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**WHAT'S NEW**

## Light at the end of the tunnel?

ONGC's new request to include royalties into cost petroleum is likely to be shot down by the Indian cabinet, as this would (1) destroy value for Cairn India; (2) discourage foreign oil companies from investing in India; and (3) hurt long-term energy security. Disrupting investment in domestic Exploration and Production (E&P) amid the grave threat of supply disruption from the Middle East and North Africa (MENA) region would be a politically disastrous move. At the current market price of INR344/share, the market is pricing in the worst outcome for Cairn India in terms of royalties. We believe that the current Brent oil price reflects a mere 16% probability that the MENA crisis will spread; we see upside risks to our conservative USD100/bbl oil price forecast for 2011. Cairn India is the only candidate in India to benefit from higher oil prices. **BUY**; TP: INR420/share.

» **Cost recovery of royalties: highly unlikely**

» **The low-down on royalties, cost recovery, profit sharing and their impact on Cairn India**

» **Only pure play on rising oil prices; USD1/bbl increase = 1.5% increase in earnings**

» **The stock is at a rock-bottom valuation. BUY**

### Royalty cost recovery: unlikely

ONGC's recent claim that Rajasthan royalties should be included in cost recovery has added a fresh layer of uncertainty for Cairn India. We see this as overstated. We believe that the India Cabinet will disapprove ONGC's new interpretation of the Rajasthan production sharing contract as this would destroy value for Cairn India, discourage foreign oil companies from investing in India, and hurt India's long-term energy security.

**IMPACT****Hedge fund investors**

Global E&P stocks outperformed the falling market during the last oil price shock. Within India, Cairn India is the only play on higher oil prices. Every USD 1/bbl increase in oil price raises its EPS by 1.5%.

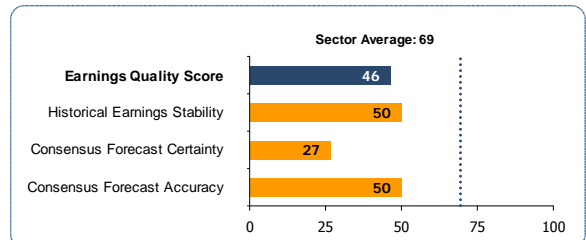
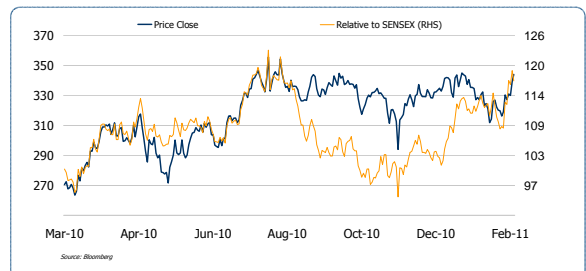
**Long-only investors**

Cairn India's earnings are most leveraged to higher oil prices in the Indian energy universe. Every USD1/bbl increase in oil increases its earnings by 1.5%

<b>Target price</b>	<b>INR420.0</b>
<b>Current price</b> (1 March 2011)	<b>INR343.9</b>
Upside/downside	22.15%
Consensus target price	INR348.4
Difference from consensus	20.6%

**Forecast earnings & valuation**

Fiscal year ending	Mar-09A	Mar-10A	Mar-11E	Mar-12E
Revenue (INRm)	14,327	16,230	86,651	144,372
Op EBIT (INRm)	4,716	6,303	58,135	108,718
Net income (INRm)	8,035	10,511	49,936	85,194
Norm profit (INRm)	8,265	10,582	49,995	85,249
EPS (INR)	4.41	5.55	26.24	44.75
EPS growth	0.0%	26.1%	372.4%	70.5%
Norm P/E (x)	78.1	61.9	13.1	7.7
EV/EBITDA (x)	58.3	65.7	10.1	5.5
Dividend yield	0.0%	0.0%	0.0%	0.0%
P/B (x)	2.0	1.9	1.7	1.4
ROE	2.6%	3.2%	13.7%	19.8%
Net debt/equity	-4.9%	8.7%	12.8%	3.9%
Cons EPS (INR)	4.28	5.54	28.26	44.37
Prev EPS (adj) (INR)	4.41	5.55	26.58	40.50

**Earnings quality score****Performance****Trading data**

Market cap (INRbn/USDm)	653.8/14,443		
Shares outstanding	1,897m		
Free float	37.6%		
52-week price high/low	INR263.4 – 355.4		
Daily average turnover (3M)	US17.06m		
<b>Performance</b>	<b>1M</b>	<b>3M</b>	<b>12M</b>
Absolute	5.2%	8.4%	29.2%
Relative to India BSE 30	2.8%	15.5%	16.9%
Absolute (USD)	6.7%	8.6%	31.1%
<b>Major shareholders</b>			
Cairn Energy PLC	62.4%		
Petronas	14.9%		

See the last page of this report for important disclosures

Source for data: Company, Bloomberg, Mirae Research estimates

The global E&P industry's risk preference has changed drastically following BP's Moncado well explosion last year. The ongoing wave of global M&A has been a reflection of global oil companies' desire to optimize their E&P portfolio. Companies are seeking projects in countries with large resource potential, such as Russia, and/or places with relatively steady fiscal regimes, such as China and the U.S. Given India's limited geological potential compared to the likes of Brazil and Russia, we believe the government has to be extra vigilant in providing a more conducive policy framework as it seeks to compete with these resource rich nations for foreign investment. We believe that the government realizes that altering legally binding contracts for private companies (Cairn India) and blocking exit routes for foreign oil companies investing in India (Cairn Energy PLC) lowers India's lure as an attractive investment destination for foreign oil companies.

Facilitating domestic E&P becomes all the more vital for India as the Middle East and North African (MENA) political crisis poses a grave threat to India's oil supplies. MENA accounts for more than 80% of India's oil imports. Unlike other oil importers like China and Japan, India has been late to build its strategic petroleum reserves and currently does not have a sizable strategic reserves stock in the event of a supply shock. We believe the MENA crisis is a timely reminder to India's policy makers to strengthen domestic energy security by attracting more foreign players like BP, Shell and ExxonMobil to exploit India's untapped oil resources.

