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FOR PRIVATE CIRCULATION

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Oil and Natural Gas Corporation Ltd

Price: Rs.1184 **Recommendation: BUY**
Price target: Rs.1330

Oil and Natural Gas Corporation (ONGC) is on a growth momentum with huge cash inflows. This has resulted in higher investments in exploration, foreign acquisitions, upgradation and development of marginal fields and several new initiatives across the entire hydrocarbon value chain to become an integrated Indian energy multinational. There are quite a few key growth drivers. These are higher production from ONGC Videsh Ltd (OVL), development and production from marginal fields turning feasible due to higher crude prices, addition to in-place reserves as a result of heavy investment in deep and shallow water E&P and stable output from producing fields due to ongoing IOR/EOR (improved or enhanced oil recovery) schemes resulting in increased recovery factor (up to 35%). Crude prices are expected to sustain at higher levels till FY08, which would result in higher realization net of subsidy. The movement towards market determined prices for natural gas would result in higher price realization for gas. We initiate coverage on ONGC with a BUY recommendation and a price target of Rs.1330 over one-year horizon.

Key Investment Rationale

- **OVL to drive production growth (FY06-08 CAGR 7.9%).** The production rise would be driven by OVL's crude contribution (3.5 mmtpa) from Sakhalin and Colombia fields and marginal increase in domestic production from ONGC's existing fields due to completion of recovery enhancement programs of FY02-07 phase. The IOR/EOR schemes are planned to enhance production by 100 mmt during the next 15 years from the existing in-place reserves.
- **Higher crude prices turn marginal and exploratory fields investment feasible.** A significant portion of the company's in-place marginal field reserves of 200 MT of oil and 120 bcm of gas is expected to turn feasible. Similarly, long-term payoffs can be expected on up surged exploratory investment front. Crude prices are expected to remain firm due to resilient demand and falling reserve replacements globally.
- **Higher expected realization for natural gas sales.** The current difference of $3/mmbtu between the market gas price and ONGC APM gas realization is expected to decrease with movement towards market-determined price for the APM gas.
- **New initiatives across the hydrocarbon value chain.** The company has undertaken several new business initiatives like refinery, petrochemicals (through MRPL, Mangalore and Hazira SEZ) and coal bed methane (CBM) commercial production, UCG, SCG (underground/surface coal gasification) in collaboration with foreign oil majors. Many of these projects are yet to receive approval based on economic feasibility. Since the benefits of most of these initiatives would come post FY09, we have not considered them in our valuation.
- **Key risks and concerns:** The subsidy sharing mechanism has been pretty ad hoc, so there are uncertainties in earnings because of that. The company is engaged in huge capital expenditure on exploration both in India as well as outside (through OVL). The exploratory risk in terms of success rate and cost is high as many of these exploration blocks are in offshore deep water. A slump in oil price might result in overall infeasibility of some of the exploratory and producing fields as OVL has been pretty aggressive with its acquisition strategy in FY05-06 and it had to pay a heavy premium on valuations due to higher crude prices in the period.

Stock details

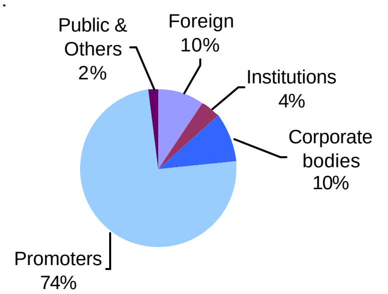
BSE code	:	500312
NSE code	:	ONGC
Market cap (Rs bn)	:	1711.12
Free float (%)	:	26
52-wk Hi/Lo (Rs)	:	1514/910
Avg. daily volume BSE	:	350,923
Avg. daily volume NSE	:	1,327,423
Shares o/s (mn)	:	1425.93

Summary table (year end Mar)

Rs mn	FY06	FY07E	FY08E
Net sales	551,291	658,164	712,953
Growth (%)	6.0	19.0	8.0
EBITDA	327,446	387,743	428,226
EBITDA margin (%)	59.4	58.9	60.1
Net profit	153,107	182,128	202,405
Net cash (debt)	(56,457)	(17,691)	70,064
EPS (Rs)	107.4	127.7	142.0
Growth (%)	11.0	19.0	11.0
DPS (Rs)	45.0	45.0	45.0
ROE (%)	29.6	29.7	27.6
RoIC (%)	26.3	30.0	30.8
EV/Sales (x)	3.0	2.4	2.2
EV/EBITDA (x)	5.0	4.1	3.6
P/E (x)	11.0	9.4	8.1
P/BV (x)	3.0	2.5	2.1

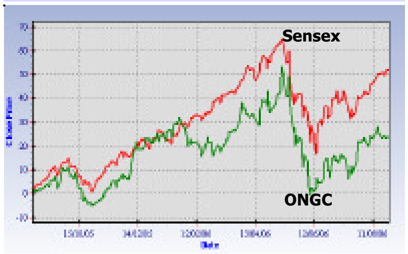
Source: Company Results & Kotak Securities - Private Client Research

Shareholding pattern - June 2006



Source: BSE

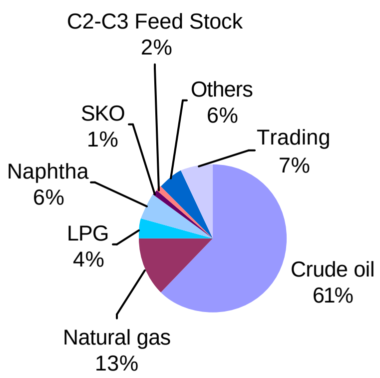
One-year performance (Rel to Sensex)



Source: Capitaline

- **Valuation and recommendation:** Our price target is based on a weighted average of DCF valuation with projections till FY09 and market valuation of proved reserves arrived from developed reserve valuation (based on DCF) and undeveloped reserve valuation based on option to develop. The price target, which provides a 12% upside over CMP along with expected dividend yield of 3.5% constitutes a total return of 15.5% over a one-year horizon.
- The return suffices for the underlying market risk (Sensex beta 0.9), as being a commodity stock earnings are less susceptible in case of market downfall due to macroeconomic factors. At a CMP of Rs.1184 the stock is available at 9.4x FY07 and 8.1x FY08 earnings. The stock has traded in the one year rolling forward PE band of 9x-11x over the past couple of years. So, the stock is attractively available based on FY08 earnings, hence we recommend BUY with price target Rs.1330.

ONGC sales mix - FY06



Source: Company Presentation 2006

COMPANY BUSINESS DETAILS

ONGC is engaged in the exploration and production of crude oil and natural gas, along with production of value-added products like LPG, naphtha, HSD and SKO. The company accounts for 78% of the crude oil and 81% of the natural gas produced in India. As the company has a vision to be an integrated oil global major, it has entered into downstream refining through its subsidiary MRPL and has been acquiring overseas oil equity through OVL. (Source for industry figures: Crisil)

The company has undertaken exploration and production activities throughout India. On land, areas of production include the Cambay basin, Upper Assam, the Assam-Arakan fold belt, the Jaisalmer basin, the KG basin and the Cauvery basin. The offshore fields include Bombay High and other fields in the western part of the country. Currently, ONGC has 143 producing fields. Its core oil producing field has been Mumbi High with a contribution of 68% of ONGC crude. In FY06, the company made 10 new exploration discoveries. Of them, five are in the KG basin deepwater, three are in Mumbai and Saurashtra offshore and two on land in KG and Assam region.

