HDFC securities
Institutional Research

Focus of the Day

December 22, 2009

Indices	Last Close	% Chg 1-d	% Chg mtd
Sensex	16,601	(0.7)	(1.9)
Nifty	4,953	(0.7)	(1.6)
CNX 500	4,132	(0.5)	(0.3)
BSE Bank	9,553	0.1	(4.9)
BSE IT	5,028	(0.4)	5.7
BSE Oil & Gas	9,963	0.2	(3.1)
Dow Jones	10,414	0.8	0.7
Nasdaq	2,238	1.2	4.3
FTSE	5,294	1.9	2.0
DAX	5,931	1.7	5.4

Mkt Breadth	Advance	Decline	Unchanged
Nifty	9	40	1
Sensex	6	24	0

Turnover	INR Bn	% Chg
BSE Cash	39	-15.4
NSE Cash	113	-16.6
NSE F&O	706	-1.1
Total	858	

Fund Flows	US $ mn	MTD	YTD
FII Equity	(18)	1,431	17,062
DIIs	71	(69)	5,247

Forex/Bond	Last Close	Chg 1-d	Chg mtd
INR/USD	46.87	0.13	0.32
USD/EUR	1.428	(0.01)	(0.07)
YEN/USD	91.2	0.74	4.77
10 yr G-Sec	7.61	0.05	0.09

Commodities	Last Close	% Chg 1-d	% Chg MTD
Brent ($/bbl)	73.0	(1.0)	(8.1)
Gold ($/oz)	1,093	(1.8)	(7.3)
Copper ($/mt)	6,935	1.3	0.1
Aluminium ($/mt)	2,269	1.4	10.3

Most Traded

Scrip	Last Close	% chg	Value*
Reliance Ind	1,017	0.9	7.3
Tata Steel	556	(1.3)	4.8
ICICI Bank	811	0.2	4.7
Unitech Ltd	78	(2.6)	4.6
Tcs Ltd	734	0.9	3.8

* INR Bn.

ADR GDR

Scrip	Last Close*	% chg	% Prem.
Dr Reddy's	26.1	0.7	0.2
HDFC Bank	124.9	1.8	18.0
ICICI Bank	34.7	1.3	0.3
ITC	5.2	(1.5)	(0.3)
Infosys	54.1	(1.0)	1.0
Satyam	4.9	(2.2)	18.1
Ranbaxy	11.3	(2.3)	0.2
Reliance	44.0	0.0	1.4
Wipro	22.0	(3.5)	52.4
SBI	91.1	0.1	(0.5)
Tata Motors	15.7	0.1	1.4

* US$

Contents

From the Blogosphere

Oil Drum: Oilwatch Monthly December 2009 (Source)

Latest Developments:

1) Conventional crude production - Latest figures from the Energy Information Administration (EIA) show that crude oil production including lease condensates increased by 261,000 b/d from August to September 2009, resulting in total production of crude oil including lease condensates of 72.59 million b/d.

2) Total liquid fuels production - In November 2009, world production of all liquid fuels increased by 200,000 barrels per day compared to October according to the latest figures of the International Energy Agency (IEA), resulting in total world liquid fuels production of 85.94 million b/d. Liquids production for October 2009 was revised upwards in the IEA Oil Market Report of November from 85.61 to 85.74 million b/d. Average global liquid fuels production in 2009 through November was 84.86, versus 86.6 and 85.32 million b/d in 2008 and 2007.

Zero Hedge: US Treasuries Selling Off And More To Come (Source)

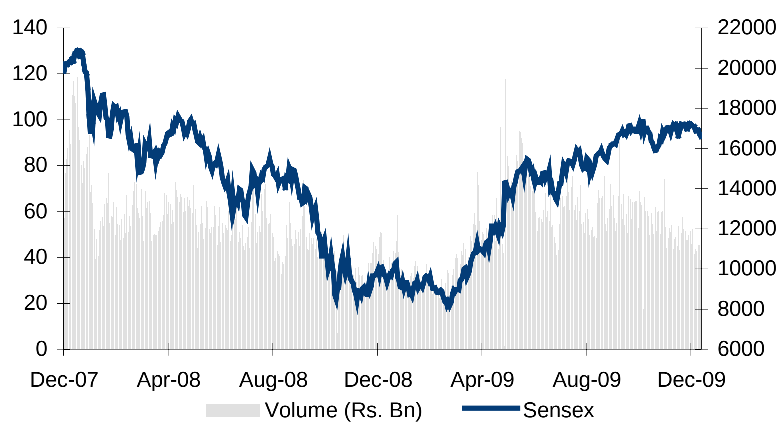
We have very convincing arguments for further selling off in US Fixed Income. On the daily chart we see that ever since June the market had been stuck in a triangle consolidation. Well at last we have broken and the downside target now is 113-25 at the minimum. In terms of standard Elliott wave extension we are in a wave 5 that has a 110-25 target, however 113-25 is the neckline of a H&S and we would not favor a break just yet, though it is a potential risk. Still this represents a 50bps move almost from here to 113-25.

Source: CQG, Inc. © 2009 All rights reserved worldwide. www.cqg.com

Headlines

- Reliance Infrastructure to commission projects worth Rs 100.0 bn in 7 months; major growth driver will be transmission and road projects. (BS)
- Mahindra & Mahindra (M&M) signed a joint venture agreement with Yueda Group, China's second largest tractor producer, to set up a tractor company with a combined investment of Rs 1.75 bn, Production to begin in 12-15 months; second such venture. (BS)
- Another boost for Sun Pharma in takeover battle with Taro Pharma, Israel that it has received support from Proxy Governance, an investment advisory agency. (BS)
- Sanofi-Aventis, France to acquire Chattem, consumer healthcare company, US. Sanofi will acquire 100 per cent of the outstanding shares of Chattem in a cash tender offer for $93.50 per share or about $1.9 bn (BS)
- Fortis Healthcare will spend around Rs 2.50 bn to complete the ongoing hospitals in Mumbai, Kolkata and Bangalore. Ongoing expansion projects will add 600 beds. (BL)
- The Group of Ministers decided that auctions for 3G mobile spectrum will take place in January but allocation only in August 2010. (BL)
- SKS Microfinance, Hyderabad has tied up with SBI and two of its group banks for integration of 600 of its branch accounts with them. As a part of the agreement, the SKS would integrate its accounts in 390 branches with SBI, 150 with SBH and 60 with SBM. (BL)
- Tata Motors to bring in hybrid city buses, which aimed at providing eco-friendly transportation solutions for Indian cities. (ET)
- TVS plans to launch diesel auto rickshaw, three- Wheelers as part of its strategy to growing into domestic market (ET)
- Aviation sector in cruise mode, traffic rises 25% during Oct-Nov (ET)
- India's largest tyremaker MRF reported a net profit of Rs 2.5 bn for the year ended September'09, up by 75% from Rs 1.4 bn the previous year. (ET)

Sensex



HDFC securities

Institutional Research

Oil and Gas Sector - Refining

Essar Oil

Initiating Coverage

December 22, 2009

CMP	**135**
Target	**191**
Stock Return	**41%**

Nifty	4,953
Sensex	16,601

Key Stock Data	
Sector	Oil and Gas
Reuters Code	ESRO.BO
BLOOMBERG Code	ESOIL IN
No. of Shares (mn)	1201
Market Cap (Rs bn)	161
Market Cap ($ bn)	3.5
6 mth avg traded value (Rs. mn)	632.6

Stock Performance (%)

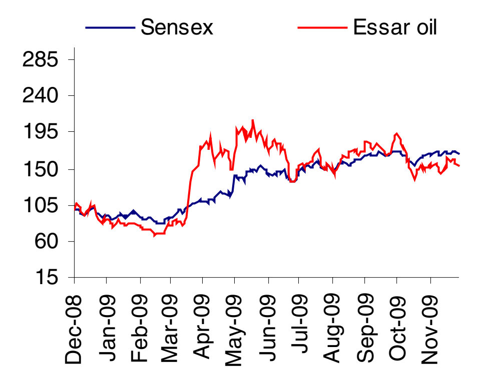
52 - Week high / low Rs102 / 35

	3M	6M	12M
Absolute (%)	-17.3	-13.7	42.1
Relative (%)	-16.5	-28.0	-22.2

Shareholding Pattern	**(%)**
Promoters	88.6
Fis, FIIs	4.5
Public & Others	6.9

Source : Company

Sensex and Stock Movement



Swarnendu Bhushan

swarnendu.bhushan@hdfcsec.com

91-22-6171 7327

Essar Oil is set to emerge as India's third largest oil refining company and one of the most complex refineries worldwide. While refinery expansions will result in ~US$3/bbl premium over Singapore complex GRM (Dubai crude), strategic focus on product evacuation will help maintain high capacity utilization. The company is strengthening its presence in the E&P segment. While production from Ranigunj CBM block is to commence in Q4FY10E, other E&P assets in petroliferous regions could hold potential upsides. Driven by higher GRMs, we expect EBITDA margins to improve from 3.1% in FY09 to above 10% by FY13E. Our target of Rs191/share provides an upside of 41%.

