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Good times may not last long for a few industries. We analyze the drivers of profitability and returns for major Indian companies and conclude that the high returns seen over the past several years may not sustain in many cases. We could see some industries and prominent companies beset by lower profitability and returns on account of (1) increased domestic competition, (2) deterioration in supply-demand balance, (3) changes in regulatory framework and (4) removal of tax (both direct and indirect) exemptions.

Returns of Indian companies have been very high historically

Our analysis of CROCI and ROE of the top companies in the major sectors in India shows that their returns on investment have been very high historically. Companies have earned returns well above WACC or COE or 'reasonable' returns on account of (1) limited competition, (2) slack regulations and (3) a benign taxation regime. We compute the average CROCI and ROE of the companies in the BSE-30 Index in FY2005-09 at 20% and 19%.

Historical favorable factors may be less supportive in future

We note that historical favorable factors may be less supportive in the future due to (1) increased competition from the entry of more players in every sector, (2) tighter regulations in a few sectors and (3) withdrawal of tax (direct and indirect) exemptions in several sectors. We see all the three changes being relevant over the next 2-3 years and see a likely decline in their financial return ratios.

Automobiles, cement and gas transportation may be the worst impacted

We expect the returns of the automobiles and cement sectors to be the worst impacted by an onslaught of price competition triggered by the entry of new players (automobiles) and excess capacity (cement). We see the implementation of regulations as negative for Indian gas transportation companies; the companies currently earn returns that are significantly above regulated returns. We expect many companies in our coverage universe to be impacted by a likely withdrawal of tax exemptions over a period of time.

Demise can be swift and unexpected; telecom experience can repeat almost anywhere

We note that almost all sectors face the threat of deterioration in returns given their high profitability and excess returns compared to the cost of capital. We highlight the example of the Indian telecom sector that enjoyed fantastic profitability and returns until the entry of new players resulted in enhanced competition and slashed excess returns quickly.

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The prices in this report are based on the market close of March 12, 2010.

OVERVIEW: GOOD TIMES MAY NOT LAST LONG, DEFINITELY NOT FOR FOREVER

We analyze the factors behind the high CROCI or ROCE/ROE of Indian companies and conclude that several of these factors may not sustain in the next 2-3 years. We look at changes in several areas that may impact sectors or companies negatively—(1) industry structure, (2) supply-demand balance, (3) regulatory framework and (4) taxation. We also discuss the relevance of focusing on CROCI (returns) in the context of valuation; the street has made expensive mistakes in the past as it has ignored simple facts about the drivers or sustainability of returns.

High returns will likely decline in most sectors

Exhibit 1 shows the ROE of the BSE-30 companies in FY2005-12E. We see (1) a decline in ROEs of the automobiles, cement and telecom sectors, (2) recovery in ROEs of the global cyclical commodity businesses led by improved global supply-demand balance and (3) stable ROEs in consumer, industrial and IT sectors. In addition, we see several specific cases of decline in CROCI or ROE led by (1) tighter regulations (gas transportation and distribution sectors) and (2) withdrawal of extant income tax or excise duty exemptions (consumer companies and smaller IT companies).

We note that ROEs of Indian companies have trended down over the past few years, led by (1) enhanced competition (automobiles, cement, telecom), (2) weaker global prices and margins (global commodities), (3) ambitious overseas acquisitions at expensive valuations and (4) increasing maturity of businesses (IT) resulting in lower profitability per unit of investment.

Exhibit 1: RoEs of Indian companies have declined of late
Return on Equity of stocks in BSE-30 Index, March fiscal-year ends, 2005-12E (%)

Company	2005	2006	2007	2008	2009	2010E	2011E	2012E
ACC	21.6	29.4	39.7	33.3	24.7	29.3	17.1	16.1
Bharat Heavy Electricals	16.9	25.1	29.9	29.2	26.4	30.8	30.7	28.9
Bharti Airtel	27.3	33.5	42.4	39.1	31.4	25.3	18.0	17.4
DLF	12.3	22.6	79.0	66.5	20.7	8.3	10.2	13.1
Grasim Industries	26.2	22.2	34.3	33.1	21.1	21.4	17.6	17.6
HDFC	28.5	30.1	31.3	27.8	18.2	19.7	20.3	20.3
HDFC Bank	18.5	17.7	19.5	17.7	16.9	16.1	16.7	18.6
Hero Honda	57.4	52.2	36.3	34.0	36.4	45.1	35.8	30.7
Hindalco Industries	—	—	18.5	12.3	2.4	3.8	9.7	9.9
Hindustan Unilever	56.1	59.7	61.9	83.9	112.4	108.4	125.9	140.9
ICICI Bank	0.0	14.6	13.4	11.7	7.8	8.2	9.8	11.5
Infosys Technologies	42.6	40.1	40.7	36.1	36.7	30.4	28.4	28.3
ITC	24.4	26.4	27.7	28.2	25.3	27.0	27.6	27.5
Jaiprakash Associates	19.8	9.8	18.2	15.4	7.3	12.3	17.1	20.5
Larsen & Toubro	23.5	24.7	27.6	22.7	21.7	17.4	16.3	17.0
Mahindra & Mahindra	24.2	24.8	29.3	23.4	17.1	28.6	23.9	20.8
Maruti Suzuki	20.7	23.7	24.9	22.2	13.5	23.0	20.0	18.6
NTPC	13.0	13.3	15.1	14.9	14.3	14.9	15.2	16.6
Oil & Natural Gas Corporation	22.6	20.5	20.4	19.6	16.6	14.4	15.8	17.8
Reliance Communications	—	8.2	17.8	16.8	18.9	8.9	6.0	7.3
Reliance Industries	17.4	17.7	19.3	19.0	13.6	10.6	12.2	13.2
Reliance Infrastructure	—	—	11.2	4.3	4.9	6.1	7.8	10.1
State Bank of India	19.4	17.0	15.4	16.8	17.1	15.9	15.8	16.1
Sterlite Industries	18.7	28.8	50.7	25.5	14.0	11.0	11.9	12.8
Sun Pharmaceuticals	40.7	42.1	36.0	38.3	30.2	17.9	21.1	16.7
Tata Motors	28.4	25.3	27.4	22.8	4.4	9.9	9.7	10.1
Tata Power	9.4	10.8	9.8	9.6	12.0	12.6	12.4	14.4
Tata Steel	—	—	28.5	24.1	27.5	1.1	24.7	23.8
TCS	97.2	63.8	55.8	47.0	36.9	37.5	35.6	33.1
Wipro	30.7	29.9	31.5	27.9	26.9	27.1	26.3	24.8
BSE-30	19.9	18.7	21.0	19.0	16.3	14.2	15.4	16.1
BSE-30 ex-Energy	20.0	19.0	22.1	19.3	17.5	15.2	16.1	16.5

Source: BSE, Kotak Institutional Equities estimates

Exhibit 2 gives the CROCI of the BSE-30 companies in FY2005-12E. In the next section, we analyze the reasons for the high CROCI of the top companies in every major sector and examine the sustainability of the factors. We use CROCI instead of ROE or ROCE since (1) CROCI is a measure of cash returns and (2) it is not affected by the different accounting policies of companies—(a) differences in depreciation policies, (b) treatment of one-off items such as impact of foreign currency fluctuations, impairment of goodwill and (c) revaluation of assets/gross block.

Exhibit 2: CROCI of Indian companies in certain sectors is remarkably high
Cash Return on Cash Invested of stocks in BSE-30 Index, March fiscal-year ends, 2005-12E (%)

Company	2005	2006	2007	2008	2009	2010E	2011E	2012E
ACC	12.9	9.1	28.6	32.0	26.7	28.7	15.8	16.0
Bharat Heavy Electricals	18.7	28.1	43.8	57.0	72.2	54.2	47.1	48.2
Bharti Airtel	27.5	30.8	35.7	33.4	31.0	25.7	20.5	19.6
DLF	15.8	5.4	15.5	19.0	11.7	12.7	8.0	10.3
Grasim Industries	13.3	14.2	22.3	25.5	17.1	17.8	15.9	18.6
HDFC	28.5	30.1	31.3	27.8	18.2	19.7	20.3	20.3
HDFC Bank	18.5	17.7	19.5	17.7	16.9	16.1	16.7	18.6
Hero Honda	168.6	115.1	66.7	88.8	92.0	124.6	119.9	114.5
Hindalco Industries	16.8	16.7	21.3	22.1	6.4	14.0	15.9	16.4
Hindustan Unilever	66.7	91.6	107.3	118.6	125.5	142.4	163.0	156.4
ICICI Bank	0.0	14.6	13.4	11.7	7.8	8.2	9.8	11.5
Infosys Technologies	69.4	95.2	67.3	77.3	72.4	68.7	65.7	66.8
ITC	30.3	32.9	32.4	29.1	26.9	30.3	30.3	30.8
Jaiprakash Associates	—	—	14.4	15.0	9.5	16.0	13.5	14.4
Larsen & Toubro	12.7	18.7	30.1	34.3	26.2	24.6	22.7	23.1
Mahindra & Mahindra	22.2	24.9	32.7	30.9	24.0	37.7	34.4	31.5
Maruti Suzuki	23.6	26.1	28.0	28.5	17.4	26.4	24.0	23.1
NTPC	12.8	13.2	14.7	15.1	13.5	13.3	12.7	13.7
Oil & Natural Gas Corporation	18.2	17.1	18.6	19.2	17.1	16.0	16.5	16.3
Reliance Communications	—	16.5	26.8	26.3	19.2	12.5	10.6	12.3
Reliance Industries	18.2	18.8	20.5	21.7	18.7	13.6	16.5	18.2
Reliance Infrastructure	—	—	2.0	1.6	3.7	5.1	2.9	5.8
State Bank of India	19.4	17.0	15.4	16.8	17.1	15.9	15.8	16.1
Sterlite Industries	13.6	20.8	45.1	34.2	23.2	17.7	20.6	20.4
Sun Pharmaceuticals	32.2	23.6	24.8	41.2	44.7	28.2	29.1	32.6
Tata Motors	28.6	18.9	21.1	26.7	11.0	20.0	19.2	18.3
Tata Power	14.5	11.2	10.4	9.4	11.5	12.5	11.8	11.9
Tata Steel	31.6	27.3	30.1	10.9	11.3	3.8	9.4	9.9
TCS	93.5	73.4	79.6	67.5	78.9	71.0	67.1	63.7
Wipro	62.2	61.1	72.4	48.5	50.5	45.0	45.0	43.6
BSE-30	20.0	19.6	22.3	19.9	17.8	16.1	16.7	17.5
BSE-30 ex-Energy	21.6	21.1	24.5	19.8	17.8	16.7	16.9	17.7

Note:

1. For banks and financial institutions, data represents ROE.

Source: BSE, Kotak Institutional Equities estimates

CROCI can serve as a reality check for earnings, valuation of companies

In our view, an understanding of the CROCI of a sector or a company—based on an analysis of drivers of earnings and returns for an industry or for a company—can serve as a useful tool to assess the assumptions behind the earnings models of companies and understand the sustainability of their drivers. As a corollary, CROCI can also serve as a useful check for the appropriateness of valuations (multiples and long-term assumptions) of stocks.

We highlight two high-profile cases as examples below.

- **Use of the 'right' multiples (P/E, EV/EBITDA or EV/DACF) based on the stage of the cycle and sustainability of earnings of companies.** We believe an understanding of the sustainability of drivers of a company's earnings will result in the use of the right multiples to value the company/stock. It would be worthwhile to check the sustainability of the factors behind a company's high or low CROCI if the company is earning very high CROCI or very low CROCI compared to its WACC. This would naturally translate into use of a 'right' multiple for the company since returns tend to converge to WACC over a period of time.