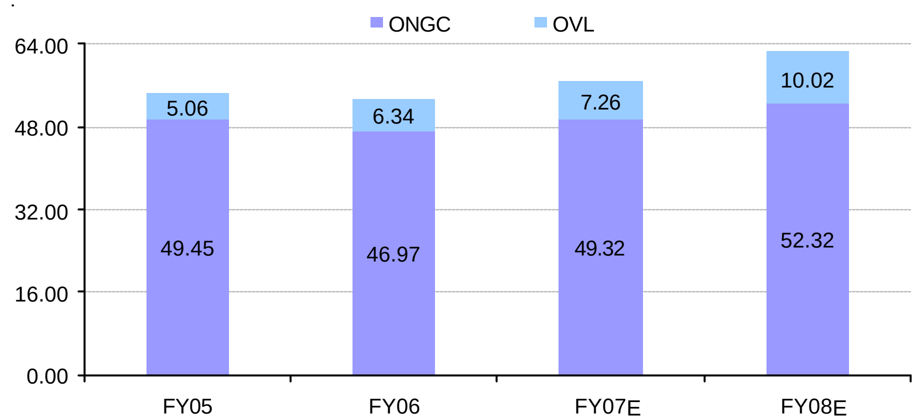
INVESTMENT RATIONALE

Production to rise over FY06-08

We expect the combined production of crude and gas from ONGC and OVL to increase by a CAGR of 7.9% over FY06-08. The rise in production in FY07 would be on the back of restored production from Bombay High after last year's fire. In FY08, the main growth would be through OVL's peak production from Sakhalin field. Key triggers to rise in production are as follows.

OVL's production set to rise at a CAGR of 25% over the next couple of years

Crude and gas production (mmtoe)



Source: Company Presentation 2006, Kotak Securities - Private Client Research

OVL to drive production growth

The production from the Sakhalin field is expected to peak in FY08 with OVL's share of crude being 2.48 mmtpa. The field has total proven reserves of 158.4 mn metric tons of oil equivalent (mmtoe). OVL has an impressive reserve replacement ratio of 2.3 with proven reserves of 207 mmtoe. In FY06, OVL added 14.6 mmtoe to its proved reserves of which 11.4 mmtoe were through commercial discoveries. OVL's current asset mix consists of 21 assets in 13 countries of which only four (GNOP Sudan, Vietnam, Syria, Sakhalin) are contributing to production. Hence, we expect OVL's production share to rise in the future (16% of total production in FY08 compared to 11.8% in FY06). Apart from existing producing fields the major promising fields of OVL are as follows. (Source for reserves: Company Annual Report)

- Recently, the company has completed the development of Thar Jath field in block 5A, Sudan. The estimated average addition of crude from Block 5A to the present inflow from GNOP will be 50,000 BOPD (2.48 mmtpa) by the end of 2006.
- The company's 15% stake that it discovered in BC-10 deepwater block, Brazil has a potential production of 100,000 bpd, with OVL's share being 15,000 bpd. The company bought the stake from Exxon Mobil for $1.4 bn.

Sudan 5A, BC-10 Brazil, Omimex de Colombia, and Sakhalin fields to drive OVL production

- OVL has a 20% interest in offshore Block A-1 of Myanmar. The initial in-place reserves are estimated at 5.7 tcf.
- The company has a 30% interest in six exploratory blocks in Cuba. The blocks are located in a very favorable geological set up and are estimated to hold considerable reserve potential.
- The company has 100% participating interest and operating rights in an offshore exploration block in Phu Khanh Basin, Vietnam. Initial estimates put in-place resources of the block at more than 1 bn barrels.
- The company has recently picked up a 50% stake in Colombian oil firm Omimex de Colombia with China's Sinopec for $800 million. OVL's share is expected to be around 1mmtpa of oil.

India imports 76% of its oil demand. With strong economic growth, the demand for petroleum products is expected to go further north. In such a scenario, to secure the energy future for the country we expect OVL to continue with its aggressive acquisition strategy (nine acquisitions in FY06 compared to six in FY05) despite high geopolitical risk and competition. Also, the parent company (almost zero debt) would have sufficient cash reserves to fund the acquisitions by interest free loans and advances.

Improved recovery factor of existing in-place reserves

The company's existing fields have been on a natural production decline of 7-8%. To cope with the problem, the company has started IOR/EOR schemes in 2002; essentially redevelopment of existing fields with new drilling and production methods. Through these redevelopment initiatives, the company is not only expected to arrest the natural decline but also marginally increase the production by improving recovery factor.

IOE/EOR scheme to improve average recovery factor to 35% in the next five years

The company, through its IOR/EOR schemes has long-term goals of improving recovery factor of its in-place reserve up to 40% from the current level of 28%. This amounts to production enhancement by 100 mmt by 2020. The company has ongoing investments of Rs.120.54 bn on various IOR/EOR projects to revamp and maintain existing fields production. Most of these projects are likely to be completed by FY08. Bombay High's recovery factor is expected to reach 32% after completion of the ongoing IOR project in FY07. Bombay High is back to its normal production level of 270,000 bopd after last year's fire.

Marginal fields turning feasible

Many of the total estimated in place reserves of 320 mmtoe marginal fields to turn feasible

The economics of marginal field development has improved significantly due to higher crude and market determined natural gas prices. With limited success on the exploratory front, marginal field development is going to be a major focus area of the company. The recent development approval of C-Series Mumbai offshore (approximate development cost of Rs.31.95 bn) natural gas fields is a result of market determined natural gas prices. Though the field was discovered in the nineties, development became feasible only now. The field, which has in-place reserves of 15.54 bcm, is expected to start production by FY09.

The marginal field D-1, located in Mumbai Offshore, was put on production in February 2006. The field has the potential to yield over 4.57 mmt of oil. With a marginal base price of US$50 a barrel, the production is worth over Rs.75 bn. The present average rate of oil production is over 14000 barrels of oil per day (bopd).

Marginal fields under development

Marginal Fields	Project Cost (Rs mn)	Estimated Reserves	Expected Production
D1 development	5070	4.57 mmt of oil (Recoverable)	2006
Vasai (East) Development	16,880	6.19 mmt oil and 3.2 bcm gas(Recoverable)	2008
C series Mumbai offshore	31950	15.54 bcm gas (In place)	2009
Other marginal fields (cluster development)	95,050	200 mmt of oil and 120 bcm of gas (In-place	2009

