Company report

Natural Resources & Energy
Oil & Gas
Equity – India

HSBC Global Research

Oil & Natural Gas Corp (ONGC)

Overweight (V)

Target price (INR)	1425.00
Share price (INR)	1190.95
Potential total return (%)	22.3

Mar	2009a	2010e	2011e
HSBC EPS	92.55	101.63	112.21
HSBC PE	12.9	11.7	10.6

Performance	1M	3M	12M
Absolute (%)	0.1	-4.5	82.2
Relative^ (%)	-1.6	-6.6	-4.7

Note: (V) = volatile (please see disclosure appendix)

15 January 2010

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Issuer of report: HSBC Securities and Capital Markets (India) Private Limited

Disclaimer & Disclosures

This report must be read with the disclosures and the analyst certifications in the Disclosure appendix, and with the Disclaimer, which forms part of it

OW(V): On the comeback trail

- **Reserve replacement and early monetisation of discoveries augur well for steady production growth**
- **Visibility on crude oil and gas revenues expected to improve after fuel subsidy reform**
- **We rate the stock Overweight (V) on a INR1,425 target price**

Bouncing back. Increased capital spending on E&P**,** faster replacement of reserves, improved recovery from ageing fields and a renewed focus on monetising recent discoveries all augur well for ONGC, suggesting that our earlier assumption of falling production levels was unduly pessimistic. In addition, the state-owned company's overseas arm, OVL, forecasts a 6% production CAGR over FY09-12e, supporting an overall production CAGR estimate of 0.9% for the same period.

Earnings, fuel subsidy reform. We believe the steady production growth and an improved subsidy outlook should support a 6.8% EPS CAGR over FY09-12. We think reforms in retail fuel pricing subsidies will be positive for ONGC, improving revenue visibility and increasing profits. The company may also benefit from a relaxation of regulated natural gas prices from FY11.

Valuation. We have used DCF to value ONGC's reserves and valued investments at market rates for listed entities and at cost for unlisted investments. We rate the stock Overweight (V) with a target price of INR1,425.

Catalysts and risks. Reforms in retail fuel pricing, new discoveries and changes in natural gas pricing and possible overseas acquisitions are potential catalysts. Risks include a higher share of the subsidy-sharing mechanism and lower long-term oil and gas prices.

Effective with this report, coverage of ONGC is transferred to Kumar Manish.

Key financials

INRbn	FY09	FY10e	FY11e	FY12e
Revenue	1,090.7	1,101.7	1,177.1	1,201.1
HSBC Net income	198.0	217.4	240.0	240.9
HSBC EPS (INR)	92.5	101.6	112.2	112.6
HSBC PE (x)	12.9	11.7	10.6	10.6

Source: HSBC

Index^	BOMBAY SE IDX
Index level	17,423
RIC	ONGC.BO
Bloomberg	ONGC IN

Source: HSBC

Enterprise value (INRm)	2,335,874
Free float (%)	26
Market cap (USDm)	55,912
Market cap (INRm)	2,547,290

Source: HSBC

Financials & valuation: Oil & Natural Gas Corp.

Overweight (V)

Financial statements

Year to	03/2009a	03/2010e	03/2011e	03/2012e
Profit & loss summary (INRm)				
Revenue	1,090,686	1,101,699	1,177,113	1,201,123
EBITDA	432,249	463,543	496,432	498,322
Depreciation & amortisation	-154,304	-154,283	-154,633	-155,891
Operating profit/EBIT	277,945	309,261	341,799	342,431
Net interest	33,750	29,150	29,146	31,420
PBT	311,695	338,410	370,944	373,851
HSBC PBT	311,695	338,410	370,944	373,851
Taxation	-110,093	-117,642	-127,459	-129,081
Net profit	197,954	217,377	239,999	240,873
HSBC net profit	197,954	217,377	239,999	240,873
Cash flow summary (INRm)				
Cash flow from operations	401,711	359,089	397,924	403,487
Capex	-338,918	-350,059	-407,227	-376,481
Cash flow from investment	-417,162	-344,897	-397,787	-366,198
Dividends	68,443	76,082	84,000	84,306
Change in net debt	80,750	92,628	81,450	41,405
FCF equity	63,556	9,029	-9,303	27,007
Balance sheet summary (INRm)				
Intangible fixed assets	0	0	0	0
Tangible fixed assets	885,517	1,081,293	1,333,886	1,554,476
Current assets	507,146	429,064	388,544	386,009
Cash & others	225,956	135,226	88,576	87,170
Total assets	1,541,505	1,654,037	1,856,672	2,064,442
Operating liabilities	453,841	466,405	486,341	502,036
Gross debt	65,591	67,490	102,290	142,290
Net debt	-160,364	-67,736	13,714	55,120
Shareholders funds	915,729	1,025,109	1,170,230	1,319,195
Invested capital	712,866	908,726	1,147,514	1,351,278

Ratio, growth and per share analysis

Year to	03/2009a	03/2010e	03/2011e	03/2012e
Y-o-y % change				
Revenue	7.0	1.0	6.8	2.0
EBITDA	4.8	7.2	7.1	0.4
Operating profit	1.6	11.3	10.5	0.2
PBT	0.8	8.6	9.6	0.8
HSBC EPS	-0.4	9.8	10.4	0.4
Ratios (%)				
Revenue/IC (x)	1.7	1.4	1.1	1.0
ROIC	28.2	24.9	21.8	17.9
ROE	23.4	22.4	21.9	19.4
ROA	14.6	14.4	14.4	13.0
EBITDA margin	39.6	42.1	42.2	41.5
Operating profit margin	25.5	28.1	29.0	28.5
EBITDA/net interest (x)	-	-	-	-
Net debt/equity	-17.5	-6.6	1.2	4.2
Net debt/EBITDA (x)	-0.4	-0.1	0.0	0.1
CF from operations/net debt			2901.5	732.0
Per share data (INR)				
EPS Rep (fully diluted)	92.55	101.63	112.21	112.62
HSBC EPS (fully diluted)	92.55	101.63	112.21	112.62
DPS	32.00	35.57	39.27	39.42
Book value	428.13	479.27	547.12	616.77

Valuation data

Year to	03/2009a	03/2010e	03/2011e	03/2012e
EV/sales	2.1	2.1	2.1	2.1
EV/EBITDA	5.2	5.0	4.9	5.0
EV/IC	3.1	2.6	2.1	1.8
PE*	12.9	11.7	10.6	10.6
P/Book value	2.8	2.5	2.2	1.9
FCF yield (%)	2.6	0.4	-0.4	1.1
Dividend yield (%)	2.7	3.0	3.3	3.3

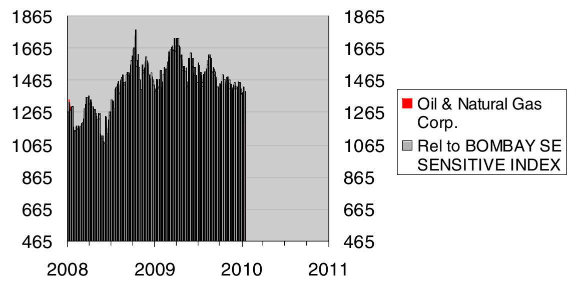
Note: * = Based on HSBC EPS (fully diluted)

Issuer information

Share price (INR)	1190.95	Target price (INR)	1425.00	Potent'l tot rtn (%)	22.3

Reuters (Equity)	ONGC.BO	Bloomberg (Equity)	ONGC IN
Market cap (USDm)	55,912	Market cap (INRm)	2,547,290
Free float (%)	26	Enterprise value (INRm)	2,335,874
Country	India	Sector	OIL & GAS
Analyst	Kumar Manish	Contact	+91 22 22681238

Price relative



Source: HSBC

Note: price at close of 12 Jan 2010

Investment summary

- ONGC's emphasis on early monetisation is showing results – 45 of 111 discoveries over FY03-09 are now in operation
- Increasing production and improved profits to support growth over FY10-12
- Our new lead analyst assumes coverage with an Overweight (V) rating and INR1,425 target (previously Neutral (V), TP INR1,258)

Overview

ONGC's management has taken several initiatives in recent years that we believe augur well for the company's long term prospects. It has increased spending on E&P, increased the recovery rate of mature projects and efficiently monetised the more recent discoveries. Efforts to improve recovery from ageing fields are also showing results.

We believe steady production growth and an improved subsidy outlook should support a 6.8% annual increase in EPS over FY09-12. ONGC's overseas assets are also likely to reverse production declines of the last two years on the back of new operations in Brazil and Russia.

During FY07-09, the company added reserves equal to 127% of production as a result of the increase in capital expenditure on E&P and improved recovery from mature assets.

It also brought on line 45 out of 111 discoveries made during FY03-09. ONGC's higher reserve life as of 2009 – 14 years for its domestic assets vs 10-11 years for international peers – is another positive.

We believe ONGC's reserves are undervalued by the market because of uncertainty over fuel subsidies. We are confident that the government will reduce the company's subsidy burden, which will be a catalyst for the stock.

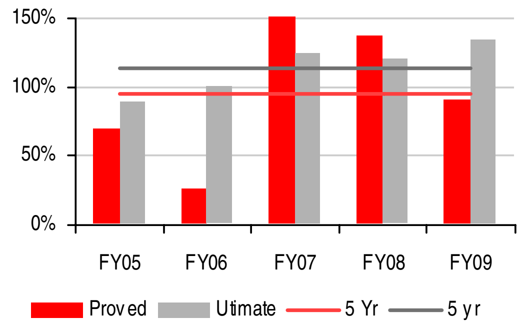
Production

ONGC produces 80% of the country's oil and gas. Production increased at a 2.7% CAGR over FY04-09, including the international contribution from its 100% owned subsidiary, ONGC Videsh Limited (OVL).

ONGC is targeting domestic annual production growth of 1.3% over FY09-13, similar to that of European oil majors. We believe the target is realistic, given growth in JV production, development of marginal fields and continued investment in mature operations.

The company targets domestic crude production of 29 million tonnes per annum (MMtpa) by FY13 from 24.4MMtpa in FY09. It also aims to raise domestic gas production to 72 million cubic metres per day (MMcm/d) by FY13, from 62MMcm/d in FY09. Overseas production is expected to increase at a 6% CAGR over FY09-13.

ONGC: Reserve replacement and 5-year average



Source: Company reports, HSBC estimates

Three-pronged strategy

ONGC's three-pronged strategy – accelerating monetisation of new discoveries, arresting the decline in mature fields (25-30 years) and developing marginal fields – is now showing positive results.

Some 44 marginal fields are now under production, contributing nearly 32Mbbl/d ('000 barrels per day) to the company's domestic production in FY09. It is also developing another 52 marginal fields, and has plans for another 12 in a new East Coast hub. It targets production of 92Mbbl/d of oil and 16.5MMcm/d gas from these marginal fields by end-FY12.

ONGC is also expediting its discovery-to-production conversion cycle – of 111 discoveries made over FY03-09, 45 were in production by FY09.

The improved oil recovery and enhanced oil recovery (IOR and EOR) activities have also helped ONGC arrest the natural yearly decline rate of c7% at its 15 large oil fields, which represent nearly 60% of India's domestic oil production.

We believe the new East Coast hub will boost growth. ONGC plans to develop oil discoveries in the G-4-6, GS-29-1, G-4-5, KG-DWN-98/2 and PEL IG blocks and start production in FY12-13.

Fuel subsidies

The government has not allowed oil marketing companies (OMCs) to pass on increased costs to end-consumers of diesel (HSD), gasoline, kerosene (SKO) or LPG. OMCs estimate the shortfall or "under-recovery" as the difference between the trade parity price (linked to international prices) of these products and gross realisation from actual sale.

Under-recovery has been funded in recent years by:

a) Discounts by upstream companies on the price of crude oil and petroleum products sold to OMCs;

b) Subsidy from the government in the form of oil bonds issued to OMCs;

c) Any residual amount, net of discount and oil bonds, has been a loss borne by OMCs.

The government has announced its intention to overhaul the under-recovery funding mechanism. While OMCs did bear part of the under-recovery amount during FY06-08, they were fully reimbursed in FY09. However, this is unlikely to be repeated in light of the government's need to tighten its fiscal deficit.

