GEMS: Asia India
Energy Oil & Gas

Deutsche Bank

13 August 2007

Reliance Industries

Reuters: **RELI.BO** Bloomberg: **RIL IN** Exchange: **BSE** Ticker: **RELI**

It ain't all gas; upgrade to Buy

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Upgrading to Buy with revised 12M target of INR2130 (+18%)
This note marks the transfer of coverage from David Hurd to S Ramesh. We are raising our target from INR1,585 to INR2,130 (+18% upside) and upgrading from Hold to Buy. Unlike the street, we are far more bullish on RIL's core refining business and assign lower value to E&P and Retail at this stage.

Refinery expansion to capitalize on a capacity-starved market
We believe RIL is on the cusp of strong growth in refining and E&P. The timely expansion through its export-oriented refining subsidiary, Reliance Petroleum (RPL), should help RIL capitalize on the capacity crunch and demand for upgraded fuels, which we view as positive for RIL's refining operating rates and margins.

RPL, KG gas to drive pro forma consolidated 3-year EPS CAGR of 18%
In FY09, RIL's earnings should get a boost from production start-ups in KG D-6 gas and RPL's new highly complex refinery, which should support higher GRMs. We expect RIL's refining business (including RPL) to get re-rated, as did Indian cement stocks over the past 4 years. We expect new finds in E&P and ramp-up in Reliance Retail can sustain long-term growth and mitigate cyclical risk in RIL's portfolio.

SOTP-based TP of INR2,130; key risks relate to E&P execution
We value RIL at INR2,130 based on our SOTP valuation. This includes KG D-6 (DCF: INR161/shr), RPL (INR269/shr), Reliance Retail (INR108/shr) and probable upside from future projects – KG phase II, savings from fuel switching and future reserve accretion. Risks relate to (i) execution in E&P due to rig shortages (ii) rupee appreciation and (iii) regulatory risk in the gas business.

Forecasts and ratios

Year End Mar 31	2006A	2007A	2008E	2009E	2010E
Sales (INRm)	830,248.1	1,053,630.0	**1,136,990.8**	1,175,407.7	1,228,023.2
EBITDA (INRm)	143,486.5	182,100.0	**215,407.8**	259,376.2	297,862.7
Reported NPAT (INRm)	93,982.3	115,521.9	**132,125.5**	168,252.6	195,935.2
Reported EPS FD(INR)	67.44	82.90	**89.06**	106.92	124.51
DB EPS FD(INR)	67.92	82.90	**89.06**	106.92	124.51
OLD DB EPS FD(INR)	67.46	78.29	**82.49**	84.05	119.85
% Change	0.7%	5.9%	**8.0%**	27.2%	3.9%
DB EPS growth (%)	24.5	22.1	**7.4**	20.1	16.5
PER (x)	8.5	13.9	**20.3**	16.9	14.5
EV/EBITDA (x)	6.6	9.5	**12.1**	9.5	7.6
DPS (net) (INR)	10.00	11.00	**12.00**	15.00	20.00
Yield (net) (%)	1.7	1.0	**0.7**	0.8	1.1

Source: Deutsche Bank estimates, company data

[1] DB EPS is fully diluted and excludes non-recurring items
[2] Multiples and yields calculations use average historical prices for past years and spot prices for current and future years, except P/B which uses the year end close

Rating Upgrade

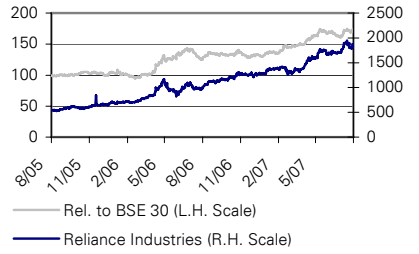
Buy

Price at 10 Aug 2007 (INR)	**1,810.75**
Price target - 12mth (INR)	**2,130.00**
52-week range (INR)	**1,941.00 - 1,029.05**
BSE 30	**15,100**

Key changes

Rating	Hold to Buy	↑	
Price target	1,585.00 to 2,130.00	↑	**34.4%**
Sales (FYE)	1,022,139 to 1,136,991	↑	**11.2%**

Price/price relative



Performance (%)	1m	3m	12m
Absolute	*6.4*	*14.5*	*84.8*
BSE 30	*0.6*	*9.6*	*35.4*

Stock data

Market cap (INRm)	**2,523,295**
Market cap (USDm)	**62,265**
Shares outstanding (m)	**1,393.5**
Major shareholders	**Ambani Group (38%)**
Free float (%)	**49**
Avg daily value traded (USDm)	**33.4**

Key indicators (FY1)