Source: Company public news

The company has 168 mmtoe of proven but undeveloped reserves

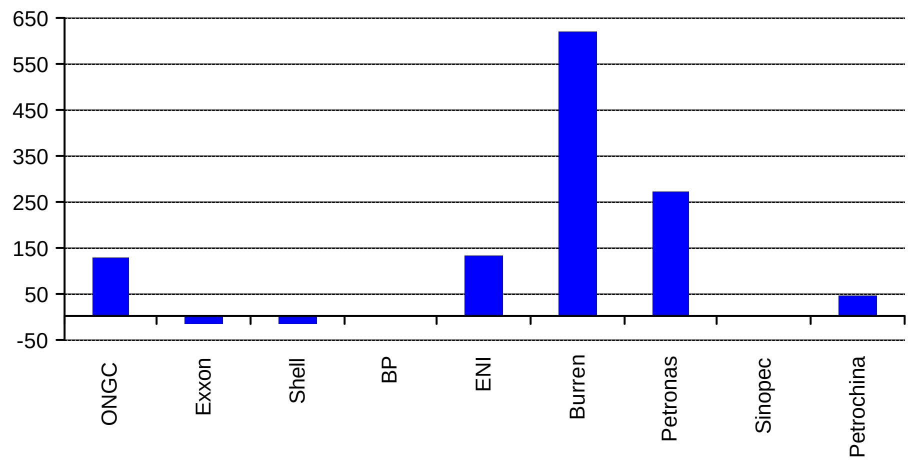
The company is now seeking approval for the development of a cluster of B-series marginal fields on the fringes of Mumbai Offshore. The company has 96 identified small or marginal reserves including 53 offshore. The total estimated in-place marginal field reserves are 200 mmt of oil and 120 bcm of gas. Recoverable or proved reserves are yet to be finalized by the Director General of Hydrocarbons (DGH). The company has a total of 168 mmtoe of proven but undeveloped reserves.

Development of most of these would be feasible in the current pricing scenario. The company has awarded service contracts for eight onshore and three offshore marginal fields. Development of 18 more onshore marginal fields is on offer and 28 offshore fields are to be developed departmentally. The entire development plan involves an investment of Rs.127 bn.

Long-term returns expected on exploratory investment

ONGC and OVL's reserve replenishment ratio has been 1.1 and 2.3, respectively, in FY06. The current replacement ratio for ONGC is high compared to global majors (BP, Shell) and Asian peers (PetroChina, Sinopec). The higher ratio for ONGC has been on account of its aggressive foreign oil equity acquisition strategy. On the other hand, global oil majors showed less interest in acquisitions due to huge valuation premium because of high crude price. ONGC domestically added 51.53 mmtoe compared to production of 46.97 mmtoe in FY06. The company's success ratio (oil stuck/wells drilled) for F06 has been impressive at 35%, which amounts to finding cost of about $2/bbl compared to the worldwide average of $2.7/bbl.

Reserve replacement ratio

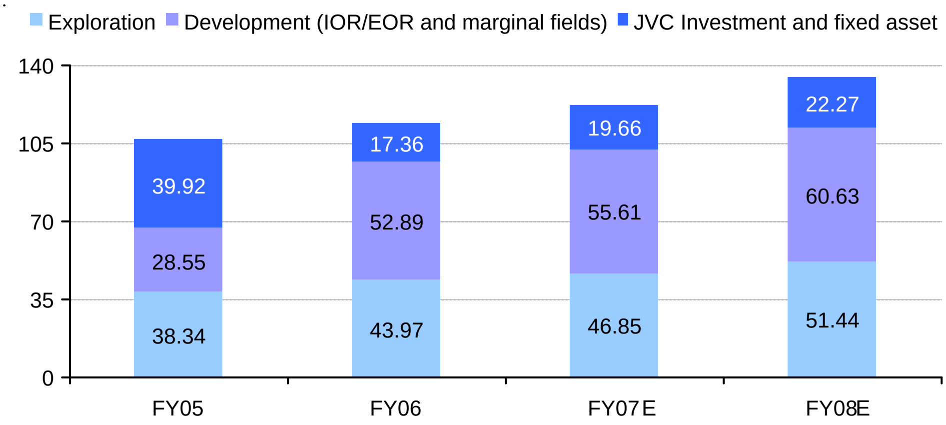


Source: Crisil

The company's capital investment grew by a CAGR of 30% over the last five years. Most of the investment till FY04 has been in production and re-development (IOR/EOR schemes). Hence, the exploration success has been limited during the period. The situation did change in FY06 as its exploratory investment went up to Rs.43.97 bn and contributed to 10 new discoveries in KG deepwater, Mumbai shallow offshore. The company's existing reserves with current production rate would last for 16 years. Hence, we expect the trend of heavy exploratory investment to continue in FY06-08 as securing energy for the future is on top of the government's agenda and the company has been awarded 59 bocks (50%) in five NELP rounds. Above all, these higher crude prices have changed the feasibility of exploration investments. Rig counts and exploration service providers have increasingly started making deepwater exploration possible. We estimate an investment of close to Rs.100 bn on exploration for next couple of years.

Exploratory investment close to Rs.100 bn in FY07 and FY08

Capital investment (Rs bn)



Source: Company Results, Kotak Securities - Private Client Research

The company's long-term Sagar Samriddhi project involves the exploration of oil and gas in the deep waters of the Arabian Sea and the Bay of Bengal. The other exploration activities involve deepwater exploration in KG and Mahanadi basins. Total hydrocarbon resources in the country, inclusive of deep waters, are estimated at around 28 btoe. Also, in-place reserves have been established by DGH to be around 8 btoe. So, there is still a lot of oil to be found and the company is very committed to its exploration activities with a vision 2020 of doubling in-place reserves to 12btoe.

OVL added 14.7 mmtoe reserves in FY06, which include 11.4 mmtoe through exploratory efforts and 3.3 mtoe through four PSCs in Syria. The company currently has exploration blocks in Australia, Cote D'Ivoire, Iran, Libya and Sudan. These blocks are still under exploration. Hence, credible estimate of reserves is not available.

Oil prices likely to sustain at higher levels

The demand for oil is rising in an unprecedented manner and is sustained even at the current high price levels. The demand growth rate for developed countries is more than 1%, whereas China and India ranges at CAGR of approximately 4%. The demand growth of 1% for developed countries is quite significant as it is over a larger base with per capita consumption being almost four times that of emerging economies.

The rather strange inelasticity of crude demand is a result of a combination of factors. The price rise is not passed on to the end users in the form of petroleum products. Also, energy intensities of economies have declined since a majority of the growth is in the service sector. Thus, global economic growth (expected World GDP Growth of approximately 4% till 2010) would continue to remain strong despite high oil prices, which, in turn, would trigger the oil demand further.

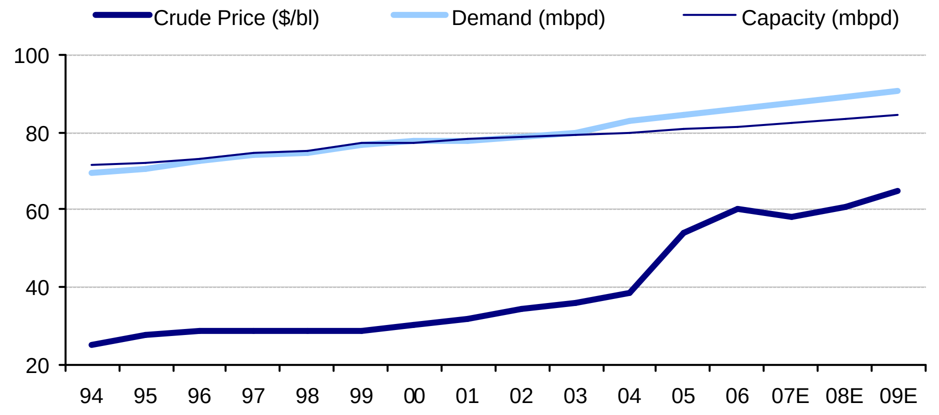
On the supply front the OPEC spare capacity has declined from 5 mbpd in 2002 to 1.4 mbpd in 2005. Most of the onshore fields have been discovered and reserve replacement ratio of global majors, as shown above, are on the decline. Most of the new oil and gas reserves are in offshore deep waters, where the costs — finding cost can be 30-50% higher compared to onshore fields — and risk are much higher. Investments in exploration activities by oil majors have gone up in the last couple of years as a result of high crude prices. However, productivity of investments is yet to be seen and there would be a development lag of at least two years before returns. The upsurge in exploration activities has also pushed up rig rates by more than 100% over the last year. Due to manufacturing lag of about 2 years for offshore exploratory and jack-up rigs, even the availability of rigs is getting increasingly difficult; hence offshore service costs can further go up.