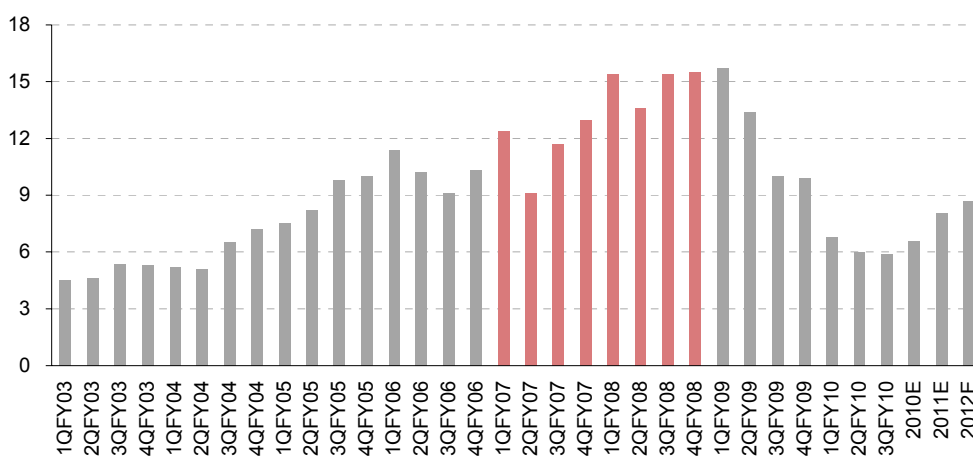
The above factor is most valid for cyclical businesses, either domestic cyclical or global cyclical. It would be logical to give a lower multiple compared to mid-cycle or 'average' multiples when a company is earning very high returns (CROCI) at the peak of a cycle. Such earnings are unlikely to sustain in perpetuity and will likely come down during a downturn following an up-cycle. Similarly, it would be appropriate to use a higher multiple compared to 'average' multiples for a company earning very low returns due to weak cyclical conditions; the reasons for depressed earnings may not last in perpetuity. An industry's or a company's weak returns may arise from an economic downturn but the earnings and returns would improve once macro-economic conditions improve. Similarly, very poor returns may force industry consolidation and limited investment in new capacities, leading to improvement in supply-demand balance and hence, pricing, margins and returns over a period of time.

However, we have often seen the market doing the reverse forced by exuberant or depressed market conditions. We have seen the market ascribing very high multiples to peak or near-peak earnings of cyclical businesses and doing the reverse at times of very low earnings resulting from trough or near-trough earnings.

We highlight the example of Reliance Industries in 2HCY07 as a case in point. The street had then used 8-10X forward EBITDA to value RIL's refining segment compared to a mid-cycle multiple of 6-7X for a typical global cyclical commodity business. This would suggest that the street was expecting further improvement in RIL's refining margins despite the company reporting very high refining margins (US\$12-15/bbl) in this period. Most global refineries were earning extremely high CROCI over this period, which would have naturally attracted more investment in the refining sector. The sector did attract large investments, which accompanied by a global economic downturn, resulted in a steep decline in refining margins starting mid-CY2008; margins continue to be poor even now.

In hindsight, we can say that an appreciation of the cyclical nature of refining business and a realistic assessment of the drivers of the very high refining margins in 2HCY07 (great but deteriorating supply-demand balance) would have resulted in a more cautious view of the cycle, global refining margins and hence, use of more conservative multiples to value RIL's refining business during this period of irrational exuberance. Exhibit 3 shows RIL's quarterly refining margins starting FY2003 to 3QFY10 and our forecasts for the next two years.

Exhibit 3: RIL's reported margins were about US\$12-15/bbl in FY2008-09
 Reported refining margin of Reliance Industries, March fiscal year-ends, 2003-12E (US\$/bbl)



Source: Company Data, Kotak Institutional Equities estimates

- ▶ **Verification of long-term assumptions, particularly in DCF-based valuation of high-growth companies.** In our view, an assessment of CROCI over the forecast period of a DCF valuation or in the terminal year of a DCF valuation would be useful in verifying the reasonableness of assumptions behind the earnings model of a company. We note that the terminal year assumptions are very critical since the explicit period (typically 10 years in a DCF model) may account for only 30-50% of the valuation of a company and even lesser for a high-growth company or for a company/an industry in its early stages of growth.

We note that very few industries have the capability to deliver very high returns for an extended period of time and probably none in perpetuity. However, we have very often seen the street making very aggressive assumptions in the terminal year of a DCF valuation. In many cases, the ROCE or CROCI in the terminal year would be well above the WACC, which would suggest that a company will continue to earn returns above its cost of capital in perpetuity. This is unlikely to be the case for most industries; even companies depending on intellectual property or brands lose this advantage over a period of time.

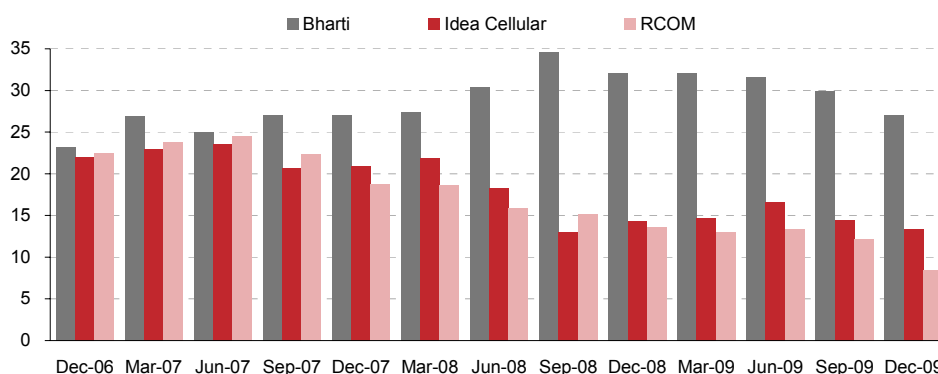
We highlight the example of Bharti Airtel in CY2004-08 as a case in point. Exhibit 4 gives the average CROCI for the explicit period and CROCI in the terminal year in our DCF models at various points of time. As can be seen, we had made assumptions that translated into very high CROCI in perpetuity; it's another matter that we could not justify Bharti's stock price despite our very aggressive assumptions. The street, which had a more bullish view of the stock, presumably had even more aggressive assumptions of pricing and margins than we did; the street's assumptions would have resulted in even higher CROCI for Bharti's telecom business in perpetuity. In hindsight, we can say that low competition in the market due to a limited number of players at that time allowed Bharti to earn super-normal returns; the street extrapolated that in perpetuity. However, the entry of new players subsequently resulted in a swift collapse of profitability and returns for the business. Exhibit 5 shows the rapid decline in quarterly CROCI of the wireless segment of the three major telecom players in India.

Exhibit 4: We were modeling very high CROCI in perpetuity for Bharti Airtel in 2005-08
Bharti CROCI estimation over the past five years, March fiscal year-ends (%)

	Jan-05	Jul-05	Jan-06	Jul-06	Jan-07	Jul-07	Jan-08	Jul-08	Jan-09	Jul-09	Jan-10
CROCI - explicit (%)	21.7	26.0	24.3	25.4	27.7	28.0	27.6	26.5	23.1	22.7	19.8
CROCI - terminal year (%)	18.0	21.4	20.9	21.5	22.1	22.6	22.1	22.7	18.7	18.3	16.5

Source: Kotak Institutional Equities estimates

Exhibit 5: CROCI of wireless business in India has declined sharply of late
Quarterly CROCI of wireless segment of Bharti, RCOM and Idea (%)



Source: Company data, Kotak Institutional Equities

SECTOR ANALYSIS: AUTOMOBILES, CEMENT, GAS TRANSPORTATION MOST VULNERABLE

Our analysis of the sustainability of CROCI across sectors shows automobiles, cement and gas transportation as the most vulnerable sectors. We highlight the steep increase in competition in sectors such as automobiles, cement and segments of the consumer sector, which may bring down industry returns over time. Also, we see tighter regulations impacting current high profitability in the Indian gas transportation and distribution segment. Finally, we expect a withdrawal of extant income tax and excise duty exemptions to impact the profitability of several sectors.

Automobiles: Entry of new players to likely impact returns

We divide the sector into three product segments—2-Wheelers, passenger vehicles and commercial vehicles—for the purpose of our analysis. Exhibit 6 shows CROCI for the large automobile companies under our coverage for FY2005-12E. The 2-wheeler segment earns the highest profitability and returns on account of low competition; however, this may already be changing.

Exhibit 6: Indian auto companies are highly profitable; new competition may erode profitability and returns

CROCI of auto companies, March fiscal year-ends, 2005-12E (%)

	2005	2006	2007	2008	2009	2010E	2011E	2012E
Ashok Leyland								
Cash return (Rs bn)	3	4	6	6	4	7	9	10
Cash invested (Rs bn)	23	25	31	33	60	69	75	82
CROCI (%)	15	17	18	19	7	9	12	12
Bajaj Auto								
Cash return (Rs bn)	7	10	11	9	9	17	19	19
Cash invested (Rs bn)	27	26	31	30	35	33	34	35
CROCI (%)	26	39	36	30	25	53	57	56
Hero Honda								
Cash return (Rs bn)	9	11	10	12	15	24	26	29
Cash invested (Rs bn)	5	10	15	13	17	19	22	25
CROCI (%)	169	115	67	89	92	125	120	114
Mahindra & Mahindra (standalone)								
Cash return (Rs bn)	6	8	10	11	9	21	24	27
Cash invested (Rs bn)	28	31	31	35	39	56	71	87
CROCI (%)	22	25	33	31	24	38	34	32
Maruti Suzuki								
Cash return (Rs bn)	13	14	17	20	15	30	33	37
Cash invested (Rs bn)	53	52	59	71	88	112	136	159
CROCI (%)	24	26	28	28	17	26	24	23
Tata Motors (standalone and excluding Jaguar Land Rover)								
Cash return (Rs bn)	16	19	24	23	13	32	38	43
Cash invested (Rs bn)	56	99	113	87	119	159	197	232
CROCI (%)	29	19	21	27	11	20	19	18

Source: Company data, Kotak Institutional Equities estimates

- **2-wheelers.** We expect industry returns to decline from the current very high levels as competition from new players increases and on account of the increase in excise duty by 2ppt in the most recent FY2011 Union Budget, which may not be fully passed on to consumers. Margins currently are at historical highs for both incumbents. This segment has by far the highest returns in the sector. The higher returns reflect high asset turnover of over 3X for Bajaj Auto and close to 6X for Hero Honda (HH). In addition, negative working capital plays a significant part, especially for Hero Honda. Excluding negative working capital, Hero Honda's return will decline to about 75% compared to over 100%.

- **Entry of new players.** The high returns are attracting competitors, albeit delayed. M&M is entering the segment through its purchase of Kinetic Motors. Additionally, Honda Motor Co.'s wholly-owned subsidiary, Honda Motorcycle and Scooter India (HMSI), has entered the sub 125cc volume segment recently with a product (CB Twister) priced in between Hero Honda's largest selling bikes—Splendor and Passion. It plans to target 20,000 monthly volumes initially before stepping it up to 70,000 monthly volumes.

Exhibit 7 shows the rapid proliferation among players and offerings in the 2-W segment and Exhibit 8 shows that new entrants have been able to make a visible dent in the segments they operate in currently.