ROE (%)	**21.1**
Net debt/equity (%)	**36.3**
Book value/share (INR)	**496.27**
Price/book (x)	**3.6**
Net interest cover (x)	**9.1**
Operating profit margin (%)	**15.3**

Model updated:10 August 2007

Running the Numbers

Asia Pacific

India

Oil & Gas

Reliance Industries

Reuters Code RELI.BO

Buy

Price as of 10 August INR 1,810.75

Price Target INR 2,130.00

Web Site
http://www.ril.com

Company Description

Reliance Industries Limited manufactures petrochemicals, synthetic fibers, fiber intermediaries, textiles, blended yarn and polyester staple fiber. The Group also owns a petroleum refinery and its petrochemicals division produces linear alkyl benzene, terepthalic acid, polyethylene, polyvinylchloride, toulene, ethylene, crude oil, gas paraffin, xylene, ethylene glycol and propylene.

Research Team

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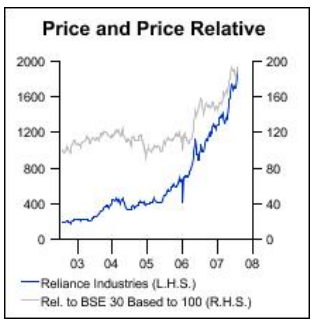
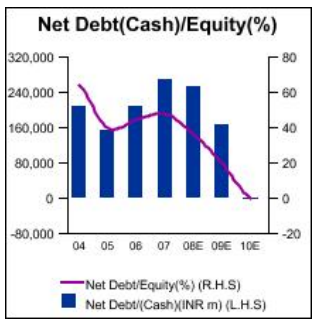
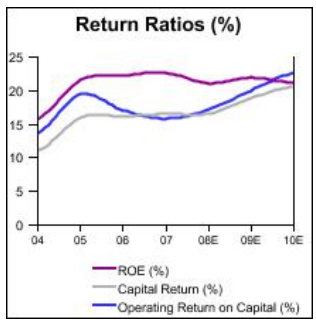
Absolute Price Return	1m	3m	12m
	8.2%	15.8%	86.7%
52-week Range	INR 1,011.10 - 1,941.00		
Market Cap	INR 2,523,295 m		
	USD 62,085 m		

