SSKI

INDIA RESEARCH

Company update

12 April 2007

BSE Sensex: 13190

ONGC

Rs853

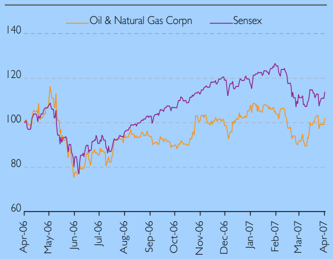
OUTPERFORMER

A new dawn

Mkt Cap: Rs1,824bn; US$40.9bn

Stock data	
Reuters	ONGC.BO
Bloomberg	ONGC IN
1-yr high/low (Rs)	1,009/620
1-yr avg daily volumes (m)	0.36
Free Float (%)	25.9

Price performance



Performance (%)

	3-mth	6-mth	1-yr	3-yr
ONGC	(3.8)	16.9	2.1	48.7
Sensex	(3.3)	6.7	13.0	125.8

ONGC has long been treated as a poor cousin of domestic and global E&P players. The stock trades at a steep discount to global/ domestic earnings as well as reserve valuations, which reflects highly pessimistic estimates on loss sharing, APM deregulation and growth. However, with a 21-32% increase expected in ultimate (recoverable) reserves over the next 18-24 months, low earnings sensitivity to international crude prices and falling proportion of APM gas, we see the valuation gap narrowing significantly. Recommend Outperformer with a DCF-based SOTP target price of Rs1130.

Significant reserve accretion on the anvil: Significant reserve accretion over the next 2-3 years would likely drive ONGC's performance on the bourses. We expect at least a 21-32% increase in ultimate (recoverable) reserves over the next 18-24 months from domestic new gas finds, redevelopment gains and overseas discovered assets currently under appraisal.

Concerns recede: APM gas pricing and subsidy sharing have been the key issues impacting ONGC's valuations. ONGC's APM gas volumes are set to fall by 60% over the next 4-5 years. We expect gas prices to be fully deregulated by FY11-12. Also, crude price discount on account of loss sharing narrows to just 11.6% at a crude price of US $50/bbl (FY09E) and 15.8% at $55/bbl (FY08E) from as high as 33.3% at $75/bbl.

We expect discount to global valuations to narrow: Despite a superior return profile and more conservative (1P vs 2P) reserve base, ONGC trades at a discount to domestic benchmarks. At 9.5x FY08E earnings and an EV/boe of US $5.6, ONGC also trades at a steep 22% and 38-60% discount respectively to global valuations. We believe valuations build in highly pessimistic estimates on loss sharing, APM deregulation and growth. However, given the reserve accretion, production growth and falling proportion of APM gas, we expect the discount to narrow significantly. Recommend Outperformer with a DCF-based SOTP target price of Rs1130, an upside of 32% from here.

Key financials (consolidated)

Year to 31 March	FY05	FY06	FY07E	FY08E	FY09E
Net sales (Rs bn)	597	706	920	862	817
Net profit (Rs bn)	143	153	191	191	177
Shares in issue (m)	2,139	2,139	2,139	2,139	2,139
Adj. EPS (Rs)	67.0	72.0	89.4	89.6	83.1
% growth	*1.9*	*7.4*	*24.2*	*0.2*	*(7.2)*
PER (x)	12.7	11.8	9.5	9.5	10.3
Price/Book (x)	3.8	3.2	2.7	2.3	2.1
EV/EBITDA (x)	6.3	5.8	4.6	4.4	4.4
RoE (%)	32.3	29.5	31.0	26.4	21.3
RoCE (%)	31.1	27.1	29.0	24.1	19.3
EV/CE (x)	2.6	2.2	1.8	1.5	1.3

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INVESTMENT ARGUMENT

Ultimate reserve accretion of 21-32% and significant production growth, phased gas price deregulation and potential re-rating make ONGC attractive even in a falling crude price scenario. ONGC's earnings are relatively less sensitive to crude prices within a range, and the underperformance due to fuel marketing loss-sharing in a crude price inflationary environment should reverse as crude prices fall. The stock trades at a steep discount to global earnings as well as reserve valuations, reflecting highly pessimistic estimates on loss sharing, Administered Pricing Mechanism (APM), deregulation and growth.

❑ Significant reserve accretion and production growth on the anvil

Multiple sources of reserve accretion over the next 2-3 years remain a key catalyst for ONGC's stock performance. We expect at least 21-32% increase in ultimate (recoverable) reserves over the next 18-24 months. The following constitute the key sources of the reserve upside:

New gas finds in KG and Mahanadi basins, and redevelopment of existing fields to boost reserves

- **Large domestic oil & gas finds:** 5-15TCF in KG-basin and 4TCF in Mahanadi basin. We value the reserves at Rs57/ share (19TCF)
- **Upside from redevelopment of mature fields (IOR/ EOR gains):** Phase I upside of 70m toe. Phase II for 100m toe planned
- **OVL (and other JVs) exploration success/ Value accretive acquisitions overseas:** Six discovered blocks and a few highly prospective blocks to drive growth. Lower end of reserve estimates for discovered blocks add up to over 56m toe
- **Contributions from domestic JVs:** Redevelopments as also Cairn India's (Cairn) Rajasthan field development to add to production and reserves
- **Potential upside from coal-bed methane (CBM):** DGH (Director General of Hydrocarbons) indicates a large resource base of 445bcm for ONGC owned blocks.

In the medium term, production growth is likely to be driven primarily by ONGC Videsh's (OVL) Sakhalin-1 achieving peak oil production rate with some contribution from domestic JVs and redevelopment (IOR / EOR) of mature fields.

Exhibit 1: Significant reserve upside for ONGC

Reserves (m toe)		Upside (m toe)	Upside (%)	Comments
Domestic	717	New gas finds 69-171	7.5 - 18.5	@ 80% recovery and 50% risk adjustment (to arrive at 1P comparable reserve)
		Redevelopment 70	7.6	Upside is already 1P based
OVL	206	New overseas discoveries 56	6	@ 75% of the lower end of the aggregate reserve expectations indicated in media
Total	923	195 - 297	21 -32	

Source: SSKI Research

ONGC's gas realization of US $1.4-1.6/mmbtu against US $3.86-4.75/mmbtu for free-priced domestic gas

❑ APM deregulation – a key re-rating trigger

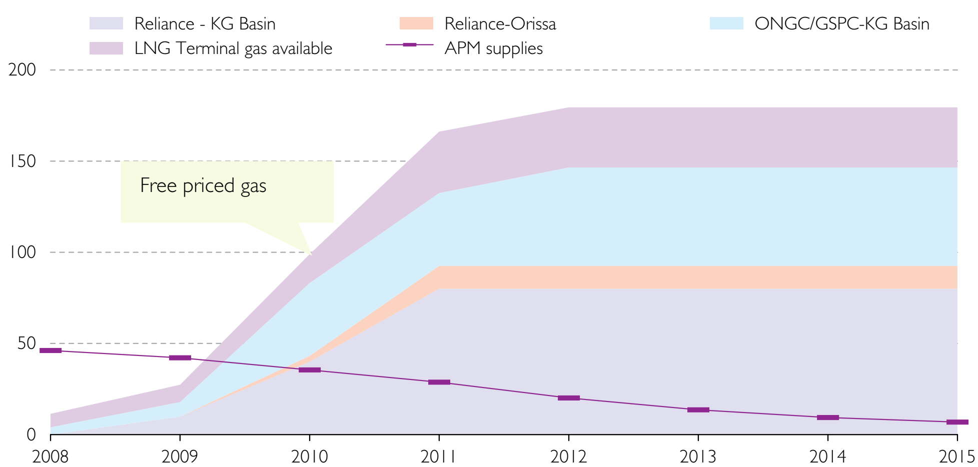
ONGC suffers regulated (low) gas prices…: Regulated gas prices have had a significant negative impact on ONGC's earnings and valuations. ONGC's average gas price realization was at a low of US $1.7/mmbtu as against US $3.86-4.75/mmbtu for free-priced domestic gas.

…however, deregulation is on: APM gas pricing has been progressively deregulated, though in small steps, over the last 18 months – (i) 20% of APM gas fully deregulated, (ii) price of remaining APM gas raised by 12.3% from Rs2,850/tscm to Rs3,200/tscm (for 10,000kcal/tscm), effective July 2005; (iii) JV gas cross-subsidy of Rs8bn-10bn has been abolished; (iv) gas pool of Rs1.5bn (Rs2.5bn per annum till FY05) has been abolished; and (v) all new gas would be sold at market prices and, hence, APM gas supply is set to fall sharply.

We expect gas prices to be fully deregulated by FY11-12…

Complete deregulation is only a question of time: A sharp increase in free priced gas from Reliance Industries' (RIL) KG basin, LNG and other domestic gas finds would replace APM gas supply. Thus, APM gas supply would shrink to below 20% of the gas consumed by regulated sectors by FY11-12, making it untenable for retaining APM prices. Hence, we expect gas to be fully deregulated by FY11-12.

Exhibit 2: Steep fall in share of APM gas in total gas consumption



Source: SSKI Research

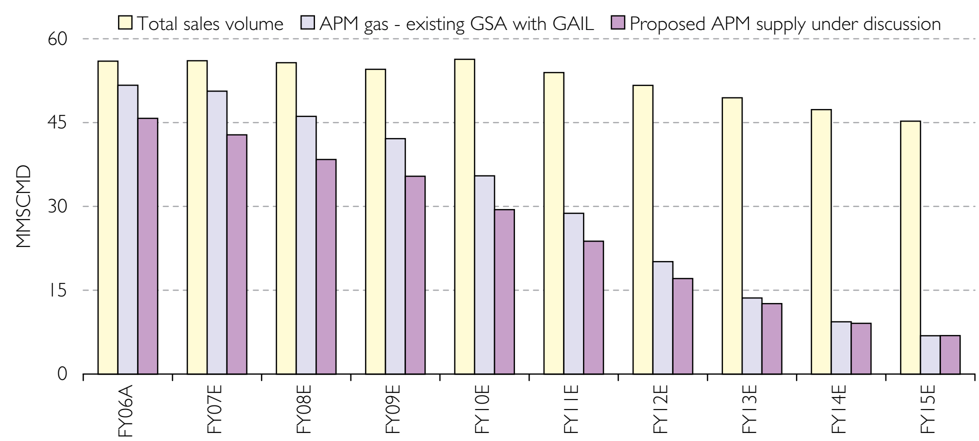
…even otherwise, ONGC's APM gas volumes to drop by 60%, leading to higher realizations

Worst case - only ~1/3rd of ONGC's gas reserves would be under APM: ONGC's GSA (Gas Sale Agreement) with GAIL indicates a 60% drop in APM gas output by FY11-12 on account of a natural decline in production from mature fields. The decline would be much steeper in the subsequent years. This implies that (i) the average realization is set to go up steadily, and (ii) out of the total domestic gas reserves of 313bcm, only around one-third would be sold under APM, even if deregulation does not happen!

Large free priced gas supply and ONGC's high cost new gas provide comfort against risk of GSA non-implementation

We believe the current valuations reflect APM gas prices for the entire reserves of ONGC, which is highly pessimistic. Going by the past record of protest by user industries, especially power and fertilizer, the risk of possible non-implementation of the GSA does exist. However, we believe the large quantum of free priced gas from private sector and high cost (capex+opex) of ONGC's new gas are compulsive arguments in favour of the GSA and ultimate deregulation of APM.