Exhibit 7: Mahindra and HMSI could be the key entrants to watch out for
Key products launched recently and expected launches over the next year

Manufacturer	Model	Date of launch	Segment	Price (Rs)	Monthly volumes
Bajaj Auto	Discover	July 2009	100-125cc	41,000	70,000
	Pulsar 135 LS	December 2009	125-150cc	51,000	25,000
	New bike	1QFY10E	125-150cc	na	na
Honda Motorcycle & Scooter	CB Twister	March 2010	100-125cc	44,870	20,000
Mahindra Two Wheelers	Flyte	May 2009	Scooter	43,000	2,000
	Rodeo	September 2009	Scooter	41,299	4,000
	Duro	September 2009	Scooter	38,299	4,000
	New bikes	CY2010E	100-150cc	na	50,000
TVS Motors	Flame	November 2009			
	Jive	November 2009	100-125cc	41,000	20,000
	Wego	November 2009	Scooter	42,500	na

Source: Company data, Kotak Institutional Equities

Exhibit 8: HMSI has a high market share in its chosen segments while M&M has quickly garnered 6% of the scooter market

Trailing 3-month market share by segment (%)

	Motorcycles			
	100-125cc	125-250cc	Scooters	Mopeds
Bajaj Auto	22	42	—	—
Hero Honda	72	13	13	—
Honda Motorcycle & Scooter	—	28	54	—
TVS Motors	5	8	18	100
Yamaha	1	8	—	—
Mahindra & Mahindra	—	—	6	—
Suzuki	—	2	10	—

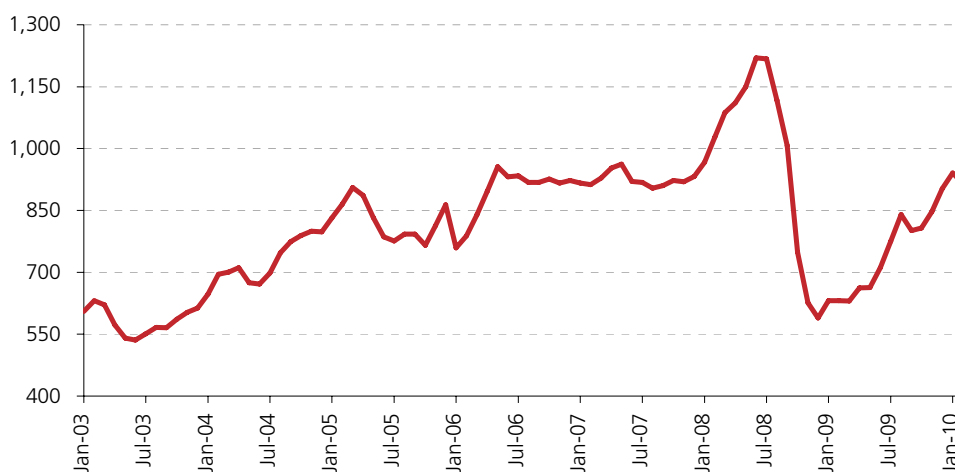
Source: Company data, Kotak Institutional Equities

- **Higher excise duty.** We believe Bajaj and HH may have to pass on some of the excise concessions available to them through lower margins to fend off competition. They did not pass on the full excise benefits from plants in special zones and excise duty reductions of 6ppts in FY2009-10 to consumers. We note that both Bajaj Auto and HH derive a meaningful 30% share of their production of motorcycles from excise-free zones; these benefits are available for another 7-8 years in both the cases. On another note, we find it remarkable that the government provides excise duty concessions for a business that generates 80% CROCI (HH's CROCI without benefits of excise concessions) even without the concessions.

HH has already announced its plans to absorb a part of the recent increase in excise duty since it seems to have the capability to do so. Its 3QFY10 EBITDA margin was 17% well above the 13% average EBITDA margin in FY2007-09. For the same reason, Bajaj and HH may be willing to absorb some of the recent increase in commodity costs (see Exhibit 9), which could eat into their current high returns and profitability.

Exhibit 9: Commodity costs have returned to FY2007 levels

KIE's automotive raw material index (X)



Source: Datastream, Kotak Institutional Equities estimates

- ▶ **Passenger vehicles.** We believe there could be downside risks to industry returns from current levels, especially in the case of passenger cars. We expect increased competition and high capital expenditure requirements to limit returns. Over the next two years, Maruti is expanding its vehicle and engine capacity and building an R&D facility. The industry (except for the incumbents—Maruti and Hyundai) has a lot of spare capacity (see Exhibit 10). We are just starting to see competition introducing new products targeting the high volume compact segment in a bid to fill this capacity.

Exhibit 10: New entrants are increasingly looking to utilize their excess capacities in India
Capacity and production estimates of major entrants in the passenger vehicle segment, March fiscal year-ends, 2008-12E

	2008	2009	2010E	2011E	2012E
Fiat (JV with Tata Motors)					
Capacity	200,000	200,000	200,000	200,000	200,000
Production		8,067	31,558	38,558	48,558
Utilization (%)		4.0	15.8	19.3	24.3
New products					
Linea		4,509	17,000	20,000	25,000
Grande Punto			11,000	15,000	20,000
Ford					
Capacity	100,000	100,000	150,000	200,000	200,000
Production	38,287	24,764	24,764	74,764	124,764
Utilization (%)	38.3	24.8	16.5	37.4	62.4
New products					
Figo				50,000	100,000
General Motors					
Capacity	85,000	85,000	225,000	225,000	225,000
Production	67,123	58,554	58,554	118,554	158,554
Utilization (%)	79.0	68.9	26.0	52.7	70.5
New products					
Beat				60,000	100,000
Honda SIEL					
Capacity	100,000	100,000	100,000	100,000	150,000
Production	62,227	50,246	60,000	72,500	120,500
Utilization (%)	62.2	50.2	60.0	72.5	80.3
New products					
Jazz			7,500	8,000	8,000
Small car				12,000	60,000
Toyota					
Capacity	70,000	70,000	70,000	170,000	170,000
Production	53,801	46,892	60,000	82,500	155,000
Utilization (%)	76.9	67.0	85.7	48.5	91.2
New products					
Small car				17,500	70,000
Mid-size sedan				5,000	25,000
Volkswagen/Skoda					
Capacity	40,000	40,000	150,000	150,000	150,000
Production	14,255	17,087	17,087	42,087	67,087
Utilization (%)	35.6	42.7	11.4	28.1	44.7
New products					
Polo				25,000	50,000
New entrants' capacity	595,000	595,000	895,000	1,045,000	1,095,000
New entrants' production	235,693	205,610	251,963	428,963	674,463

Source: Crisinfac, Kotak Institutional Equities estimates

We see lesser risks to M&M's returns, primarily because of a stronger market position and a lack of competitors in the segment. Near-term returns would largely depend on two factors—(1) the company's ability to sustain its negative working capital position and (2) execution capability to increase production at its new facility in Chakan, Maharashtra. Maruti and M&M have historically had similar cash returns in the 25-30% range. Asset turns in both businesses have been in the 2.5-3X range. M&M is enjoying better returns because of its better working capital management. M&M's negative working capital has increased significantly in FY2009 driven by a large increase in its sundry creditors.

- ▶ **Commercial vehicles.** CV manufacturers have earned lower returns than passenger vehicles and 2-wheeler businesses, largely driven by lower asset turns of 2-2.5X. Within CVs, Tata Motors has enjoyed higher returns, driven primarily by better working capital management over the last two years. Ashok Leyland's returns have recently taken a beating primarily due to poor timing of capacity expansion. The company's gross block will likely increase 2.1X between FY2008 and FY2010E, while revenues will likely decline 10% over the same period. Asset turns as a result will halve to just over 1X from 2.5X prior. Tata Motors' asset turnover has also declined but less so and the company has also managed to improve its working capital position. This has resulted in the company's returns holding up better than Ashok Leyland's.

We believe returns in the CV industry would hold up better in the near term as higher capacity utilization would offset increasing competition. CV volumes, especially in the case of M&HCVs, remain 10% below earlier peak levels. We believe certain categories of LCVs remain under-penetrated structurally that may allow for higher margins and returns. Demand for both M&HCVs and LCVs could benefit from infrastructure-building activities. Competition could take longer to penetrate given higher entry barriers with respect to service infrastructure and brand awareness.

Cement: Returns may crash further if players decide to grow market shares

Exhibit 11 gives the CROCI of the three top cement players under our coverage for FY2005-12E. We model cash returns (CROCI) halving between FY2008 and FY2012E driven by lower profitability arising from (1) a weak pricing environment reflecting large supply-demand imbalance and (2) higher freight and fuel costs. We do not rule out lower-than-expected pricing and profitability if one large player or a few players decide to pursue market share gains at the expense of profitability. We discuss the key issues that may drive CROCI to low levels.

Exhibit 11: We do not rule out further decline in CROCI of cement companies
CROCI of cement companies, March fiscal year-ends, 2005-12E (%)

	2005	2006	2007	2008	2009	2010E	2011E	2012E
ACC								
Cash return (Rs bn)	5	4	13	15	13	18	14	15
Cash invested (Rs bn)	41	46	45	47	48	64	91	96
CROCI (%)	13	9	29	32	27	29	16	16
Ambuja Cement								
Cash return (Rs bn)	4	6	17	13	12	13	14	14
Cash invested (Rs bn)	37	38	46	50	57	85	102	110
CROCI (%)	10	15	37	26	22	16	13	13
Ultratech								
Cash return (Rs bn)	4	5	10	12	13	15	12	13
Cash invested (Rs bn)	46	48	49	49	74	87	95	99
CROCI (%)	8	10	21	25	18	17	13	13
Total								
Cash return (Rs bn)	13	15	40	40	38	47	40	43
Cash invested (Rs bn)	125	132	141	146	180	236	288	305
CROCI (%)	10	11	29	28	21	20	14	14

Source: Kotak Institutional Equities estimates

- ▶ **Large supply-demand imbalance.** Exhibit 12 shows our supply-demand balance for cement in India. We expect a steep increase in cement supply over the next few months led by large ongoing capacity additions, which will likely result in a sharp deterioration in cement prices; see Exhibit 13 for details of new capacities. This would be particularly true if one large player or a few players focus on increasing their market shares rather on profitability. We note that current profitability and returns are attractive enough for a player with new production capacity to attempt to place the incremental supply on the market through aggressive pricing.

Exhibit 12: Incremental supply to exceed incremental consumption over next few years
Cement demand-supply balance, March fiscal year-ends, 2006-12E (mn tons)

	2006	2007	2008	2009	2010E	2011E	2012E
Effective capacity (mtpa)	165	172	185	206	243	269	280
Incremental capacity (mtpa)		6.8	12.6	21.6	36.4	26.3	10.7
Growth in cement capacity (%)		4.1	7.3	11.7	17.6	10.8	4.0
Cement consumption (mn tons)	136	148	163	178	194	211	230
Incremental consumption (mtpa)		12.8	14.9	14.4	16.0	17.4	19.0
Growth in cement consumption (%)		9.5	10.0	8.8	9.0	9.0	9.0
Exports (mn tons)	6.0	5.8	3.6	3.2	3.2	3.2	3.2
Growth in exports (%)		(2.8)	(37.6)	(11.4)	—	—	—
Cement despatches (mn tons)	142	154	167	181	197	214	233
Growth in despatches (%)		9.0	8.2	8.4	8.8	8.9	8.9
Capacity utilization (%)	86	90	90	88	81	80	83

Source: CMA, Kotak Institutional Equities estimates

Exhibit 13: Commissioning of 33 mn tpa of cement capacities may further pressure cement realizations

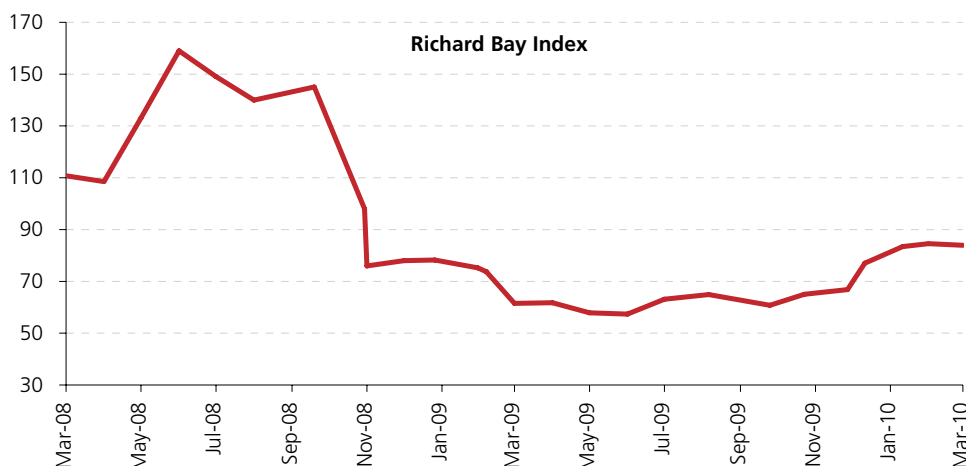
Expected cement capacity addition in India (mtpa)