Company Identifiers	
Bloomberg	RIL IN
Cusip	–
SEDOL	6099626

Y/E 31 March	2004	2005	2006	2007	2008E	2009E	2010E
Summary							
DB EPS (INR)	36.61	54.55	67.92	82.90	89.06	106.92	124.51
P/E (x)	9.0	7.2	8.5	13.9	20.3	16.9	14.5
DB EPS growth (%)	–	49.0	24.5	22.1	7.4	20.1	16.5
EPS FD (INR)	36.61	54.70	67.44	82.90	89.06	106.92	124.51
P/E FD (x)	9.0	7.2	8.6	13.9	20.3	16.9	14.5
CFPS (INR)	65.56	86.95	98.05	117.78	130.90	166.76	197.02
Free CFPS (INR)	34.36	65.16	-149.46	53.66	21.85	113.27	165.91
P/CFPS (x)	5.0	4.5	5.9	9.8	13.8	10.9	9.2
DPS (INR)	5.25	7.50	10.00	11.00	12.00	15.00	20.00
Dividend yield (%)	1.6	1.9	1.7	1.0	0.7	0.8	1.1
BV/Share (INR)	231.28	275.30	330.42	401.92	496.27	603.33	726.83
Price/BV (x)	1.8	1.5	2.4	3.4	3.6	3.0	2.5
Weighted average shares (m)	1,396	1,395	1,394	1,394	1,394	1,394	1,394
Average market cap (INRm)	459,960	546,443	808,358	1,604,175	2,523,295	2,523,295	2,523,295
Enterprise value (INRm)	485,618	467,667	953,526	1,736,549	2,598,178	2,471,846	2,265,357
EV/Sales (x)	0.9	0.7	1.1	1.6	2.3	2.1	1.8
EV/EBITDA	4.9	3.7	6.6	9.5	12.1	9.5	7.6
EV/EBIT	7.4	5.2	8.8	12.2	14.9	12.2	10.0
EV/Op. Capital (x)	1.2	1.2	1.4	2.2	3.0	2.7	2.6
Income Statement (INRm)							
Sales revenue	520,253	665,977	830,248	1,053,630	1,136,991	1,175,408	1,228,023
Operating EBITDA	98,438	127,966	143,487	182,100	215,408	259,376	297,863
Depreciation	32,508	37,274	34,949	40,090	41,406	56,973	71,426
Amortization	0	0	0	0	0	0	0
Operating EBIT	65,929	90,692	108,537	142,010	174,002	202,403	226,436
Net interest income (expense)	-9,197	-11,048	-4,426	-11,140	-19,197	-19,457	-15,212
Associates/affiliates	0	696	4,847	6,999	6,799	6,447	5,881
Investment and other income/expense	5,788	10,608	2,280	1,373	104	2,690	2,802
Exceptionals/extraordinaries	0	306	-995	0	0	0	0
Income tax expense	11,411	14,972	16,295	23,720	29,582	23,830	23,972
Minorities/preference dividends	0	0	-35	0	0	0	0
Net income	51,109	76,282	93,982	115,522	132,125	168,253	195,935
Cash Flow Statement (INRm)							
Cash flow from operations	91,517	121,273	136,632	164,122	182,406	232,375	274,553
Movement in Net Working Capital	-16,163	-34,545	29,650	46,090	-33,716	18,594	5,992
Capex	-43,558	-30,397	-344,912	-89,350	-151,959	-74,534	-43,357
Free cash flow	47,959	90,876	-208,280	74,772	30,447	157,841	231,196
Other investing activities	-69,503	-49,038	164,172	-75,500	-40,000	-40,000	-40,000
Equity raised/(bought back)	-1,496	4,500	0	16,824	0	0	0
Dividends paid	-8,247	-11,916	-15,890	-17,479	-19,064	-23,829	-31,773
Net inc/(dec) in borrowings	407,993	-21,997	45,257	50,864	50,000	-20,000	-46,000
Other financing cash flows	0	0	0	0	0	0	0
Total cash flows from financing	398,249	-29,413	29,368	50,209	30,936	-43,829	-77,773
Net cash flow	376,705	12,425	-14,741	49,481	21,384	74,011	113,424
Movement in net debt/(cash)	31,287	-34,422	59,998	1,383	28,616	-94,011	-159,424
Balance Sheet (INRm)							
Cash and other liquid assets	2,709	36,107	26,164	14,322	81,813	148,145	268,634
Tangible fixed assets	325,106	323,948	602,093	651,353	761,906	779,467	751,397
Goodwill	0	0	0	0	0	0	0
Other intangible assets	0	0	0	0	0	0	0
Associates/investments	181,802	230,840	66,668	142,168	182,168	222,168	262,168
Other assets	182,589	194,912	223,958	278,407	298,981	299,525	301,999
Total assets	692,205	785,807	918,883	1,086,250	1,324,868	1,449,305	1,584,198
Interest bearing debt	210,168	188,171	233,428	284,292	334,292	314,292	268,292
Other liabilities	159,210	213,999	220,434	237,303	294,450	289,698	298,486
Total liabilities	369,378	402,169	453,862	521,595	628,742	603,990	566,778
Shareholders' equity	322,825	383,638	460,449	560,083	691,553	840,742	1,012,848
Minorities	2	0	4,573	4,573	4,573	4,573	4,573
Total shareholders' equity	322,827	383,638	465,021	564,655	696,125	845,314	1,017,420
Net working capital	67,862	62,047	95,248	138,232	104,516	123,110	129,102
Net debt/(cash)	207,459	152,064	207,264	269,970	252,479	166,147	-342
Capital	530,286	535,701	672,285	834,625	948,604	1,011,462	1,017,078
Ratio Analysis							
Sales growth (%)	NM	28.0	24.7	26.9	7.9	3.4	4.5
EBITDA Margin (%)	18.9	19.2	17.3	17.3	18.9	22.1	24.3
EBIT Margin (%)	12.7	13.6	13.1	13.5	15.3	17.2	18.4
Payout ratio (%)	14.3	13.7	14.8	13.3	12.7	12.4	14.2
ROE (%)	15.8	21.6	22.3	22.6	21.1	22.0	21.1
Return on capital (%)	11.1	16.0	16.2	16.6	16.6	18.9	20.7
Operating return on capital (%)	13.7	19.5	17.1	15.8	17.2	20.0	22.6
Capex/sales (%)	8.4	4.6	41.5	8.5	13.4	6.3	3.5
Capex/depreciation (x)	1.3	0.8	9.9	2.2	3.7	1.3	0.6
Net debt/equity (%)	64.3	39.6	44.6	47.8	36.3	19.7	0.0
Net interest cover (x)	7.2	8.2	24.5	12.7	9.1	10.4	14.9







Source: Deutsche Bank estimates, company data

Investment thesis

Outlook

Refining and E&P business to drive 18% EPS CAGR

We estimate a healthy 18% CAGR in RIL's pro forma consolidated earnings over FY07-10e due to buoyant refining margins in FY08e and the impact of new start-ups in refining and gas operations in H2FY09. There could be upside to our estimates in the event of higher-than-expected polymers and polyester margins because of an extension to the current chemical cycle.