Indeed, we think the focus will turn to the ability of various stakeholders, including OMCs, to bear a share of the under-recovery burden. We also expect this to be the theme of the Parikh Committee, set up recently to recommend fuel pricing reform, which is likely to be submitted by the end of January 2010.

We think the reforms are likely to benefit ONGC as the visibility of its revenue will increase while capping its contribution to the under-recovery (for more details see page 18). Our estimate of ONGC's subsidy burden is set out in the following table:

ONGC's share of under-recoveries (INRbn)

	FY10e	FY11e	FY12e
Sector under recoveries			
Auto fuel	156	231	250
Cooking fuel	335	400	388
Total under recoveries	490	631	637
ONGC share of under recoveries	113	173	186
ONGC's share as % of its revenue	10.3%	14.6%	15.5%

Source: HSBC estimates

The Parikh Committee is also looking at imposing a windfall tax on oil and gas produced from wells owned by state-owned companies from the New Exploration Licensing Policy (NELP) era. Our estimates of bearing ability (including government duty of INR2500/t) are more conservative than the representations ONGC made to the Parikh Committee. The comparison is presented in the following table:

Subsidy burden on ONGC at various crude prices (USD/bbl)

Brent	HSBC assumption	ONGC proposal
60	18	0
75	24	4
90	30	12

Source: ONGC, HSBC estimates

Natural gas

ONGC may also benefit from a relaxation in regulated natural gas prices from FY11. The company has also made representations to the government about the administered pricing mechanism (APM) under which natural gas from existing nominated blocks is sold at INR3,200/MCM ('000 cubic metres). The Ministry of Petroleum and Natural Gas (MoPNG) is looking into the issue of increasing gas pricing for ONGC. We expect the price to be increased gradually to market rates and factor in a rise from the existing USD2.2/Mmmbtu to USD2.8/Mmbtu.

In addition, production started in December 2009 at the C-series fields located on the western offshore adjacent to the Bassein gas field. Peak production of 80MMcf/d is expected in 2010.

Overseas assets

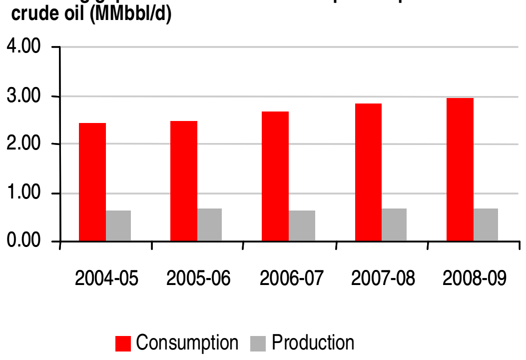
India's petroleum consumption has risen at a CAGR of 4.4% over the last five years while domestic production represents just 23% of this consumption.

As a result, ONGC is likely to focus on acquiring further overseas oil and gas assets. India's petroleum consumption has risen at a CAGR of 4.4% over the last five years while domestic production represents just 23% of this consumption.

Even accounting for the impending peak production of 175,000 b/d from the Rajasthan fields operated by Cairn India Limited, the country's import requirement would still be upward of 70%.

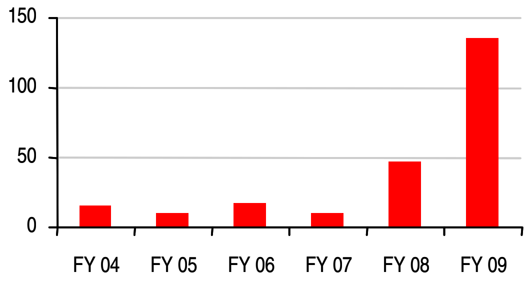
We expect the government to continue supporting OVL's overseas initiatives, so we think the company will not only replace reserves but also increase its assets over FY11-12.

Widening gap between India's consumption & production of crude oil (MMbbl/d)



Source: MoPNG, HSBC

Ultimate reserve accretion (MTOE/year)



Source: Company, HSBC

Our base case assumes oil price to stabilise at USD75/bbl

The HSBC global oil team has reiterated its CY10e Brent assumption of USD75/bbl. This forecast has been in place since February 2009.

We believe increasing demand and production declines in mature non-OPEC areas should lead to a greater need for OPEC crude in 2010. We believe this will make it easier for Saudi Arabia to defend its target price range of USD70-80/bbl. However, given OPEC spare capacity of 6MMbbl/d, we do not expect the oil price to go materially above this range.

Forecasts

We have captured our main assumptions for production growth, oil price and realisations in the following table.

ONGC: key assumptions

	FY09	FY10e	FY11e	FY12e
Domestic production				
Crude (Mbbl/d)	546.3	566.4	562.1	556.0
Natural gas (MMcm/d)	69.7	68.3	64.6	67.8
Oil equ (Mbbloe/d)	984.5	995.9	968.4	982.4
International production				
Crude (Mbbl/d)	145.9	148.3	156.5	174.5
Natural gas (MMcm/d)	6.1	5.9	6.8	6.9
Oil equ (Mbbloe/d)	184.1	185.3	199.2	218.2
Price (USD/bbl)				
Brent	85.0	68.0	75.0	76.0
Domestic crude net of subsidy	50.9	55.4	58.1	59.2
Domestic crude net of subsidy and taxes	35.1	40.0	42.1	43.0
Domestic natural gas (USD/Mmbtu)	2.2	2.2	2.8	2.8

Source: HSBC

EPS

We forecast annual EPS growth of 6.8% over FY09-12.

ONGC: forecasts (INRbn)

	FY09	FY10e	FY11e	FY12e
Sales	1,091	1,102	1,177	1,201
EBIT	587	618	651	654
Net income	198	217	240	241
EPS (INR)	92.6	101.6	112.2	112.6
Delta to consensus		1%	4%	-3%
Operational cash flow	393	362	412	417
Capex	339	307	407	376
- ONGC thereof	168	223	238	220
- MRPL thereof	20	20	56	43
- OVL thereof	151	107	114	114

Source: HSBC, consensus from IBES

Valuation

ONGC: OW(V), target price INR1,425

We value ONGC using sum-of-the-parts (SOTP). Our new target price gives a potential return of 22.3%, including 3% dividend yield, so we upgrade ONGC from Neutral (V) to Overweight (V).

Our SOTP valuation is based on discounted cash flow for domestic blocks, relative multiples for domestic JV-operated blocks, new discoveries from domestic assets and international assets, market value for quoted investments and book value for unquoted investments. We summarise our SOTP valuation in the table below.

ONGC target price (INR/share)

	HSBC method	Valuation (INR/sh)
Domestic blocks	DCF	879
Domestic JV blocks	DCF	48
International blocks (OVL)	Relative multiple	242
Upside	Relative valuation	73
Enterprise value		**1,242**
Add: Investments	Market value for quoted, book value for others	100
Less: Net debt		-83
Target price		**1,425**

Source: HSBC

Risks

The risks to our Overweight (V) rating for ONGC include materially lower long-term oil and gas prices than our assumptions. The company-specific risks include a materially higher share of the subsidy-sharing mechanism for petroleum products, higher royalty and cess (a form of government levy) or a greater decline in domestic production than we have assumed. Other risks include the market not ascribing higher valuation to ONGC's domestic reserves.

Sensitivity to domestic crude realisation

We assume that upstream companies will share 90% of auto fuel losses for FY11, translating into a 33% share of total losses. The following table captures the sensitivity of ONGC's valuation and EPS to a change in upstream share of auto-fuel losses for FY11.

Sensitivity to upstream share of under recovery on auto fuel

Share	Losses for ONGC INRbn	Crude USD/bbl	FY11 EPS INR/share	Valuation INR/share
100%	192	56.1	106.7	1,368
90%	173	58.1	112.2	1,425
80%	153	60.1	117.7	1,482
70%	134	62.1	123.2	1,539
60%	115	64.1	128.6	1,595
50%	96	66.1	134.1	1,652

Source: HSBC

Natural gas price

We factor in a rise in domestic APM natural gas to USD2.7/MMbtu in FY11, from USD1.9/MMbtu in FY10. We capture the sensitivity of ONGC's FY11 EPS and its valuation to the changes in natural gas price in the following table.

ONGC: sensitivity to change in natural gas price

APM gas (FY11)		FY11 EPS	Valuation
INR/Mcm	USD/Mmbtu	INR/share	INR/share
3,200	1.9	106.1	1,336
3,600	2.2	108.1	1,366
4,000	2.4	110.2	1,395
4,400	2.7	112.2	1,425
4,800	2.9	114.2	1,455
5,200	3.1	116.3	1,485
5,600	3.4	118.3	1,514

Source: HSBC

Each USD1/MMbtu movement in our Indian gas price assumption changes our target price by 8.1%, or INR119.

HSBC

Forecasts and valuation

- We expect improvements in both production volume and net profit
- EPS CAGR of 6.8% over FY09-12
- Upgrade to Overweight (V) with target price of INR1,425

Forecasts

Our key financial forecasts for ONGC are listed in the table below. We forecast annual growth of 6.8% in EPS over FY09-12. Our EPS forecast for FY11 is 4% higher than consensus (IBES) and FY12 is 3% lower.

ONGC: forecasts (INRm)

	FY09	FY10e	FY11e	FY12e
Sales	1,091	1,102	1,177	1,201
EBIT	587	618	651	654
Net income	198	217	240	241
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Source: HSBC, consensus from IBES

Key assumptions

Our main assumptions for production growth and oil prices are listed in the following table.

ONGC: key assumptions

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Domestic production				
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Domestic crude net of subsidy	50.9	55.4	58.1	59.2
Domestic crude net of subsidy and taxes	35.1	40.0	42.1	43.0
Domestic natural gas (USD/Mmbtu)	2.2	2.2	2.8	2.8

Source: HSBC

Production growth

We expect ONGC's IOR/EOR efforts as well as development of marginal fields to help maintain current production levels. We expect growth in domestic crude production from the ramp-up of Cairn India-operated MBA project in which ONGC has a 30% stake (peak capacity of 175Mbbl/d in FY12).

We use ONGC's revised estimates for the 11^{th} Five-Year Plan for our domestic production forecast. For OVL, we also use the 11th Plan but adjust for new production from Parque das Conchas (formerly BC-10) and Imperial Energy. We assume Parque das Conchas will ramp up to 25Mbbl/d by end-FY10, 60Mbbl/d by FY11 and 100Mbbl/d by FY12.

These estimates are more conservative than ONGC's guidance of 100Mbbl/d in FY11. For Imperial Energy, we expect production to increase from 12.5Mbbl/d (September 2009) to 20Mbbl/d by end-FY10, 25Mbbl/d by FY11 and 35Mbbl/d by FY12.

Subsidy exposure to continue

We assume that upstream players will continue to share 90% of the auto fuel subsidy burden over FY09-12. We expect ONGC's share of the resulting losses to be 76%, in proportion to the combined net profit of public sector upstream players, ONGC, Oil India and GAIL.

With our assumption of an increase in retail price and a moderate increase in product crack spread, we expect ONGC's domestic price to increase to USD58.1/bbl in FY11 and USD59.2/bbl in FY12, even after subsidy-related losses.

Natural gas realisation upside

Media reports suggest that the government is considering a proposal to increase domestic APM natural gas price by 30-44%. The alignment of APM natural gas price with the market price is a likely upside for upstream players.

With the start-up of production at KG D6, power and fertiliser sectors – the two key consumer sectors for natural gas – have started paying a higher price of USD4.2/MMbtu. We believe that the rise in the share of market-determined price gas in India will support the government's initiative to align the APM price with the market price.

In our base case, we assume that composite domestic natural gas price for ONGC will improve to USD2.8/MMbtu in FY11, from around USD2.2/MMbtu in FY10. As ONGC does not share profit on the nominated blocks with the government, we expect APM gas net price to remain below the approved price of USD4.2/MMbtu for KG D6 gas. We expect this to give further potential upside to ONGC.