Sharp rise in volumes

Rated capacity is to increase from existing 10.5mmtpa to 16mmtpa in Phase-I expansion to be completed by Dec 2010 and further to 34mmtpa in Phase-II expansion to be completed by Dec 2011, making it India's third largest refining company.

Increase in complexity to increase margins

The complexity index will rise from existing 6.1 to 11.8 in FY12E and to 12.8 in FY13E. We expect the GRMs to have a premium of ~US$ 3/bbl to Singapore complex GRM (Dubai crude) by FY13E. EBITDA margins will rise from 3.1% in FY09 to above 10% from FY13E.

Strategic positioning to help tide domestic glut

Essar Energy Holding has been making inroads into African and European markets through acquisition of refining and related assets. These will play a strategic role in evacuating excess production from Vadinar as domestic supply glut widens.

Oil and gas assets offer excellent upsides

While Ratna & R-series await PSC signing, its gross 2P reserves of 162mn boe and other international assets hold a promising future. CBM block at Ranigunj has a recoverable reserve of 1 tcf and is expected to commence production in Q4FY10E.

BUY with a target price of Rs191

We value Essar Oil using SOTP. The refining business is valued at Rs135/share using DCF. The oil and gas assets have been valued using asset multiples. The PSC for Ratna & R-series have been pending for some time. Pending finalization, we use a 25% discount to its fair value. Ratna & R-series, thus are valued at Rs26.6/share. We value Ranigunj and Mehsana CBM blocks at Rs 30/share.

Particulars	FY08	FY09	FY10E	FY11E	FY12E	FY13E
Revenues (Rsm)	5,768	377,000	371,502	427,576	492,982	1,066,885
Growth (%)		6,436.3	(1.5)	15.1	15.3	116.4
EBIDTA (Rsm)	(500)	11,540	21,383	33,108	41,180	111,190
EBIDTA margin (%)	(8.7)	3.1	5.8	7.7	8.4	10.4
Net profit (Rsm)	(412)	(5,140)	1,688	12,151	7,460	35,617
Net profit Growth (%)		1,148.2	(132.8)	619.9	(38.6)	377.5
EPS (Rs.)	(0.3)	(4.3)	1.3	8.0	4.4	21.0
P/E (x)	(392.1)	(31.4)	102.1	16.8	30.5	6.4
Net Debt/Equity (x)	2.4	2.5	2.5	2.0	1.8	1.5
RoCE (%)		(3.8)	1.1	4.6	1.8	7.6
RoE (%)		(14.3)	3.9	15.2	5.7	20.9

Source : Company, HDFC Securities Institutional Research

We value the stock at Rs93 using a forward P/BV multiple of 2.8x

Valuation summary- refining still the key, E&P assets hold promising potential:

We use SOTP for valuation of Essar Oil. Refining business is undergoing a massive scale change in terms of capacity and complexity. Hence, we value it using DCF. E&P assets have been valued using asset multiples of global peers.

Our SOTP valuation of Rs191/share gives an upside of 41%

Chart 1: Valuation of Essar Oil at Rs191 provides an upside of 36% to CMP

Particulars	Methodology	Value (Rs/share)	Main assumptions
Refining inclusive of sales tax deferral	DCF	135	GRM premium of ~US$ 3/bbl from FY13E. Capacity utilization of 131% in FY10E, 133% in FY11E and 100% thereafter
Ratna & R-series	Asset multiple	27	US$ 11.1 / 2P boe reserves of global companies, discount of 25% on fair value of Rs35/share
Ranigunj & Mehsana	Asset multiple	30	US$ 750mn/tcf 3P reserves
Total		191	

Source: HDFC Securities Institutional Research

EV/complexity-ton trading at significant discount to domestic and regional peers:

For FY10E and FY11E, Essar Oil is trading at 13% and 25.7% premium to its domestic peers. However, Essar Oil is expected to go a scale change in capacity as well as in complexity in FY12E and FY13E. For FY12E, CMP implies a discount of 43% to its Indian peers and a discount of 31.6% to its regional peers.

Forward EV/complexity-ton for FY12E trading at 43% discount to Indian peers

Chart 2: Forward EV/complexity-ton of FY12E trading at 43% discount to domestic peers

Forward asset multiples, EV/complexity-ton (US$)	FY10E	FY11E	FY12E
Indian average[1]	56.2	50.5	38.2
Asian average[2]	41.2	38.3	31.6
European average[3]	29.3	29.2	29.2
US average[4]	11.2	11.1	11.1
Essar Oil[5]	63.5	63.5	21.6

[1]IOC, BPCL, HPCL, MRPL, CPCL
[2]IOC, BPCL, HPCL, MRPL, CPCL, Esso Thailand, Thai Oil, BCP, SK Energy
[3]Petroplus, TUPRAS, Neste, Hellenic Petroleum, Saras
[4]Valero, Holly, Frontier, Sunoco, Tesoro
[5]After removing valuation of E&P assets

Note: See Appendix 5 for multiples of global refineries
Source: HDFC Securities Institutional Research

Sales tax deferral contributes Rs 32/share to the valuation:

We value sales tax deferral using DCF to arrive at a value of Rs32/share. This is included in the valuation of Rs135/share for the refining business.

Sales tax deferral contributed Rs32/share

Chart 3: Sales tax contributes Rs32/share to valuation

Particulars	
Sales tax collection eligible for tax deferral (Rs Bn)	91
Pay back	six equal interest free annual installments post 2020
Value (Rs/share)	32

Source: HDFC Securities Institutional Research

E&P assets contribute Rs57 /share to the valuation:

Ratna & R-series have been pending PSC finalization for some time. Hence, we discount (25%) its fair value using asset multiples of global companies and subsequently arrive at Rs27/share.

Ratna & R series contribute Rs27/share

Chart 4: Ratna & R-series valued at Rs 27/share

Particulars	
Gross 2P reserves at Ratna & R-series (boe)	162
Essar Oil's participating interest (%)	50%
Essar Oil's net 2P reserves (boe)	81
EV/2P boe reserves for global companies (US$)	11.1
Fair value (Rs/share)	35
Our discount due to lack of clarity	25%
Valuation (Rs/share)	26.6

Source: HDFC Securities Institutional Research

We further value Ranigunj and Mehsana CBM blocks using asset multiple of global companies to arrive at Rs30/share.

Ranigunj & Mehsana CBM blocks contribute Rs30/share

Chart 5: CBM blocks valued at Rs 30/share

Particulars	Reserves	Comments
Gross/Net 3P reserves (tcf) at Ranigunj	1	100% participating interest
Gross 2P reserves of Mehsana (mn boe)	3	70% participating interest
Net 2P reserves of Mehsana (tcfe)[1]	0.011	
Net total 2P reserves (tcf)	1.011	
EV/3P tcf reserves for global CBM companies (US$, mn)	750	
Fair value (Rs/share)	30	
[1]Mehsana has low reserves, we assume that 3P is same as 2P		

Source: HDFC Securities Institutional Research

Valuation using price multiples:

Essar Oil has been trading at an average forward P/BV of 2.8x since Feb 2009. It fell to 2.2x-2.3x since Oct 2009 as GRMs kept falling. However, as GRMs seem to have bottomed out and are expected to rise from here, we expect Essar Oil to be re-valued at ~2.8x. At 2.8x, Essar Oil would be valued at Rs179/share. However, no price multiple can take into account the huge expansions plans of the company, we believe that SOTP is the best tool for valuation of Essar Oil.