Exhibit 3: ONGC's APM gas volumes set to fall sharply



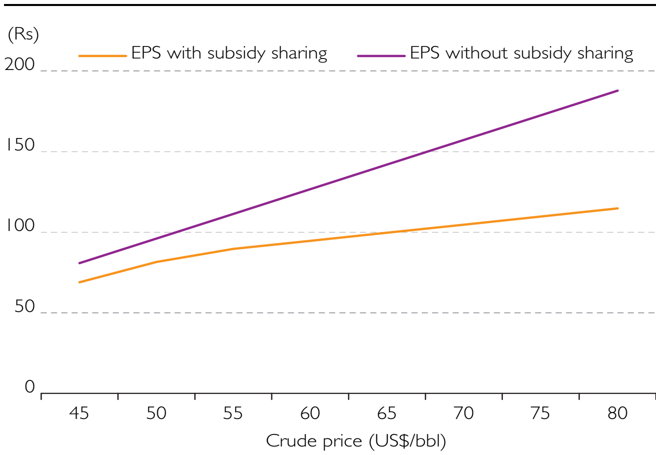
Source: SSKI Research

❑ Limited earnings sensitivity to crude price within a range

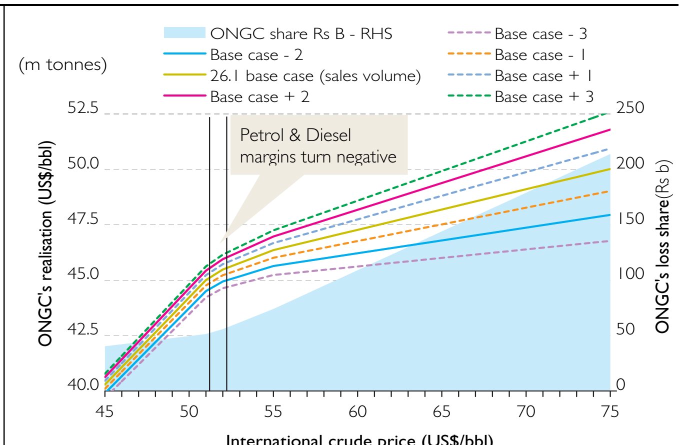
ONGC's earnings relatively less sensitive to international crude prices

Sharing of fuel marketing under-recoveries impact ONGC's crude price realization, which makes its earnings relatively less sensitive to crude prices compared to private sector peers in the domestic market as well as the global E&P industry. Sharing of losses is achieved through discounts on price of crude / products sold to oil marketing companies. We estimate under-recoveries to have a 10-33% impact (or a discount of US$4.7-25/bbl) on ONGC's crude price realization on crude sale in the domestic market at Brent prices ranging between $45-75/bbl. However, at US$45/bbl, the loss sharing formula may be withdrawn in view of the relatively small quantum of under-recoveries.

Exhibit 4: Limited earnings sensitivity under loss sharing



Realization moderates at higher international crude prices



Source: SSKI Research

In a crude price inflationary environment, the low leverage to crude prices drives an under-performance of the stock compared to its peers. However, in a relatively soft crude price environment, the stock is likely to outperform peers, and at worst provide downside support.

We expect crude prices to fall to $50/bbl over the next 12 months

We expect crude prices to fall to $50/bbl over the next 12 months. The International Energy Agency (IEA) expects OPEC, non-OPEC and bio-fuel supplies to improve ~2.7% per annum to 95.6m bpd over 2006-09 as against a demand growth of ~1.8% per annum to 89.4m bpd during the same period. This would drive the spare capacities up over 4.4mbpd or 4.9% of demand from the current 2.2mbpd or 2.6% of demand. Geo-political issues related to Iran remain the biggest threat to the above forecast.

VALUATIONS AND VIEW

ONGC trades at a steep discount to global as well as domestic peers like Cairn India. However, the valuation discount to global peers is set to narrow down significantly as the concerns leading to the discount are receding. We believe ONGC deserves to trade at a significant premium to domestic players on account of its superior return profile and conservative reserve base (domestic players valued on 2P basis as against 1P for ONGC). We understand that ONGC's 2P reserves are at least 40% higher than its 1P reserves. We have arrived at a DCF-based SOTP price of Rs1130 per share for ONGC (1P reserves).

❑ Trading at a steep discount to global peers on PE basis

Our valuations build in crude price expectations of $55/bbl in FY08 and $50/bbl in FY09…

ONGC trades at a significant discount to global valuations. This is despite our significantly lower crude price expectations of US $55/bbl in FY08 and US $50/bbl in FY09 vis-à-vis little decline in crude price built in consensus estimates for global oil & gas companies.

Exhibit 5: Global comparable valuations

	FY08E / CY07E			FY09E / CY08E		
	ONGC	Global average	Discount (%)	ONGC	Global average	Discount (%)
P/E (x)	9.5	12.3	22.7	10.3	12.0	14.1
EV/ EBITDA (x)	4.4	5.0	12.0	4.4	4.9	10.2

Source: SSKI Research

…against largely flat crude price assumptions by consensus estimates

Consensus estimates for global oil companies have been downgraded by 8-12% over the last few months (refer exhibit in Annexure-1), as crude prices came off the peak. This, along with a yoy decline (the lack of it) in estimates for CY07, clearly indicates largely flat crude price assumptions behind the consensus estimates.

This implies that ONGC's valuation discount is much higher than indicated in the table above. ONGC's earnings remain positively geared to global oil prices at all times, though less sensitive on account of loss sharing, which implies a lower P/E at higher crude price assumptions.

ONGC's steep discount of 22.7% on PE, and 12% on EV/EBITDA basis to global peers appears unjustified

Given the widely varying crude price assumptions, we believe comparison of FY08/CY07 estimates would provide a relatively more accurate picture, as the variance would be less than that of FY09/CY08. Compared to global peers, ONGC trades at a steep discount of 22.7% on a PE basis and 12% on EV/EBITDA basis. The discount appears unjustified given ONGC's conservative accounting policies, especially relating to survey/ exploration expenditure and dry well write-offs that impact reported net profit numbers. ONGC follows the successful efforts method of accounting, wherein it writes off dry wells and survey expenses in the same quarter/ year of occurrence. The method of accounting leads to depressed reported net profit relative to entities following the full cost accounting method, wherein such expenses are capitalized and written-off over a longer period.

Exhibit 6: Global valuations

	Price/Earnings (x)		EV/EBITDA (x)	
	2007Y	2008Y	2007Y	2008Y
PETROCHINA CO LTD-H	11.0	11.0	5.5	5.6
CNOOC LTD	10.9	10.0	5.5	5.3
CHINA PETROLEUM & CHEMICAL-H	10.8	10.5	4.8	4.6
PTT EXPLOR & PROD PUBLIC CO	10.6	9.7	4.7	4.2
OIL SEARCH LTD	16.3	19.1	4.2	4.7
SANTOS LTD	11.6	13.4	4.9	5.5
WOODSIDE PETROLEUM LTD	17.6	13.0	9.6	7.3
CHEVRON CORP	10.3	10.2	4.2	4.3
EXXON MOBIL CORP	12.4	12.7	5.1	6.0
TOTAL SA	9.6	9.8	4.8	4.9
ANADARKO PETROLEUM CORP	11.7	10.0	6.0	5.7
APACHE CORP	10.0	9.5	4.0	3.8
EOG RESOURCES INC	16.2	14.1	5.1	4.7
NOBLE ENERGY INC	13.1	13.9	4.4	4.3
NEWFIELD EXPLORATION CO	10.5	10.4	4.1	3.8
OCCIDENTAL PETROLEUM CORP	11.4	10.9	4.6	4.1
TALISMAN ENERGY INC	14.7	15.0	4.3	4.0
Average	**12.3**	**12.0**	**5.0**	**4.9**

Source: Bloomberg

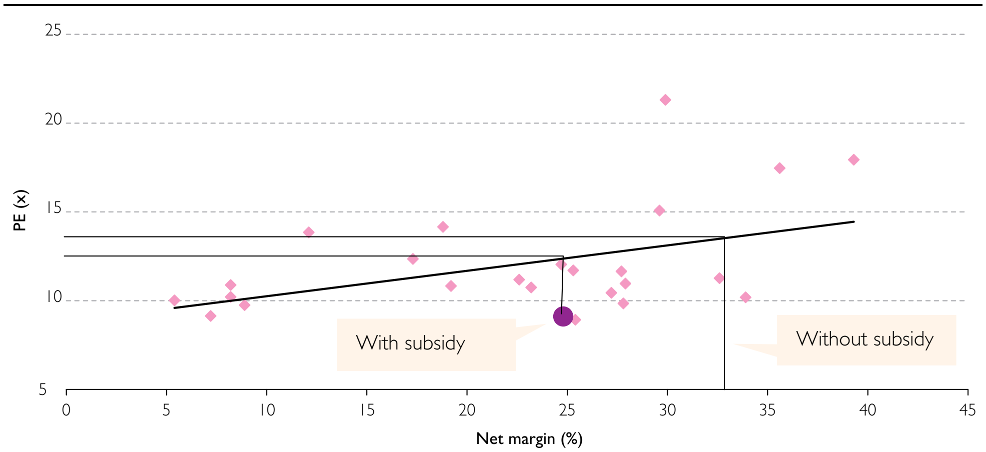
We believe policies on APM gas marketing and fuel marketing loss sharing could only turn favourable from here

❑ Profit margin vs earnings multiple too indicate undervaluation

Global comparison of profit margins and earnings multiples indicates that ONGC is undervalued, both with and without APM gas pricing and fuel marketing loss sharing. This reflects the pessimism surrounding the stock. We believe government policy on these issues is unlikely to get any worse for ONGC. Also, the loss sharing formula has endured crude prices of US $75/bbl, and we do not expect it to be changed while APM gas pricing is clearly on its way out.

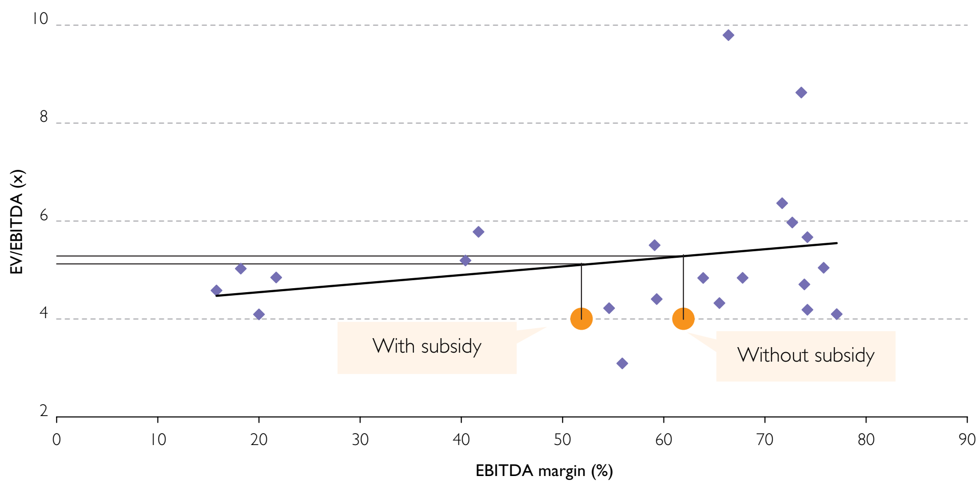
ONGC trades at significant discount to peers

Exhibit 7: Price/Earnings comparison



Source: SSKI Research

Exhibit 8: EV/EBITDA comparison



Source: SSKI Research

❑ Cheap compared to domestic benchmarks

Implied valuation for ONGC using Cairn and RIL's KG-D6 as benchmarks works out to US $6.3-6.5/boe

Successful exploration efforts by RIL and Cairn (and its listing) provide new benchmarks for valuation of domestic E&P reserves. Cairn's oil reserves of 573m boe (2P+100m bbl of EOR – our assumption) are valued at about US $9/boe basis (not including contingent reserves). Street estimates put Reliance's KG-D6 gas reserves 23.2tcf (2P in-place) at US $2.6-3.0/boe for the reserves. The implied valuation for ONGC using Cairn and RIL's KG-D6 as benchmarks (not accounting for the 2P vs 1P reserve base) for oil and gas reserve valuation respectively works out to US $6.3-6.5/boe.

Exhibit 9: ONGC's valuation using domestic benchmarks

Cairn's oil reserve	US$9.0/bbl
RIL's KG-D6 gas reserve	US$2.6-3/boe
Implied value of ONGC's reserves (not accounting for 2P vs 1P reserve base!)	US$6.3-6.5//boe
Current market valuation	US$5.6/boe

Source: SSKI Research

In our view, the above valuation would form only the floor, while the actual valuation would be significantly higher on account of ONGC's superior return profile.

ONGC should trade at a premium to NELP/ pre-NELP PSCs

DCF valuation of ONGC's reserves at least 15-20% higher than NELP / pre-NELP PSCs, despite loss sharing & APM gas pricing

We have attempted a DCF valuation of PSCs of non-producing assets with government profit sharing for both NELP and pre-NELP contracts with some of the common parameters like discount rate, crude prices and lifting costs remaining the same (refer annexure for comparison of key parameters). Our analysis reveals that the value of the reserves would be at least 15-20% lower than that of ONGC – for both oil and gas – despite penalties like loss sharing and APM pricing of gas, especially in the current high crude/ gas price environment.

ONGC's 2P reserves at least 40% higher than 1P, making the stock cheaper vis-à-vis domestic peers

ONGC's 2P reserves is atleast 40% higher than 1P

More importantly, the reserves used for valuation of Cairn and RIL are 2P based, while ONGC's reserves are 1P based. Incidentally, Cairn's reserve base (used by Street estimates) also includes gains from IOR/ EOR, while we have not included potential gains from redevelopment in the case of ONGC. Though conceptually we are not against using 2P reserves for valuations (especially DCF based) as 2P reserves form the basis of business plan of most E&P ventures, we would like to highlight the highly conservative valuation of ONGC. We understand that ONGC's 2P reserves are at least 40% higher than 1P, making the stock that much cheaper in terms of valuation.