Refining capacity crunch to sustain robust margins

The new 580,000 bpd export refinery has been timed well to catch the current capacity-starved market for oil products. Regional and global operating rates may nudge close to full utilisation over the next 5 years as incremental capacities lag demand growth. This, along with tightening fuel quality norms and the need for replacing vintage refining assets older than 25-30 years, could leave the industry short of capacity. Further, RIL's existing and new refineries should enjoy above-average margins due to the high complexity of the refineries and the company's ability to process the heaviest and sourest of crude. Reforms in domestic auto-fuel pricing could enhance RIL's refinery value chain by capturing retail margins.

E&P led by KG gas to boost earnings by FY10

We estimate RIL's KG gas operations to contribute 7% of revenue and 28% of EBITDA in FY10e assuming 80mmscmdcd of gas production. Eventually, this could set the stage for long-term growth in the company's vast E&P portfolio of 38 domestic blocks and 8 overseas blocks. RIL can sustain growth beyond FY10, based on further upside in KG D-6 volumes (post-phase II capex) and monetisation of reserves likely to be developed in NEC 25, the Mahanadi basin, MA -1 oil and CBM blocks. New finds in Cauvery and the large portfolio of E&P assets augur well for RIL's E&P business.

Valuation

Refining re-rating à la cement; E&P monetisation positive for stock; target INR2,130

We value RIL at INR2,130 based on our sum-of-the-parts (SOTP) valuation. This includes KG D-6 (DCF: INR161/shr), RPL (INR269/shr), Reliance Retail (INR108/shr) and probable upside from future projects – KG phase II, savings from fuel switching and future reserve accretion. Future valuation drivers include: a) re-rating in refining on EV/capacity on the same lines as India's cement stocks over the last 4 years, b) potential growth in oil and gas reserves in its large E&P portfolio, and c) visibility in cash flows from Reliance Retail which is capitalizing on India's booming consumer-spending theme. Reliance Retail is also positive for RIL's long-term ratings as it can sustain long-term growth and mitigate the cyclical risk in RIL's current portfolio. Other catalysts include value unlocking from a stake sale in E&P blocks like KG D-6 and free cash flow yield of 6% on FY09e.

Risks

The key risks are related to: i) Execution in E&P due to shortage of rigs, ii) rupee appreciation, and iii) regulatory risk in gas sector. RIL could also face challenges in handling supply-chain logistics as well as in its retail expansion over a large geography. Operational setbacks in new and existing plants could threaten RIL's earnings.

Table of Contents

Seizing the opportunity

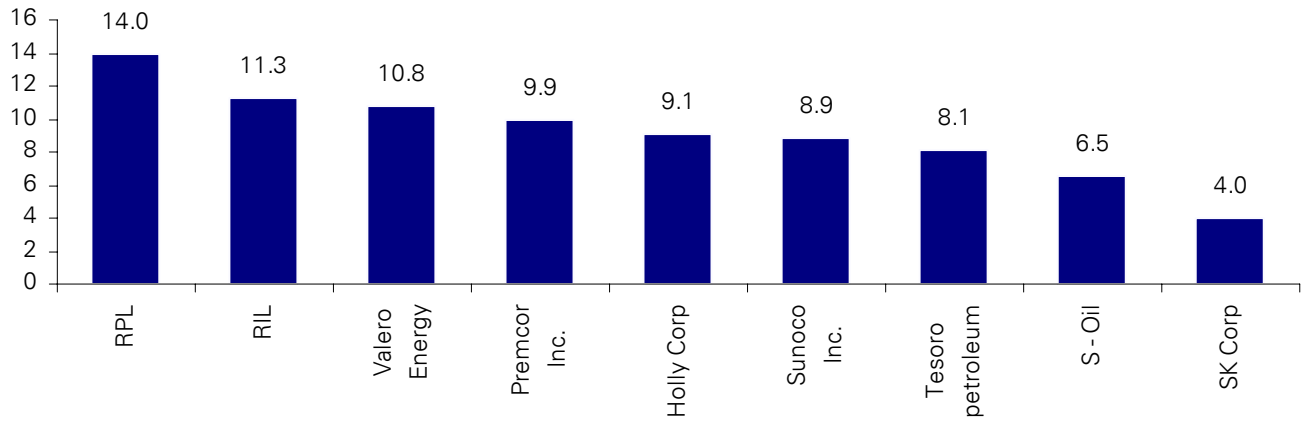
Going global

RIL is on the cusp of the big league in the global refining business. Its existing 33mmtpa refinery (660,000bpd) at Jamnagar is already the world's third largest. RIL is almost doubling its capacity by setting up a new export-oriented refinery of 580,000bpd through its 75% subsidiary, RPL. This would be the sixth-largest refinery worldwide and enjoy one of the highest scores on complexity at 14 (on the Nelson Index). At present, RIL's existing refinery is among the most complex with 11.3 on the index. This, along with the new RPL refinery (580,000 bpd, start-up expected Dec 08), will make RIL the largest refining capacity at a single location worldwide. Further, potential government reforms on auto fuel pricing and phasing out subsidies should be positive for RIL's prospects in fuel retailing in the long run. This could offset the current concerns over the retail business once retail margins turn around.