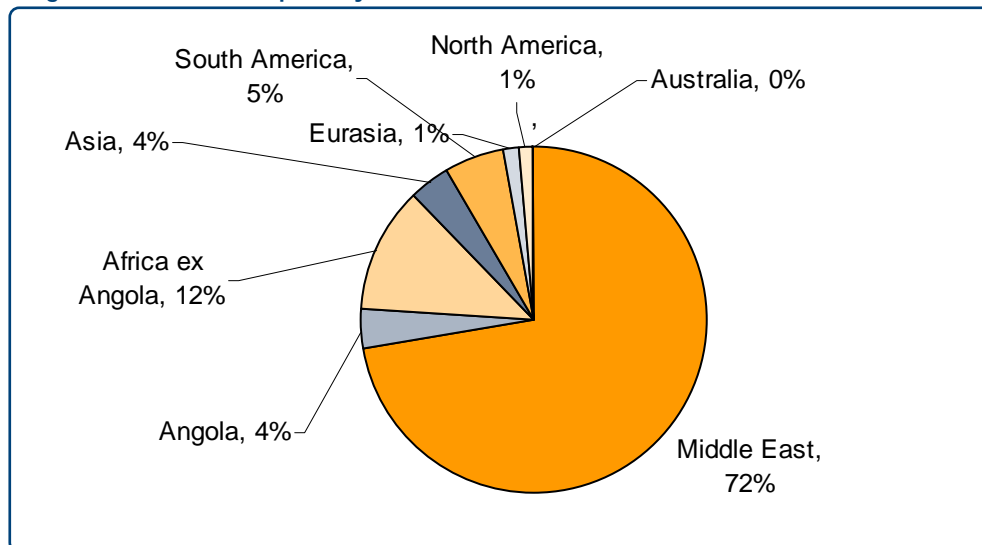
In times like this, we believe the government is unlikely to implement a policy that would damage domestic E&P. We believe changing the legal terms of the Cairn India's Production Sharing Contracts would be counter productive, discouraging foreign oil companies from entering India. India needs to bring foreign capital, knowledge, and services into India to exploit its relatively untouched hydrocarbon basins.

Alerting or "reinterpreting" a PSC can potentially have negative implications on FDI in the energy sector.

The government should look to incentivize private investment into India's hydrocarbon sector

MENA accounts for 80% of India's oil imports...

Figure 1. India's oil imports by source



Source: Company data, Mirae Asset Research

### The low-down on royalties, and their impact

There's a lot of confusion within the investor community about how the Rajasthan PSC works and how exactly including royalties into the framework of cost recovery reduces value for Cairn India. The following section will clear the uncertainty:

**Cost petroleum:** Like most E&P contracts in the world, the oil companies (Cairn India and ONGC) have to share part of their oil revenues with the government. As per this PSC, ONGC and Cairn India are entitled to recover up to 100% of their production and capital expenses from the revenue base before sharing any profits with the government. Recovered costs are split then between ONGC and Cairn India based on their respective spending on the fields, which, in most years, is 70:30.

**Profit Petroleum** refers to the profit remaining after recovering all production and capital costs from the revenues. Profit petroleum is shared between the Government of India and the contractors (ONGC and Cairn India). The government entitlement in profit petroleum is

Cairn and ONGC can recover 100% of their capex and production costs before sharing profit with the government

Government entitlement in profit petroleum rises over time based on the Investment Multiple

determined by an Investment Multiple, and the remaining profit petroleum is shared between Cairn India and ONGC in a 70:30 split.

Figure 2. Rajasthan profit sharing

Investment Multiple	Government entitlement
Less than 0	0%
0 - 1.5	20%
1.5 - 2	30%
2.0 - 2.5	40%
Beyond 2.5	50%

Source: Company data, Mirae Asset Research

The **Investment Multiple (IM)** is calculated by dividing the operator's (Cairn India's) cumulative net revenues by its cumulative investments into the block. The higher the IM, the greater the government's entitlement is on profit petroleum. The Rajasthan block offers a very favorable profit sharing regime, whereby the maximum government share is 50%.

Investment Multiple =  
 Cumulative net  
 revenue/Cumulative investments

**Net revenues:** Cairn India and ONGC's revenues from their Rajasthan oil production are the aggregates of their respective entitlements in cost petroleum and profit petroleum.

**What changes if royalties are considered cost recoverable:** In absolute terms, nothing changes because increased revenues from a higher-cost petroleum pool are equally offset by lower-profit petroleum. However, ONGC bears 100% of the royalty burden – the entire increase in cost petroleum goes to ONGC, while Cairn India suffers lower-profit petroleum. The smaller-profit petroleum would be shared between Cairn India, ONGC and the government in the manner described above.

We have done a detailed analysis to quantify the impact of including royalties into cost petroleum on all three parties concerned, Cairn India, ONGC and the Government of India (GOI). For the purposes of comparison, we have only looked to compare the NPV derived from the current fields under development, the Mangala, Bhagyam and Aishwarya fields. We use our base-case assumptions for production and assume a long-term Brent oil price of USD100/bbl and assume a 12.5% discount for lower quality.

Since the entire increase in cost petroleum will be accrued to ONGC's revenues, Cairn India will suffer from a lower profit petroleum entitlement

We find that the inclusion of royalties into cost petroleum lowers Cairn India's NPV by USD2.7bn (-19%), increases ONGC's NPV by USD7.2bn and lowers the government's NPV by USD5bn (-29%).

Figure 3. Stakeholder impact of including royalties into cost petroleum (USD mn)

	Cairn India	ONGC	Government of India
Royalties excluded from cost petroleum	14,123.54	(2,505.71)	17,283.60
If royalties were included into cost petroleum	11,415.99	4,666.07	12,317.66
Value destruction/creation	(2,707.56)	7,171.77	(4,965.94)
(% destruction in value)	-19%		-29%

Source: Company data, Mirae Asset Research

Figure 4. Cairn India's NPV from MBA fields under status quo

	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	...
MBA production	28	40	53	54	54	54	48	43	
EOR production upside	0	0	0	0	0	0	5	10	
Oil Production	28	40	53	54	54	54	54	54	
<b>Oil Revenues (USD mn)</b>	2092	3503	4630	4695	4695	4695	4695	4695	
Profit sharing with the government	0	-126	-771	-741	-741	-1112	-1108	-1473	
<b>Net oil revenues (USD mn)</b>	<b>2092</b>	<b>3377</b>	<b>3859</b>	<b>3953</b>	<b>3953</b>	<b>3583</b>	<b>3587</b>	<b>3222</b>	
Production Opex (including EOR)	132	192	262	268	268	268	281	293	
Royalty	0	0	0	0	0	0	0	0	
Cess	195	284	388	398	398	398	398	398	
Exploratory Capex	140	77	105	107	107	107	107	107	
Development Capex	700	153	210	215	215	215	215	215	
<b>Total costs</b>	<b>1167</b>	<b>706</b>	<b>965</b>	<b>988</b>	<b>988</b>	<b>988</b>	<b>1001</b>	<b>1013</b>	
<b>Gross cash flows generated from RJ</b>	<b>926</b>	<b>2671</b>	<b>2895</b>	<b>2965</b>	<b>2965</b>	<b>2595</b>	<b>2586</b>	<b>2209</b>	
DD&A expense	53	77	105	107	107	107	107	107	
<b>Pretax cash flows</b>	<b>873</b>	<b>2595</b>	<b>2790</b>	<b>2858</b>	<b>2858</b>	<b>2487</b>	<b>2478</b>	<b>2102</b>	
<b>Tax expense</b>	166	493	530	543	543	473	825	700	
<b>Post tax cash flows</b>	<b>707</b>	<b>2102</b>	<b>2260</b>	<b>2315</b>	<b>2315</b>	<b>2015</b>	<b>1653</b>	<b>1402</b>	
Inflation adjustor	1	1.03	1.06	1.09	1.13	1.16	1.19	1.23	
Discount factor	1	0.89	0.78	0.69	0.61	0.54	0.48	0.43	
<b>Discounted cash flows</b>	<b>707</b>	<b>1917</b>	<b>1880</b>	<b>1756</b>	<b>1602</b>	<b>1271</b>	<b>951</b>	<b>736</b>	
<b>NAV (USD mn)</b>	<b>14,123.54</b>								