Exhibit 10: Comparison of valuation factors for ONGC and CAIRN (proxy for NELP/ pre-NELP PSC)

	ONGC	CAIRN
Crude realization	Premium to Brent	At least 7-10% discount to Brent
Government share	No government share of profit but higher royalty, cess and loss sharing leading to total government take of 41.5-48% under crude prices ranging from US$45-75/bbl	Pays nominal cess along with escalating government sharing leading to total government take of 46-47.8%
Production cost	$4.5/bbl	Direct cost $3.5/bbl
Additional capex to exploit reserves	largely restricted to marginal field development	USD 2.3bn (but cost recoverable)
Production	Producing	Bulk of production to start in 3 years
Tax benefit	Nil	7-year tax holiday but will pay MAT
Marginal tax rate	33.60%	41%
Reserve basis	1P	2P+EOR gains

Source: SSKI Research

❑ Similar results from comparison with regional valuations

Regional oil and gas majors trade at an EV/boe of US $9-14/bbl, while ONGC trades at US $5.7/bbl, which is a steep discount of 37-59%.

Assigning a value of $14/bbl for PTTEP's gas reserves, implied value of ONGC's gas reserves comes to $9.4/boe

We have compared ONGC specifically with PTTEP, Thailand, as PTTEP is valued at the lower end of the regional valuation spectrum on account of it being largely a gas player. PTTEP has proven reserves of 923m boe (split 83:17 in favour of gas) and the company is valued at US $10.2/boe. Assigning a value of US $14/bbl for PTTEP oil reserves – in line with regional valuations, the implied value of gas reserves comes to US $9.4/boe.

Upon full deregulation and LNG prices crossing $5/mmbtu in 2008, realization for domestic players to cross $4/mmbtu

While PTTEP's gas price realizations, at US $4.6/mmbtu, are far ahead of ONGC's current regulated prices, we believe the discount is too steep. The steep valuation discount also indicates the potential upside offered by ONGC when gas prices are fully deregulated in India. Currently, Panna-Mukta-Tapti (PMT) Consortium's realization – at US $4.75/mmbtu – is the highest in the country. However, with LNG prices too slated to cross US $5/mmbtu in 2008, we believe realization for other domestic players, both ONGC (free-priced gas) and RIL, could be in excess of US $4/mmbtu.

With declining APM gas volumes and lower loss sharing, we expect ONGC to be re-rated

Issues wrt near-term earnings, subsidiaries' value, and investments in IOC and GAIL make DCF-based SOTP valuation appropriate

Our DCF valuation assumes long-term average crude price of $45/bbl

Exhibit 11: Regional comparison

Regional valuation range	US$9-14/boe
PTTEP, Thailand	US$10.2/boe,
Implied gas valuation at US$14/bbl of oil valuation	US $9.4/boe
Implied value of ONGC's reserves, under free pricing conditions	US$12//boe

Source: SSKI Research

❑ The valuation discount set to narrow

The valuation discount accorded to ONGC can be attributed primarily to APM pricing of gas and loss sharing in the case of oil. However, APM gas volumes are set to decline sharply for ONGC over the next 4-5 years, leading to a possible complete deregulation by FY11-12. The crude price discount on account of loss sharing is also down sharply at lower crude prices. The discount falls to 11.6% at US $50/bbl (FY09 assumption) and 15.8% at US $55/bbl (FY08 assumption) from as high as 33.3% at US $75/bbl. Going forward, the valuation gap should narrow significantly. Any reduction in subsidies on LPG and kerosene could add to the upside.

❑ We value ONGC at Rs1,130/share using DCF-based SOTP model

We believe DCF-based SOTP valuation is the best way to estimate the value of ONGC, given the issues affecting its near-term earnings and also that value lies in the two key subsidiaries as also investments in IOC and GAIL. We have valued ONGC's domestic operations and the new gas discovery based on DCF, while assigning a value of US $7.5/boe to OVL and redevelopment gains. Strategic investment in MRPL is valued at Rs35 per share (ONGC has a 71% stake), and investments in IOC, GAIL and PLL are valued at market price.

Exhibit 12: SOTP table

	Rs bn	US$ bn	Rs/ share	
Domestic operations	1,426	32.0	667	DCF value @discount rate of 11.8%, long -term average crude price of US $45/bbl and gas price deregulation from FY12
Redevelopment gains	234	5.2	109	'@US$10/boe
OVL	517	11.6	242	'@US$8/boe
New gas discovery	122	2.7	57	DCF based
MRPL	44	1.0	21	@Rs.35/share
Other holdings	58	1.3	27	@' mkt price
Enterprise value	2,401	53.9	1,123	
Net debt	(15)	(0.3)	(7)	FY07E
Equity value	2,416	54.3	1,130	

Source: SSKI Research

Our DCF valuation of domestic operations is based on:

- Crude price assumption of US $55/bbl in FY08, US $50/bbl in FY09 with US $45/bbl as the long-term average
- Gas prices: APM – Rs3,200/tscm along with complete deregulation in FY12; non-APM – Rs8,450/tscm (US $4.75/mmbtu)
- WACC of 11.8%

Exhibit 13: DCF of domestic operations

		FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15...	FY23	FY24	FY25
Oil production	mn tonnes	30.4	30.9	31.8	30.7	29.6	28.6	27.6	26.6	9.6	8.4	7.4
Gas production	bcm	26.1	26.1	26.7	25.8	24.9	24.0	23.2	22.3	7.3	6.4	5.6
Oil price	US$/bbl	55.0	50.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
Gas price realisation	Rs/tcm	3,028	3,668	4,164	4,446	6,424	6,424	6,424	6,424	6,424	6,424	6,424
Oil sales	Rs bn	426.6	419.2	435.3	420.1	405.4	391.2	377.5	364.3	131.0	115.3	101.5
Gas sales	Rs bn	90.8	97.0	112.8	116.3	162.1	156.4	150.9	145.7	47.8	41.6	36.2
Petroleum products sales	Rs bn	51.1	47.1	43.6	42.1	40.6	39.2	37.8	36.5	13.1	11.6	10.2
less: Excise duties	Rs bn	2.6	2.4	2.2	2.1	2.1	2.0	1.9	1.9	0.7	0.6	0.5
Total sales revenues	Rs bn	566.0	560.8	589.6	576.3	606.0	584.8	564.4	544.6	191.3	167.8	147.3
Taxes and levies												
Oil royalty	Rs bn	48.0	47.1	43.6	42.1	40.6	39.2	37.8	36.5	13.1	11.6	10.2
Gas royalty	Rs bn	7.5	7.5	8.7	9.0	12.6	12.1	11.7	11.3	3.7	3.2	2.8
Cess	Rs bn	63.6	64.8	66.8	64.4	62.2	60.0	57.9	55.9	20.1	17.7	15.6
NCCD	Rs bn	1.2	1.2	-	-	-	-	-	-	-	-	-
Sales tax	Rs bn	19.3	19.0	17.6	17.0	16.4	15.8	15.3	14.8	5.3	4.7	4.1
Octroi	Rs bn	4.3	4.2	3.9	3.8	3.7	3.5	3.4	3.3	1.2	1.0	0.9
Pipeline costs	Rs bn	6.1	6.3	6.4	6.5	6.7	6.8	6.9	7.1	7.6	7.7	7.8
Operating costs	Rs bn	79.0	80.5	82.7	79.8	77.0	74.3	71.7	69.2	23.9	20.9	18.3
EBIDTA	Rs bn	337.0	330.2	359.7	353.6	386.9	373.0	359.6	346.6	116.3	101.0	87.6
Tax	Rs bn	76.4	72.1	80.9	79.6	87.1	83.9	80.9	78.0	27.9	24.2	21.0
Tax rate (%)		22.7	21.8	22.5	22.5	22.5	22.5	22.5	22.5	24.0	24.0	24.0
Survey	Rs bn	25.2	25.0	-	-	-	-	-	-	-	-	-
Capex	Rs bn	144.2	142.8	28.1	28.1	28.1	12.0	12.0	12.0	12.0	12.0	12.0
FCF	Rs bn	91.3	90.3	250.7	246.0	271.8	277.1	266.7	256.6	76.4	64.8	54.6
NPV	Rs bn	1,426										

Source: SSKI Research

Capex for redevelopment and development of marginal fields

❑ Key sensitivities

Crude prices – Rs13.3/share for every US $1/bbl change in long-term average crude price assumption

WACC – Rs32.9/share for every 1% change in discount rate

Worst-case assumption of continuation of regulated gas price on all domestic gas forever – Rs81/share

ONGC: SIGNIFICANT RESERVE ACCRETION

We expect the large domestic gas finds, redevelopment gains and the six overseas discoveries to drive at least 21-32% increase in ONGC's ultimate (recoverable) reserves over the next 18-24 months. Ramp-up in oil production at Sakhalin-1 and commissioning of Rajasthan oil production (Cairn JV) would boost production in the medium term.

EXPECT 21-32% ULTIMATE RESERVE ACCRETION IN THE NEXT TWO YEARS

Multiple sources of reserve accretion over the next 2-3 years would be the key catalyst for ONGC's performance on the bourses. We expect ultimate (recoverable) reserves to increase by at least 21-32% over the next 18-24 months. Reserve upside would accrue from the following:

- Large domestic oil & gas finds: 5-15TCF in KG-basin and 4TCF in Mahanadi basin
- Upside from redevelopment of mature fields (IOR / EOR gains): Phase 1 upside of 70m toe. Phase 2 for 100m toe planned
- OVL (and other JVs) exploration success / Value accretive acquisitions overseas: Six discovered blocks and a few highly prospective blocks to drive growth. Lower end of reserve estimates for discovered blocks add up to over 75m toe.
- Contributions from domestic JVs: Redevelopments as also Cairn's Rajasthan field development to add to production and reserves
- Potential upside from CBM: DGH indicates a large resource base of 445bcm for ONGC owned blocks

New gas finds, redevelopment of existing fields and overseas discoveries to drive reserve accretion

In the medium term, production growth is likely to be driven primarily by OVL's Sakhalin-1 achieving peak oil production rate. Domestic JVs and redevelopment (IOR / EOR) of mature fields should also supplement production.

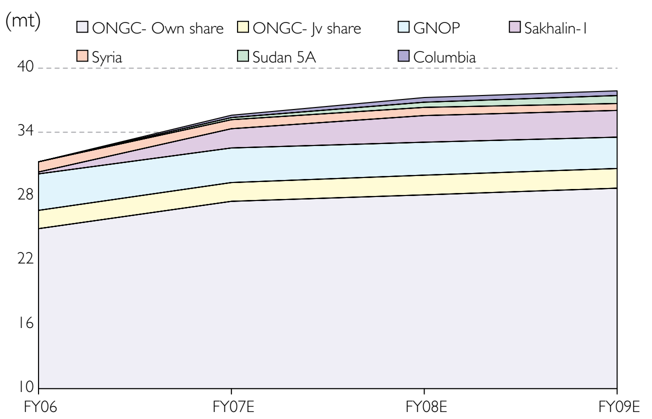
IOR/ EOR (improved/ extended oil recovery) gains are likely to drive a 1-2% per annum growth in domestic production after setting off a natural 6-7% decline per annum in these fields. We expect production from domestic JVs to increase at a CAGR of 4.4% over FY06-09 on the back of Cairn's Rajasthan field development. The PMT and Ravva field redevelopments are likely to further add to production. OVL's production CAGR of 13.5% would be driven by Sakhlain-1 achieving peak oil production of 2.5m tpa (OVL's share) and ramp-up at Sudan 5A, despite some decline at GNOP (Sudan) and Al-Furat (Syria) fields. Ramp-up of gas production – from about 0.5bcm to 2.0bcm (OVL's share) over 2011-12 and commissioning of production from new discoveries would form the next leg of production growth for OVL.

