



India: Capital Goods

Macro pick-up key, valuations above mid-cycle; initiate on 3 stocks

Initiate with a neutral stance on Indian capital goods sector

We initiate coverage on the Indian capital goods sector with a neutral stance, focusing on three stocks—BHEL, Larsen & Toubro (L&T) and Punj Lloyd. We believe that these stocks are currently balancing the cyclical risk of an investment downturn with the upside risk of a pick up in demand from the infrastructure sector driven by government policies. We see pressure on order inflows in the near term, but expect revenues for the three companies to grow at a CAGR of 21% over FY2009E-FY2012E vs. 30% during FY2005-FY2008, given their long-term growth potential.

Source of opportunity

We prefer companies with a strong order book to tide over weak order inflows in the near term and a strong execution track record that would help them garner a larger share of new orders as the cycle picks up, such as L&T.

Sell BHEL (add to our Conv. list), Neutral on L&T and Punj Lloyd

We initiate on **BHEL (BHEL.BO)** with a **Sell** rating (adding it to our **Conviction list**) and a 12-month P/B-based target price of Rs1,355. BHEL is India's largest electrical equipment supplier. We believe structural changes in the Indian power equipment market with a higher share of super-critical and private sector orders under the Twelfth Five-Year Plan would be negative for BHEL. The stock is currently trading at 28.8X FY10E P/E vs. 14.4X for its global peers and vs. its past 5-year median of 18.7X.

We initiate on **L&T (LART.BO)** with a **Neutral** rating and a 12-m SOTP-based target price of Rs1,327. We believe L&T's stock price balances the risk of a cyclical investment downturn (especially in the materials and hydrocarbon segments) and the risk of an uptick in the infrastructure demand (given expectations from a new government). We forecast EPS CAGR of 28% for FY2009E-FY2012E and value L&T's core business on a FY2011E P/B of 4.1X (in line with its 5-year mean).

We initiate on **Punj Lloyd (PUJL.BO)** with a **Neutral** rating and a 12-month P/B-based target price of Rs144.

Risks

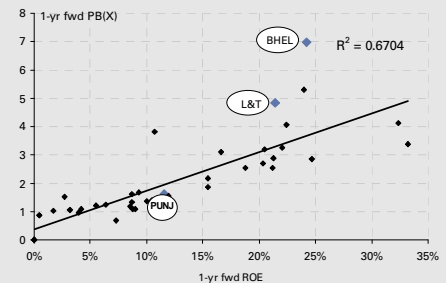
(1) Prolonged weakness in the domestic and Middle East investment markets, and (2) volatility in commodity prices.

Summary of ratings and target prices

Company	Rating	Price		Potential upside/downside	1-yr fwd	
		Current (Rs)	12-month TP (Rs)		P/B (X)	P/E (X)
BHEL	Sell*	2,266	1,355	-40%	7.0	28.8
Larsen & Toubro	Neutral	1,280	1,327	4%	4.8	22.6
Punj Lloyd	Neutral	163	144	-11%	1.6	13.8
Global Electrical Equipment peer Group median					2.9	14.3
Global Engineering & Construction peer group median					1.3	14.4

*This stock is on our regional Conviction list.

Global capital goods companies on a P/B vs. ROE basis—BHEL trades at a significant premium to peers



Source: Datastream, Goldman Sachs Research estimates.

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EXPECTED NEWS FLOW/EVENTS		COMMENT
DATE	EVENT	
May 28, 2009	Larsen & Toubro 4QFY09 results	Focus on guidance and order inflow pick-up—we expect 4QFY09 net income to increase 4% yoy.
2QFY10 (ending Sep 09)	Award of NTPC bulk orders	We expect BHEL to lose market share (only 38% share of incremental orders vs. around 65% historically).
End July 2009	Budget presentation by the new Indian government	Focus on infrastructure development and policy reform for key sectors.

Source: Company data, Goldman Sachs Research estimates.

The prices in the body of this report are based on the market close of May 18, 2009.

Exhibit 1: We initiate with Sell (add to our Conviction list) on BHEL and a Neutral each on L&T, Punj Lloyd

Snapshot of ratings and target prices for Indian capital goods stocks under our coverage

Company	Ticker	Rating	Mkt. Cap \$ mn	3m ADVT \$ mn	Price (Rs)		Potential upside %	FY2010E		TP Implied FY2011E	
					Current	12-month TP		P/B (X)	P/E (X)	P/B (X)	P/E (X)
BHEL	BHEL.BO	Sell*	23,163	52	2,266	1,355	-40%	7.0	28.8	3.5	15.1
Larsen Toubro	LART.BO	Neutral	15,644	70	1,280	1,327	4%	4.8	22.6	4.1^	17.5^
Punj Lloyd	PUJL.BO	Neutral	1,030	23	163	144	-11%	1.6	13.8	1.3	14.7

^ - multiple is on standalone company basis

* This stock is on our regional Conviction list. For important disclosures, please go to <http://www.gs.com/research/hedge.html>.

Source: Datastream, Goldman Sachs Research estimates.

Indian capital goods industry: Swinging to macro growth

We initiate coverage on the Indian capital goods sector with a neutral stance. We initiate on three stocks with a combined market capitalization (m-cap) of US\$29 bn, accounting for 66% of the total m-cap of the BSE Capital Goods Index. We believe that the tough credit environment and a slowdown in the overall economy has impacted order inflow for the three companies under our coverage and we forecast their revenue CAGR to slow down to 21% over FY2009E-FY2012E from 30% during FY2005-FY2008.

Given the high correlation of these stocks with the incremental gross fixed capital (GFC) formation in the country and high market expectations from the new government on policy reforms and infrastructure push—prices have risen recently (BSE Capital Goods Index up 35% over the past one month). The recent readings on IP and GFC continue to be weak and our GS Global ECS Research team expects only a gradual recovery in these metrics towards the middle of FY2010. Given the significant expectations now built into valuations (see Exhibit 1) and considering the long-term growth potential of this sector, we initiate with a neutral sector stance.

We highlight 3 key macro factors impacting the sector:

1. Incremental fixed asset formation in the country

Historical data indicates high correlation between the revenue growth of the Indian capital goods companies and incremental fixed asset formation in the country. Gross fixed capital (GFC) formation in the country has slowed considerably over the past 2-3 quarters (see Exhibit 2), resulting in slower order inflows and weak performance for companies in the Indian capital goods sector (see Exhibits 3 and 7).

2. Infrastructure spending continues to be moderate; investments in the energy sector though are still declining

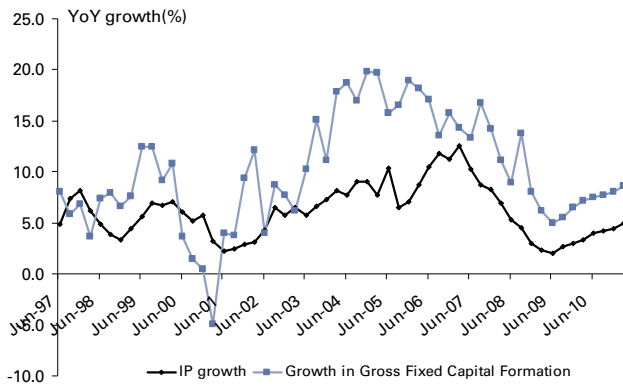
The tough credit environment over the past few months and the current economic slowdown has impacted infrastructure demand, which in turn puts pressure on order inflows for the companies under our coverage, in our view. Although we expect government funding to fill a large proportion of this gap, order inflow growth would still be moderate at least over the near term, in our view, as India's new government takes shape and formulates its policies and procedures. The energy sector investments, however, may continue to decline post the crash in oil prices last year. According to historical data, a sharp decline in oil prices tends to be followed by 2-3 years of reduced investments (see Exhibit 103). 11% of the order book of our coverage group stocks has exposure to the hydrocarbon segment.

3. Demand in the power sector intact due to government allocations, but competition is increasing

The Eleventh and Twelfth Five-Year Plans (FYPs) in India have outlined power capacity addition targets of 78-80 GW and 84 GW, respectively, which we believe creates a huge demand for power equipment in the country. With a majority of the spend (75% in the Eleventh Plan and 59% in the Twelfth Plan) planned by the government, demand should remain intact in this sector, in our view. This revenue visibility is attracting significant competition, which we believe would put downward pricing pressure on the industry.

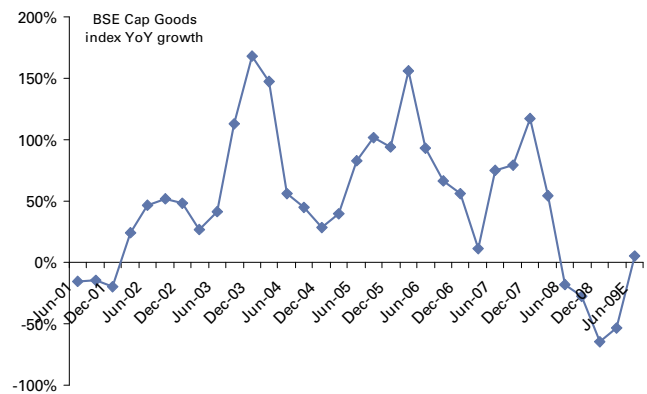
(Please refer to a detailed discussion on the segment-wise opportunities in the infrastructure sector in India towards the end of this report.)

Exhibit 2: We expect gross fixed asset formation in the country to stabilize only in late CY2009
GFC and IP growth trend



Source: CEIC, Goldman Sachs Research estimates.

Exhibit 3: The BSE Capital Goods Index's growth has shown a strong linkage with GFC growth
BSE Capital Goods index yoy growth



Source: Datastream.

BHEL: Structural changes in market negative for BHEL, risks not factored in

- We believe structural changes in the Indian power equipment market with a higher share of super-critical orders (BHEL lacks experience and a proven track record) and private sector orders (in which BHEL has historically a lower market share) under the Twelfth Five-Year Plan would be negative for BHEL.
- We believe such a structural shift would require equipment suppliers to have more competitive pricing (majority of BHEL's order book is on negotiated prices) and faster delivery schedules (deliveries for BHEL would be stretched even with increased capacity as accumulated order book is large).
- Consequently, we believe BHEL would lose its pricing power and ability to earn super-normal returns (we expect 375 bp ROE reduction by FY2011E vs. the FY2008 levels). Hence, we initiate on BHEL with a Sell rating, adding it to our regional Conviction list, and a 12-month P/B-based target price of Rs1,355.
- We value BHEL at 3.45X FY2011E BVPS (28% discount to its 5-year median). The stock is currently trading at 7.0X FY2010E BVPS and 5.8X FY2011E BVPS.

L&T: Macro recovery to determine growth, price no longer inexpensive

- We believe L&T's stock price balances the risk of a cyclical investment downturn (especially in the materials and hydrocarbon segments) and the risk of a significant uptick in the infrastructure demand (given expectations from a new government).
- Driven by the strong order backlog (2X FY2009E sales), we expect revenues for the consolidated company to register a CAGR of 29% over FY2009-FY2011E. Over this period, we expect the order backlog in the E&C segment (97% of 9MFY09 sales), to grow at a CAGR of 20%.
- We note that the company continues to exhibit a strong execution track record and its high leverage to a pick up in investment growth (large exposure to core infrastructure) is a significant positive. Hence, we initiate with a Neutral rating and a 12-month P/B-based target price of Rs1,327.
- We value L&T (the stand-alone company) at 4.1X FY2011E BVPS (in-line with its 5-year mean). The stock is currently trading at 4.8X FY2010E BVPS and 3.9X FY2011E BVPS.

Punj Lloyd: Fair valuation captures slowdown risk; execution risk still high

- Punj Lloyd—a smaller size E&C company with a large exposure to the hydrocarbon segment—faces a bigger challenge in order inflows compared with bigger companies such as L&T. Although the company has a strong order book, 18%-20% of the current orders are experiencing delays, and such delays could potentially increase as the slowdown in the global E&P investment cycle continues.
- The diversification strategy adopted by Punj to increase its exposure to South East Asia and to the infrastructure segment would be beneficial in the longer term, in our view. However, we believe such a strategy will not be able to compensate for a slowdown in orders in the core business in the near term.
- Punj currently trades at a 19% discount to the BSE Sensex and a 21% discount to its own historical average 1-year forward P/E of 17.6X. We believe that this adequately reflects uncertainties regarding order inflows and earnings currently facing the company. We initiate with a Neutral rating and 12-month P/B-based target price of Rs144.

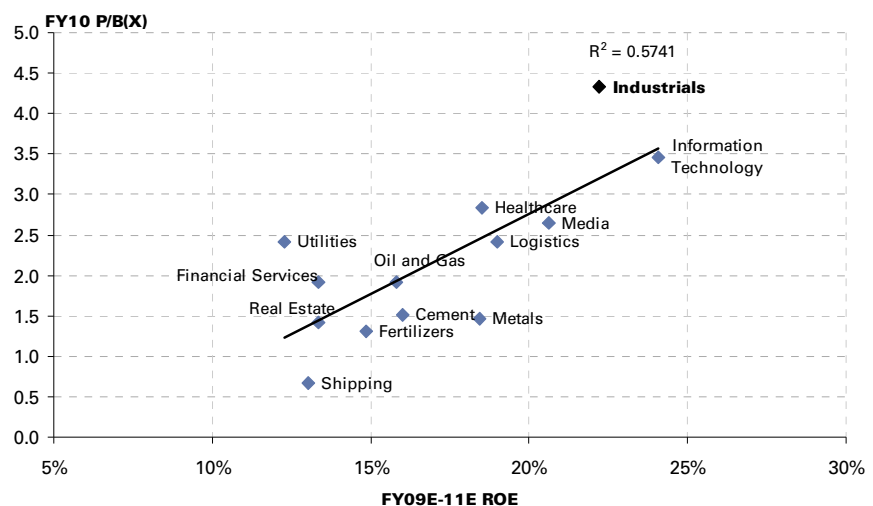
Valuation

We derive our 12-month target prices for the stocks in our coverage group using a P/B multiple based on the individual company’s forecast ROE and growth profile, the company’s own trading history and comparison relative to its global peers.

In addition, we cross-check our valuation against a one-year forward P/E multiple to ensure that our target price implied P/E is close to the mid-cycle valuation of the company over the past 15 years. We believe the risk of a severe slowdown (triggered by the recent financial crisis) has passed and the three companies in our coverage group with a greater exposure to India’s secular demand are beginning to see a gradual pick up in orders—consequently, we believe it is appropriate to value these stocks on their mid-cycle valuations.

The BSE Capital Goods Index is currently trading at a 1-year forward P/E of 21.3X and at a discount of 14% to its historical 5-year average. The index currently trades at a 24% premium to the BSE Sensex on one-year forward P/E vs. the 32% average premium seen over the past 12 months.

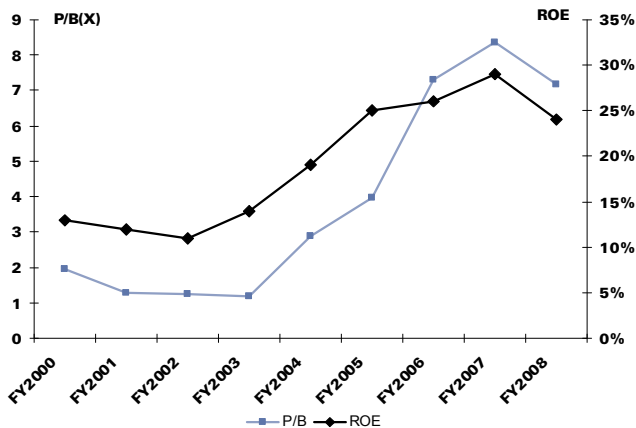
Exhibit 4: P/B vs. ROE for the Indian industrials sector vs. other sectors in India



Source: Datastream, Goldman Sachs Research estimates.

Exhibit 5: Indian capital goods companies have traded at higher multiples in periods when they registered higher returns

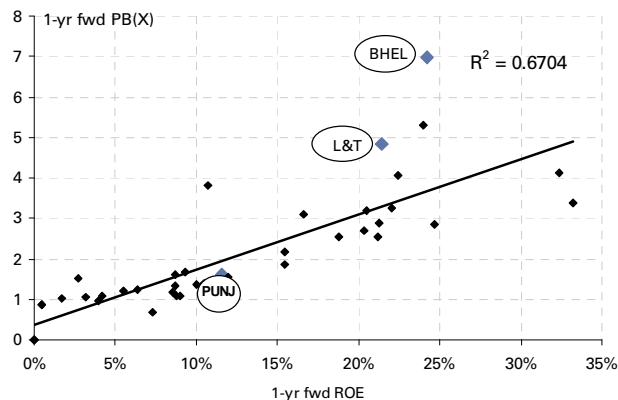
Historical trend of P/B vs. ROE for companies that are part of the BSE capital goods index



Source: Bloomberg, Company data.

Exhibit 6: BHEL trades at a significant premium to global capital goods peers on a P/B vs. ROE basis

1-yr fwd PB vs. 1-yr fwd ROE for global capital goods companies



Source: Bloomberg, Goldman Sachs Research estimates.

Exhibit 7: Macro growth reflected in better operational growth for the BSE capital goods companies during 2004-2008

Growth, returns and valuation trend for the BSE capital goods index companies

	2000-2004	2004-2008	2008-2010
Sales Growth (CAGR) (%)	9%	34%	21%
Average ROE(%)	14%	25%	24%
Average P/E (X)	14.7	25.8	17.0
Average P/B (X)	1.9	6.7	3.5

Source: Datastream, Company data.

Risks

Increase in competition – Several foreign E&C and electrical equipment companies are keen to benefit from India’s spend on infrastructure development, especially now because of the demand slowdown in their respective local markets; some of these have already started operations in India either directly or through local tie-ups.

Prolonged weakness in the domestic and global markets – Our GS Global ECS Research team expects the Indian and global economy to gradually start picking up again towards the end of this year. A delayed recovery would mean slower order inflows and pressure on margins for companies under our coverage.

Volatility in steel prices – Steel constitutes a major portion of the raw material costs for the companies in our coverage universe and volatile movements in steel prices disrupt margins as generally raw materials are ordered in advance.

Bharat Heavy Electricals (BHEL.BO; Sell, on Conv. list, TP: Rs1,355)

Structural shift in market negative for BHEL; risks not priced in

Investment thesis

- We initiate on Bharat Heavy Electricals with a Sell rating and add it to our Conviction list. Our P/B-based 12-month target price of Rs1,355 implies a potential downside of 40% from current levels.
- BHEL is India’s largest electrical equipment supplier—accounting for around 65% of India’s installed power capacity. With around 85% of its order book from government-sponsored agencies (FY09), we believe the risk of delays and cancellations is limited.
- Orders as per the Twelfth Plan are likely to include a higher share of private companies (BHEL has a smaller market share here) and super-critical technologies (BHEL lacks experience and track record). This structural shift in order mix is unfavorable for BHEL, limiting its share of new orders, in our view.
- Competition in the Indian power equipment segment is increasing and will put pressure on pricing, in our view. China garnered around 25% of the total and around 66% of private orders in the Eleventh Plan. Many other international electrical equipment companies have announced plans to build operations in India—implying that pricing may continue to be under pressure (see Exhibits 13-15).
- Consensus appears to be pricing in the revenues from increased capacity (revenues will only come with a lag, in our view) and overlooking the impact of lower billing on existing book (raw material price benefits will be passed to customers). We are 12% and 17% below consensus on FY2010E and FY2011E EPS, respectively.
- Given its large order book, we estimate the average delivery period to stay high (see Exhibit 17), which coupled with possible regional level execution problems and shortage of critical materials, could pose a significant risk to BHEL’s execution over the next 2 years.

Valuation

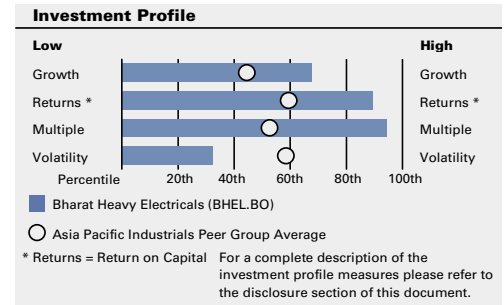
- Our 12-m TP of Rs1,355 for BHEL is based on a 1-year forward regression-based target P/B of 3.45X. This is at a discount of 28% to its 5-year historical mean, in line with our view that BHEL’s current higher-than-industry average returns are unsustainable.
- At 28.8X FY2010E EPS and 7.0X FY2010E P/B, the stock prices in a steady revenue profile and order book (4.3X FY2009E sales). But this valuation (143% premium to global peers) leaves little room for disappointments such as delayed execution and market share losses.

Catalysts

- Below-expectation results in 1HFY10 as the market appears to be factoring in on-schedule capacity expansion and about 350 bp margin expansion in FY2010 (vs. our expectation of about 75bp).
- Market share loss in Twelfth Plan orders late-FY2010 onwards (we expect market share to reduce to about 40% on incremental orders).
- Rupee appreciation leading to incremental price advantage for foreign competitors.

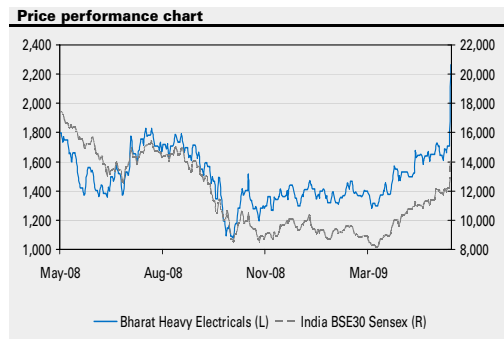
Risks

- (1) Favourable regulatory changes such as import duties on equipment,
- (2) volatile steel prices impacting margins.



Key data	Current
Price (Rs)	2,266.00
12 month price target (Rs)	1,355.00
Market cap (Rs mn / US\$ mn)	1,109,252.3 / 23,162.5
Foreign ownership (%)	17.0

	3/08	3/09E	3/10E	3/11E
EPS (Rs)	58.41	62.11	78.55	89.47
EPS growth (%)	18.4	6.3	26.5	13.9
EPS (diluted) (Rs)	58.41	62.11	78.55	89.47
EPS (basic pre-ex) (Rs)	58.41	62.11	78.55	89.47
P/E (X)	38.8	36.5	28.8	25.3
P/B (X)	10.3	8.6	7.0	5.8
EV/EBITDA (X)	34.7	32.7	25.7	22.0
Dividend yield (%)	0.8	0.8	0.9	1.0
ROE (%)	29.2	25.6	26.7	25.0



Share price performance (%)	3 month	6 month	12 month
Absolute	62.4	78.9	26.2
Rel. to India BSE30 Sensex	2.5	11.9	54.1

Source: Company data, Goldman Sachs Research estimates, FactSet. Price as of 5/18/2009 close.

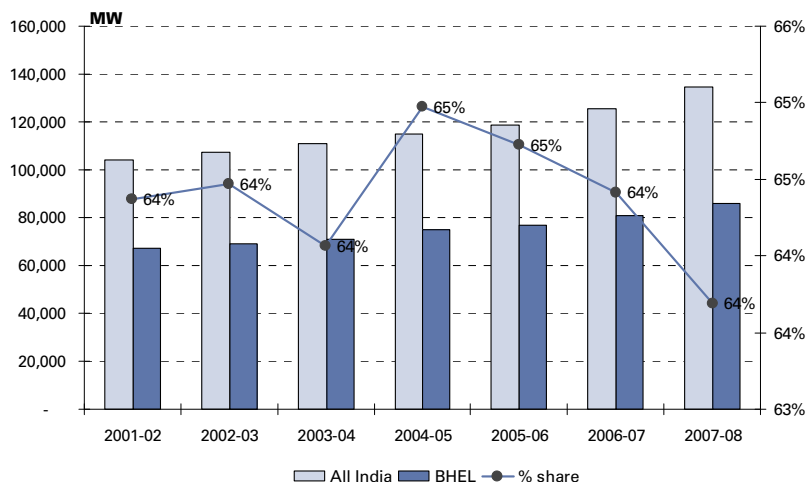
Investment View: Structural shift in the Indian power equipment market could be negative for BHEL

With 65% market share of the total installed generating capacity in India, the market appears to be expecting BHEL to benefit from the planned additions to the existing power generation capacity in India over the Eleventh (78-80 GW) and Twelfth Five-Year Plans (84 GW). However, we believe the changing mix of the Twelfth Plan orders and increasing competition from global companies in the Indian power equipment segment poses a significant challenge to BHEL’s dominant position and we forecast the company’s order inflows to decrease at the rate of 34% and 10% over the next two years (the order backlog for the company as of end-FY2009 stood at Rs1,170 bn – 4.3X FY2009E revenue – recording a CAGR of 46% over FY2006-FY2009E). We expect sales to record a CAGR of 20% over FY2009E-FY2012E (vs. 23% over FY2006-FY2009E) and EBITDA margins to stabilize at the 13% level.

BHEL currently trades at a 1-year forward P/E multiple of 28.8X and P/B multiple of 7.0X (101% and 143% premium to global peers, respectively) and we estimate its EPS CAGR at 18% over FY2009E-FY2012E.

Exhibit 8: BHEL has consistently maintained its share of around 65% in the Indian power equipment market

Installed generating capacity – All India vs. BHEL



Source: Company data, CEA.

We highlight four structural themes that are integral to our investment thesis on BHEL:

- Larger proportion of complex technology orders in the Twelfth FYP
- Increasing competition leading to lower overall realizations
- Sharing of profits with technology partners over the next 3-5 years
- Limited technological differentiation should bring returns to global mean

Structural shift in the mix of the Twelfth Plan orders could be unfavorable for BHEL

76% of the Eleventh FYP orders were from the central and state governments. A majority of BHEL’s order backlog comprises orders from the central and state government backed agencies (85% as of FY2009) – thereby, significantly reducing the risks of cancellation and delays. In direct contrast to this, the private sector is expected to contribute to 40% of the Twelfth Plan orders (BHEL had a small market share so far in the Eleventh Plan orders).

Exhibit 9: BHEL's share of private plan orders in the Eleventh Plan has been minimal
BHEL's share in the Eleventh FYP orders

	Total	Central	State	Private
Thermal (in MW)	61,123	21,496	22,001	17,626
BHEL	35,611	16,256	17,315	2,040
% share	58%	76%	79%	12%
Chinese manufacturers	15,463	1,200	2,700	11,563
% share	25%	6%	12%	66%
Hydro (in MW)	15,507	7,665	4,402	3,440
BHEL	6,017	4,421	674	922
% share	39%	58%	15%	27%
Chinese manufacturers	464	0	364	100
% share	3%	0%	8%	3%

Source: Central Electricity Authority.

In addition, the proportion of projects employing super-critical and higher-rating units (>660 MW) are set to increase in the Twelfth Plan order mix (see Exhibit 10). BHEL's share of orders involving higher-rating units was very small in the Eleventh Plan primarily since it did not have the proprietary technology to manufacture such complex boiler-turbine-generator (BTG) sets. As shown in Exhibit 11, BHEL won only three orders in the 600 or above unit rating range in the Eleventh FYP. With the Twelfth Plan likely to have at least 72 out of the total 153 thermal units in this range, we believe BHEL's lack of experience in the higher-rating segment affects its chances of garnering a huge share of the Twelfth Plan orders – unlike the 65% share of installed equipment that BHEL has maintained so far.

Recognizing this risk of lack of execution track record on the part of BHEL and to encourage faster absorption of technology, the government mandated state agencies (NTPC and DVC) to bulk order equipment in the super-critical category for the Twelfth Plan. The government also recently announced measures to ensure a minimum share for BHEL in this bulk order, which was significantly below its historical market share (see Exhibit 14).