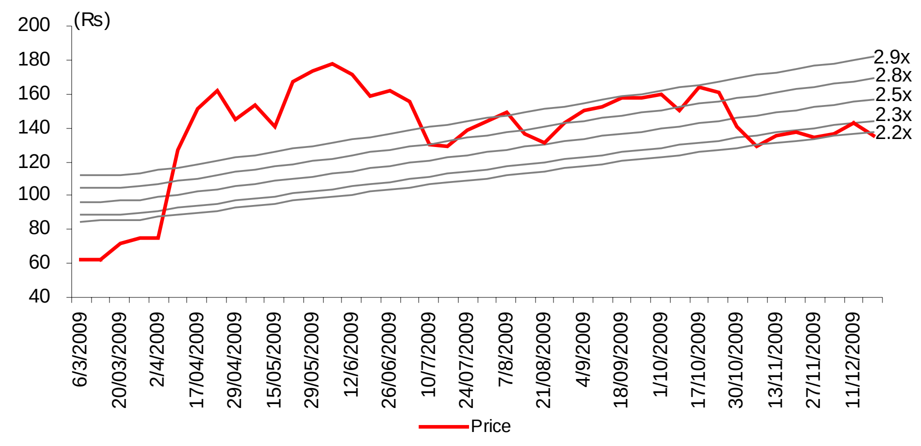
As GRMs rise, Essar Oil would trade at ~2.8x one year forward book value

Chart 6: P/BV provides a target of Rs179/share

Particulars	
CMP (Rs/share)	134
Implied one year forward P/BV (x)	2.1
Target P/BV (x)	2.8
Price (Rs/share)	179

Source: HDFC Securities Institutional Research

Chart 7: Essar Oil trading at 2.1x its one year forward BV, likely to jump to 2.8x with improvement in GRMs



Source: Bloomberg, HDFC Securities Institutional Research

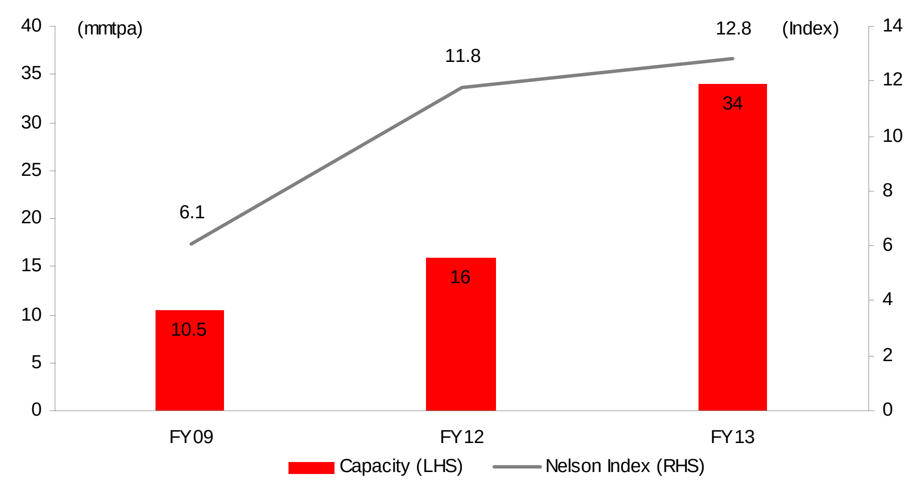
REFINING SEGMENT:

Scale change in capacity and complexity to bring economies of scale and improve GRMs:

Phase-I expansion, to be mechanically completed by Dec 2010, is expected to increase capacity from existing 10.5 mmtpa to 16 mmtpa and Nelson complexity index to 11.8. The company is adding another train in Phase-II expansion to increase capacity to 34 mmtpa and overall complexity index to 12.8.

Essar Oil is targeting a utilization of 130% with a throughput of 13.76 mmtpa in FY10E. It has carried out some modifications and debottlenecking in the existing plant through which it can sustain throughput of 14 mmtpa. For our valuation, we assume a throughput of 14 mmtpa in FY11E and 100% utilization level from FY12E onwards.

Chart 8: Scale change in capacity and complexity



Source: Company, HDFC Securities Institutional Research

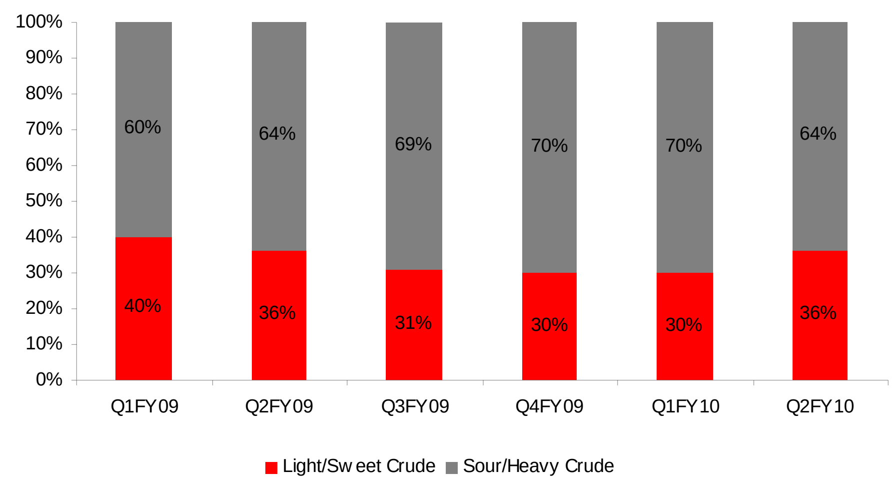
Increased complexity to reduce crude oil cost while maximizing production of value added products:

With increase in complexity index to 12.8, Essar Oil will be in the league of most complex refiners in the world (average complexity index for American, European and Asian refineries average above 10, 7 and 6 respectively, see appendix 3).

Although Arab Heavy-Light currently stands at ~2%, we are of the opinion that Arab Light-Heavy spread will increase to ~5% going forward (see appendix 1). Higher discount of tougher crude oils will help complex refineries improve their margins. We understand that as the discount widens, Essar Oil will be able to increase consumption of tougher crude oil due to its high complexity index, thereby reducing costs.

Higher complexity index will help optimize crude oil selection and reduce cost

Chart 9: Essar Oil's consumption of tough and light crude oils

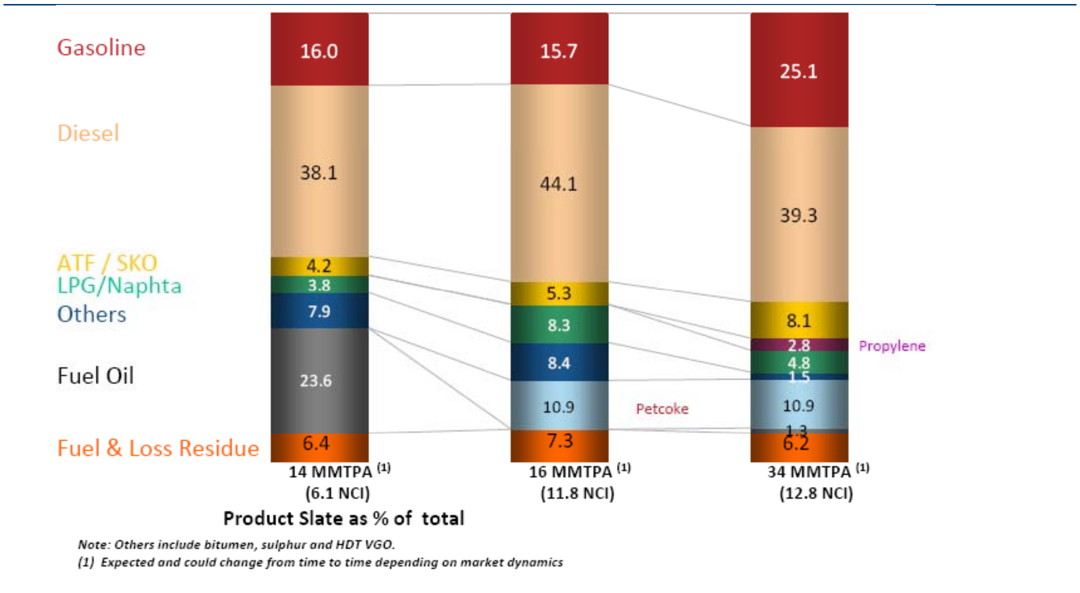


Source: Company, HDFC Securities Institutional Research

Expansions are targeted at reducing production of negative margin heavy distillates and increase in lighter distillates. Phase-II will also see production of 1 mmtpa of propylene, a high demand petrochemical feedstock.