Exhibit 14: Significant reserve upside for ONGC

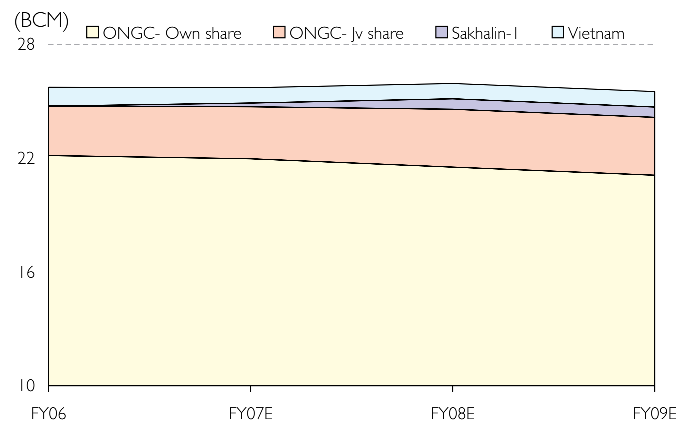
Reserves (m toe)		Upside (m toe)	Upside (%)	Comments
Domestic	717	New gas finds 69-171	7.5 - 18.5	@ 80% recovery and 50% risk adjustment (to arrive at 1P comparable reserve)
		Redevelopment 70	7.6	Upside is already 1P based
OVL	206	New overseas discoveries 56	6	@ 75% of the lower end of the aggregate reserve expectations indicated in media
Total	923	195 - 297	21 -32	

Source: SSKI Research

Exhibit 15: ONGC's oil production details



Gas production details



Source: SSKI Research

DOMESTIC EXPLORATION: THE TIDE HAS TURNED

ONGC has reported large gas finds on the East Coast in the prolific KG and Mahanadi basins. The strike has suddenly improved ONGC's hitherto relatively lackluster domestic exploration success rate. In the KG basin, ONGC has reported the gas find at block KG-DWN-98/2, wherein ONGC has a 90% stake and Cairn holds 10%. For the Mahanadi gas find, ONGC holds a 40% stake in the block MN-OSN-2000/2 while IOC, GAIL and OIL hold 20% each.

❑ ONGC's filings indicate reserves of 5-15TCF for KG basin find

Media reports put size of the gas find at 4TCF (113bcm)

Official estimates of the reserve size for both the new finds are at least a few months away. However, ONGC's filings with the DGH indicate KG basin find gas reserves of 5-15TCF (142-425bcm). Interestingly, media and industry sources peg the reserves much higher at 21TCF (595 bcm), comparable to its existing gas reserve of 449 bcm (domestic + overseas). Notably, the reserve estimate for the new find is most likely to be 2P or 3P estimates, while ONGC's existing reserve is 1P based.

For the Mahanadi gas find, media reports indicate a size of about 4TCF (113bcm). In the absence of official reserve estimates, ONGC's initial estimates and media reported estimates form a good starting point for putting a value to these finds.

❑ We assign a value of Rs122bn or Rs57/share to the new finds

We assign a value of Rs109.4bn or Rs51.2/share to the KG basin find and Rs13bn or Rs6/share for the basin find making 7% upside on current price.

Exhibit 16: Valuation summary of new finds

	In-place reserves (TCF)	NPV (Rs b)	ONGC stake (%)	Value for ONGC (Rs b)	Comments
KG-DWN-98/2	15	121.5	90	109.4	DCF based valuation, based on 80% recovery, PSC terms and capex similar to RIL's D6 and discount rate of 11.8%
MN-OSN-2000/2	4	32.4	40	13.0	Valuation based on KG basin DCF
Total	19	153.9		122.3	
Per share value (Rs)				57.2	

Source: SSKI Research

Our assumptions for DCF valuation build in 15TCF of 2P/3P in-place reserves

Our DCF valuation is based on PSC parameters similar to RIL's KG basin gas find. Our assumptions build in 15TCF (upper end of ONGC's indicated size) of 2P/3P in-place reserves, capex of US $5.7bn in two phases, a sharp increase in government take to 85% beyond 2.5x cost recovery, well-head realization of US $4/mmbtu and a discount rate of 11.8%.

We find wellhead realization of US $4/mmbtu a realistic estimate given the increase in the LNG import price (the key alternative as of now) from FOB price of US $2.53/mmbtu currently to ~US $3.5/mmbtu with effect from FY09. This implies an increase in delivered price from about US $4/mmbtu to US $5.1/mmbtu. Current negotiations for gas from Iran through IPI (Iran-Pakistan-India) pipeline too indicate a delivered price (at the customer's gate) of at least US $6.5/mmbtu.

The structure of PSC obviates any concern on the sharp increase in exploration and development expenses driven by stretched availability of rigs and other E&P services. The DCF value is relatively less sensitive to changes in exploration and development costs on account of cost recovery provisions in the PSC (100% recovery and phased increase in government share till 2.5x cost recovery). In fact, till a point (1.2x in this case), the DCF value actually increases when the project cost increases. This provides some scope for contractors to optimize project costs, though requirement of DGH approval for projects is likely to limit the extent.

However, the DCF value is highly sensitive to the reserve size and wellhead realization of gas. A 10% increase in reserve size would add 15.4% to the value, while a 10% increase in wellhead realization would add 8.3% to the value. Both the values remain positively correlated to DCF value at all times (unlike the exploration and development cost).

❑ DGH objections relate to technicalities of announcement of discovery

Subsequent to ONGC's filing of discovery with DGH, the regulator has disallowed ONGC's gas find despite approving it initially. We believe DGH's objection in recognizing the discovery is based on technicalities of the PSC, which does not provide for recognition of simulation testing (MDT – modular dynamic testing) of the reservoir in confirming the discovery, despite its widespread use globally. Another bone of contention is the abandonment of the well subsequent to the announcement of the discovery, which ONGC terms as a standard practice.

Despite technical objection raised by DGH over discovery, we do not consider it a serious concern

We believe such technicalities relating to recognition of discoveries are not a serious concern, as it does not effectively deny existence of gas. We therefore feel that the stock price needs to discount the discovery. Also, we would like to highlight that this is not the first time the DGH has disallowed ONGC's discovery. History suggests that subsequent drilling in conformity with DGH's procedural requirement is likely to return a positive response from the regulator.

REDEVELOPMENT GAINS: AS GOOD AS IN THE POCKET

ONGC is set to add 70m toe to its ultimate (recoverable) reserves over the next 22 months. These are the pending gains from Phase I of the redevelopment programme, which intends to raise the recovery rate from 28% to 34%. The budgeted gain from Phase I was 106m toe, with ~30m toe accounted for till date.

❑ Bulk of capex committed, but gains yet to be accounted for

Phase I set to yield an additional production of 70m toe of oil and gas

Phase I involved redevelopment of 18 blocks at a total cost of Rs13.6b, set to yield an additional production of 106m toe of oil and gas. While Rs100bn (~73% of the budgeted capex) has already been deployed, only 30% of the budgeted ultimate reserve gain has been booked. The remaining 70% of gains (70m toe) are expected to be booked on completion of Mumbai High-North (MHN – completed a few months back) and Mumbai High-South (MHS – scheduled for December 2008) redevelopment programmes.

Exhibit 17: Redevelopment programme details

Project name	Incremental production (MMToe)	Revised date of completion	Estimated cost (Rs bn)	Expense till Feb '07 Rs (bn)
MHS Redevelopment	45.6	Dec-08	65.8	61.7
MHN Redevelopment	30.3	Dec-06	32.4	32.1
Heera and South Heera redevelopment	12.9	June-10	23.0	0.0
IOR, Lakwa- Lakhmani	5.7	Mar-10	4.3	2.4
IOR, Geleki	4.9	Mar-11	8.4	3.4
IOR, Kalol	2.7	Mar-07	1.0	
IOR Rudrasagar	1.5	Mar-08	2.2	1.2
IOR Subhuman	1.3	Dec-06	0.7	
IOR North Kadi Ph-II	0.4	Mar-07	0.3	

Source: Indian Petro

To put the numbers in perspective, 70m toe of ultimate (1P) reserves compare favourably with Cairn's 2P reserves of 65m toe (473m bbl).

❑ Phase II redevelopment for >100m toe in the pipeline

Phase II redevelopment plan expected to add a further 100+ m toe of ultimate reserves

ONGC is also in the process of preparing its Phase II redevelopment plan to raise the recovery rate from 32% to 38%, which is expected to add a further 100+m toe of ultimate reserves (12% of the existing reserves). The programme is expected to be completed over the next 4 years. Notably, ONGC's recovery rates – at ~28% – have lagged the global recovery rates of 35-45%. The underperformance can be assigned to late adoption of newer recovery techniques by ONGC as well as the company's inability to allocate significant capital for redevelopment efforts under the APM, which was in effect till FY02.

Redevelopment efforts are highly profitable, with IRRs ranging between 25-40% at "nominal" long-term crude prices.

OVL: DISCOVERIES TO ADD TO ONGC'S RESERVES / PRODUCTION

OVL is a key growth driver for ONGC. The subsidiary is set to drive significant reserve accretion and production growth through successful exploration efforts as well as value accretive acquisitions.

❑ Discovered blocks to drive reserve accretion / production

OVL has a rich portfolio of discovered and prospective blocks

OVL currently has six discovered blocks in its portfolio: blocks A-1 and A-3 in Myanmar, BC-10 in Brazil, Block 5A in Sudan, Najwat Najem in Qatar and Block-6 in Egypt. OVL's portfolio could drive significant reserve accretion and production growth for ONGC over the next 2-3 years. Based on the lower end of the preliminary reserve estimates, we expect these blocks to shore up ONGC's reserves by at least 56m toe (upside of 27% to the existing OVL reserve base).

OVL also has a few highly prospective exploration blocks like OPL 209 & 212 in Nigeria, Blocks 24, 25, 26, 27, 29, 35A and 36 in Cuba, and Farsi offshore in Iran (service contract). These blocks provide scope for further addition to ONGC's overall reserves and production over the next 4-5 years.

Exhibit 18: Details of blocks with discovery and highly prospective blocks Producing fields

Country	Project	Participating companies
Producing fields		
Vietnam	Block 6.1 (offshore)	OVL 45%, BP 35%, PETROVIETNAM 20%
SUDAN	GNOP (ONLAND)	OVL 25%, CNPC 40%, PETRONAS 30% SUDAPET 5%
RUSSIA	SAKHALIN 1 OFFSHORE	OVL 20%, EXXON 30%, SODECO 30%, SMNG-S 11.5%
RN ASTRA 8.5%		
COLUMBIA	ACQUISITION OMIMEX	OVL 50% SIPC 50%
SYRIA	ALFURAT	OVL 50%, CNPC 50%
DEVELOPMENT /APPRAISAL		
MYANMAR	BLOCK A 1 (OFFSHORE)	OVL 20%, GAIL 10%,DAEWOO 60%, KOGAS 10%
	BLOCK A 3 (OFFSHORE)	OVL 20%, GAIL 10%,DAEWOO 60%, KOGAS 10%
BRAZIL	BC-10 (OFFSHORE)	OVL 15%, RD SHELL 35%, PETROBRAS 50%
SUDAN	BLOCK 5A (ONLAND)	OVL 24.125%, PETRONAS 68.88% SUDAPET 7%
QATAR	NAJWAT NAJIM (OFFSHORE)	OVL 100%
EGYPT	B6 NORTH RAMADAN (OFFSHORE)	OVL 70%, IPR 30%

Source: Industry

Block A-1, Myanmar: (OVL stake - 20%) Two discoveries in the Shwe and Shwe Phyu prospects have been made over the last 24 months. Appraisal drillings of the two gas prospects are complete and the field development plan, gas evacuation and marketing study is in progress.

GCA's (an independent certification agency) "best" estimates (2P) of recoverable reserve of Shwe and Shwe Phyu stand at 2.9 and 0.4Tcf, totaling 3.3Tcf (93bcm), while corresponding "high" estimates (3P) of recoverable reserves are 4.7tcf and 0.9Tcf, totaling 5.6Tcf (158bcm).

Block A-3, Myanmar: (OVL stake – 20%) Gas discovery was made in prospect Mya in January 2006. GCA pegs the "best" recoverable reserve estimate (2P) at 1.5tcf (42bcm) and "high" estimate (3P) at 3tcf (85bcm). Further exploration is being carried out, while development plan for the discovery is being prepared.

BC-10, Brazil: (OVL stake – 15%) OVL bought into the discovered field in April 2006 post declaration of commerciality in December 2005. The block is located in the Campos basin, adjacent to BC-60 which has several large discoveries.

Industry sources put OVL's share of 2P reserves at 70m boe currently. Production is expected to commence in September 2009. Peak production is expected at about 1m toe per annum.

Block 5A, Sudan: (OVL stake – 24.125%) Located in the prolific Muglad basin, the block has two discovered fields – Thar Jath and Mala together accounting for about 20m toe reserves. Thar Jath commenced production in July 2006, while production at Mala is set to commence any time now. Production, currently at 25,000 bopd, is expected to rise to 33,000 bopd by early next year.

Three new discoveries in Mala adding up to about 70m boe are also under development to commence production by end-2007. Plateau production from the field is expected at about 35,000-40,000 bopd.

Till date, 18 prospects and 64 leads have been identified from a survey covering about 38% of the 20,917 sq km area. Additional exploration in the current year has resulted in five more discoveries, adding up to approximately 42m boe of reserves.