Premium positioning

RIL should enjoy a premium in its refining margins over prevailing global refining margin benchmarks due to higher complexity in its existing and new refineries (Figure 1).

Figure 1: Nelson complexity index for leading refiners



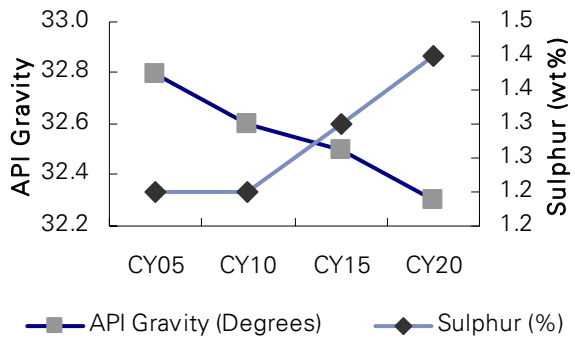
Source: Deutsche Bank, company presentation; Note: RPL start-up due for H2 FY08

- RIL should enhance its global competitiveness due to (i) economy of scale in crude procurement, (ii) supply chain logistics in product handling and exports, (iii) fiscal incentives based on RPL's location in the Jamnagar SEZ, right next to the existing refinery, and (iv) a global scale of 1.24mnbpd (1.4% of global refining capacity) of combined refining capacity after RPL's commissioning.
- RIL, along with RPL, can take advantage of the differential between light and heavy crude oil, which is expected to sustain in future, and the improved product yield based on the enhanced complexity of secondary processing facilities.

Widening difference between heavy and sweet crude to sustain

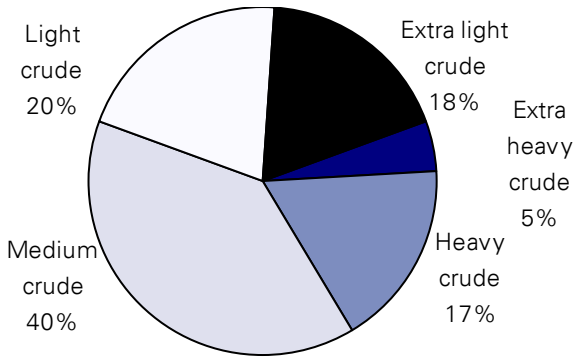
The widening differential between light/sweet and heavy/sour crude is likely to sustain as the global crude oil basket is becoming heavier and sourer, whereas only 22% of the global refining capacity can handle the heavier grades (Figures 2 and 3).

Figure 2: Global crude oil basket



Source: Company presentation, Deutsche Bank

Figure 3: Configuration of global refining capacities

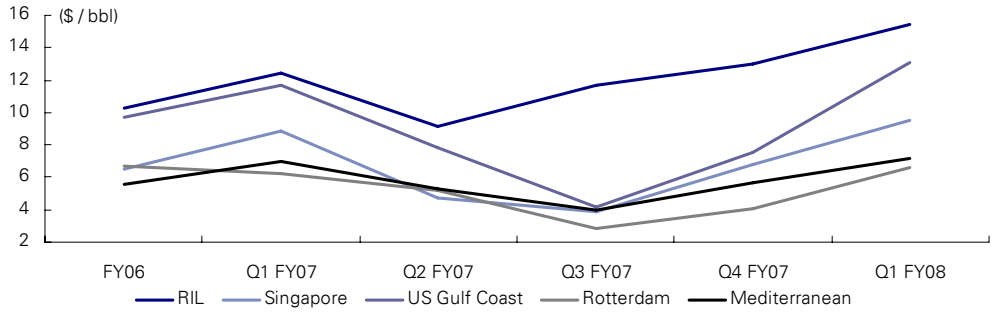


Source: Oil and gas journal, Deutsche Bank

RIL enjoys huge upside leverage in refining

RIL's current large 0.66mnbpd capacity with high complexity could imply upside in refining earnings, especially if there is a boom in refining margins. A US$1/bbl change in GRMs would impact RIL's pro forma consolidated earnings (including RPL) for FY10e (ending March31) by 5.2%.