Company	Plant	Region	State	Capacity	Status
Expected capacity addition between January 2010 and March 2010					
ACC	Kudithini	South	Karnataka	1.2	Completed
ACC	Wadi	South	Karnataka	0.2	Ongoing
Ambuja Cement	Dadri	North	Uttar Pradesh	1.5	Ongoing
Chettinad Cement	Karur	South	Tamil Nadu	0.6	Completed
Chettinad Cement	Karikalli	South	Tamil Nadu	0.2	Completed
Chettinad Cement	Ariyalur	South	Tamil Nadu	2.6	Completed
Dalmia Cements	Dalmiapuram	South	Tamil Nadu	2.5	Ongoing
Grasim	Kotputli	North	Rajasthan	3.2	Ongoing
Jaiprakash	Roorkee	North	Uttar Pradesh	1.2	Completed
Jaiprakash	Wanakbori	West	Gujarat	1.5	Completed
Jaiprakash	Chunar	North	Uttar Pradesh	2.0	Ongoing
Jaiprakash	Himachal Pradesh	North	Himachal Pradesh	3.0	Ongoing
JK Cement	Karnataka	South	Karnataka	2.7	Ongoing
JK Lakshmi	Sirohi	North	Rajasthan	0.7	Ongoing
Kesoram Industries	Sedam (Vasavadatta)	South	Karnataka	1.7	Completed
Lafarge	Sonadih	Central	Madhya Pradesh	2.0	Ongoing
Murli Industries	Murli Industries	West	Maharashtra	2.0	Ongoing
Raghuram	Kadappa	South	Andhra Pradesh	1.9	Ongoing
Zuari	Tadipatri	South	Andhra Pradesh	2.5	Ongoing
Expected capacity addition between Jan-10 and Mar-10				33	
Cement capacity in India until Dec-09				244	
Likely cement capacity in India by Mar-10				277	
Trailing 12-months cement consumption in India				175	

Source: CMA, Company, Kotak Institutional Equities estimates

- **Higher freight and fuel costs.** We highlight the steep increase in fuel and freight costs over the past few months. Exhibit 14 shows that global coal prices have increased 30% over the past six months. The Government of India raised diesel prices by about 8% recently, which would result in higher freight costs; transport companies have raised freight charges consequently.

Exhibit 14: International coal prices have risen in the past few months
FOB prices for coal exports from Richard Bay, South Africa (US\$/ton)



Source: Bloomberg, Kotak Institutional Equities

As a corollary, we are surprised by the multiples being ascribed by the market to cement stocks. Most cement stocks trade at quite rich valuations (see Exhibit 15) despite potential large risks to consensus and our earnings estimates. For example, ACC stock trades at 12.5X FY2011E DACF, 8.3X EBITDA, 18.8X EPS and US\$164/ton of FY2011E cement production. We note that our pricing and profitability assumptions result in a respectable CROCI of 14% for the three top companies under our coverage in both FY2011E and FY2012E. This is above WACC (12-13% typically), which would suggest that our pricing assumptions reflect a mid-cycle rather than a below mid-cycle or trough pricing environment. A company earning mid-cycle earnings should logically trade at EV/DACF of around 8X assuming WACC of 12-13%; even with a 2% growth in cash flows in perpetuity to adjust for inflation, we note that the mid-cycle EV/DACF should be around 10X.

Exhibit 15: Certain cement stocks are trading at rich multiples
Cement comparative valuation, March fiscal year-ends, 2008-11E

Company	Market cap. (US\$ mn)	CMP (Rs) 12-Mar	EPS (Rs)				P/E (X)			
			2008	2009	2010E	2011E	2008	2009	2010E	2011E
ACC	4,131	1,000	64	56	83	53	15.6	17.8	12.0	18.8
Ambuja Cements	3,900	116	7.6	7.2	8.0	6.9	15.4	16.2	14.6	16.8
Grasim Industries	5,832	2,891	285	239	297	289	10.2	12.1	9.7	10.0
India Cements	749	121	24	18	14	12	4.9	6.8	8.8	9.7
Jaiprakash Associates	6,742	145	3.3	2.0	4.3	7.0	43.7	72.7	34.1	20.8
Shree Cement	1,747	2,280	90	175	267	229	25.3	13.0	8.5	10.0
UltraTech Cement	3,031	1,107	81	79	90	65	13.6	14.0	12.3	17.1

Company	Target price (Rs)	Rating	EV/EBITDA (X)				EV/ton of production (US\$)			
			2008	2009	2010E	2011E	2008	2009	2010E	2011E
ACC	800	REDUCE	8.5	9.0	6.5	8.3	194	184	180	164
Ambuja Cements	92	REDUCE	7.5	8.7	8.0	8.5	217	212	200	188
Grasim Industries	2,500	REDUCE	6.1	7.1	5.3	5.3	NA	NA	NA	NA
India Cements	100	REDUCE	4.2	5.1	5.4	5.6	114	128	106	98
Jaiprakash Associates	170	BUY	19.1	23.6	15.9	14.1	NA	NA	NA	NA
Shree Cement	2,400	BUY	8.8	7.9	4.8	4.4	273	213	168	140
UltraTech Cement	900	REDUCE	8.5	8.7	7.1	8.7	198	191	172	151

Source: Company data, Kotak Institutional Equities estimates

Consumer: Not king

Indian consumer companies enjoy exceptionally high CROCI rates as can be seen in Exhibit 16. However, we would clarify that investment in brands through ongoing large advertisement and promotion expenses does not reflect in fixed tangible assets (cash invested). The key factors driving high return ratios are (1) high asset turnover ratio (5X typically), (2) ability to do business by outsourcing production to smaller companies; this results in very limited capital investment, (3) high gross margins due to reasonably strong brand franchise in most cases and (4) ability to leverage scale in distribution, sourcing and negative working capital.

We expect returns to sustain in the near term, while they could trend lower in certain cases in the medium term (3-5 years). There is potential to improve working capital further, in our view. For example, HUL reduced its inventory holding to 72 days in FY2009 from 83 in FY2008. This is likely to improve further in FY2010E as the company has fully implemented SAP. We expect inventory days for most consumer companies to likely improve in FY2012E as they will rationalize their distribution (lower number of sales depots) post GST roll-out.

Exhibit 16: Indian consumer companies enjoy exceptionally high CROCI
CROCI of consumer companies, March fiscal year-ends, 2005-12E (%)

	2005	2006	2007	2008	2009	2010E	2011E	2012E
Asian Paints								
Cash return (Rs bn)	2	2	3	4	4	7	8	9
Cash invested (Rs bn)	9	10	10	11	14	18	22	25
CROCI (%)	22	25	28	34	27	39	38	38
Colgate-Palmolive								
Cash return (Rs bn)	1	2	2	2	2	3	4	4
Cash invested (Rs bn)	2	2	2	2	2	2	3	4
CROCI (%)	57	65	75	81	128	172	135	120
Hindustan Unilever								
Cash return (Rs bn)	12	12	14	16	22	21	24	27
Cash invested (Rs bn)	17	13	13	13	18	15	15	17
CROCI (%)	67	92	107	119	126	142	163	156
ITC								
Cash return (Rs bn)	19	24	28	32	35	43	51	58
Cash invested (Rs bn)	64	72	88	110	129	139	163	185
CROCI (%)	30	33	32	29	27	31	31	32
Nestle								
Cash return (Rs bn)	3	4	4	5	6	8	10	11
Cash invested (Rs bn)	8	9	10	12	14	15	18	21
CROCI (%)	39	40	37	42	46	54	56	55

Note:

- (1) HUL: 2005-08 correspond to calendar years, ending December 2004-07; 2009 is adjusted for 15 months.
- (2) Nestle: 2004 corresponds to calendar year, ending December 2004.

Source: Company data, Kotak Institutional Equities estimates

We discuss the following key risks to the current high CROCI levels.

- ▶ **Removal of fiscal incentives.** Several Indian consumer companies enjoy various fiscal incentives such as exemptions on payment of excise duty and income tax. Many have set up manufacturing/assembly units in excise-concession and backward areas. Exhibit 17 details the same. We see risks to these companies' gross and PAT margins (post FY2013E in most cases) as the quantum of fiscal benefits begins to decline.

Exhibit 17: Excise benefits are mostly available till FY2015E, 100% income tax exemption gets over by FY2010E in most cases
Data on excise and income tax benefits available to consumer product companies

Facility location	Excise benefit expiry	100% income tax benefit expiry	Remarks
Colgate-Palmolive			
Baddi, Himachal Pradesh	FY2015	FY2010	
Hindustan Unilever			
Haridwar - Unit I, Uttaranchal	FY2015	FY2010	
Haridwar - Unit II, Uttaranchal	FY2019	FY2014	
Baddi, Himachal	FY2015	FY2010	
Doom Dooma, Assam	FY2012	FY2012	
Goa, Goa	Not available	FY2007	30% income tax exemption expiring in FY2011
ITC			
Haridwar, Uttaranchal	FY2016	FY2011	Excise benefits are relevant for ITC's cost-competitiveness versus competition Income tax benefits are irrelevant as FMCG business is in incubation stage
Nestle			
Pantnagar, Uttaranchal	FY2017	FY2012	

Source: Kotak Institutional Equities estimates

In particular, we highlight the case of Colgate-Palmolive. Colgate's cost competitiveness could come under threat in FY2011E as the company will see a reversal of trends seen in FY2005-09—(1) lower excise rates, down 650 bps to 3.6% (as a percentage of sales) and (2) and lower income tax rates, down 1,920 bps to 17.1%. We highlight that about 50% of Colgate's output is from excise-exempt zones, it's ~80% for HUL (in oral care).

- **Increased competition in certain segments.** Potential higher competitive activity in the sector given that the fragmentation of many personal care categories is inevitable. An analysis of three variables—penetration opportunity, category gross margins and combined market share of top-3 players—indicates that many consumer categories will likely see increasingly aggressive competition. Exhibit 18 details the same. However, higher market development spends could drive higher market growth as well, in our view. Exhibit 19 compares the per capita consumption in India in select consumer categories with other markets.

Exhibit 18: High penetration coupled with high margins can lead to market fragmentation
Penetration and gross margin of consumer products by category

	Category penetration (%)			Gross margin	Market share of top-3 players
	All India	Urban	Rural	(%)	(%)
Deodorants	2	6	1	50	55
Instant coffee	7	16	3	45	100
Shampoo	38	52	32	50	82
Skin cream	22	32	18	60	60
Toothpaste	49	75	38	55	85
Utensil cleaner	28	60	15	40	72

Source: HUL, Kotak Institutional Equities estimates

Exhibit 19: Headroom exists for per capita consumption growth

Per capita consumption of consumer products in major countries (US\$)

	Detergents	Ice creams	Shampoo	Skincare
Brazil	12.1	5.0	5.4	10.9
China	2.2	0.9	1.0	3.2
Germany	22.9	50.9	7.5	36.6
India	1.4	0.2	0.3	0.3
Indonesia	1.9	2.8	1.1	0.8
USA	16.6	34.6	6.7	26.9

Source: HUL, Kotak Institutional Equities estimates

- **Changes in distribution.** We see a potential reversal in the current phenomenon of negative working capital as a contribution of modern retail outlets increase over time. Currently, the contribution of modern retail in FMCG sales is ~7% and industry leaders (HUL, Dabur) expect this to increase to ~20% by FY2018E. The terms of trade of consumer companies with modern retailers typically involve (1) higher trade margins compared with general trade and (2) a longer credit period; companies sell to general trade mostly on cash and any credit risk is on the books of the distributor.

Energy: Implementation of regulations will result in a sharp drop in returns for gas transportation and distribution businesses

Exhibit 20 shows that Indian gas transportation and distribution companies enjoy very high CROCI. We restrict our discussion to RIL and the gas transportation and distribution segment as the government's perverse influence on the pricing of regulated oil products (diesel, gasoline, kerosene and LPG) renders any analysis of companies in the E&P and R&M segments meaningless.