Demand-supply gap to widen, with spare capacity levels continuing to be at minimal level

In such a scenario, only short-term relief on the supply side comes from the development of proven marginal fields turning feasible due to high price realizations. The investment in development activity would only stabilize production from ageing fields by increasing the recovery factor. It will not improve the reserve replacement ratio significantly. Hence, we expect oil prices to sustain at the current higher levels for the next couple of years until current exploratory and marginal field activities start yielding production.

Crude price = 54.22 + 5.3 demand -5.5 capacity + ε (Model significant with 95% confidence level and adjusted R-square of 0.86)

Crude price – Demand supply



Source: Crisil, Kotak Securities - Private Client Research

The crude prices have shown significant correlation as a function of global demand and capacity levels for the past 12 years. Our forecast for crude is based on the regression results obtained with the help of Crisil forecast for demand and capacity as independent variables.

ONGC, which contributes to 24% of the India crude demand, gains with rising crude prices despite sharing 28% of the overall marketing under-recoveries. The reason for this is the fact that the four subsidized petroleum products constitute only 63% of the refinery output. Also, with a high refining capacity India is a net exporter of petroleum products (Net export of 8.6 mmt in FY05). We estimate that corresponding to FY07, expected consumption levels ONGC consolidated would gain approximately 22 cents per barrel net of subsidy on every incremental dollar rise in crude price in FY07. This corresponds to an addition of about Rs.1.3 bn and Rs.0.9 to net profit and EPS respectively.

In our estimates, we have assumed that the benefits of the June price hike would only go to oil marketing companies (OMCs). Hence, ONGC would continue to pay subsidy based on the total under recoveries without taking the June price hike into account.

Crude Price Impact on Subsidy for FY07

Indian Basket Crude Price (USD/bl)	Base case- 63	65	FY07 Q1- 68
Industry under-recoveries FY07 (Rs mn.)	541763.86	591631.58	666433.17
ONGC's subsidy Share (Case 1) (Rs mn.)	178918.84	195713.76	220906.15
Net Realization	46.69	46.77	46.88
ONGC Subsidy (Case 2) (Rs mn.)	151693.88	165656.84	186601.29
Net Realization	50.63	51.10	51.82
Consolidated EPS (FY07)	127.7	129.29	132.14

Case 1: June retail price hike benefits not passed on to the upstream companies
Case 2: June retail price hike benefits passed on to the upstream companies
Source: Kotak Securities - Private Client Research

Higher crude price also help ONGC indirectly by placing depreciating pressure on the rupee (as crude constitutes a major chunk of the Indian import bill). Every rupee depreciation adds about Rs.4.4 bn to ONGC revenues and Rs.2 to EPS.

Rupee Depreciation effect on FY07E earnings

Rupee/USD	45	46	Change
Revenue	670329.85	674683.01	4353.16
PAT	179372.34	182128.44	2756.10
EPS (FY07)	125.79	127.73	1.93

Source: Kotak Securities - Private Client Research

Higher expected realization for natural gas sales

The expected movement towards market determined prices for the gas produced from ONGC's pre NELP fields would increase realizations for the company. Currently, the company only gets $1.75/mmbtu for its APM gas, which constitutes about 70% of its gas sales in contrast to the market price of $4.74/mmbtu for new fields such as PMT. The rationale behind the movement towards market determined price for ONGC gas are the following.

1. Most of the power and fertilizers companies are willing to pay the market price for gas as even at this price their profitability improves compared to naphtha and fuel oil.

2. The APM gas price ($1.75/mmbtu) was determined on the basis of calorific value comparison with coal. Since, for the combined cycle power plant and fertilizer companies the alternative fuels are naphtha and FO, hence it is expected to base APM price for ONGC fields on heat value of liquid fuels rather than coal.

The natural gas realization for APM gas is expected to go up with movement towards markets determined price

3. The price of gas should be determined based on its heat value rather than which field it comes from.

We have taken a marginal increase in average price to $2.07/mmbtu for FY07 and $2.58/mmbtu for FY08 from FY06 level of $1.83/mmbtu. Every $1/mmbtu price increase on APM gas price would add about Rs.11 to EPS. Hence, complete movement towards market price for APM gas can add substantial upside to our EPS estimates.

Other business initiatives — Integrated energy company

CBM and petrochemicals to be non core business drivers

The company has the vision of being an integrated energy company. Major investments into petrochemicals, aromatics, LNG terminals and coastal refineries are on the anvil through the SPV Mangalore SEZ Ltd with ONGC's equity being 26%. At this stage, ONGC has planned an investment of Rs.4700 in the petrochemical complex. The petrochemicals complex is to feed on the 2 mmtpa of heavy Naphtha from MRPL to deliver 0.95 mmtpa of paraxylene and 0.15 mmtpa of benzene. The subsidiary company MRPL has also approved refinery expansion to 15 mmtpa from the current capacity of 9.7 mmtpa, with an investment of Rs.80 bn.

The company has also approved an investment proposal of Rs.9.5 bn, for exploration and development of coal bed methane (CBM) in six blocks in Jharkhand and West Bengal. So far, ONGC has been secured nine out of the 16 blocks awarded by the government. ONGC, Reliance Industries and Great Eastern Energy Corp have estimated in-place reserves of over 162 bcm of gas below the coal seams but it is still to be audited by DGH. Due to lack of clarity on the production front, both in terms of timing and volumes we have not taken CBM valuation into our estimates. The company, in collaboration with Shell and Skochinsky Institute of Mining (SIM) Russia, is involved in R&D to capitalize on clean coal opportunities in the form of underground/surface coal gasification.

KEY RISKS AND CONCERNS

Earning uncertainty due to subsidy sharing

The total industry under recoveries (FY07) despite June price hikes would be higher by at least Rs.100 bn (for our base case assumption of crude price $65) compared to FY06 figure of Rs.442 bn. In such a scenario, it is quite likely that the overall industry benefits of about Rs.100 bn from June price hike will not be passed on to the upstream oil companies (ONGC, OIL and GAIL) to maintain earnings of OMCs.

Since the subsidy sharing mechanism has also been pretty ad hoc and uncertain, to be conservative, in our base case scenario we have not included the price hike benefits to ONGC. The government has promised oil bonds worth of up to Rs.283 bn for FY07 compared to Rs.115 bn in FY06. The oil bonds offered would be able to bail out OMCs up to the crude price of $70.

