA Corporation, Sohu.com, Sun TV Network, Television Broadcasts, Tencent Holdings, Zee Entertainment Enterprises.

India Tactical: Bharat Heavy Electricals, Container Corporation of India, Everest Kanto Cylinder, Gateway Distriparks, GMR Infrastructure, GVK Power and Infrastructure, IRB Infrastructure Developers, IVRCL Infrastructure and Projects, Jaiprakash Associates, Larsen & Toubro, Punj Lloyd, Sintex Industries.

Company-specific regulatory disclosures

The following disclosures relate to relationships between The Goldman Sachs Group, Inc. (with its affiliates, "Goldman Sachs") and companies covered by the Global Investment Research Division of Goldman Sachs and referred to in this research.

Goldman Sachs expects to receive or intends to seek compensation for investment banking services in the next 3 months: Bharat Heavy Electricals (Rs2,153.50)

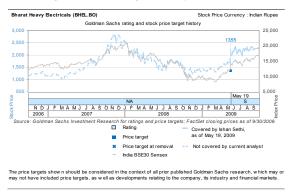
Distribution of ratings/investment banking relationships

Goldman Sachs Investment Research global coverage universe

	Ra	Rating Distribution				nt Banking Rela	ntionships
	Buy	Hold	Sell	•	Buy	Hold	Sell
Global	30%	53%	17%		51%	52%	43%

As of October 1, 2009, Goldman Sachs Global Investment Research had investment ratings on 2,674 equity securities. Goldman Sachs assigns stocks as Buys and Sells on various regional Investment Lists; stocks not so assigned are deemed Neutral. Such assignments equate to Buy, Hold and Sell for the purposes of the above disclosure required by NASD/NYSE rules. See 'Ratings, Coverage groups and views and related definitions' below.

Price target and rating history chart(s)



Regulatory disclosures

Disclosures required by United States laws and regulations

See company-specific regulatory disclosures above for any of the following disclosures required as to companies referred to in this report: manager or co-manager in a pending transaction; 1% or other ownership; compensation for certain services; types of client relationships; managed/co-managed public offerings in prior periods; directorships; for equity securities, market making and/or specialist role. Goldman Sachs usually makes a market in fixed income securities of issuers discussed in this report and usually deals as a principal in these securities.

The following are additional required disclosures: **Ownership and material conflicts of interest:** Goldman Sachs policy prohibits its analysts, professionals reporting to analysts and members of their households from owning securities of any company in the analyst's area of coverage. **Analyst compensation:** Analysts are paid in part based on the profitability of Goldman Sachs, which includes investment banking revenues. **Analyst as officer or director:** Goldman Sachs policy prohibits its analysts, persons reporting to analysts or members of their households from serving as an officer, director, advisory board member or employee of any company in the analyst's area of coverage. **Non-U.S. Analysts:** Non-U.S. analysts may not be associated persons of Goldman, Sachs & Co. and therefore may not be subject to NASD Rule 2711/NYSE Rules 472 restrictions on communications with subject company, public appearances and trading securities held by the analysts.

Distribution of ratings: See the distribution of ratings disclosure above. **Price chart:** See the price chart, with changes of ratings and price targets in prior periods, above, or, if electronic format or if with respect to multiple companies which are the subject of this report, on the Goldman Sachs website at http://www.gs.com/research/hedge.html.