Najwat Najem, Qatar: (OVL stake – 100%) 120 sq kms of offshore oil structure located in the Arabian Gulf at water depths of 30-40 mts is expected to hold 300m bbls of oil (likely to be in-place reserves).

Block – 6 (North Ramadan), Egypt: (OVL stake – 70%) North Ramadan offers multiple leads and immediate drillable prospects near tested oil, which is being pursued in the first phase of exploration. A 290 sq. kms area is surrounded by some of Egypt's most prolific producing oil fields in the Gulf of Suez. Potential reserves in the block are estimated at 600m bbls (likely to be in-place).

❑ Blocks indicated to be highly prospective

OVL's exploratory portfolio is equally lucrative

OPL 209 & 212, Nigeria (OVL's effective stake – 50%): Acquired through OMEL (ONGC Mittal Energy), the block is located close to the Bonga fields, which are highly prolific in nature. The blocks are expected to hold over 1bn boe (137m toe).

Blocks 24, 25, 26, 27, 29, 35A and 36, Cuba (OVL's stake – 30%): Blocks spread over 12,000 sq. kms with potential reserves of over 4bn bbl of oil. One exploration well drilled indicated presence of hydrocarbons.

Farsi offshore, Iran (OVL's stake – 40%): Recent drilling indicates oil finds of commercial quantities.

Exhibit 19: OVL assets exploration

Country	Project	Participating companies
NIGERIA	BLOCKS 209 & 212 (OFFSHORE)	OMEL 100%
CUBA	BLOCKS 24, 25, 26, 27, 29, 36, 35 A (OFFSHORE)	OVL 30%, REPSOL 40%, NORSK HYDRO 30%
IRAN	FARSI (OFFSHORE)	OVL 40%, IOC 40%, OIL 20%
IRAQ	BLOCK 8 (ONLAND)	OVL 100%
SYRIA	BLOCK 24 (ONLAND)	OVL 60%, IPR 40%
LIBYA	NC-188 &189 (ONLAND)	OVL 49%, TPOC 51%
	BLOCK 81-1 (ONLAND)	OVL 100%
VIETNAM	BLOCK 127 (OFFSHORE)	OVL 100%
	BLOCK 128 (OFFSHORE)	OVL 100%
SUDAN	BLOCK 5B (ONLAND)	OVL 23.5%, PETRONAS 41%, LUNDIN 24.5%, SUDAPET 11%
	BLOCK 256	OMEL 100%
NIGERIA STP-JDZ	BLOCK 2(OFFSHORE)	OVL 13.5%, EQUATOR EXPLORATION 9.07%, SINOPEC/ADAX/EHRC 65% AND OTHERS 12.5%

Source: Industry

DOMESTIC JVS TO CONTRIBUTE TO RESERVES/ PRODUCTION

Cairn's Rajasthan fields (Mangalam, Bagyam and Aishwarya) and PMT (Panna, Mukta and Tapti) are set to witness a ramp up in production – PMT on account of gains from redevelopment and new development of Cairn's Rajasthan fields. Though small, Cairn as well as the redevelopment efforts at PMT would contribute to reserve growth as well.

❑ Cairn's Rajasthan fields – the biggest contributor…

Cairns Rajasthan fields and PMT to account for significant JV contribution

Among the JVs, Cairn's Rajasthan fields are the biggest contributors to ONGC's production and reserve growth. The JV is set to add 69m bbls or 10m tonnes of P1 oil reserve (P2 at 28m tonnes, while P2+EOR/IOR is estimated at 35m tonnes), while production is expected to reach a peak of 45,000 bpd or 2.2m tpa (ONGC's share) by the third year of operations (FY12).

❑ …but Cairn's gain is ONGC's loss

Even though reserve accretive, PSC terms mean that it is NPV negative for ONGC

While production growth at the Rajasthan fields is significant, the JV is NPV negative for ONGC on account of the terms of the pre-NELP PSC. The terms require ONGC to bear 100% of the royalty despite just a 30% stake and cess proportionate to its stake. Hence, Cairn's gain is ONGC's loss.

However, ONGC's request to be exempt from payment of the JV partner's share of royalty along with consideration of cess for cost recovery (if Cairn is liable to pay cess, it automatically becomes cost recoverable) is pending with the government. This request, if approved, would make the JV value accretive for ONGC.

Exhibit 20: Value of Rajasthan JV for ONGC under different scenarios

Scenario	Royalty (%)#	Cess (%)#	NPV (Rs bn)	Rs/share
Worst	100	100	(63.0)	29.0
Likely	100	30	(3.7)	1.7
Optimistic	30	30	52	24.0

Key assumptions – Brent crude price of US$45/bbl and discount rate of 11.8%.
 # Refer to % of production and not the rate of levies.

❑ Around 50% growth in gas output expected at PMT

Incremental volumes from PMT to kick in from Q4FY08

Redevelopment of the PMT filed is set to raise ONGC's gas production by 50% from ~11.5mmscmd to 18mmscmd (for ONGC's share – from 4.6mmscmd to 7.2mmscmd). These efforts would also drive a 30% increase in crude output from 30,000 bpd to 40,000 bpd from Q4FY08 – albeit their contribution to ONGC's reserves is insignificant.

ONGC's portfolio will also get fillip from CBM reserves

CBM: A LARGE RESOURCE BASE

India's large coal reserve base also means significant potential for coal-bed methane CBM. DGH estimates a resource base of 49.5TCF for the CBM blocks given out on contract. Successful efforts by RIL, Essar and ONGC stand testimony to the potential of the reserve base. ONGC, RIL and Essar have established significant discoveries at Jharia (1.15tcf), Jorhat (3.65tcf) and Raniganj (1.38tcf) respectively. The reserve size is largely along the lines of the resource projection of DGH for these blocks.

ONGC holds 9 out of the 16 CBM blocks awarded under CBM I and II, and the pre-NELP rounds. The estimated resource base of the 9 blocks held by ONGC add up to 445bcm, providing scope for potential reserve accretion / production upside.

We believe the pre-NELP, CBM I and CBM II PSCs were more favourable compared to the corresponding oil and gas NELP rounds as well as the latest CBM round. The gap between CBM and normal NELP appears to have narrowed significantly in CBM III, which appears to be highly competitive, leaving both ONGC and RIL unsuccessful. We believe the failure of the biggies is a confirmation of the relative attractiveness of the previous rounds.

Exhibit 21: CBM blocks awarded to ONGC

Block Name	State	CBM Resources (BCM)	Awarded Company/ Consortium
Bokaro	Jharkhand	45	JV with IOC
North Karanpura	Jharkhand	62	JV with IOC
Raniganj North	W. Bengal	43	JV with CIL
Jharia	Jharkhand	85	JV with CIL
(a) Gondwana Coalfields			
SK-CBM-2003/II	Jharkhand	30.5	ONGC
NK (West)-CBM-2003/II		43.5	ONGC
ST-CBM-2003/II	Madhya Pradesh	29.3	ONGC
WD-CBM-2003/II	Maharashtra	19.9	ONGC
(b) Tertiary Lignite Coalfields			
BS(3)-CBM-2003/II	Gujarat	87	JV with GSPC
Total		**445.2**	

Source: Industry

APM DEREGULATION: A RERATING TRIGGER

Deregulation of administered pricing of gas appears to be only a question of time. The proportion of APM gas is set to decline, while large free priced gas supply from new finds would bring down APM gas consumption to less than 20% of the total demand from power and fertilizer sectors, making it untenable to continue administered pricing. We expect complete deregulation latest by FY11-12. The transition itself, is expected to be less painful as APM gas prices are likely to be increased significantly from current levels.

❑ ONGC has to put up with regulated (low) gas prices

Regulated gas prices has suppressed earnings and hence valuations

Regulated gas prices have been ONGC's bane, suppressing its earnings and valuations. ONGC's realizations are significantly lower than market pricing due to government regulation, further aggravated by cross-subsidization of the JV partners' share of production. ONGC's average gas price realization has been a dismal ~US $1.7/mmbtu against US $3.86-4.75/mmbtu for free-priced domestic gas.

❑ But, deregulation is on

The process of deregulation has been initiated. Gas pricing has been progressively deregulated, though in small steps, over the last 18 months.

However, gradual deregulation in the face of high prices of competing fuels is on cards

- **Part of APM gas fully deregulated:** Prices for end-users other than power, fertilizer and a few designated consumers comprising small consumers and those covered by Supreme Court ruling, accounting for about 20% of APM gas consumption, have been fully deregulated.
- **Price of remaining gas raised:** Price of APM gas has been raised by 12.3% from Rs2,850/tscm to Rs3,200/tscm (for 10,000kcal/tscm) as an interim measure, effective July 2005. Prices of gas from the North-East region too have been increased to Rs3,200/tscm from April 2006, while prices for small consumers and those covered by Supreme Court ruling have been raised by 20% from Rs3,200/tscm to Rs3,850/tscm. Prices for these end-users are expected to be aligned with free market prices over the next four years.
- **JV gas cross-subsidy has been abolished:** ONGC has to bear a burden of Rs8bn-10bn in the form of cross-subsidy. Despite market price provision for private sector partners in the JV contract, ONGC's part of the JV gas was sold at APM prices. This led to cross subsidization by ONGC in those ventures.
- **Gas pool has been abolished:** ONGC would stop its annual contribution of Rs1.5bn (Rs2.5bn per annum till FY05) to the gas pool.
- **New gas would be sold at market price:** The government has stipulated that all new gas would be sold at market-linked prices.

❑ Complete deregulation – sooner than later

We believe deregulation is only a question of time. APM gas output itself is shrinking on account of

APM gas as a proportion of total gas consumption is expected to shrink from ~70% currently to as low as 20% by FY12

- A natural decline in production from mature fields and
- Government's stipulation that production from new gas discoveries by ONGC and OIL would not be under APM

With the increasing share of gas from new finds in the total gas consumption, free priced gas would continuously replace APM gas. As a result, APM gas as a proportion of total gas consumption is expected to shrink from ~70% currently to as low as 20% by FY12. This would make continuation of regulated pricing untenable.

❑ Worst case – only ~1/3rd of domestic gas reserve under APM

Even if deregulation does not happen, only 1/3rd of the total domestic gas reserve of 330bcm would be sold at APM prices

ONGC's GSA (Gas Sale Agreement) with GAIL indicates a fall of over 60% in APM gas output by FY12 on account of a natural decline in production from mature fields. Notably, the decline in subsequent years would be much steeper. This implies that even if deregulation does not happen, only 1/3rd of the total domestic gas reserve of 330bcm would be sold at APM prices!

❑ Further reduction in APM gas supply under discussion

The new plan lowers the immediate APM gas availability by 7.8mmscmd

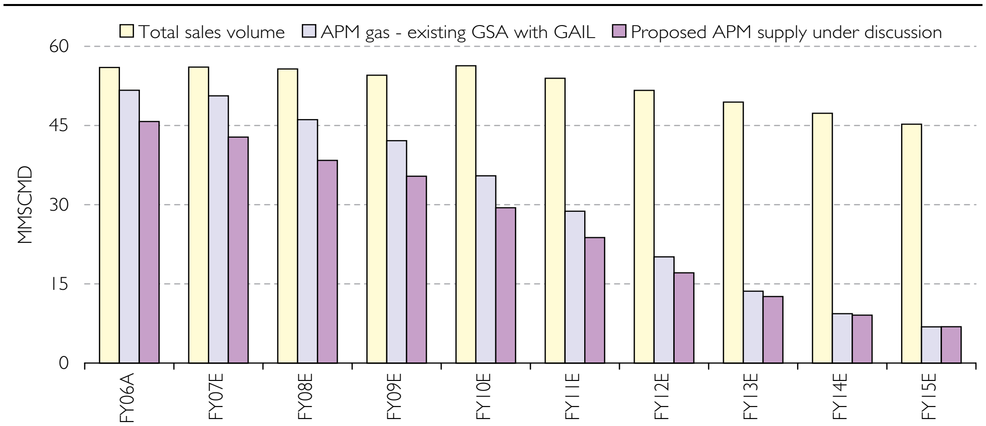
While the GSA with GAIL is based on a long-term gas production profile presented in the year 2000, latest projections by ONGC indicate much lower availability of APM gas. The new plan lowers the immediate APM gas availability by 7.8mmscmd (down 15.5%), building in a subsequent decline along the lines of the earlier plan. We believe the difference between the two profiles is on account of the new supply from redevelopment efforts, whose classification under APM / non-APM was earlier unclear.