Source: Company data, Mirae Asset Research

Figure 5. Cairn India's NPV from MBA fields if royalties were cost recoverable

	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	...
MBA production	28	36	36	27	28	28	25	22	
EOR production upside	0	0	0	0	0	0	3	5	
Oil Production	28	36	36	27	28	28	28	28	
<b>Oil Revenues (USD mn)</b>	2052	3115	3176	2323	2407	2407	2407	2423	
Profit sharing with the government	0	-743	422	880	795	795	798	510	
<b>Net oil revenues (USD mn)</b>	<b>2052</b>	<b>2372</b>	<b>3598</b>	<b>3202</b>	<b>3202</b>	<b>3202</b>	<b>3205</b>	<b>2933</b>	
Production Opex (including EOR)	132	192	262	268	268	268	281	293	
Royalty	0	0	0	0	0	0	0	0	
Cess	195	284	388	398	398	398	398	398	
Exploratory Capex	140	77	105	107	107	107	107	107	
Development Capex	700	153	210	215	215	215	215	215	
<b>Total costs</b>	<b>1167</b>	<b>706</b>	<b>965</b>	<b>988</b>	<b>988</b>	<b>988</b>	<b>1001</b>	<b>1013</b>	
<b>Gross cash flows generated from RJ</b>	<b>886</b>	<b>1666</b>	<b>2633</b>	<b>2214</b>	<b>2214</b>	<b>2214</b>	<b>2204</b>	<b>1920</b>	
DD&A expense	53	77	105	107	107	107	107	107	
<b>Pretax cash flows</b>	<b>833</b>	<b>1589</b>	<b>2529</b>	<b>2107</b>	<b>2107</b>	<b>2107</b>	<b>2097</b>	<b>1813</b>	
<b>Tax expense</b>	158	302	480	400	400	400	698	604	
<b>Post tax cash flows</b>	<b>675</b>	<b>1287</b>	<b>2048</b>	<b>1707</b>	<b>1707</b>	<b>1707</b>	<b>1398</b>	<b>1209</b>	
Inflation adjustor	1	1.03	1.06	1.09	1.13	1.16	1.19	1.23	
Discount factor	1	0.89	0.78	0.69	0.61	0.54	0.48	0.43	
<b>Discounted cash flows</b>	<b>675</b>	<b>1174</b>	<b>1704</b>	<b>1295</b>	<b>1181</b>	<b>1077</b>	<b>805</b>	<b>635</b>	
<b>NAV (USD mn)</b>	<b>11,415.99</b>								

Source: Company data, Mirae Asset Research

Figure 6. ONGC's NPV from MBA fields under status quo

	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	...
MBA production	9	15	22	23	23	23	21	19	
EOR production upside	0	0	0	0	0	0	2	4	
Oil Production	9	15	22	23	23	23	23	23	
<b>Oil Revenues (USD mn)</b>	<b>704</b>	<b>1288</b>	<b>1917</b>	<b>2012</b>	<b>2012</b>	<b>2012</b>	<b>2012</b>	<b>2012</b>	
Profit sharing with the government	0	126	-263	-318	-318	-477	-475	-631	
<b>Net oil revenues (USD mn)</b>	<b>704</b>	<b>1414</b>	<b>1654</b>	<b>1694</b>	<b>1694</b>	<b>1535</b>	<b>1537</b>	<b>1381</b>	
Production Opex (including EOR)	56	82	112	115	115	115	121	126	
Royalty	559	958	1309	1341	1341	1341	1341	1341	
Cess	84	122	166	170	170	170	170	170	
Exploratory Capex	60	33	45	46	46	46	46	46	
Development Capex	300	66	90	92	92	92	92	92	
<b>Total costs</b>	<b>1059</b>	<b>1261</b>	<b>1723</b>	<b>1765</b>	<b>1765</b>	<b>1765</b>	<b>1770</b>	<b>1775</b>	
<b>Gross cash flows generated from RJ</b>	<b>-355</b>	<b>153</b>	<b>-69</b>	<b>-70</b>	<b>-70</b>	<b>-229</b>	<b>-233</b>	<b>-395</b>	
DD&A expense	23	33	45	46	46	46	46	46	
<b>Pretax cash flows</b>	<b>-378</b>	<b>120</b>	<b>-114</b>	<b>-116</b>	<b>-116</b>	<b>-275</b>	<b>-279</b>	<b>-441</b>	
<b>Tax expense</b>	<b>0</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Post tax cash flows	-378	97	-114	-116	-116	-275	-279	-441	
Inflation adjustor	1	1.03	1.06	1.09	1.13	1.16	1.19	1.23	
Discount factor	1	0.89	0.78	0.69	0.61	0.54	0.48	0.43	
Discounted cash flows	-378	89	-95	-88	-81	-174	-161	-231	
<b>NAV (USD mn)</b>	<b>(2,505.71)</b>								

Source: Company data, Mirae Asset Research

Figure 7. ONGC's NPV from MBA fields if royalties were cost recoverable

	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	...
MBA production	10	19	39	47	49	49	44	40	
EOR production upside	0	0	0	0	0	0	5	9	
Oil Production	10	19	39	47	49	49	49	49	
<b>Oil Revenues (USD mn)</b>	<b>744</b>	<b>1676</b>	<b>3371</b>	<b>4149</b>	<b>4300</b>	<b>4300</b>	<b>4300</b>	<b>4284</b>	
Profit sharing with the government	0	841	-519	-1435	-1586	-1586	-1585	-1686	
<b>Net oil revenues (USD mn)</b>	<b>744</b>	<b>2517</b>	<b>2851</b>	<b>2714</b>	<b>2714</b>	<b>2714</b>	<b>2715</b>	<b>2598</b>	
Production Opex (including EOR)	56	82	112	115	115	115	121	126	
Royalty	559	958	1309	1341	1341	1341	1341	1341	
Cess	84	122	166	170	170	170	170	170	
Exploratory Capex	60	33	45	46	46	46	46	46	
Development Capex	300	66	90	92	92	92	92	92	
<b>Total costs</b>	<b>1059</b>	<b>1261</b>	<b>1723</b>	<b>1765</b>	<b>1765</b>	<b>1765</b>	<b>1770</b>	<b>1775</b>	
<b>Gross cash flows generated from RJ</b>	<b>-315</b>	<b>1256</b>	<b>1129</b>	<b>949</b>	<b>949</b>	<b>949</b>	<b>944</b>	<b>823</b>	
DD&A expense	23	33	45	46	46	46	46	46	
<b>Pretax cash flows</b>	<b>-338</b>	<b>1223</b>	<b>1084</b>	<b>903</b>	<b>903</b>	<b>903</b>	<b>899</b>	<b>777</b>	
<b>Tax expense</b>	<b>0</b>	<b>232</b>	<b>206</b>	<b>172</b>	<b>172</b>	<b>172</b>	<b>299</b>	<b>259</b>	
Post tax cash flows	-338	991	878	731	731	731	599	518	
Inflation adjustor	1	1.03	1.06	1.09	1.13	1.16	1.19	1.23	
Discount factor	1	0.89	0.78	0.69	0.61	0.54	0.48	0.43	
Discounted cash flows	-338	904	730	555	506	462	345	272	
<b>NAV (USD mn)</b>	<b>4,666.07</b>								