Valuation

We use SOTP to arrive at a target price of INR1,425. Under our research model, for Indian stocks with a volatility indicator, the Overweight band is 10ppt above and below the hurdle rate of 10.5%. Our target price implies a theoretical potential total return of 22.3%, including 3% dividend yield. Accordingly, we upgrade ONGC from Neutral (V) to Overweight (V).

Sum-of-the-parts valuation at INR1,425/share

Our SOTP valuation is based on DCF for domestic blocks, relative multiples for domestic JV-operated blocks, new discoveries from domestic and international assets, market value for quoted investments and book value for unquoted investments.

ONGC sum-of-the-parts valuation (INR/share)

	HSBC method	Valuation (INR/sh)
Domestic blocks	DCF	879
Domestic JV blocks	DCF	48
International blocks (OVL)	Relative multiple	242
Upside	Relative valuation	73
Enterprise value		**1,242**
Add: Investments	Market value for quoted, book value for others	100
Less: Net debt		-83
Target price		**1,425**

Source: HSBC

Cost of capital assumptions

For the purpose of DCF, we use a WACC of 10.9%, based on the assumptions in the following table.

Cost of capital assumptions

Risk free rate	7.0%
Equity risk premium	5.0%
Company beta	0.80
Corporate tax rate	34.0%
Company leverage	0.03
Return on ungeared equity	11.0%
Return on geared equity	11.1%
WACC	10.9%

Source: HSBC

HSBC

Domestic blocks valued at INR879/share

We value ONGC's proved reserves using DCF valuation over proved reserve life based on our assumption for long-term Brent price of USD75/bbl and a WACC of 10.9%.

We further recognise upside offered to domestic owned assets by valuing ONGC's probable reserves (2P less 1P reserves) and possible reserves (3P less 2P reserves) by applying a risk and time weight. We apply 50% weight for probable reserves, in light of the time involved in developing 2P reserves. For the possible reserves component, we apply a combined risk and time weight of 10%, recognising lower probability of such reserves and time involved in developing these.

ONGC domestic owned assets valuation

Category	Reserves (Mmbbloe)	Risk and time weight	USD/boe	Valuation (INR/share)
Proved	5,006	100%	6.1	747
Probable	1460	50%	6.1	109
Possible	1554	10%	6.1	23
Total				**879**

Source: HSBC

Domestic JV blocks valued at INR48/share

ONGC has step-in rights for taking stakes in pre-NELP JV blocks. It has exercised these rights for the following producing assets:

ONGC stakes in producing blocks operated by JV

	ONGC PI	Partner (PI)
Mid & South Tapti	40%	BGEPIL (30%), RIL (30%)
Panna & Mukta	40%	BGEPIL (30%), RIL (30%)
Ravva	40%	CEIL (22.5%), PIL (25%), ROPL (12.5%)
CB-OS/2	50%	Cairn India (43.3%),TPL (10%)
RJ-ON-90/1- MBA	30%	Cairn India (70%)
RJ-ONN-2001/1	30%	OIL (40%), SRL (30%)
RJ-ONN-2002/1	40%	OIL (60%)

Note: PI: Participating interest
Source: Company

Applying a unit reserve multiple of USD6.3/bbloe, we value ONGC's stake in these producing assets at INR50/share. Our valuation multiple of USD6.3/bbloe is at an 80% discount to our valuation multiple of USD7.9/bbloe for PMT assets, as we assume that ONGC bears royalty for 100% production on the pre-NELP blocks.

ONGC domestic JV assets valuation

Category	Reserves (Mmbbloe)	Risk and time weight	USD/boe	Valuation (INR/share)
Proved	293	100%	6.3	45
Probable	38	50%	6.3	3
Possible	15	10%	6.3	0
Total				**48**

Source: HSBC

International assets valued at INR242/share

For the international assets, we have used country-wise valuation multiples to factor in different fiscal regimes and oil and gas mix. We have used current EV to 2P (proved and probable reserves) multiples

ONGC: Valuation of international blocks

	Proved and probable reserves (Mmbbloe)			Reserves valuation multiple (USD/bbloe)		Target price
	Oil	Gas	Total	Oil	Gas	INR/share
Sakhalin, Russia	365	587	952	3.0	1.5	48
Imperial Energy, Russia	873	59	931	3.0	1.5	66
GNOP Sudan	188	0	188	10.0		46
Block 5A, Sudan	72	0	72	10.0		18
Vietnam	7	118	124	10.0	3.0	10
AFPC, Syria	22	0	22	10.0		5
MECL, Colombia	36	0	36	7.0		6
Venezuela	54	0	54	7.0		9
BC-10, Brazil	50	5	55	10.0	3.0	13
North Ramadan, Egypt	3	0	3	7.0		1
Black A1&A3, Myanmar	0	161	161		5.0	20
Total	**1,671**	**930**	**2,600**			**242**

Source: HSBC

of peers operating in some of the countries with OVL presence as a starting point.

Peer valuation

	EV/2P multiple (USD/bbloe)	2P reserves/ resources (MMbbloe)	Main countries
Afren	14.6	101	Nigeria
Addax Petroleum	17.5	537	Africa, ME
Gulfsands Petroleum	12.2	36	Syria
Heritage Oil	7.5	260	Russia, Uganda
Soco International	11.1	144	Vietnam

Note: Price as on 7 December 2009, For Addax Petroleum, transaction value in June 2009.
Source: HSBC, Thomson One Datastream

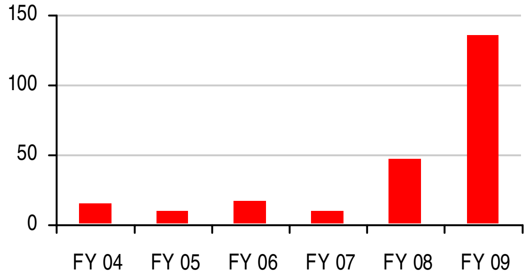
For valuing crude 2P reserves, we use an EV/2P multiple of USD10/bbloe for Africa, Vietnam and Brazil, based on peer valuation. Accounting for less attractive fiscal regimes in Colombia, Egypt and Venezuela, we use an EV/2P multiple of USD7/bbloe for valuation. For Russia, we use an EV/2P multiple of USD3/bbloe factoring in high incidences of taxes. For gas reserves, we use a valuation multiple of USD1.5/bbloe for Russian reserves and USD3.0/bbloe for other reserves as these reserves are likely to serve domestic low realisation markets, offering lower returns.

Upsides valued at INR73/share

In the reserves reported by ONGC, it has not included any reserves from its discoveries in its NELP blocks pending finalisation of the development plan. As per initial indications, ONGC has discovered in-place volume of 6.37Tcf from its East Coast discoveries in KG-basin. Applying a valuation multiple of USD3/bbloe of recoverable reserves, we value them at INR29/share.

We expect ONGC's reserve accretion to continue at the established pace and expect the company to deliver additional ultimate reserves of c125MMt over the next five years. This is in line with the historical trend as shown in the table.

Ultimate reserve accretion (MTOE/year)



Source: Company, HSBC

We have ascribed a combined risk weight of 50% on our valuation multiple of USD5.6/bbloe for ONGC's domestic proved reserves; we assign a value of INR44/share to potential from ONGC's portfolio.

Forecast and valuation changes

We raise our FY10e and FY11e EPS by 6% and 2%, respectively, and raise our target price by 13% as we assume lower under-recovery burden for ONGC and higher valuation for east hub discoveries.

ONGC forecast changes (INRm)

		FY10e	FY11e	FY12e
Revenue	New	1,101,699	1,177,113	1,201,123
	Old	1,117,934	1,218,056	1,255,652
	% change	-1%	-3%	-4%
Net Income	New	217,377	239,999	240,873
	Old	227,682	227,202	235,750
	% change	-5%	6%	2%
EPS	New	101.6	112.2	112.6
	Old	106.5	106.2	110.2
	% change	-5%	6%	2%

Source: HSBC estimates

ONGC valuation changes (INRm)

	TP	Rating
New	1425	OW(V)
Old	1258	N(V)
% change	13%	

Source: HSBC estimates

Our valuation methodology remains the same, except in the case of OVL, where we have moved to relative valuation from DCF to account for regional differences in E&P asset values.

Key sensitivities

Domestic crude realisation

We assume that upstream companies will share 90% of auto fuel under-recoveries for FY11, translating into a 33% share of total under-recoveries. For ONGC, we assume that it shares 76% of upstream under-recovery. The following table shows the sensitivity of ONGC's valuation and EPS to a change in upstream share of auto-fuel under-recovery for FY11.

Sensitivity to upstream share of auto fuel under-recovery

Share	Under-recovery on ONGC	Crude realisation	FY11 EPS	Valuation
	INRbn	USD/bbl	INR/share	INR/share
100%	192	56.1	106.7	1,368
90%	173	58.1	112.2	1,425
80%	153	60.1	117.7	1,482
70%	134	62.1	123.2	1,539
60%	115	64.1	128.6	1,595
50%	96	66.1	134.1	1,652

Source: HSBC

Natural gas price-related

We factor in a rise in domestic APM natural gas price to USD2.7/MMbtu in FY11, from USD1.9/MMbtu in FY10. We capture the sensitivity of ONGC's FY11 EPS and its valuation to the changes in natural gas price realisations in the following table.

ONGC: sensitivity to change in natural gas realisation

_ APM gas realisation (FY11)_		FY11e EPS	Valuation
INR/Mcm	USD/Mmbtu	INR/share	INR/share
3200	1.9	106.1	1,336
3600	2.2	108.1	1,366
4000	2.4	110.2	1,395
4400	2.7	112.2	1,425
4800	2.9	114.2	1,455
5200	3.1	116.3	1,485
5600	3.4	118.3	1,514

Source: HSBC

Each USD1/MMbtu movement in our Indian gas price assumption changes our target price by 8.1%, or INR119.

Catalysts and risks

Catalysts

Reforms in retail fuel pricing, new discoveries and changes in natural gas pricing are the likely medium- to long-term triggers.

Risks

The risks to our Overweight (V) rating include materially lower long-term oil and gas prices than our assumptions. The company-specific risks include a materially higher share of the subsidy-sharing mechanism for petroleum products, higher royalty and cess charges or failure to arrest a decline in domestic production.

Company background

- Renewed focus on reserve replacement and early monetisation of discoveries is encouraging
- ONGC expected to continue providing discount to OMCs but on a more predictable basis
- In our base case of USD75/bbl Brent for FY11, we expect ONGC to contribute INR173bn in subsidies to oil marketing companies

ONGC: at the forefront of India's E&P industry

ONGC is India's national oil company and produces 1.1MMbbloe/d, equivalent to 80% of the country's oil and gas production. In its domestic operations, ONGC has achieved 1.1% production growth over FY04-09 and targets 1.3% annual growth over FY09-13. This is similar to that of European oil majors. Combining its international operations, ONGC posted 2.7% annual growth over FY04-09, after accounting for international acquisitions.

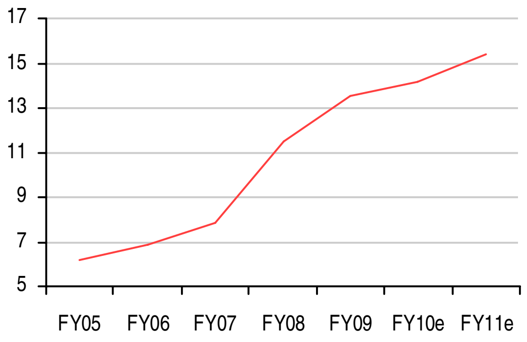
The domestic portfolio of ONGC is spread over 512,754 sq km across 161 domestic blocks, including 82 NELP blocks and 79 nomination blocks. The company has improved the monetising of its domestic discoveries, which augurs well for production growth, particularly related to natural gas. ONGC is also focusing on increasing its exploration efforts in new blocks and enhancing recovery of matured assets.

ONGC has expanded its international assets under ONGC Videsh Limited (OVL) – it has a presence in 40 blocks across 16 countries. OVL now accounts for c15% of ONGC's production and nearly 25% of its reserves. With a burgeoning oil deficit, we believe the Indian government will increase its focus on oil from abroad which should accelerate OVL's growth.