❑ A manifold increase in free priced gas supply on the anvil

Increasing production from new gas fields and higher LNG imports leading to rising supply of free priced gas

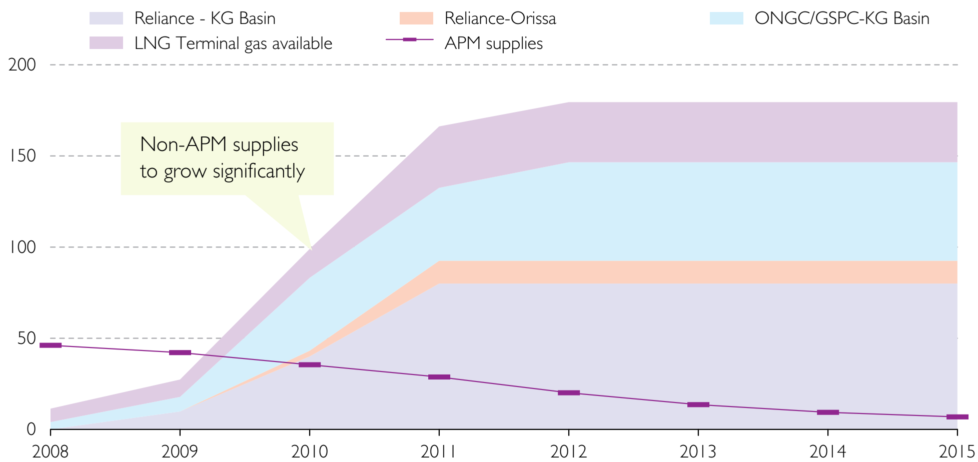
Supply of free priced gas is expected to rise sharply on the back of increasing production from new gas fields and higher LNG imports. Gas production from RIL's KG-basin field, along with increase in output from ONGC and its JVs, is expected to drive a 172% increase in gas output to 192 mmscmd through FY12. Best-case gas output including LNG supplies could be as high as 275mmscmd.

Exhibit 22: Natural decline in gas output (various estimates) and increase in free priced gas.



Source: SSKI Research

Exhibit 23: Steep fall in APM gas supplies as a % of total gas supplies



Source: SSKI Research

The proportion of APM gas is expected to shrink to ~20% under various scenarios of APM and free priced gas supplies.

❑ Deregulation likely by FY11-12

With increasing consumption of free priced gas by power and fertilizer units, continuation of APM gas supply untenable

With non-APM gas supplies forming bulk of incremental supplies and buyers more comfortable with new ground realities, the artificial pricing mechanism is expected to end. Bulk of the incremental free priced gas supply is expected to be consumed by the power and fertilizer sectors, the primary consumers of APM gas supply. The government's sub group for natural gas (for XI Five Year Plan) indicates that power and fertilizer sectors could be consuming 73% of the total gas supplies. This would mean that free priced gas would form more than 90% of these sectors' consumption in FY12, making continuation of APM gas pricing unsustainable. Hence, we believe gas prices are likely to be fully deregulated by FY11-12.

❑ Transition to be less painful than in the past

An interim report by Tariff Commission recommends 8% increase in APM gas prices

A Tariff Commission, appointed to recommend APM gas prices, has advocated ~8% increase in prices from Rs3,200/tscm currently to Rs3,450/tscm in its interim report. However, the feedback from ONGC and comments from petroleum ministry indicate that the final increase is likely to be significantly higher than the suggested 8%.

Also, with a decline in the proportion of APM gas in ONGC's gas mix from 95% currently to ~50% over the next five years, the average realization would likely be higher than the possible final recommendation of the Tariff Commission.

Large free priced gas supply and ONGC's high cost new gas provide comfort against risk of GSA non-implementation

Going by the past record of protest by user industries, especially power and fertilizer, the risk of possible non-implementation of the GSA does exist. However, we believe the large quantum of free priced gas from private sector and high cost (capex+opex) of ONGC's new gas are compulsive arguments in favour of the GSA and ultimate deregulation of APM.

LOW EARNINGS SENSITIVITY TO CRUDE PRICES

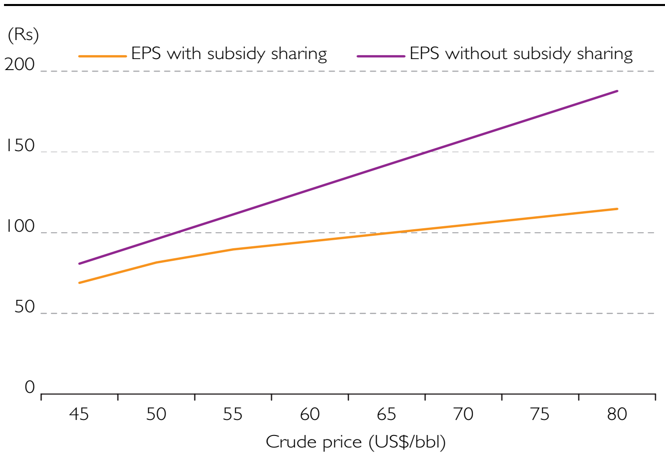
Sharing of fuel marketing under-recoveries impacts ONGC's crude price realization. This leads to relatively low earnings sensitivity to crude prices for ONGC compared to private sector peers in the domestic market as well as the global E&P industry. We estimate under-recovery sharing to impact ONGC's crude price realization (on domestic crude sale) by 10-33% at Brent prices of $45/bbl up to $75/bbl. In a crude price inflationary environment, the low leverage led ONGC to underperform peers. However, in a relatively soft crude price environment, the stock is likely to outperform, and at worst provide downside support. We expect crude prices to fall over the next two years.

❑ At low levels of crude price, expect ONGC to outperform peers

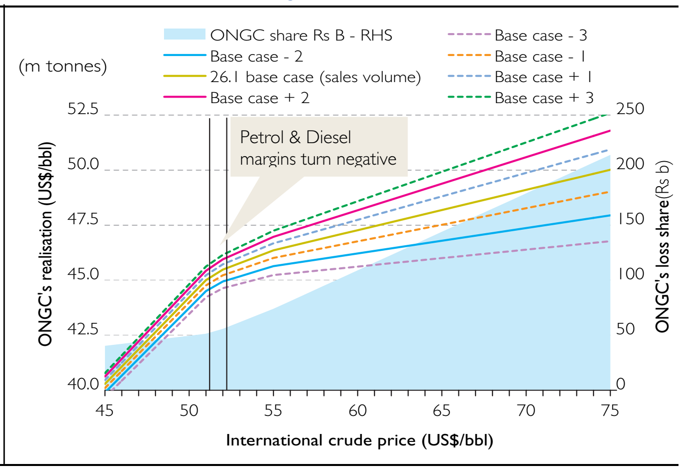
Due to loss sharing, ONGC's earnings exhibit relatively low sensitivity to crude prices

ONGC has to share the fuel marketing under-recovery burden, which depresses its crude price realization. The under-recovery sharing also reduces ONGC's earnings sensitivity to crude prices compared to private sector peers in the domestic market and global E&P players. Losses are shared through selling crude/ products at discounted prices to oil marketing companies. We estimate loss sharing to be impacting ONGC's realizations (on domestic crude sale) by 10-33% at Brent prices ranging between $45-75/bbl. At $45/bbl, we expect the loss sharing formula to be withdrawn given the relatively small quantum of under-recoveries at this level.

Exhibit 24: Crude price vs earnings



Realization moderates at higher international crude prices



Source: SSKI Research

In a crude price inflationary environment (like the one witnessed a few months ago), the low leverage led to under-performance of ONGC compared to peers. However, in a relatively soft crude price environment, the stock is likely to outperform its peers and at worst provide downside support. We expect crude prices to fall to US $50/bbl over the next 12 months.

❑ Loss-sharing explained

The newly de-regulated (in FY03) oil industry was confronted by a steep increase in crude prices in FY04. With limited pricing flexibility on the heavily subsidized LPG and kerosene product sales in the country, the previous BJP-led NDA government roped in the upstream sector (key beneficiary of the rising crude prices) to share part of the losses (arising out of selling products well below international prices). Besides this, other schemes were also formulated which included cross subsidization of these products by oil marketing companies through higher marketing margins on auto-fuels (petrol and diesel) and increased government subsidy on these products.

Faced with relentless pressure from the crude price increase and limited pricing flexibility on petrol and diesel (in order to achieve the pre-election policy objective of not hurting the common man's interest), the Congress-led UPA government went one step further and added both petrol and diesel to the under-recovery pool by extending the upstream sharing to petrol and diesel losses as well. This led to a sharp increase in the under-recoveries or losses, and consequently the sharing of losses by upstream companies.

❑ Apprehensions on possible increase in sharing proportion unfounded

Government's resolve to spare ONGC despite record crude oil levels assures us of stable policies

While an increase in industry under-recovery on account of inclusion of auto fuels in the under-recovery pool was bad news, a stable one-third upstream sharing formula was the saving grace. Overall, ONGC's outgo as a proportion of the incremental gains from crude price increase went up from 20-25% to as high as 75-80% (on domestic sales).

The fear of a possible increase in the upstream share ratio in view of the ever-increasing under-recoveries was a key overhang on the stock. However, against a whopping estimate of Rs735bn of under-recoveries at the beginning of FY07 by the government, the same is likely to end up below Rs500bn.

The policy is significant as an increase in the proportion of loss sharing from one-third to say half would mean that every US$1/bbl increase in international prices would drive a price discount of well over US $1/bbl of crude for ONGC at the current sales volume.

In effect, under the existing loss sharing structure, ONGC's earnings remain positively geared to international crude prices at all times.

❑ Key variables in under-recovery sharing system; crude price is critical

US $1/bbl increase in crude prices above US $53/bbl leads to Rs26.2bn increase in under-recoveries for ONGC

Fuel sales, ONGC's crude sales volumes and global crude prices are the key variables determining the under-recoveries and the effective per unit discount on ONGC's crude sales. Barring kerosene, demand for which is estimated to fall by 5% yoy, sales volumes of other fuels are expected to increase by 5-10% yoy. *Ceteris paribus*, higher volumes should lead to higher under-recoveries yoy. On the other hand, an increase in ONGC's crude production and sales volumes would cushion the loss-sharing blow.

Of all the above-mentioned variables, global crude prices remain the most critical variable. Our analysis reveals that with every US $1/bbl increase in crude prices above US $53/bbl, under-recoveries would increase by Rs26.2bn (Rs68.8bn per US $1/bbl below US $51/bbl).

World oil supplies expected to outstrip demand over 2006-09

❑ We expect crude prices to fall

World oil supplies are expected to outstrip demand growth over 2006-09, as the spare capacity with OPEC expands on the back of rising non-OPEC supplies, expansion of capacity by OPEC and commissioning of bio fuel capacities. We expect a confluence of all these factors to keep crude prices down.

Looking back, the phenomenal increase in crude prices in 2004 was a function of falling OPEC spare capacities as also a tight refining infrastructure. Spare capacity in 2004 fell below 2m bpd on the back of a searing growth in Chinese demand and precarious investment in E&P over 1998-2003.

Though robust, incremental demand for crude has moderated over the last two years

Demand has moderated

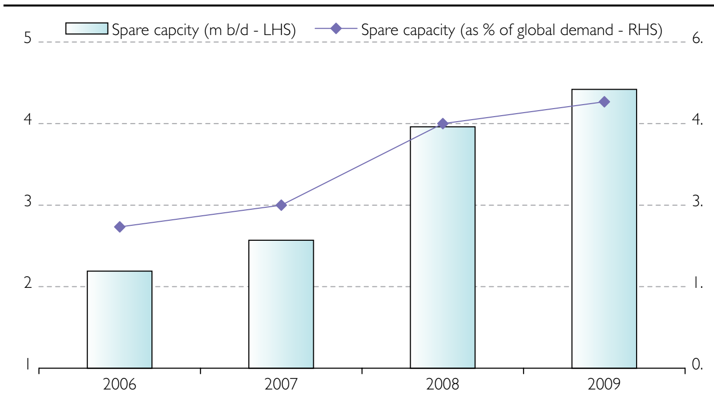
Though still robust, incremental demand for crude has moderated over the last two years. The IEA forecasts indicate global demand growth of ~1.8% per annum over 2006-09, to 89.4m bpd in 2009. During the period, any moderation in the US economy is expected to be more than offset by an upward revision in Chinese demand, and robust demand from the Middle East as also India. Global demand growth will be supported by transportation fuel and strategic build up by USA and China.