Figure 4: RIL enjoys high GRM compared to global benchmarks

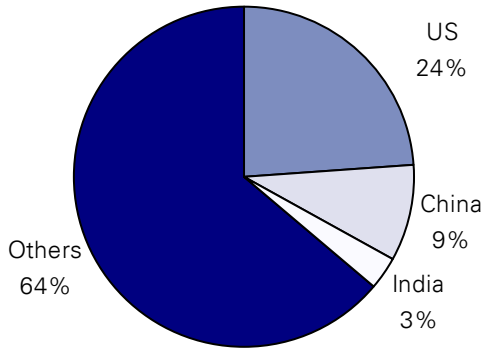


Source: Company data, Deutsche Bank

Refining capacity crunch due to years of underinvestment

The global outlook for refining margins looks rosy as the industry is facing a severe shortage of refining capacity in the face of sustained demand growth in key markets of the US, China and India. According to the International Energy Agency, the key reason for the global capacity constraint is underinvestment in new refining capacities, particularly in the US, which accounts for over 24% of global demand (the country has not added any new capacity for the past 29 years). Moreover, average incremental demand at 1.2mnbpd has exceeded average incremental supply (0.9mnbpd) over the past five years.

Figure 5: US, China and India account for 36% of global oil consumption



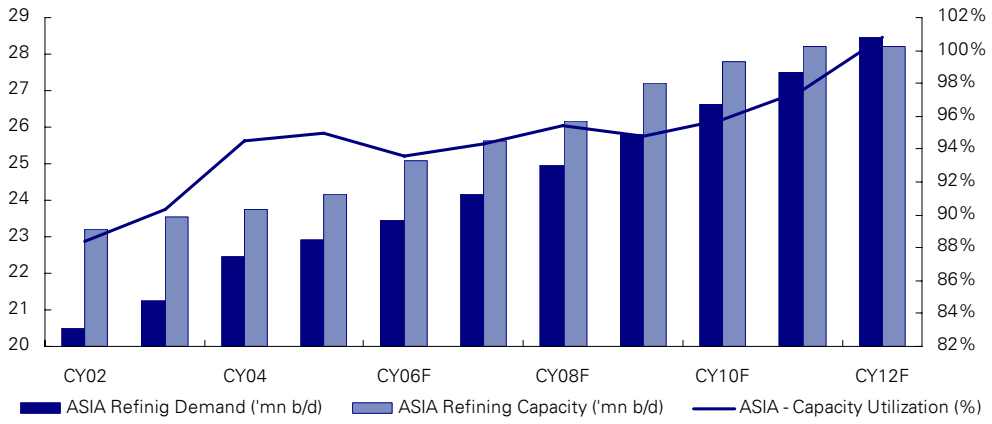
Source: BP Statistical Review 2007, Deutsche Bank

The US Department of Energy, EIA, has estimated that globally incremental demand for oil at 1.3mnbpd will surpass supply growth of 0.6mnbpd in CY07e. And this trend is expected to continue in CY08e with demand growth of 1.5mnbpd vs. supply addition of 2.4mnbpd.

Operating rates are nudging to full capacities as supply lags demand

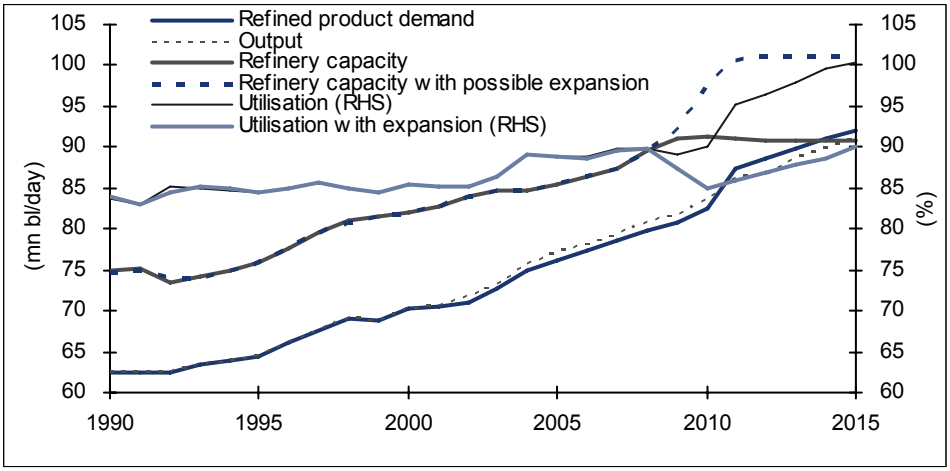
Global refining capacities are likely to remain at a premium with utilisation rates trending towards 100% (Figure 7). Even after factoring in timely refinery expansion plans, utilisation would remain at ~90%. Similarly, Asian Refinery operating rates are also likely to sustain above 95% (Figure 6) as supply additions should lag demand growth, at least until CY12. This is positive for long-term pricing power and margins in refining business as any unplanned outage will further aggravate shortages. This indicates that petroleum product markets will likely remain tight and help sustain robust refining margins. Also, this should benefit Indian refiners (especially RPL) as the deficit in global markets is likely to present export opportunities.