We observe that going forward there may be more government measures to prevent market share erosion for BHEL—even if this were to happen, we believe it would be at substantially lower realizations for BHEL (new orders on international competitive bidding vs. negotiated prices earlier, profits to be shared with technology providers going forward).

Exhibit 10: Share of higher rating orders is set to increase in the Twelfth Plan
Distribution of Twelfth Plan orders amongst different rating unit types

Region	800/660	500/600	210/250/3	110/125	Total	Gas/LNG Module	Total
	MW Units	MW Units	00 Mw units	MW units			
Northern		17	14	5	36	1	37
Western	4	16	20	3	43	5	48
Southern	1	14	6		21	3	24
Eastern	7	13	16		36		36
N-Eastern			3		3	5	8
All-India (Nos.)	12	60	59	8	139	14	153
All-India (MW)	8,060	30,160	15,185	950	54,355	4,289	58,644

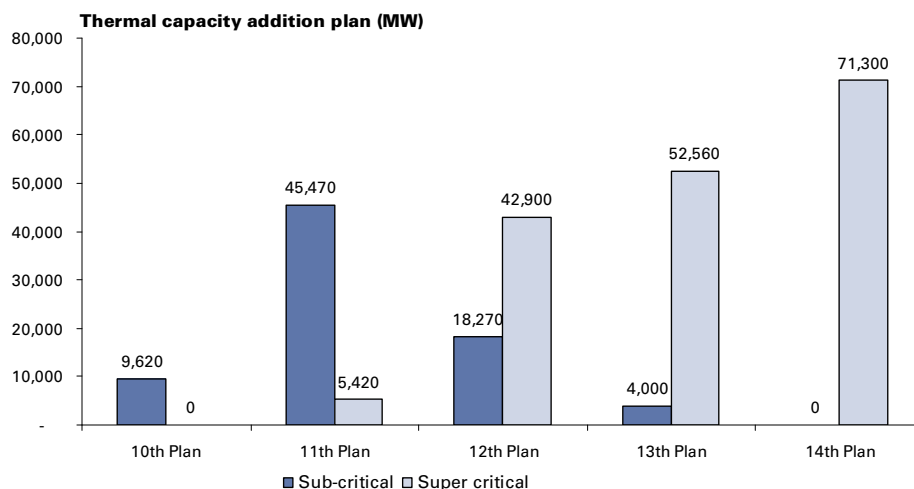
Source: Planning Commission, CEA.

Exhibit 11: BHEL's share of higher rating units' orders placed so far has been low
 Details of orders for higher rating units placed

Project	Agency	Capacity(MW)	Boiler	Turbine
Sipat I	NTPC	1980	Doosan	Power Machines
Barh I	NTPC	1980	Technoprom	Power Machines
Mundra	Adani	1320	SEPCO III	SEPCO III
Mundra UMPP	Tata Power	4000	Doosan	Toshiba
Sasan UMPP	R Power	3960	Shanghai Electric	Shanghai Electric
Krishnapatnam UMPP	R Power	3960	Shanghai Electric	Shanghai Electric
Barh II	NTPA	1320	BHEL	BHEL
TNEB	TNEB-BHEL JV	1600	BHEL	BHEL
Krishnapatnam	APPDCL	1600	BHEL	L&T

Source: CEA.

Exhibit 12: Share of super-critical orders to rise significantly from the Twelfth Plan
 Share of sub-critical and super-critical orders in the Tenth-Fourteenth Five Year Plans



Source: CEA, Goldman Sachs Research.

Exhibit 13: Chinese companies garnered about one-fourth of the total orders in the Eleventh FYP
 Orders received by Chinese companies in the Eleventh FYP

	MW	%
Central	1,200	6%
State	2,700	12%
Private	11,563	66%
Total	13235	25%

Source: CEA, Goldman Sachs Research.

Exhibit 14: BHEL's incremental share of the future orders would be substantially lower, in our view
 NTPC bulk ordering scheme for FY2010

	7 X 660MW	6 X 800MW	Overall share
Total MW	4620	4800	
BHEL's min. share	3 units	2 units	
in MW	1980	1600	38%

Source: CEA, Goldman Sachs Research estimates.

Intensifying competition would mean lower average realizations in the future

The Chinese power equipment manufacturers have been a major source of competition for BHEL so far especially in the mid-range capacity sets (where BHEL lacked a comparable product so far). But concerns regarding the quality of Chinese equipments have been raised following the difficulties in commissioning faced at a few projects (such as Sagardighi project of West Bengal)–leading to market expectations that BHEL could regain some of these orders despite the price advantage enjoyed by the Chinese manufacturers.

We note that excluding transportation, Chinese equipment continues to be about 30% cheaper in dollar terms (about Rmb4 mn per MW in China vs. Rs4.5 mn per MW in India).

However, we note that several other global companies (see Exhibit 15 for a list of the largest producers across the world) apart from the Chinese companies, have been keen on participating in the Indian power equipment market, given the huge number of orders that are likely to be allocated over the next few years and also the prospects of slowing demand that these companies may potentially face in their own domestic markets. A few of them have already started to increase their presence in India, through partnerships with local manufacturers (see Exhibit 16).

Exhibit 15: Global players are becoming more active as India’s power generation focus shifts to more complex and cleaner technologies

Profile of global power equipment manufacturers

Company	Significance of profits accounted for by Power Generation Equipment	Fossil Power positioning	Nuclear Power positioning	Renewable Power positioning	GS rating	Current market cap (\$ mn)	Current share price	GS TP	GS TP time-frame	Key Equipment
Alstom	Very significant	Significant	Less relevant	Not material	Buy	17,675	€45.68	€46.00	12 months	Heavy duty gas turbines, steam turbines, generators, boilers, Hydro turbines
ABB	Significant	Significant	Less relevant	Not material	Neutral	33,398	SFr17.09	SFr15.00	12 months	Automation & Instrumentation systems, generators and other equipment for wind
Siemens	Very significant	Significant	Less relevant	Not material	Buy*	60,627	€51.75	€62.00	12 months	Heavy duty gas-, steam-, and wind turbines, wind gearboxes, generators, controls, reactor vessels
Areva	Significant	Less relevant	Very significant	Not material	N/C	465	€408.00	N/C	N/C	Reactor vessel, steam generators, pressurizers
GE	Very significant	Significant	Less relevant	Not material	Neutral	142,297	\$13.47	\$16.00	12 months	Heavy duty gas turbines, steam turbines, wind turbines, generators, gasifiers, reactor vessels
Spx corporation	Significant	Significant	Less relevant	Not material	Neutral	2,461	\$45.15	\$51.00	12 months	Cooling towers, condensers, heat exchangers, valves, emissions control equipment
Mitsubishi Heavy Industries, Ltd	Significant	Significant	Less relevant	Not material	Sell	11,354	¥324	¥290	12 months	Reactor vessels, Heavy duty gas, steam & wind turbines, gasifiers, instrumentation & control
Dongfang Electric Corporation Limited	Significant	Significant	Less relevant	Not material	Neutral	2,610	HK\$24.60	HK\$15.70	12 months	Steam Turbines, boilers, generators
Shanghai Electric Group Company Limited	Significant	Significant	Less relevant	Not material	Sell*	5,238	HK\$3.40	HK\$1.80	12 months	Steam Turbines, boilers, generators
Harbin Power Equipment Company Limited	Significant	Significant	Less relevant	Not material	Sell	1,440	HK\$8.11	HK\$4.30	12 months	Steam Turbines, boilers, generators
Doosan Heavy Industries & Construction Co., Ltd.	Significant	Significant	Less relevant	Not material	Sell	6,481	KW78,200	KW47,300	12 months	Reactor vessels, steam turbines, steam generators, boilers, HRSG
Andritz AG	Significant	Significant	Less relevant	Not material	Neutral	2,034	€28.99	€30.60	6 months	Hydro equipment such as turbines
Charter Limited	Significant	Significant	Less relevant	Not material	Neutral	1,468	£574.50p	£550.00p	6 months	Fans, Compressors, Heat Exchangers, Flue Gas Desulphurisation equipment
Alfa Laval AB	Significant	Significant	Less relevant	Not material	Sell	4,060	Sk73.50	Sk62.70	6 months	Heat exchangers for power plants, ethanol plants, gas boilers
A-Tec Industries AG	Significant	Significant	Less relevant	Not material	Neutral	342	€9.60	€10.90	6 months	Waste-to-Energy Plant Construction
Sulzer AG	Significant	Significant	Less relevant	Not material	Neutral	2,034	SFr65.70	SFr72.60	6 months	Pumping equipment for nuclear, fossil incl combined cycle
Gamesa Corp Tecnologica SA	Significant	Significant	Less relevant	Not material	Buy*	4,986	€15.19	€19.00	12 months	Wind turbines
Hansen Transmissions International NV	Significant	Significant	Less relevant	Not material	Buy	1,382	£134.75p	£160.00p	12 months	Gearboxes for Wind turbines
Vestas Wind Systems A/S	Significant	Significant	Less relevant	Not material	Buy*	13,760	Dkr410	Dkr600	2 years	Wind turbines
Bharat Heavy Electricals Limited	Significant	Significant	Less relevant	Not material	Sell*	23,163	Rs2,266	Rs1,355	12 months	Steam turbines, boilers, generators
Vallourec SA	Significant	Significant	Less relevant	Not material	Buy*	6,203	€86.69	€77.00	12 months	Boiler tubes, tubes for steam generators, preheaters, and condensers

*Stock is on our regional Conviction List.

Note: (1) For important disclosures, please go to <http://www.gs.com/research/hedge.html>. (2) For methodologies and risks associated with our target prices mentioned, please refer to the analysts' previously published research.

Source: Company data, Datastream, Goldman Sachs Research estimates.

BHEL's pricing power in the Indian power equipment market could be under pressure, in our view, due to increasing competition. Global companies have the advantage of higher capacity and thus better economies of scale, as compared with BHEL, and may compete at potentially lower price levels in an attempt to get a foothold in the market initially— leading to lower overall realizations, in our view. **Despite the planned capacity additions by BHEL, we expect the average delivery period to stay at higher levels through to FY2011 (above 40 months for higher rating sets) - another potential reason why power companies may consider awarding equipment manufacturing contracts to other competitors.**

Exhibit 16: Competition is intensifying in the Indian power equipment market
Upcoming capacity from newer companies

Company/JV	Capacity Increase (MW)	Year of Completion
L&T Mitsubishi	4,000	2010
Toshiba - JSW	3,000	2015
Alstom-Bharat Forge	5,000	2011
NTPC-BHEL Power Projects Pvt Limited	5,000	2013
Ansaldo Caldie-GB Engg. Co.	1,500	2011
Reliance infrastructure-Shanghai Electric Co.	10,000	NA
BHEL	5,000	2009

Source: Company data.

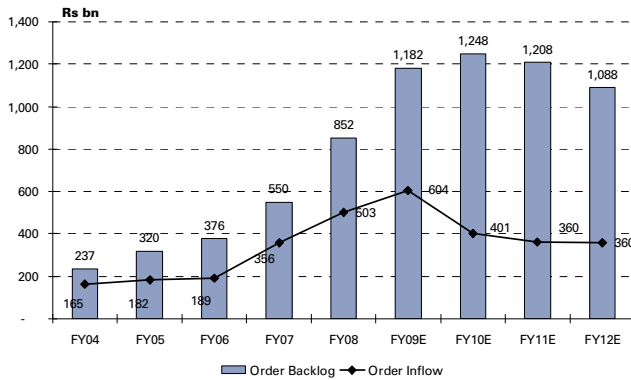
Exhibit 17: Timely execution of existing order book is a challenge for BHEL, in our view
Current order book and execution capabilities for BHEL

Order book growth	2003	2004	2005	2006	2007	2008	2009E	2010E	2011E	2012E
Rs mn / MW		23.0	24.0	28.0	30.5	31.0	31.0	29.1	28.3	28.3
Energy Equivalents MW:										
Executed		3,909	4,521	5,344	6,177	7,150	8,858	11,470	14,160	16,962
Outstanding		10,283	13,333	13,429	18,033	27,484	37,152	39,445	38,030	33,789
Order book/Sales:			2.9	2.5	2.9	4.0	4.3	3.7	3.0	2.3
No. of months on avg. for completion			26	26	24	31	37	42	37	30

Source: Company data, Goldman Sachs Research estimates.

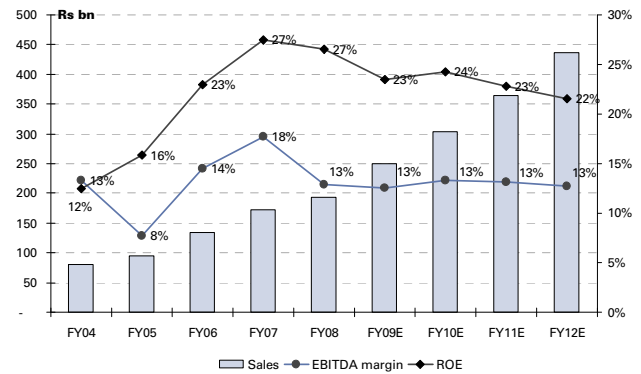
We expect BHEL to grow its revenues at a CAGR of 20% over FY2009E-FY2012E vs. the 23% revenue CAGR seen over FY2006-FY2009E. A decline in order inflow leading to a reduced order backlog would affect BHEL's growth in the longer term, in our view. We estimate order inflows to decline by 34% and 10% over the next two years. Recognizing this risk, the company has announced its plans to invest in increasing exposure to other heavy engineering sectors such as transportation, which we believe is a good strategy.

Exhibit 18: We expect BHEL's order backlog to decrease at the rate of 3% annually over FY2009E-FY2012E vs. 46% CAGR over FY2006-FY2009E
Order book and order inflow trend



Source: Company data, Goldman Sachs Research estimates.

Exhibit 19: We estimate BHEL to record revenue CAGR of 20% over FY2009E-FY2012E, vs. 23% as seen over FY2006-FY2009E
Growth, return and margin profile for BHEL



Source: Company data, Goldman Sachs Research estimates.

Capacity expansion could lead to pressure on margins

BHEL is currently increasing its capacity to execute on the massive order book accumulated over the last two years. The company's capacity is planned to expand to 15,000 MW by December 2009 from the current 10,000 MW and to 20,000 MW by the end of FY2011. Both these phases of capacity expansion are capex heavy, unlike that over the last 2-3 years (when it expanded from 5,000 MW to current 10,000 MW) with the company announcing that it would spend Rs120 bn over FY2010-FY2013 towards this objective. We believe such capex-heavy capacity expansion could impact BHEL's margins in the medium term.

Although prices of several key raw materials used by the company have reduced considerably, we believe the company would have to pass on most of these benefits to its customers, especially given the intense competitive environment going forward. On the existing contracts, the company may be able to retain some of the benefits, in our view. Thus we expect EBIT margins to be stable at around 11% for the current and next year but reduce significantly thereafter, as the new orders start getting executed.

High returns enjoyed by BHEL currently not sustainable in the long term

While the top global power equipment makers (with differentiated and niche technologies) have ROEs (see Exhibit 27) in the 20% range, BHEL has enjoyed higher returns – an average of 25% over FY2006-FY2009E. The primary reasons for this higher-than-average return profile have been: (1) negotiated pricing with buyers (given its dominant share) and (2) high non-operating income and low working capital pattern (10% cash advance on all orders).

We believe that although BHEL currently lacks strong differentiated technologies in its portfolio, it has the advantage of extensive on-ground presence and experience. Thus, we expect it should be able to earn long term ROEs close to those earned by its top global peers. We expect BHEL's ROE to decline by 50 bp to 21.6% by FY2012E relative to FY2008 levels.

Exhibit 20: We expect a contraction in BHEL's ROE and a slowdown in its EBITDA growth

Valuations and return profile for BHEL over the years

BHEL	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09E	FY10E	FY11E	FY12E
P/E (yr-avg) (X)	14.63	8.68	7.41	4.94	6.61	6.10	11.39	14.46	18.45	20.57	24.62	18.23	28.85	25.33	22.32
P/B (yr - avg) (X)	3.40	2.15	1.59	0.85	0.84	0.89	1.85	2.54	4.17	6.16	8.62	6.84	6.98	5.77	4.81
ROE	27.7%	17.7%	17.9%	8.7%	11.1%	9.4%	12.4%	15.8%	23.0%	27.5%	26.5%	23.5%	24.2%	22.8%	21.6%
EBITDA growth		-8%	-6%	-52%	87%	12%	42%	-31%	162%	58%	-18%	26%	29%	18%	16%
EPS growth		-24%	10%	-48%	50%	-5%	48%	45%	76%	44%	18%	6%	26%	14%	13%

Source: Company data, Goldman Sachs research estimates.

Our FY10E and FY11E EPS estimates are 12% and 17% below consensus

Bloomberg consensus estimates for BHEL indicate a 44% growth in EPS in FY2010E which, in our view, is optimistic. We believe that the market is not differentiating the second phase of expansion currently in progress from the previous ones and is also overlooking potential lower billings on the existing order book (given reduced raw material prices). The current phase of expansion is more capital intensive – implying pressure on margins and return ratios. We are 12% below consensus on FY2010E EPS and 17% below consensus on FY2011E EPS.

Exhibit 21: Our estimates are materially below consensus

Comparison of GS vs. consensus view

	FY2010E	FY2011E
Sales	-4%	-6%
EBITDA	-34%	-38%
EPS	-12%	-17%

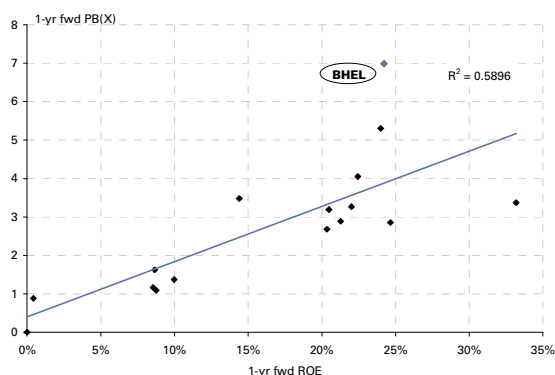
Source: Bloomberg, Goldman Sachs Research estimates.

Valuation

Our 12-month target price of Rs1,355 for BHEL is based on a P/B multiple derived from the regression equation for the global electrical equipment peers. Our target price values BHEL at 3.45X our estimated BVPS for FY2011E. This implies a downside potential of 40% from current levels.

Exhibit 22: BHEL currently trades at a premium to its global peers

1-yr fwd P/B vs. 1-yr fwd ROE for the global electrical equipment peer group



Source: Bloomberg, Goldman Sachs Research estimates.

Exhibit 23: Our target price of Rs1,355 is based on 3.45X (regression based target multiple) FY11E BVPS

Implied valuation for BHEL

Rs	ROE		
	FY2010	FY2011	Avg.
Book value	324	393	359
ROE	24%	23%	24%
Implied PB multiple (X) (regression based)	3.54	3.45	3.50
Implied Valuation	1149	1355	1253
Variance from current share price	-49%	-40%	-45%

Source: Bloomberg, Goldman Sachs Research estimates.

We have also cross checked our valuation against a 1-year forward P/E multiple. Our target P/E multiple is close to the mid-cycle valuation over the past 15 years – given our base case of a weak economic recovery towards the later half of FY2010E. Our target FY2011E P/B multiple of 3.45X is at a premium of 23% to the company’s historical mean but at a discount of 17% to the mean P/B of 4.2X seen over FY2004-FY2008.

Structurally increasing competition and changing business mix over the next three years will lead to reduced profitability and ROE for BHEL, in our view – justifying this discount. However, both profitability and ROE continue to be better than that of its global peers leading to our choice of target multiples that are at a premium to that of the global electrical equipment peer group.

Exhibit 24: Our target price implies a FY2011E P/E of 15.1 X

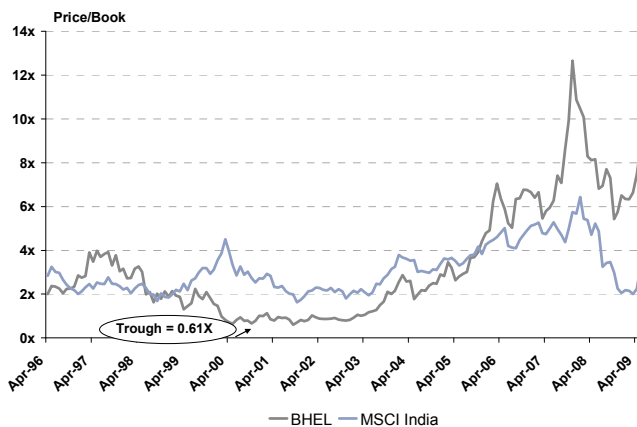
Cross-check for BHEL’s target price; implied multiple against its own trading history and global peer valuation

	Historical 15-yr mean	1999-2003 mean	2004-2008 mean	Global median	Implied Multiple
1-yr fwd P/E(X)	12.9	6.7	19.4	14.3	15.1
1-yr fwd P/B(X)	2.7	1.1	4.2	2.9	3.45

	BHEL			Global	BHEL
	98-08	99-03	04-08	08-10E	09P-11E
EBITDA CAGR	15%	-1%	24%	-14%	24%
ROE	21%	13%	27%	16%	23%

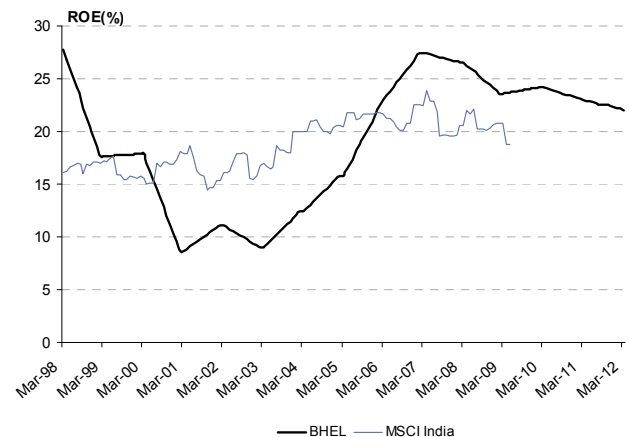
Source: Datastream, Goldman Sachs Research estimates.

Exhibit 25: BHEL is currently trading at a significant premium on P/B basis to the MSCI India Index
P/B historical trend – BHEL vs. MSCI India



Source: Datastream, Goldman Sachs Research estimates.

Exhibit 26: We expect BHEL to record an average ROE of 23% over FY2009E-FY2012E vs. 25% over FY2006-FY2009E
ROE historical trend – BHEL vs. MSCI India



Source: Datastream, Goldman Sachs research estimates.

BHEL currently trades at a 1-year forward P/E of 28.8X which is at a premium of 56% and 51% to that of the MSCI India Index and to its global peer group, respectively. Exhibits 25 and 26 indicate that BHEL has historically traded at a premium to the MSCI India Index in periods of high ROE and traded at a discount in periods of low ROE. Given our view that the company's ROE will decline from FY2007 and FY2008 levels, we believe, the current valuation premium that the company enjoys over the MSCI Index should compress, going forward.

Exhibit 27: BHEL trades at a 102% premium to global peers on 1-yr forward P/E and 143% on 1-yr forward P/B
Global peer valuations

Companies	BB Ticker	Currency Symbol	Price 5/18/2009	GS Rating	Market Cap US\$m	P/E (X)		EV/EBITDA (X)		P/B (X)		ROE (%)		Sales CAGR (%)		EPS CAGR (%)		EBITDA margin (%)	
						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 fwd
India Power Equipment																			
BHEL	BHEL IN	Indian Rupee	2,266	Sell*	23,163	28.8	25.3	25.7	22.0	7.0	5.8	24%	23%	22%	21%	26%	20%	13%	13%
ABB Ltd India	ABB IN	Indian Rupee	560	NC	2,360	19.6	17.6	12.5	11.2	4.1	3.3	22%	22%	8%	10%	-2%	6%	NA	NA
Siemens India Ltd	SIEM IN	Indian Rupee	426	NC	2,857	22.6	21.8	13.7	12.4	5.3	4.5	24%	22%	-3%	5%	6%	5%	10%	10%
Mcap - weighted Average (Mean)						27.5	24.3	23.4	20.1	6.6	5.4	24%	23%	18%	18%	22%	17%	12%	12%
Median						22.6	21.8	13.7	12.4	5.3	4.5	24%	22%	8%	10%	6%	6%	12%	11%
Asia Power Equipment																			
Dongfang Electric	1072 HK	Hong Kong Dollar	25	Neutral	2,610	15.6	11.6	9.1	5.2	3.2	2.5	20%	22%	-21%	1%	17%	25%	7%	9%
Doosan Heavy Industries & Construction	094020 KS	South Korean Won	78,200	Sell	6,481	38.5	37.6	17.8	20.3	4.2	3.9	12%	11%	10%	5%	-424%	NM	9%	8%
Harbin Power Engg. Company	1133 HK	Hong Kong Dollar	8	Sell	1,440	12.5	12.3	2.4	3.4	1.1	1.0	9%	8%	-23%	-5%	-32%	-17%	7%	6%
Mitsubishi Electric	6503.T	Japanese Yen	548	Not Rated	12,286	20.1	8.1	5.5	1.4	1.3	-3%	6%	-10%	-3%	-343%	NM	6%	8%	
Mitsubishi Heavy Industries	7011 JT	Japanese Yen	324	Sell	11,354	45.7	9.4	8.3	0.9	0.9	0%	2%	-11%	-7%	-78%	-1%	8%	9%	
Shanghai Electric	2727 HK	Hong Kong Dollar	3	Sell*	5,238	18.8	15.7	7.4	6.4	1.6	1.5	9%	10%	-5%	2%	-25%	-5%	6%	7%
Mcap - weighted Average (Mean)						10.3	28.9	9.8	8.8	1.8	1.7	4%	7%	-8%	-2%	-203%	0%	7%	8%
Median						17.2	17.9	8.6	8.0	1.5	1.4	9%	9%	-10%	-1%	-55%	-3%	7%	8%
North American Power Equipment																			
Emerson Electric	EMR US	U.S. Dollar	35	Neutral	26,567	14.8	17.8	8.2	9.0	3.3	3.4	22%	19%	-13%	-11%	-24%	-21%	17%	16%
General Electric	GE US	U.S. Dollar	13	Neutral	142,297	13.8	15.8	11.2	12.2	1.4	1.2	10%	8%	-11%	-8%	-45%	-31%	8%	8%
Honeywell International	HON US	U.S. Dollar	33	Neutral	24,090	11.6	12.4	5.8	5.2	2.9	2.6	25%	21%	-12%	-7%	-24%	-16%	16%	17%
United Technologies	UTX US	U.S. Dollar	53	Buy	48,636	13.6	12.9	7.2	6.7	2.9	2.7	21%	21%	-11%	-8%	-20%	-9%	14%	15%
Mcap - weighted Average (Mean)						13.6	15.1	9.5	10.0	2.0	1.9	15%	13%	-11%	-8%	-36%	-24%	11%	11%
Median						13.7	14.3	7.7	7.8	2.9	2.7	22%	20%	-12%	-8%	-24%	-18%	15%	16%
Europe Power Equipment																			
ABB Ltd	ABBN.VX	U.S. Dollar	17	Neutral	33,398	12.4	18.1	6.2	8.0	2.7	2.6	20%	13%	-13%	-14%	-30%	-31%	16%	14%
Alstom	ALSO.PA	Euro	46	Buy	17,675	10.2	12.4	5.0	5.3	3.4	2.8	33%	23%	10%	1%	16%	-3%	11%	10%
Schneider Electric	SCHN.PA	Euro	53	Neutral	17,273	11.1	10.9	7.1	7.2	1.2	1.1	9%	-2%	-11%	-10%	-38%	-21%	15%	16%
Siemens AG	SIEGn.DE	Euro	52	Buy*	60,627	11.8	11.2	5.4	5.1	1.7	1.5	14%	14%	3%	-2%	148%	61%	12%	13%
Vestas Wind Systems	VWS.CO	Euro	410	Buy*	13,760	23.5	19.5	12.4	11.7	3.5	3.0	14%	15%	7%	12%	-15%	1%	13%	13%
Mcap - weighted Average (Mean)						12.8	13.7	6.4	6.7	2.2	2.0	17%	13%	-1%	-4%	52%	16%	13%	13%
Median						11.8	12.4	6.2	7.2	2.7	2.6	14%	14%	3%	-2%	-15%	-3%	13%	13%
Global Average																			
Mcap - weighted Average (Mean)						13.9	16.5	9.4	9.5	2.4	2.2	15%	13%	-6%	-5%	-19%	-6%	11%	12%
Median						14.3	16.7	8.1	7.6	2.9	2.6	17%	14%	-10%	-2%	-24%	-4%	11%	10%

*Stock is on our regional Conviction list.