Higher complexity index to help minimize heavy distillates and increase value added products

Chart 10: Increased complexity to minimize production of negative margin FO and increase production of value added products



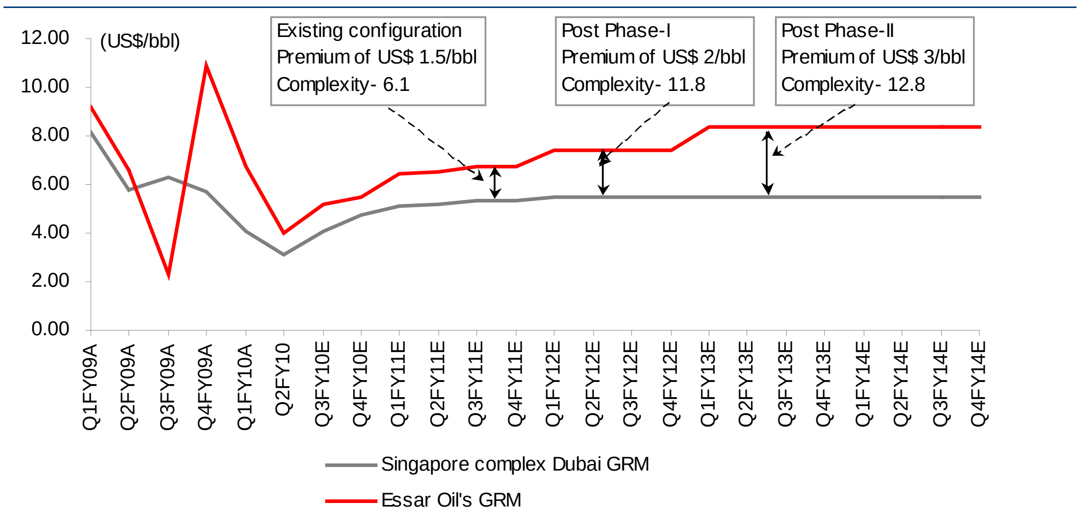
Source: Company, HDFC Securities Institutional Research

Essar Oil's GRMs to command premium over Singapore benchmark GRMs:

As Essar Oil reduces production of negative margin FO and increases production of middle and light distillates, it would see GRM premium over Singapore benchmark GRMs increasing from existing US$ 1.5 /bbl to US$ 2/bbl post Phase-I (FY12E) and further to US$ 3/bbl post Phase-II (FY13E).

GRMs to command ~US$3/bbl over Singapore complex GRMs (Dubai crude)

Chart 11: GRMs to improve further as complexity increases



Source: Company, HDFC Securities Institutional Research

Ability to evacuate products will be crucial as domestic supply glut for most petrochemical products increases further:

Essar Energy Overseas recently bought 50% stake in Kenya Petroleum Refineries Ltd. It is also in talks with Shell's assets in UK, Germany and Sweden. While the refineries themselves are old, they, along with related logistics offer excellent access to regional markets.

Essar Oil has also been in talks with Nepal for supplying of petroleum products. It is further setting up a trading terminal at Singapore, which will help in achieving better price discovery.

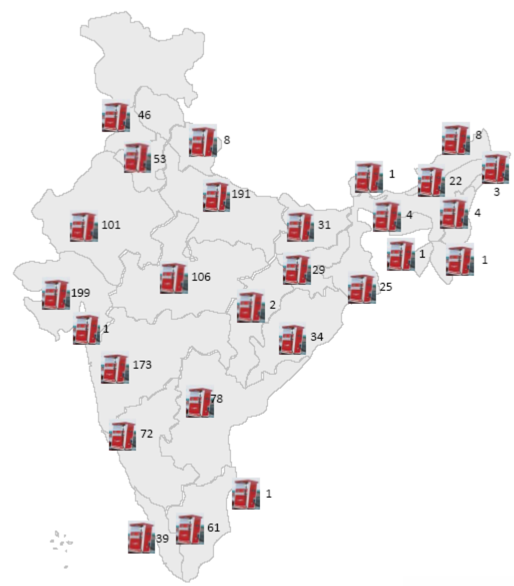
Domestic retail segment: can provide excellent upside if prices are deregulated:

Unfavorable pricing saw Essar Oil close most of its 1,276 retail outlets across the country. However, pricing deregulation could unlock significant value. It may expand aggressively, eating into the sales of the OMCs. Essar Oil follows a unique dealer owned and dealer operated retail model. The capex is borne by the retailers while Essar Oil forks out a minimum return. This provides Essar Oil with the agility to start/close retail operations in favorable/unfavorable conditions.

As pricing regulations affect retail operations, we have not valued retail business of Essar Oil.

Ability and agility to start operations pan-India

Chart 12: Retail outlets of Essar Oil: it plans to increase it to 1500 by Mar 2010



Source: Company, HDFC Securities Institutional Research

Phase-I and Phase 2 expansions:

Phase-I is expected to be mechanically completed by Dec 2010 and come on stream from Q1FY12E. It requires a funding of US$ 1.56 Bn. Out of this, US$ 640 mn will be through equity and internal accruals and the rest US$ 920 mn has been tied up through debt. The promoters infused US$ 300 mn at Rs 200/share through GDS in FY08 and FY09.

Phase-II expansion at a cost of US$ 4.44 Bn is expected to be mechanically completed by Dec 2011. The company had targeted financial closure by H1FY10E but this has been postponed to H2FY10E. It is targeting a net gearing of 1.5x-1.7x for Phase-II. The company maintains that the promoters will infuse money if need be. We expect the completion of Phase-II to be postponed to Mar 2011.

Fiscal incentives for the refinery: IT benefits under section 80-IB, sales tax deferral

The existing refinery is already enjoying IT benefits under section 80-IB. The Phase-I and Phase-II expansion also stand to gain from tax holidays under section 80-IB if they are completed before Apr 2012. We do not see a significant delay in Phase-I expansion. However, Phase-II expansion is likely to be delayed from the original plan of Dec 2011 to Mar 2012.

Under the capital investment incentive to Premier/Prestigious Unit Scheme 1995-2000, Essar Oil has been provided sales tax deferral benefits of ~ US$ 1,800 mn (125% of capex). The deferral is up to Aug 2020 or till the limit is exhausted. Payment of sales tax collected is to be in six equal interest free annual installments henceforth. The sales tax deferral had been challenged in court. The scheme was originally meant for units that were to come on stream by 15th Aug 2000. Essar Oil was further granted an extension of three years. However, during 2001-04, the government could not issue required approvals for work to begin on account of a pending judgement to which Essar Oil was not a party. High Court recently ruled in favor of Essar Oil considering 2001-04 as force majeure. However, the state government has filed an SLP. The matter is subjudice in Supreme Court. Our interaction with the management indicates positive ruling for Essar Oil. This is further supplemented by the fact that state government has not opposed the company account for availing the deferment benefit.

The sales tax deferral contributes ~US$ 1.3/bbl to the GRM and is valued at Rs 32/share.

EXPLORATION AND PRODUCTION HOLDS PROMISING UPSIDE:

Essar Oil has been building on its upstream portfolio. Its net acreage of 34,000 sq. km. holds promising potential going forward. While production is likely to commence from its CBM block at Ranigunj in Q4FY10E, others are in early stages of exploration.

Chart 13: Essar Oil's E&P assets: global foot prints

Field	Location	GHIIP (mn boe)	Gross 2P (mn boe)	Working interest (%)	Acreage (sq. km.)	Remarks	PSC Status
CB-ON/3	Mehsana	6	2.7	70%	574	pre-NELP, ONGC (30%)	Jul-98
Ratna & R-Series	Ratnagiri	500	161	50%	1,000	pre-NELP, ONGC (40%), Premier Oil (10%)	Not signed
RG(E)-CBM-2001/1	Ranigunj			100%	500	CBM-1 block, Recoverable reserves of 1,000 bcf	
RM(E)-CBM-2008/IV	Rajmahal			100%	1,128	CBM-IV block, resources of 91 bcm	
MB-OSN-2005/3	Mumbai			50%		NELP-VII, 185 bcf of in place gas resources	
AA-ONN-2004/3 AA-ONN-2004/5	Assam			10%	1,300		
OPL-226	Nigeria*			100%	1,530	Signature bonus of US$ 37mn, in place resources of 160 mn boe	Signed on 25th May 2007
3103 3110	Madagascar*			100%	30,000		Signed on 31st Oct 2006
Block-114	Vietnam*						
South East Tungkal Block	Indonesia*			49.5%			
NT-P/77 & P-78	Australia*			100%			

*Under transfer to EOL

Source: Company, HDFC Securities Institutional Research

CBM block at Ranigunj to commence production in Q4FY10E:

A CBM-I block with an acreage of 500 sq. km. and a recoverable reserve of 1,000 bcf at Ranigunj is expected to start production from Q4FY10E. Initial production is expected to be in the range of 5,000-10,000 scmd and is likely to peak to 2.5-3 mmscmd in 3-4 years. The company has signed sales agreement with local consumers for 85,000 scmd of gas at US$ 6.8-US$ 9.5 per mmBtu. The company plans to use air-drilling technology to reduce drilling costs.

The Mehsana CBM block is a small one with gross 2P reserves of 2.7 mn boe with Essar Oil having a 70% stake.

We value the CBM blocks of Ranigunj and Mehsana using asset multiples of global companies. Using global average of US$ 750 mn per tcf of 3P reserves, we value Essar Oil's CBM blocks at Rs 30/share.