Exhibit 20: Pipeline companies in India earn very high returns on investment, which may not sustain CROCI of energy sector companies, March fiscal year-ends, 2005-12E (%)

	2005	2006	2007	2008	2009	2010E	2011E	2012E
GAIL India								
Cash return (Rs bn)	27	27	24	28	29	32	34	49
Cash invested (Rs bn)	137	135	155	168	182	194	224	370
CROCI (%)	20	20	15	17	16	17	15	13
GSPL								
Cash return (Rs bn)	1	1	2	3	3	7	11	12
Cash invested (Rs bn)	9	9	19	18	24	35	44	47
CROCI (%)	12	16	11	17	14	21	25	25
Petronet LNG								
Cash return (Rs bn)	1	4	5	6	6	6	9	11
Cash invested (Rs bn)	18	21	21	19	22	38	41	43
CROCI (%)	7	17	22	32	29	17	22	24
Reliance Industries								
Cash return (Rs bn)	110	124	172	205	202	246	301	336
Cash invested (Rs bn)	601	657	839	944	1,083	1,815	1,831	1,840
CROCI (%)	18	19	20	22	19	14	16	18

Source: Company data, Kotak Institutional Equities estimates

- ▶ **Government-owned E&P and R&M companies.** At this point, there is no visibility on the nature and timing of deregulation, if any, of pricing of oil and gas and it would be meaningless to quantify the impact of deregulation on the long-term CROCI of the government-owned E&P and R&M companies. We highlight that the profitability and CROCI of these companies over the past several years have been well below the returns they would have generated in a free-market scenario. However, we can say that the returns of the government-owned R&M companies (BPCL, HPCL and IOCL) would improve sharply on (1) deregulation of pricing of regulated oil products and/or (2) provision of full compensation from the government for selling regulated oil products below free market prices. The returns of the government-owned E&P companies would also improve meaningfully as their net realized crude oil price would be similar to global oil prices; their returns would increase further from a proposed increase in the price of APM gas (currently capped at around US\$2/mn BTU).
- ▶ **RIL.** We project RIL's CROCI to remain at 17-18% in FY2011-12E pulled down by weak performance of the chemical and refining segments despite full production of gas from its KG D-6 block. We see risks (upside or downside) to our projections from two areas.
 - **No income tax exemption on gas production from KG D-6 block.** We compute that FY2011E and FY2012E CROCI would decline to 15.3% and 16.9% if it has to pay full income tax on gas production from its KG D-6 block. We and the street assume that KG D-6 gas production would enjoy 100% income tax exemption for the first seven years of production. However, the finance ministry's view appears to be that the exemption is not available for gas production from NELP I-VII blocks.
 - **Chemical and refining margins.** We note that RIL's returns are a function of global cycles and would depend significantly on global chemical and refining margins. However, we expect its returns to be less volatile in the future with the E&P segment likely to contribute to a larger portion of its EBITDA (42% in FY2012E from 11% in FY2009). We note that RIL's CROCI have not been spectacularly high even at the peak of the chemical and refining cycles.
- ▶ **Gas transportation and distribution companies.** Exhibit 21 shows that all the major gas transportation and distribution companies earn returns (CROCI, ROAE or ROACE) that are significantly above the regulated returns prescribed by the regulator—12% post-tax ROCE for pipeline transportation companies and 14% post-tax ROCE for city gas distribution companies. We would caution that the returns are constrained in a few cases by ongoing capital investments in new pipelines; actual returns are in fact higher. Also, ROACE and ROAE for GSPL may be depressed historically due to its practice of using very high book depreciation rates (8.33%) for pipelines, which reduces reported net income or EBIT. CROCI may be more relevant in the case of GSPL.

Exhibit 21: Indian gas transportation and distribution companies earn very high returns

Returns of natural gas transportation and distribution companies, March fiscal year-ends, 2006-10E (%)

	2006	2007	2008	2009	2010 (a)
ROACE					
GAIL	20	16	18	17	16
GAIL gas transmission segment	44	34	23	18	23
GSPL	10	10	8	9	17
Gujarat Gas	25	20	29	23	
Indraprastha Gas	27	30	32	26	
ROAE					
GAIL	22	21	19	18	18
GSPL	7	9	9	10	28
Gujarat Gas	26	21	29	23	
Indraprastha Gas	28	30	32	26	
CROCI					
GAIL	20	15	17	16	17
GSPL	16	11	17	14	20
Gujarat Gas	24	20	32	27	
Indraprastha Gas	31	35	37	30	

Note:

(a) Data for FY2010 is annualized.

(b) Data for Gujarat Gas is calendar year-ending.

Source: Company data, Kotak Institutional Equities estimates

We see large downside risks to the earnings of all the gas transportation and distribution companies from a strict implementation of regulations. We note that the new regulations are effective from November 20, 2008 but the regulator has not been able to make much progress in determining the tariffs given the recalcitrant attitude of the companies; some do not recognize the authority of the regulator and have not submitted data to the regulator, others have submitted patchy data.

Industrials: BHEL is a candidate for de-rating over time

Exhibit 22 shows the CROCI of BHEL and L&T, the two largest players in the engineering and construction (E&C), industrials sector. We do not see any change in the underlying drivers that would impact the returns of these companies in the short term. However, we highlight certain long-term trends that would impact BHEL's returns negatively. We believe the street will likely take cognizance of these issues over a period of time, which would result in a gradual de-rating of BHEL's multiples. BHEL's current high multiples (21X FY2011E EPS) would suggest that the market expects the company to generate such high returns and/or grow earnings strongly in perpetuity.

Exhibit 22: BHEL's returns and valuations may be eroded over a period of time

CROCI of Industrials companies, March fiscal year-ends, 2005-12E (%)

	2005	2006	2007	2008	2009	2010E	2011E	2012E
BHEL								
Cash return (Rs bn)	10	16	22	22	25	41	53	62
Cash invested (Rs bn)	53	57	50	39	35	76	112	129
CROCI (%)	19	28	44	57	72	54	47	48
Larsen & Toubro								
Cash return (Rs bn)	6	8	13	20	27	30	36	44
Cash invested (Rs bn)	45	43	43	59	104	122	158	188
CROCI (%)	13	19	30	34	26	25	23	23
Total								
Cash return (Rs bn)	16	24	35	43	52	71	89	106
Cash invested (Rs bn)	99	100	93	98	139	197	270	317
CROCI (%)	16	24	37	43	38	36	33	33

Source: Company data, Kotak Institutional Equities estimates

- ▶ **BHEL enjoys very high CROCI as the incumbent; it may be challenged as competition ramps up.** BHEL has had high CROCI historically as it is the preferred power equipment supplier for public sector-dominated power generation capacity addition. A large order backlog of Rs1.34 tn supports earnings growth with modest capital expenditure requirements relative to revenue size. Also, it helps reduce working capital requirements through advances from customers. In our view, BHEL's large order backlog and long lead-time for power plant execution will likely mitigate the impact of competition and other negative developments on BHEL's margins and CROCI over the next 3-4 years. We also highlight several positives such as (1) diminishing threat of competition from Chinese equipment manufacturers in the super-critical space, (2) government policy favoring companies with domestic manufacturing facilities and (3) ramp-up of its manufacturing capacity to 20 GW by end-FY2012E.

We highlight several concurrent changes in the dynamics of the power equipment market—new manufacturing capacities from new private players, demand-side drivers and technology—that may erode BHEL's competitive advantages, margins and returns in the long term.

- **Enhanced domestic competition.** The power equipment manufacturing segment is likely to become more competitive with several private players setting up domestic manufacturing capacities. We expect private players to set up manufacturing capacity of about 10-12 GW by FY2012-13E; Exhibit 23 gives the break-down of the same. We note that L&T-Mitsubishi has already secured two of the four recent orders in the super-critical segment—1,320 MW JP Nigrie order from JP Group and the 1,980 MW Koradi order from MAHGENCO. Others such as JSW-Toshiba, Bharat Forge-Alstom, BGR Energy, Gammon India (through acquisition of Ansaldo Caldie) and Thermax are also trying to enter the power equipment market. BHEL has faced competition in the past from equipment manufacturers from China and South Korea—though not significantly as it only lost small business from small private utility players to the competition while the larger public sector players largely stayed loyal.

Exhibit 23: Power equipment manufacturing capacity may exceed the likely demand of about 18,000 GW pa over the next few years
Details of capacity addition by various players (MW/annum)

	Structure	Investment (Rs mn)	Boiler capacity (MW/annum)	Turbine capacity (MW/annum)	Schedule
L&T-Mitsubishi	51:49	15,000	4,000	4,000	Jun-10
JSW-Toshiba	25:75	11,800	—	3,000	Jun-11
Bharat Forge-Alstom	49:51	24,000	—	5,000	Jun-11
Thermax-B&W	51:49	7,000	3,000	—	
GB Engineering-Ansaldo (Gammon)	15:85		2,000	—	
Total capacity of new players			9,000	12,000	
BHEL current capacity			15,000	15,000	
BHEL incremental capacity			5,000	5,000	Dec-11
Total BHEL capacity			20,000	20,000	Dec-11
Total supply capacity			29,000	32,000	

Source: Company data, Kotak Institutional Equities

- **Private utilities dominate capacity addition and tariff-based bidding to become the norm.** We believe ongoing changes in the industry could potentially trigger price-based competition and dilute BHEL's high return ratios. (1) Private sector players, who increasingly dominate new power generation capacity addition, would focus on the most competitive offer among various equipment suppliers. We expect the private sector to dominate new orders based on large opportunity size, government facilitation (regulatory framework, captive coal block allocation etc.), and withdrawal of state government investments as they tie up supplies from private sector based on Case-I and Case-II biddings. (2) We believe tariff-based competitive bidding would become mandatory for public sector power projects also and thus, the cost of equipment would become prominent than in the current cost-plus market.

- **Technology.** We highlight that there has been a shift towards super-critical technologies in the recent past and expect this trend to continue in the XIIth five-year plan. Supercritical technology offers several advantages to power generation players such as improved thermodynamic efficiency, operational flexibility, reduced pollution levels etc. We highlight that this limits the degree to which BHEL can leverage its past experience as it has primarily operated in the sub-critical segment so far.
- ▶ **L&T.** L&T commands high CROCI (23-24%) but not abnormally high CROCI as is the case with BHEL. L&T primarily operates in the competitive E&C space where returns are lower compared to the power equipment space. We expect L&T's high CROCI (compared to WACC) to continue based on (1) relatively lower competition in projects with large scale and scope such as Delhi and Mumbai airport projects, (2) inability of local peers to develop capabilities to execute large metal, petrochemical, upstream oil and gas projects etc., limiting competition to a handful of global players, (3) contribution from high value manufacturing and fabrication such as process reactors etc., and (d) efficient working capital management.

Media: Not really a CROCI business but high profitability incentivizes novices

Exhibit 24 presents the CROCI of large media companies (broadcasting) under our coverage. We expect the high profitability of media companies to continue in the near term driven by (1) cyclical upturn in advertising spends due to recovery in the Indian economy and (2) high competitive intensity in consumer industries such as automobiles and FMCG, as highlighted in the report. However, we assume (1) relatively stable competitive intensity and thus, (2) relatively limited cost pressures including muted investments in intangible assets (content, movies). We discuss the likely risks to high profitability and returns of media stocks below.