Additional disclosures required under the laws and regulations of jurisdictions other than the United States

The following disclosures are those required by the jurisdiction indicated, except to the extent already made above pursuant to United States laws and regulations. Australia: This research, and any access to it, is intended only for "wholesale clients" within the meaning of the Australian Corporations Act. Canada: Goldman Sachs Canada Inc. has approved of, and agreed to take responsibility for, this research in Canada if and to the extent it relates to equity securities of Canadian issuers. Analysts may conduct site visits but are prohibited from accepting payment or reimbursement by the company of travel expenses for such visits. Hong Kong: Further information on the securities of covered companies referred to in this research may be obtained on request from Goldman Sachs (Asia) L.L.C. India: Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (India) Securities Private Limited; Japan: See below. Korea: Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (Asia) L.L.C., Seoul Branch. Russia: Research reports distributed in the Russian Federation are not advertising as defined in the Russian legislation, but are information and analysis not having product promotion as their main purpose and do not provide appraisal within the meaning of the Russian legislation on appraisal activity. Singapore: Further information on the covered companies referred to in this research may be obtained from Goldman Sachs (Singapore) Pte. (Company Number: 198602165W). Taiwan: This material is for reference only and must not be reprinted without permission. Investors should carefully consider their own investment risk. Investment results are the responsibility of the individual investor. United Kingdom: Persons who would be categorized as retail clients in the United Kingdom, as such term is defined in the rules of the Financial Services Authority, should read this research in conjunction with prior Goldman Sachs research on the covered companies referred to herein and should refer to the risk warnings that have been sent to them by Goldman Sachs International. A copy of these risks warnings, and a glossary of certain financial terms used in this report, are available from Goldman Sachs International on request.

European Union: Disclosure information in relation to Article 4 (1) (d) and Article 6 (2) of the European Commission Directive 2003/126/EC is available at http://www.gs.com/client_services/global_investment_research/europeanpolicy.html which states the European Policy for Managing Conflicts of Interest in Connection with Investment Research.

Japan: Goldman Sachs Japan Co., Ltd. is a Financial Instrument Dealer under the Financial Instrument and Exchange Law, registered with the Kanto Financial Bureau (Registration No. 69), and is a member of Japan Securities Dealers Association (JSDA) and Financial Futures Association of Japan (FFAJ). Sales and purchase of equities are subject to commission pre-determined with clients plus consumption tax. See company-specific disclosures as to any applicable disclosures required by Japanese stock exchanges, the Japanese Securities Dealers Association or the Japanese Securities Finance Company.

Ratings, coverage groups and views and related definitions

Buy (B), Neutral (N), Sell (S) -Analysts recommend stocks as Buys or Sells for inclusion on various regional Investment Lists. Being assigned a Buy or Sell on an Investment List is determined by a stock's return potential relative to its coverage group as described below. Any stock not assigned as a Buy or a Sell on an Investment List is deemed Neutral. Each regional Investment Review Committee manages various regional Investment Lists to a global guideline of 25%-35% of stocks as Buy and 10%-15% of stocks as Sell; however, the distribution of Buys and Sells in any particular coverage

group may vary as determined by the regional Investment Review Committee. Regional Conviction Buy and Sell lists represent investment recommendations focused on either the size of the potential return or the likelihood of the realization of the return.

Return potential represents the price differential between the current share price and the price target expected during the time horizon associated with the price target. Price targets are required for all covered stocks. The return potential, price target and associated time horizon are stated in each report adding or reiterating an Investment List membership.

Coverage groups and views: A list of all stocks in each coverage group is available by primary analyst, stock and coverage group at http://www.gs.com/research/hedge.html. The analyst assigns one of the following coverage views which represents the analyst's investment outlook on the coverage group relative to the group's historical fundamentals and/or valuation. Attractive (A). The investment outlook over the following 12 months is favorable relative to the coverage group's historical fundamentals and/or valuation. Neutral (N). The investment outlook over the following 12 months is neutral relative to the coverage group's historical fundamentals and/or valuation. Cautious (C). The investment outlook over the following 12 months is unfavorable relative to the coverage group's historical fundamentals and/or valuation.