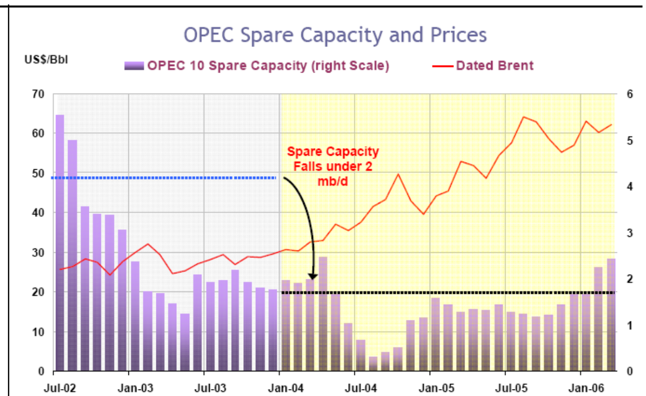
Global oil supply capacity expected to ease by ~2.7% per annum over 2006-09

Supply set to improve

Global oil supply capacity is expected to ease by ~2.7% per annum over 2006-09, to 95.6m bpd by 2009, on the back of higher OPEC and non-OPEC supplies as also higher bio fuel production. Easing of supply is bound to drive the spare capacity up. IEA expects spare capacities to cross 4mbpd or 5% of demand in 2009.

Exhibit 25: Spare capacity set to increase significantly going forward





Source: IEA

Unexpected supply disruptions remain a key risk: Possible supply disruptions due to a war with Iran or aggravation of usual problems in Venezuela, Nigeria and Iraq hold the potential to throw in negative surprises in the near term.

FINANCIAL ANALYSIS

While earnings would likely remain flat in FY08, we forecast a marginal earnings decline of 7.2% for ONGC in FY09 despite a sharp decline of 15.4% (to $55/bbl) and 9.1% ($50/bbl) yoy in crude prices built into our FY08 and FY09 estimates respectively. The relatively small earnings decline compared to the crude price fall is on account of a falling proportion of APM gas, increasing oil & gas output and lower quantum of loss sharing at lower crude prices. While ONGC's capex commitment is large on account of the huge portfolio of exploration blocks, cash flows are sufficient to fund its aggressive capex programme.

❑ We forecast a marginal decline in earnings in FY09

Despite sharply lower crude prices expected in FY08 and FY09, earnings fall to be marginal

We forecast ONGC's earnings to remain flat in FY08 and fall marginally by 7.2% yoy in FY09, despite our expectations of a sharp decline in crude prices. Our estimates build in a steep fall of 15.4% in FY08 and 9.1% in FY08 in global (Brent) crude prices to US $55/ bbl and US $50/ bbl respectively.

Exhibit 26: Key assumptions

	FY06A	FY07E	FY08E	FY09E
Crude price (US$/ bbl)	57.5	65	55	50
% change		13	(15.4)	(9.1)
Net profit post minority interest (Rs bn)	154	191	192	178
% change		24	0.2	(7.2)
EPS (Rs)	72.0	89.4	89.6	83.1
% change		24	0.2	(7.2)

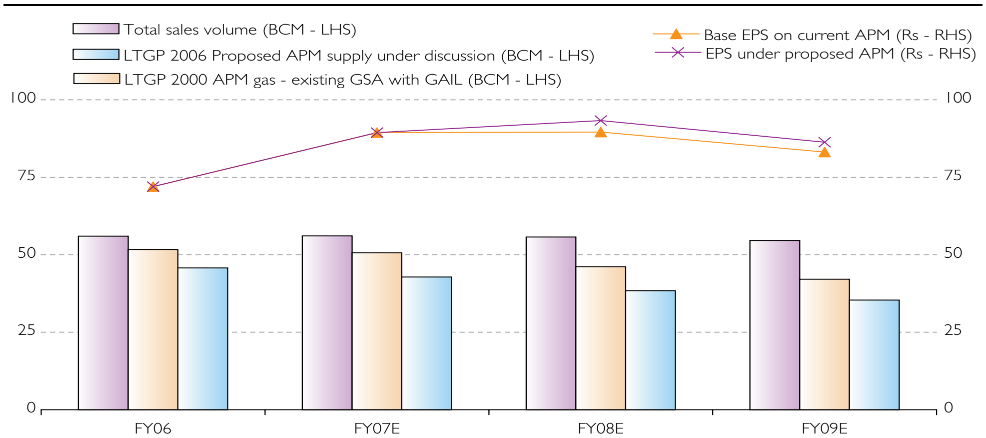
Source: SSKI Research

❑ Lesser APM gas, higher production and lower loss sharing cushion fall

We have built in a fall in the quantum of APM gas, based on ONGC's existing GSA with GAIL

We have built in a fall in the quantum of APM gas, based on ONGC's existing GSA with GAIL signed in July 2006. The GSA is currently being renegotiated to build in a steeper decline in APM gas supply due to exclusion of JV gas from APM and some new gas from redevelopment, following changes in the gas pricing policy last year. A possible agreement on the new APM gas supply quantities would provide further upside to our earnings forecast. Likely adoption of the new proposals on APM gas supply could further add 4.1% to FY08 and 3.9% to our FY09 EPS estimates.

Exhibit 27: EPS impact from likely changes in APM gas quantity



Source: SSKI Research

We expect ONGC's oil production to go up in FY08, driven by peak output at Sakhalin and a ramp-up at Sudan 5A

We expect some improvement in ONGC's oil production in FY08, driven primarily by Sakhalin achieving peak output and a production ramp-up at Sudan 5A (some decline in output from GNOP and Syria to partly set off the gains). Domestic crude thru-put too is expected to improve on the back of redevelopment efforts.

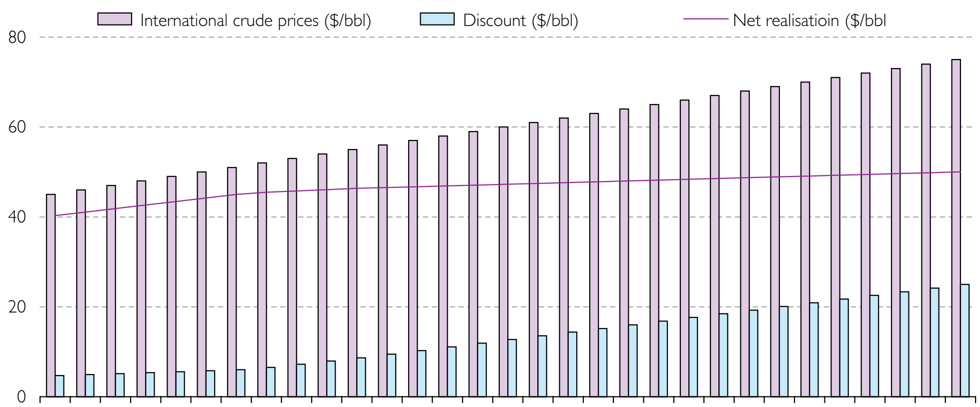
Exhibit 28: Oil production details

(m tonnes)	FY05	FY06	FY07E	FY08E	FY09E
ONGC- own share	26.5	25.0	27.5	28.1	28.8
ONGC- JV share	1.6	1.7	1.8	1.9	1.9
OVL	3.7	4.6	6.3	7.3	7.3
Total	**31.9**	**31.3**	**35.6**	**37.3**	**37.9**

Source: SSKI Research

Under the existing loss sharing structure, the proportion of decline in loss sharing would be steeper than the fall in crude price, thus cushioning earnings.

Exhibit 29: ONGC's net realization is less volatile



Source: SSKI Research

❑ Exchange rate assumed at Rs44.5/USD

We have factored in a rupee-dollar exchange rate of 44.5 for FY08 and FY09

Our exchange rate assumption for both FY08 and FY09 stands at Rs44.5/USD. ONGC's earnings are positively correlated to rupee weakness, as crude pricing is linked to international crude prices, while free priced gas is loosely linked to global pricing of LNG.

❑ Higher gas realization, lower APM gas – potential earnings upsides

An 8% increase in APM prices would boost ONGC's FY08 earnings by 1.3%

The Tariff Commission's interim report for pricing of APM gas indicates a possible 8% increase to Rs3,450/tscm from Rs3,200/tscm currently. Given the subsequent discussion with the Ministry of Petroleum and feedback from ONGC and Oil India on the cost base assumed for pricing calculations, it appears that the final price is likely to be much higher than the interim recommendation. An 8% increase in APM prices would boost ONGC's FY08E earnings by 1.3%.

Exhibit 30: Impact of 8% increase in APM gas prices on EPS

(Rs)	FY08	FY09
Base case EPS	89.6	83.1
EPS post 8% increase in APM prices	90.8	84.2
EPS % chg	1.3	1.3

❑ Earnings sensitivity – crude prices remain the key variable

Crude prices remain the most critical variable impacting ONGC's earnings, despite loss sharing. Gas prices, exchange rate, production/ sales volume are the other key variables.

Exhibit 31: Earnings sensitivity

	FY08	FY09
Base case EPS (Rs)	89.6	83.1
Crude price chg every $1/bbl	1.1%	3.1%
Rs 500/tscm chg in gas prices	2.6%	2.6%
Exchange rate fluctuation by Re1	4.0%	4.1%
Crude oil production change by 1m tonne	4.4%	4.2%
Gas production change by 1bcm	2.0%	2.2%

Source: SSKI Research

❑ Large capex plans, but sufficient cash flows from operations

ONGC's cash flows sufficient to fund its aggressive capex plans

Given ONGC's large portfolio of exploration blocks within and without the country, it has a huge capex commitment. Planned capex for FY08 stands at a whopping Rs241bn (US$5.5bn), split between Rs184bn (US$4.1bn) for domestic operations and Rs57bn (US$1.4bn) for overseas operations. For FY09, we have built in a similar expenditure of Rs244bn (US$5.6bn) in our model. However, we believe cash flows from operations would be sufficient to meet the requirements of the capex programme, even at the low crude prices assumed by us.

Exhibit 32: Planned capex vs cash flows from operations

(Rs bn)	FY07E	FY08E	FY09E
Planned capex	204	241	244
Gross cash flows	286	271	266

Source: SSKI Research

KEY CONCERNS

ONGC's relatively lackluster exploration track record and regulations are the key concerns on the stock. Despite lack of spectacular exploration success, ONGC's reserve replacement has been close to one for the last six years, while recent gas finds should further set the record straight. With regards regulations, we believe loss sharing and gas pricing may not be serious risks, though any increase in levies remains a concern. However, levies need not always increase, as a possible streamlining of royalty rates with NELP could in fact reduce rates.

❑ An unexciting track record in exploration

A consistent reserve replacement ratio and large gas discoveries in KG and Mahanadi basins provide comfort

Though ONGC has not struck gold so far, its relatively consistent reserve replacement ratio and the latest large gas discoveries in KG and Mahanadi basins provide comfort. ONGC's reserve replacement ratio (RRR) excluding acquisitions (globally most companies include acquisitions in their reported RRR) over the last six years has remained close to one, despite lack of large exploration success. ONGC has reported large gas finds in KG and Mahanadi basins. Its filing with DGH indicate reserves of 5-15tcf for KG basin. Market reports put Mahanadi basin reserves at 4tcf.

❑ Government regulations – a key risk

Policy changes are a significant risk for ONGC. Loss sharing, pricing of gas and stipulation of levies are the three key areas where regulations play a significant role.

While we do not see any negative surprises on the loss-sharing front…

Loss sharing: The government has followed a fairly stable loss sharing formula. Going forward, we do not see any negative surprises on this front given that the formula has endured oil prices of US $75/bbl without any change.

…gas pricing too is not a major concern unless APM price is mandated for ONGC's new gas

Gas pricing: While deregulation of gas prices over the next 4-5 years would be a significant positive (an assumption built in our numbers), lack of deregulation should not be a major threat assuming that the current structure of falling APM gas supply remains in force. However, if the government were to change the rules of the game by mandating APM price for new gas from ONGC, it would be a significant negative for the company. However, we believe this is highly unlikely.

A possible hike in levies remains a significant risk

Levies: Given the sharp increase in fixed cess on crude over the years, a higher rate of levies poses a significant risk. Having said that, we would like to highlight that the current policy direction with respect to royalty intends to integrate rates of pre-NELP blocks with NELP rates. While offshore rates are already streamlined, onshore crude royalty remains 20% for ONGC as against 12.5% for NELP blocks. Though a possible increase in levies remains a significant risk, the discussion on royalty rates highlights that the direction of levies rate changes need not always be up.

ANNEXURE I

COMPANY BACKGROUND

ONGC is a Fortune 500 company and the largest upstream player in India, accounting for ~70% of the country's total oil and gas production. The company holds the highest number of exploration concessions in India.

ONGC has, over the years, gone global in its quest for new oil and gas reserves. ONGC's overseas interests are represented by ONGC Videsh (OVL), its 100% subsidiary. OVL has a portfolio of 6 producing, 5 development and 12 exploration blocks spread across 14 countries. With a long-term target of acquiring 60m tpa of equity oil and gas (currently just below 7.5m tpa) overseas by 2025, OVL has embarked upon a steep growth trajectory.