Uncertainty in earnings prevail due to ad-hoc government subsidy sharing mechanism

Subsidy Sharing (Scenario analysis - FY07E)

Indian Basket Crude Price (USD/bl)	63	65	68	FY06-57
Industry Under-recovery (Rs bn)	541.76	591.63	666.43	442.81
ONGC's Share	178.92	195.71	220.91	119.56
Govt Bond	283.00	283.00	283.00	115.00
OMCs and Refineries	47.90	77.97	123.08	145.00

Source: Kotak Securities - Private Client Research

The Indian basket crude price needs to come down to $53 in order to eliminate the entire under-recoveries both on cooking and auto fuels together. The table below shows the crude price corresponding to current retail price of various petroleum products. The very high subsidy levels, especially on cooking fuels, are major causes of concern and it will not be too long before we see a hike in the price of these fuels.

Breakeven crude price for petroleum product

Petroleum product	Crude price corresponding to retail price (usd/bl)	Marginal effect of a dollar increase in crude price (usd/bl)
MS (Petrol)	63	1.21
HSD (High Speed Diesel)	61	1.14
SKO (Stove Kerosene Oil)	25	1.23
LPG (Liquefied Petroleum Gas)	31	0.57
Weighted average Indian petroleum basket	53	1.12

Source: Kotak Securities - Private Client Research

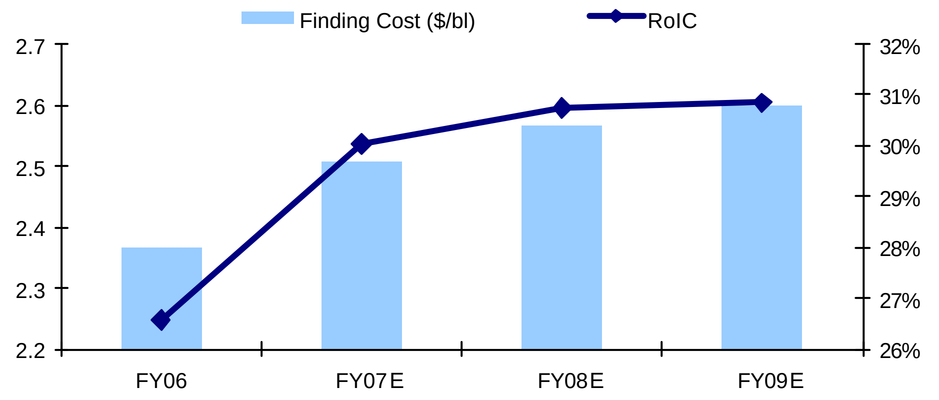
The overall subsidy remains a concern for ONGC too but our earnings estimates are not subjected to any downfall unless the Government asks upstream companies to raise their share further from the current level of 33%, which is quite unlikely.

Exploratory risk

Exploration is a capital intensive business with high risk as the outcome is highly probabilistic. In fact, in FY05, the company could not make a single discovery despite exploratory investment of Rs.38.34 bn. The situation did change in FY06 as its exploratory investment went up to Rs.43.97 bn and contributed to 10 new discoveries.

Exploration, by its nature, involves high risk and expected returns. As most of the new exploratory fields are deep and shallow water (of the 10 exploratory finds in FY06, five have been in deepwater and two in shallow offshore) risk and cost are relatively high compared to on-land exploration. In order to incorporate the great risk associated with deep and shallow water exploration we have taken marginal declines in success ratio from the current levels of 35%. This translates into higher finding cost as shown in the graph below. Any negative variation apart from this would have a severe negative effect on earnings post FY09.

Finding cost and return on invested capital



Source: Company Results, Kotak Securities - Private Client Research

Probablistic outcome for the investment of Rs.100 bn on exploratory front

As mentioned above, during FY07-08 the company is expected to invest close to Rs.100 bn on exploration drilling and site acquisitions, as these investments are going to yield returns only after a development lag of at least two to three years and return on these investments are quite uncertain. The company's return on invested capital (RoIC) would come under pressure during FY08-09. In our estimates, we have assumed 3% net operating profit less adjustment for taxes (NOPLAT) or production terminal growth rate. To incorporate the greater uncertainty in exploration we have assumed that RoIC would go down post FY09 and the company would need to keep reinvesting at the current rate in order to achieve the lower terminal NOPLAT growth rate. Hence, we have also taken FCF growth rate as 3% with declining RoIC and increasing reinvestment canceling out each other's effect.

Geopolitical risk and high competition faced by OVL

OVL is strategically focused on acquiring oil equity abroad to secure the energy needs of the country. Though the assets are acquired at a reasonable internal rate of return (IRR) but the correct assessment of business risk of the field acquired is very difficult. Given that the risk uncertainty and primary goal of OVL is energy security there can always be a compromise with returns on the asset acquired.

The business risk with oil equity abroad contains geopolitical and regulatory risk, which varies from country to country. So do the returns, which are governed by the fiscal regime of the country (royalty, taxation, legislation, bounded RoIC et al). Hence, a good understanding of the fiscal regime of a country is very critical to success. The concern becomes more profound for OVL as its operations are in relatively more geopolitically sensitive countries (Sudan, Nigeria, Libya, Syria, Iran, Vietnam).

OVL's assets all located in politically sensitive countries; return uncertain due to huge variations in fiscal regimes

Apart from high risk, OVL also faces tough competition from oil majors and other national oil companies (NOC). So, in many cases, it has to pay very high prices for acquisitions. Especially now, with high oil prices, valuation of the producing property would be high, so direct producing property acquisition might turn out to be very costly. Recently, the company did pay a very large sum of money ($1.4 bn) to acquire a 15% stake in the discovered BC10 Brazil block. In such a scenario, reserve accretion needs to be routed through exploratory block acquisition, which further adds an exploratory risk component.

OVL has been pretty aggressive in its acquisitions during FY05-06 and has paid a heavy premium on valuations due to higher crude prices in the period. A slump in oil price might result in overall infeasibility of some of the exploratory and producing fields. For our valuation, we have arrived at cost of equity based on the CAPM model with beta as a measure of market risk. Our valuation is subjected to risk, as beta is a historical measure and in the future we expect OVL's contribution to increase both in ONGC profits and production. In such a scenario, beta might increase going down in the future, as OVL's higher business risk might lead to higher earning volatility, hence higher price variation.

FY07Q1 Results Update — Strong net earning growth

ONGC reported impressive earnings for Q1FY07, with turnover up 34% YoY to Rs.146.77 bn and net earnings up 24% YoY to Rs.411.19 bn.

Quarterly Performance (In Rs mn)

	Q1FY06	Q4FY06	Q1FY07	YoY (%)
Sales Turnover	108,697	118,984	146,028	34.3
Other Income	2,986	6,299	4,200	40.7
Total Income	**111,683**	**125,282**	**150,227**	**34.5**
Total Expenditure	47,646	51,730	64,933	36.3
Operating Profit (EBITDA)	64,037	73,553	85,294	33.2
EBITDA Margin (%)	**0.6**	**0.6**	**0.6**	
Depreciation	13,517	31,574	22,309	65.0
EBIT Margin (%)	0.5	0.3	0.4	
Interest	22	323	33	50.5
Profit Before Tax	50,498	41,656	62,952	
Net Profit	**33,189**	**24,454**	**41,190**	**24.1**
PAT Margin	0.3	0.2	0.3	
EPS (Rs)	**23.3**	**21.6**	**28.9**	

Source: Company Results

Q1FY07 YoY growth due to higher realization coupled with restored production levels

The earnings growth has been on account of the following factors.