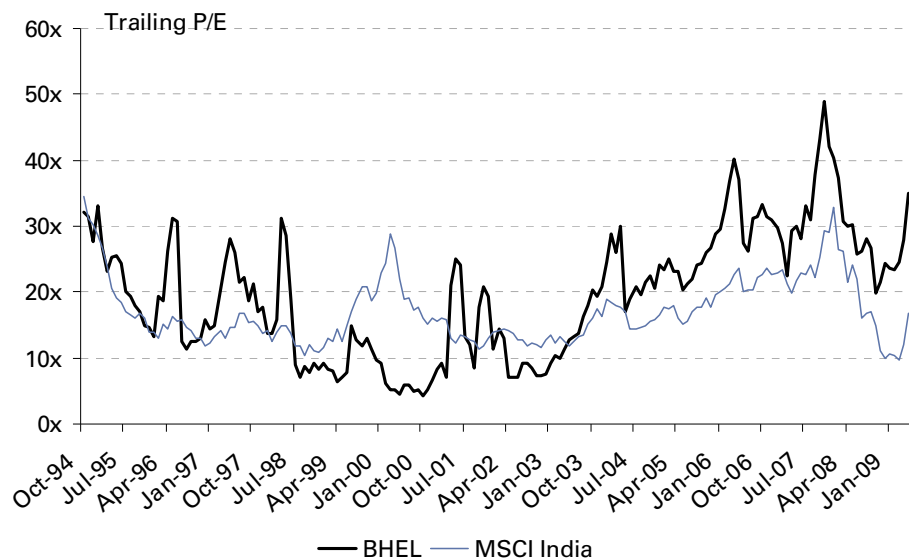
NC – Not Covered.

Note: (1) For important disclosures, please go to <http://www.gs.com/research/hedge.html>.

Source: Bloomberg, Datastream, Goldman Sachs Research estimates.

Exhibit 28: BHEL currently trades at a premium of 119% to the MSCI India index on trailing P/E

Trailing P/E historical trend – BHEL vs. MSCI India index



Source: Datastream, Goldman Sachs Research.

Company description

Bharat Heavy Electricals Limited (BHEL, in which Government of India holds 68% stake) is India's largest electrical engineering and manufacturing company catering to sectors such as power generation and transmission, transportation, renewable energy and defense. Its power generation segment consists of thermal, gas, hydro and nuclear power plant businesses. With around 65% share of the current installed capacity in India, the company is a leader in the power equipment business in India. BHEL's current manufacturing capacity can support power generation of 10,000 MW – including 2,500 MW of hydro electricity production, and 500 MW captive power plants for the industrial sector. The company plans to increase its equipment manufacturing capacity to 15,000 MW by end of this year and to 20,000 MW per year by 2011.

Exhibit 29: Shareholder structure

Shareholder structure	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09
Promoter & group	67.7%	67.7%	67.7%	67.7%	67.7%	67.7%
Public Institutions excl. FIs	7.7%	8.6%	10.1%	9.7%	9.5%	9.2%
FIs	19.5%	18.1%	16.0%	16.6%	16.0%	17.0%
Others	5.0%	5.6%	6.5%	6.4%	6.9%	6.1%
Total	100%	100%	100%	100%	100%	100%

Source: BSE.

Exhibit 30: Bharat Heavy Electricals Ltd. – Summary financials

Profit model (Rs mn)	3/08	3/09E	3/10E	3/11E	Balance sheet (Rs mn)	3/08	3/09E	3/10E	3/11E
Total revenue	193,046.4	249,897.6	304,150.3	364,217.8	Cash & equivalents	83,860.2	86,684.9	71,940.5	59,759.3
Cost of goods sold	(106,979.0)	(138,443.3)	(170,172.1)	(205,418.8)	Accounts receivable	119,748.7	147,187.0	179,141.2	214,520.3
SG&A	(64,120.3)	(83,650.8)	(97,941.0)	(116,256.2)	Inventory	57,364.0	72,864.9	91,984.9	111,037.2
R&D	--	--	--	--	Other current assets	16,074.3	16,074.3	16,074.3	16,074.3
Other operating profit/(expense)	0.0	0.0	0.0	0.0	Total current assets	277,047.2	322,811.0	359,140.9	401,391.1
EBITDA	24,919.2	31,302.1	40,447.3	47,823.9	Net PP&E	15,960.7	23,460.1	62,132.9	105,228.8
Depreciation & amortization	(2,972.1)	(3,498.6)	(4,410.2)	(5,281.2)	Net intangibles	432.2	432.2	432.2	432.2
EBIT	21,947.1	27,803.6	36,037.2	42,542.8	Total investments	13,462.2	13,462.2	13,462.2	13,462.2
Interest income	8,954.4	7,547.4	7,801.6	6,474.6	Other long-term assets	0.0	0.0	0.0	0.0
Interest expense	(354.2)	(76.1)	(76.1)	(76.1)	Total assets	306,902.3	360,165.5	435,168.2	520,514.3
Income/(loss) from uncons. subs.	0.0	0.0	0.0	0.0	Accounts payable	44,240.0	54,772.1	64,996.5	77,832.8
Others	13,756.6	11,500.0	15,396.3	18,437.0	Short-term debt	344.6	344.6	344.6	344.6
Pretax profits	44,303.9	46,774.8	59,159.0	67,378.2	Other current liabilities	139,048.2	159,363.6	193,961.3	232,267.3
Income tax	(15,710.5)	(16,371.2)	(20,705.6)	(23,582.4)	Total current liabilities	183,632.8	214,480.2	259,302.4	310,444.7
Minorities	0.0	0.0	0.0	0.0	Long-term debt	607.2	607.2	607.2	607.2
Net income pre-preferred dividends	28,593.4	30,403.7	38,453.3	43,795.9	Other long-term liabilities	14,920.2	15,666.2	16,449.5	17,272.0
Preferred dividends	0.0	0.0	0.0	0.0	Total long-term liabilities	15,527.4	16,273.4	17,056.7	17,879.2
Net income (pre-exceptionals)	28,593.4	30,403.7	38,453.3	43,795.9	Total liabilities	199,160.2	230,753.7	276,359.1	328,323.9
Post-tax exceptionals	0.0	0.0	0.0	0.0	Preferred shares	0.0	0.0	0.0	0.0
Net income	28,593.4	30,403.7	38,453.3	43,795.9	Total common equity	107,742.1	129,411.9	158,809.1	192,190.4
EPS (basic, pre-except) (Rs)	58.41	62.11	78.55	89.47	Minority interest	0.0	0.0	0.0	0.0
EPS (basic, post-except) (Rs)	58.41	62.11	78.55	89.47	Total liabilities & equity	306,902.3	360,165.5	435,168.2	520,514.3
EPS (diluted, post-except) (Rs)	58.41	62.11	78.55	89.47	BVPS (Rs)	220.10	264.36	324.42	392.61
DPS (Rs)	17.84	18.50	21.28	23.40					
Dividend payout ratio (%)	30.5	29.8	27.1	26.2					
Free cash flow yield (%)	3.5	0.8	(0.8)	(0.4)					
Growth & margins (%)	3/08	3/09E	3/10E	3/11E	Ratios	3/08	3/09E	3/10E	3/11E
Sales growth	12.0	29.4	21.7	19.7	ROE (%)	29.2	25.6	26.7	25.0
EBITDA growth	(18.2)	25.6	29.2	18.2	ROA (%)	10.6	9.1	9.7	9.2
EBIT growth	(20.9)	26.7	29.6	18.1	ROACE (%)	83.0	74.6	50.8	35.8
Net income growth	18.4	6.3	26.5	13.9	Inventory days	169.8	171.7	176.8	180.4
EPS growth	18.4	6.3	26.5	13.9	Receivables days	204.1	194.9	195.8	197.3
Gross margin	44.6	44.6	44.1	43.6	Payable days	134.4	130.5	128.4	126.9
EBITDA margin	12.9	12.5	13.3	13.1	Net debt/equity (%)	(77.0)	(66.2)	(44.7)	(30.6)
EBIT margin	11.4	11.1	11.8	11.7	Interest cover - EBIT (X)	NM	NM	NM	NM
Cash flow statement (Rs mn)	3/08	3/09E	3/10E	3/11E	Valuation	3/08	3/09E	3/10E	3/11E
Net income pre-preferred dividends	28,593.4	30,403.7	38,453.3	43,795.9	P/E (analyst) (X)	38.8	36.5	28.8	25.3
D&A add-back	2,972.1	3,498.6	4,410.2	5,281.2	P/B (X)	10.3	8.6	7.0	5.8
Minorities interests add-back	0.0	0.0	0.0	0.0	EV/EBITDA (X)	34.7	32.7	25.7	22.0
Net (inc)/dec working capital	18,637.9	(12,091.7)	(6,252.1)	(3,289.1)	Dividend yield (%)	0.8	0.8	0.9	1.0
Other operating cash flow	(15,424.4)	(6,725.3)	(6,942.2)	(5,576.0)					
Cash flow from operations	34,779.0	15,085.2	29,669.2	40,211.9					
Capital expenditures	(7,029.7)	(10,998.0)	(43,083.0)	(48,377.0)					
Acquisitions	0.0	0.0	0.0	0.0					
Divestitures	53.4	0.0	0.0	0.0					
Others	6,506.3	7,471.3	7,725.5	6,398.5					
Cash flow from investments	(470.0)	(3,526.7)	(35,357.5)	(41,978.5)					
Dividends paid (common & pref)	(8,588.9)	(8,733.9)	(9,056.1)	(10,414.5)					
Inc/(dec) in debt	51.0	0.0	0.0	0.0					
Common stock issuance (repurchase)	0.0	0.0	0.0	0.0					
Other financing cash flows	(344.6)	(76.1)	(76.1)	(76.1)					
Cash flow from financing	(8,882.5)	(8,810.0)	(9,132.3)	(10,490.7)					
Total cash flow	25,771.1	2,824.7	(14,744.4)	(12,181.1)					

Note: Last actual year may include reported and estimated data.

Source: Company data, Goldman Sachs Research estimates.

Larsen & Toubro (LART.BO; Neutral, TP: Rs1,327)

Execution strong, macro recovery to determine order inflows

Investment Thesis

- We initiate coverage on Larsen & Toubro with a Neutral rating. Our P/B based 12-month target price of Rs1,327 implies a potential upside of 4% from current levels.
- L&T is India’s largest engineering and construction (E&C) firm with an exposure to core manufacturing and infrastructure sectors. The company’s growth has a high leverage to the rollout of around US\$500 bn infrastructure spend planned over the Eleventh FYP, in our view.
- The recent tough credit environment and slowdown in demand have affected order inflows, especially in the metals and oil and gas segments over the previous two quarters (see Exhibit 33). However, strong inflows in the power and infrastructure segments are offsetting this weakness.
- Driven by the strong order backlog (2X FY2009E sales), we expect revenues for the consolidated company to register a CAGR of 29% over FY2009-FY2011E. Over this period, we expect the order backlog in the E&C segment (97% of 9MFY09 sales), to grow at a CAGR of 28%.
- However, changes in order mix and higher working capital requirements may put pressure on margins in the near term, in our view. We estimate EBITDA margins for the parent company to stabilize at the 10.3% level over FY2009E-FY2011E. We expect a strong boost to L&T’s profitability when the economy and capex investments pick up.
- Although catalysts remain mixed for the next three months, due to new government formation and the monsoon, valuations are fair (below the long-term mean) and returns are attractive (above the long-term mean).

Valuation

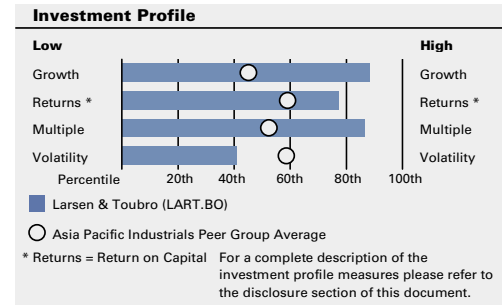
- Our 12-month target price of Rs1,327 is based on a 1-year forward target P/B multiple of 4.1X for L&T’s stand alone business, which is the mean P/B multiple over the past five years.
- L&T currently trades at 22.6X FY2010E EPS which is at a premium of 52% over its global peers and 45% over its Asian peers vs. last 5-year average premium of 18% and 19%, respectively.

Catalysts

- Revival in fixed asset formation and private industry capex investments during 2HFY2010.
- Revenue streams from new ventures – power, ship building and defence equipments over the next 12 months.

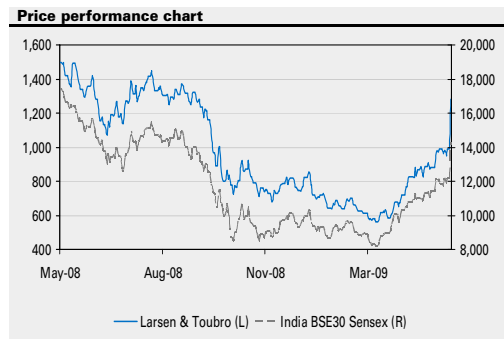
Risks

Downside risks - 1) Increase in competition from global companies, 2) prolonged weakness in the domestic and Middle East markets, 3) Delay in awarding planned infrastructure projects; Upside risks – 1) Faster-than-expected pick up in economic activity leading to stronger order inflows.



Key data	Current
Price (Rs)	1,280.00
12 month price target (Rs)	1,327.00
Market cap (Rs mn / US\$ mn)	749,180.2 / 15,643.8
Foreign ownership (%)	12.0

	3/08	3/09E	3/10E	3/11E
EPS (Rs)	38.95	44.57	56.63	73.56
EPS growth (%)	0.7	14.4	27.1	29.9
EPS (diluted) (Rs)	38.95	44.57	56.63	73.56
EPS (basic pre-ex) (Rs)	40.44	45.00	57.18	74.28
P/E (X)	32.9	28.7	22.6	17.4
P/B (X)	7.0	5.9	4.8	3.9
EV/EBITDA (X)	26.6	20.6	15.8	12.2
Dividend yield (%)	0.8	0.8	0.9	0.9
ROE (%)	26.2	22.2	23.5	24.9



Share price performance (%)	3 month	6 month	12 month
Absolute	95.7	67.6	(14.6)
Rel. to India BSE30 Sensex	23.5	4.9	4.3

Source: Company data, Goldman Sachs Research estimates, FactSet. Price as of 5/18/2009 close.

Investment view: High leverage to India’s infrastructure spend; pace of economic recovery to determine growth

L&T is one of Asia’s largest vertically integrated E&C companies with capabilities across various core sectors such as power, transportation, infrastructure, hydrocarbons and industrial infrastructure. This gives the company a high leverage to the approximately US\$500 bn infrastructure spend planned as part of the Eleventh FYP. Given the company’s strong execution capability, we believe the current order book of US\$13.8bn (as of 9MFY09) provides strong revenue visibility and we forecast sales CAGR of 27% over FY2009E-FY2012E (vs. 34% over FY2006-FY2009E). However, we expect EBITDA margins to remain at around 10.3% for the parent company, as the share of the lower-margin process segment increases in the overall revenue mix. We note that L&T may experience a significant improvement in profitability as the pace of economic growth picks up.

Exhibit 31: L&T’s business has high leverage to India’s planned infrastructure spend of around US\$500 bn over the Eleventh FYP

L&T’s segmental drivers and key features

Segments	% of sales FY09E	Sales CAGR: FY09E-11E	FY08 EBIT Margins %	Key features / products	Growth drivers & competition
Engineering & Construction	75%	35%	10%		
Construction				<ul style="list-style-type: none"> * Engineering, design and construction of projects on a lumpsum turnkey basis * Emphasis is on large value projects that would utilize the breadth of the company’s engineering and execution capabilities. * Geographically diversified and focus on adopting the concession-construction business model 	<ul style="list-style-type: none"> * Investment of USD 250-275 billion planned in the construction segment as part of the Eleventh FYP * New capacity creation in core industries such as steel, cement, petrochemicals etc * Major competitors-HCC, Nagarjuna
E&C Projects				<ul style="list-style-type: none"> * Delivers EPC solutions in the hydrocarbons, power, nuclear power, space & defence, minerals and engineering services segments * Currently expanding its overseas operations - specially across ME and SE Asian countries * Super critical boiler manufacturing facility being set up in joint venture with MHI to be operational by September 2009 	<ul style="list-style-type: none"> * Government’s focus on optimum monetization of domestic reserves to restrict the huge import bill * Emphasis on UMPPs, shift towards super critical technology could drive growth for this division * Major competitors include Samsung, Hyundai, Punj Lloyd
Heavy Industry				<ul style="list-style-type: none"> * Manufacture and supply of custom engineered equipment and systems to industries like fertilizers, refinery, petrochemicals, chemicals, oil & gas, thermal & nuclear power, aerospace and defence, ship building * Electrical business - meter boxes, cross arms, insulators and trippers 	<ul style="list-style-type: none"> * Greenfield refinery projects, refinery upgradation programs and fertilizer plant modernization projects in the domestic mkt * Offset stipulation under the Defence Procurement Procedure requires overseas suppliers to have value addition from India
Electrical & Electronics	7%	8%	16%		
Electrical & Electronics				<ul style="list-style-type: none"> * Market leader in India in low voltage switch gear market with rapidly expanding international presence * Acquisition of TAMCO provides an opportunity to become a significant player in the Medium Voltage switch gear business. * Strong distribution network and emphasis on product innovation has supported growth 	<ul style="list-style-type: none"> * Focus on power through the Eleventh and Twelfth FYPs to drive continuous growth of the electrical industry * Continuing investments in infra sectors such as airports, metro railways, water distribution systems * Government’s initiatives on Distribution Sector reform driving demand for electronic meter sales.
Machinery & Industrial Products	8%	10%	16%		
Machinery & Industrial Products				<ul style="list-style-type: none"> * Twin business streams - Manufacturing & Sales and Trading & Servicing * Enjoys leadership position in most of its product lines in the domestic market. 	<ul style="list-style-type: none"> * Opening up of the mining sector and allocation of coal blocks to private sector creating demand for mining equipment * Demand for hydraulic excavators is likely to grow at 48% annually
Technology Services and IT	5%	10%	13%		
Technology Services and IT				<ul style="list-style-type: none"> * Offers engineering solutions to industry verticals such as automotive, aerospace, off-highway equipment, aerospace, marine & ship design. * L&T Infotech is ranked among the top ten software exporters by NASSCOM 	<ul style="list-style-type: none"> * With growing emphasis on cost reduction, the trend of outsourcing larger share of the ITeS to India is likely to accelerate over the next few years * Competitors include Infosys, Wipro, TCS
Financial Services	2%	20%	39%		
Financial Services				<ul style="list-style-type: none"> * Significant player in the equipment finance segment. * The division also provides finance for tractors and undertakes distribution of various third party financial products * LTIFC is engaged in the business of financing and developing infrastructure projects across sectors 	<ul style="list-style-type: none"> * Strong network with a total of 61 branches, spread across 21 states
Developmental projects	1%	25%	54%		
Developmental projects				<ul style="list-style-type: none"> * Strong portfolio across roads & bridges(13 projects), ports(3 projects), Airports(1 project) and Urban Infrastructure(23 projects) 	<ul style="list-style-type: none"> * Impetus to infrastructure development in India

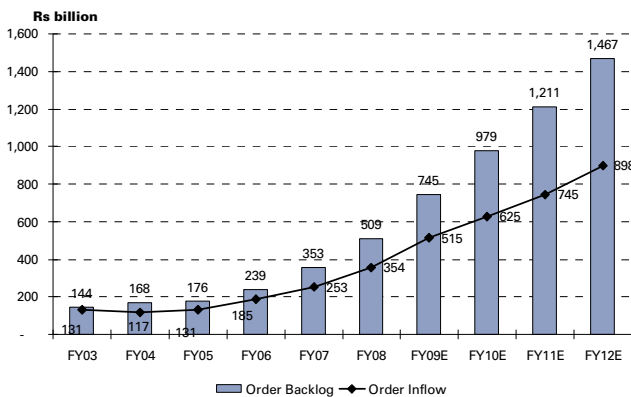
Source: Company data, Goldman Sachs Research estimates.

Robust order book implies strong revenue visibility

L&T's order book grew at a strong CAGR of 44% over FY2005-FY2008. Within this period, the E&C order book (97% of L&T's 9MFY09 order book) grew at a 42% CAGR. Despite the slowdown in new order inflows (see Exhibits 32 and 33); L&T's order book of Rs688 bn (2.7X FY2008 sales) offers strong revenue visibility for the next two years, in our view. A small portion of the company's order book could face delays to the extent of 8-10 months due to the current tough macro environment. Taking this into consideration, we expect L&T's sales to grow at a CAGR of 27% over FY2009E-FY2012E, decelerating from the 40% CAGR seen over FY2007-FY2009E. We expect both the book to bill ratio and the burn ratio to decrease over FY2010E-FY2012E from the FY2008-FY2009 levels and we believe there is an upside risk to these estimates if the economy recovers faster than expected.

Exhibit 32: We forecast the E&C order book to grow at 21% CAGR over FY2009E-FY2012E

Order backlog and order inflow in the E&C segment



Source: Company data, Goldman Sachs Research estimates.

Exhibit 33: We expect the book to bill ratio to decline over FY10E-FY12E

Performance of the different business segments for the parent company over FY2008-FY2012E

	2008	2009E	2010E	2011E	2012E
Engineering&Construction					
Order Backlog (Rs mn)	353,330	509,320	744,626	979,183	1,210,515
Order Inflow (Rs mn)	353,920	515,432	625,486	745,403	898,202
Book to bill ratio (X)	1.83	1.84	1.60	1.45	1.40
Burn ratio (X)	0.55	0.55	0.53	0.53	0.53
Sales (Rs mn)	193,765	280,126	390,929	514,071	641,573
YoY Growth	44%	45%	40%	32%	25%
Electrical&Electronics					
Sales (Rs mn)	26,629	29,292	31,050	34,155	38,253
YoY Growth	29%	10%	6%	10%	12%
Machinery&Industrial Products					
Sales (Rs mn)	24,109	27,243	28,878	32,343	36,548
YoY Growth	31%	13%	6%	12%	13%
Total Sales (Rs mn)	252,106	345,404	460,124	590,763	727,588
YoY Growth	41%	37%	33%	28%	23%
EBITDA Margin	12.5%	10.4%	10.3%	10.4%	10.9%

Source: Company data, Goldman Sachs research estimates.

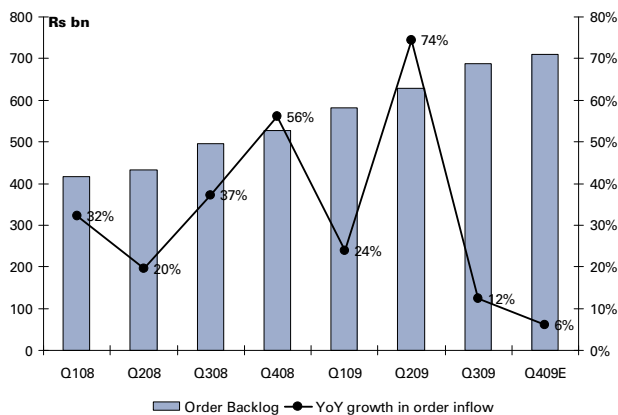
Government-led spending in the power and infrastructure segments to offset weakness in corporate capex spend

Our estimates on a bottom-up basis indicate that corporate capex (metals, oil & gas, power, cements) is set to grow at a CAGR of 14% over FY2008-FY2011E vs. the 34% CAGR over FY2004-FY2008 with the investments in the oil and gas and cement sectors decreasing 21% and 40%, respectively, in FY2010E. In line with this, we expect a deceleration in order inflows and sales growth for L&T over FY2010E-FY2012E (about 84% of the current order book is domestic). We expect a strong boost to profitability of established E&C companies such as L&T when the economy recovers and capex investments pick up.

Order inflow growth for L&T has seen a significant slowdown over the past few quarters, with the current tough credit environment and demand slowdown negatively impacting order inflow in the metals and oil & gas segments. We expect the E&C segment's order inflows in FY2010 to record a yoy growth of 21% vs. the average growth of 39% seen over FY2006-FY2008. Despite our estimates of decelerating capex investments by Indian corporates in FY2010, we expect the growth in orders for L&T to be driven by government-led spending initiatives, specifically in the power and infrastructure sectors. In addition, higher contribution from new revenue streams such as transportation would partially offset this negative impact, in our view.

Exhibit 34: Order inflow growth has seen a significant decline over the past two quarters

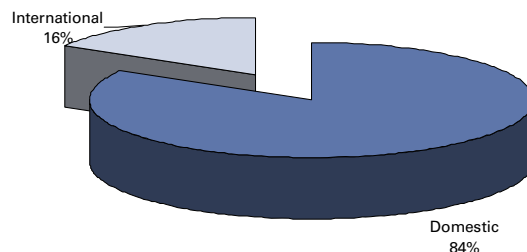
Order backlog and order inflow growth over the previous 8 quarters



Source: Company data, Goldman Sachs Research estimates.

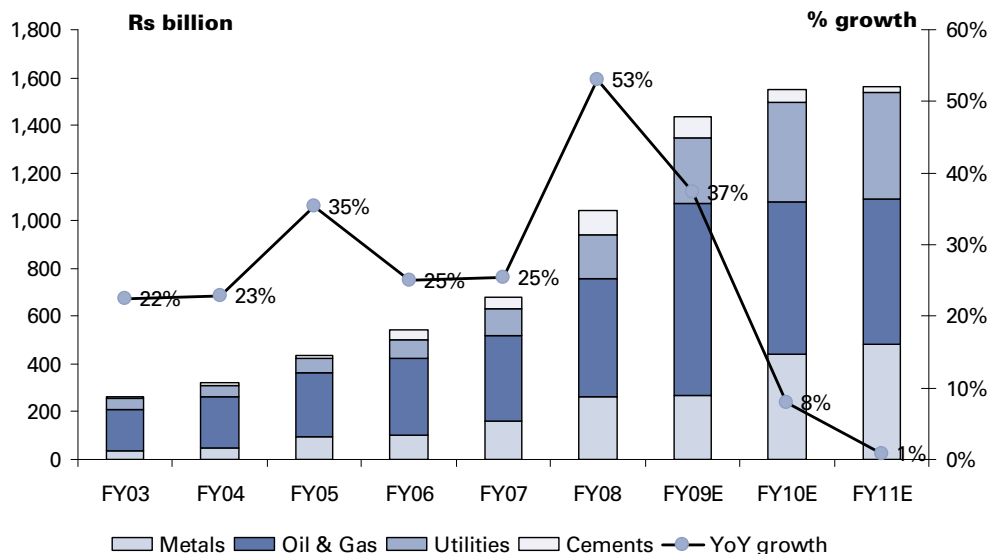
Exhibit 35: 84% of L&T's FY2008 sales was from the domestic markets

Geographical distribution of L&T's sales



Source: Company data.