Source: Company data, Mirae Asset Research

Figure 8. Government of India's NPV from MBA fields under status quo

	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	...
Profit petroleum	0	1034	1059	1059	1589	1583	2104	2095	
Income tax	166	516	530	543	543	473	825	700	
<b>Cash flows</b>	<b>166</b>	<b>1550</b>	<b>1589</b>	<b>1602</b>	<b>2132</b>	<b>2056</b>	<b>2929</b>	<b>2795</b>	
Inflation adjustor	1	1.03	1.06	1.09	1.13	1.16	1.19	1.23	
Discount factor	1	0.89	0.78	0.69	0.61	0.54	0.48	0.43	
Discounted cash flows	166	1413	1322	1215	1475	1297	1686	1467	
<b>NAV (USD mn)</b>	<b>17,283.60</b>								

Source: Company data, Mirae Asset Research

Figure 9. Government of India's NPV from MBA fields if royalties were cost recoverable

	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	...
Profit petroleum	0	0	791	791	791	787	1176	1169	
Income tax	158	534	686	572	572	572	997	862	
<b>Cash flows</b>	<b>158</b>	<b>534</b>	<b>1477</b>	<b>1363</b>	<b>1363</b>	<b>1359</b>	<b>2173</b>	<b>2031</b>	
Inflation adjustor	1	1.03	1.06	1.09	1.13	1.16	1.19	1.23	
Discount factor	1	0.89	0.78	0.69	0.61	0.54	0.48	0.43	
Discounted cash flows	158	487	1229	1034	943	858	1251	1066	
<b>NAV (USD mn)</b>	<b>12,317.66</b>								

Source: Company data, Mirae Asset Research

## Only pure play on rising oil prices: maintain BUY; TP of INR420/share

We believe the Middle East and North African (MENA) crisis signals a structural increase in the geopolitical premium attached to global oil prices and a major strategic concern for India, who depends on this region for more than 80% of its oil imports.

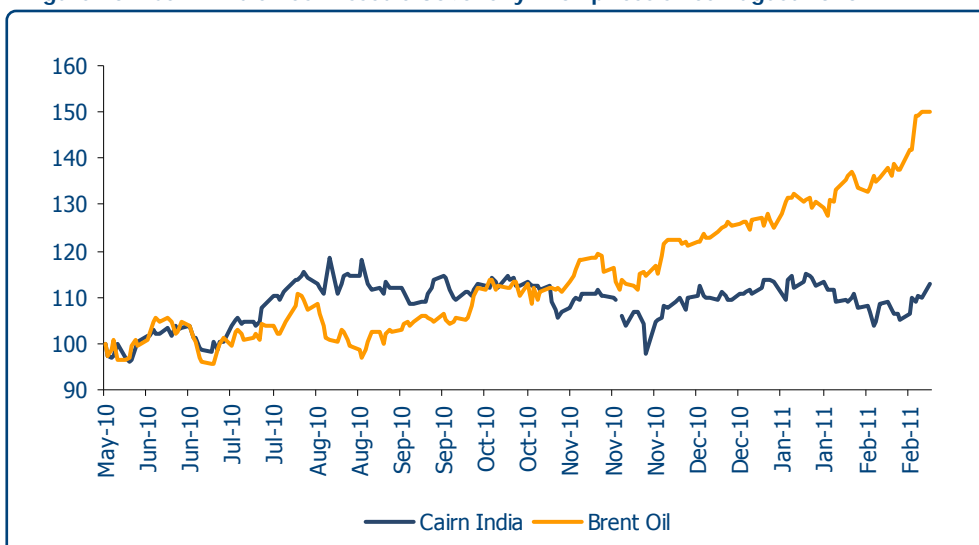
During the last geopolitical crisis in 1991, oil prices doubled from USD20/bbl to USD40/bbl and stayed at those levels for about three months. This time around, if tensions rise to those proportions, we believe oil prices could easily spike from USD100/bbl to USD200/bbl. Therefore, with Brent at only USD116/bbl, we believe the market has priced in a mere 16% probability of geopolitical tensions rising to those levels (based on our original base case assumption of USD100/bbl as a fair value for 2011). With Qaddafi stubbornly holding on to power in Libya and political unease spreading to other parts of the MENA region, we believe oil's geopolitical premium could rise substantially in coming weeks. Cairn India is India's only play on higher oil prices, and we expect to see strong share price gains once regulatory overhangs on royalties and deal come to pass. Every USD1/bbl increase in oil price adds 1.5% to Cairn India's earnings.

Cairn India remains our top pick in the Indian energy space. We maintain our BUY rating and TP of INR420/share. The stock should rally sharply once the policy-related uncertainties are cleared and the stock catches up to the 40% rise in oil prices since August. Even after factoring in the risks of including royalties into cost petroleum, we believe the stock still offers a reasonable risk-reward play.

We expect an expansion in oil's geopolitical premium – not a good time for India to discourage domestic E&P

Cairn India is the only play on higher oil prices in India.

Figure 10. Cairn India has missed a 36% rally in oil prices since August 2010



\* As of May 2010, rebased to 100  
 Source: Bloomberg, Mirae Asset Research



## The stock: at a rock-bottom valuation

We could see 19% downside to our target price if royalties were to be considered cost recoverable. Based on a long term oil price of USD100/bbl, we believe INR344/share is a rock-bottom valuation for the stock. This does not incorporate any expansion in the geopolitical premium attached to oil prices and does not bake in any potential for production/reserve upside and oil/gas discovery news flow. At current market price, we believe Cairn reflects a worst case scenario, providing superb risk reward.

Cairn India's stock at INR344/share already reflects policy uncertainties

Figure 11. Probability that royalties will be included into cost petroleum

Probability of including royalties into cost petroleum (%)	Risk weighted target price		Upside
	0%	420	
25%	400	18%	
50%	380	12%	
75%	360	7%	
100%	340	1%	

Source: Company data, Mirae Asset Research

Figure 12. Sum-of-the-parts valuation

Asset	Value/share	Methodology
Rajasthan	408	
MBA + EOR	342	DCF
Barmer Hill and others	23	EV/boe
Exploratory upside	42	EV/boe
Ravva	4.5	DCF
Cambay	6	DCF
Exploration upside	5	EV/boe
Net Cash	-13	
Investments	9	
Fair Value (Rs/share)	419	
<b>Target price (Rs./share)</b>	<b>420</b>	

Source: Company data, Mirae Asset Research

We have made some minor adjustments in our profit-sharing formula following our recent meeting with Cairn India's management and better understanding of the profit sharing terms. There was no material change to our reserve based Net Asset Valuation as a result of these tweaks, so we maintain our target price at INR420/share (24% upside). However, we have adjusted our FY12 and FY13 EPS targets by +10% and -9%, respectively (refer to Figure 13). Here are the key changes we implemented in our profit sharing model:

- We now understand the proportion of profit petroleum shared with the government is determined using the *previous* year's Investment Multiple, whereas we had initially been using the *current* year's investment multiple. This essentially lowers Cairn India's profit petroleum burden until FY12 and has allowed for a 10% increase in our FY12 EPS.
- We have subsequently raised the government's revenue entitlement assumptions beyond FY13 after changing our methodology of calculating the Investment Multiple. The Investment Multiple is calculated by dividing cumulative net revenues by cumulative net investments into the fields. Our previously methodology was understating government entitlement in beyond FY13 because we were including production costs into the cumulative investments, while we were only supposed to use cumulative capex – creating a larger denominator.