Global CBM blocks are valued at US$750mn/tcf of 3P reserves

Chart 14: Asset multiple of global companies: CBM blocks valued at US$ 750 mn per tcf of 3P reserves

	Net (tcf)		US$ MN			
Company	2P Reserves	3P Reserves	Mkt Cap	Net debt	EV	EV per tcf of 3P reserves
CNX Energy	1.8	2.7	4,196	148	4,344	1,583
Great Eastern	0.1	0.8	730	42	772	945
Arrow Energy	2.3	4.9	2,600	(82)	2,518	510
Gastar Energy	0.1	0.5	222	(60)	162	356
Molopo	0.1	0.3	235	(88)	147	432
Eastern Star	0.2	0.8	617	(48)	569	673
Global average						750

Source: Companies, HDFC Securities Institutional Research

Ratna & R-series: lack of clarity continues to stall finalization of PSC:

The blocks were awarded to Essar Oil in 1996. Other participants are ONGC (40%) and Premier Oil (10%). However, there have been disputes in applicable rates of cess and royalty due to which PSC has not been signed yet. While the company has been maintaining that the PSC will be signed soon, confusion persists. With an acreage of 1,000 sq. km. holding 2P reserves of 182 mn boe, it holds good potential for Essar Oil.

We use asset multiple of global companies for valuing of Ratna & R-series. Using global average of US$ 11.1, net interest of Essar Oil in Ratna & R-series would have a fair valuation of Rs 35/share. We give it a discount of 25% due to delays in PSC signing.

Global oil and gas blocks are valued at US$11.1/boe of 2P reserves

Chart 15: Asset multiple of global oil and gas companies

	US$ MN			MN boe	US$
	Market Cap	Net debt	EV	2P Reserves	EV per boe of 2P reserves
Talisman	17,417	1,790	19,207	2,500	7.7
Husky	22,875	1,933	24,808	2,459	10.1
Nexen	11,618	5,176	16,794	2,000	8.4
Woodside	30,868	3,584	34,452	1,700	20.3
Cairn Energy	6,930	(208)	6,722	488	13.8
Cairn India	10,988	(437)	10,551	897	11.8
Premier Oil	2,022	233	2,255	220	10.2
Dana	1,746	227	1,973	194	10.2
ROC	406	100	506	47	10.8
Oil India	6,381	(1,185)	5,196	974	5.3
Hindustan Oil	749	(32)	718	53	13.4
Global average					11.1

Source: Companies, HDFC Securities Institutional Research

Global E&P may spring promising surprises going forward

Global footprints in E&P:

AA-ONN-2004/3 and AA-ONN-2004/5 are in the petroliferous Assam basin. AA-ONN-2004/3 is north of Brahmputra river and could hold interesting structures in the Himalayan foothills. The first four years of exploration involves acquisition of 50 sq. km. of 3D seismic data and 400 line-km of 2D data and drilling of one exploration well. AA-ONN-2004/5 lies south of Brahmputra river and could hold stratigraphic plays. The first four year exploration program involves acquisition of 50 sq. km of 3D seismic data and 180 line-km of 2D seismic data and drilling of one exploration well.

On the international front, Nigerian and Madagascar blocks could hold promising surprises. Recently, Sunpec's all eight wells drilled in adjacent 3113 block in Madagascar showed oil and gas. Block 3113 is expected to hold ~10 Bn of oil reserves in place.

Nigeria has already proven to be very rich in oil and gas resources. News reports suggest that OPL-226 could hold reserves in excess of 80 mn bbls, although no official estimates are available.

SENSITIVITY ANALYSIS:

Product crack spreads: Refining is a cyclical business. We see that the product cracks have come down from the highs of 2008. Gasoline is currently seeing a crack spread of US$ 2.5/bbl while gasoil and ATF average at ~US$ 7/bbl and ~US$ 8/bbl respectively. We have been conservative in our assumption of crack spreads.

Chart 16: Product crack assumptions

Product crack spread assumptions:	US$/bbl
Gasoline	6
Gasoil	8.5-9.5
ATF/Kero	9-16
FO	-2

Source: HDFC Securities Institutional Research

Chart 17: change in cracks to drastically affect margins

	10% fall in crack spreads	Base Case	10% rise in crack spreads
FY10E EPS (Rs)	0.3	1.3	2.3
FY11E EPS (Rs)	6.1	8.0	9.9
FY10E EBITDA (Rs, MN)	19,900	21,383	22,865
FY11E EBITDA (Rs, MN)	29,933	33,108	36,283

Source: HDFC Securities Institutional Research

Exchange rate sensitivity:

Crude oil purchasing and sale of petroleum products are both linked to dollar. Additionally, domestic product pricing has a lag of fortnight which provides minimal exposure.

RISKS AND CONCERNS:

Project delays: It may be noted that if the expansions are not completed before Apr 2012, they will not stand to gain from the seven year tax holiday under section 80-IB. Although Phase-I seems to be on track, we are concerned on the progress of Phase-II. Phase-II was to achieve financial closure by H1FY10E but this has been postponed to H2FY10E. Although the company maintains that the promoters are ready to chip in with any shortfall in financial closure, any delay would adversely impact the project. We are of the opinion that Phase-II will be delayed to Mar 2012 instead of its originally planned date of Dec 2011.

Reduced crack spreads: Although we have been conservative in our assumptions of the crack spreads, any significant capacity addition or reduced global economic recovery could further push GRMs down.

Delay in execution of Ratna & R-series: After award in 1994, there is still no clarity on cess and royalty applicable to the block. We have discounted its fair value by 25%. However, if the PSC is not finalized soon, it will result in higher costs and lower profitability from the block.

Access to international markets: Domestic supply continues to surpass domestic demand for most petroleum products. Under the current pricing regulation, it would be difficult for private refiners like Essar Oil and RIL to compete with the OMCs. As OMCs augment their own capacities, they will be less likely to absorb supply from these players. Hence, it would be extremely important for these refiners to find avenues to offload their products. For the same reason, Essar Energy Overseas has been acquiring assets abroad. It acquired 50% of Kenya Petroleum Refineries Ltd a few weeks back. It is currently in talks with Nepal to be the second supplier of petroleum products after Indian Oil. It is also discussing acquisition of Shell's assets in UK (Stanlow Comlpex), Germany (Heide & Heidenberg) and Sweden (Gothenberg). While these assets are old, the reason for Shell offloading them, the logistic infrastructure would provide Essar an entry point in European markets.

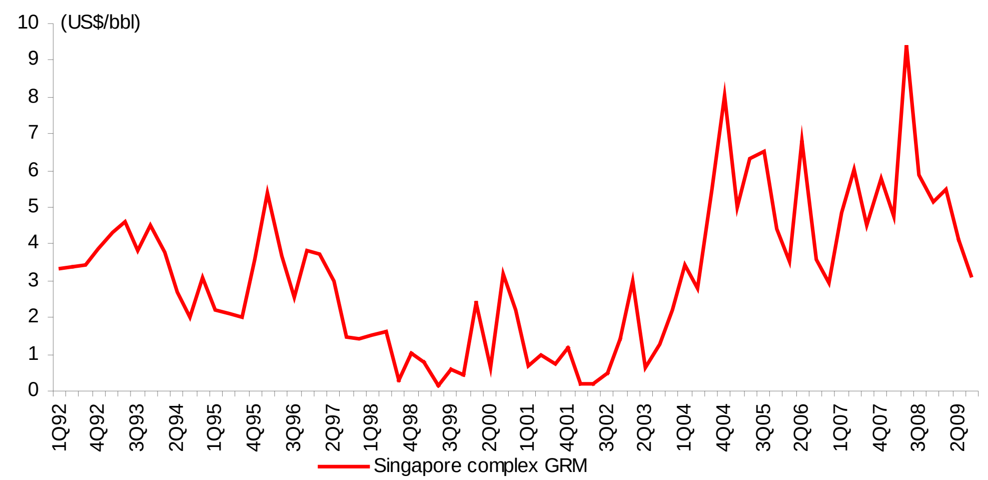
Appendix 1: Refining outlook

While 2004-2008 clearly outshines as the golden period for the refiners in terms of high GRMs in absolute terms, we are of the opinion that as economy rebounds to 3.9% in 2009 and to above 4% during 2011-2014, increasing consumption is likely to result in increase in GRMs.

Demand of transportation fuels is expected to grow at 1.4% annually. While gasoil/kero is likely to see a supply deficit fro 2011, gasoline is expected to be in surplus. However, we expect the refineries to adopt light crackers and high conversion hydrocrackers in order to meet to shift in demand trends.