Exhibit 36: We expect corporate capex to register 14% CAGR over FY2008-FY2011E
GS estimates for yoy capex growth in various industries

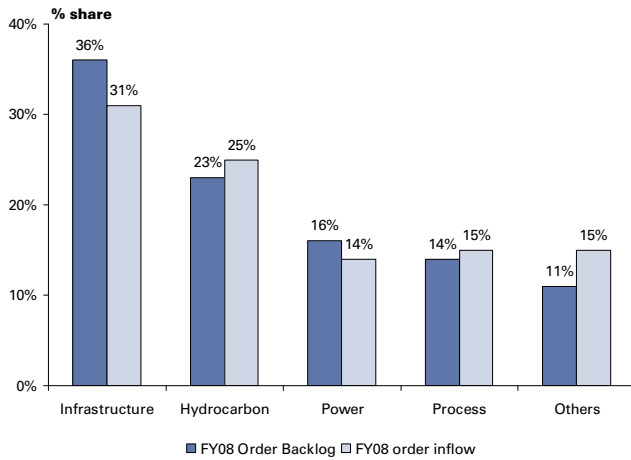


Source: Company data, Goldman Sachs Research estimates.

Pressure on margins expected in the near term

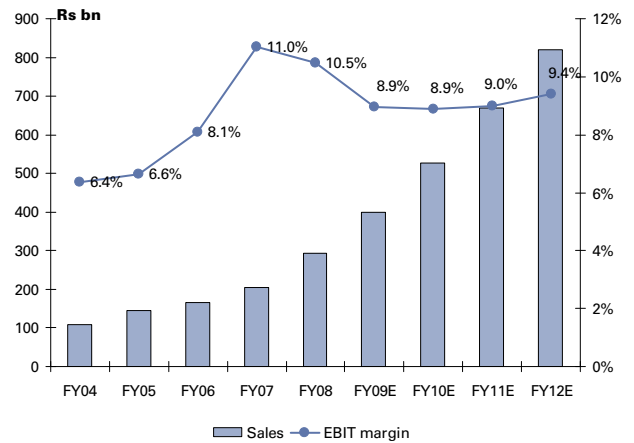
While the E&C segment has seen stable margins this year, the Electrical & Electronics and Machinery & Industrial product segments have seen lower margins leading to our expectation of a slightly lower overall margin for L&T through FY2009E-FY2012E relative to FY2008 (see Exhibit 37). Also, as the share of infrastructure orders in the order backlog and revenue mix increases, we expect margin pressures to persist over FY2009E-FY2012E in the near term. We expect EBIT margins for L&T's standalone business to remain stable at around 9% over FY2010E and FY2011E and to increase slightly in FY2012E as pricing power and operational leverage returns with improving order flow (20% yoy growth in FY2012E).

Exhibit 37: The share of hydrocarbon and process segments increased in the FY2008 order inflow
 FY2008 order backlog and order inflow by segments



Source: Company data.

Exhibit 38: We expect EBIT margins to stabilize at the 9% level over the next few years
 Sales and margin profile for L&T



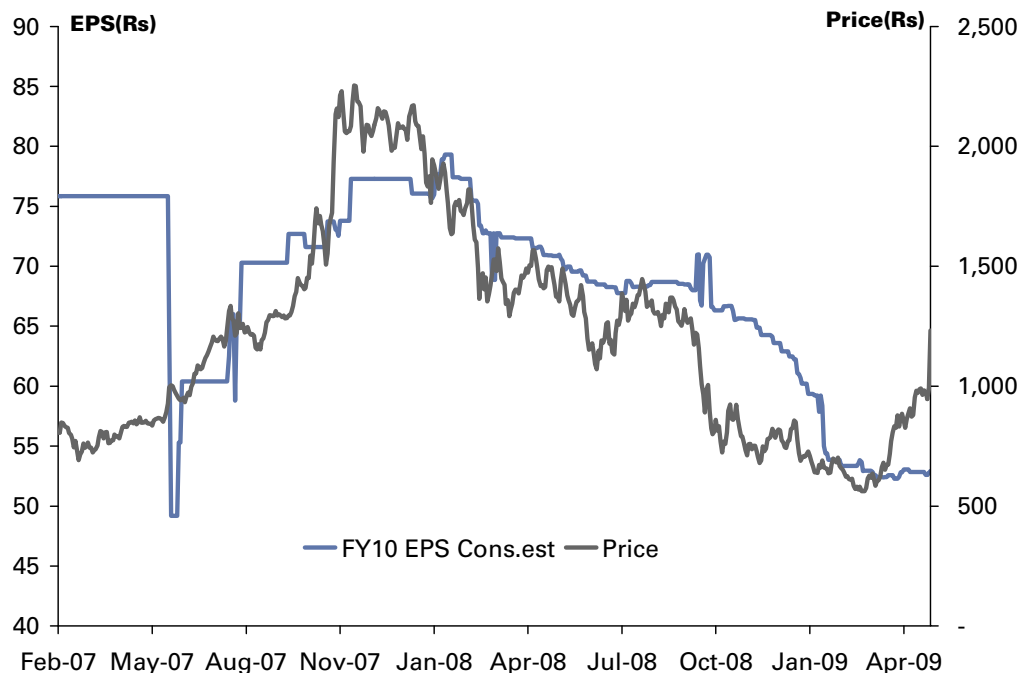
Source: Company data, Goldman Sachs research estimates.

Market estimates for L&T's growth driven by macro recovery expectations

Consensus estimates for L&T's FY2010 EPS have compressed significantly from the early 2008 levels, largely reflecting the deteriorating macroeconomic conditions. We believe the markets have started building in some amount of recovery in fixed asset formation primarily fueled through government-supported infrastructure projects and this appears to be reflecting in L&T's price (up 48% in the past one month vs. Sensex up 30%) and earnings expectations. Our FY2010E EPS estimate is 12% above consensus.

Exhibit 39: Consensus estimates for L&T's FY2010 EPS has compressed significantly since early 2008

Price vs. FY2010 consensus EPS estimates for L&T



Source: Bloomberg.

Valuation

Our SOTP-based 12-month target price of Rs1,327 for L&T implies a 4% potential upside from current levels. We value the standalone company at Rs1,226 at 4.1X FY2011E BVPS (5-year mean P/B multiple).

Exhibit 40: We value L&T at Rs1,327, implying a potential upside of 4% from current levels
SOTP valuation for L&T

Entity Name	Valuation Methodology	Value/share (Rs)	Contribution to valuation(%)
L&T Standalone	4.1x FY11 book	1226	92%
L&T Finance	6X FY11E EPS	11.4	1%
L&T Infotech	8X FY11E EPS	30.1	2%
L&T IDPL	Book Value	19	1%
Ultratech Cement (11.49% stake)	Current Market Value	15	1%
Other Subsidiaries and Associates	Book Value	25	2%
Target Price		1,327	

Source: Goldman Sachs research estimates.

Exhibit 41: We value L&T's standalone business at a P/B multiple of 4.1X, which is the average P/B over past 5 yrs

Implied valuation for L&T standalone

	19-yr mean	1999-2003 mean	2004-2008 mean	Global median	Implied Multiple
1-yr fwd P/E(X)	15.9	12.3	21.1	14.4	17.5 [^]
1-yr fwd P/B(X)	2.6	1.7	3.6	1.3	4.1 [^]

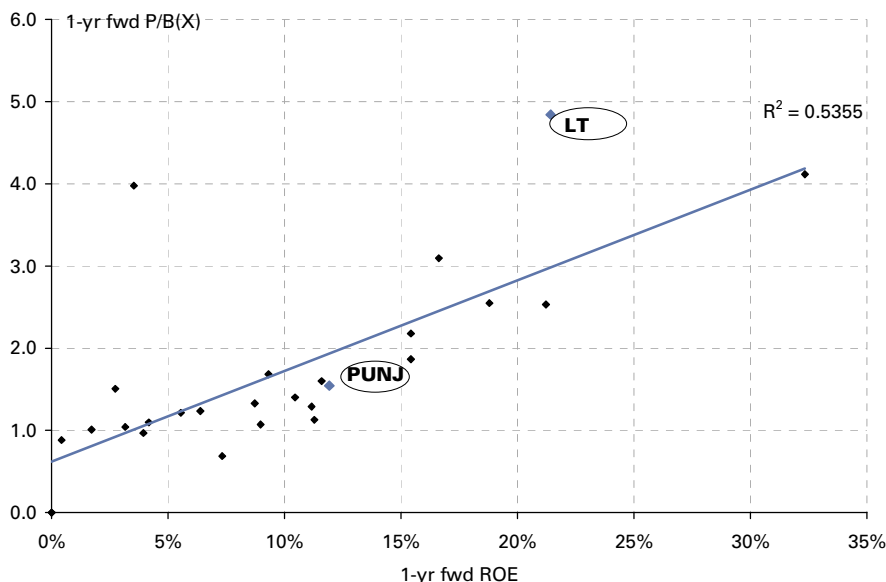
	L&T			Global	L&T
	98-08	99-03	04-08	08-10E	09E-11E
EBITDA CAGR	15%	1%	41%	3%	30%
ROE	17%	10%	27%	10%	21%

[^] - multiple is on standalone company basis

Source: Datastream, Company data, Goldman Sachs research estimates.

We have also cross checked our valuations against a 1-year forward P/E multiple. Our target P/E multiple of 17.5X (for the stand-alone company) is at a 6% discount to the average 1-year forward P/E multiple over the last 5 years and at a 20% premium to the historical average of 15.9X. This is justified, in our view, as we expect an earnings growth that is below the average for the last 5 years but above the historical average of 15% for the company. Also, both profitability and ROE for L&T continue to be significantly above that of its global peers leading to our choice of target multiples that are at a premium to that of the global E&C peer group.

Exhibit 42: L&T currently trades at a premium to the global E&C peer group
1-yr fwd P/B vs. 1-yr fwd ROE for the global E&C peer group



Source: Bloomberg, Goldman Sachs Research estimates.

Exhibit 43: We expect L&T's ROE to be subdued in FY09 but to pick up from FY10 onwards

Historical return and valuation profile for L&T

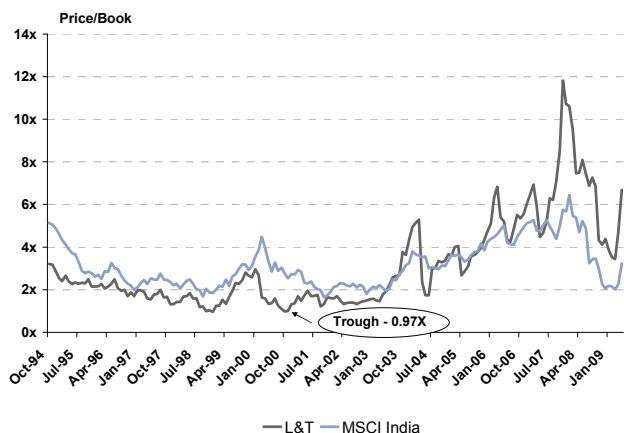
	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09E	FY10E	FY11E	FY12E
P/E (yr-avg) (X)	13.44	10.36	13.85	13.75	18.17	22.59	29.46	19.16	22.60	17.40	13.42
P/B (yr - avg) (X)	1.64	1.43	3.38	3.12	4.25	5.44	7.93	5.63	4.84	3.91	3.12
ROE	9.2%	11.8%	28.1%	32.1%	24.0%	31.2%	20.3%	20.4%	21.4%	22.5%	23.0%
EBITDA growth		-7%	-24%	30%	35%	65%	37%	19%	31%	29%	28%
EPS growth		31%	442%	20%	-50%	62%	1%	11%	27%	30%	28%

Source: Company data, Goldman Sachs Research estimates.

L&T currently trades at a 1-year forward P/E of 22.6X which is at a premium of 26% and 57% respectively, to that of the MSCI India Index and L&T's global peer group. The stock currently trades at a 1-year forward P/B of 4.8X. Exhibits 44 and 45 indicate that L&T traded at a premium to the MSCI India Index in a period where its returns improved (during FY2004-FY2008). We believe the company's returns would improve from current levels, thereby justifying the premium that it is currently trading at.

Exhibit 44: L&T has traded at a 5-yr avg premium of 32% to the MSCI India Index

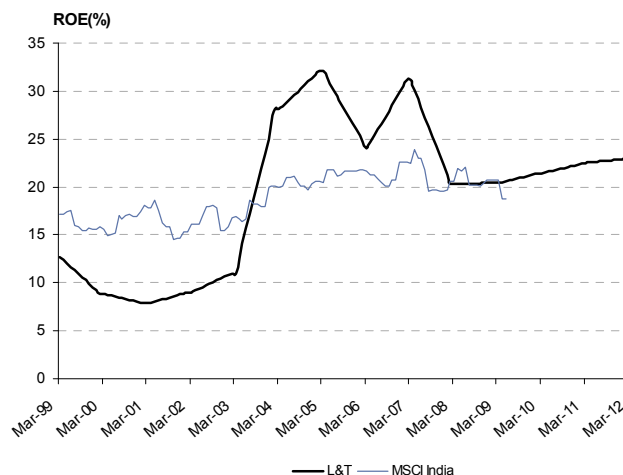
P/B historical trend – L&T vs. MSCI India



Source: Datastream, Goldman Sachs Research.

Exhibit 45: We expect L&T to record an average ROE of 22% over FY09E-FY12E vs. 24% over FY06-FY09E

ROE historical trend – L&T vs. MSCI India



Source: Datastream, Goldman Sachs Research estimates.

Exhibit 46: L&T currently trades at an 57% premium to the global 1-yr fwd P/E
Global peer valuations

Companies	BB Ticker	Currency Symbol	Price 5/18/2009	GS Rating	Market Cap US\$m	P/E (X)		EV/EBITDA (X)		P/B (X)		ROE (%)		Sales CAGR (%)		EPS CAGR (%)		EBITDA margin (%)	
						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 fwd
India Capital Goods																			
Larsen and Toubro	LT IN	Indian Rupee	1,280	Neutral	15,644	22.6	17.4	15.8	12.2	4.8	3.9	21.4%	22.5%	31%	29%	27%	28%	11%	11%
Punj Lloyd	PUNJ IN	Indian Rupee	163	Neutral	1,030	13.8	16.6	8.1	8.2	1.5	1.5	12%	9%	3%	-2%	123%	36%	7%	8%
Hindustan Construction Co	HCC IN	Indian Rupee	76	NC	386	18.6	14.7	8.4	7.1	1.7	1.5	9%	11%	19%	18%	76%	49%	12%	12%
IVRCL Infrastructure & projects	IVRCL IN	Indian Rupee	203	NC	538	13.3	11.3	9.8	7.6	1.5	1.4	12%	13%	26%	26%	-29%	-8%	9%	9%
Jaiprakash Associates Ltd	JPA IN	Indian Rupee	168	NC	3,948	19.9	14.1	12.9	10.4	3.1	2.6	17%	18%	102%	60%	43%	42%	28%	28%
GMR Infrastructure Ltd	GMRI IN	Indian Rupee	137	NC	4,970	91.0	74.8	28.5	18.4	4.0	3.8	4%	5%	54%	42%	22%	22%	29%	34%
Mcap - weighted Average (Mean)						34.4	27.5	17.2	12.8	4.2	3.5	17%	18%	45%	35%	32%	29%	17%	18%
Median						19.2	15.6	11.3	9.3	2.4	2.1	12%	12%	29%	27%	35%	32%	11%	12%
Asia Capital Goods																			
Chiyoda	83661	Japanese Yen	597	Sell	1,983	32.9	21.7	5.1	4.8	1.0	1.0	3%	5%	-28%	-16%	-29%	4%	3%	5%
Daelim Industrial	000210.KS	South Korean Won	67,900	Neutral	1,876	9.4	9.7	7.5	7.8	0.7	0.6	7%	7%	15%	12%	148%	55%	7%	6%
Daewoo E&C	047040.KS	South Korean Won	11,600	Sell	3,000	12.0	11.4	11.4	9.6	1.1	1.0	9%	9%	7%	7%	28%	16%	7%	7%
Doosan Heavy Industries & Construction	034020.KS	South Korean Won	78,200	Sell	6,481	38.5	37.6	17.8	20.3	4.2	3.9	12%	11%	10%	5%	-424%	NM	9%	8%
GS E&C	006360.KS	South Korean Won	76,000	Neutral	3,077	10.1	10.1	6.9	6.1	1.1	1.0	11%	10%	1%	5%	0%	0%	7%	7%
Hitachi Construction Machinery	6305.JT	Japanese Yen	1,454	Neutral	3,230	58.8	22.1	8.1	6.6	1.0	0.9	2%	4%	-31%	-15%	-71%	-12%	11%	11%
Hyundai Construction Development	012630.KS	South Korean Won	44,700	Neutral	2,675	15.6	14.6	13.9	13.2	1.3	1.2	9%	9%	-8%	4%	-5%	1%	12%	10%
Hyundai E&C	000720.KS	South Korean Won	65,900	Buy*	5,801	14.1	12.6	15.1	11.8	2.2	1.9	15%	15%	19%	18%	39%	25%	6%	6%
JGC	1983.T	Japanese Yen	1,389	Buy	3,679	13.4	11.9	5.9	4.8	1.4	1.3	10%	11%	0%	4%	-17%	-3%	11%	11%
Komatsu	6301.JT	Japanese Yen	1,280	Neutral	13,172	55.1	20.8	10.1	7.2	1.5	1.4	3%	7%	-31%	-13%	-71%	-12%	11%	13%
Mitsubishi Heavy Industries	7011.JT	Japanese Yen	324	Sell	11,354	45.7	9.4	8.3	0.9	0.9	0.9	0%	2%	-11%	-7%	-78%	-1%	8%	9%
Samsung C&T	000830.KS	South Korean Won	42,250	Neutral	5,240	23.3	19.3	20.8	16.1	1.2	1.1	6%	6%	-21%	-6%	-18%	-1%	4%	4%
Samsung Engineering	028050.KS	South Korean Won	81,200	Buy	2,579	13.5	13.1	12.0	11.2	4.1	3.0	32%	26%	26%	20%	28%	15%	8%	7%
Sumitomo Heavy Industries	6302.JT	Japanese Yen	379	Buy*	2,359	29.6	10.8	7.1	4.4	1.0	0.9	4%	8%	-10%	-4%	-32%	24%	6%	10%
Mcap - weighted Average (Mean)						25.6	23.3	11.3	9.7	1.7	1.5	7%	8%	-8%	-2%	-67%	3%	8%	9%
Median						15.6	13.8	9.8	8.0	1.2	1.1	8%	9%	-4%	4%	-18%	1%	8%	8%
North American Capital Goods																			
Caterpillar, Inc.	CAT US	U.S. Dollar	38	Sell*	24,009	36.0	41.8	8.1	8.6	3.8	4.1	11%	10%	-31%	-17%	-79%	-58%	10%	9%
Deere & Co.	DE US	U.S. Dollar	44	Sell	19,091	13.7	22.2	5.5	7.3	2.5	2.5	19%	12%	-11%	-12%	-32%	-35%	15%	13%
Eaton Corp.	ETN US	U.S. Dollar	47	Neutral	7,403	19.3	17.6	6.8	6.2	1.2	1.2	6%	7%	-20%	-12%	-65%	-38%	14%	14%
EMCOR Group	EME	U.S. Dollar	23	Sell	1,484	11.6	16.7	4.1	5.1	1.3	1.2	11%	7%	-13%	-10%	-28%	-29%	4%	3%
Fluor Corp.	FLR US	U.S. Dollar	45	Neutral	8,073	11.9	14.0	4.3	4.4	2.5	2.2	21%	16%	2%	-1%	2%	-7%	6%	5%
Foster Wheeler Ltd.	JWELT US	U.S. Dollar	24	Neutral	3,088	11.1	12.2	5.8	5.4	4.6	3.3	41%	27%	-28%	-20%	-41%	-27%	8%	9%
Jacobs Engineering Group Inc.	JEC US	U.S. Dollar	40	Buy	4,896	12.1	13.3	5.3	5.2	1.9	1.7	15%	12%	4%	2%	-1%	-5%	6%	6%
Kennametal Inc.	KMT US	U.S. Dollar	18	Sell	1,360	26.3	18.4	8.6	7.0	1.1	1.1	4%	6%	-23%	-17%	-75%	-40%	10%	13%
Terex Corp.	TEX US	U.S. Dollar	15	Neutral	1,462	NA	NA	74.9	17.7	1.0	1.0	-10%	-3%	-42%	-26%	-128%	NA	1%	2%
Mcap - weighted Average (Mean)						21.3	25.7	7.8	7.2	2.8	2.8	15%	11%	-18%	-12%	-46%	-37%	10%	10%
Median						12.9	17.1	5.8	6.2	1.9	1.7	11%	10%	-20%	-12%	-41%	-32%	8%	9%
European Capital Goods																			
MAN AG	MAN EU	Euro	46	Neutral	9,117	18.4	59.2	11.3	19.1	1.2	1.2	7%	2%	-23%	-14%	-68%	-68%	7%	4%
Metsco OYJ	ME01V EU	Euro	13	Neutral	2,422	14.8	32.2	7.4	9.7	1.3	1.2	9%	4%	-25%	-23%	-69%	-63%	8%	8%
Sapem	SPMI.MI	Euro	18	Sell*	10,488	12.2	19.5	7.3	8.8	2.1	2.0	17%	10%	-2%	-6%	-12%	-26%	15%	14%
SBM Offshore	SBM0 NA	U.S. Dollar	12	Neutral	2,309	10.7	9.6	7.3	6.6	1.7	1.6	16%	17%	-7%	-5%	-4%	4%	21%	23%
Scanian	SCVA.SS	Swedish Krona	81	Neutral	8,204	31.6	52.3	15.4	16.9	2.9	2.9	9%	5%	-25%	-15%	-77%	-63%	10%	10%
Technip	TECF.PA	Euro	33	Neutral	4,639	8.9	22.6	3.0	5.6	1.3	1.2	14%	6%	-13%	-15%	-14%	-42%	12%	9%
Volvo	VOLVA.SS	Swedish Krona	50	Sell	12,935	NA	NA	20.4	14.2	1.3	1.3	-2%	1%	-20%	-12%	-118%	-76%	5%	7%
Mcap - weighted Average (Mean)						13.1	27.5	12.3	13.0	1.7	1.7	8%	5%	-16%	-12%	-63%	-54%	10%	9%
Median						20.2	37.4	15.4	14.2	1.3	1.3	9%	5%	-20%	-15%	-77%	-63%	10%	9%
Global Average																			
Mcap - weighted Average (Mean)						22.3	25.6	11.1	10.1	2.4	2.2	11%	10%	-7%	-3%	-46%	-20%	10%	10%
Median						14.4	16.7	8.1	7.8	1.3	1.2	9%	9%	-8%	-5%	-18%	-3%	8%	9%

*Stock is on our regional Conviction list.

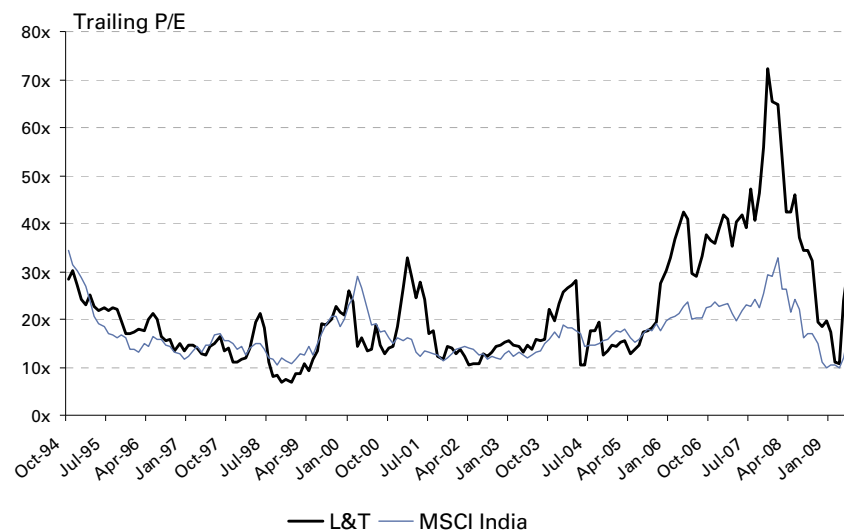
NC - Not Covered

Note: (1) For important disclosures, please go to <http://www.gs.com/research/hedge.html>.

Source: Bloomberg, Datastream, Goldman Sachs Research estimates.

Exhibit 47: L&T currently trades at a premium of 16% on trailing P/E to the MSCI India Index

Trailing P/E historical trend - L&T vs. MSCI India



Source: Datastream, Goldman Sachs Research.

Company description

Larsen & Toubro Limited (L&T) is one of Asia's largest vertically integrated Engineering & Construction (E&C) companies. The company has manufacturing and execution capabilities in core economic sectors such as transportation, infrastructure, urban infrastructure, hydrocarbons, power and industrial projects. The E&C segment comprises execution of engineering and construction projects to provide solutions in segments such as civil, mechanical, electrical and instrumentation engineering and to core sectors/infrastructure industries, shipbuilding. The Electrical & Electronics segment comprises manufacture and sale of low-voltage switchgear and control gear, custom-built switchboards, petroleum dispensing pumps and systems; electronic energy meters/protection (relays) systems, control and automation products and medical equipments. The Machinery & Industrial Products segment comprises manufacture and sale of industrial machinery & equipment, marketing of industrial valves, construction equipment and welding/industrial products. Other businesses include property development activity, engineering services and embedded systems. Super-critical power equipments, nuclear energy equipments, railway infrastructure, ship building, defence equipments are some of the key areas into which the company is diversifying into.

Exhibit 48: Shareholder structure

Shareholder structure	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09
Promoter & group						
Public Institutions excl. FII	36.1%	37.7%	38.7%	37.5%	37%	38%
FII	18.6%	16.6%	14.2%	14.7%	13.7%	12%
Others	45.3%	45.7%	47.2%	47.8%	49.0%	50%
Total	100%	100%	100%	100%	100%	100%

Source: BSE.