Fine tuning our profit petroleum formula - DCF unchanged, FY12 EPS + 10%; FY11 EPS -9%.

Figure 13. Earning revision after fine tuning profit petroleum model

	FY09	FY10	FY11	FY12	FY13
Previous EPS	4.3	5.5	26.6	40.5	54.8
New EPS	4.4	5.6	26.2	44.7	49.7

Source: Company data, Mirae Asset Research

Figure 14. Sensitivity analysis – long-term oil price assumption

		Long term brent oil price forecast (USD/bbl)								
		60	70	80	90	100	110	120	130	140
	7.5%	337	395	444	491	529	572	616	652	698
	8.5%	318	372	418	462	498	538	580	613	655
	9.5%	300	351	394	436	470	507	546	577	616
	10.5%	284	331	372	411	443	479	515	543	580
<b>WACC</b>	<b>11.5%</b>	<b>269</b>	<b>313</b>	<b>352</b>	<b>389</b>	<b>419</b>	<b>452</b>	<b>486</b>	<b>513</b>	<b>547</b>
<b>(%)</b>	<b>12.5%</b>	<b>256</b>	<b>297</b>	<b>333</b>	<b>368</b>	<b>397</b>	<b>428</b>	<b>460</b>	<b>484</b>	<b>517</b>
	13.5%	243	282	316	349	376	405	436	458	489
	14.5%	231	268	300	331	357	385	413	434	463
	15.5%	221	255	285	315	339	365	392	412	438

Source: Company data, Mirae Asset Research

Figure 15. Sensitivity analysis on exchange rates and discount rates

		Exchange Rate forecast (USD/INR)								
		42	43	44	45	46	47	48	49	50
	7.5%	478	491	504	516	529	542	555	568	580
	8.5%	450	462	474	486	498	510	522	534	546
	9.5%	424	436	447	458	470	481	492	504	515
	10.5%	401	411	422	433	443	454	465	476	486
<b>WACC</b>	<b>11.5%</b>	<b>379</b>	<b>389</b>	<b>399</b>	<b>409</b>	<b>419</b>	<b>429</b>	<b>439</b>	<b>450</b>	<b>460</b>
<b>(%)</b>	<b>12.5%</b>	<b>358</b>	<b>368</b>	<b>378</b>	<b>387</b>	<b>397</b>	<b>406</b>	<b>416</b>	<b>426</b>	<b>435</b>
	13.5%	340	349	358	367	376	385	394	403	412
	14.5%	322	331	340	348	357	365	374	383	391
	15.5%	306	314	323	331	339	347	355	364	372