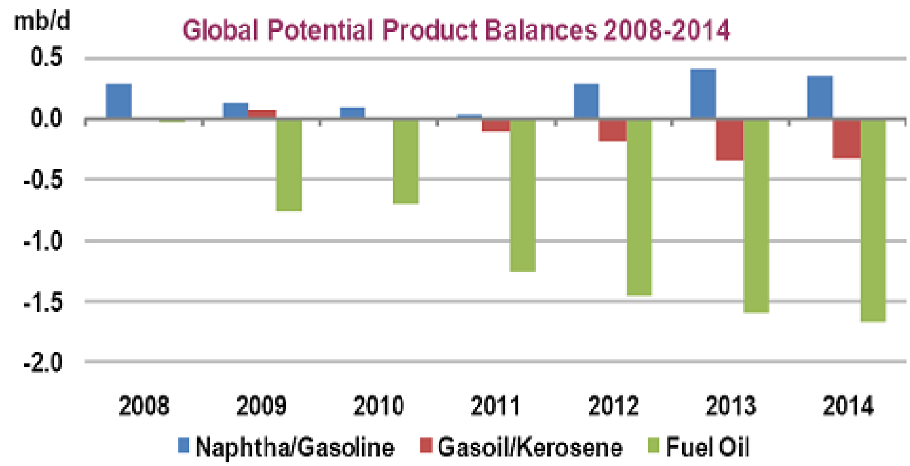
As emission standards tighten worldwide and as the discovery and availability of natural gas increases, we will see a decline in demand for fuel oil. However, it must also be noted that refiners have been increasingly adopting complex cracking technologies (e.g., delayed coker) that will bring down the production of fuel oil significantly. It is estimated that these technological advances will in fact create a supply gap for fuel oil.

Chart 18: Singapore GRMs



Source: BP Statistical Review, 2009, HDFC Securities Institutional Research

Chart 19: Product imbalances going forward



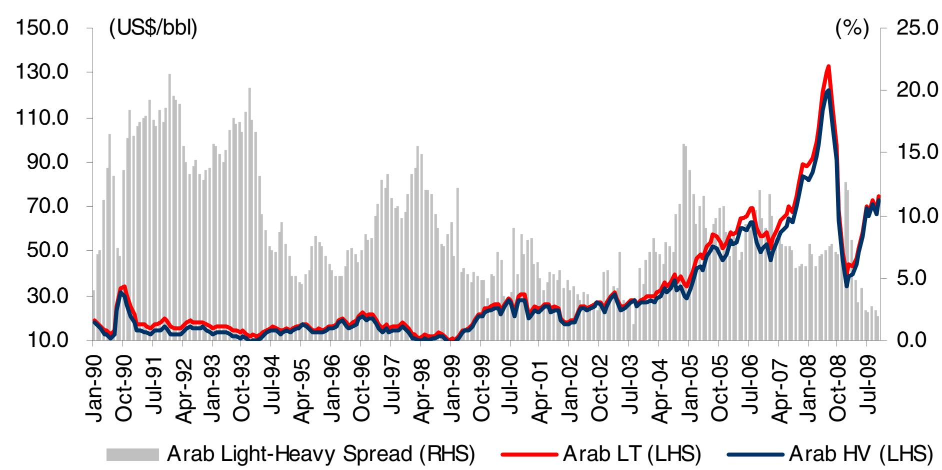
Source: IEA, HDFC Securities Institutional Research

Arab Light-Heavy differential to stabilize at 5%:

Traditionally, heavier and sour crude oils have been trading at a discount to light and sweet crude oils due to poor yields. In early 1990s, when the world was dominated by relatively simpler refineries, the heavy-light discount averaged at ~15%. As refiners started adding complex cracking technologies, the discount fell to ~6% since 2004.

In the recent months, the discount has been ~2% which has reduced the advantage that complex refiners get in their ability to process tougher and cheaper crude oils. As demand for tougher crude oils increases with increasing technical capability, the heavy-light discount will decrease. However, as the discount decreases, the incentive to process tougher crude oils will also decrease due to higher operating cost in case of tougher crude oils. Going forward, we expect this balancing act to result in an average of 5% heavy-light discount. This will result in higher GRMs for complex refiners.

Chart 20: Arab Light-Heavy differential to stabilize at ~5%



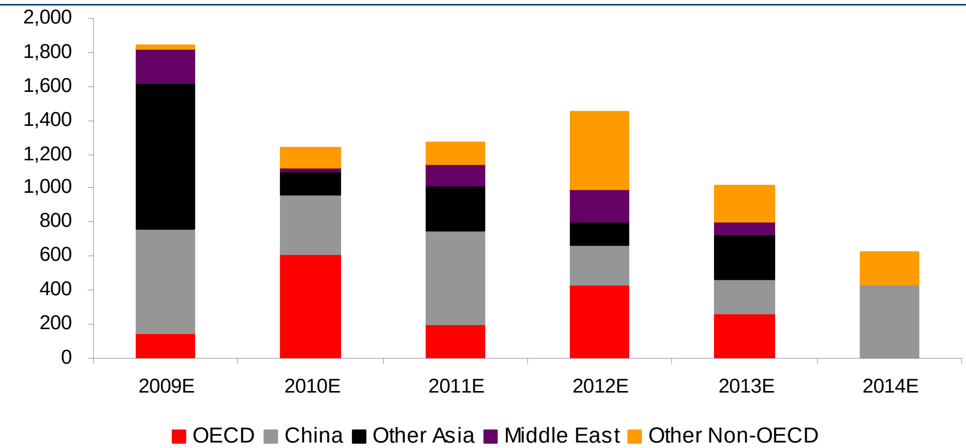
Source: Bloomberg, HDFC Securities Institutional Research

Capacity rationalization:

Estimates show that incremental crude distillation capacity addition could be 1.8 mbpd in 2009, 1.2 mbpd each in 2010 and 2011 and 1.4 mbpd in 2012. Incremental growth will strengthen in non-OECD region, the regions that are likely to see higher economic growth, especially China and India.

However, significant capacity additions have been cancelled or postponed due to cost over-runs and poor refining margins in the recent past. Further, as older and non-competitive capacities are forced out of the system, we expect healthy under-utilization of the assets, especially in non-OECD countries.

Chart 21: Estimated refining capacity additions



Source: HDFC Securities Institutional Research

Chart 22: Project cancellations/delays

Company	Expansion	Original plan	Revised plan
Marathon Oil	US$ 2.2 Bn expansion of Detroit refinery	2010	2012
Motiva Enterprises	US$ 7 Bn 325,000 bpd expansion of Port Arthur refinery	2010	2012
KNPC	US$ 15 Bn 630,000 bpd greenfield refinery at Al Jour	2013	Cancelled
OilMoz	US$ 8 Bn 350,000 bpd greenfield refinery at Maputo	2014	Indefinite
Conoco Phillips/Aramco	US$ 12 Bn 400,000 bpd refinery at Yanbu	2011	2014
Total/Aramco	US$ 12 Bn 400,000 bpd Jubail refinery	2011	2014
Saudi	200,000 bpd refinery at Jizan	2013	2015
Valero	US$ 1.7 Bn 50,000 bpd hydrocracker addition at Port Arthur refinery	2011	Indefinite
Irving Oil/BP	US$ 7.4 Bn 300,000 bpd refinery in New Brunswick	2015	Indefinite

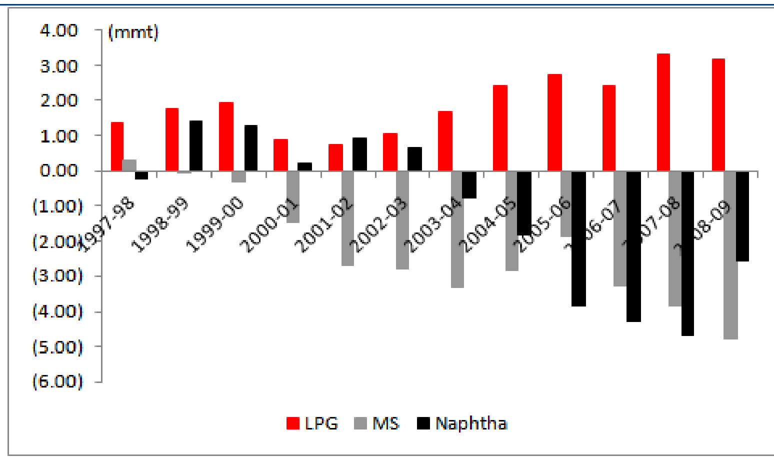
Source: Companies, OGJ, HDFC Securities Institutional Research

Appendix 2: Domestic refining outlook

Currently, domestic production exceeds domestic demand for all major petroleum products except LPG and lube oil. In FY09, India had an excess of 4.78 mmt of gasoline and 11.3 mmt of gasoil. With more allocation of natural gas for city gas distribution, domestic demand for LPG is also likely to reduce.