Comfortable reserves in the ground

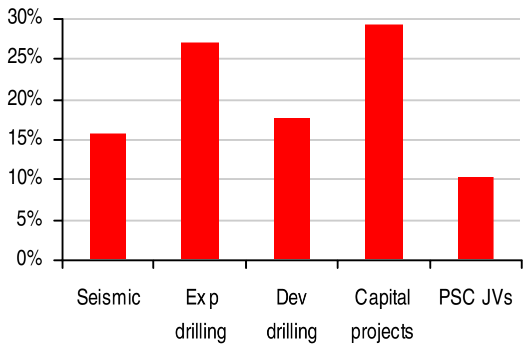
ONGC has a proven reserve life of 14 years (FY09) for its domestic reserves, which is significantly higher than European oil majors' average of 10 years. ONGC is now consciously accelerating its reserve replacement efforts for both proved and ultimate reserves (3P). This is evident in a 127% reserve replacement of proved reserves over FY07-09, aided by an increased pace of monetisation.

Sharp pick-up in E&P capex (USD/boe)



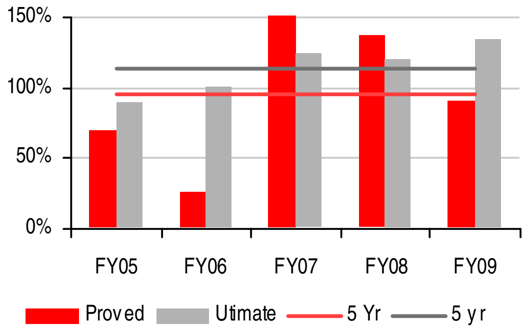
Source: Company, HSBC

FY09: increase in exploration and development capex



Note: Exp drilling: Exploration drilling; Dev drilling: Development drilling
Source: Company

ONGC: reserve replacement and 5-year average



Source: Company

We believe that the increase in the reserves replacement rate is attributable to the increase in capital expenditure on E&P and the focus on increasing the recovery rate of matured assets.

Increased capital spend

Since the commencement of the Eleventh Five Year Plan (from April 2007), ONGC has increased its E&P capital expenditure significantly. In terms of production, unit capital expenditure has increased to USD12.5/bbloe over FY08-09 from USD7.0/bbloe over FY05-07. The company plans to continue to increase capex over FY10 and FY11.

The exploration (seismic and exploration drilling) expense increased to nearly USD2bn in FY09, accounting for 40% of ONGC's E&P capex spend during the year. Activity levels have also increased, with ONGC aiming to drill 148 wells in FY10 and 154 wells in FY11, against 106 wells in FY09. Development drilling, E&P capital projects and investment in the blocks operated by JV partners account for the balance of 60%.

Increasing recovery factor of matured assets

Since 2001, ONGC has been able to improve recovery at 15 major projects – to 33.1% in FY09 from 27.5% in FY08. This is the result of implementing 14 improved oil recovery (IOR) and enhanced oil recovery (EOR) projects at an investment of around USD3.5bn. ONGC is also implementing seven similar projects at an investment of USD3.5bn. We expect this to help arrest the decline at mature fields.

Accelerating exploration of new blocks

ONGC expects its deepwater portfolio to be the key domestic growth driver, targeting nearly 4bn ton (30bnbbl) of in-place reserves by 2020 from deepwater blocks from its target of 6bn ton of total domestic reserves. Relative to the size of the portfolio, the pace of discoveries at ONGC has been slow, but it is partly due to limited availability of deepwater rigs.

In FY10, ONGC acquired a deepwater rig from Reliance Industries, increasing the number of available rigs to three. The company expects to add two more rigs by 2011, taking its rig portfolio to five. On the back of increased number of rigs, ONGC targets to drill 9 and 15 deepwater holes over FY10 and FY11, respectively.

Improving domestic monetisation

ONGC is now better at monetising its discoveries, which augurs well for production growth, particularly related to natural gas. This is attributable to ONGC's three-pronged strategy – accelerating monetisation of new discoveries, arresting the decline in matured fields (25-30 years) and developing marginal fields.

ONGC is also expediting its discovery-to-production conversion cycle – 111 discoveries made over FY03-09, 45 were in production by FY09.

The IOR/EOR activities have also helped ONGC arrest natural decline of around 7% at its 15 large oil fields, which contribute nearly 60% to India's domestic oil production.

ONGC's strategy of focusing on development of marginal fields has helped 44 marginal fields start production, contributing nearly 32Mbbl/d to the company's domestic production in FY09. It is also implementing another 52 marginal fields and targets to develop a further 12 under a new hub. It targets production of 92Mbbl/d of oil and 16.5MMcm/d gas from these marginal fields by end FY12.

We believe ONGC will resume its growth track with the implementation of East Coast hub, besides monetising its East Coast discoveries on a 'fast track' basis. Through this integrated hub, ONGC plans to develop oil discoveries in the G-4-6, GS-29-1, G-4-5, KG-DWN-98/2 and PEL IG blocks. It aims to commence production in FY12-13, with production ramp-up spread over three phases.

With growth in JV production, development of marginal fields and continued investment in matured fields, we believe ONGC is well positioned to achieve 1.3% annual growth over FY09-13.

The company aims for crude production of 29MMtpa (580Mbbl/d) by FY13, from 24.4MMtpa in FY09. It also aims to raise domestic gas production to 72MMcm/d by FY13, from 62MMcm/d in FY09.

India's international growth vehicle

Owing to burgeoning oil deficit, we believe that the Indian government will continue to focus on increasing production overseas by supporting OVL. OVL's production has grown at a CAGR of 18% over FY04-09. At nearly 180Mbbl/d production, OVL now contributes 14-15% to group production and 24% to group reserves.

OVL: Producing projects

Country	Project	OVL stake	Field production (December 2009)		Drilling activities planned for FY10		
			Oil (Mbbl/d)	Gas (MMcm/d)	Development	Exploration	Appraisal
Vietnam	Block 06.1 (offshore)	45.0%		11.4			
Sudan	GNPOC (IJV) - Greater Nile oil project	25.0%	170		58	14	9
	Block 5A (onland)	24.1%	19.5		8	11	
Russia	Sakhalin-I (offshore)	20.0%	150	3.3	3		
	Imperial Energy	100.0%	11				
Syria	Al Furat project (4 PSCs onland)	9.2-10.3%	103		27		
Colombia	Mansarovar Energy, MECL (IJV)	50.0%	27		268	10	
Venezuela	PIVSA (IJV) - San Cristobal Project	40.0%	32		12		
Brazil	BC-10		First oil on 12-Jul-09		5		

Source: HSBC

OVL: projects under development

Country	Project	OVL stake	Discovery	Status
Myanmar	Block A-1 and A-3	20%	Appraisal (with gas discovery)	Development to start likely in 2010. Reserve 5 TCF; First Gas likely in 2013
Iran	Farsi offshore	40%	4 wells drilled. Gas discovery	Master development plan submitted
Egypt	NEMED Project	33%	Gas discovery	Wells to be drilled in the third exploration phase
	North Ramadan Block	70%	Oil discovery	First well flowed oil in April 2007, second and third well drilled in 2008. Fourth well planned later in 2009.

Source: Company

OVL has presence in 39 E&P projects across 16 countries. While nine projects are currently producing, OVL is pursuing development of five more projects. It is also an operator in 17 and joint-operator in 5 projects (see tables).

We believe that international opportunities for investment have grown significantly after oil prices fell from the highs seen in FY08. With our expectation of oil prices in the USD70-80/bbl range, we believe opportunities to make overseas acquisitions will arise. However, OVL will have to continue to compete with China, where energy security is also an important issue.

While OVL has lost out to China on several bids in the past, OVL's relative conservative approach to bidding has been helpful in avoiding significant deterioration of its return profile from its international assets. Although the acquisition of Imperial Energy for USD2.2bn in FY09 was made at a time when the oil price was high and consequently valuation looks stretched in hindsight, it helped OVL maintain its standing in the international market.

Discounts to OMCs likely to be rationalised

We have modelled the estimates and key levers that determine the allocation of under-recoveries amongst various stakeholders. Under a 'no change in retail price' scenario, we see under-recoveries increasing from INR490bn in FY10 to INR721bn in FY11 and further to INR835bn in FY12.

The key levers that determine the level of under-recoveries are: a) exchange rate; b) crude price; and c) product crack spread. Each INR1 change in exchange rate adds under-recoveries worth INR59.6bn. Crude price also has a significant impact, with each USD1/bbl change in Brent adding under-recoveries worth INR35.5bn to the total. Amongst product crack spreads, diesel has the most significant impact, with each USD1/bbl change impacting the level of under-recoveries by INR20.3bn.

While consumers should bear the impact of any cost increase in an economically sustainable environment, the government has been protecting domestic consumers against a direct pass through of international prices We believe the currently established system of providing support through the industry and the government is likely to continue, albeit in a more structured manner.

In view of the political complications related to price increase in case of kerosene and LPG (cooking fuel) we believe the government will continue the subsidy system. Consumer resistance to auto fuels price alignment (gasoline and gasoil or diesel) has moderated following price changes effected over the past two years.

Keeping in mind the affordability of gasoline consumers (largely car owners), we believe that it is possible to gradually link gasoline prices to international prices. However, we see a limited pass-through in case of gasoil due to its impact on transportation, the industry, as well as agricultural users. As each INR1/l increase in gasoil retail price has an impact of INR53.3bn on under-recoveries that is almost four times that of gasoline, the policy of alignment of gasoil price is more important in reducing the overall level of sector under-recoveries.

We believe upstream oil producers will continue to bear under-recoveries on petroleum products, in exchange for the right to not share 'profit petroleum' under their upstream contracts with the government. Equating the government's profit share from such oil contracts at 50%, we believe that the upstream players can share INR200-350bn of under-recoveries corresponding to a Brent price level of USD60-90/bbl.

However, we believe that the ability of downstream oil marketing companies (OMCs) to support under-recoveries is limited. Over FY07-08, these companies generated an operational cash flow of INR200bn. However, with the recent downturn in refining margin, each USD1/bbl lower refining margin impaired their ability by around INR30bn.

Further, OMCs have committed a capex plan of INR160bn for FY10. We also expect them to continue at a similar capex level over FY11 and FY12, until they complete their projects under execution. In view of their debt to equity ratio of above 1:1, we do not consider OMCs capable of supporting under-recoveries beyond net refining margin of c.USD1.5-2/barrel.

As regards the government, we see the high fiscal deficit as a constraint towards tax cuts or direct cash support for subsidies. However, considering that the government continues its support at a level of 0.60-0.75% (as against 1.50%) of GDP, we see it supporting oil bonds of around INR400-500bn. As we expect the government to support under-recoveries through oil bonds, we believe that OMCs will continue to bear the cost of working capital for the timing difference between occurrence of under-recoveries and their reimbursement.

The sharing therefore will be a function of what the industry participants can bear with the residual amount taken up by government, net of any pass through to the end consumers.

At our sector Brent assumption of USD75/bbl for FY11 (our base case), we believe the government will pass on a moderate increase to gasoline, gasoil and LPG to consumers. We build an assumption of INR2/l and INR1/l for gasoline and gasoil, respectively, for FY11 and FY12.

We also assume a two-stage increase in LPG price to INR350/cylinder by FY12. After building in this price increase, we estimate FY11 under-recoveries at INR631bn and assume that INR231bn, equivalent to under-recoveries on auto-fuel, as supported by upstream players.

We consider a Brent price of above USD85/bbl as a 'panic' scenario. Under this scenario, we believe that the government may have to resort to higher than normal price increases. We also expect the downstream players to bear a portion of under-recoveries in such a scenario.

Reforms

Several attempts have been made in the past to liberalise the petroleum retail sector, culminating in the dismantling of the Administered Pricing Mechanism (APM), effective 1 April 2002. However, even at the time of dismantling, the subsidy on PDS kerosene (under public distribution) and LPG (cooking gas) was not envisaged to be removed immediately. Rather, the plan was to remove them in a phased manner.