Exhibit 49: Larsen & Toubro Ltd. — Summary financials

Profit model (Rs mn)	3/08	3/09E	3/10E	3/11E	Balance sheet (Rs mn)	3/08	3/09E	3/10E	3/11E
Total revenue	293,503.8	399,972.5	525,785.7	669,107.1	Cash & equivalents	15,607.8	5,945.5	13,219.7	22,354.7
Cost of goods sold	(224,911.2)	(310,598.7)	(408,632.2)	(519,157.6)	Accounts receivable	82,343.6	115,678.8	152,066.1	193,517.1
SG&A	(37,835.0)	(53,609.8)	(70,484.1)	(89,790.0)	Inventory	50,190.0	71,503.1	94,071.4	119,515.5
R&D	--	--	--	--	Other current assets	108,742.0	108,742.0	108,742.0	108,742.0
Other operating profit/(expense)	0.0	0.0	0.0	0.0	Total current assets	256,883.4	301,869.4	368,099.2	444,129.3
EBITDA	35,875.3	42,516.3	55,545.8	71,455.4	Net PP&E	62,912.7	81,039.4	93,836.6	102,396.2
Depreciation & amortization	(5,117.7)	(6,752.4)	(8,876.4)	(11,295.9)	Net intangibles	22,321.2	21,440.4	20,282.6	18,809.3
EBIT	30,757.6	35,763.9	46,669.4	60,159.5	Total investments	57,576.8	57,576.8	57,576.8	57,576.8
Interest income	1,135.6	1,404.7	535.1	1,189.8	Other long-term assets	0.0	0.0	0.0	0.0
Interest expense	(2,031.1)	(4,954.8)	(5,354.8)	(5,754.8)	Total assets	399,694.1	461,926.1	539,795.2	622,911.5
Income/(loss) from uncons. subs.	0.0	0.0	0.0	0.0	Accounts payable	95,614.2	126,504.4	166,296.9	211,627.0
Others	4,324.1	7,000.0	7,700.0	8,470.0	Short-term debt	567.6	567.6	567.6	567.6
Pretax profits	34,186.2	39,213.9	49,549.7	64,064.5	Other current liabilities	59,830.3	59,830.3	59,830.3	59,830.3
Income tax	(11,471.2)	(12,156.3)	(15,360.4)	(19,860.0)	Total current liabilities	156,012.1	186,902.3	226,694.8	272,024.9
Minorities	(682.9)	(700.0)	(700.0)	(700.0)	Long-term debt	123,159.7	133,159.7	143,159.7	143,159.7
Net income pre-preferred dividends	22,032.1	26,357.6	33,489.3	43,504.5	Other long-term liabilities	2,985.0	2,985.0	2,985.0	2,985.0
Preferred dividends	0.0	0.0	0.0	0.0	Total long-term liabilities	126,144.7	136,144.7	146,144.7	146,144.7
Net income (pre-exceptionals)	22,032.1	26,357.6	33,489.3	43,504.5	Total liabilities	282,156.8	323,047.0	372,839.5	418,169.6
Post-tax exceptionals	0.0	0.0	0.0	0.0	Preferred shares	0.0	0.0	0.0	0.0
Net income	23,253.6	26,357.6	33,489.3	43,504.5	Total common equity	108,311.1	128,952.9	156,329.5	193,415.7
EPS (basic, pre-except) (Rs)	40.44	45.00	57.18	74.28	Minority interest	9,226.2	9,926.2	10,626.2	11,326.2
EPS (basic, post-except) (Rs)	40.44	45.00	57.18	74.28	Total liabilities & equity	399,694.1	461,926.1	539,795.2	622,911.5
EPS (diluted, post-except) (Rs)	38.95	44.57	56.63	73.56	BVPS (Rs)	183.14	218.04	264.33	327.04
DPS (Rs)	9.94	10.44	10.96	11.51					
Dividend payout ratio (%)	24.6	23.2	19.2	15.5					
Free cash flow yield (%)	(6.2)	(1.7)	0.7	2.3					
Growth & margins (%)	3/08	3/09E	3/10E	3/11E	Ratios	3/08	3/09E	3/10E	3/11E
Sales growth	43.1	36.3	31.5	27.3	ROE (%)	26.2	22.2	23.5	24.9
EBITDA growth	37.4	18.5	30.6	28.6	ROA (%)	7.2	6.1	6.7	7.5
EBIT growth	35.8	16.3	30.5	28.9	ROACE (%)	13.4	12.0	13.3	15.2
Net income growth	3.8	13.3	27.1	29.9	Inventory days	70.6	71.5	73.9	75.1
EPS growth	0.8	11.3	27.1	29.9	Receivables days	89.2	90.4	92.9	94.3
Gross margin	23.4	22.3	22.3	22.4	Payable days	128.7	130.5	130.8	132.9
EBITDA margin	12.2	10.6	10.6	10.7	Net debt/equity (%)	92.0	92.0	78.2	59.3
EBIT margin	10.5	8.9	8.9	9.0	Interest cover - EBIT (X)	34.3	10.1	9.7	13.2
Cash flow statement (Rs mn)	3/08	3/09E	3/10E	3/11E	Valuation	3/08	3/09E	3/10E	3/11E
Net income pre-preferred dividends	22,032.1	26,357.6	33,489.3	43,504.5	P/E (analyst) (X)	32.9	28.7	22.6	17.4
D&A add-back	5,117.7	6,752.4	8,876.4	11,295.9	P/B (X)	7.0	5.9	4.8	3.9
Minorities interests add-back	(1,161.5)	(1,161.5)	(1,161.5)	(1,161.5)	EV/EBITDA (X)	26.6	20.6	15.8	12.2
Net (inc)/dec working capital	(41,556.6)	(23,758.1)	(19,163.1)	(21,565.0)	Dividend yield (%)	0.8	0.8	0.9	0.9
Other operating cash flow	3,176.1	5,411.6	6,681.2	6,426.5					
Cash flow from operations	(12,392.2)	13,601.9	28,722.3	38,500.4					
Capital expenditures	(39,591.4)	(23,998.3)	(20,515.7)	(18,382.1)					
Acquisitions	(556,600.9)	0.0	0.0	0.0					
Divestitures	527,981.4	0.0	0.0	0.0					
Others	1,092.3	1,404.7	535.1	1,189.8					
Cash flow from investments	(67,118.6)	(22,593.6)	(19,980.6)	(17,192.4)					
Dividends paid (common & pref)	154.3	(5,715.8)	(6,112.7)	(6,418.3)					
Inc/(dec) in debt	61,300.2	10,000.0	10,000.0	0.0					
Common stock issuance (repurchase)	17,015.8	0.0	0.0	0.0					
Other financing cash flows	(531.9)	(4,954.8)	(5,354.8)	(5,754.8)					
Cash flow from financing	77,938.4	(670.6)	(1,467.5)	(12,173.1)					
Total cash flow	(1,572.4)	(9,662.3)	7,274.2	9,135.0					

Note: Last actual year may include reported and estimated data.

Source: Company data, Goldman Sachs Research estimates.

Punj Lloyd (PUNJ.BO; Neutral, TP: Rs144)

Near-trough value captures slowdown and execution risk

Investment Thesis

- We initiate coverage on Punj Lloyd with a Neutral rating. Our P/B based 12-month target price of Rs144 implies a potential downside of 11% from current levels.
- Punj Lloyd is a leading EPC player in the oil & gas and infrastructure segment with around 70% of its revenues arising from the oil & gas segment.
- Although the company has a strong order book, it stated that 18%-20% of its current orders are experiencing delays; such delays could potentially increase as the slowdown in the global E&P investment cycle continues, in our view.
- Of the \$30 bn projects that Punj Lloyd has announced that it would bid for in the next two years, around 50% are in India. However, given the current tough macro environment, we believe the competition would be tougher and Punj's smaller scale would affect its ability to secure large projects.
- The diversification strategy adopted by Punj to increase its exposure to South East Asia and to the infrastructure segment would be beneficial in the longer term. However, such a strategy will not be able to offset the slowdown in orders in the core business in the near term, in our view.
- Punj currently trades at a 19% discount to the BSE Sensex and a 22% discount to its own historical average 1-year forward P/E of 17.6X. We believe that this adequately reflects uncertainties regarding order inflows and earnings currently facing the company.

Valuation

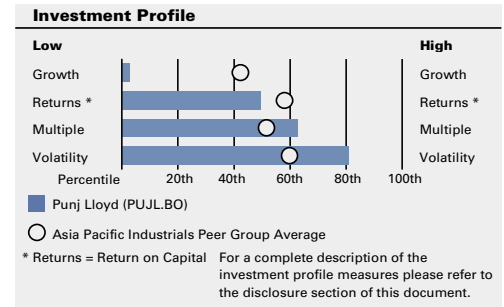
- Our 12-month target price of Rs144 for Punj Lloyd is based on a 1-year forward target P/B multiple of 1.3X. This is in line with the median of 1.3X for the global E&C peers.
- Punj Lloyd currently trades at 13.8X FY2010E EPS and 16.6X FY2011E EPS. This is at a discount of 4% to its global peers and 11% to its Asian peers on a 1-year forward EPS.

Catalysts

- Rise in oil prices leading to a pickup in investments in the energy sector over the medium term.
- Higher pricing pressure in new orders in the medium term (leading to lower margins).

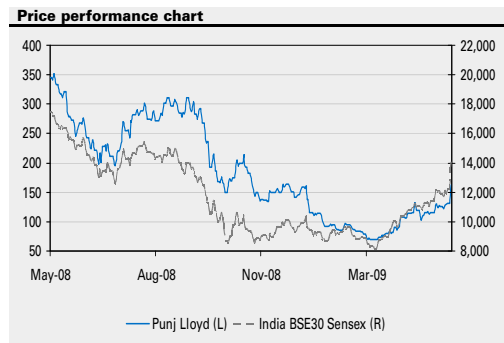
Risks

- Issues similar to the ongoing arbitration with SABIC over withdrawn bank guarantees.
- Faster-than-expected revival in construction activity in the Middle East and in the hydrocarbons sector leading to strong order inflows.



Key data	Current
Price (Rs)	162.50
12 month price target (Rs)	144.00
Market cap (Rs mn / US\$ mn)	49,315.7 / 1,029.8
Foreign ownership (%)	15.0

	3/08	3/09E	3/10E	3/11E
EPS (Rs)	11.95	5.27	11.77	9.81
EPS growth (%)	70.7	(55.9)	123.2	(16.6)
EPS (diluted) (Rs)	11.95	5.27	11.77	9.81
EPS (basic pre-ex) (Rs)	12.65	5.27	11.77	9.81
P/E (X)	13.6	30.8	13.8	16.6
P/B (X)	1.8	1.7	1.6	1.5
EV/EBITDA (X)	15.2	9.2	8.1	8.2
Dividend yield (%)	0.3	0.3	0.3	0.4
ROE (%)	17.8	5.7	12.0	9.2



Share price performance (%)	3 month	6 month	12 month
Absolute	87.9	0.7	(53.0)
Rel. to India BSE30 Sensex	18.6	(37.0)	(42.6)

Source: Company data, Goldman Sachs Research estimates, FactSet. Price as of 5/18/2009 close.

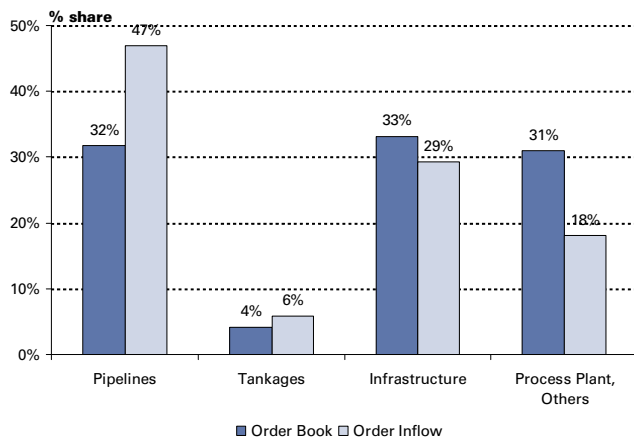
Strong headwinds; trough valuations capture risk to order book and execution

Punj Lloyd is an EPC (Engineering, Procurement and Construction) company in the oil and gas and infrastructure segment. Although its current order book is strong, about 20% of its projects are running behind schedule, according to the company. Uncertainties regarding order book growth, given the large exposure to the Middle East oil and gas segment and execution risks—are key concerns, in our view, which pose risks to revenues and profitability for the next two years. We expect the order book to decline by 26% over FY2009E-FY2011E (vs. 59% growth over FY2006-FY2009E). We believe the order book recovery is interlinked to the pace of investments across India and South East Asia, especially in the hydrocarbon segment. Although current valuations reflect these risks to a large extent, visibility on such a recovery in the near term remains weak, in our view.

Current order book is significantly dependant on the oil & gas segment and its Middle East exposure

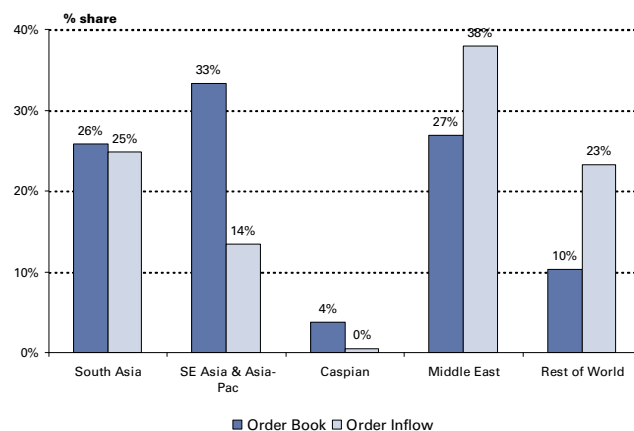
Punj Lloyd’s current order book shows significant dependence on the oil and gas related business segments. Approximately 67% of the order backlog as of end-9MFY09 is from oil and gas-related segments (pipelines, tankage, and process plants). Also, 27% of the 9MFY09 order backlog and 38% of the 9MFY09 order inflows have been from the Middle East alone. Thus, the company has a significant exposure to volatility in oil prices and may face potential delays and renegotiations on projects that become unviable for the owners, if crude prices remain suppressed, in our view. Although 58% of the company’s clients are government backed, the nature of the projects implies that the risk of project delays /cancellations faced by the company in the current environment is still high, in our view.

Exhibit 50: About 67% of Punj Lloyd’s current order book consists of oil and gas-related projects
Breakup of 9MFY09 order backlog and inflow by segments



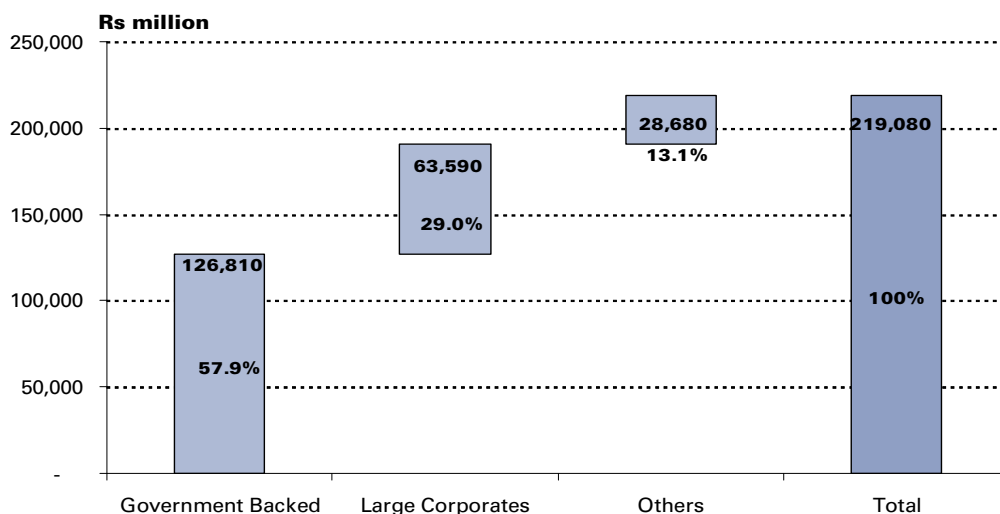
Source: Company data.

Exhibit 51: Punj Lloyd’s current order backlog is primarily focused on the Middle East region
Breakup of 9MFY09 order backlog and inflow by geography



Source: Company data.

Exhibit 52: Government-backed agencies and large corporates dominate Punj's client mix
Client profile of order backlog as of 3QFY09



Source: Company data.

Slower-than-expected execution progress of 18%-20% of the current order book; timely execution may continue to be a challenge

Of the current Rs219 bn order book, projects worth Rs39 bn are being executed slower than expected, according to the company. This constitutes 18%-20% of the current order book. Given the current trend of companies delaying or holding off on projects, we expect that a higher proportion of Punj Lloyd's strong order book would face significant delays. We expect moderate cancellations/delays on existing hydrocarbon order book (concentrated in the Middle East) and a few projects in North Africa.

Exhibit 53: Projects valued at around Rs39 bn are running behind schedule
Punj Lloyd projects running behind schedule as of 3QFY09

Client	Order Value (Rs Million)	Project Details	Status of Project
Jurong Aromatics	17,700	Integrated condensate Splitter Aromatics complex at Jurong Island	Awaiting Financial Closure
Dighi Port, Maharashtra	8,000	Construction of multi purpose berth at the port	~3% of payment has been received. PUJL not committing further resources until dues are received
GVK Power	9,550	2X 270 MW coal fired Thermal Power Project in Punjab	Awaiting land acquisition
Ador Power Plant, Indonesia	3,300	Power plant being built for a 37 Km conveyor for a coal plant	40% complete. Client has requested that the project be on hold for 6 months

Source: Company data.

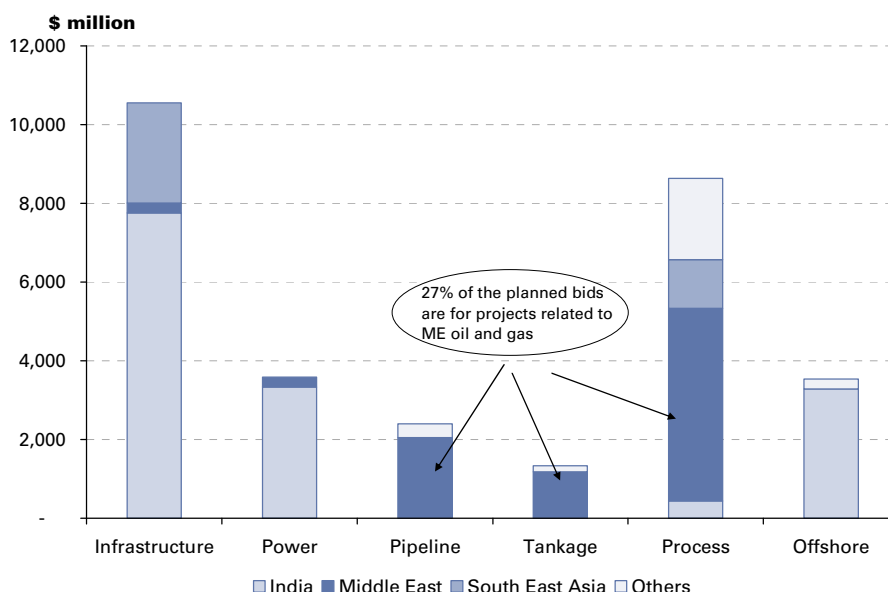
Punj Lloyd's UK subsidiary Simon Carves Limited (SCL) is currently involved in a litigation with SABIC Petrochemicals UK Limited with respect to an advance payment bond and a performance bond called by SABIC following the latter's termination of the contract between SABIC and SCL. SABIC has terminated the contract on grounds of delayed execution and poor engineering capabilities. Further, Punj Lloyd has announced plans to trim its employee base at SCL and shift a part of its business to the Middle East. Although management has been classifying such incidents as part of the normal course of business for any EPC player, these developments raise concerns over Punj Lloyd's timely execution capabilities in an already competitive environment, in our view.

Small scale and limited presence hinders participation in large scale contracts in the relatively consolidated Indian infrastructure segment

The company has identified more than US\$30 bn worth of projects for bidding over the next two years. As seen in Exhibit 54, about 27% of this is in the Middle East oil and gas segment, which we expect could see a downturn in capex spending. Approximately 50% of these planned bids are in India and around 37% of the total bids are in the Indian infrastructure and power sectors. Even though the company has expanded its balance sheet size significantly over the past few years, we believe it may still face challenges in successfully bidding for larger-sized projects.

Exhibit 54: Approximately, 50% of the bidding projects identified are in India

Break up of the >\$30 billion projects that Punj has identified for bidding over the next 2 years



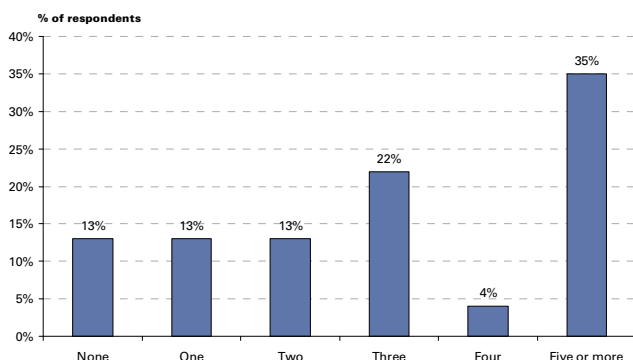
Source: Company data.

GS global energy team expects E&P spending to fall by 23% this year

Our global energy team believes that the sharp downturn in oil prices in the current year would exert significant pressure on E&P spending trends and expects industry spending to decline by 23% this year (see Exhibits 103 and 104). We believe that an accelerated decline in spending activity would occur, if crude prices go below US\$40/ bbl. Our global energy team estimates that at a price below US\$60/bbl, oil producers fail to earn returns above their cost of capital on new investments (see Exhibit 105).

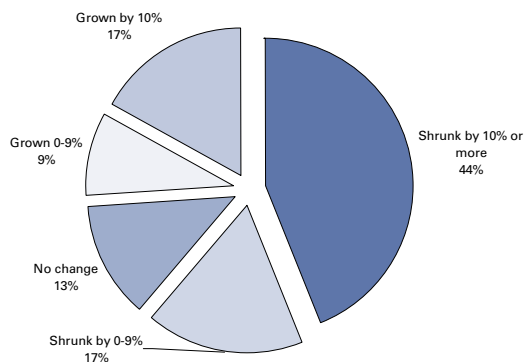
Tightening credit availability and a decline in bank lending has led to a slowdown in petrochemical activities in the Middle East over the last few months. In addition, many companies are also reevaluating the economics of their expansion initiatives and are deferring their expansion plans to take advantage of declining construction equipment costs. Although existing projects may not be impacted, we believe this current trend could potentially increase the level of price competition for future contracts (which would be fewer in number) and could also shift more of the risk to the EPC contractor, as companies delay or hold back their expansion plans. Recent news flow (Source: Middle East Business Intelligence, MEED) indicates that companies are negotiating for close to 20% cheaper contracts and are prepared to delay or hold off on projects in order to achieve reduction in costs to this extent.

Exhibit 55: 87% of the companies surveyed by MEED have seen cancellation/delay in at least one project
 % of contractors facing delays in contracts



Source: Middle East Business Intelligence data.

Exhibit 56: 44% of the contractors surveyed by MEED have seen their fwd order book shrink by 10% or more
 % change in forward order book



Source: Middle East Business Intelligence data.

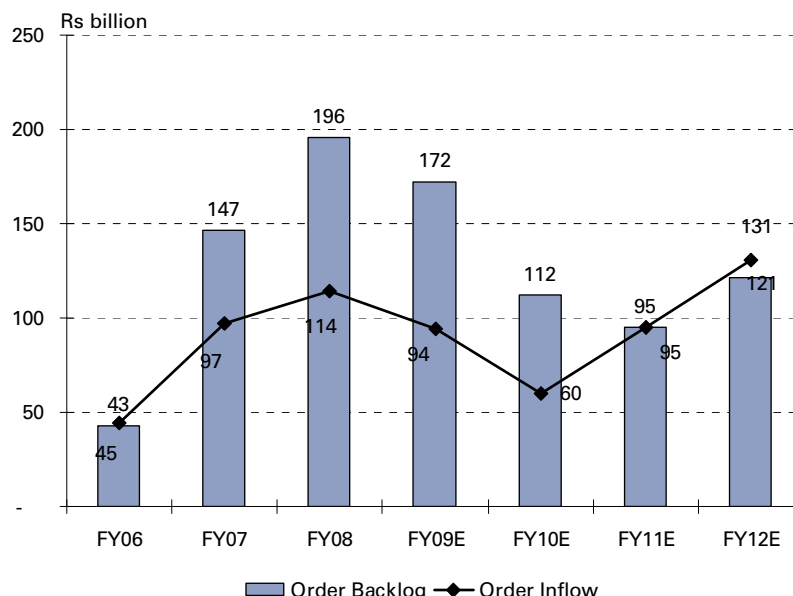
According to the results of the AWCS/ MEED Gulf Construction Outlook Survey 2009, which surveyed representatives of 30 leading Gulf construction companies, 87% of the participating companies have seen cancellation or delay in atleast one project. 40% of the participating companies expect construction activity in the Gulf region to shrink in 2009. Also, 44% of the companies have seen their forward order book contract by 10% or more, compared with last year. 81% of the respondents expect construction contract prices to decline by 10% or more and 96% of the respondents expect to see an increase in contract disputes between construction clients and contractors in the Gulf Cooperation Council (GCC) countries in 2009.

The current energy downcycle is closer to the bottom than to the beginning – but we prefer being Neutral on Punj Lloyd

The GS energy team believes that the trough in the crude oil cycle might have passed and expects crude oil prices to average US\$50/bbl-US\$60/bbl in 2H2009. **However, we believe Punj Lloyd’s fundamentals would continue to be under pressure until late in the economic cycle due to the nature of a backlog-driven business** - backlog built during tougher times will usually provide a lower margin, in our view. While the company expects EBITDA margins in excess of 10% by FY2012, we expect margins to stabilize at around 8% levels.

Exhibit 57: We expect order inflows to continue to remain weak in FY2010

Order backlog and order inflow trend



Source: Company data, Goldman Sachs Research estimates.

Exhibit 58: We expect Punj Lloyd’s order backlog to decrease through 2009E-2011E

Order backlog and order inflow profile for Punj Lloyd

	2008	2009E	2010E	2011E	2012E
Order Backlog (Rs mn)	195,960	172,445	112,089	95,276	121,477
YoY Growth (%)	34%	-12%	-35%	-15%	28%
Order Inflow (Rs mn)	114,050	94,061	60,356	95,276	131,004
YoY growth (%)	17%	-18%	-36%	58%	38%
Sales (Rs mn)	77,529	117,576	120,711	112,089	104,803
YoY Growth (%)	51%	52%	3%	-10%	-19%
Book to Bill Ratio	1.47	0.80	0.50	0.85	1.25
Burn Ratio	0.53	0.60	0.70	1.00	1.10
EBITDA margin	8.9%	6.5%	7.5%	7.6%	7.8%

Source: Company data, Goldman Sachs Research estimates.

Diversification initiatives indicate an attractive exposure to high growth areas in the longer term – but do not offset weakness in the core business in the near term

Punj Lloyd has announced many diversification initiatives that would decrease its exposure to the hydrocarbon sector and to the Middle East region. Although these opportunities appear encouraging, in our view, benefits from these would start accruing over a long-term basis; but this would not help offset the weakness in Punj Lloyd’s core business in the near term, in our view.

Exhibit 59: Diversification initiatives provide attractive exposure to high growth areas in the long term

Strategic diversification initiatives by Punj Lloyd

Area of diversification	Highlights
Defense	<ul style="list-style-type: none"> ■ Opportunity through mandatory "OFFSET" requirement ■ Licenses received for infantry weapons, rocket & missile artillery systems etc ■ Naval shipbuilding & vessel refurbishment planned from Pipavav shipyard
Pipavav Shipyard limited (PSL)	<ul style="list-style-type: none"> ■ Co-promoter of PSL with investment of \$80 million ■ Business segments include naval ship building & refurbishment, offshore construction, static equipment & nuclear reactor components, ship repair, commercial ship building ■ Order book of \$1.1bn, incl. firm order for 22 Panamax vessels
Nuclear Power	<ul style="list-style-type: none"> ■ Capacity addition of 55GW in India over next 20 years ■ JV with Thorium Power to provide thorium fuel technology for LWRs and nuclear advisory services ■ In discussions with global technology suppliers to become a part of their global supply chain
Conflict Zones	<ul style="list-style-type: none"> ■ Business opportunities in reconstruction & oil and gas segments ■ Punj has an equity stake in Olive group- a leading provider of solutions in conflict and post conflict zones

Source: Company data.