To become a vertically integrated player in the oil and gas value chain, ONGC acquired a majority stake (71.6%) in MRPL, a loss-making refinery in South India with a capacity of 9.6m tpa. ONGC has since turned MRPL around and the latter's current capacity of ~12m tpa is set to rise to 15m tpa shortly.

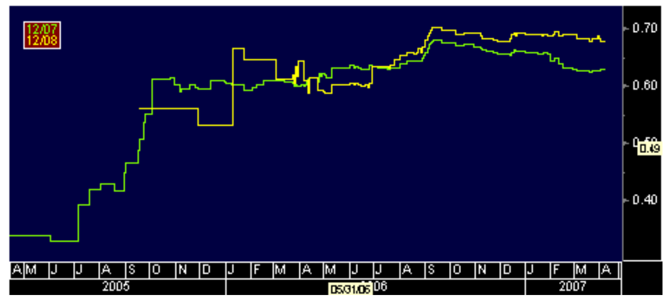
ONGC holds a 12.5% stake in Petronet LNG's regassification project. The company is also setting up a C2/C3 separation plant at Dahej to process the regassified LNG of Petronet LNG. ONGC plans to enter the petrochemicals space with a proposed SEZ at Mangalore. ONGC's entry into petroleum product marketing has been delayed on account of the current pricing regulation of auto fuels.

ANNEXURE II

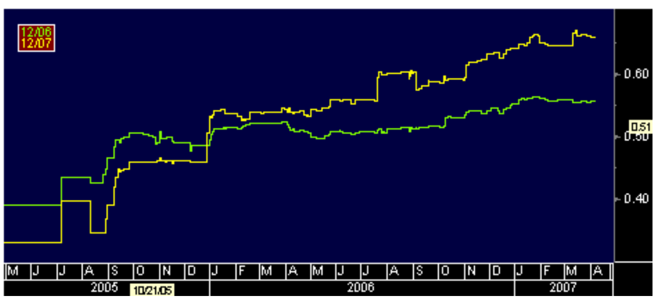
Consensus downgrade of global E&P company earnings over the last six months (source: Bloomberg):

PETROCHINA CO LTD-H

CNOOC LTD

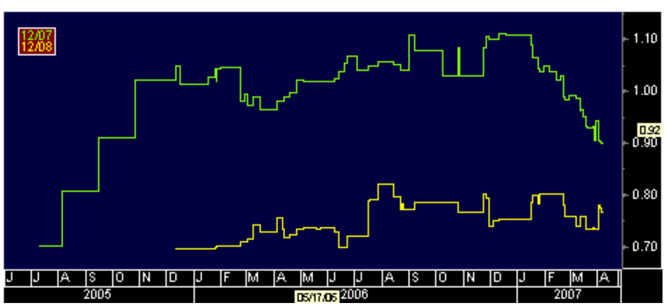


CHINA PETROLEUM & CHEMICAL-H

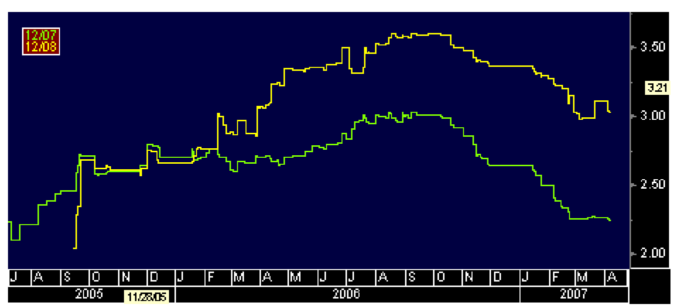


PTT EXPLOR & PROD PUBLIC CO

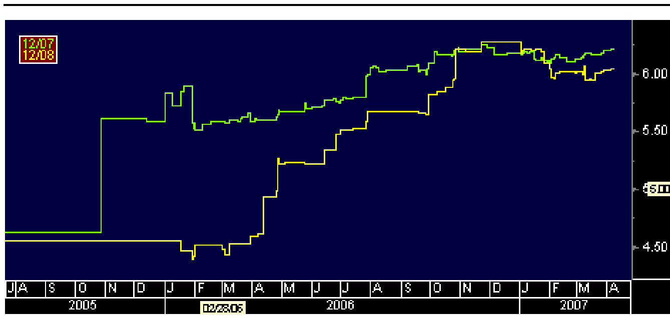
SANTOS LTD



WOODSIDE PETROLEUM LTD



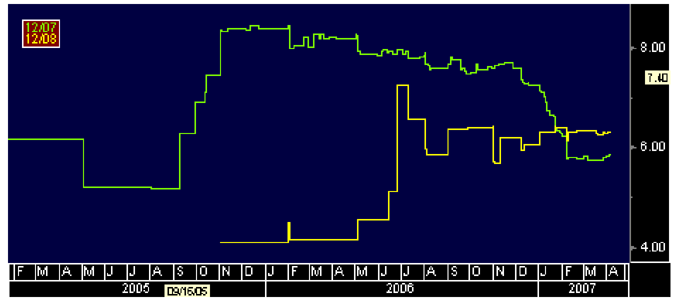
EXXON MOBIL CORP



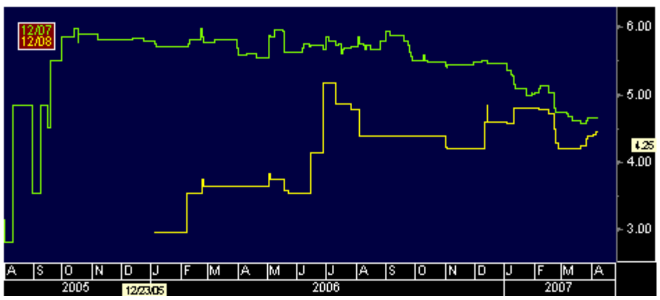
ROYAL DUTCH SHELL PLC-A SHS

TOTAL SA

DEVON ENERGY CORPORATION



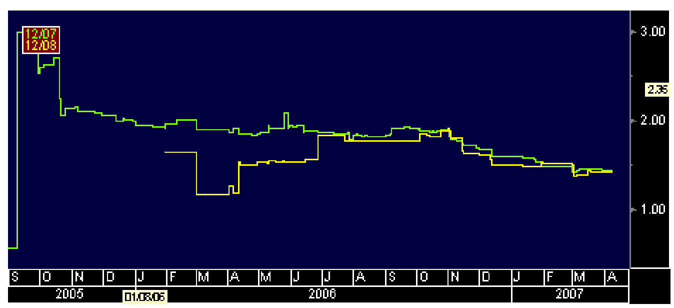
NOBLE ENERGY INC



NEWFIELD EXPLORATION CO

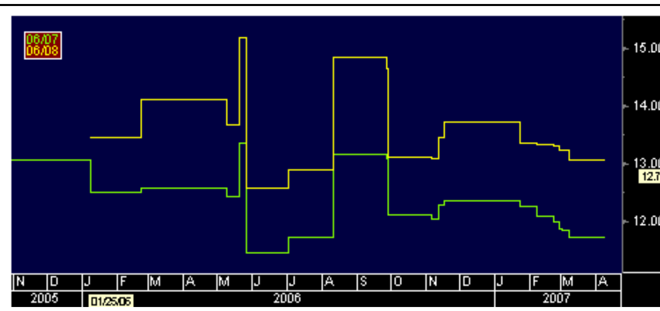
OCCIDENTAL PETROLEUM CORP

TALISMAN ENERGY INC



NEXEN INC

OIL & GAS DEVELOPMENT CO



Income statement (consolidated)

Year to Mar 31 (Rs m)	FY06	FY07E	FY08E	FY09E
Net sales	**706,373**	**920,698**	**862,045**	**817,690**
% growth	*18.2*	*30.3*	*(6.4)*	*(5.1)*
Operating expenses	395,629	531,498	460,726	428,400
EBITDA	**310,744**	**389,200**	**401,320**	**389,290**
% growth	*9.5*	*25.2*	*3.1*	*(3.0)*
Other income	34,211	26,990	30,804	33,815
Net interest	(1,597)	(2,745)	(5,223)	(5,624)
Depreciation	103,549	120,597	133,399	145,243
Pre-tax profit	**239,915**	**293,348**	**294,001**	**272,738**
Deferred Tax	14,520	14,421	14,400	13,376
Current Tax	70,412	86,040	86,413	80,024
Profit after tax	154,982	192,888	193,189	179,338
Net profit after non-recurring items	**153,976**	**191,291**	**191,640**	**177,811**
% growth	*7.4*	*24.2*	*0.2*	*(7.2)*

Balance sheet

As on Mar 31 (Rs m)	FY06	FY07E	FY08E	FY09E
Paid-up capital	14,259	21,389	21,389	21,389
Reserves & surplus	553,421	650,068	762,380	865,679
Total shareholders' equity	564,017	669,441	783,402	887,067
Total current liabilities	98,538	121,522	122,049	121,079
Total Debt	22,341	87,464	132,171	148,190
Deferred tax liabilities	71,633	84,008	96,386	108,196
Other non-current liabilities	169,646	185,452	188,529	191,255
Total liabilities	362,158	478,445	539,135	568,721
Total equity & liabilities	**926,175**	**1,147,886**	**1,322,537**	**1,455,788**
Net fixed assets	215,098	198,430	226,229	244,120
Investments	35,579	21,804	22,636	25,374
Total current assets	305,443	440,863	534,860	618,496
Other non-current assets	370,056	486,789	538,811	567,798
Working capital	206,906	319,341	412,812	497,417
Total assets	**926,175**	**1,147,886**	**1,322,537**	**1,455,788**

Cash flow statement

Year to Mar 31 (Rs m)	FY06	FY07E	FY08E	FY09E
Pre-tax profit	238,909	291,751	292,453	272,238
Depreciation	62,840	64,989	72,475	78,839
chg in Working capital	6,336	(40,079)	(15,813)	(18,152)
Total tax paid	(70,412)	(86,040)	(86,413)	(80,024)
Ext ord. Items	(14,853)	(21,032)	(10,447)	(10,597)
Operating cash Inflow	222,820	209,589	252,255	242,303
Capital expenditure	(129,119)	(146,001)	(130,195)	(102,328)
Free cash flow (a+b)	93,701	63,588	122,060	139,975
Chg in investments	(9,023)	13,775	(832)	(2,738)
Debt raised/(repaid)	(18,261)	65,122	44,708	16,019
Capital raised/(repaid)				
Dividend (incl. tax)	(74,557)	(85,981)	(80,841)	(75,900)
Misc	(12,173)	758	(9,415)	(12,553)
Net chg in cash	(20,314)	57,262	75,679	64,803

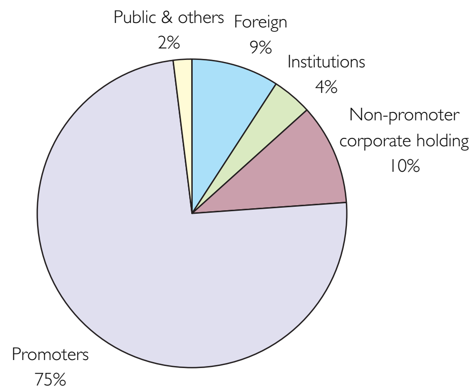
Key ratios

Year to March 31	FY06	FY07E	FY08E	FY09E
EBITDA margin (%)	44.0	42.3	46.6	47.6
EBIT margin (%)	29.3	29.2	31.1	29.8
PAT margin (%)	21.8	20.8	22.2	21.7
RoE (%)	29.5	31.0	26.4	21.3
RoCE (%)	27.1	29.0	24.1	19.3
Gearing (x)	0.0	0.1	0.2	0.2

Valuations

Year to March 31	FY06	FY07E	FY08E	FY09E
Reported EPS (Rs)	72.0	89.4	89.6	83.1
Adj. EPS (Rs)	72.0	89.4	89.6	83.1
PER (x)	11.8	9.5	9.5	10.3
Price/Book (x)	3.2	2.7	2.3	2.1
EV/Net sales (x)	2.5	2.0	2.1	2.1
EV/EBITDA (x)	5.8	4.6	4.4	4.4
EV/CE (x)	2.2	1.8	1.5	1.3

Shareholding pattern



As of December 2006

SSKI INDIA

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Explanation of Ratings:

1. Outperformer: More than 10% to Index
2. Neutral: Within 0-10% to Index
3. Underperformer: Less than 10% to Index

Disclosure of interest:

1. SSKI and its affiliates have not received compensation from the company covered herein in the past twelve months for Issue Management, Capital Structure, Mergers & Acquisitions, Buyback of shares and Other corporate advisory services.
2. Affiliates of SSKI are currently not having any mandate from the subject company.
3. SSKI and its affiliates do not hold paid up capital of the company.
4. The Equity Analyst and his/her relatives/dependents hold no shares of the company covered as on the date of publication of research on the subject company.