Subsequently, government decided to not pass on the increase in kerosene and LPG costs to consumers, but chose to allocate the loss between oil marketing companies, upstream companies and itself in a 1/3 : 1/3:1/3 proportion.

Another attempt consisted of opening the sector to private players, subject to investment criteria. As a consequence, companies such as Shell, Cairn, Essar Oil (EOL) and Reliance Industries (RIL) became eligible to apply for licences to retail auto fuels. The three private sector companies that actively developed their retail portfolio are Shell, EOL and RIL.

However, as the oil price started rising in mid-2005, the government tried to maintain the price cushion by reducing taxes, so that private players could continue selling products without passing on *pari passu* burden to end consumer at the cost of government revenues. The government also converted some of the *ad valorem* tax into fixed tax to cushion the cascaded impact of increased international prices.

As prices continued to climb, the government restrained the 'pass-through' of international gasoline and gasoil prices to consumers. The government also chose to issue oil bonds rather than reduce duties any further. However, in FY09, the resulting under-recoveries rose to INR1,030bn – the upstream companies funded around INR320bn, while the government supported the rest.

The OMCs were not enlisted to share the under recovery as it was perceived that their ability to fund capital expenditure required to meet Euro IV norm would be impacted. Most of the refineries since then have already ramped up the secondary processing to meet Euro IV norms applicable in 11 cities in India.

New reform underway – What is needed?

The Indian government has restarted efforts by setting up a committee under the leadership of Kirit Parekh, an economist and a former member of the Committee on Pricing and Petroleum Products in 2006 under C. Rangarajan. We believe the following are key to assessing the sustainability of a new mechanism:

- The level and triggers for passing on increases/decreases in fuel prices to consumers.
- The extent of under-recoveries allocated to the industry and the split between upstream and downstream players.
- Extent of support by government to compensate for the balance of under-recoveries
- Clarity and transparency in defining the allocation of under-recoveries.

The committee is expected to submit its report by end-January 2010.

Estimate of under-recovery

OMCs are exposed to under-recoveries in the sale of petroleum products, as they are not allowed to unilaterally pass on increases in the international prices of the following product groups to end consumers:

- Auto fuel, comprising gasoline (MS or petrol) and gasoil (diesel)
- Cooking fuel (comprising kerosene and LPG).

A large proportion of under-recoveries is funded by the Indian government, while the balance is borne by government-owned upstream companies, through discounts on their sale to OMCs. The government also allows *ad-hoc* increases in end-user prices, based on larger economic conditions, including the ones listed below:

1. International prices of controlled products
2. Extent of discounts passed on to upstream companies
3. Contribution by government (typically in the form of a long-tenor fixed coupon bond) and a small amount as subsidy from the annual budget
4. INR-USD exchange rate

5 Price increase on the controlled products, if any, allowed by the government.

We estimate that under-recoveries will increase from INR490bn in FY10 to INR721bn in FY11 and to INR835bn in FY12, under the assumption that retail petroleum product prices remain unchanged (continuing retail price scenario.) Increase in crude price and product crack spreads is likely to drive this increase.

Continuing retail price scenario: Under-recovery (INRbn)

	FY10e	FY11e	FY12e
Auto fuel			
Gasoline	39	60	68
Gasoil	116	251	349
Auto fuel under-recoveries	**156**	**311**	**410**
Cooking fuel			
LPG	144	195	194
Kerosene	191	215	224
Cooking fuel under-recoveries	**335**	**410**	**418**
Total under-recoveries	**490**	**721**	**835**

Source: HSBC

The underlying assumptions are explained below:

Continuing retail price scenario: Assumptions

	FY10e	FY11e	FY12e
Exchange rate (USD1=INR)	47.7	47.0	47.0
Brent (USD/bbl)	68.0	75.0	76.0
Product crack spread (USD/t for LPG, USD/bbl for others)			
Gasoline	6.8	6.5	6.5
Gasoil	7.5	9.0	12.0
LPG	35.0	100.0	80.0
Kerosene	7.7	10.0	13.0
Retail price at Mumbai (INR/cylinder for LPG, INR/l for others)			
Gasoline	48.79	48.83	48.83
Gasoil	36.72	36.74	36.74
LPG	312.05	312.05	312.05
Kerosene (USD/bbl)	9.01	9.01	9.01

Source: HSBC

In the following table, we demonstrate the impact of each of these key levers on the level of under-recovery, using FY11 as a sample year.

Impact on FY11 under-recovery

	Change	Impact (INRbn)	% of total	% of auto	% of cooking
Exchange rate	INR1	59.6	8.3%	14.8%	3.3%
Brent	USD1/bbl	35.5	4.9%	8.9%	1.9%
Product crack spread					
Gasoline	USD1/bbl	5.0	0.7%	1.6%	0.0%
Gasoil	USD1/bbl	20.3	2.8%	6.5%	0.0%
LPG	USD10/t	5.2	1.3%	0.0%	1.3%
Kerosene	USD1/bbl	3.4	0.5%	0.0%	0.8%

Source: HSBC

Exchange rate

We use an exchange rate of INR47=USD1 for FY11, which is close to the current exchange rate. Each INR1 change in exchange rate alters under-recoveries by INR59.6bn or 8.3% of the total. At 14.8%, the impact of a change in exchange rate is higher on auto fuel under-recoveries than the 3.3% on cooking fuel due to a higher level of variable taxes on auto fuel.

Crude price

For FY11, we assume Brent at USD75/bbl versus USD68/bbl in FY10, in line with our global sector assumptions. We believe that increasing demand and production declines in mature non-OPEC countries should lead to an increased need for OPEC crude in FY11. We believe that this will make Saudi Arabia's task of defending a target price range of USD70-80/bbl easier.

For each USD1/bbl change in Brent, under-recoveries for FY11 change by INR35.5bn or 4.9% of total under-recoveries. The impact of Brent on auto fuel under-recoveries is higher due to the high level of variable taxes relative to cooking fuel under-recoveries.

Product crack spread

Our product crack spread assumptions are based on the historical trend as well as our future demand-supply balance outlook for each product. The following table shows the historical crack spread.

Product crack spread average (USD/t for LPG, USD/bbl for others)

	1 week	FY10 to date	CY06-08	5 year	5-year annual range
Gasoline	3.0	6.4	7.1	6.8	4.7-8.8
Gasoil	6.5	7.3	17.2	12.8	7.3-20.3
LPG	158.0	32.0	87.9	78.4	32-118
Kerosene	7.7	7.8	19.3	15.1	7.8-22.8

Source: Reuters

We expect the gasoline crack spread to remain at USD6.5/bbl, below the five-year historical average, due to a weakening of gasoline demand in the OECD countries following a dieselisation of car fleet.

The gasoil crack has remained weak in FY10 to date due to a weakness in industrial demand in the OECD region. While a high level of inventories remains an overhang, we expect the gasoil crack to improve as the economy continues to recover. We assume an increase in gasoil crack to USD9.0/bbl in FY11 and USD12.0/bbl in FY12, from our expectation of USD7.5/bbl for FY10.

We assume that the product cracks for jet/kerosene will remain USD1/bbl above gasoil cracks.

LPG cracks have risen over the past three months due to a start-up of new petrochemical units in Asia, which is leading to an increase in its demand. We expect the LPG crack to retract from its current level of USD150/t to USD100/t in FY11 and further to USD80/t in FY12, with increasing production of natural gas liquids (NGL).

Diesel under-recoveries are the key

Amongst the four products, gasoil crack spread has the highest impact on the level of under-recoveries – each USD1/bbl increase in gasoil crack increases under-recoveries by INR20.3bn or 6.5% of auto fuel under-recoveries.

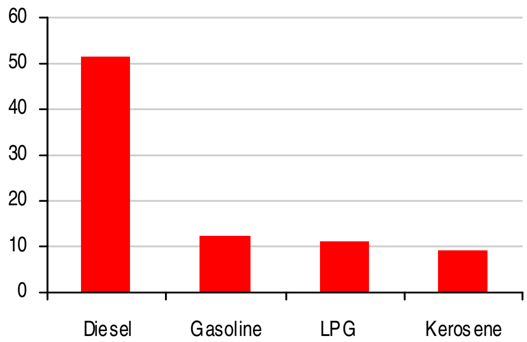
The higher impact is attributable to higher consumption of diesel in India, which is almost five times the consumption of gasoline, kerosene and LPG, individually, and 1.6 times that of gasoline, kerosene and LPG on a combined basis. Further, auto fuel use, in particular diesel, has been growing at an annual rate of 6.8% over the past four years.

In contrast, cooking fuel consumption has remained largely stagnant. The higher impact of diesel is also visible on under-recoveries over the past five years, with its contribution at almost 40-50% of total under-recoveries.

Key allocation levers

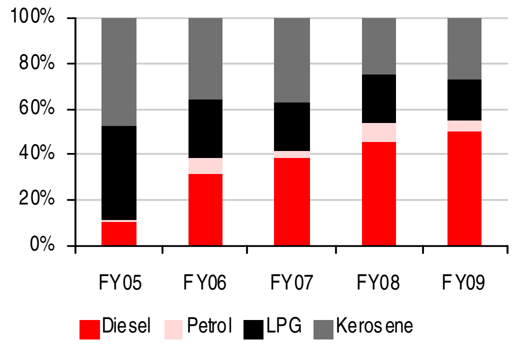
While the Indian government is working on a new reform mechanism, we believe that the country is not yet ready to move to the stage of direct pass-through of costs to consumers. The industry and the government are likely to continue extending support. We believe that the new solution is likely to align the

Consumption of petroleum products in FY09 (MMt)



Source: PPAC

Diesel accounts for 40-50% of under-recoveries



Source: PPAC

degree of support to the ability of each stakeholder, which we evaluate in the following section.

Consumers

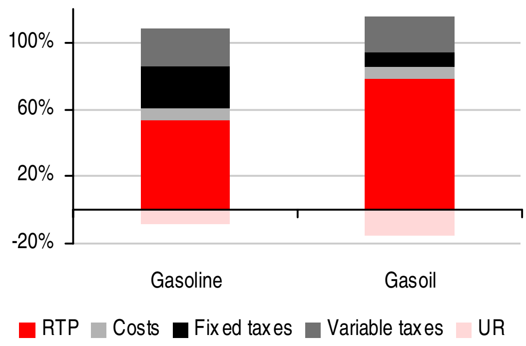
We consider the ability of consumers to bear cost increases and their level of acceptability with regard to both product groups separately. Also, the political implications of product price rises are likely to be a controlling factor determining the timing and size of any such increase.

Auto fuel

Following the price changes effected by the government over the past two years (in response to significant movement in crude price) the opposition to auto fuel price increases has become much less intense. Over the past two financial years, fuel price has been increased five times. In case of gasoline, three of the rises were of more than INR2 litre and two were more than INR4/l. Similarly, gasoil price also increased by more than INR2/l on two occasions.

One of the reasons for higher acceptability of price increase is the reduction in taxes over the past two years. While taxes used to contribute 54% to gasoline and 32% to gasoil prices in 2007, on our estimates they contribute 50% in case of gasoline and 24.6% for gasoil over FY11, a significant part of which is fixed. Excise duty, which accounts for nearly 28% of gasoline and 10% of diesel price, is now fixed (INR13.75/l for gasoline and INR3.71/l for gasoil).

Gasoline and gasoil: Cost break-up estimate for FY11



Source: HSBC

Each INR1/l rise in gasoil and gasoline price could help reduce auto fuel under-recovery by 17.1% and 4.2%, respectively, for FY11. This translates to a 7.4% and 1.8% reduction in total under-recoveries, respectively.

Impact of change in retail price on under-recoveries

	Change	Under-recoveries impact (INRbn)	Percentage of under-recovery	Percentage of auto under-recovery
Gasoline	INR 1/l	-13.2	-1.8%	-4.2%
Gasoil	INR 1/l	-53.3	-7.4%	-17.1%

Source: HSBC

Gasoline – pass-through possible

Based on our crude price assumption of USD75/bbl for FY11, gasoline retail price needs to be at INR53.4/l (Mumbai), gasoline crack spread at USD6.5/bbl, and the exchange rate at INR47=USD1.2. The required break-even price is below the INR55.04/l experienced by consumers in Mumbai in FY09 and requires a 9% increase from current price levels.