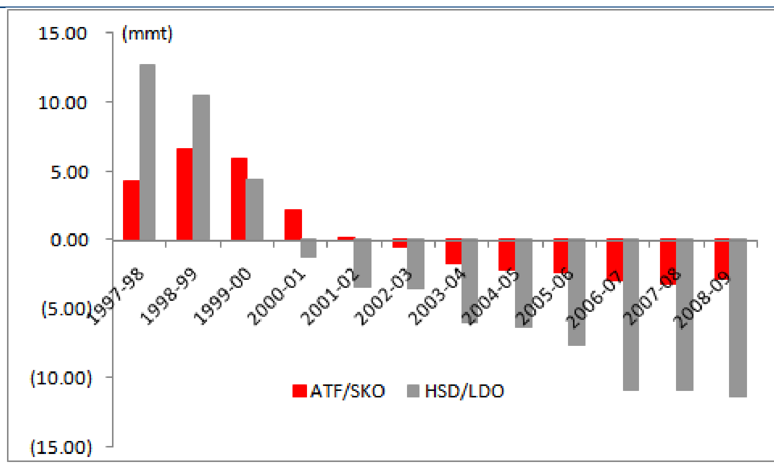
Additionally, as older capacities in developed countries are forced to shut down, Indian companies have been adding on capacities. Even in high economic growth scenario, domestic consumption will not be able to absorb domestic production. Going forward, the utilization of Indian refineries will depend heavily on access of the domestic refiners to international markets.

Chart 23: Domestic demand-supply of light distillates



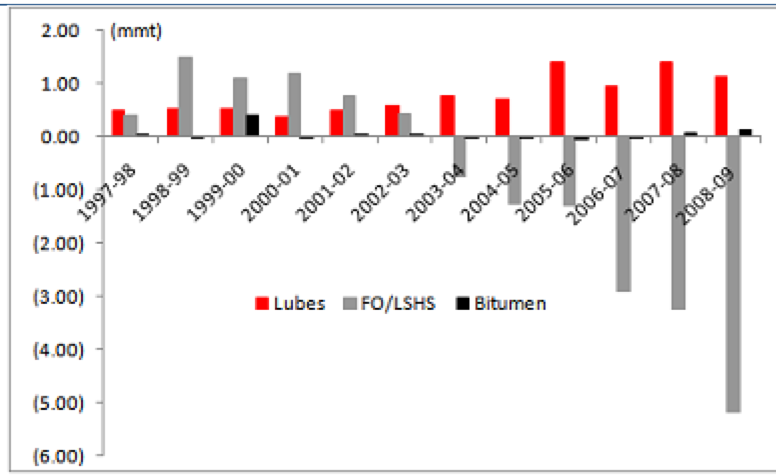
Source: PPAC, HDFC Securities Institutional Research

Chart 24: Domestic demand-supply of middle distillates



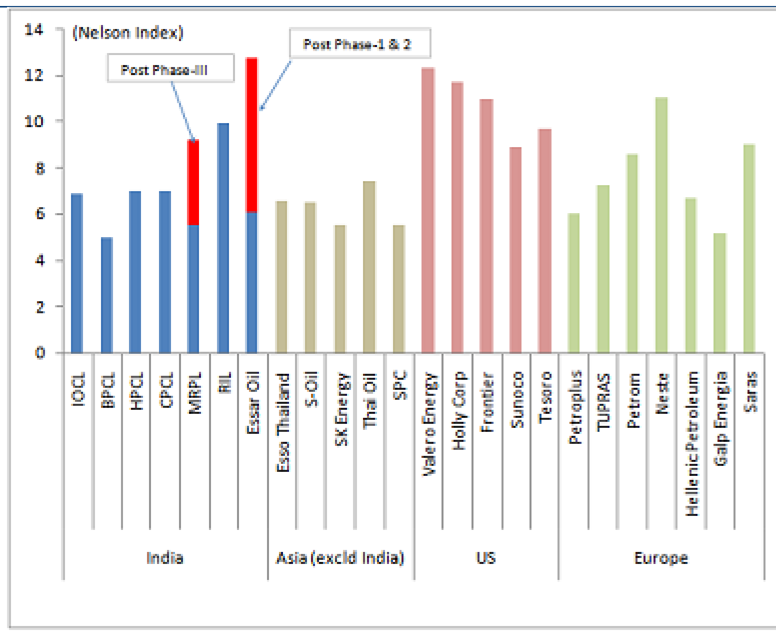
Source: PPAC, HDFC Securities Institutional Research

Chart 25: Domestic demand-supply of middle distillates



Source: PPAC, HDFC Securities Institutional Research

Appendix 3: Nelson Index of global refineries



Source: Companies, HDFC Securities Institutional Research

Appendix 4: Comparables for global refineries

	P/BV (x)		P/E (x)		EV/EBITDA (x)		ROE (%)	
	FY10E	FY11E	FY10E	FY11E	FY10E	FY11E	FY10E	FY11E
IOCL	1.4	1.3	8.5	8.9	7.4	6.8	15.3	12.6
BPCL	1.5	1.3	11.1	10.7	9.8	9.2	13.8	12.9
HPCL	1.1	1.0	8.2	8.5	7.4	7.6	11.9	11.8
RIL	2.6	2.3	19.1	13.7	11.9	9.0	14.5	16.9
Avg Indian excld RIL, Essar Oil	1.3	1.2	9.3	9.4	8.2	7.9	13.7	12.5
Avg Indian excld Essar Oil	1.6	1.5	11.7	10.5	9.1	8.1	13.9	13.6
	CY10E	CY11E	CY10E	CY11E	CY10E	CY11E	CY10E	CY11E
BCP TB	0.6	0.6	5.1	4.8	4.4	4.3	12.5	11.2
Esso TB	0.8	0.8	5.8	6.4	5.6	6.0	15.9	12.6
010950 KS	1.7	1.5	9.1	7.6	7.4	5.9	19.0	20.4
096770 KS	1.1	1.0	8.5	7.2	7.3	6.4	14.4	14.6
TOP TB	1.1	1.1	7.5	7.3	5.5	5.2	15.9	15.4
Avg Asian excld Indian	1.1	1.0	7.2	6.6	6.1	5.5	15.5	14.8
Avg Asian incld Indian refiners except Essar Oil	1.3	1.2	9.2	8.3	7.4	6.7	14.8	14.3
VLO US	0.6	0.6	14.3	6.9	5.1	4.1	3.9	7.2
HOC US	1.6	1.3	8.0	5.6	4.1	3.5	24.8	25.9
FTO US	1.0	0.8	14.1	7.2	4.1	3.2	9.6	12.8
SUN US	1.1	1.0	12.7	6.9	5.6	4.0	6.8	19.8
TSO US	0.5	0.5	17.3	6.8	4.2	3.4	3.8	6.9
Avg US	1.0	0.9	13.3	6.7	4.6	3.6	9.8	14.5
PPHN VX	0.7	0.6	12.8	7.2	4.5	4.0	6.0	9.5
TUPRS TI	1.9	1.8	9.1	8.3	5.4	4.5	20.5	22.4
SNP RO	0.8	0.8	8.1	6.9	5.7	5.0	10.3	11.0
NES1V FH	1.3	1.2	16.6	9.4	7.8	5.6	7.2	12.6
ELPE GA	1.0	0.9	12.6	10.0	8.0	6.8	8.5	10.3
SRS IM	1.4	1.3	12.2	9.4	5.3	4.6	13.2	14.0
Avg European	1.2	1.1	11.9	8.5	6.1	5.1	11.0	13.3