1. Higher realization: Due to higher crude price, the realization net of subsidy has gone up to $46/bbl ($42.4/bbl in FY06) with gross realizations being $71.3/bbl. The company estimated Rs.51.2 bn as subsidy to downstream companies for the quarter.
2. The company gained due to rupee depreciating beyond 46 for a dollar to a year low.
3. Sales volume for crude went up QoQ, with Bombay High production resorting back to Q1FY06 level after the fire last year. Natural gas sales went up 3.5% YoY to 4.74 bcm.

OVL signed four new Production sharing contracts (PSC) in the quarter, noteworthy being the maiden entry in Latin America through a 15% stake in BC10 deepwater block in Brazil. The other three PSCs are in Vietnam and Cuba.

Financials and Key Assumptions

Earnings estimates are consolidated for ONGC (domestic operation) and OVL together and do not include subsidiary MRPL as it is in downstream and we have valued it at 20% discount to market price. We have taken the impact of Gujarat flood into consideration in our FY07 earning estimates. Some of the key assumptions made to forecast earnings are as follows.

Crude price assumptions are arrived by regression of crude price over the past 12 years with the global demand and capacity levels. The premium for supply disruption threat is added to the value obtained by the regression. The industry under-recovery figures are arrived based on the crude price assumption, and it includes the June price hike impact. OVL production in FY08 includes peak production from Sakhalin field. Marginal increase in gas price realization is taken in accordance with the expected movement towards market determined price.

Key Assumptions

	FY06	FY07E	FY08E
Indian basket crude price (usd/bl)	57.00	63.00	58.00
Industry Under-Recovery (Rs bn)	442.81	541.76	390.52
ONGC's share (Rs bn)	119.56	178.92	150.76
ONGC crude sales (MMT)	21.00	24.62	25.52
OVL crude sales (MMT)	4.58	5.50	7.26
ONGC gas sales (bcm)	20.10	19.17	21.57
OVL gas sales (bcm)	1.76	1.76	2.76
Gas Price (Rs/scm)	3.25	3.80	4.70
Exchange Rate (Rs/USD)	45	46	45

Source: Kotak Securities - Private Client Research

E&P economies of crude and natural gas for the company are shown in the table below. The main driver to net earning estimates in FY07 is higher crude realization net of subsidy. On the other hand, the key driver to FY08 earning estimate is a production hike in both crude and gas. The rise in crude production is on account of OVL and gas rise is from ONGC's domestic operation. We have taken the production of VAP (LPG, Naphtha, SKO) at the stable level of FY06. The levies shown below include royalty, cess, sales tax and octroi charges. Royalty paid by OVL is more compared to ONGC domestic due to the stringent fiscal regime posed by most governments on operation by a foreign player.

Net realization improves with OVL as no subsidy burden for OVL crude sales

ONGC– E&P Economies

ONGC Domestic	FY06	FY07E	FY08E
Crude - usd/bl (Including 5% custom duty)	59.66	66.15	60.90
Subsidy	17.26	19.53	14.11
Crude realization net of subsidy	42.40	46.62	46.79
Levies	12.50	14.44	14.58
Lifting cost	5.21	5.10	5.16
Operating margin - Crude	24.69	27.08	27.05
Operating margin - Gas (usd/boe)	9.86	11.27	14.09
Weighted Average Op Margin (usd/boe)	17.44	20.16	21.12
Finding cost (usd/boe)	2.28	2.46	2.51
Depletion cost (usd/boe)	1.91	1.95	2.03
Net earnings (usd/boe)	13.25	15.74	16.57
ONGC+OVL			
Crude - Net - usd/bl	45.00	47.96	48.35
Levies	13.55	15.84	15.84
Lifting cost	5.14	5.03	5.08
Operating margin - Crude	26.31	27.09	27.42
Operating margin - gas (usd/boe)	9.86	11.27	14.09
Average Op Margin (usd/boe)	18.73	20.60	21.74
Finding cost (usd/boe)	2.42	2.68	2.66
Depletion cost (usd/boe)	1.80	1.85	1.89
Net earnings (usd/boe)	14.51	16.07	17.20

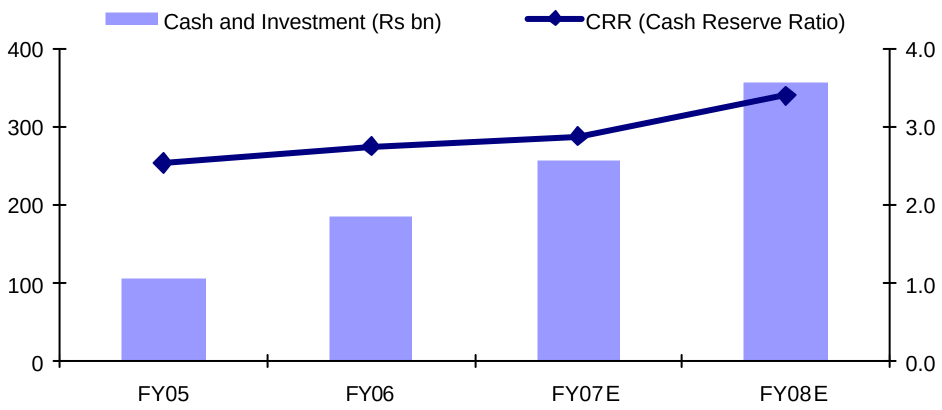
Source: Company results; Kotak Securities - Private Client Research

Finding cost comprises survey cost and exploratory drilling and land acquisition cost pertaining to the dry wells. Finding cost shows significant variations year and world wise depending on different success ratio. Further variations are expected in the finding cost with OVL's exploration blocks spanning over 13 countries. There is a general trend of increase in the finding cost worldwide despite improved technology due to the fact that most of the new exploratory blocks are deepwater.

Total estimated capital investment of approximately Rs.300 bn in FY07 and FY08 with OVL's contribution in the existing field being close to Rs.100 bn

The capital expenditure plans of ONGC standalone has already been mentioned above. The capital investment for OVL is difficult to judge, as it depends on the acquisition opportunities it gets. Hence, we have taken capex level corresponding to its current exploratory and development fields of about Rs. 40 bn. The other capital investment for future acquisitions (exploratory and producing blocks) is kept flexible and can be financed by the cash on consolidated balance sheet as shown below.