Breakeven retail gasoline price

Crack spread (USD/bbl)	Brent (USD/bbl) 60	75	90
Break-even retail price (INR/l)			
5.0	47.1	52.8	58.5
6.5	47.6	53.4	59.1
8.0	48.2	53.9	59.7
Change in retail price from current level			
5.0	-3%	8%	20%
6.5	-2%	9%	21%
8.0	-1%	10%	22%

Source: HSBC

Even under Brent and gasoline crack price scenario of USD90/bbl and USD8/bbl, above the five-year average, the required break-even price is INR59.7/l, just INR2.5/l above the highest price of INR57.15/l accepted by consumers in Bangalore, one of the metros.

Also the affordability of gasoline consumers, who are largely personal/business car owners, is high enough to absorb such a price rise without impacting personal/business budgets. Hence, we believe that it is possible to free the gasoline price. However, factoring in a phased implementation of liberalisation, we assume an INR2/l rise in gasoline price each year over the next two years. This translates into a price of INR52.83/l for FY12.

Gasoil: limited pass-through possible

In our base case, the break-even gasoil price for FY11 works out to INR41.5/l, INR4.7/l or 13% above its current prices. At an estimated Brent price of USD90 and gasoil crack spread of USD12/bbl, the required break-even price increases to INR48.3/l, 31% above the current price level.

Break-even retail gasoil price (INR/l)

Crack spread (USD/bbl)	Brent (USD/bbl) 60	75	90
Break-even retail price (INR/l)			
6.0	34.6	40.3	46.0
9.0	35.7	41.5	47.2
12.0	36.9	42.6	48.3
15.0	38.0	43.7	49.5
Change in retail price from current level			
6.0	-6%	10%	25%
9.0	-3%	13%	28%
12.0	0%	16%	31%
15.0	4%	19%	35%

Source: HSBC

We believe the price rise for gasoil could follow a scenario-based approach to determine acceptability by consumers. This could depend on a host of factors, such as inflation, planned assembly election schedule and stability of the central government.

At the current level, controlled diesel price in India is around INR2/l below the peak recorded in 2008. This limits the potential price rise band for the government. Even if we consider the metro cities, the highest price accepted by consumers (of Bangalore) was at INR39.16/l. We believe the government will face resistance from consumers in raising retail diesel prices, which will prove a politically difficult task as a rise in diesel price increases the cost of truck transportation, affects agricultural tractor users, and filters through the economy via its impact on industrial and commercial activities.

Factoring in the phase-wise approach, we expect gasoil price to increase by INR1/l in FY11 and another INR1/l in FY12. This will lead to a gasoil price of INR39.04, near the highest price accepted by Bangalore-based consumers.

Alignment of auto fuel prices has to be more frequent to keep funding requirement low

The Indian government has increased already auto fuel prices once in the current financial year (July 2009). Subsequently, under-recoveries on gasoline and gasoil were at INR3.9/l and

INR3.7/l, respectively, in November 2009. We believe that to make the new reform mechanism successful and to keep auto fuel under-recoveries in check, the government will need to realign prices frequently.

A pertinent example of this is China – in 2009 alone, the government made eight price changes to align the domestic price of fuel with world prices. The changes were implemented under a pre-announced formula, under which the Chinese government revises fuel prices when the moving average price of crude oil remains 4% higher or lower than the last price change over 22 working days.

However, the frequency of such rises in India could continue to remain *ad hoc*, in view of political implications, but we believe it may improve to once in a quarter. We expect rolling average costs to become the basis for implementing any price rise.

Assembly elections

With the assembly elections in the states of Andhra Pradesh, Haryana, Maharashtra and Jharkhand completed in 2009, the central government may consider implementing quarterly auto fuel revisions over FY11.

Cooking fuel – politically difficult

Raising the price of cooking fuel, particularly on SKO, is likely to be more challenging than auto fuel, due to the implications for the majority of the population. In fact, in 1Q FY10, the petroleum minister confirmed that the ministry does not plan price increases and would continue to support the cooking fuel subsidy.

In our base case, an INR1/l rise in kerosene price could reduce total under-recoveries by 1.6% and cooking fuel under-recoveries by 5.4%. Similarly, an INR10/cylinder rise in the LPG price would reduce total and cooking fuel under-recoveries by 1.1% and 1.9%, respectively.

Impact on under-recoveries from change in retail price

	Change	Under-recoveries impact (INRbn)	% of total	% of cooking
LPG	INR10/cy	-7.8	-1.1%	-1.9%
Kerosene	INR 1/l	-11.6	-1.6%	-5.4%

Source: HSBC

In case of LPG, the required break-even price at our estimates is INR562/cylinder. If crude reaches USD90/bbl, the break-even price could increase to INR636/cylinder.

Break-even retail price for LPG

Crack spread (USD/bbl)	Brent (USD/bbl)		
	60	75	90
Break-even retail price (INR/t)			
25.0	438	512	586
50.0	455	529	603
100.0	488	562	636
150.0	522	596	670
Change in retail price from current level			
25.0	40%	64%	88%
50.0	46%	69%	93%
100.0	56%	80%	104%
150.0	67%	91%	115%

Source: HSBC

Despite the government's stance of maintaining cooking fuel prices, we believe the reform in cooking fuel prices will be introduced in phases. In FY09, the government increased the LPG price by INR51.5 to INR349.5/cylinder, which was partially rolled back to INR312.05/cylinder in January 2009 after decline in crude. We believe it could raise the price to INR350/cylinder in FY12, again at the level of the previous high.

The break-even price of kerosene in FY11 is INR27.5/l, requiring the government to increase price three-fold. However, the price of kerosene is very sensitive politically and we do not build in any increase over the next two years.

The government has not been able to raise the prices of PDS SKO by any material amount so far. The SKO price in Delhi has gone by less than INR0.20/l over last five years. LPG price on the other hand has been increased to

INR350/cylinder, which we believe is acceptable to the public. If the international oil prices were to increase further, we believe that LPG prices can go up to INR350 /cylinder.

Break-even price for kerosene (INR/l)

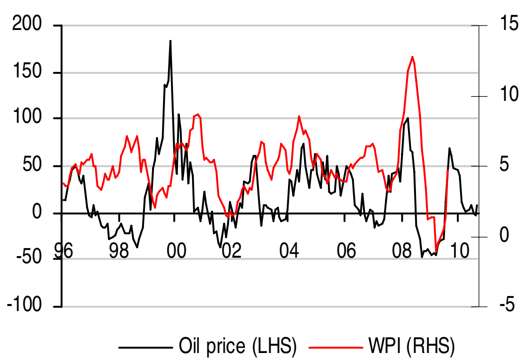
Crack spread (USD/bbl)	Brent (USD/bbl)		
	60	75	90
Break-even retail price (INR/l)			
7.0	22.2	26.6	31.1
10.0	23.1	27.5	32.0
13.0	24.0	28.4	32.9
16.0	24.9	29.3	33.8
Change in retail price from current level			
7.0	146%	196%	245%
10.0	156%	206%	255%
13.0	166%	215%	265%
16.0	176%	225%	275%

Source: HSBC

Inflation may not be a limiting factor

The wholesale price inflation (WPI) has turned positive and our HSBC economist for India expects the headline rate to reach 8% by March 2010, given international commodity price developments. One of the extreme examples in the commodity basket is oil, where oil price inflation, in US dollar-denominated terms, will likely peak at 88% y-o-y in December 2009, if price remains at USD75/bbl.

Oil price rise impacts WPI (y-o-y %)



Source: HSBC, CEIC

While the expected rise in the WPI is due to commodity price movements, we believe the incremental impact of increase in retail auto and cooking price, which are regulated under APM, on the WPI would not be material. The total weight of mineral oil in the WPI is 7%.

Individually, petrol has a weight of 0.88%, diesel over 2%, LPG over 1.8% and kerosene 0.7%. Hence, a 10% hike in petrol and diesel prices would lead to an annualised 2.77% y-o-y increase in WPI inflation. The direct effect of a fuel price hike is felt immediately. Besides, a price rise could also have a cascading indirect impact, which could be felt over the subsequent 3-4 months.

Industry

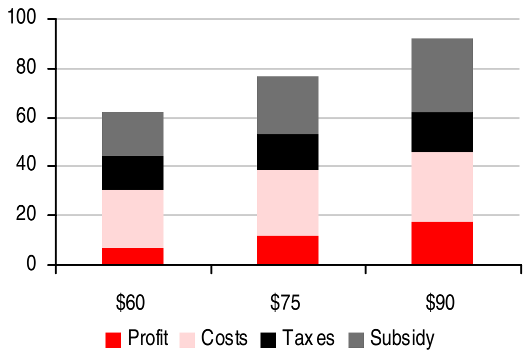
Upstream can bear INR275bn

The rationale used by the government for allocating the level of under-recoveries on the upstream companies is that it is in lieu of profit petroleum. We believe that the rationale has merit.

In a typical production-sharing contract, the government gets 50% share of profits (either in form of tax or profit petroleum or a combination) on a present-value basis over the life of a field. However, ONGC contacts are under the royalty regime used earlier. Under this mechanism, the government receives around USD14.5/bbl in the form of charges, royalty and sales tax at our Brent assumption of USD75/bbl for FY11.

This is around 27% of gross realisation and significantly below a typical government share of 50%. The structure also limits the upside that the government could enjoy from an increase in crude price. We believe that the government will continue to extract its remaining share in the form of discount on crude price.

Upstream ability to bear subsidy (USD/bbl)



Source: HSBC

Assuming a 50% share of profits on crude production, we estimate that upstream oil producers could share a discount of USD24/bbl at our Brent assumption of USD75/bbl for FY11. This translates into a post-discount realisation of USD53/bbl for ONGC, after factoring in the premium enjoyed by it over Brent. This discount translates into an under-recoveries share at INR241bn for upstream companies.

Under this scenario of determining the ability of the upstream players, we retain the government's profit share in petroleum at 50%, while we consider different Brent prices. We do not assume that the government would cap upstream realisation at USD53/bbl once Brent crosses USD75/bbl. In fact, at a Brent price of USD90/bbl, we assume that upstream oil producers would share a discount of USD30/bbl, thereby earning gross realisation of USD60-61/bbl. Hence, under this scenario, upstream players have the possibility of upside owing to the crude price.

Assuming that GAIL continues to share under-recoveries in proportion to its net profit relative to domestic upstream oil producers, the total share of ONGC, Oil India and GAIL would be INR277bn in FY11.

Ability to bear subsidy

Brent scenario (USD/bbl)	60.0	75.0	90.0
Bearable subsidy including cess (USD/bbl)	18	24	30
Upstream oil producers share (INRbn)	181	241	301
GAIL+ upstream oil producers share (INRbn)	207	277	346

Source: HSBC

At a Brent price of USD90/bbl, the ability of upstream players to extend gross discount (including cess amount) increases to USD30/bbl, translating into an INR346bn share of under-recoveries. Conversely, the players' ability to extend discount at Brent of USD60/bbl reduces to USD18/bbl, translating to an INR207bn share of under-recoveries.

OMCs will struggle

We believe the OMCs' ability to share under-recovery is limited.

OMC aggregate financials (INRbn)

	FY07	FY08	FY09
Net profit	109	85	43
Share of under-recovery	48	146	0
Post-tax impact of under-recovery	32	98	0
Net profit before under-recoveries	**141**	**182**	**43**
Depreciation	47	47	49
Operational cash flow indicator	**188**	**229**	**92**
Capex	81	74	131
Free cash flow	**107**	**155**	**-38**
Dividend	40	12	16
Free cash flow post dividend	**67**	**143**	**-54**

Source: HSBC

FY09 was impacted by higher inventory loss and interest costs, due to delay in issuance of oil bonds. As a result, the year does not provide any useful indication. As per the budget capex plan, OMCs plan an investment of INR157bn in FY10.