Valuation

We value Punj Lloyd at 1.3X FY2011E BVPS in line with the global median of 1.3X. We have also cross checked our valuations against a 1-year forward P/E multiple. Our 1-year forward target P/E multiple of 14.7X is at a 46% discount to the average 1-year forward P/E multiple over the past 3 years. This is justified, in our view, as we expect to see profitability and returns that are below the average for the last 3 years for the company (see Exhibit 60). The stock currently trades at a 1-year forward P/E of 13.8X, which is at a discount of 4% to its global peers, capturing the risks related to a slowdown in order inflow and earnings.

Exhibit 60: We value Punj Lloyd at 1.3X FY11E BVPS, in line with its global peers

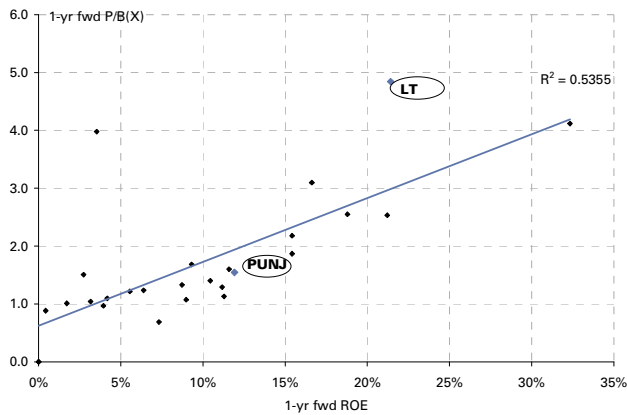
Cross-check for Punj Lloyd's target multiple against its own trading history and global peer valuation

	3-yr mean	1999-2003 mean	2006-2008 mean	Global median	Implied Multiple
1-yr fwd P/E(X)	17.6	NA	20.8	14.4	14.7
1-yr fwd P/B(X)	2.7	NA	3.0	1.3	1.3

	PUNJ			Global	PUNJ
	98-08	99-04	05-08	08-10E	09E-11E
EBITDA CAGR	NA	NA	50%	3%	6%
ROE	NA	NA	13%	10%	9%

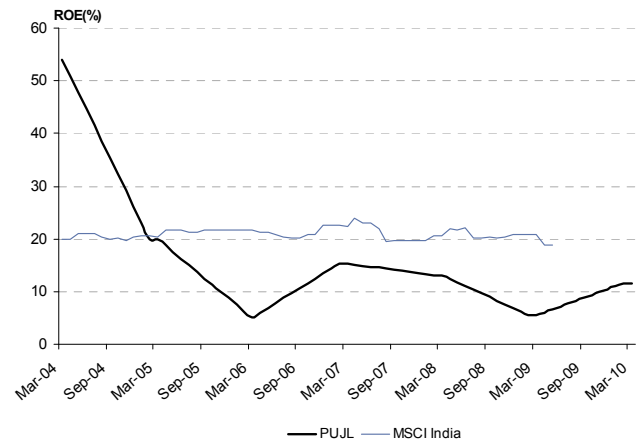
Source: Datastream, Company data, Goldman Sachs Research estimates.

Exhibit 61: Punj Lloyd currently trades at a discount to its global E&C peers
P/B vs. ROE profile for global E&C companies



Source: Bloomberg, Datastream, Goldman Sachs Research estimates.

Exhibit 62: We expect Punj Lloyd's ROE to decrease significantly from end-FY08 levels
ROE historical trend – Punj Lloyd vs. MSCI India



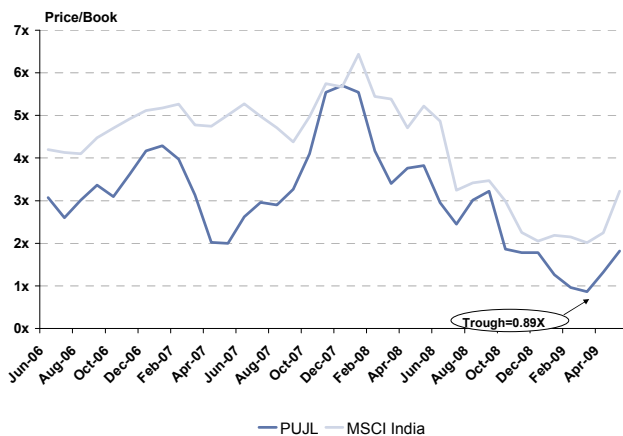
Source: Datastream, Company data, Goldman Sachs Research estimates.

Exhibit 63: We expect PUJL's ROE to decrease in FY2011E and FY2012E
Historical return and valuation profile for Punj Lloyd

PUJL	FY05	FY06	FY07	FY08	FY09E	FY10E	FY11E	FY12E
P/E (yr-avg) (X)	NA	NA	18.70	23.21	30.80	13.81	16.57	18.70
P/B (yr - avg) (X)	NA	NA	3.55	3.69	1.70	1.60	1.47	1.37
ROE	19.7%	4.9%	15.3%	13.1%	5.5%	11.6%	8.8%	7.3%
EBITDA growth	-29%	-7%	115%	69%	10%	18%	-6%	-3%
EPS growth	-45%	-55%	196%	68%	-58%	123%	-17%	-11%

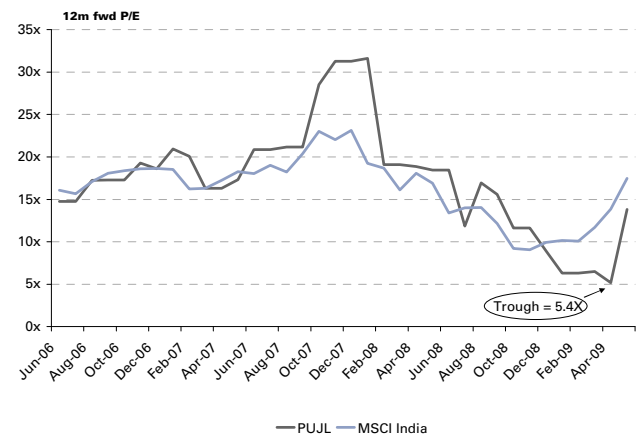
Source: Company data, Goldman Sachs Research estimates.

Exhibit 64: PUJL is currently trading at a 44% discount on P/B multiple against the MSCI India index
P/B historical trend – PUJL vs. MSCI India



Source: Datastream, Goldman Sachs Research.

Exhibit 65: PUJL is currently trading at a 21% discount on P/E multiple against the MSCI India index
12 month fwd P/E historical trend – PUJL vs. MSCI India



Source: Datastream, Goldman Sachs Research estimates.

Exhibit 66: PUJL currently trades at an 4% discount to the global 1-yr fwd P/E

Global peer valuations

Companies	BB Ticker	Currency Symbol	Price 5/18/2009	GS Rating	Market Cap US\$mm	P/E (X)		EV/EBITDA (X)		P/B (X)		ROE (%)		Sales CAGR (%)		EPS CAGR (%)		EBITDA margin (%)	
						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 fwd
India Capital Goods																			
Larsen and Toubro	LT IN	Indian Rupee	1,280	Neutral	15,644	22.6	17.4	15.8	12.2	4.8	3.9	21.4%	22.5%	31%	29%	27%	28%	11%	11%
Punj Lloyd	PUNJ IN	Indian Rupee	163	Neutral	1,030	13.8	16.6	8.1	8.2	1.6	1.5	12%	9%	3%	-2%	123%	36%	7%	8%
HCC IN	HCC IN	Indian Rupee	76	NC	386	18.6	14.7	8.4	7.1	1.7	1.5	9%	11%	19%	18%	76%	49%	12%	12%
IVRCL Infrastructure & projects	IVRCL IN	Indian Rupee	203	NC	538	13.3	11.3	9.8	7.6	1.5	1.4	12%	13%	26%	26%	-29%	-8%	9%	9%
Jaiprakash Associates Ltd	JPA IN	Indian Rupee	168	NC	3,948	19.9	14.1	12.9	10.4	3.1	2.6	17%	18%	102%	60%	43%	42%	28%	28%
GMR Infrastructure Ltd	GMRI IN	Indian Rupee	137	NC	4,970	91.0	74.8	28.5	18.4	4.0	3.8	4%	5%	54%	42%	22%	22%	29%	34%
Mcap - weighted Average (Mean)						34.4	27.5	17.2	12.8	4.2	3.5	17%	18%	45%	35%	32%	29%	17%	18%
Median						19.2	15.6	11.3	9.3	2.4	2.1	12%	12%	29%	27%	35%	32%	11%	12%
Asia Capital Goods																			
Chiyoda	8366.J	Japanese Yen	597	Sell	1,983	32.9	21.7	8.1	4.8	1.0	1.0	3%	5%	-28%	-16%	-29%	4%	3%	5%
Daelim Industrial	000210.KS	South Korean Won	67,900	Neutral	1,876	9.4	9.7	7.5	7.8	0.7	0.6	7%	7%	15%	12%	148%	55%	7%	6%
Daewoo E&C	047040.KS	South Korean Won	11,600	Sell	3,000	12.0	11.4	11.4	9.6	1.1	1.0	9%	9%	7%	7%	28%	16%	7%	7%
Doosan Heavy Industries & Construction	034020.KS	South Korean Won	78,200	Sell	6,481	38.5	37.6	17.8	20.3	4.2	3.9	12%	11%	10%	5%	-424%	NM	9%	8%
GS E&C	006360.KS	South Korean Won	76,000	Neutral	3,077	10.1	10.1	6.9	6.1	1.1	1.0	11%	10%	1%	5%	0%	0%	7%	7%
Hitachi Construction Machinery	6305.JT	Japanese Yen	1,454	Neutral	3,230	58.8	22.1	8.1	6.6	1.0	0.9	2%	4%	-31%	-15%	-71%	-12%	11%	11%
Hyundai Construction Development	012630.KS	South Korean Won	44,700	Neutral	2,675	15.6	14.6	13.9	13.2	1.3	1.2	9%	9%	-8%	4%	-5%	1%	12%	10%
Hyundai E&C	000720.KS	South Korean Won	65,900	Buy*	5,801	14.1	12.6	15.1	11.8	2.2	1.9	15%	15%	19%	18%	39%	25%	6%	6%
JGC	1983.JT	Japanese Yen	1,389	Buy	3,679	13.4	11.9	5.9	4.8	1.4	1.3	10%	11%	0%	4%	-17%	-3%	11%	11%
Komatsu	6301.JT	Japanese Yen	1,280	Neutral	13,172	55.1	20.8	10.1	7.2	1.5	1.4	3%	7%	-31%	-13%	-71%	-12%	11%	13%
Mitsubishi Heavy Industries	7011.JT	Japanese Yen	324	Sell	11,354	45.7	9.4	8.3	0.9	0.9	0.9	2%	2%	-11%	-7%	-78%	-1%	8%	9%
Samsung C&T	000830.KS	South Korean Won	42,250	Neutral	5,240	23.3	19.3	20.8	16.1	1.2	1.1	6%	6%	-21%	-6%	-18%	-1%	4%	4%
Samsung Engineering	028050.KS	South Korean Won	81,200	Buy	2,579	13.5	13.1	12.0	11.2	4.1	3.3	32%	26%	26%	20%	28%	15%	8%	7%
Sumitomo Heavy Industries	6302.JT	Japanese Yen	379	Buy*	2,359	24.6	10.8	7.1	4.4	1.0	0.9	4%	8%	-10%	-4%	-32%	24%	6%	10%
Mcap - weighted Average (Mean)						25.6	23.3	11.3	9.7	1.7	1.5	7%	8%	-8%	-2%	-67%	3%	8%	9%
Median						15.6	13.8	9.8	8.0	1.2	1.1	8%	9%	-4%	-2%	-18%	1%	8%	8%
North American Capital Goods																			
Caterpillar, Inc.	CAT US	U.S. Dollar	38	Sell*	24,009	36.0	41.8	8.1	8.6	3.8	4.1	11%	10%	-31%	-17%	-79%	-58%	10%	9%
Deere & Co.	DE US	U.S. Dollar	44	Sell	19,091	13.7	22.2	5.5	7.3	2.5	2.5	19%	12%	-11%	-12%	-32%	-35%	15%	13%
Eaton Corp.	ETN US	U.S. Dollar	47	Neutral	7,403	19.3	17.6	6.8	6.2	1.2	1.2	6%	7%	-20%	-12%	-65%	-38%	13%	14%
EMCOR Group	EME	U.S. Dollar	23	Sell	1,484	11.6	16.7	4.1	5.1	1.3	1.2	11%	7%	-13%	-10%	-28%	-29%	4%	3%
Fluor Corp.	FLR US	U.S. Dollar	45	Neutral	8,073	11.9	14.0	4.3	4.4	2.5	2.2	21%	16%	2%	-1%	2%	-7%	6%	5%
Foster Wheeler Ltd.	FWLT US	U.S. Dollar	24	Neutral	3,088	11.1	12.2	5.8	5.4	4.6	3.3	41%	27%	-28%	-20%	-41%	-27%	8%	9%
Jacobs Engineering Group Inc.	JEC US	U.S. Dollar	40	Buy	4,896	12.1	13.3	5.3	5.2	1.9	1.7	15%	12%	4%	2%	-1%	-5%	6%	6%
Kennametal Inc.	KMT US	U.S. Dollar	18	Sell	1,360	26.3	18.4	8.6	7.0	1.1	1.1	4%	6%	-23%	-17%	-75%	-40%	10%	13%
Terex Corp.	TEX US	U.S. Dollar	15	Neutral	1,462	NA	NA	74.9	17.7	1.0	1.0	-15%	-3%	-42%	-25%	-128%	NA	1%	2%
Mcap - weighted Average (Mean)						21.3	25.7	7.8	7.2	2.8	2.8	15%	11%	-18%	-12%	-46%	-37%	10%	10%
Median						12.9	17.1	5.8	6.2	1.9	1.7	11%	10%	-20%	-12%	-41%	-32%	8%	9%
European Capital Goods																			
MAN AG	MAN EU	Euro	46	Neutral	9,117	18.4	59.2	11.3	19.1	1.2	1.2	7%	2%	-23%	-14%	-68%	-68%	7%	4%
Mitsubishi	ME01V EU	Euro	13	Neutral	2,422	14.8	32.2	7.4	9.7	1.3	1.2	9%	4%	-25%	-23%	-69%	-63%	8%	8%
Sapem	SPMI MI	Euro	18	Sell*	10,488	12.2	19.5	7.3	8.8	2.1	2.0	17%	10%	-2%	-6%	-12%	-26%	15%	14%
SBM Offshore	SBMO NA	U.S. Dollar	12	Neutral	2,309	10.7	9.6	7.3	6.6	1.7	1.6	16%	17%	-7%	-5%	-4%	4%	21%	23%
Scania	SCVA SS	Swedish Krona	81	Neutral	8,204	31.6	52.3	15.4	16.9	2.9	2.9	9%	5%	-25%	-15%	-77%	-63%	10%	10%
Technip	TECF PA	Euro	33	Neutral	4,639	8.9	22.6	3.0	5.6	1.3	1.2	14%	6%	-13%	-14%	-14%	-42%	12%	9%
Volvo	VOLVA SS	Swedish Krona	50	Sell	12,935	NA	NA	20.4	14.2	1.3	1.3	-2%	1%	-20%	-12%	-118%	-76%	5%	7%
Mcap - weighted Average (Mean)						13.1	27.5	12.3	13.0	1.7	1.7	8%	5%	-16%	-12%	-63%	-54%	10%	9%
Median						20.2	37.4	15.4	14.2	1.3	1.3	9%	5%	-20%	-15%	-77%	-63%	10%	9%
Global Average																			
Mcap - weighted Average (Mean)						22.3	25.6	11.1	10.1	2.4	2.2	11%	10%	-7%	-3%	-48%	-20%	10%	10%
Median						14.4	16.7	8.1	7.8	1.3	1.2	9%	9%	-8%	-5%	-18%	-3%	8%	9%

*Stock is on our regional Conviction list.

NC – Not Covered.

Note: (1) For important disclosures, please go to <http://www.gs.com/research/hedge.html>.

Source: Bloomberg, Datastream, Goldman Sachs Research estimates.

Company description

Punj Lloyd provides EPC services in the oil and gas sector. It includes laying cross-country oil and gas pipelines, setting up storage tanks and terminals, refinery and process facilities, offshore pipelines and platforms. In June 2006, the company acquired Semb Corp Engineers and Constructors, now called Sembawang Engineers and Constructors, along with its wholly owned subsidiary Simon Carves of UK. Sembawang focuses on urban infrastructure, buildings, utilities, power and environmental industries. Simon Carves is the world's top engineering contractor for LDPE (Low-Density Poly Ethylene) with a wide range of polymer and petrochemical project experience and is also into engineering outsourcing, green technology, power, nuclear and plant relocation.

Exhibit 67: Shareholder structure

Shareholder structure	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09
Promoter & group	45%	45%	44%	44%	44%	41.47%
Public Institutions excl. Flls	10.1%	13.5%	16.3%	19.3%	16%	15.6500%
Flls	30.1%	24.4%	20.8%	17.7%	17.4%	14.97%
Others	14.8%	17.5%	18.4%	18.7%	22.2%	28%
Total	100%	100%	100%	100%	100%	100%

Source: BSE.

Exhibit 68: Punj Lloyd Ltd. – Summary financials

Profit model (Rs mn)	3/08	3/09E	3/10E	3/11E	Balance sheet (Rs mn)	3/08	3/09E	3/10E	3/11E
Total revenue	77,529.2	117,576.0	120,711.4	112,089.1	Cash & equivalents	6,898.1	8,961.8	5,757.5	9,600.9
Cost of goods sold	(29,746.9)	(45,951.6)	(47,805.7)	(44,477.3)	Accounts receivable	20,901.3	31,697.7	31,418.0	29,173.9
SG&A	(42,323.0)	(65,871.6)	(65,817.6)	(61,116.3)	Inventory	20,591.9	30,634.4	34,146.9	31,769.5
R&D	--	--	--	--	Other current assets	7,428.8	7,428.8	7,428.8	7,428.8
Other operating profit/(expense)	0.0	0.0	0.0	0.0	Total current assets	55,820.1	78,722.7	78,751.2	77,973.1
EBITDA	6,921.6	7,633.9	9,044.6	8,510.7	Net PP&E	14,590.3	17,104.5	18,864.1	20,370.9
Depreciation & amortization	(1,462.3)	(1,881.2)	(1,956.5)	(2,015.2)	Net intangibles	1,642.8	1,642.8	1,642.8	1,642.8
EBIT	5,459.3	5,752.7	7,088.1	6,495.5	Total investments	5,651.1	5,651.1	5,651.1	5,651.1
Interest income	276.7	551.8	716.9	460.6	Other long-term assets	0.0	0.0	0.0	0.0
Interest expense	(1,806.4)	(2,706.5)	(2,706.5)	(2,706.5)	Total assets	77,704.3	103,121.1	104,909.2	105,637.9
Income/(loss) from uncons. subs.	0.0	0.0	0.0	0.0	Accounts payable	19,283.7	29,244.4	29,103.0	27,024.2
Others	905.2	0.0	0.0	0.0	Short-term debt	38.9	38.9	38.9	38.9
Pretax profits	4,834.8	3,598.1	5,098.6	4,249.6	Other current liabilities	12,195.1	12,195.1	12,195.1	12,195.1
Income tax	(1,234.9)	(2,000.0)	(1,529.6)	(1,274.9)	Total current liabilities	31,517.7	41,478.4	41,337.1	39,258.3
Minorities	1.3	1.3	1.3	1.3	Long-term debt	16,032.8	30,032.8	30,032.8	30,032.8
Net income pre-preferred dividends	3,601.2	1,599.4	3,570.3	2,976.0	Other long-term liabilities	2,499.0	2,499.0	2,499.0	2,499.0
Preferred dividends	0.0	0.0	0.0	0.0	Total long-term liabilities	18,531.7	32,531.7	32,531.7	32,531.7
Net income (pre-exceptionals)	3,601.2	1,599.4	3,570.3	2,976.0	Total liabilities	50,049.4	74,010.2	73,868.8	71,790.0
Post-tax exceptionals	0.0	0.0	0.0	0.0	Preferred shares	0.0	0.0	0.0	0.0
Net income	3,584.2	1,599.4	3,570.3	2,976.0	Total common equity	27,432.7	28,890.1	30,820.8	33,629.6
EPS (basic, pre-except) (Rs)	12.65	5.27	11.77	9.81	Minority interest	222.1	220.8	219.5	218.3
EPS (basic, post-except) (Rs)	12.65	5.27	11.77	9.81	Total liabilities & equity	77,704.3	103,121.1	104,909.2	105,637.9
EPS (diluted, post-except) (Rs)	11.95	5.27	11.77	9.81	BVPS (Rs)	91.50	95.21	101.57	110.83
DPS (Rs)	0.50	0.50	0.55	0.61					
Dividend payout ratio (%)	4.0	9.5	4.7	6.2					
Free cash flow yield (%)	(11.8)	(21.5)	(5.0)	9.5					
Growth & margins (%)	3/08	3/09E	3/10E	3/11E	Ratios	3/08	3/09E	3/10E	3/11E
Sales growth	51.2	51.7	2.7	(7.1)	ROE (%)	17.8	5.7	12.0	9.2
EBITDA growth	68.7	10.3	18.5	(5.9)	ROA (%)	5.2	1.8	3.4	2.8
EBIT growth	79.5	5.4	23.2	(8.4)	ROACE (%)	16.7	5.9	9.4	8.3
Net income growth	82.0	(55.4)	123.2	(16.6)	Inventory days	229.8	203.4	247.3	270.5
EPS growth	67.8	(58.3)	123.2	(16.6)	Receivables days	78.0	81.6	95.4	98.7
Gross margin	61.6	60.9	60.4	60.3	Payable days	202.1	192.7	222.7	230.3
EBITDA margin	8.9	6.5	7.5	7.6	Net debt/equity (%)	33.2	72.5	78.3	60.5
EBIT margin	7.0	4.9	5.9	5.8	Interest cover - EBIT (X)	3.6	2.7	3.6	2.9
Cash flow statement (Rs mn)	3/08	3/09E	3/10E	3/11E	Valuation	3/08	3/09E	3/10E	3/11E
Net income pre-preferred dividends	3,601.2	1,599.4	3,570.3	2,976.0	P/E (analyst) (X)	13.6	30.8	13.8	16.6
D&A add-back	1,462.3	1,881.2	1,956.5	2,015.2	P/B (X)	1.8	1.7	1.6	1.5
Minorities interests add-back	(0.7)	(0.7)	(0.7)	(0.7)	EV/EBITDA (X)	15.2	9.2	8.1	8.2
Net (inc)/dec working capital	(14,870.0)	(10,878.1)	(3,374.2)	2,542.7	Dividend yield (%)	0.3	0.3	0.3	0.4
Other operating cash flow	4,624.2	2,154.1	501.5	2,245.3					
Cash flow from operations	(5,183.0)	(5,244.2)	2,653.3	9,778.5					
Capital expenditures	(4,995.8)	(4,395.5)	(3,716.0)	(3,522.0)					
Acquisitions	(3,832.7)	0.0	0.0	0.0					
Divestitures	1,191.7	0.0	0.0	0.0					
Others	288.6	551.8	716.9	460.6					
Cash flow from investments	(7,348.2)	(3,843.6)	(2,999.1)	(3,061.4)					
Dividends paid (common & pref)	(91.4)	(142.0)	(152.1)	(167.3)					
Inc/(dec) in debt	(920.4)	14,000.0	0.0	0.0					
Common stock issuance (repurchase)	11,300.2	0.0	0.0	0.0					
Other financing cash flows	(814.6)	(2,706.5)	(2,706.5)	(2,706.5)					
Cash flow from financing	9,473.9	11,151.5	(2,858.5)	(2,873.7)					
Total cash flow	(3,057.3)	2,063.7	(3,204.3)	3,843.4					

Note: Last actual year may include reported and estimated data.

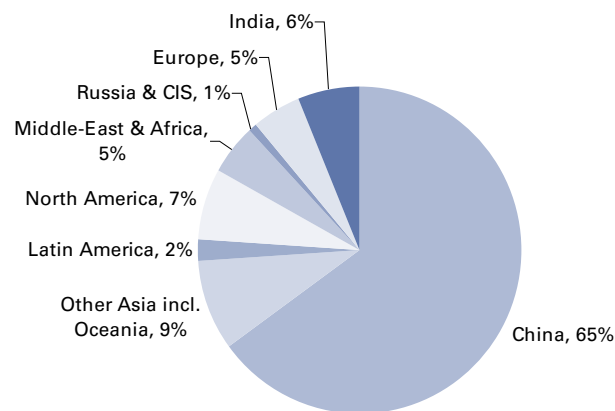
Source: Company data, Goldman Sachs Research estimates.

Power generation equipment market: An overview

Steam-fired power generation

Steam-fired power generation (mainly from coal) is the most widely used technology (around 50% of the total installed base). Though, globally, new capacity additions have been running at a comparatively lower level since the end of the 1970s, due to the nuclear boom till the 1980s and the boom in gas-fired power generation post that, coal has seen a strong resurgence post 2004, driven by demand from China and India, which together account for around 65% of global gross capacity additions.

Exhibit 69: Recently, China has been the market for new steam-fired power generation capacity, accounting for around 65% of global demand for new steam-fired units
Estimates 2003-2008E cumulative gross additions for steam-fired power generation, by region



Source: Platts, Goldman Sachs Research estimates.

The aftermarket in steam (excluding environmental control systems, where returns are good) is much smaller than in gas, given that rotating equipments exposed to significant wear and tear is of much lower value as a proportion of a total power generation plant. In addition, steam turbines are technologically less complex than gas turbines, so there is more potential for replacement parts to be sourced from non-OEM vendors. Thus, OEMs can only apply limited pricing power in order to retain the after-market business. Thereby, the overall returns achieved in coal appear to be among the lowest across different technologies available.

Sub-critical and super-critical power plants

Sub-critical plants typically operate at an efficiency of 25%-35% (with pressures of around 165 bars and temperatures of 540°C), whereas, super-critical and ultra-supercritical plants operate at 37%-45% (with pressures of 250+ bars and temperatures of up to around 620°C). To increase the level of efficiency, higher temperatures and steam conditions are required. The term "critical" refers to conditions whereby the pressure in the boiler reaches a level at which the water and steam have the same phase state and density. From an operational point of view, super-critical designs are superior to sub-critical layouts and higher efficiency in super-critical applications typically more than offset the slightly higher capital costs.

The coal-fired power generation market appears to be significantly more fragmented than gas, nuclear or even wind, reflecting much lower technological barriers to entry, as well as the sheer size of the market (as it is the largest applied technology for power generation purposes globally). Alstom enjoys a dominant share of the western markets in this segment.