Cash reserves to fund on acquisitions

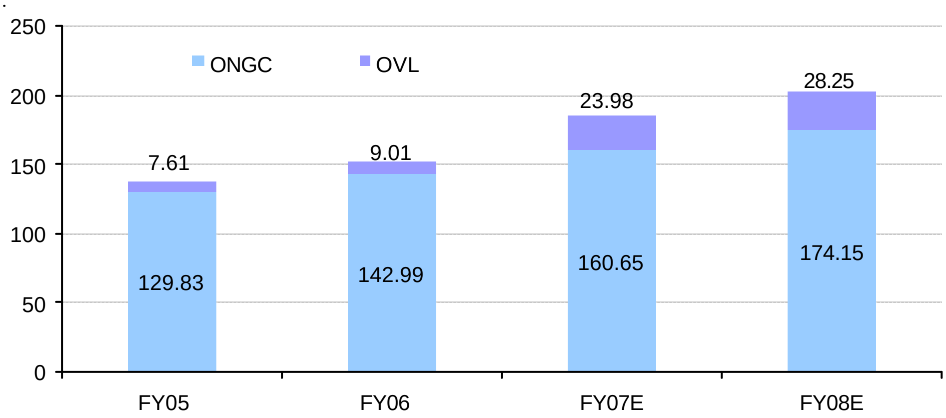


Source: Company results; Kotak Securities - Private Client Research

On the financial front, the company's net earnings are expected to grow at a CAGR of 14% over FY06-08, lead by higher crude realization and production in FY07 and higher production and natural gas realization in FY08. The company's EBIDTA margins would be stable around 60%. RoIC is expected to go up from the current level of 26% to 30% by FY08 due to higher growth in NOPLAT (CAGR of approximately 14%) compared to capital expenditure growth of 4%. OVL contribution is expected to increase both in production and net earnings.

OVL's contribution to total net earnings to go up from the current level of 6% to 14% in FY08

Net profit (Rs bn)



Source: Company results, Kotak Securities - Private Client Research

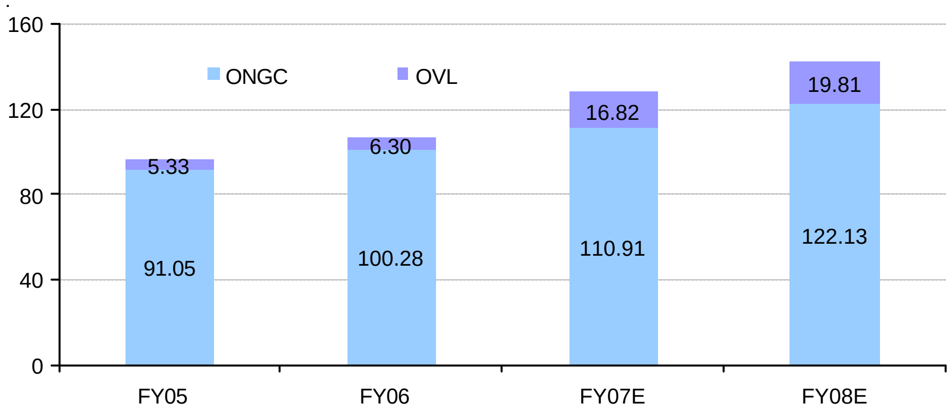
Recently, in the month of August, the company had to shut down its gas processing complex at Hazira for a couple of weeks due to Gujarat floods. Hence, the company lost sales of gas, naphtha, HSD, LPG during this period. The impact of it on FY07 earnings is shown below.

Impact of Gujarat Flood (FY07)

	Before flood	After flood	Change
ONGC - Standalone			
Revenue	570136.28	566284.07	3852.2
Net Profit	160649.06	158145.12	2503.9
ONGC FY07 EPS	112.6	110.9	1.76

Source: Kotak Securities - Private Client Research

EPS (Rs)



Source: Company results; Kotak Securities - Private Client Research

VALUATION AND RECOMMENDATION

The company posted an EPS of Rs.107 for FY06 with ONGC's domestic share being Rs.101.2. Going forward, we expect a consolidated EPS of Rs.127 and Rs.142 for FY07 and FY08, respectively, with ONGC's standalone figures being Rs.110.9 and Rs.122. At a CMP of Rs.1184 the stock is available at 9.4x FY07 and 8.1x FY08 earnings. The stock has traded in the one year rolling forward PE band of 9x-11x over the past couple of years. Extrapolating current FY07 earning multiple of 9.4x to FY08 earnings results in a price of Rs.1334 over a one-year time horizon. Total proved reserves of ONGC and OVL are estimated at 7.08 bn boe. Currently, on EV/reserves the stock is available at US$5/boe. EV/EBITDA at CMP would be 4x and 3.6x for FY07 and FY08, respectively.

Global Peer Comparison

	P/B (FY06)	P/E (FY06)	RoE (%)
ONGC	3.06	11.07	29.79
Petrochina	3.12	10.51	28.28
CNOOC	3.88	9.66	38.94
Exxon	3.51	11.27	33.93
Royal Dutch Shell	2.29	8.23	28.84
BP	2.79	10.08	28.49

Source: Bloomberg & Kotak Securities - Private Client Research

DCF based Valuation

DCF estimates include projection till FY09, 5% FCF growth rate for the next five years and 3% growth to perpetuity after that. Key parameters involved in the valuation are as follows.

valuation parameters

Risk free rate	7%
Market Risk Premium	7%
Inflation	5%
Beta equity	0.88
WACC	13.2%
Terminal growth rate	3%

OVL is expected to contribute to 18% of the total value per share after one year horizon

DCF valuation

(Rs mn)	FY06	FY07E	FY08E	FY09E
Net Sales	551,291	658,164	712,953	742,155
Total Expenses	248,984	286,940	309,358	319,695
Dept	96,782	107,396	116,683	122,223
EBIT	205,526	263,828	286,912	300,238
Taxes on EBIT	70,359	92,340	100,419	105,083
NOPLAT	**135,167**	**171,488**	**186,493**	**195,154**
GCF	231,949	278,884	303,176	317,377
Increase in WIP	3,909	9,202	5,891	2,728
Inc. NWC	(43,107)	(10,115)	(1,847)	(462)
Capital expenditure	175,294	148,423	143,720	142,236
Gross Investment	136,096	147,510	147,765	144,502
FCF	**95,853**	**131,373**	**155,411**	**172,875**
Total NPV (After 1 year from current date)		1,845,964		
NFO (Net Financial Obligations)		16,459		
Net Equity Value		1,829,505		
Value per share (Rs)		**1,283**		
ONGC contribution (Rs)		**1,053**		
OVL Contribution (Rs)		**230**		

Source: Kotak Securities - Private Client Research

Asset-based valuation

In asset-based valuation, the company's current developed and undeveloped proven reserves are valued at market price. We have estimated total developed reserves on FY08 at 678 mmt and it includes all the current producing fields of ONGC and OVL. Developed reserves are valued by estimating FCF in FY08, without capital expenditure on exploration and development. The company from its current developed reserves would be able to generate FY08 FCF for 11 more years, with FY08 production rate. Since the company has a long-term goal to improve recovery factor up to 40%, we have taken the recovery factor would improve to 32% by 2015, from the current average level of 28%. This amounts to production enhancement by 100 mmt, equal to 1.6 years production at FY08 rate.

We have valued the undeveloped reserves of the company as an option to develop depending on optimal economic scenario. The reason for using option value is high volatility of crude price in recent times. In such a scenario, NPV-based value would underestimate the reserves value, as it will not capture the value of option rights that the company has for development. As already mentioned above, many of the marginal fields discovered in the nineties have started turning feasible in the current high price scenario.