While HPCL is currently implementing projects with a capex plan of INR100bn (excluding the Bhatinda refinery) and BPCL is working on capital projects with a total investment plan of INR80bn. Such a high level of capex limits OMCs' ability to support under-recoveries in the medium term. Admittedly, the long-term debt to equity ratio of 0.4:1, after netting off investments against debt, allows OMCs to fund part of their capex through leveraging their balance sheets. However, with a significant portion of the funds tied-up in oil bonds, the actual debt to equity ratio is above 1. This limits the ability to raise further debt on the balance sheet. Note that all three OMCs carry a negative outlook with an AAA rating on their long-term debt.

We believe the share shall be limited to additional margin made on the refining. As both HPCL and BPCL achieve a margin of USD1-2/barrel less than benchmark Singapore margin, at our mid cycle forecast for the benchmark pegged at USD4-5, we believe OMCs may be asked to bear below cUSD1.5-2.0/barrel equivalent amount, which roughly translate into 10% of under recovery at our base case assumption.

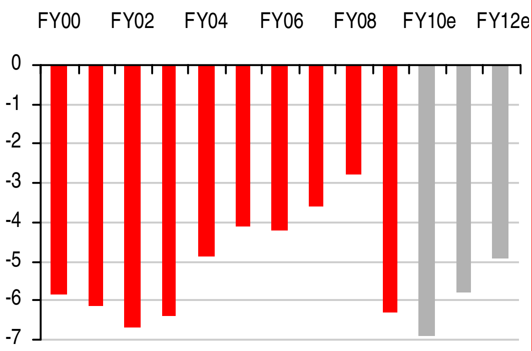
Government

The government could support under-recoveries by either reducing tax on petroleum products or funding it through budget or issuing bonds. Although a high level of fiscal deficit is a challenge in the medium term, we expect the Indian government to issue oil bonds to the tune of INR300-400bn over FY10-12 to support under-recoveries on cooking fuel.

High fiscal deficit means no cash support

Fiscal accommodation in FY09 led to an increase in fiscal deficit from 2.7% in FY08 to 6.2% of GDP in FY09. While our economist believes that the fiscal deficit has peaked, he forecasts a central government budget deficit of 6.9% of GDP for the current year, falling to below 6% of GDP by FY11. (Refer *India Economic Watch* (Issue 58) *Fiscal deficit: Is the worst over?* by Robert Prior-Wandesforde). The combined central and state government budget deficit is currently stands at more than 10% of GDP.

India: High fiscal deficit (%)



Source: CEIC, HSBC

This level of fiscal deficit is high and may not provide the government room to cut taxes or provide for cash subsidy.

Limited scope for tax cuts

The government has taken several steps related to tax cuts. It has reduced the basic import duty on crude to 2.5% from 7.5% earlier. It has also converted the excise duty to a fixed rate from an *ad valorem* rate to reduce the impact of any change in crude price.

Despite these positive changes, taxes constitute around 50% of the retail price in case of gasoline and around 30% in case of gasoil. It translates to around INR21/l of tax on gasoline and around INR8/l on diesel. However, the tax on cooking fuels is negligible. The key question is whether there is room for the government to cut taxes.

In the case of diesel, around 12% is collected by the central government in the form of excise and customs duties, while another 12% is collected by the state governments. In the case of petrol, around 32% goes to the centre while 12% goes to the states.

Taxes form a material portion of the revenue receipts of both the central and state governments. While the central government derives about 13% of its total revenue receipts from taxes on oil products, the state governments get about 9-10% of revenues from oil. Any cut in taxes will have a direct impact on revenue deficit and fiscal deficit of the central and state governments.

Further, the level of taxes on diesel is half that on petrol, reducing the room for cutting taxes on diesel, which is likely to be the more politically sensitive product.

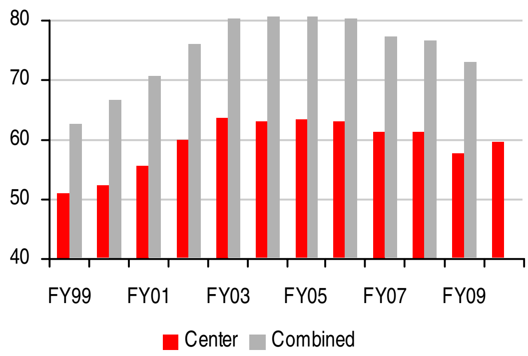
We do not expect cash subsidy - oil bonds to continue

The Indian government subsidises three key items – food, fertiliser and petroleum products. As per the revised estimate of the government for FY09, these three accounted for INR2,196bn or USD45.6bn of subsidies. It amounted to 4.1% of GDP and 40.3% of the government's net revenue receipt.

The INR788bn subsidy on petroleum product amounted to 1.5% of GDP or 14.5% of the central government's net revenue receipt in FY09. The government has recognised that the FY09 level of subsidy is not sustainable in the medium to long term and it needs to focus on measures and means to cap this expenditure.

As we see limited room for tax cuts or any direct budgetary support, we believe that the government will have to continue maintaining oil bonds. If this support is maintained at 0.6%-0.75% of GDP, we believe that the government will have to provide around INR400-500bn a year in FY11 and FY12. The immediate impact of such bond issuance is an additional interest burden. We estimate additional impact of just 0.7% on the fiscal deficit for FY11 from additional interest servicing.

Central government and combined (incl states) debt as a percentage of GDP



Source: CEIC, HSBC

The central government's debt as a percentage of GDP started rising again in FY10. However, we believe that there is room to continue its support at around INR400-500bn of oil bonds in FY11 and FY12, considering the lower immediate impact on fiscal deficit.

Funding of under-recovery another issue

With government support coming in the form of oil bonds, OMCs are exposed to additional cost of funding under-recoveries. OMCs need to carry this under-recovery on their books for two reasons – mismatch in timing and due to lack of liquidity of oil bonds.

Our under-recovery estimate for FY10-12 is at INR500-600bn. Carrying these under-recoveries on their books for around 6-9 months could expose them to additional interest cost of around INR30-40bn. If the government implements rolling average price with the quarterly issuance of oil bonds, it could reduce some part of the burden.

Also, oil bonds are not liquid and OMCs end up carrying them on the books till they are able to monetise these bonds. This reduces their ability to borrow from the market to fund their capital expenditure programmes. Currently, all OMCs have a debt to equity ratio of about 1:1 without netting off oil bonds against debt.

Allocation scenarios

We expect the Indian government to follow a scenario-based approach to subsidy sharing. This approach is likely to be based on a combination of pass-through to end consumers, upstream companies and OMCs; the balance could be picked up as oil bonds.

Historical scenarios

Historically, the government has passed on some rise in petroleum product prices and has adopted the following scenarios for the allocation of under-recoveries between the industry and the government.

Historical allocation

Scenario	Government Auto	Government Cooking	Upstream Auto	Upstream Cooking	Downstream Auto	Downstream Cooking
1	33%		33%		33%	
2	50%		33%		17%	
3	68%		32%		0%	
4	0%	100%	100%	0%	0%	0%

Source: HSBC

The committee headed by Kirit Parekh is currently working on devising a method that guides the allocation of under-recoveries under various heads. We believe the structure would differ on the basis of the overall level of under-recoveries, which is governed by exchange rate and crude price.

Crude below USD75/bbl

We believe that the government may not pass on any major rise in fuel price to consumers, as long as auto fuel under-recoveries are below INR200bn. Also, on cooking fuel, we believe that the government is in a position to absorb almost INR400bn of under-recoveries by issuing oil bonds.

Hence, we do not expect OMCs to be burdened by any under-recovery until Brent remains below USD75/bbl. This is at our exchange rate assumption of INR47=USD1.

Crude between USD75 and USD85/bbl

We expect the government to pass on moderate price increases to consumers while Brent ranges between USD75/bbl and USD85/bbl. We also expect industry (both upstream and downstream companies) to support the level of under-recoveries to the extent they can bear.

Considering higher debt on the books of OMCs and their committed investment plans, we expect OMCs share of total under-recovery to be limited to 10%. We expect residual 90% of auto fuel under-recoveries to be supported by upstream players and residual 90% of cooking fuel under-recoveries to be supported the government.

To illustrate, under Brent of USD80/bbl, we expect the government to pass on rises of INR5/l

Allocation scenarios

Scenario	Brent	Under-recoveries			Auto fuel allocation			Auto+Cooking fuel allocation			Retail price increase (INR/l, INR/cy)		
		Auto	Cooking	Total	U	D	G	U	D	G	Gasoline	Gasoil	LPG
Below $75	60	0	300	**300**	100%	0%	0%	0	0	300	0	0	0
	65	58	337	**394**	100%	0%	0%	58	0	337	0	0	0
	70	184	373	**558**	100%	0%	0%	184	0	373	0	0	0
$75-$85	75	231	400	**631**	90%	10%	0%	208	63	360	2	1	13
	80	265	417	**682**	90%	10%	0%	239	68	375	5	2	38
	80	212	417	**628**	90%	10%	0%	191	63	375	5	3	38
Above $85	85	338	453	**792**	80%	10%	10%	271	34	487	5	3	38
	90	465	470	**935**	65%	15%	20%	302	70	563	5	3	63
	90	385	470	**855**	80%	15%	5%	308	58	489	7	4	63

Notes: U: Upstream players; D: Downstream players; G: Government
Source: HSBC

and INR2/l on gasoline and gasoil, respectively, to consumers to limit under-recoveries a level that can be borne by upstream (INR239bn at our estimates) and downstream companies (INR68bn at our estimates).

At this crude price level, we also expect the government to initiate a moderate rise in LPG prices to INR350/cylinder, below the level previously passed on to consumers. If the government is able to increase the price of gasoil to INR3/l, it could help reduce the upstream share in under-recoveries to INR212bn.

Crude above USD85/bbl

We believe that the Indian government may face a panic scenario if the level of under-recoveries shoots beyond INR650bn. This is because both auto and cooking fuel under-recoveries start rising to a level that is above the one that the upstream players and the government can support.

We believe that under such a scenario, the government may have to consider higher retail price increases. We also see the risk of OMCs being subjected once again to part share under-recoveries.

To illustrate, we have highlighted two scenarios at a Brent price level of USD90/bbl. Under the first scenario, if we assume that the government is able to pass on a price rise of INR5/l on gasoline and INR3/l on gasoil to consumers, and limit the burden on upstream players, it may have to pass on INR70bn of under-recoveries to OMCs. It will also be faced with an issuance of oil bonds to the extent of INR563bn.

In case the government is able is pass on a rise of INR7/l on gasoline and INR4/l on gasoil, its support for under-recoveries could reduce to INR489bn. This is still higher than our affordable assumption for the government.

Appendix: HSBC view on oil price outlook

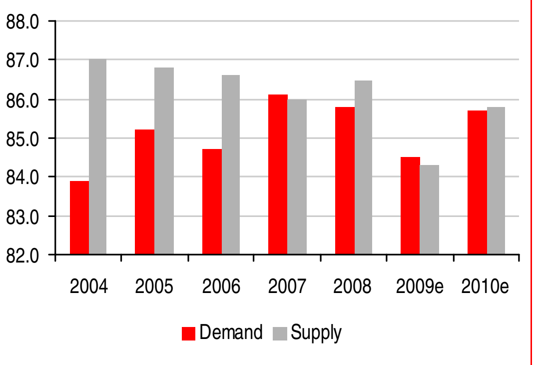
- Mismatch in crude availability and refinery capacity
- Asia's aggressive refinery expansion could bring demand surprises
- Non-fundamental drivers in action as well – speculative demand and the US dollar factor

Oil price to stabilise at USD75/bbl over FY11-12

HSBC base-case view

The HSBC global oil team has reiterated its CY10e Brent assumption of USD75/bbl. This forecast has been in place since February 2009. We believe increasing demand and production declines in mature non-OPEC areas should lead to a greater need for OPEC crude in 2010. We believe this will make it easier for Saudi Arabia to defend its target price range of USD70-80/bbl. However, given OPEC spare capacity of 6MMbbl/d, we do not expect the oil price to go materially above this range.