Exhibit 70: The boiler island makes up the highest cost of a coal-fired power generation plant

Steam-fired project example – 800 MW single-shaft; overview of key players and return potential of various components

Main Components	Estimated Value (Rs mn)	Split (%)	Estimated Global OE market size (\$ bn) #	Return Potential*	Key Global Players	Market Structure	Barriers to Entry	Aftermarket Opportunity
Steam Turbine	3,600	10%	7.9		GE, Siemens, Alstom, MHI, BHEL, IHI	Fragmented	Medium	Medium
Generator	1,800	5%	3.9		Alstom, Siemens, GE, BHEL	Fragmented	Medium	Medium
Boiler	9,000	25%	19.7		Alstom, MHI, Hitachi, Babcock & Wilcox, Foster Wheeler, BHEL	Fragmented	Low	Medium
Tubes, Pressured Piping, Ducts, Pumps	2,880	8%	6.3		Vallourec, Sumitomo, Sulzer, KSB	Highly Concentrated	V. High	Significant
Environmental Control Systems	2,880	8%	6.3		Alstom, Babcock & Wilcox	Fragmented	Medium	High
Main Components	20,160	56%	44.1					
Other components/ BoP	8,640	24%	18.9					
Civil Engineering/Construction	5,400	15%	11.8		Local contractors			
Associated Overhead	1,800	5%	3.9					
Estimated size at EPC level	36,000	100%	78.7					

Note : * - darker shading indicates higher return potential
- excluding China

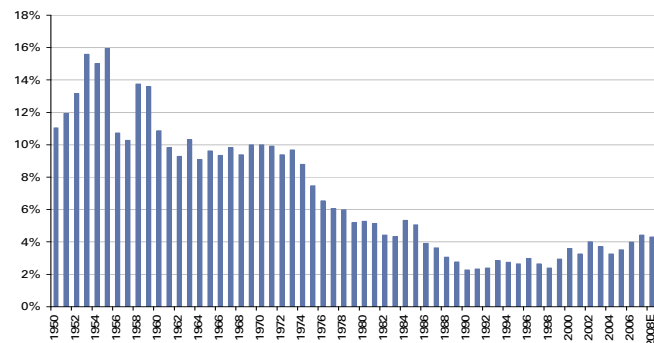
Source: Goldman Sachs Research estimates, Company data.

Simplified working of a pulverized coal (PC) thermal power plant

The principle of any coal-fired power plant is that the coal is ground into a very fine powder by large metal spheres in specific mills. The pulverized coal is then mixed with pre-heated air and forced at high pressure into a boiler, where it rapidly ignites. In the boiler, water flows vertically up tube-lined walls. It then turns into steam, which in the super-heater reaches high pressure and temperatures (around 250 bars and 570°C in super-critical operations). The steam is then piped through three different turbine stages (at high, intermediate, and low pressure), where it is converted into mechanical energy before being turned into electricity. The flue gas from the boiler passes through the clean-up units, where various impurities are removed.

Exhibit 71: 2008E deliveries near record high at 4.3% of installed base

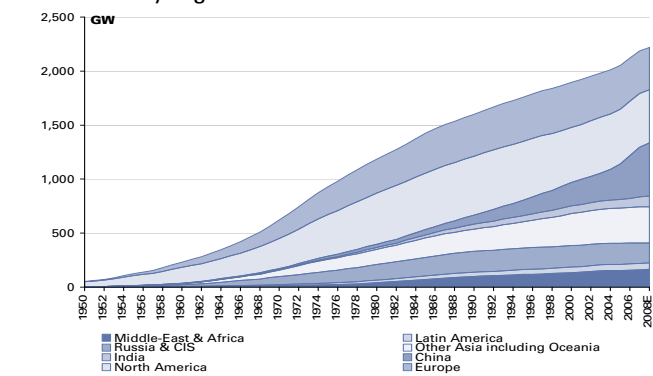
Estimates of gross capacity additions globally, including China, as a percentage of installed capacity, 1950-2008E



Source: Platts, Goldman Sachs Research estimates.

Exhibit 72: Most of the growth over the past five years has come from China

Installed capacity for steam-fired power generation over 1950-2008E by region



Source: Platts, Goldman Sachs Research estimates.

Gas turbine power generation

Gas-fired power generation generally has a wide application, fulfilling base-load requirements, intermediate load and peaking requirements. Typically, whenever a portfolio of power generation assets has a wide diversity (coal, hydro, nuclear, wind), gas is used to float the level of power output to meet demand at any given point. GE is the dominant player in the heavy gas turbine market, followed by Siemens, Alstom and MHI. Siemens is currently in the process of expanding its manufacturing footprint significantly from about 70 to eventually 100-120 turbine frames (including JV partners) per annum.

Typically, the first overhaul cycle for a heavy gas turbine would come after three years, with the first major overhaul necessary after six years. In contrast, an initial overhaul for a steam turbine (coal) is not necessary for 8-10 years after the first installment. Furthermore, a gas turbine is significantly more complex and operates at higher temperatures compared with steam turbines, which means that the components (the "hot gas parts") burn up or erode faster. The hot gas parts are extremely sensitive pieces of equipment for the turbine as a whole and operators tend to stick with the OEMs of the turbine, implying that pricing power and margins are high for the OEMs.

In general, the heavy-duty gas turbine market (as opposed to smaller industrial gas turbine applications) can be divided into Simple Cycle (SC) and Combined Cycle applications (CC or CCGT) although the majority of the market is dominated by CCGT applications. The biggest advantage of a CC is its much higher level of thermal efficiency (around 58% versus around 40% for SC). However, operating a CC is more complex and the capital construction cost is higher.

The main advantages of gas-powered electricity generation are: (1) high level of operating flexibility, (2) lower capital construction costs, (3) short construction time needed to bring new capacity on-stream, and, (4) a more favourable CO₂ footprint relative to coal (assuming no carbon capture). The main disadvantage is that natural gas supplies are located in regions that are viewed as politically unstable (the Middle East, former Soviet Union), which makes natural gas appear less favourable in energy security terms.

Exhibit 73: Gas turbine is the most expensive and profitable component of a CCGT

CCGT project example – 400 MW single-shaft; overview of key players and return potential of various components

Main Components	Estimated Value (Rs mn)	Split (%)	Estimated Global OE market size (\$ bn)#	Return Potential*	Key Global Players	Market Structure	Barriers to Entry	Aftermarket Opportunity
Gas Turbine	2,280	19%	11.7		GE, Siemens, Alstom, MHI	Highly Concentrated	V. High	Significant
HRSG	1,440	12%	7.6		Foster Wheeler, Alstom, Nooter/ Eriksen, Deltag, NEM, Aalborg Industries	Fragmented	Medium	Medium
Steam Turbine Set	960	8%	5.0		Dongfang, SEC, Harbin, BHEL, Ansaldo, LMZ, Doosan	Fragmented	Medium	Medium
Generator	600	5%	3.0		Dongfang, SEC, Harbin, BHEL, Ansaldo, LMZ, Doosan	Fragmented	Medium	Medium
Pressurised Piping, Valves, Heat exchangers, Pumps	720	6%	3.9		Vallourec, Sumitomo	Highly Concentrated	V. High	Medium
Control systems	1,200	10%	3.9		Alstom, Siemens, ABB	Concentrated	High	Significant
Main Components	7,200	60%	35.1					
Other components/ BoP	2,280	19%	12.2					
Civil Engineering/Construction	1,800	15%	9.4		Bechtel, METKA, BHEL, Bouygues, local subcontractors	Highly fragmented	Medium	Low
Associated Overhead	720	6%	6.3					
Estimated size at EPC level	12,000	100%	63.1					

Note : * - darker shading indicates higher return potential
- excluding China

Source: Goldman Sachs Research estimates, Company data.

India's desire to develop a substantial base of gas and nuclear power plants would require collaboration of local developers (such as BHEL, L&T) with international companies having access to these complex technologies. Given the complex nature of these technologies, the barriers to entry are extremely high, and the international suppliers with this technology have consolidated over the past two decades (See Exhibits 74 and 75).

Exhibit 74: Consolidated gas turbine suppliers market
Indian companies have forged JVs with few of these already

Company	Installed Fleet (GW)	% of installed base
Alstom	76	10%
GE	439	58%
Siemens	159	21%
MHI	76	10%
Ansaldo Energia	8	1%
Others	nm	nm
Total	757	100%

Source: Company data.

Exhibit 75: Consolidated suppliers of nuclear sets as well
Many Indian companies are in process of forming tie-ups

Company	Installed Fleet (GW)	% of installed base
Areva	91	21%
Toshiba (Westinghouse)	112	26%
GE/Hitachi	60	14%
FAAE (Russia)	56	13%
AECL (Canada)	30	7%
MHI	22	5%
Others	60	14%
Total	431	100%

Source: Company data

Infrastructure opportunity: Attractive, but pace of economic recovery remains key overhang

Our investment thesis for the Indian capital goods sector is based on three key points:

1. Business driven by incremental fixed asset formation in the country.
2. Although infrastructure spending continues to remain strong, investments in the energy sector are still declining.
3. Demand in the power sector would be intact through government allocations – but increasing competition would pose significant challenges to the incumbent player – BHEL.

Growth opportunities for the Indian capital goods companies are highly correlated to the pace of incremental fixed asset formation in the country. The target opportunity for the companies under our coverage is the substantial spending outlay by the Indian government towards improving the country's infrastructure over the remaining years of the Eleventh Five-Year Plan and also as part of the Twelfth Five-Year Plan. Two companies under our coverage—L&T and Punj Lloyd—also have a substantial exposure to the Middle East construction market and global spend on E&P. There are significant growth opportunities in these segments, although the prevailing economic conditions imply uncertainties regarding the timing of a pick up in investments in these segments. Exhibit 76 provides a snapshot of the opportunity in the target infrastructure segments of the companies under our coverage.

Exhibit 76: Target markets offer a significant opportunity – we expect the bigger companies to have better exposure and margin profile

Target markets for the capital goods companies under our coverage

Segment	Estimated Spend (US \$ bn)	Highlights	Key players
India Power	150.4 (24% pvt. share)	<ul style="list-style-type: none"> ■ 78 GW of power capacity is targetted to be added in the 11th FYP ■ Generation to account for 56% of investments ■ 11GW has already been commissioned, 67GW under construction 	BHEL, L&T, ABB, Siemens, Alstom
India - Roads	76.1 (35% pvt. share)	<ul style="list-style-type: none"> ■ India's infra. Inv. in Eleventh FYP is at 15%, up from 4% in Eighth FYP ■ NHAI to account for 45% of investment, core network for 27% ■ ~80% of NHDP Phase IIIA and Phase V proj. yet to be awarded 	L&T, PUJL, GMR.
India - Railways	62.9 (18% pvt. share)	<ul style="list-style-type: none"> ■ 53% of investment towards fixed infra, 27% towards rolling stock ■ 11.7% towards Dedicated Freight Corridor ■ 20% or ~\$12 billion will be from the private sector 	BHEL, L&T
India - Ports	18 (72% pvt. share)	<ul style="list-style-type: none"> ■ Capacity at Indian ports to rise from 736 MT to 1574 MT by 2012 ■ 500 MT of capacity targeted to be added at the major ports ■ Avg turnaround time at Indian ports at 2.58 days, vs 0.8 for Singapore 	L&T, PUJL
India - Airports	8.5 (55% pvt. share)	<ul style="list-style-type: none"> ■ Six busiest airports account for 75% of total traffic ■ Metros and greenfield airports to account for >70% of planned spend ■ Upgradation at 25 airports, modernisation at 55 airports is planned 	L&T, GMR
Global E&P	1334 (over 2008-12)	<ul style="list-style-type: none"> ■ GS energy team expects industry spending to decline 23% this year ■ Exploration capex to be the hardest hit ■ Accelerated activity declines could occur if crude prices are <\$40/bbl 	L&T, PUJL
Middle East Construction	2000 (planned/underway)	<ul style="list-style-type: none"> ■ UAE and Saudi Arabia account for >50% of Gulf projects ■ Construction accounts for 59%, Oil & Gas 21% ■ YoY growth of MEED proj. index at 59% in Feb 09 vs 65% in Nov.08 	L&T, PUJL

Source: Planning Commission, MEED, Goldman Sachs Research estimates.

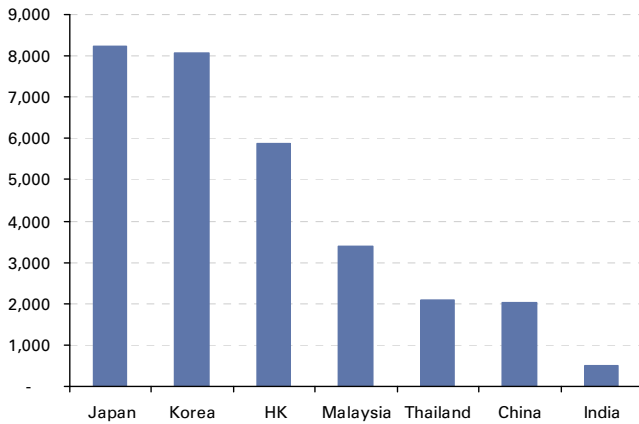
In the following sections, we present a brief overview of each of the target segments, key drivers and the key overhangs facing each of the target segments.

Power

India's per capita electricity consumption of 704 kWh is well below that of other Asian countries (see Exhibit 77). Since 1980, power consumption has grown by 7% vs. the 6% growth in GDP. The elasticity of power consumption to GDP has come down to 0.7 in 2000-2005 vs. 2.3 in 1975-1980, mainly because, India's industrial sector—which has consistently increased its share in overall consumption—has embarked on deploying captive power generation capacity in the absence of reliable grid-based electricity supply.

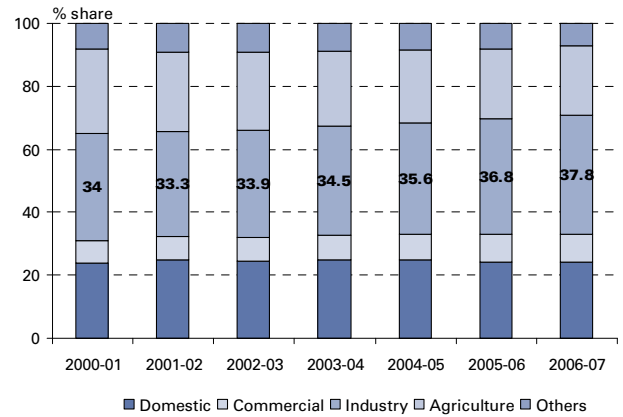
India's peak demand deficit was hovering around the 15 GW mark in FY2009 vs. 18 GW in FY2008 and 14 GW in FY2007. With electricity demand likely to grow at a CAGR of 7% over the next 15 years, we believe the country would need to substantially accelerate its pace of capacity addition.

Exhibit 77: India has one of the lowest per capita consumption of electricity
Asia/Pacific per capita electricity consumption (kWh)



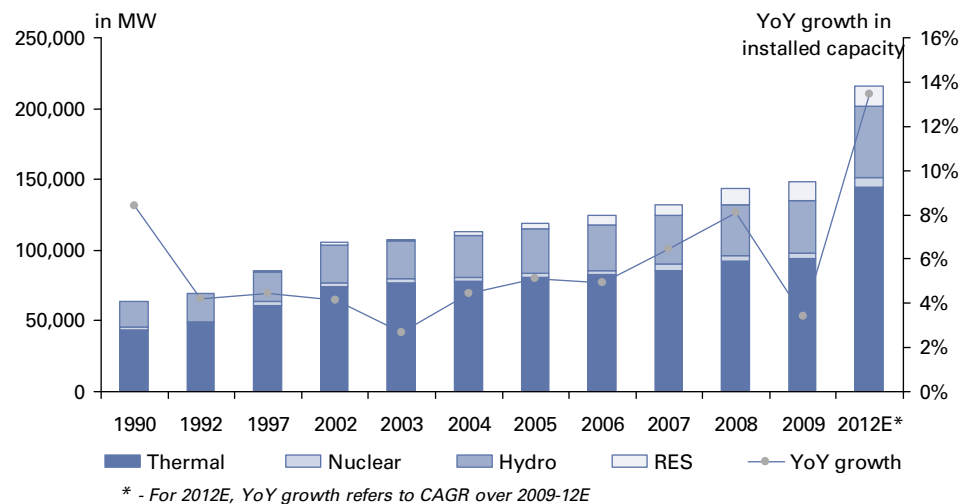
Source: IEA, World Energy Stats 2007

Exhibit 78: The share of industry in overall power consumption has consistently risen since 2002-2003
Distribution of power consumption



Source: CEA, Indian Economic Survey documents.

Exhibit 79: 78-80 GW of capacity addition targeted in the Eleventh Five-Year Plan
Distribution of installed capacity and yoy growth in installed capacity

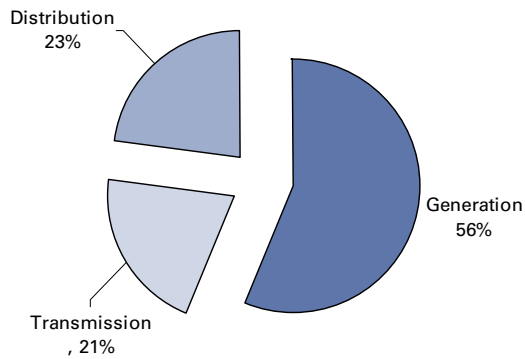


Note: RES – Renewable Energy Sources includes small Hydro Projects, Biomass gas, Biomass Power, Urban and Industrial waste Power and Wind Energy.

Source: CEA, Goldman Sachs Research estimates.

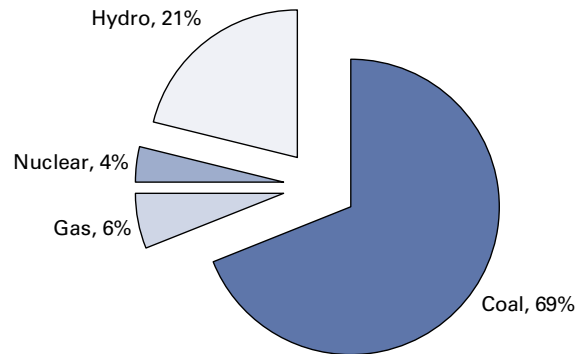
The Eleventh Five-Year Plan targets to add 78-80 GW of power capacity between 2007-2012, vs. the 21 GW of capacity that was added as part of the Tenth Five-Year Plan. Total investments in the power sector are expected to go up to US\$150 bn in the Eleventh Plan from US\$48 bn in the Tenth Plan. Power generation is expected to account for 56% of this investment and 69% of the incremental capacity addition is expected to be through coal-based plants.

Exhibit 80: 56% of total investments are expected to be in the power generation segment
Break up of investments in the Eleventh Plan



Source: Planning Commission.

Exhibit 81: 69% of incremental capacity addition planned under the Eleventh Plan is supposed to be coal based
Distribution of capacity addition in the Eleventh Plan



Source: Planning Commission.

Of the 78-80GW, 13 GW has already been commissioned and 67 GW is currently under construction. Of this, we believe, 17 GW of capacity is under risk of slippage beyond the Eleventh FYP. About 46.2 GW of coal-based plants are currently under construction with NTPC accounting for a major share of this capacity addition. Although BHEL currently accounts for a major share of the equipment supply, we believe, manufacturers other than BHEL would have a greater role to play, unless BHEL undertakes a significant expansion in its capacity.

Exhibit 82: 13 GW of capacity has already been commissioned and 67GW is currently under construction

Fuel-wise capacity addition status of the Eleventh Plan as on 31 August, 2008

(in MW)	Hydro	Thermal	Nuclear	Total
Centre	8,654	21,496	3,380	33,530
Commissioned	1,030	2,740	220	3,990
Under Construction	7,624	18,756	3,160	29,540
State	3,362	22,001	0	25,363
Commissioned	2,362	4,732	0	7,094
Under Construction	1,000	17,269	0	18,269
Private	3,491	17,626	0	21,117
Commissioned	0	1,933	0	1,933
Under Construction	3,491	15,693	0	19,184
Total	15,507	61,123	3,380	80,010
Commissioned	3,392	9,405	220	13,017
Under Construction	12,115	51,718	3,160	66,993

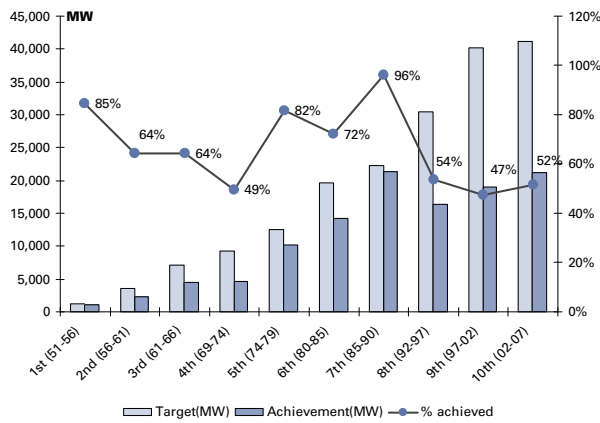
Source: CEA.

Exhibit 83: 17 GW of capacity under risk of slippage beyond the Eleventh Five-Year Plan
Review of projects under construction

	Under construction		At risk of slippage		Likely to be implemented during Eleventh FYP (MW)
	Number	Capacity(MW)	Number	Capacity(MW)	
Coal	120	46,200	15	8,035	8,035
Gas	22	5,438	0	0	0
Hydro	141	12,954	93	8,773	8,773
Nuclear	6	3,160	0	0	0
Total	289	67,752	108	16,808	16,808

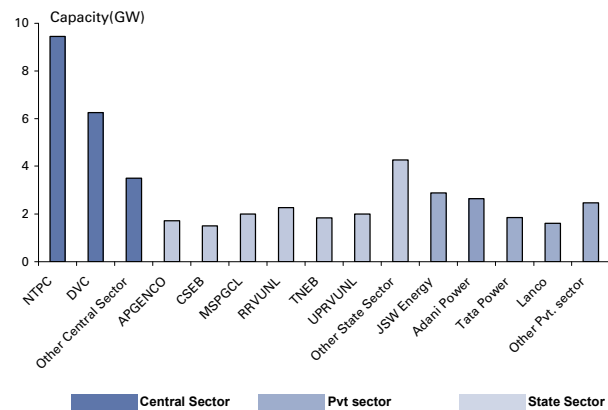
Source: CEA, Goldman Sachs Research estimates.

Exhibit 84: Only around 50% of targeted additions have been achieved over the last three Five-Year Plans
Targeted and achieved capacity additions over the different Five-Year Plans



Source: CEA, Planning Commission.

Exhibit 85: The central and state sectors account for a major share of coal-based thermal power plants under construction
Major developers of coal projects under construction



Source: CEA, Planning Commission.

Exhibit 86: An increasing proportion of capacity will have to be supplied by manufacturers other than BHEL to meet capacity addition targets

Likely break-up of orders for thermal power projects which are under construction for benefits during the Eleventh Five-Year Plan

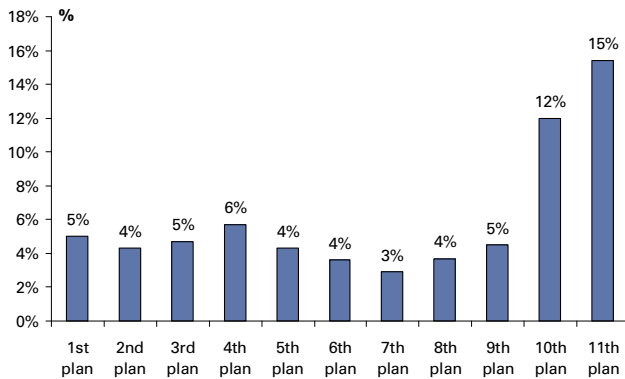
Sector	Orders Placed on	Likely Capacity Addition(MW) during					Total(MW)
		2007-08A	2008-09	2009-10	2010-11	2011-12	
Central	BHEL	1,250	750	2,490	7,015	4,751	16,256
	Others	740	-	-	1,320	3,180	5,240
State	BHEL	2,680	460	3,105	6,300	5,690	18,235
	Others	1,200	392	1,574	-	600	3,766
Private	BHEL	750	500	250	-	540	2,040
	Others	-	383	5,283	3,580	6,040	15,286
Total	BHEL	4,680	1,710	5,845	13,315	10,981	36,531
	Others	1,940	775	7,157	4,900	9,820	24,592
BHEL's share of total orders		71%	69%	45%	73%	53%	60%

Source: Planning Commission.

Roads

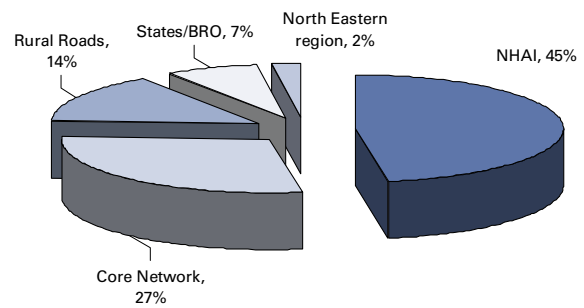
With a targeted spend of US\$76 billion, roads will account for 15% of India’s infrastructure investment in the Eleventh Plan. The share of spend on roads has picked up since the Tenth Plan (see Exhibit 87) and the road infrastructure has thus shown considerable improvement over the course of the Ninth and the Tenth Plan– with the length of national highways doubling to 67,000 km in FY2007 from 34,000 km in FY1997 – post the operationalisation of National Highways Authority of India (NHAI) in 1995 and the introduction of National Highway Development Project (NHDP) in 1998. In the Eleventh Plan, NHAI accounts for about 45% of the total estimated spend. However, 50% of the total NHAI projects planned for the Eleventh FYP are yet to be awarded. Little progress has been made on the implementation of the planned expansion of national highways since March 2007. The Eleventh Plan targets to lengthen the national highway network by about 7,000 km.

Exhibit 87: Investment planned for the road sector has risen significantly in the Tenth and Eleventh FYP
Investment in the roads sector as a proportion of total plan expenditure



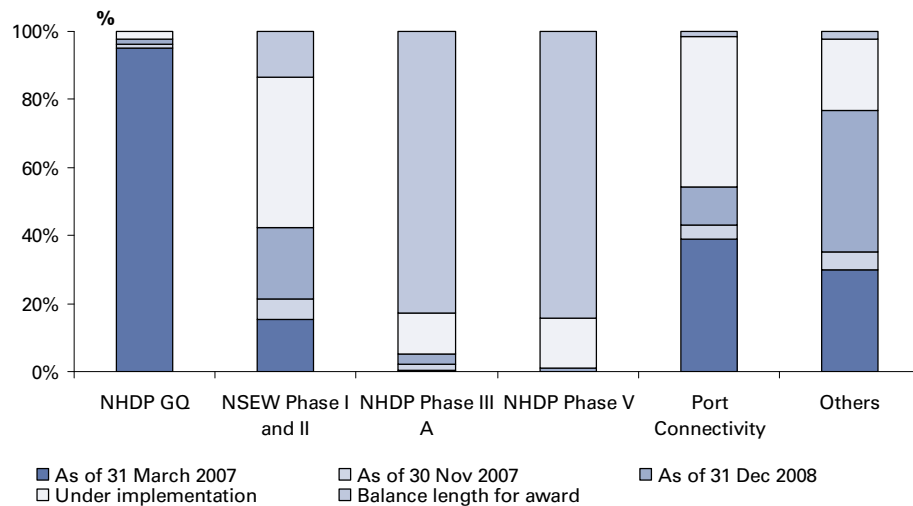
Source: Planning Commission.

Exhibit 88: US\$76 billion is estimated to be spent on developing road infrastructure in the Eleventh FYP
Distribution of spending on roads in the Eleventh FYP



Source: Planning Commission.

Exhibit 89: A majority of the NHDP Phase IIIA and Phase V projects are yet to be awarded
Status of NHAI projects at various points of time



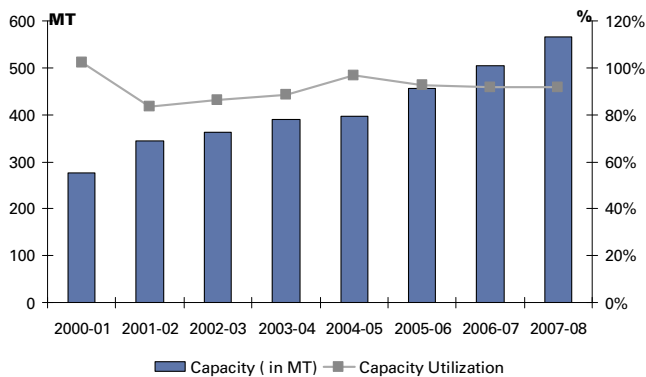
Source: NHAI.