ONGC and OVL Oil and Gas Reserves

(mmtoe)	FY05	FY05 (OVL)	FY06	FY06 (OVL)	FY07E (ONGC + OVL)	FY08E
Opening Balance	770.60	198.99	755.30	197.90	966.02	909.44
Accretion	38.19	6.40	51.53	14.60	0.00	0.00
Production	53.49	5.06	46.97	6.34	56.58	62.34
Proved reserves	755.30	200.34	759.86	206.16	909.44	847.10
Opening Balance	599.24	32.04	593.08	33.39	639.28	582.70
Accretion	47.33	6.40	51.53	14.60	0.00	158.40
Production	53.49	5.06	46.97	6.34	56.58	62.34
Proved and developed reserves	593.08	33.39	597.64	41.65	582.70	678.76

Source: Company Annual Report & Kotak Securities - Private Client Research

The value per share of Rs.1231 for ONGC and OVL's existing proved reserves are at crude price of Rs.58. The value does not include returns and capital investments corresponding to new exploration blocks

Asset Valuation at Market Price

FCF at FY08 (Without exploration capital expenditure) (Rs mn)	208341.36
Total developed reserves (mmtoe)	582.70
Accretion due to recovery factor improvement to 34% (mmtoe)	100.00
PV of developed reserves (FY08 cash flow for 12 more years) (Rs mn)	1452994.08
Total undeveloped proved reserves (mmtoe)	168.34
PV of undeveloped reserves (Rs mn)	380685.89
Cost of Development (Rs mn)	114649.79
Crude price volatility (Year 2006)	7%
Option value of undeveloped reserves (Rs mn)	357500.00
NPV of total reserves on Aug 2007 (Rs mn)	1756472.90
Share capital (Rs mn)	**14259.30**
Value per share (Rs)	**1231.81**

Source: Kotak Securities - Private Client Research

Since asset-based valuation does not include the value for exploration blocks, the case corresponds to zero success on exploratory front. The DCF-based value corresponds to the exploration success rate similar to the past five-year average, with minor adjustments made for higher risk pertaining to deepwater exploration.

The price target of Rs.1330 is based on weighted average of fair value obtained from three methods and other business investment values at 20% discount to current market price

Valuation Summary (In Rs)	
ONGC + OVL (DCF based value)	1283.03
ONGC + OVL (Asset based value)	1231.81
MRPL (20% discount to CMP)	27.33
IOC	26.86
GAIL	7.27
Total Investments	61.46
DCF based value per share	1344.48
Asset based value per share	1293.27
9.4x FY08 EPS	1333.6
Weighted Average Price Target	1329.89

Source: Kotak Securities - Private Client Research

Our price target of Rs.1330 is based on a weighted average of the two methods and 9.4x FY08E earnings. The company's financial and strategic investment in MRPL, GAIL and IOC are valued at 20% discount to the current market price. The price target, which provides 12% upside over CMP along with expected dividend yield of 3.5% constitutes a total return of 15.5% over a one-year horizon. The return suffices for the underlying systematic risk; hence we put a **BUY** on ONGC.

Consolidated estimates for ONGC and OVL (not including MRPL)

Profit and loss statement (Rs mn)

Year end March	FY06	FY07E	FY08E	FY09E
Net Sales	**551,291**	**658,164**	**712,953**	**742,155**
Other Income	25,139	16,519	24,631	24,552
Total Income	576,430	674,683	737,584	766,707
Expenditure	248,984	286,940	309,358	319,695
Operating Profit	327,446	387,743	428,226	447,012
Interest	470	150	150	150
Gross Profit	326,976	387,593	428,076	446,862
Depreciation	96,782	107,396	116,683	122,223
Goodwill	4,500			
Profit before Tax	225,694	280,198	311,393	324,640
Tax	78,993	98,069	108,988	113,624
Profit after Tax	**146,701**	**182,128**	**202,405**	**211,016**
Extraordinary Items	6,405	-	-	
Net Profit	**153,107**	**182,128**	**202,405**	**211,016**
Equity Capital	14,259	14,259	14,259	14,259
EPS	107	128	142	148

Balance sheet (Rs mn)

Year end March	FY06	FY07E	FY08E	FY09E
Share Capital	14,259	14,259	14,259	14,259
Reserves and Surplus	543,976	650,851	785,674	924,137
Unsecured Loans	4,171	4,171	4,171	4,171
Aband cost & Def Credits	190,045	190,045	190,045	190,045
Total sources of funds	**752,450**	**859,325**	**994,149**	**1,132,612**
Gross Block	515,350	550,380	577,318	602,779
Less: Depreciation	420,749	458,827	499,120	541,285
Net Block	94,601	91,552	78,198	61,494
Capital work in progress	43,788	33,673	31,826	31,364
Gross producing property	620,564	693,195	769,525	847,151
Depletion and impairment	300,094	335,447	374,692	417,897
Producing Properties (Net)	320,470	357,748	394,833	429,254
Exploratory wells in progress	38,031	44,828	48,135	49,401
Goodwill	10,753	10,753	10,753	10,753
Investments	47,750	78,444	89,460	100,475
Current Liabilities & Provisions	109,838	127,733	142,066	146,095
Net current asset	53,989	62,785	69,830	71,810
Miscellaneous expenditure	5,312	5,312	5,312	5,312
Total application of funds	**752,450**	**859,325**	**994,149**	**1,132,612**

Cash flow statement (Rs mn)

Year end March	FY06	FY07E	FY08E	FY09E
PAT	153,107	182,128	202,405	211,016
Depreciation	96,782	107,396	116,683	122,223
Change in NWC	(3,909)	(9,202)	(5,891)	(2,728)
Operating cash flow	245,980	280,322	313,197	330,511
Capex	(132,187)	(138,308)	(141,874)	(141,774)
Investment	(10,383)	(30,695)	(11,015)	(11,015)
Investment cash flow	(142,570)	(169,003)	(152,889)	(152,789)
Loans Raised	451	-	-	-
Dividend	72,553	72,553	72,553	72,553
Financial cash flow	(72,102)	(72,553)	(72,553)	(72,553)
Opening Cash	106,450	137,758	176,524	264,280
Closing Cash	137,758	176,524	264,280	370,478

Source: Company Results, Kotak Securities - Private Client Research

Ratio analysis

Year end March	FY06	FY07E	FY08E	FY09E
EBITDA margin (%)	59.40	58.91	60.06	60.23
EBIT Margin (%)	40.94	42.57	43.68	43.74
Net Profit Margin (%)	27.77	27.67	28.39	28.43
Asset Turnover (Sales/Asset)	150.83	152.29	154.60	154.01
ROE (%)	29.56	29.71	27.62	24.34
RoIC (%)	26.31	30.04	30.75	30.84
D/E (x)	0.01	0.01	0.01	0.00
Current Ratio (CA/CL)	2.75	2.86	3.37	0.00
EV/Sales (x)	2.95	2.39	2.16	1.95
EV/EBITDA (x)	4.96	4.06	3.59	3.24
P/E (x)	11.07	9.40	8.10	8.00
P/BV (x)	3.06	2.54	2.11	1.80
Book value share (Rs)	391.50	468.34	559.41	656.52

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