Source: Company, HDFC Securities Institutional Research

Appendix 5: EV/complexity-ton for global refineries

Company	Market Cap (US$, mn)	Net Debt (US$, mn)	EV (US$, mn)	Nelson Index	Annualized Rated Capacity (mmtpa) FY2010	FY2011	FY2012	EV/complexity-ton (US$) FY2010	FY2011	FY2012
IOCL[1]	16,595	5,783	22,379	5	56.4	60.2	60.2	79.4	74.4	74.4
BPCL[2,8]	4,761	4,412	9,173	5.5	21.8	29.3	29.3	76.3	53.9	53.9
HPCL[3]	2,852	3,436	6,287	7	14.6	14.6	24.5	61.3	61.3	28.8
CPCL	689	303	992	7	10.8	11.5	11.5	13.2	12.3	12.3
MRPL[7]	2,898	43	2,941	6	9.7	9.7	15.0	50.6	50.6	21.8
RIL[6]	75,156	9,981	85,138	9.93	33.0	33.0	33.0	259.8	259.8	259.8
Indian avg excld RIL & Essar Oil								**56.2**	**50.5**	**38.2**
Esso Thailand	637	711	1,348	6.6	8.8	8.8	8.8	23.1	23.1	23.1
S-Oil	5,533	1,294	6,827	6.5	28.9	28.9	31.4	36.3	36.3	33.4
SK Energy[10]	8,954	5,359	14,313	5.5	55.6	55.6	55.6	21.3	21.3	21.3
Thai Oil[9]	2,571	1,223	3,794	9.4	13.7	13.7	13.7	29.4	29.4	26.6
BCP	501	373	875	7	6.0	6.0	6.0	20.8	20.8	20.8
Asian avg excld RIL & Essar Oil								**41.2**	**38.3**	**31.6**
Valero Energy	9,475	5,770	15,245	12.3	154.7	157.0	157.0	8.0	7.9	7.9
Holly Corp	1,259	506	1,765	11.7	10.8	10.8	10.8	13.9	13.9	13.9
Frontier	1,194	(136)	1,058	11.0	9.1	9.1	9.1	10.6	10.6	10.6
Sunoco	3,055	2,424	5,479	8.9	45.4	45.4	45.4	13.6	13.6	13.6
Tesoro	1,831	1,305	3,136	9.7	33.1	33.1	33.1	9.8	9.8	9.8
Average US								**11.2**	**11.1**	**11.1**
Petroplus	1,510	1,319	2,828	6.0	43.1	43.1	43.1	10.9	10.9	10.9
TUPRAS	4,760	(632)	4,129	7.3	28.1	28.1	28.1	20.3	20.3	20.3
Petrom[6]	4,905	2,805	7,711	8.6	8.0	9.5	9.5	112.3	94.6	94.6
Neste	4,435	2,071	6,506	11.0	13.0	13.2	13.2	45.3	44.8	44.8
Hellenic Petroleum	3,719	1,795	5,514	6.7	19.0	19.0	19.0	43.4	43.4	43.4
Galp Energia[6]	14,381	3,217	17,598	5.2	15.5	15.5	15.5	216.2	220.1	220.1
Saras	2,886	683	3,568	9.0	15.0	15.0	15.0	26.5	26.5	26.5
Average European excld Petrom & Galp Energia								**29.3**	**29.2**	**29.2**
Essar Oil[5]	**3,544**	**1,887**	**5,494**	**6.1**	**10.5**	**10.5**	**16.0**	**63.5**	**63.5**	**21.6**

[1] Includes 51.89% stake in CPCL, expansion of Panipat to 15 mmtpa and Haldia to 7.5 mmtpa

[2] Includes 61.65% stake in NRL, Expansion of Kochi refinery to 9.5 mmtpa to come onstream in Q4FY10, Bina refinery of 6 mmtpa to come onstream in Q1FY11

[3] Includes 16.95% of MRPL, Bhatinda refinery coming in FY12 is with a Nelson Index of 13

[4] 50% stake in SRC

[5] Nelson Index rises to 11.8 in FY12

[6] Excluded from comparisons due to significant contributions coming from E&P business

[7] MRPL's complexity index increases to 9 in FY12

[8] BPCL's complexity index increases to 5.8 in FY11 & FY12

[9] Thai Oil's complexity may rise to above 10 by FY12

[10] SK Energy has roughly 520 mn boe of 1P reserves. We calculate the forward multiples after deducting the value of these reserves at US$ 15/boe.

Source: Companies, HDFC Securities institutional Research

Income Statement

(YE 31st Mar)	FY08	FY09	FY10E	FY11E	FY12E	FY13E
Operating Revenues (Rs, mn)	5,623	376,520	370,480	426,144	490,285	1,064,773
% growth		6,596.2	(1.6)	15.0	15.1	117.2
Cost of sales (Rs, mn)	6,074	361,430	345,592	389,606	445,331	946,037
SG&A (Rs, mn)	49	3,550	3,505	3,430	3,773	7,546
EBITDA (Rs, mn)	(500)	11,540	21,383	33,108	41,180	111,190
% growth		(2,409.4)	85.3	54.8	24.4	170.0
Depreciation (Rs, mn)	25	6,550	8,886	9,429	19,167	40,011
EBIT (Rs, mn)	(525)	4,990	12,496	23,679	22,013	71,178
Interest (Rs, mn)	61	10,910	11,035	11,035	16,451	32,913
Other Income (Rs, mn)	145	480	1,022	1,432	2,697	2,112
EBT (Rs, mn)	(441)	(5,440)	2,483	14,076	8,259	40,378
Tax (Rs, mn)	(29)	(300)	795	1,924	800	4,761
PAT (Rs, mn)	(412)	(5,140)	1,688	12,151	7,460	35,617
% growth		1,148.2	(132.8)	619.9	(38.6)	377.5

Source: Company, HDFC Securities Institutional Research

Balance Sheet

(Rs, mn) YE 31st Mar	FY08	FY09	FY10E	FY11E	FY12E	FY13E
Shareholders' funds	36,299	35,820	50,242	109,727	152,300	187,917
Total Loans	98,153	100,317	131,587	233,975	313,414	285,000
Deferred Tax Liability	315	0	0	0	0	0
Net Block	4,301	126,058	88,864	94,289	191,668	400,113
Capital work in progress	132,903	19,139	58,202	199,202	208,680	1,000
Fixed Assets	**138,234**	**146,234**	**148,096**	**294,522**	**401,379**	**402,143**
Inventories	48,909	22,509	40,034	45,321	51,987	113,609
Sundry Debtors	8,034	11,654	10,150	11,675	13,432	29,172
Cash and bank balances	10,028	11,746	6,632	19,940	31,944	8,240
Other current assets	545	4,199	5,000	5,000	5,000	5,000
Loans & advances	8,010	9,089	5,000	5,000	5,000	5,000
Current assets, Loans & Advances	**75,526**	**59,197**	**66,816**	**86,936**	**107,363**	**161,020**
Liabilities	79,156	69,040	32,084	36,756	42,028	89,247
Provisions	130	253	1,000	1,000	1,000	1,000
Current Liabilities & Provisions	**79,285**	**69,293**	**33,084**	**37,756**	**43,028**	**90,247**

Source: Company, HDFC Securities Institutional Research

Cash Flow Statement

(Rs, mn) YE 31st Mar	FY09	FY10E	FY11E	FY12E	FY13E
PBT	(5,440)	2,483	14,076	8,259	40,378
Depreciation	6,550	8,886	9,429	19,167	40,011
Tax paid	300	(795)	(1,924)	(800)	(4,761)
Change in deferred tax liability	(315)	0	0	0	0
Change in net working capital	8,055	(48,943)	(2,139)	(3,151)	(30,143)
Operating cash flow	**9,150**	**(38,369)**	**19,441**	**23,475**	**45,485**
Capex	(14,544)	(10,755)	(155,855)	(126,024)	(40,776)
Change in investments	(14,544)	(10,755)	(155,855)	(126,024)	(40,776)
Investing cash flows	**(14,544)**	**(10,755)**	**(155,855)**	**(126,024)**	**(40,776)**
Change in borrowings	2,164	31,270	102,388	79,439	(28,414)
Issuance of equity	4,661	12,734	47,333	35,113	0
Dividend paid	0	0	0	0	0
Financing cash flow	**6,825**	**44,004**	**149,721**	**114,552**	**(28,414)**
Net change in cash	1,432	(5,120)	13,308	12,004	(23,705)
Closing cash balance	11,460	6,626	19,940	31,944	8,240

Source: Company, HDFC Securities Institutional Research

Ratio Analysis

Ratio Analysis	FY08	FY09	FY10E	FY11E	FY12E	FY13E
P/E (x)	(392.1)	(31.4)	102.1	16.8	30.5	6.4
P/BV (x)	4.4	4.5	3.4	1.9	1.5	1.2
EV/EBITDA (x)	(500.5)	21.7	11.7	7.6	6.1	2.2
EBITDA margin (%)	(8.7)	3.1	5.8	7.7	8.4	10.4
PAT margin (%)	(7.1)	(1.4)	0.5	2.8	1.5	3.3
Diluted # of equity shares (mn)	1,201	1,201	1,282	1,518	1,694	1,694
Diluted EPS (Rs)	(0.3)	(4.3)	1.3	8.0	4.4	21.0
RoE (%)		(14.3)	3.9	15.2	5.7	20.9
RoCE (%)		(3.8)	1.1	4.6	1.8	7.6
Net debt to equity (x)	2.4	2.5	2.5	2.0	1.8	1.5
CC Cycle (days)		(29)	(9)	17	17	14
WC cycle (days)		(7)	12	36	42	23
Asset turnover (x)		2	2	1	1	2

Source: Company, HDFC Securities Institutional Research