Figure 6: Asia refining capacities and demand



Source: Deutsche Bank

Figure 7: Global refining utilisaton expectation



Source: Oil and gas journal, Deutsche Bank

Alternative fuels: A marginal concern

Fuel substitutes like bio-diesel may only be a marginal concern, in our view, as [conversion from] Gas to Liquids (GTL) and bio-diesel from vegetable oils may not be sustainable unless global crude prices prevail above US$60-65/bbl. GTL as an option is a function of feedstock natural gas prices as well. At prevailing gas prices relative to crude oil, GTL-based diesel is costlier than refinery diesel except in the Middle East (Figure 8). Also studies by IEA and industry feedback suggest that bio diesel is unlikely to replace more than 5% of conventional diesel over the next 5 years.

Figure 8: GTL viable only in the Middle East

	Middle East	India			US		
Crude oil price (US$/bbl)		**50**	**60**	**70**	**50**	**60**	**70**
Natural gas price (US$/mmbtu)	1	6.7	8	9.3	6.8	8.2	9.6
Natural gas feedstock cost (US$/bbl)	10	66.7	80	93.3	68.5	82.2	95.9
Operating costs (US$/bbl) #	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Cash costs (US$/bbl) #	11.5	11.5	11.5	11.5	11.5	11.5	11.5
Delivered price of diesel (US$/bbl)	25	81.7	95	108.3	83.5	97.2	110.9
Price of refinery diesel (US$/bbl) *	62.2	60.8	72.5	84.2	61.9	74.2	86.6
GTL diesel premium/ (disc) to refinery diesel (%)	-59.8	34.2	31	28.7	34.9	30.9	28
GTL break even analysis							
Required gas price for GTL parity with refinery diesel(US$/mmbtu)		4.58	5.75	6.92	4.69	5.92	7.16
Required gas price (discount) relative to crude oil discount (%)		-45	-42.5	-40.7	-43.8	-40.8	-38.6

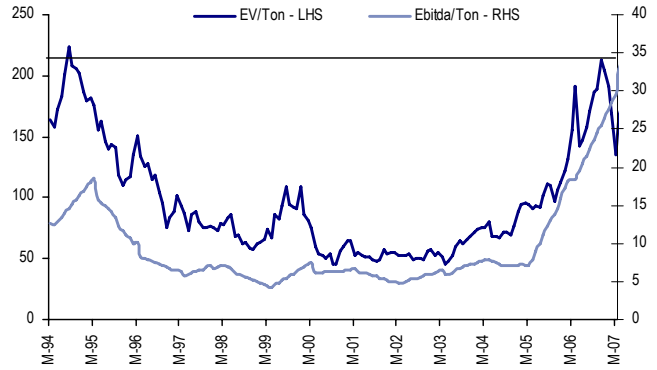
Source: Foster Wheeler Energy Limited, Deutsche Bank

** Refinery diesel prices adjusted for the change in Crude prices. Indian refinery diesel prices are FOB prices. # operating and cash costs indicative as per FWEL, assumed to be independent of crude price fluctuations.*

Re-rating as in the Indian cement sector on EV/capacity

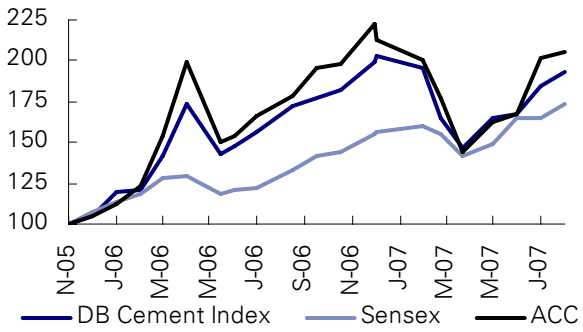
We expect a re-rating in Indian refining assets akin to the market re-rating in cement stocks on EV/capacity (Figure 9). In the last 4 years, ACC (the bellwether cement stock in India) was re-rated by 309% to US$217/te on EV/capacity. This has resulted in ACC and the Indian cement sector index outperforming India's BSE-Sensex by 140% and 154% respectively (Figures 9 & 10).