Exhibit 24: Media is not really a CROCI business

CROCI of media (broadcasting) companies, March fiscal year-ends, 2005-12E (%)

	2005	2006	2007	2008	2009	2010E	2011E	2012E
Sun TV Network								
Cash return (Rs bn)	0.9	1.4	2.6	3.4	4.0	5.5	6.7	7.9
Cash Invested (Rs bn)	2.1	3.6	4.5	8.6	12.6	18.5	20.8	22.9
CROCI (%)	42	38	58	40	32	29	32	34
Zee Entertainment (a)								
Cash return (Rs bn)	3.4	2.2	2.3	4.0	4.2	4.1	5.1	6.1
Cash Invested (Rs bn)	9.6	7.5	7.8	8.5	14.2	14.3	15.4	17.0
CROCI (%)	35	30	30	47	30	29	33	36
Media								
Cash return (Rs bn)	4.2	3.6	4.9	7.4	8.3	9.6	11.8	14.0
Cash Invested (Rs bn)	11.7	11.2	12.2	17.1	26.8	32.8	36.3	39.8
CROCI (%)	36	32	40	43	31	29	33	35

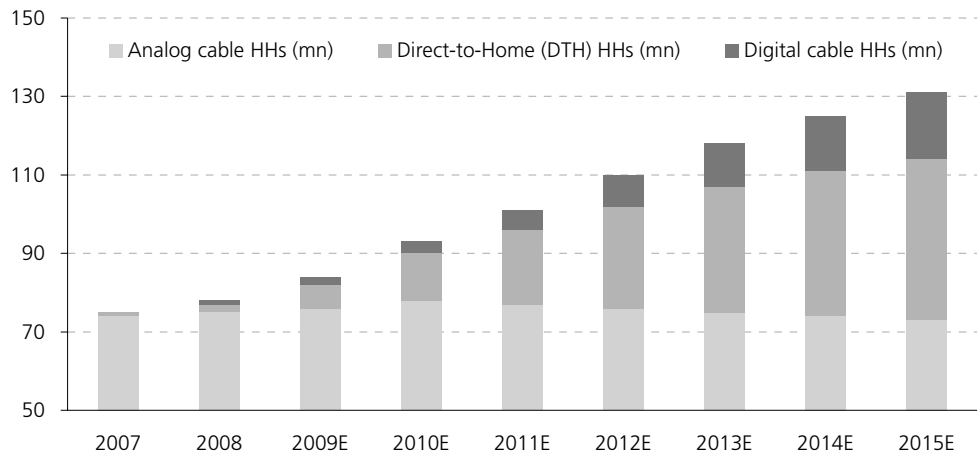
Note:

(a) Including only Zee's core operations; excluding Zee News R-GECs to be merged starting January 01, 2010.

Source: Company data, Kotak Institutional Equities estimates

- ▶ **Digital distribution to provide easier entry to new broadcasters.** The Indian C&S distribution market has been historically dominated by analog cable, which acts as an effective entry barrier to competition given limited capacity (106 channels), high cost of distribution (carriage and placement fees) and a dominance of legacy broadcasters with strong bouquet of channels. However, the entry and rapid spread of digital platforms like DTH in India (see Exhibit 25; expansion of digital cable will likely begin now with capital being raised by cable operators) will likely ease capacity constraints (200-250 channels right now, 450-500 channels in 3-5 years time) and allow new channels to be launched with relative ease. Additionally, the time and effort involved in distribution will also reduce given the relatively large-size of digital distribution players (industry consolidation is already ongoing) versus the unorganized, fragmented analog cable networks currently. However, robust growth in pay-TV revenues given strong growth in digital, addressable platforms may negate the negatives, at least in the near term.

Exhibit 25: We model a steep increase in DTH and digital cable homes
 Estimation of TV HHs and C&S HHs in India, March fiscal year-ends, 2007-2015E (mn)

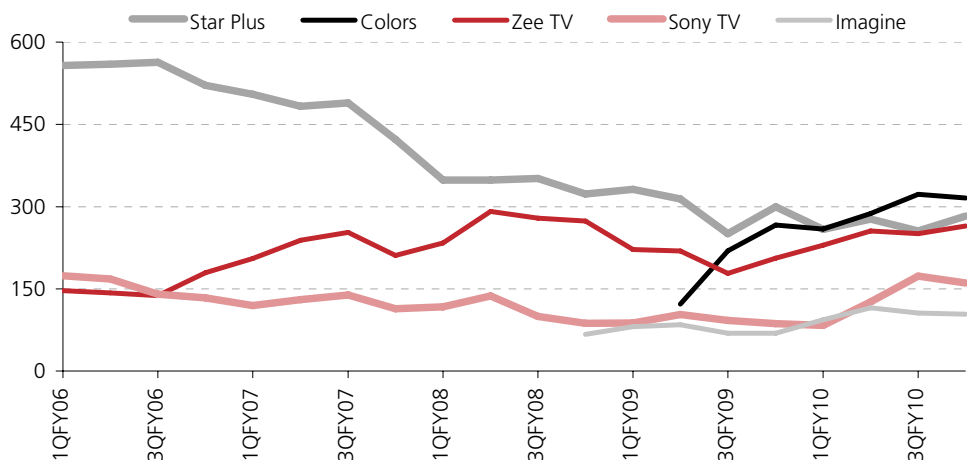


Source: Industry data, Kotak Institutional Equities estimates

► **Increasingly aggressive competition (again), notably in regional markets.**

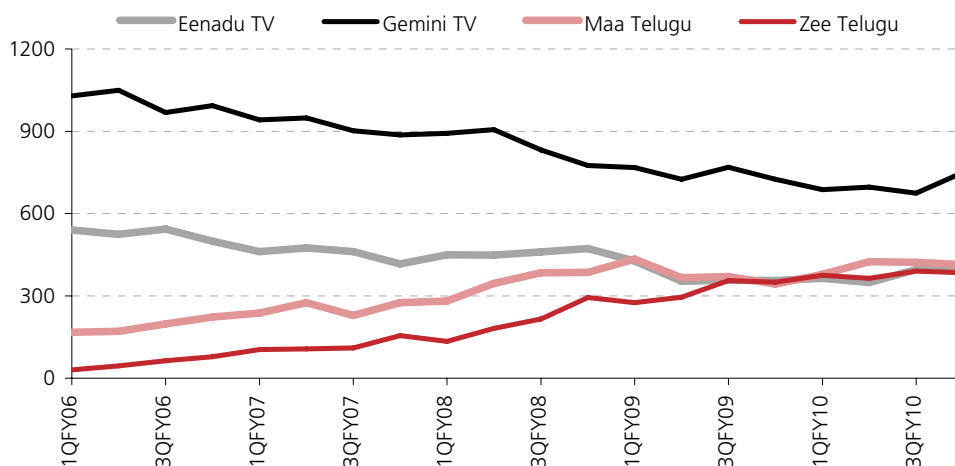
The Indian broadcasting industry, notably the large and visible Hindi GE segment, saw considerable competitive action in the last 2-3 years with the launch of several new channels riding on (1) the strong growth in the industry (18-20% CAGR in advertising revenues) and (2) high profitability of existing broadcasters. The entry of new players (notably Colors) fragmented the market and impacted the growth and profitability of legacy players such as Zee (see Exhibit 26). The regional language markets are now becoming more competitive with the launch of several new channels resulting in market share loss for legacy players such as Sun TV (see Exhibit 27). However, the fight for market share will be a prolonged affair given vertically integrated broadcasting and distribution operations in geographically-limited regional markets versus the more widespread Hindi markets.

Exhibit 26: The Hindi broadcasting market has become intensely competitive
 GRPs of key Hindi language channels in Hindi-speaking markets (%)



Source: TAM Media Research, Kotak Institutional Equities

Exhibit 27: Incumbent Gemini TV lost market share on entry of new players
GRPs in Andhra Pradesh market for key Telugu language channels (%)



Source: TAM Media Research, Kotak Institutional Equities

► **Limited scope for further cost rationalization, investment postponement.**

The industry largely maintained its high level of profitability/returns with significant cost rationalization measures during the economic slowdown and deferment of large investment plans (a driver of future growth). We model (1) robust recovery in advertising revenues and (2) lower growth in costs versus revenues to boost its already high level of profitability. However, costs may grow faster than expectations; the price of rights of movie telecast (popular and widely-traded content) for broadcasters had declined 35-40% from peak levels in FY2010 but this trend appears to have reversed, going by some recently concluded deals between broadcasters and movie studios.

Metals: Fundamentals may triumph over speculation at some point

Exhibit 28 gives the CROCI of leading metal companies under our coverage in FY2005-12E. We focus on factors other than prices and margins that will drive the profitability and returns of companies in this deep cyclical sector. Nonetheless, prices and margins will have an overbearing impact on profitability and returns in this business. In our view, industry returns could collapse if fundamentals become more relevant over a period of time, as they should eventually, as opposed to financial speculation in commodities. We note that fundamentals for most base metals are quite weak and will likely remain so for the next 1-2 years.

Exhibit 28: CROCI of metal companies may depend more on prices and profitability
CROCI of metal companies, March fiscal year-ends, 2005-12E (%)

	2005	2006	2007	2008	2009	2010E	2011E	2012E
Hindalco								
Cash return (Rs bn)	17	23	31	68	23	57	67	70
Cash invested (Rs bn)	103	137	143	306	356	407	420	425
CROCI (%)	17	17	21	22	6	14	16	16
Hindustan Zinc								
Cash return (Rs bn)	6	16	45	40	23	37	43	52
Cash invested (Rs bn)	26	36	40	56	59	87	100	113
CROCI (%)	24	43	111	71	38	43	43	46
Jindal Steel & Power								
Cash return (Rs bn)	7	8	11	19	43	50	57	58
Cash invested (Rs bn)	30	38	53	88	136	138	147	157
CROCI (%)	24	22	21	22	31	36	39	37
JSW Steel								
Cash return (Rs bn)	15	13	20	26	25	34	45	58
Cash invested (Rs bn)	77	87	104	197	242	245	335	405
CROCI (%)	20	15	20	13	10	14	14	14
NALCO								
Cash return (Rs bn)	17	18	25	16	13	7	19	19
Cash invested (Rs bn)	90	91	91	91	96	99	101	102
CROCI (%)	19	20	27	18	13	7	19	18
Sesa Goa								
Cash return (Rs bn)	5	6	7	16	19	21	32	41
Cash invested (Rs bn)	7	9	11	12	20	22	28	31
CROCI (%)	70	66	62	125	96	94	116	131
Sterlite								
Cash return (Rs bn)	12	27	71	61	40	47	58	76
Cash invested (Rs bn)	90	130	157	177	173	268	283	371
CROCI (%)	14	21	45	34	23	18	21	20
Tata Steel								
Cash return (Rs bn)	42	42	50	142	142	49	125	138
Cash invested (Rs bn)	132	155	165	1,295	1,259	1,284	1,328	1,396
CROCI (%)	32	27	30	11	11	4	9	10

Note:

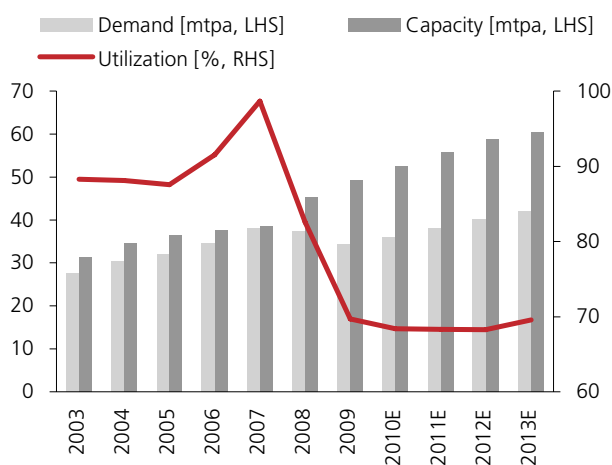
- (1) Tata Steel is based on standalone financials up to FY2007; Corus financials have been consolidated from FY2008.
- (2) JSW is based on standalone numbers up to FY2007; US subsidiary and SISCOL have been consolidated from FY2008.
- (3) Hindalco is based on standalone numbers up to FY2007; Novelis has been consolidated from FY2008.

Source: Company data, Kotak Institutional Equities estimates

We are quite perplexed by the current global prices of most base metals given the large supply-demand imbalance and significantly lower cost of production for marginal players. For example, we expect CY2010E global aluminum demand of 36 mn tons to be well below CY2010E year-end capacity of 53 mn tons (see Exhibit 29). At the same time, the cost of production of the 80th percentile aluminum producer is around US\$1,800/ton versus the current spot aluminum price of US\$2,194/ton. Exhibit 30 shows the same issue for zinc.