Source: Company data, Mirae Asset Research



Figure 16. Global Energy Valuation

	Ticker	Price (LC)	Mkt Cap (US\$ M)	Cons. PE (x)			Cons. P/B (x)			EV/EBITDA (x)			ROE (%)		Div Yld (%)	
				2010	2011	2012	2010	2011	2012	2010	2011	2012	2011	2012	2011	2012
<b>Supermajors</b>																
EXXON MOBIL	XOM US	84.8	422219	14.2	11.6	10.3	2.8	2.6	1.9	6.4	5.3	4.9	24.2	24.1	2.2	2.3
CHEVRON CORP	CVX US	102.9	206567	11.0	9.5	9.5	1.9	1.7	1.5	4.6	4.0	3.8	19.4	18.7	2.9	3.1
BP	BP/ LN	490.0	149519	7.0	7.3	7.3	1.6	1.4	1.2	4.3	3.9	3.7	19.8	18.3	3.8	4.1
CONOCOPHILIPS	COP US	77.8	111270	13.1	11.6	11.6	1.6	1.7	1.5	4.5	4.4	4.1	13.2	16.0	3.1	3.3
SHELL	RDSA LN	2187.0	221671	11.5	9.2	9.2	1.5	1.4	1.2	5.3	4.7	4.0	14.8	16.2	4.8	5.0
REPSOL YPF	REP SM	24.0	40356	13.8	11.3	11.3	1.3	1.2	1.1	4.9	4.5	4.0	11.5	12.7	4.6	5.0
<b>Avg (Mkt Cap wtd)</b>				<b>11.8</b>	<b>10.2</b>	<b>9.7</b>	<b>2.1</b>	<b>1.9</b>	<b>1.5</b>	<b>5.4</b>	<b>4.7</b>	<b>4.3</b>	<b>19.5</b>	<b>19.7</b>	<b>3.2</b>	<b>3.4</b>
<b>Chinese Oil Majors</b>																
PETROCHINA	857 HK	10.6	310727	12.2	10.7	9.8	1.8	1.6	1.5	7.8	7.0	6.4	15.8	15.7	4.1	4.6
SINOPEC	386 HK	7.7	107454	7.8	7.2	6.6	1.3	1.1	1.0	5.7	5.1	4.7	16.8	15.8	3.7	3.7
CNOOC	883 HK	17.8	101819	12.7	10.9	10.4	3.2	2.7	2.4	6.9	5.8	5.2	26.9	23.5	3.3	3.4
<b>Avg (Mkt Cap wtd)</b>				<b>10.9</b>	<b>9.6</b>	<b>8.9</b>	<b>2.1</b>	<b>1.8</b>	<b>1.6</b>	<b>6.8</b>	<b>6.0</b>	<b>5.4</b>	<b>19.8</b>	<b>18.3</b>	<b>3.7</b>	<b>3.9</b>
<b>Indian Upstream</b>																
OIL INDIA	OINL IN	1237.7	6621	-	9.6	8.8	2.2	1.8	1.6	5.4	4.6	4.0	20.7	19.6	-	3.5
GAS AUTHORITY OF INDIA	GAIL IN	445.0	12556	19.0	15.2	13.4	3.3	2.8	2.5	13.4	10.1	8.6	19.9	19.9	1.9	2.1
ONGC INDIA	ONGC IN	274.0	52151	11.6	8.9	8.2	2.3	1.8	1.6	5.2	4.2	3.9	21.9	21.1	3.8	3.8
CAIRN INDIA	CAIR IN	343.9	14546	-	12.1	7.7	-	1.7	1.4	-	8.8	5.3	15.0	19.7	0.7	1.2
Reliance Industries	RIL IN	988.9	72004	19.2	15.5	13.4	2.3	2.0	1.8	12.1	9.5	8.3	14.1	14.1	0.8	1.0
<b>Avg (Mkt Cap wtd)</b>				<b>16.6</b>	<b>12.3</b>	<b>10.3</b>	<b>2.5</b>	<b>2.0</b>	<b>1.8</b>	<b>9.0</b>	<b>7.4</b>	<b>6.0</b>	<b>18.3</b>	<b>18.9</b>	<b>1.8</b>	<b>2.3</b>
<b>Indian Refiners</b>																
Indian Oil Corp Limited	IOCL IN	310.9	16793	8.7	8.9	8.0	1.4	1.3	1.2	8.5	7.6	6.8	15.2	15.6	3.4	3.7
Bharat Petroleum Corp Limited	BPCL IN	584.4	4700	13.0	13.2	11.0	1.4	1.4	1.3	8.3	10.6	8.7	10.2	10.9	2.2	2.5
Hindustan Petroleum Corp. Limited	HPCL IN	328.2	2472	9.3	8.1	7.1	1.0	0.9	0.8	8.5	10.0	8.6	10.3	10.8	3.3	3.6
<b>Avg (Mkt Cap wtd)</b>				<b>10.3</b>	<b>10.1</b>	<b>8.7</b>	<b>1.3</b>	<b>1.2</b>	<b>1.1</b>	<b>8.4</b>	<b>9.4</b>	<b>8.0</b>	<b>11.9</b>	<b>12.4</b>	<b>3.0</b>	<b>3.3</b>
<b>Emerging Market plays</b>																
MEDCO ENERGI	MEDC IJ	2900.0	1095	25.3	13.7	14.9	1.4	1.2	1.2	6.4	6.2	5.1	10.1	8.4	0.9	2.7
PAKISTAN PETROLEUM	PPL PA	203.1	2833	10.0	7.2	6.8	2.0	2.4	2.2	-	-	-	35.7	33.4	6.5	7.1
OGDCL PAKISTAN	OGDC PA	151.0	7584	11.1	9.7	9.1	3.6	3.3	2.8	5.7	5.6	5.1	36.4	34.2	4.4	6.3
PETROBRAS	PETR4 BZ	28.3	239109	8.5	10.0	9.1	1.1	1.1	1.0	7.5	7.2	6.8	10.7	11.1	2.8	2.7
PTTEP	PTTEP TB	182.0	19773	15.2	13.5	11.0	3.5	3.0	2.5	6.3	5.7	4.5	23.6	24.3	2.9	3.4
PTT	PTT TB	336.0	31340	12.3	10.5	9.1	1.9	1.7	1.5	7.6	6.8	5.9	17.2	17.9	3.4	3.7
LUKOIL	LKOH RM	2027.0	59912	6.5	6.0	6.1	1.0	0.9	0.8	4.3	3.9	3.8	14.8	13.0	3.5	3.9
GAZPROM	GAZP RM	209.0	171935	5.4	4.9	4.6	0.8	0.7	0.6	4.7	4.2	3.7	14.5	14.0	1.8	2.0
ROSNEFT OIL	ROSN RM	268.4	98833	8.9	8.7	9.9	1.7	1.5	1.3	6.1	5.8	5.9	17.2	13.8	1.2	1.3
<b>Avg (Mkt Cap wtd)</b>				<b>11.5</b>	<b>9.4</b>	<b>9.0</b>	<b>1.9</b>	<b>1.7</b>	<b>1.6</b>	<b>6.1</b>	<b>5.7</b>	<b>5.1</b>	<b>20.0</b>	<b>18.9</b>	<b>3.1</b>	<b>3.7</b>
<b>E&amp;P plays</b>																
ANADARKO PETROLEUM CORP	APC US	80.0	39706	-	36.0	23.5	1.9	1.8	1.7	7.6	6.7	5.5	5.6	8.6	0.5	0.5
APACHE CORP	APA US	120.9	46259	13.0	11.3	9.9	1.8	1.6	1.4	6.2	4.7	4.0	15.7	16.6	0.5	0.5
KUNLUN ENERGY	135 HK	11.6	7350	24.4	16.9	14.1	3.7	2.2	2.0	20.4	9.1	6.4	16.8	18.3	1.4	1.7
HUSKY ENERGY	HSE CN	30.0	27398	20.5	15.3	13.8	1.7	1.6	1.6	7.8	6.7	6.2	10.8	11.4	4.0	4.0
TALISMAN ENERGY INC	TLM CN	24.1	25292	37.8	21.5	17.4	2.2	2.1	1.9	6.6	5.1	4.5	9.4	11.8	1.0	1.1
ENCANA CORP	ECA CN	31.1	23440	34.2	48.7	27.2	1.4	1.4	1.4	5.4	6.7	5.8	2.6	6.3	2.5	2.6
CHESAPEAKE ENERGY CORP	CHK US	33.7	22162	11.5	12.4	11.0	1.5	1.4	1.3	6.8	6.3	5.5	12.7	12.5	0.9	0.9
DEVON ENERGY CORPORATION	DVN US	88.8	37901	15.0	14.9	11.3	2.0	1.8	1.6	6.5	6.6	5.4	12.7	16.0	0.8	0.7
SUNCOR ENERGY	SU US	46.9	73477	28.9	18.3	15.0	2.0	1.7	1.5	10.5	8.1	6.7	10.2	11.7	0.9	1.0
EOG RESOURCES INC	EOG US	107.9	27444	100.1	31.9	17.7	2.6	2.4	2.1	10.4	7.6	5.7	7.3	13.3	0.6	0.6
SANTOS	STO AU	14.3	12678	32.9	31.4	22.7	1.6	1.6	1.5	9.8	9.7	8.3	5.4	6.7	2.1	2.1
WOODSIDE PETROLEUM LTD	WPL AU	42.6	33724	21.2	23.1	15.4	3.0	2.7	2.5	12.7	12.6	7.9	12.6	17.7	2.4	3.1
OIL SEARCH LTD	OSH AU	6.9	9095	67.3	64.7	60.2	3.3	3.1	3.0	25.7	29.2	29.9	5.1	5.3	0.6	0.6
<b>Avg (Mkt Cap wtd)</b>				<b>27.9</b>	<b>25.3</b>	<b>19.8</b>	<b>2.2</b>	<b>1.9</b>	<b>1.8</b>	<b>10.8</b>	<b>9.5</b>	<b>8.2</b>	<b>10.4</b>	<b>12.2</b>	<b>1.6</b>	<b>1.7</b>

Source: Bloomberg, Mirae Asset Research

Figure 17. Detailed breakdown of India's oil import sources (million tons)