HSBC global oil demand-supply outlook (mmbbl/day)

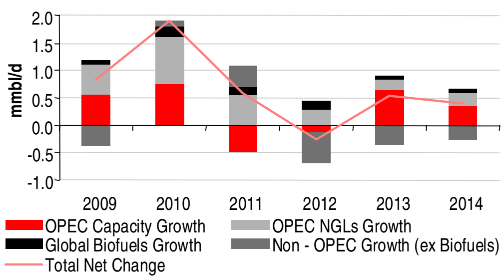


Source: IEA, HSBC estimates

Light sweet crude availability debatable

According to IEA's long-term supply forecast, the global oil supply will peak in 2010 and decline sharply below normalised demand growth rate in 2011-12. The bulk of new capacity is estimated to be less desirable type of oil, i.e. heavy sour crude, natural gas liquids (NGLs) and bio-fuels.

World Oil Supply Capacity Growth



Source: IEA

OPEC spare capacity

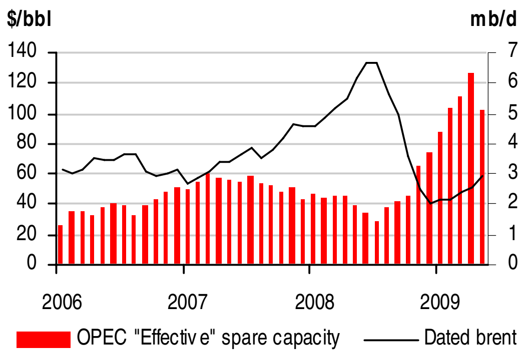
Admittedly OPEC has around 5MMbbl/d of spare crude capacity, so it is unlikely that crude prices will rise above the OPEC price target range of USD70-80 until that surplus is eroded. But on our forecasts, the call on OPEC crude will rise by around 3MMbbl/d in 2011 and 2012 potentially paving the way for sharply higher oil prices thereafter. (This scenario is not our central case – we assume that Brent prices remain at around USD75 in real terms but see the risks to that assumption progressively lying to the upside as we move through the next decade.)

For 2010, we assume that a modest recovery in demand and accelerated declines in mature fields in non-OPEC will enable OPEC to support the price within the middle of its target band.

At the moment, OPEC's 6MMbbl/d spare capacity is probably the most convincing counter-argument to bullish oil scenario. But, how much of it would be light, sweet crude which refiners can process is debatable. According to IEA, OPEC's spare capacity is mostly in Saudi Arabia (>80%) and the bulk of it is assumed to be heavy, sour crude.

If demand surprise does arise, the kicker would come from industrial sector for middle distillates. To produce middle distillates, majority of existing refineries need light, sweet crude. This is why OPEC couldn't find a buyer for 2-3MMbbl/d of spare capacity during 2007-1H08 when crude oil price rallied from USD70/bbl to USD147/bbl.

OPEC effective spare capacity & price movements



Source: IEA, Platts

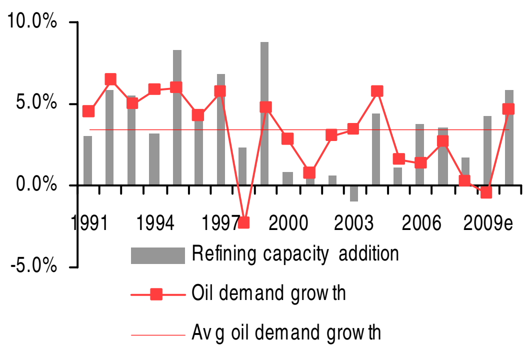
Potential demand surprise from Asia's aggressive refinery addition

There are significant new capacities in China and India which is not captured in the widely used international data but will very likely to come on line based on our channel check. When combined, refining capacity expansion amounts to 1.5MMbbl/d over the next 12-18 months, 50% higher than the prevailing data point.

In fact, the downstream-led demand surprise occurred several times in the past. Since 1990, there has been eight times when Asia's oil demand grew at >5% (vs. average 3.4%) and six out of the eight times it coincided with refining capacity addition of >5%. Since 2004, this historical trend has been far more volatile on a year-on-year basis but five year average data points supports the long-term trend. We note that oil demand turn negative in 2009 despite massive refining capacity addition and if the tentative sign of global economic recovery proves rights, it is likely to see the historical pattern resume in 2010.

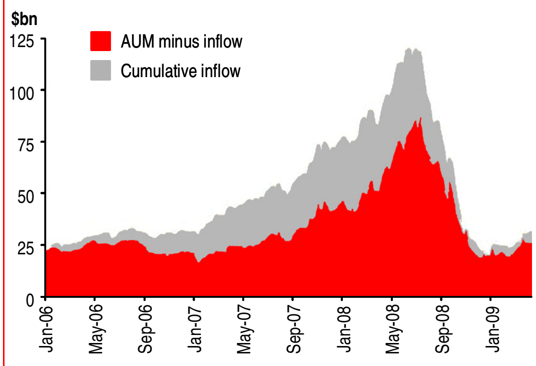
Assuming 0.8x multiplier, Asia's oil demand growth derived from refinery expansion in 2010 is estimated at 1.2MMbbl/d or 4.6% y-o-y vs IEA's 0.4MMbb/ld or 1.6% y-o-y.

Asia Pacific oil demand vs. refinery expansion



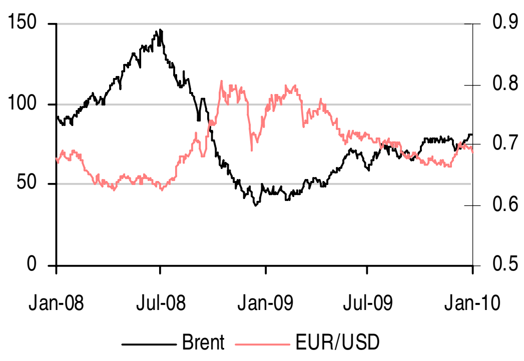
Source: BP, HSBC calculation

Funds' Asset Under Management(AUM) tied to Crude Futures



Source: LCM Research

Brent vs. Value of USD (against EUR)



Source: Thomson One Datastream

Non-fundamental factors in action

Even if we assume potential demand surprises, global oil demand supply balance does not add up to warrant an oil price rally in traditional sense. However, in the last few years, fundamentals have increasingly less explanatory power to predict oil prices due to the below non-fundamental factors.

- **Speculative activities**: Assets Under Management (AUM) tied to crude futures was close to USD125bn when oil prices reached historical record levels of USD133/bbl in July. The speculative buying interest amounted to almost 1MMbbl/d of speculative demand or half of OPEC spare capacity then.

- **The dollar factor**: The correlation between oil price and US dollar has been increasingly strong. Investors buy commodities futures including oil as a hedge against inflation. Since US is denominated in the US dollar, weaker dollar lowers oil prices for example in China, potentially boosting demand there.

Decline rates to accelerate

Reduced capital spend in non-OPEC regions, particularly onshore, could remove in excess of 1MMbbl/d from the market by end 2010. Also the deferral of projects due to the credit squeeze, could lead to a significantly tighter market at some stage during the next decade. We estimate that non-OPEC needs to find an additional 3.3MMbbl/d each year to replace overall decline. With declines for new fields twice those of the average, non-OPEC's decline rate challenge can only get harder in our view.

Indeed some projects are already being deferred, including some Canadian oil sands projects and some deep-water projects. Many of these projects could have contributed to production from 2012.

Maintenance and declines

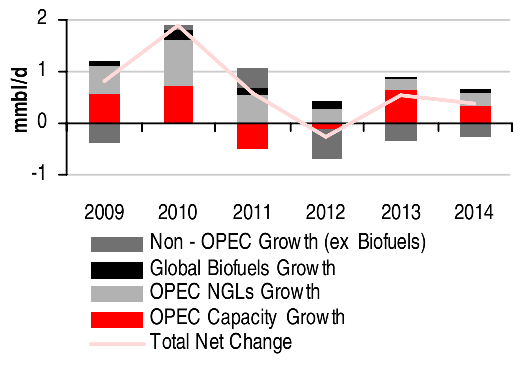
The IEA estimates that the decline rate of a field where capital investment ceases rises by an average of 2.3%. The 'natural' decline, excluding remedial expenditure is around 9% globally rather than the 6.7% average. This is because it is possible, through incremental expenditure, to slow the decline rate.

Obviously, a change in the decline rate is hardly noticeable initially but an increase of 2.3% for non-OPEC would mean a reduction in production of around 1.1MMbbl/d after 12 months – and a further 1.1MMbbl/d in the subsequent 12 months.

We would expect to see such an acceleration in relatively mature regions, such as the UK North Sea and shallow water Gulf of Mexico, and onshore regions such as Russia and onshore US. We estimate that this classification of field produces around 25MMbbl/d, just over half of non-OPEC output. Assuming that only this classification of field was affected, this would mean a loss of production from this class of field of nearly 600Mbbl/d by end 2009.

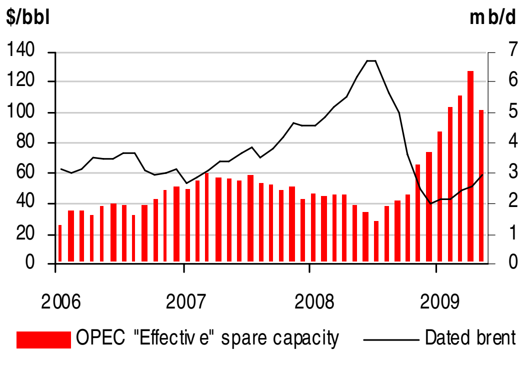
According to the IEA, non-OPEC decline rates have been steadily increasing over the past several decades. This chart shows the decline rate for non-OPEC fields sorted by the decade they started production. On average, assuming a 7.1% decline rate, non-OPEC needs to find around 3.3MMbbl/d each year just to offset declines.

World oil supply capacity growth



Source: IEA

OPEC effective spare capacity and price movements



Source: IEA, Platts

But even in a normal credit/oil price environment, non-OPEC is likely to find this task progressively harder to offset declines. This is because newer fields with faster decline rates will make up a growing proportion of the mix.

For example, assuming all fields had 2000-style decline rates, non-OPEC would need to add projects with capacity of 7MMbbl/d each and every year. Although we are using only four data points, the linear relationship has a high correlation (R squared is 98%). Extending the trend into the next decade would imply the need to add 8MMbbl/d each year so the problem of replacing production is set to get harder.

The projects needed to offset much of this decline for the next three years or so are largely in place, in our view. But with the cut back in capital budgets and deferral of development decisions, we suspect non-OPEC will struggle to offset the decline in the longer term. This means there is a risk of a significant tightening of the crude market at some stage in the next decade.

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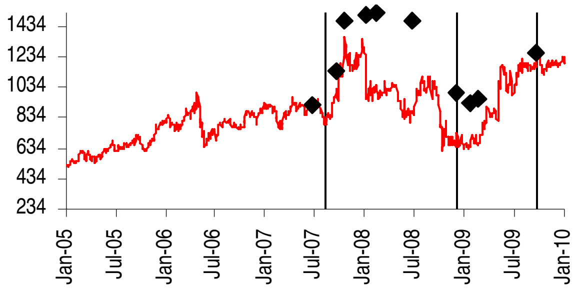
Share price and rating changes for long-term investment opportunities

Oil & Natural Gas Corp. (ONGC.BO) Share Price performance INR Vs HSBC rating history



Source: HSBC

Recommendation & price target history

From	To	Date
Underweight	Overweight	22 August 2007
Overweight	Overweight (V)	17 December 2008
Overweight (V)	Neutral (V)	02 October 2009
Target Price	**Value**	**Date**
Price 1	913.00	05 July 2007
Price 2	1137.00	03 October 2007
Price 3	1462.00	31 October 2007
Price 4	1510.00	22 January 2008
Price 5	1520.00	26 February 2008
Price 6	1470.00	10 July 2008
Price 7	992.00	17 December 2008
Price 8	927.00	02 February 2009
Price 9	958.00	06 March 2009
Price 10	1258.00	02 October 2009

Source: HSBC

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Disclosure checklist

Company	Ticker	Recent price	Price Date	Disclosure
OIL & NATURAL GAS CORP	ONGC.BO	1231.75	14-Jan-2010	6, 7

Source: HSBC

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