Exhibit 29: Global aluminum capacity well above global demand for the next few years

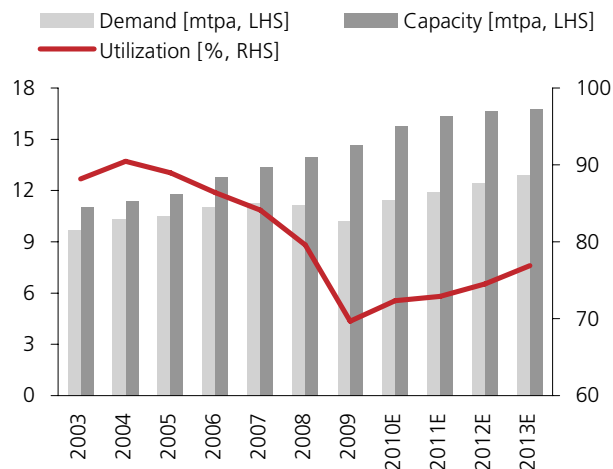
World demand and capacity (mtpa) and capacity utilization (%), CY2003-13E



Source: CRU, Kotak Institutional Equities estimates

Exhibit 30: Global zinc supply-demand balance looks bad for the next few years

World demand and capacity (mtpa) and capacity utilization (%), CY2003-13E



Source: CRU, Kotak Institutional Equities estimates

- ▶ **Ferrous.** We expect CROCI for steel companies to remain stable over the next two years. Tata Steel's returns will depend more on the profitability of its European operations and any sharp revival at Corus could lead to higher-than-expected returns. In the case of Jindal Steel and Power, power business returns could decline led by a fall in merchant power tariffs even though we expect steel business returns to remain stable.

We note that most steel-making companies will complete their ongoing expansion projects over the next two years. This will likely result in volume expansion as demand growth will likely remain strong. Additionally, companies (Tata Steel and JSW) are increasing their value-added steel capacity by setting up hot-strip mills and cold-rolling facilities. Besides, the steel industry could see a number of joint ventures with international steel companies (like the Tata Steel-Nippon JV, JSW-JFE Corporation tie-up) for making higher-grade steel.

Raw material sources could play an important role for steel-making companies over the next 2-3 years. We believe companies with captive raw material sources (Tata Steel, JSPL) could have a significant cost advantage over peers. The industry could see a number of acquisitions with steel companies acquiring mines/companies with mines over the next few years. Finally, government action could have a significant impact over profitability and returns of the steel industry in the next two-three years, this action could come by way of (1) allotment of iron ore and coal mines for captive purposes, (2) imposition/increase in duties on export of iron ore, (3) change in royalty on mining and (4) control over steel prices.

- ▶ **Non-ferrous.** We expect CROCI for non-ferrous companies to sustain led by (1) an increase in capacities (see Exhibit 31) and (2) their low cost of operations. We believe that higher volumes will be the key growth driver for Indian companies. We note that global demand-supply may not be relevant as Hindalco, NALCO and Sterlite are amongst the lowest-cost producers in the world. Also, domestic companies would continue to be profitable even at depressed prices on account of their low cost of operations; however, their profitability and returns would depend on global prices.

Exhibit 31: Details of capacity additions by non-ferrous companies in India
Capacity addition in base metals in India, March fiscal year-ends, 2010-15E (tpa)

Commodity	Company	2010E	2011E	2012E	2013E	2014E	2015E
Aluminum	Sterlite Industries	—	325,000	—	—	—	—
Aluminum	Vedanta Aluminum	500,000	937,500	312,500	—	—	—
Aluminum	NALCO	—	115,000	—	—	—	—
Aluminum	Hindalco	—	—	2,276,000	—	359,000	—
Copper	Sterlite Industries	—	—	400,000	—	—	—
Lead	Hindustan Zinc	—	100,000	—	—	—	—
Zinc	Hindustan Zinc	—	210,000	—	—	—	—

Source: Company data, Kotak Institutional Equities

Technology: Strong growth will sustain profitability and returns

We expect a gradual decline in the CROCI of the Indian IT services companies over the next three years (see Exhibit 32) after a sharp drop in FY2010E driven by sharp pricing pressure and low volume growth, which in turn was due to a weak operating environment. The following factors and the response of the Indian IT services companies to the same will determine the pace of decline in return ratios for the industry.

Exhibit 32: Technology is a different ball game altogether
CROCI of technology companies, March fiscal year-ends, 2005-12E (%)

	2005	2006	2007	2008	2009	2010E	2011E	2012E
HCL Tech								
Cash return (Rs bn)	21	21	21	21	20	19	19	18
Cash invested (Rs bn)	33	36	48	44	39	57	64	71
CROCI (%)	63	58	43	47	51	34	30	26
Infosys								
Cash return (Rs bn)	20	28	39	45	62	64	73	87
Cash invested (Rs bn)	29	29	58	59	86	93	112	131
CROCI (%)	69	95	67	77	72	69	66	67
TCS								
Cash return (Rs bn)	25	32	44	52	62	74	85	94
Cash invested (Rs bn)	26	43	56	78	79	105	127	147
CROCI (%)	93	73	80	68	79	71	67	64
Wipro								
Cash return (Rs bn)	18	22	30	36	45	52	60	67
Cash invested (Rs bn)	29	37	41	74	90	115	134	155
CROCI (%)	62	61	72	48	51	45	45	44
Total								
Cash return (Rs bn)	84	103	134	155	189	210	238	267
Cash invested (Rs bn)	117	146	203	255	293	370	437	504
CROCI (%)	71	71	66	61	65	57	54	53

Source: Company data, Kotak Institutional Equities estimates

- ▶ **Increasing commoditization of service lines.** We expect pricing pressure on service lines aligned towards the traditional 'staff augmentation' business of the offshore players, primarily application development services. Companies will likely have to move to non-linear delivery models to prevent a sharp decline in profitability of these service lines. Impact on profitability and return ratios will depend on quality of execution on some of these newer models.
- ▶ **Investments required to 'move up the value chain'.** Indian IT services players increasingly compete against global system integrators—they will have to use their balance sheets more aggressively to compete effectively against these players. We see the following key areas of investment—(1) entry into asset-heavy business areas like asset-takeover infrastructure or total outsourcing deals, (2) increasing technical depth of employees; develop IT architecture blueprinting capabilities, (3) developing consulting capabilities, and (4) investing in 'rainmakers'—partner-level employees to drive large deals and CXO relationships. Some of these investments may help improve CROCI in the long run, but are CROCI-dilutive in the near term.

- ▶ **Return to 'fight for talent'.** A slowdown in revenue growth over the past 5-6 quarters has resulted in moderate wage inflation in the industry. However, we expect another phase of high wage inflation for the industry with (1) healthy industry volume growth of 15-20% for the next 3-5 years and (2) little improvement in the quantum (and more important, quality) of fresh engineers entering the industry workforce. We expect a sustained yoy decline in margins for the industry with pricing unlikely to improve in the near term and little headroom on other margin levers.
- ▶ **Increase in taxation rates.** We expect tax rates for the industry to rise from FY2012E due to the withdrawal of certain income tax exemptions available to the industry. We see the smaller IT companies suffering, particularly from the March 2011 withdrawal of income tax exemptions available to software technology parks (see Exhibit 33). The larger companies may be less impacted due to a larger portion of their operations in special economic zones (SEZ); however, this would also depend on the final shape of a new Direct Tax Code (DTC) being formulated by the government.

Exhibit 33: Effective tax rates for Indian IT companies set to increase post-STPI sunset (March 2011)
Effective tax rates of Indian IT companies, March fiscal year-ends, 2009-15E (%)

	2009	2010E	2011E	2012E	2013E	2014E	2015E
Tier-I							
Infosys	14.9	21.2	24.9	23.6	23.0	22.7	22.8
TCS	14.7	15.2	17.8	22.8	22.4	22.3	23.3
Wipro	12.3	15.8	17.9	21.3	21.6	22.3	23.2
Tier-II							
HCL Technologies	17.4	18.7	20.3	27.0	26.8	26.5	26.3
Hexaware	20.8	7.1	11.6	23.1	26.8	28.0	28.9
MindTree	11.1	14.5	14.5	22.1	23.1	24.1	24.7
Mphasis	4.6	6.6	10.6	18.2	24.9	25.0	25.2
Patni	13.5	18.7	18.8	27.1	30.0	30.0	30.1
Polaris	13.8	13.9	19.7	26.1	26.4	26.8	27.3

Source: Company data, Kotak Institutional Equities estimates

Telecom: Where have all the returns vanished?

Exhibit 34 shows the CROCI of the leading telecom companies in FY2005-12E under our coverage. We expect the return ratios of the Indian telecom players to continue their downward journey (sharp fall in FY2009 as well as FY2010E) over the next 2-3 years, driven primarily by competitive pressure in the wireless segment.

Exhibit 34: We model good returns for Indian telecom companies but that need not be the case
CROCI of telecom companies, March fiscal year-ends, 2005-12E (%)

	2005	2006	2007	2008	2009	2010E	2011E	2012E
Bharti Airtel								
Cash return (Rs bn)	25	38	68	105	144	147	138	152
Cash invested (Rs bn)	92	124	191	313	464	571	673	775
CROCI (%)	27	31	36	33	31	26	20	20
Idea								
Cash return (Rs bn)	8	10	15	22	28	31	31	37
Cash invested (Rs bn)	37	40	56	94	165	210	251	294
CROCI (%)	22	26	26	23	17	15	12	13
Reliance Communications								
Cash return (Rs bn)		23	57	80	93	75	68	86
Cash invested (Rs bn)		139	211	304	488	600	645	695
CROCI (%)		16	27	26	19	12	11	12
Total								
Cash return (Rs bn)	34	72	140	206	265	253	237	275
Cash invested (Rs bn)	130	303	458	711	1,117	1,381	1,569	1,764
CROCI (%)	26	24	30	29	24	18	15	16

Source: Company data, Kotak Institutional Equities estimates

- **Further wireless market share dogfight and decline in tariffs over the next 12-24 months.** We highlight that large investments have been made in the Indian wireless industry at a time when the industry is moving from a growth phase to a mature phase (see Exhibit 35). Several new players have entered the market over the past nine months, while a few more are expected to enter in the next three, the most important development has been the pan-India expansion of several incumbents (Aircel Idea, RCOM GSM, TTSL GSM and Vodafone).

Exhibit 35: Most urban markets appear fully saturated

Urban and rural total tele-density across states as of September 2009

Circle	Wireless tele-density (%)	
	Rural	Urban
Andhra Pradesh	17	115
Assam	15	72
Bihar	10	95
Delhi	0	140
Gujarat	26	78
Haryana	30	78
Himachal Pradesh	40	221
J&K	22	90
Karnataka	16	106
Kerala	30	143
Madhya Pradesh	10	72
Maharashtra	21	90
North East	19	74
Orissa	15	97
Punjab	31	99
Rajasthan	24	100
Tamil Nadu	30	99
Uttar Pradesh	12	84
West Bengal	18	82
All India	17	95

 Source: TRAI, Kotak Institutional Equities

This has resulted in substantial over-capacity in the system (see Exhibit 36); we estimate a 77% increase in urban wireless cell sites from December 2008 to March 2011 and the high-fixed-cost nature of the business makes network-fill paramount to any long-term business plan. A predominantly prepaid market and low switching costs mean negligible subscriber loyalty. These factors will cumulatively likely result in sustained tariff pressure in the Indian wireless segment over the coming months. In our view, battles in the wireless market will be fought on balance sheets, and not P&L considerations, not at least in the next 12-24 months.