		2004-5	2005-6	2006-07	2007-08	2008-09	(%) of total
<b>Middle East</b>	Iran	9.614	11.423	14.701	19.486	21.318	16.63%
	Iraq	8.33	11.225	13.449	14.293	14.391	11.23%
	Kuwait	11.355	10.495	11.382	10.305	11.89	9.28%
	Neutral Zone	2.128	2.263	1.632	2.598	2.766	2.16%
	Oman	0.136	0.342	0	0.488	0.277	0.22%
	Qatar	1.187	0.461	1.727	2.514	2.396	1.87%
	Saudi Arabia	23.929	25.289	24.626	26.989	25.503	19.90%
	Syria	0	0	0	0	0.082	0.06%
	UAE	6.428	8.02	8.755	10.862	13.114	10.23%
	Yemen	3.508	3.56	4.543	2.194	0.681	0.53%
	<b>Sub Total</b>	<b>66.615</b>	<b>73.079</b>	<b>80.815</b>	<b>89.73</b>	<b>92.419</b>	<b>72.12%</b>
<b>Africa</b>	Algeria	0	0.255	0.646	0.296	0.263	0.21%
	Angola	2.441	1.653	2.609	4.336	4.872	3.80%
	Cameroon	0.346	0.186	0	0.11	0.113	0.09%
	Congo	0.135	0	0	0	0.247	0.19%
	Egypt	2.117	1.931	1.93	1.887	1.557	1.21%
	Equitorial-Guinea	1.659	0.566	0.409	1.769	0.281	0.22%
	Equitorial Kenya	0	0	0.292	0	0	0.00%
	Gabon	0.275	0.406	0.141	0	0.418	0.33%
	Ivory Coast	0	0	0.145	0.146	0.138	0.11%
	Libya	1.465	0.907	0.13	2.072	0.89	0.69%
	Nigeria	13.102	13.545	13.067	9.997	10.542	8.23%
	Sudan	0.328	0.253	0.156	0.943	0.772	0.60%
	West Africa						0.00%
	<b>Sub Total</b>	<b>21.868</b>	<b>19.702</b>	<b>19.525</b>	<b>21.475</b>	<b>20.094</b>	<b>15.68%</b>
<b>Asia</b>	Brunei	0.807	0.481	0.634	0.35	0.846	0.66%
	Malaysia	3.429	3.464	4.731	4.278	3.909	3.05%
	Singapore	0	0	0	0	0.14	0.11%
	Thailand	0.266	0.161	0	0	0	0.00%
	<b>Sub Total</b>	<b>4.502</b>	<b>4.106</b>	<b>5.365</b>	<b>4.628</b>	<b>4.896</b>	<b>3.82%</b>
<b>South America</b>	Brazil	0.292	0.29	0.422	0	0	0.00%
	Columbia						0.00%
	Equador	0.151	0.287	0	0.257	0	0.00%
	Panama					0.072	0.06%
	Venezuela	0	0.291	2.317	1.169	6.955	5.43%
<b>Sub Total</b>	<b>0.443</b>	<b>0.868</b>	<b>2.739</b>	<b>1.426</b>	<b>7.027</b>	<b>5.48%</b>	
<b>Eurasia</b>	Ararbaijan	0	0.216	0.709	2.109	1.577	1.23%
	Kazakisthan						0.00%
	Russia	0.155	0	0.4	0.358	0.227	0.18%
<b>Sub Total</b>	<b>0.155</b>	<b>0.216</b>	<b>1.109</b>	<b>2.467</b>	<b>1.804</b>	<b>1.41%</b>	
<b>North America</b>	Mexico	2.279	1.438	1.949	1.374	1.826	1.42%
<b>Europe</b>	Turkey	0	0	0	0.409	0	0.00%
	UK						0.00%
<b>Australia</b>	<b>Australia</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.165</b>	<b>0.088</b>	<b>0.07%</b>
							0.00%
<b>Total</b>		<b>95.862</b>	<b>99.409</b>	<b>111.502</b>	<b>121.672</b>	<b>128.155</b>	<b>100.00%</b>

Source: Company data, Mirae Asset Research

## Summary financial statements

### Profit & Loss

(INRm)	Dec-07A	Mar-09A	Mar-10A	Mar-11E	Mar-12E
<b>Revenue</b>	<b>10,123</b>	<b>14,327</b>	<b>16,230</b>	<b>86,651</b>	<b>144,372</b>
Operating expenses	(10,160)	(9,611)	(9,927)	(28,516)	(35,654)
<b>Op profit</b>	<b>(38)</b>	<b>4,716</b>	<b>6,303</b>	<b>58,135</b>	<b>108,718</b>
<b>Op EBITDA</b>	<b>2,039</b>	<b>7,414</b>	<b>7,789</b>	<b>67,299</b>	<b>119,302</b>
Depreciation	(2,077)	(2,698)	(1,485)	(9,164)	(10,584)
Amortisation	-	-	-	-	-
<b>Op EBIT</b>	<b>(38)</b>	<b>4,716</b>	<b>6,303</b>	<b>58,135</b>	<b>108,718</b>
Net interest	700	1,795	1,228	(1,966)	(4,805)
Associates and JCEs	-	-	-	-	-
Other income	597	3,651	2,701	2,648	2,648
Net exceptional income	-	(283)	(69)	(69)	(69)
<b>Profit before tax</b>	<b>1,259</b>	<b>9,879</b>	<b>10,163</b>	<b>58,749</b>	<b>106,492</b>
Tax	(1,505)	(1,844)	348	(8,812)	(21,298)
<b>Post-tax profit</b>	<b>(245)</b>	<b>8,035</b>	<b>10,511</b>	<b>49,936</b>	<b>85,194</b>
Minorities	-	-	-	-	-
Preferred dividends	-	-	-	-	-
<b>Net income</b>	<b>(245)</b>	<b>8,035</b>	<b>10,511</b>	<b>49,936</b>	<b>85,194</b>
Norm profit	(245)	8,265	10,582	49,995	85,249
Dividends	-	-	-	-	-
<b>Retained earnings</b>	<b>(245)</b>	<b>8,035</b>	<b>10,511</b>	<b>49,936</b>	<b>85,194</b>

Source: Company data, Mirae Asset Research estimates

### Cashflow

(INRm)	Dec-07A	Mar-09A	Mar-10A	Mar-11E	Mar-12E
<b>Op EBITDA</b>	<b>2,039</b>	<b>7,414</b>	<b>7,789</b>	<b>67,299</b>	<b>119,302</b>
Decrease in working capital	(33,674)	7,260	(8,957)	(29,653)	(24,487)
Other operating cashflow	879	4,105	3,076	11,741	5,439
<b>Operating cashflow</b>	<b>(30,756)</b>	<b>18,779</b>	<b>1,908</b>	<b>49,387</b>	<b>100,253</b>
Tax paid	(1,505)	(1,844)	348	(8,812)	(21,298)
Net interest	700	1,795	1,228	(1,966)	(4,805)
Dividends received	568	222	224	171	171
<b>Cashflow</b>	<b>(30,992)</b>	<b>18,952</b>	<b>3,708</b>	<b>38,780</b>	<b>74,321</b>
Capital expenditure	(13,556)	(40,763)	(36,091)	(61,240)	(45,079)
Net acquisitions	-	-	-	-	-
Net investments	(7,024)	5,416	(15,411)	-	-
Other investing cashflow	-	-	-	-	-
<b>Investing cashflow</b>	<b>(20,580)</b>	<b>(35,347)</b>	<b>(51,502)</b>	<b>(61,240)</b>	<b>(45,079)</b>
Dividends paid	-	-	-	-	-
Increase in equity	733	625	78	-	-
Increase in debt	(2,055)	40,440	(9,557)	24,286	36,470
Other financing cashflow	4,864	27,284	1,296	-	-
<b>Financing cash flow</b>	<b>3,542</b>	<b>68,348</b>	<b>(8,182)</b>	<b>24,286</b>	<b>36,470</b>
Beginning cash	61,348	13,318	65,271	9,294	11,120
<b>Total cash generated</b>	<b>(48,030)</b>	<b>51,953</b>	<b>(55,977)</b>	<b>1,825</b>	<b>65,712</b>
Forex effects	-	-	-	-	-
<b>Ending cash</b>	<b>13,318</b>	<b>65,271</b>	<b>9,294</b>	<b>11,120</b>	<b>76,832</b>