Ports

The twelve major ports in India account for about 75% of the total cargo handled by the country. With maritime trade accounting for 95% of India's total trade by volume and 70% by value, most ports are operating at close to full capacity. The Eleventh Five-Year Plan targets to improve port capacity from 736 MT to 1574 MT by 2012. The average turnaround time at Indian ports has improved from 4.24 days at the end of the Ninth Plan to 2.58 days at the end of the Tenth Plan. However, this is still significantly above the turnaround time at global ports.

Exhibit 90: Port capacity is likely to increase from the current 736 MT to around 1574MT by the end of the Eleventh Plan

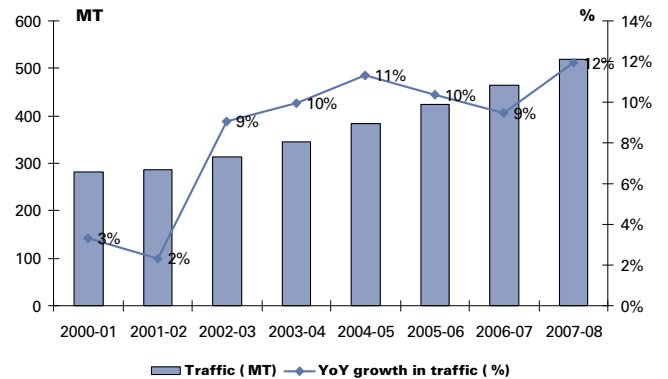
Capacity and capacity utilization at the major Indian ports



Source: Planning Commission, Indian Ports Association.

Exhibit 91: Traffic at the major ports has recorded a CAGR of 10% over 2002-2008

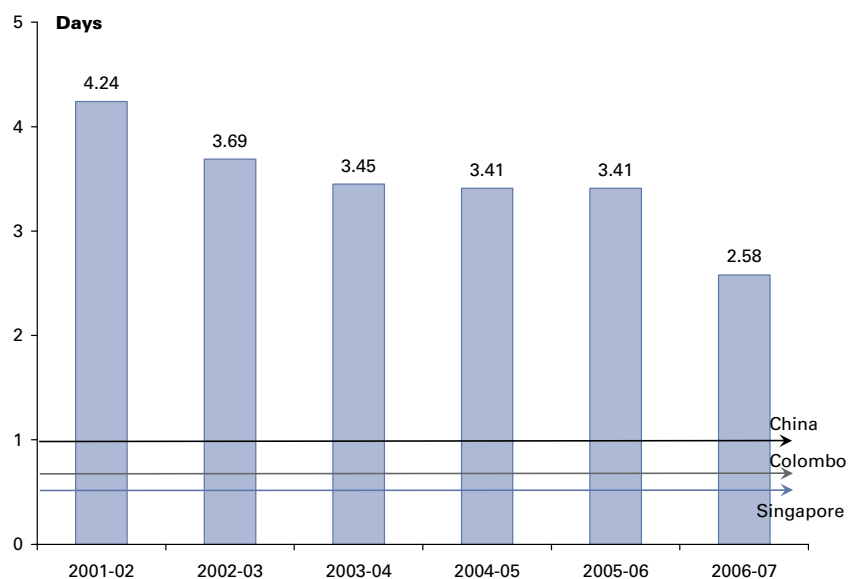
Traffic growth at the major ports



Source: Planning Commission, Indian Ports Association.

Exhibit 92: The turnaround time at Indian ports has improved over the years, but is still well below the global standards

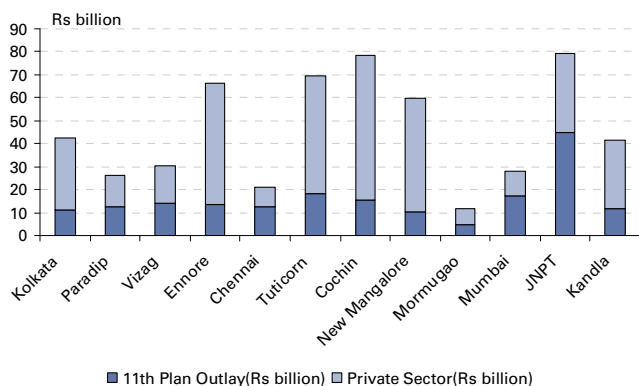
Comparison of turnaround time at important Indian ports



Source: Planning Commission, Indian Ports Association.

Exhibit 93: The private sector is set to play a major role in the improvement of port infrastructure

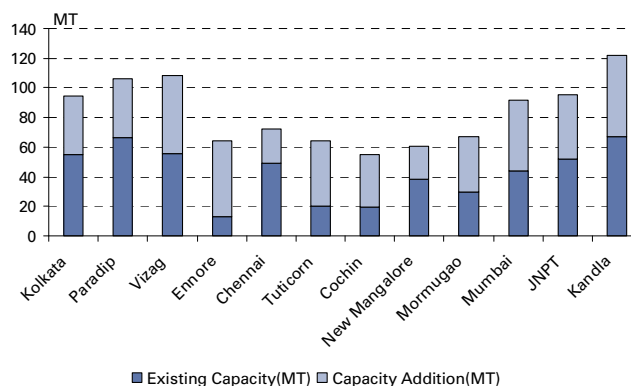
Port infrastructure spend during the Eleventh Five-Year Plan



Source: Planning Commission.

Exhibit 94: About 500MT of capacity is targeted to be added at the major ports in the Eleventh Plan period

Existing capacity/capacity to be added in the Eleventh Plan



Source: Planning Commission.

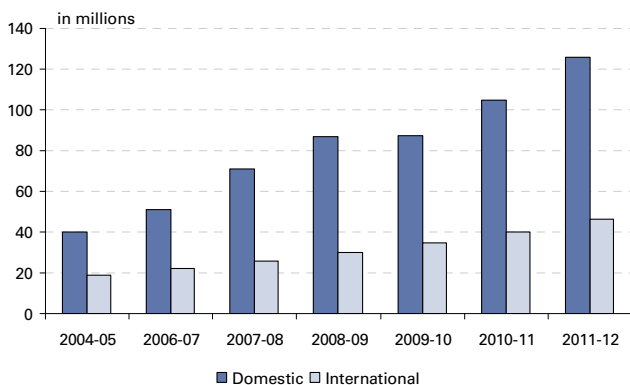
The current policy allows 100% Foreign Direct Investment (FDI) in ports and all areas of port operation are open to private companies. The private sector is planning significant investments, especially in the Ennore, Cochin, Tuticorn and New Mangalore ports.

Airports

Air traffic in India has grown at a CAGR of 28% between FY2005 and FY2008. However, given the increase in crude prices seen in 2008 and the resultant increase in ATF and air fares, growth has been sluggish in FY2009 with negative yoy growth in the number of domestic air passengers in the last three months.

Exhibit 95: The number of air passengers in India is likely to go up to 172 million by 2012

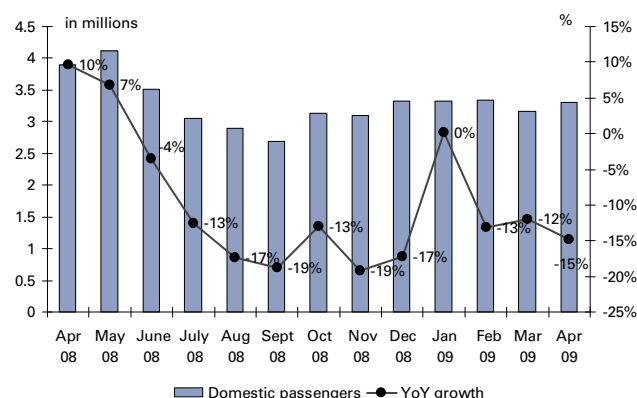
Growth in the number of air passengers



Source: Planning Commission, DGCA.

Exhibit 96: The number of domestic air passengers has shown negative yoy growth for the last three months

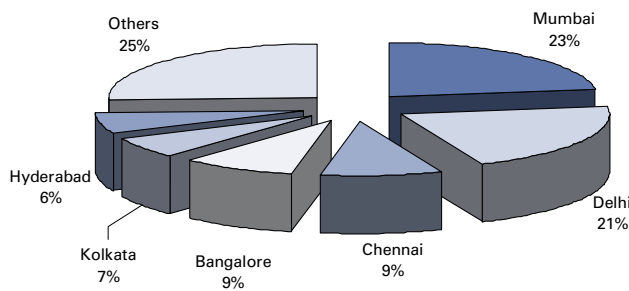
Growth in the number of passengers over FY08-FY09



Source: Planning Commission, DGCA.

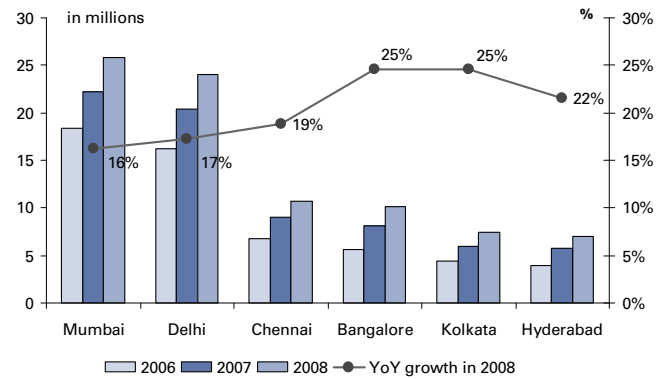
During the Eleventh Plan, the government is targeting a 4X increase in its spend on the development of airport infrastructure in India vs. the Tenth Plan. The concentration of India's air traffic in a few cities is high with the top six cities- Mumbai, Delhi, Chennai, Bangalore, Kolkata, and Hyderabad accounting for 75% of the total air traffic. Four of the six busiest airports – in Mumbai, Delhi, Bangalore and Hyderabad – which account for 57% of India's passenger traffic, have already got private participation.

Exhibit 97: The six busiest Indian airports account for 75% of the country's total air traffic
Distribution of India's total air traffic at major Indian airports



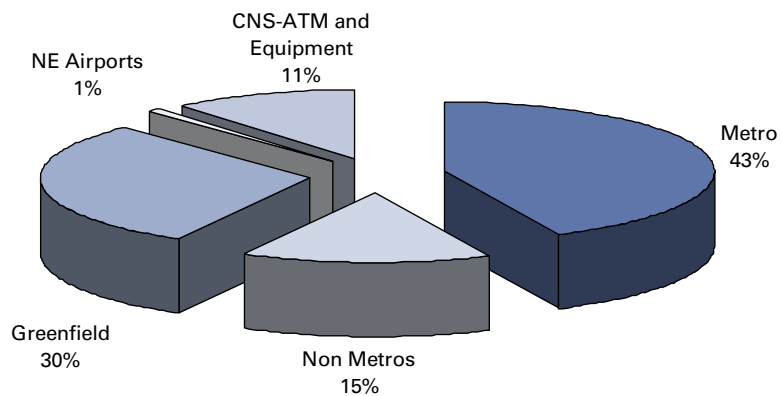
Source: Planning Commission, GMR.

Exhibit 98: Bangalore, Kolkata and Hyderabad airports saw a >20% increase in air traffic in 2008
Air passenger traffic at the major Indian airports



Source: Planning Commission, GMR.

Exhibit 99: Metro and green-field airports account for a majority of the planned spend
Break-up of investments in airports in the Eleventh Five-Year Plan



Note - NE – north-eastern airports; CNS – Communication, Surveillance, Navigation, ATM – Air Traffic Management.

Source: Planning Commission.

Exhibit 100: \$3.75 billion is expected to be spent on the modernization of the Delhi and Mumbai airports

Details of investments planned for the airport sector

Airport	Details	Indicative cost (\$bn)
Delhi and Mumbai	Restructuring/modernisation for world class airports	3.75
Chennai and Kolkata		1.25
Bangalore, Hyderabad, Goa, Pune, Navi Mumbai, Nagpur and Greater Noida	Greenfield Airports	1.25
25 selected airports	Upgradation	1.75
55 airports	Modernisation/ Improvement	0.75

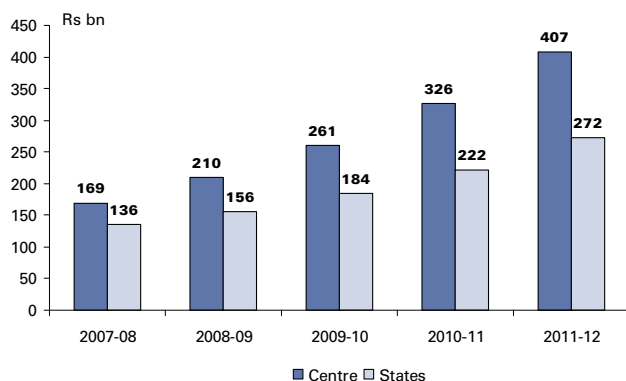
Source: DGCA, Planning Commission.

Urban Infrastructure

According to India’s 2001 census, 10% of the urban population still does not have access to safe drinking water as per the standards of the Ministry of Water Resources, while 18% have no access to adequate sanitation facilities. The Eleventh Five-Year Plan aims to bring all “not covered” and “partially covered” habitations under coverage with sustainable and stipulated supply of drinking water by the end of FY2010.

Exhibit 101: Eleventh FYP’s target of spending US\$49 bn on WSS

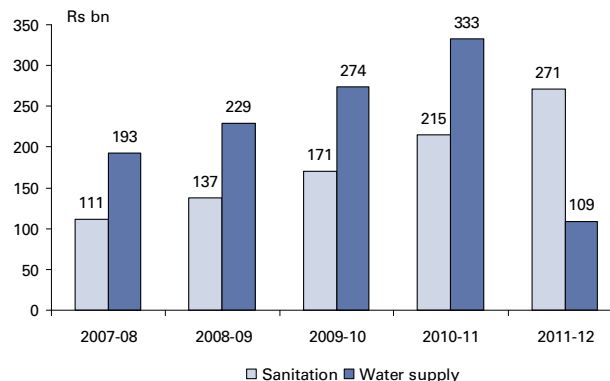
Planned expenditure by the Centre and the states on Water supply and sanitation (WSS) in the Eleventh Plan



Source: Planning Commission.

Exhibit 102: Eleventh FYP targeted spend on WSS is up 23% vs. the Tenth Plan

Break up of spending between Water supply and sanitation (WSS) in the Eleventh Plan



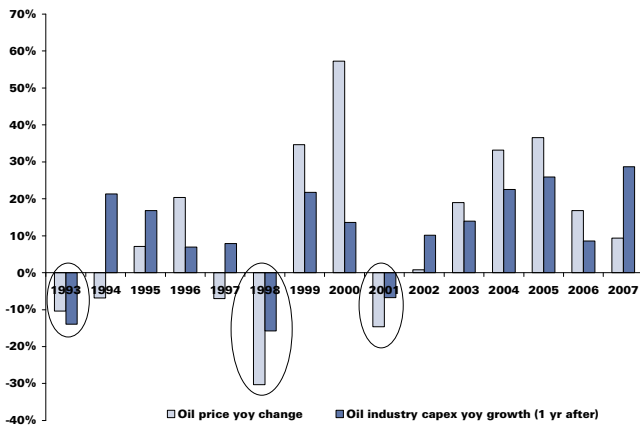
Source: Planning Commission.

Water supply and sanitation (WSS) has a targeted investment of US\$49 billion in the Eleventh Plan which is a 200% growth over the Tenth Plan. This would bring the estimated spend at 0.7% of GDP for the Eleventh Plan vs. 0.32%, 0.34% and 0.64% in the Eighth, Ninth and Tenth Plans, respectively. The government aims to have 100% sanitation infrastructure in place by 2012.

Hydrocarbons

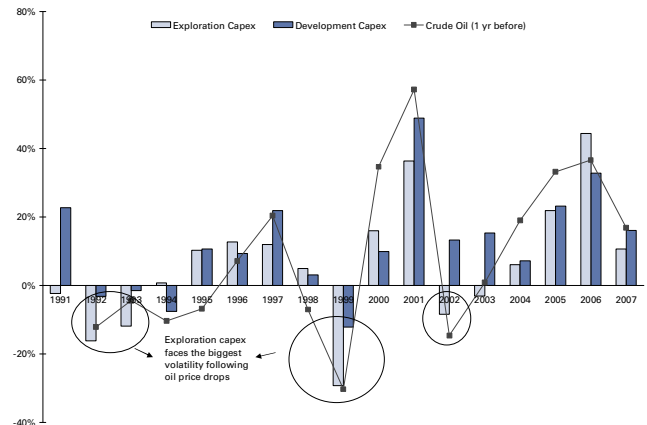
Our global energy team believes that the sharp downturn in oil prices in the current year poses a significant pressure on E&P spending trends and expects industry spending to decline by 23% this year. Past E&P spending trends indicate that E&P spending is most likely to be cut in the following year in which oil prices decline by double-digit percentages with exploration spend being the most impacted.

Exhibit 103: Cutback in industry spending has generally followed double-digit oil price declines
Historical average oil price and oil industry capex changes



Source: Company data, Goldman Sachs Research.

Exhibit 104: Industry cutback hardest on exploration spending
Oil industry exploration/development spending yoy change, vs. oil price change



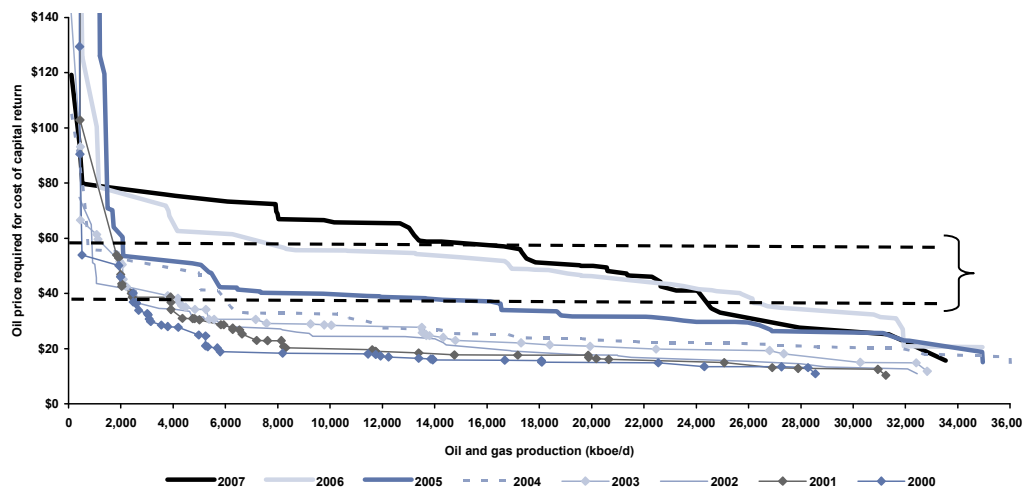
Source: Company data, Goldman Sachs Research.

The super majors, like BP, Chevron, Exxon have so far indicated roughly flat budgets. However, the GS energy team believes that there could be another round of capex budget cuts, as oil companies continue to update their plans in the current lower-commodity-price environment. Also, given the higher-than-historical-average reinvestment rates for the super majors, the team foresees a strong downside bias.

Oil services companies under GS coverage have increased capital spending from US\$7 bn in 2004 to as much as US\$27 bn in 2007. There has been a significant increase in new rig orders placed over the past few years and there are 63 jack-ups scheduled for completion over the next 12-24 months. Rig orders seem to have peaked; reduced access to credit and unattractive new-build economics should slow the momentum for new orders significantly, in our view.

Exhibit 105: We think accelerated decline in activity will occur, if oil prices stay below the US\$40/bbl level

At oil prices below \$60/bbl, the average producer does not earn a cost of capital return on new investments



Source: Goldman Sachs Research estimates.

Exhibit 106: Recent spending commentary from major industry competitors supports our view of decreasing capex in the oil and gas sector

Company	2009 Recent Spending Commentary
Chevron	Anticipates holding capital spending flat with flexibility on near-term projects.
ConocoPhillips	Expects the 2009 capital program to be in line with 2008.
Hess	Will reduce 2009 capital and exploratory budget by 32%
Occidental	Preliminary estimate is that 2009 spending will be "no greater than 2008".
BP	Could slow down 2009 capital spending if desired and in the past has done so.
ENI	Sticking with February capex program although has flexibility to respond to market perspectives.
TNK-BP	Company recently cut its 2009 capex budget by over 20% to \$3.5 billion.
Lukoil	Company plans to cut its 2009 spending by up to 50% depending on oil prices.
Medco	Medco Energy may delay \$2 billion of projects due to the global financial crisis.
PetroChina	CEO commented that 2009 spending will be flat
Saudi Aramco	A further drop in oil [from \$65] may curtail investments needed to offset declining output in aging fields.
Petro-Canada	The company announced 2009 E&P capex will be 24% below 2008 levels.
MOL	Expected to cut 2009 organic capex from previously planned \$1.6 bn to \$1.0 - \$1.1 bn.
Gazprom Neft	Indicated it would cut 2009 spending by 20%-25% to ~\$2.5 bn based on \$70/bbl oil price.
Rosneft	Announced plans to cut total capital expenditures in 2009 amid falling oil price
Gazprom	Announced plans to increase 2009 budget by ~15% as measured in US dollars
TOTAL	Commented that it would be a "serious error not to cut some investment" while oil price is low

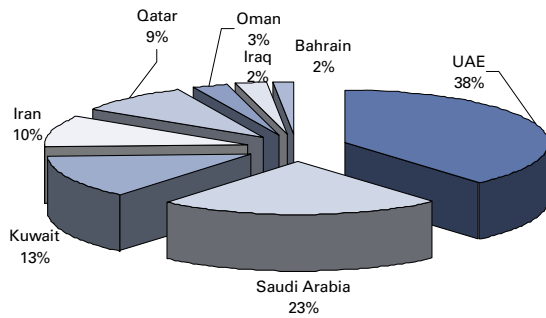
Source: Company data.

Middle East projects

The total value of infrastructure projects in the Gulf region – planned or underway – exceeds US\$2 tn. The UAE and Saudi Arabia together account for greater than 50% of the total Gulf projects. Construction and oil & gas segments have the biggest share of the total project base, with the construction sector having a 59% share in the total projects.

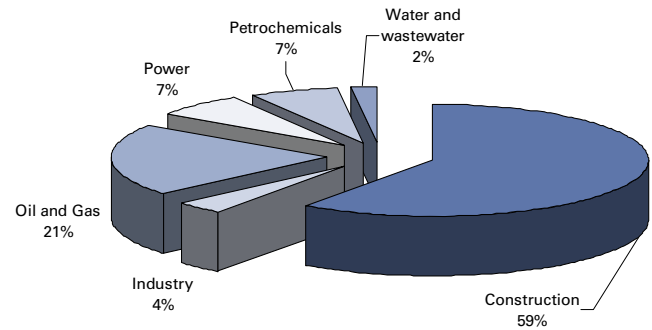
UAE’s infrastructure projects’ market is growing at 37% per annum, with real estate leading the way. Real estate accounts for 84% of the country’s total infrastructure project activity. The total value of infrastructure projects in the country is at US\$904.3 bn, with a majority of them already underway. Saudi Arabia which has the second highest share of Gulf projects plans to build a series of economic cities across the kingdom to expand its industrial base and also undertake a major expansion of its oil output which has, in turn, contributed to a strong growth.

Exhibit 107: UAE and Saudi Arabia together account for >50% of the total Gulf infrastructure projects
Break up of Gulf projects by country



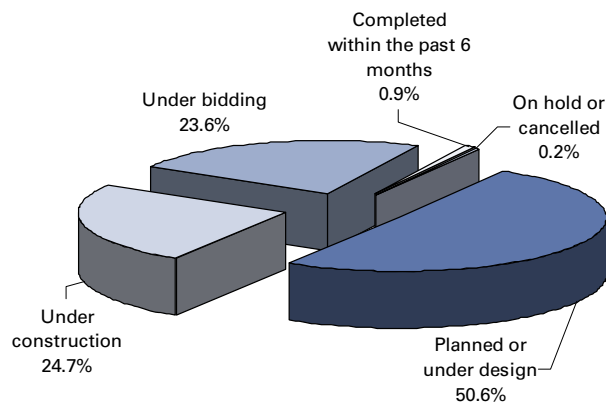
Source: MEED Projects.

Exhibit 108: Construction sector dominates spending on projects in the Gulf region
Break up of Gulf projects by sector



Source: MEED Projects.

Exhibit 109: 50.6% of the infrastructure projects in the Gulf region are in the design stage while less than 1% have been completed within the last six months
Break up of Gulf projects by progress

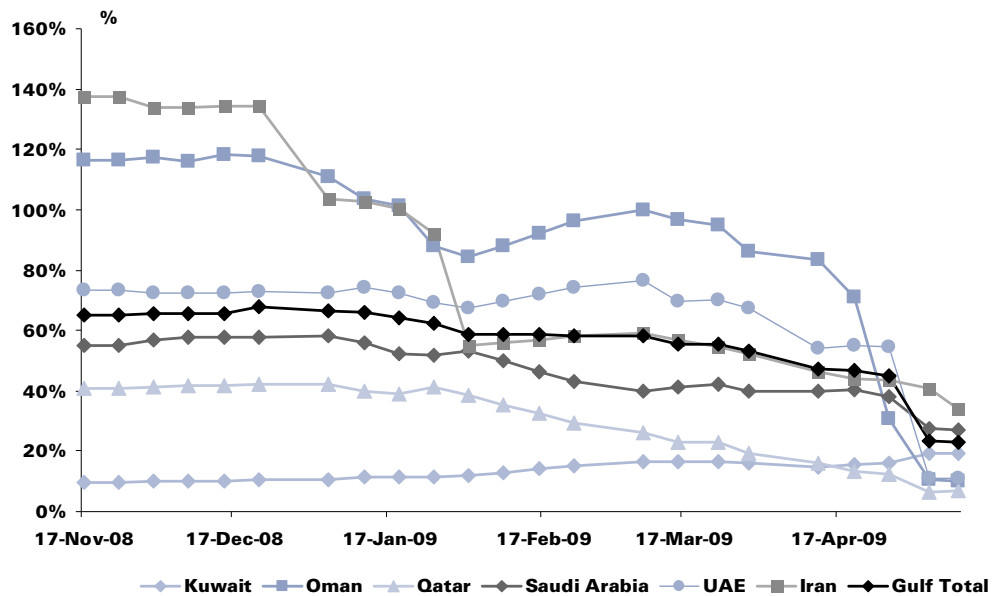


Source: MEED Projects.

However, after the strong growth seen over 2007 and 2008, there are signs of demand stagnating in the Middle East. Over the past few months, given the tough macro environment, many projects are facing delays with the project contract periods being extended to suit the cash flow situation of the developer. Most major developers are beginning to place projects on hold and instead are focusing on meeting timelines on projects that are already underway.

The MEED Index of projects, which tracks the projects planned or are underway in the Middle East has shown a deceleration over the past few months. The index was up 23% yoy in May 2009 vs. the 65% yoy growth seen in November 2008.

Exhibit 110: yoy growth for the MEED Project Index for the Gulf region has decelerated to 23% in May 2009 from 65% in November 2008
 yoy growth in Gulf Projects over the last few months



Source: MEED Projects, Goldman Sachs Research.

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