Not Rated (NR). The investment rating and target price have been removed pursuant to Goldman Sachs policy when Goldman Sachs is acting in an advisory capacity in a merger or strategic transaction involving this company and in certain other circumstances. **Rating Suspended (RS).** Goldman Sachs Research has suspended the investment rating and price target for this stock, because there is not a sufficient fundamental basis for determining an investment rating or target. The previous investment rating and price target, if any, are no longer in effect for this stock and should not be relied upon. **Coverage Suspended (CS).** Goldman Sachs has suspended coverage of this company. **Not Covered (NC).** Goldman Sachs does not cover this company. **Not Available or Not Applicable (NA).** The information is not available for display or is not applicable. **Not Meaningful (NM).** The information is not meaningful and is therefore excluded.

Global product; distributing entities

The Global Investment Research Division of Goldman Sachs produces and distributes research products for clients of Goldman Sachs, and pursuant to certain contractual arrangements, on a global basis. Analysts based in Goldman Sachs offices around the world produce equity research on industries and companies, and research on macroeconomics, currencies, commodities and portfolio strategy. This research is disseminated in Australia by Goldman Sachs JBWere Pty Ltd (ABN 21 006 797 897) on behalf of Goldman Sachs; in Canada by Goldman Sachs Canada Inc. regarding Canadian equities and by Goldman Sachs & Co. (all other research); in Hong Kong by Goldman Sachs (Asia) L.L.C.; in India by Goldman Sachs (India) Securities Private Ltd.; in Japan by Goldman Sachs Japan Co., Ltd.; in the Republic of Korea by Goldman Sachs (Asia) L.L.C., Seoul Branch; in New Zealand by Goldman Sachs JBWere (NZ) Limited on behalf of Goldman Sachs; in Russia by OOO Goldman Sachs; in Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 198602165W); and in the United States of America by Goldman, Sachs & Co. Goldman Sachs International has approved this research in connection with its distribution in the United Kingdom and European Union.

European Union: Goldman Sachs International, authorized and regulated by the Financial Services Authority, has approved this research in connection with its distribution in the European Union and United Kingdom; Goldman, Sachs & Co. oHG, regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht, may also distribute research in Germany.

General disclosures

This research is for our clients only. Other than disclosures relating to Goldman Sachs, this research is based on current public information that we consider reliable, but we do not represent it is accurate or complete, and it should not be relied on as such. We seek to update our research as appropriate, but various regulations may prevent us from doing so. Other than certain industry reports published on a periodic basis, the large majority of reports are published at irregular intervals as appropriate in the analyst's judgment.

Goldman Sachs conducts a global full-service, integrated investment banking, investment management, and brokerage business. We have investment banking and other business relationships with a substantial percentage of the companies covered by our Global Investment Research Division. **SIPC:** Goldman, Sachs & Co., the United States broker dealer, is a member of SIPC (http://www.sipc.org).

Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and our proprietary trading desks that reflect opinions that are contrary to the opinions expressed in this research. Our asset management area, our proprietary trading desks and investing businesses may make investment decisions that are inconsistent with the recommendations or views expressed in this research.

We and our affiliates, officers, directors, and employees, excluding equity and credit analysts, will from time to time have long or short positions in, act as principal in, and buy or sell, the securities or derivatives, if any, referred to in this research.

This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. The price and value of investments referred to in this research and the income from them may fluctuate. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments.

Certain transactions, including those involving futures, options, and other derivatives, give rise to substantial risk and are not suitable for all investors. Investors should review current options disclosure documents which are available from Goldman Sachs sales representatives or at http://www.theocc.com/publications/risks/riskchap1.jsp. Transactions cost may be significant in option strategies calling for multiple purchase and sales of options such as spreads. Supporting documentation will be supplied upon request.

Our research is disseminated primarily electronically, and, in some cases, in printed form. Electronic research is simultaneously available to all clients.

Disclosure information is also available at http://www.gs.com/research/hedge.html or from Research Compliance, One New York Plaza, New York, NY 10004.

Copyright 2009 The Goldman Sachs Group, Inc.

No part of this material may be (i) copied, photocopied or duplicated in any form by any means or (ii) redistributed without the prior written consent of The Goldman Sachs Group, Inc.