Source: Company data, Mirae Asset Research estimates

### Balance Sheet

(INRm)	Dec-07A	Mar-09A	Mar-10A	Mar-11E	Mar-12E
<b>Current assets</b>	<b>21,341</b>	<b>72,679</b>	<b>23,734</b>	<b>52,444</b>	<b>144,124</b>
Cash and equivalents	13,318	65,271	9,294	11,120	76,832
Receivables	1,349	1,516	3,068	14,244	23,732
Inventories	1,216	1,683	2,909	3,195	3,862
Other current assets	5,459	4,209	8,463	23,885	39,699
<b>Non current assets</b>	<b>289,868</b>	<b>320,663</b>	<b>368,382</b>	<b>418,252</b>	<b>450,944</b>
Net operating fixed assets	29,546	65,674	97,899	147,769	180,461
Interest in associates	-	-	-	-	-
Other non-current assets	260,322	254,989	270,483	270,483	270,483
<b>Total assets</b>	<b>311,209</b>	<b>393,343</b>	<b>392,115</b>	<b>470,695</b>	<b>595,068</b>
<b>Current liabilities</b>	<b>8,353</b>	<b>16,132</b>	<b>14,806</b>	<b>21,302</b>	<b>25,745</b>
Payables	-	-	-	-	-
ST debt	-	-	-	-	-
Other current liabilities	8,353	16,132	14,806	21,302	25,745
<b>Total non-current liabilities</b>	<b>8,041</b>	<b>49,188</b>	<b>38,627</b>	<b>60,774</b>	<b>95,510</b>
LT debt	8,041	49,188	38,627	60,774	95,510
Other non-current liabilities	-	-	-	-	-
<b>Total liabilities</b>	<b>16,394</b>	<b>65,319</b>	<b>53,432</b>	<b>82,076</b>	<b>121,255</b>
Issued capital	17,784	18,967	18,970	18,970	18,970
Share premium reserve	277,031	309,057	319,714	369,650	454,844
Reserves/Adjustments	-	-	-	-	-
Retained earnings	-	-	-	-	-
Minorities	-	-	-	-	-
Other equity	-	-	-	-	-
<b>Shareholders' equity</b>	<b>294,815</b>	<b>328,023</b>	<b>338,683</b>	<b>388,620</b>	<b>473,813</b>

Source: Company data, Mirae Asset Research estimates

### Key Ratios

	Dec-07A	Mar-09A	Mar-10A	Mar-11E	Mar-12E
Turnover growth	0.0%	41.5%	13.3%	433.9%	66.6%
Gross profit growth					
Operating profit growth	0.0%	NA	33.7%	822.3%	87.0%
EBITDA growth	0.0%	309.0%	(3.3%)	570.6%	74.4%
EPS growth	0.0%	NA	26.1%	372.4%	70.5%
Norm BPS growth	0.0%	6.0%	1.7%	14.7%	21.9%
Gross margin					
Operating margin	(0.4%)	32.9%	38.8%	67.1%	75.3%
EBITDA margin	26.0%	75.3%	64.2%	80.6%	84.4%
EBIT margin	5.5%	56.4%	55.1%	70.1%	77.1%
Net income margin	(2.4%)	56.1%	64.8%	57.6%	59.0%
ROE	na	2.6%	3.2%	13.7%	19.8%
ROA		2.3%	2.7%	11.6%	16.0%
Net debt/equity	(1.8%)	(4.9%)	8.7%	12.8%	3.9%
Interest cover ratio	-1.40	73.58	42.58	16.71	16.81
Dividend payout ratio	0%	0%	0%	0%	0%
Inventory days					
Account receivable days	52.62	48.26	68.98	60.00	60.16
Account payable days					
Reported EPS (INR)	-0.14	4.28	5.52	26.21	44.72
EPS (INR)	-0.14	4.41	5.55	26.24	44.75
Reported BPS (INR)	164.9	174.8	177.8	204.0	248.7
Norm BPS (INR)	164.9	174.8	177.8	204.0	248.7
DPS (INR)	0	0	0	0	0
Cashflow per share (INR)	-17.33	10.10	1.95	20.36	39.01
Reported P/E (x)	na	80.30	62.32	13.12	7.69
Norm P/E (x)	na	78.06	61.90	13.10	7.68
P/B (x)	2.09	1.97	1.93	1.69	1.38
P/CF	na	34.0	176.7	16.9	8.8
EV/EBITDA (x)	231.2	58.3	65.7	10.1	5.5
EV/Operating Cashflow (x)	na	33.5	358.6	14.3	6.7
EV/Sales (x)	60.21	43.91	42.17	8.13	4.67
Dividend yield	0%	0%	0%	0%	0%

Source: Company data, Mirae Asset Research estimates

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## Recommendations

### By stock (12 months)

Buy: A target price + 10% or more above the current price,  
Hold: Target price within - 10% to +10% of the current price  
Reduce: A target price of -10% or less below the current price

### By industry

Overweight: over +10% of the current industry index  
Neutral: -10% to +10% of the current industry index  
Underweight: -10% or less than the current industry index

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## Earnings quality score

Earnings Quality Score =  $0.70 * (\text{Historical Earnings Stability}) + 0.15 * (\text{Consensus Forecast Certainty}) + 0.15 * (\text{Consensus Forecast Accuracy})$

### 1. Historical Earnings Stability

- The variability of the net profit growth rate (YOY) over the last 20 quarters was translated into percentage terms.
- Earnings growth variability was calculated based on MAD (Median Absolute Deviation), rather than SD (Standard Deviation) in order to minimize distortion from outliers.
- The lower the earnings growth variability, the higher this indicator.

### 2. Consensus Forecast Certainty

- The gap between analysts' views on 12-month forward EPS was translated into percentage terms.
- The gap is calculated by dividing the SD of 12-month forward EPS with the average value.
- The narrower the gap, the higher this indicator.

### 3. Consensus Forecast Accuracy

- The median value of absolute EPS surprise over the last 3-year was translated into percentage terms.
- EPS surprise was calculated based on 'the actual figure at the end of the year / the consensus estimate at the beginning of the year - 1'.
- The lower the absolute EPS surprise, the higher this indicator.

### \* Reference

- 1) Consensus Forecast Certainty and Consensus Forecast Accuracy were applied only to companies with more than 5 years of EPS estimates.
  - 2) We gave the average score of 50 to cases in which the aforementioned indicators could not be produced.
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