Exhibit 36: We expect massive overcapacity in the urban markets

Data on number of cell sites of key operators (#)

	Cell site capacity estimates				Increase from December 2008 levels		
	Dec-08	Mar-09	Mar-10	Mar-11	Mar-09	Mar-10	Mar-11
Aircel	15,000	18,000	45,000	60,000	3,000	30,000	45,000
Bharti Airtel	88,319	93,368	105,000	120,000	5,049	16,681	31,681
BSNL	52,000	55,000	70,000	80,000	3,000	18,000	28,000
IDEA (including Spice)	45,000	49,800	65,000	80,000	4,800	20,000	35,000
Reliance - GSM	8,000	30,000	45,000	55,000	22,000	37,000	47,000
Reliance - CDMA	32,000	35,000	35,000	35,000	3,000	3,000	3,000
TTSL (CDMA)	14,500	15,000	20,000	20,000	500	5,500	5,500
TTSL (GSM)	—	—	30,000	40,000	—	30,000	40,000
Vodafone	67,000	70,000	90,000	100,000	3,000	23,000	33,000
Others	9,000	10,000	40,000	110,000	1,000	31,000	101,000
Total	130,500	160,000	260,000	360,000	29,500	129,500	229,500
Of which, urban	91,350	121,617	187,195	269,695	30,267	95,845	178,345
% increase over December 2008 levels		33	105	195			

Source: Company data, Press reports, Kotak Institutional Equities estimates

- ▶ 2G consolidation or 3G auction/launch have immediate 'cash invested' implications and long-term 'cash returns'. Our telecom team estimates the total license fees for the four 3G licenses on offer at about Rs350-450 bn. This investment of about Rs80-100 bn per operator for a pan-India 3G license is unlikely to result in commensurate returns for at least 2-3 years. However, we believe most operators will build aggressively based on a long-term view of the market (aggressive tactic of new operators) and market share (defensive tactic of incumbent operators to prevent migration of extant subscribers to 3G networks of new operators) considerations.
- ▶ **Increase in tax rates.** We expect a gradual increase in effective tax rate of the Indian telecom players as tax exemptions available to them in various telecom circles start phasing out. Exhibit 37 shows that Bharti's effective tax rate will likely increase over the next few years and pull down its returns; many of Bharti's 'old' circles are on the verge of moving into higher income tax brackets. An Indian telecom company can claim 100% income tax exemption in the first five years and 30% in the next five provided that it claims the tax exemption in a single block of 10 years within 15 years from the start of operations. Bharti Airtel started its operations in Delhi in 1996.

Exhibit 37: Indian wireless operators close to completing 15 years of operations in various circles

Effective tax rate of Bharti, March fiscal year-ends, 2009-17E

	2009	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E
Effective tax rate (%)	7.9	18.8	18.6	21.6	28.0	28.2	29.3	32.8	32.7
Circles out of tax exemption	None	None	Chennai	AP	None	None	None	None	Punjab
			Delhi	Karnataka					
			Kolkata	HP					
				Rajasthan					

Source: Kotak Institutional Equities estimates

Utilities: Regulated returns; merchant returns would be interesting to watch

Exhibit 38 shows the CROCI of the leading utilities companies in FY2005-12E. We note that analysis of companies/power capacities operating under typical PPA contracts may not be insightful as these entities will earn the regulated rate of return. However, the sector is an inflection point with new capacities progressively being built on a merchant power basis.

We note that assumptions on merchant power rates would have a material bearing on the financial returns (CROCI) and valuation of merchant power companies. However, there is limited visibility on the medium-term and long-term merchant power rates; most observers see merchant power rates at between Rs3/kwh and Rs4.5/kwh in the long term. However, this wide variation in views results in wide deviation in valuations of merchant power producers, many of whom are in their early stages of operations.

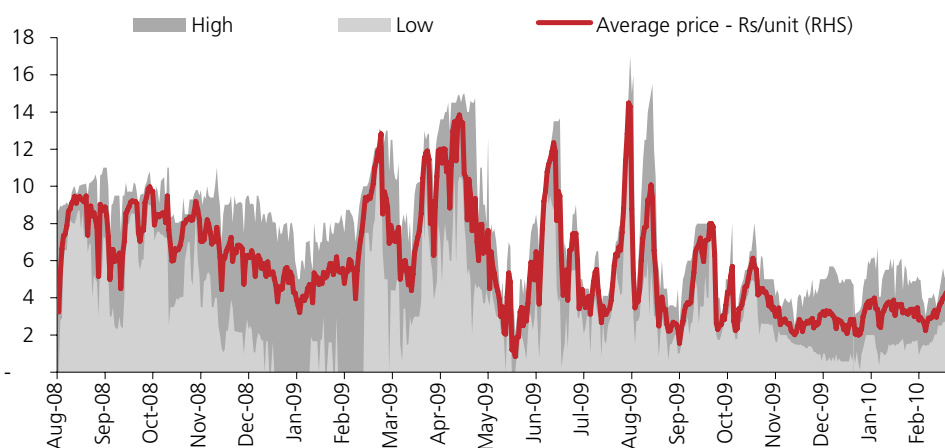
Exhibit 38: CROCI is capped by regulated returns for most power generation companies
CROCI of utilities companies, March fiscal year-ends, 2005-12E (%)

	2005	2006	2007	2008	2009	2010E	2011E	2012E
NTPC								
Cash return (Rs bn)	55	62	77	85	90	102	127	170
Cash invested (Rs bn)	432	472	526	561	663	765	1,001	1,248
CROCI (%)	13	13	15	15	14	13	13	14
Reliance Infrastructure								
Cash return (Rs bn)			2	2	4	8	7	16
Cash invested (Rs bn)			122	139	120	156	252	269
CROCI (%)			2	2	4	5	3	6
Tata Power								
Cash return (Rs bn)	9	8	10	16	22	27	32	40
Cash invested (Rs bn)	66	74	96	172	192	218	270	339
CROCI (%)	14	11	10	9	11	13	12	12
Total								
Cash return (Rs bn)	65	71	89	103	116	137	167	226
Cash invested (Rs bn)	497	546	743	871	975	1,139	1,523	1,856
CROCI (%)	13	13	12	12	12	12	11	12

Source: Company data, Kotak Institutional Equities estimates

Merchant power rates seem to be trending down although we do not rule out short-term spikes in the summer months, when a shortage of water may impact power generation from hydro-electric power projects and demand will pick up significantly. Exhibits 39 and 40 show tariffs for power sold on exchanges and under short-term contracts.

Exhibit 39: Tariffs in the power exchange highlight a further deterioration of prices
Details of average tariff in the power exchange (Rs/kwh)



Source: IEX, Kotak Institutional Equities

Exhibit 40: Tariffs for sale of power through bilateral trades have declined in the winter months
Details of tariff (Rs/kwh) and volume (MU) of power traded in the short-term market

	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09
Price of power traded (Rs/unit)									
Through traders	7.2	6.8	5.1	4.8	4.6	4.7	5.1	5.3	5.0
Through exchange									
IEX	10.1	6.8	7.4	4.8	7.4	4.0	4.7	3.2	3.2
PXIL	10.2	8.7	9.6	4.9	6.2	4.3	5.2	3.4	3.1
Through UI									
NEW grid	5.4	4.2	4.9	4.1	6.3	5.0	4.2	2.7	3.3
SR grid	6.0	4.0	5.1	4.7	5.9	4.2	5.8	3.8	3.9
Volume of electricity (MU)									
Generation	62,486	63,466	62,646	62,936	65,563	63,188	64,896	59,403	63,417
Long-term PPAs	58,054	58,809	57,580	57,215	59,774	57,593	59,234	54,159	57,482
Short-term power sales	4,432	4,656	5,066	5,721	5,789	5,595	5,662	5,244	5,935
Bilateral	2,210	2,317	2,418	3,021	3,369	2,858	2,772	2,386	2,864
Power exchange	406	342	530	495	494	527	639	759	640
Unscheduled Interchange (UI)	1,816	1,997	2,119	2,205	1,927	2,210	2,251	2,098	2,431
Composition of power sales									
Long-term PPAs (%)	92.9	92.7	91.9	90.9	91.2	91.1	91.3	91.2	90.6
Short-term power sales (%)	7.1	7.3	8.1	9.1	8.8	8.9	8.7	8.8	9.4
Short-term power trading profile (%)									
Bilateral	49.9	49.8	47.7	52.8	58.2	51.1	49.0	45.5	48.3
Direct bilateral	9.2	7.3	10.5	8.7	8.5	9.4	11.3	14.5	10.8
Unscheduled Interchange (UI)	41.0	42.9	41.8	38.5	33.3	39.5	39.8	40.0	41.0

Note:

1. Calculation of composition of power sales ignores auxiliary consumption.

Source: CERC, Kotak Institutional Equities

- ▶ **Jindal Steel and Power (JSPL).** JSPL's 100% subsidiary, Jindal Power, currently enjoys CROCI of 65% benefiting from the near-term demand-supply imbalance that helps yield merchant tariffs in excess of Rs5/kwh compared to average tariff of Rs2.12/kwh for power sold by NTPC in FY2009. In our view, merchant tariffs will come down to Rs3/kwh in the long term, driven by (1) large-scale commissioning of power capacities over the next few years that will partially address the current demand-supply mismatch, and (2) competition from new merchant-based power plants that will bring profitability down to reasonable levels.

We note that Jindal Power will likely continue to enjoy superior tariffs returns compared to the industry in the long term due to the inherent cost-benefits on account of being a pit-head plant with captive coal mines. Our assumptions of merchant power translate into very high CROCI for JPL throughout our forecast period (see Exhibit 41). We also highlight that our long-term tariff assumption of Rs3/kwh for merchant power results in JPL's terminal year CROCI at 35%; Exhibit 42 gives sensitivity of JPL's FY2017E CROCI under various power tariff assumptions. We believe this may be a very aggressive assumption if supply-demand balance worsens in the long term with massive investments in the power sector driven by current expectations of very high returns in perpetuity.

Exhibit 41: JPL is earning CROCI of 65%, which in our view will not sustain in the long term
CROCI of Jindal Power, March fiscal year-ends, 2009-17E (%)

	2009	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E
Cash return (Rs bn)	29	35	34	33	30	23	18	17	17
Cash Invested (Rs bn)	47	47	47	47	47	47	47	47	47
CROCI (%)	62	74	72	69	64	49	37	36	35

Source: Company data, Kotak Institutional Equities estimates

Exhibit 42: JPL will earn CROCI of 35% even assuming a tariff of Rs3/kwh
Sensitivity of FY2017E CROCI to merchant tariff assumptions

	Tariff (Rs/kwh)					
	2.0	2.5	3.0	3.5	4.0	5.0
FY2017E CROCI (%)	25	30	35	41	46	56

Source: Kotak Institutional Equities estimates

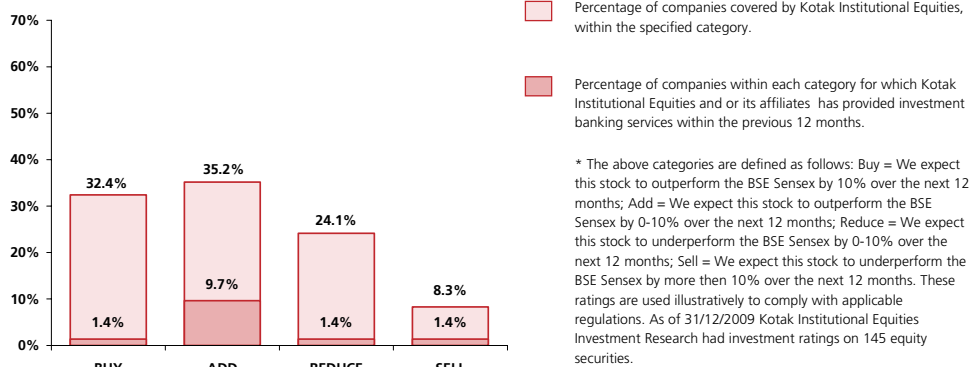
Kotak Institutional Equities: Valuation summary of key Indian companies

Table with 26 columns: Company, 12-Mar-10 Price (Rs), Rating, Mkt cap. (Rs mn, US\$ mn), O/S shares (mn), EPS (Rs) 2009-2011E, EPS growth (%) 2009-2011E, PER (X) 2009-2011E, EV/EBITDA (X) 2009-2011E, Price/BV (X) 2009-2011E, Dividend yield (%) 2009-2011E, RoE (%) 2009-2011E, Target price (Rs), Upside (%), ADVT-3mo (US\$ mn). Rows include Energy, Industrial, Infrastructure, Media, Metals, Pharmaceutical, and Property sectors.

Source: Company, Bloomberg, Kotak Institutional Equities estimates

Kotak Institutional Equities Research coverage universe

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Source: Kotak Institutional Equities

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