Figure 9: Cement stock ACC's re-rating…



Source: Deutsche Bank, Bloomberg

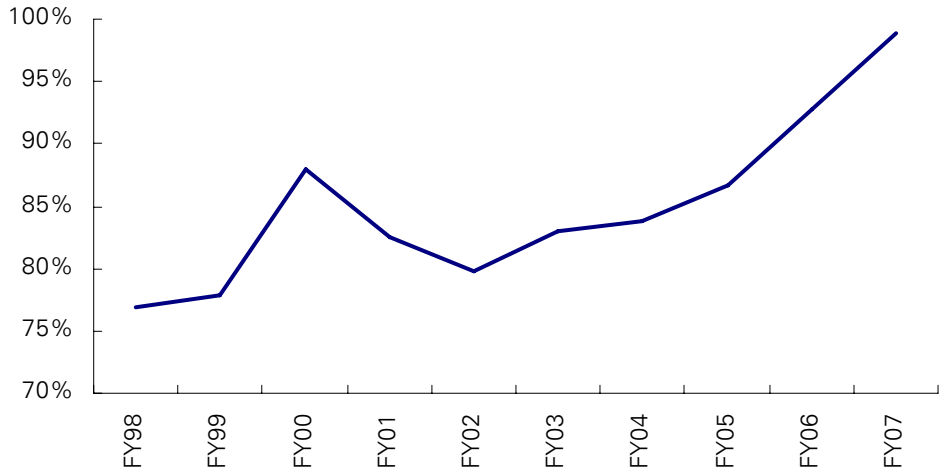
Figure 10: …boosts ACC, DB cement index vs. Sensex



Source: Deutsche Bank, Bloomberg

The refining business is at the same inflexion point as the cement sector was 4 years ago (Figure 11). It is entering a period of robust demand, high operating rates and limited prospective capacity builds in sight. The legacy of underinvestment and the resulting capacity crunch enhance refining industry fundamentals even further. The industry also needs to upgrade existing capacities to meet tighter fuel emission norms and replace ~55% of the existing capacity which is more than 30-40 years old. We expect this will continue to place a premium on existing and relatively modern capacities which can also make upgraded fuels.

Figure 11: Cement sector capacity utilisation rate



Source: Deutsche Bank

We believe this could trigger a major re-rating in Indian refining stocks on EV/capacity. And RIL combined with RPL should be a key beneficiary of this re-rating based on the above catalysts and the added advantage of high complexity which gives it the flexibility to benefit from the light heavy differentials on crude cost and superior product mix. We believe that RIL and RPL refining capacities are being valued at an EV/capacity of US$400/tpa (RIL's gross EV apportioned pro rata to refining using a proportion of the refining segment EBITDA to RIL's total EBITDA).

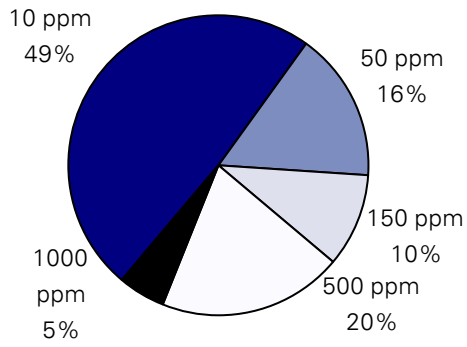
We estimate every US$50-100/te increase in RIL's EV/capacity on a combined capacity of 62.4mnte would yield upside of US$3.1-6.2bn or 5 -9% on its current EV of US68$bn.

The increase in set-up costs for new refineries at US$15,000–30,000/bpd vs. RIL's historical cost of US$6,296/bpd and RPL's current set-up cost of US$9,397/bpd could be another catalyst for the above re-rating. This would be particularly relevant if the consolidation witnessed in the Indian cement sector (which was an added impetus for its re-rating) happened in the global refining industry as well.

Emission norms shifting demand towards cleaner fuels

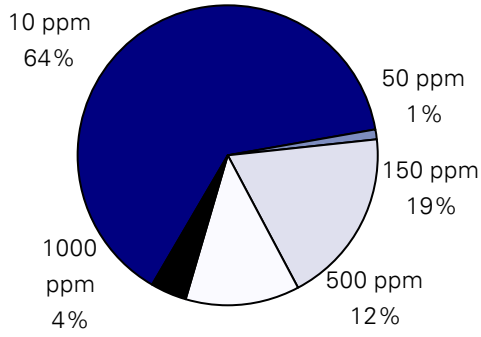
An additional driver could be the global shift in demand for upgraded fuels that meet tighter fuel emission norms under EURO–III and EURO-IV – this will likely dislocate the production of existing grades during the transition phase when global refineries upgrade their facilities to produce new grades as mentioned above (see Figures 12-15). And, once the upgrade is complete, there will likely be a marginal dip in the yield of products as the contents removed to meet tighter emission norms might reduce the overall yield of high-value products such as gas oil (diesel) and gasoline (petrol).

Figure 12: Global gasoline demand by quality – 2006



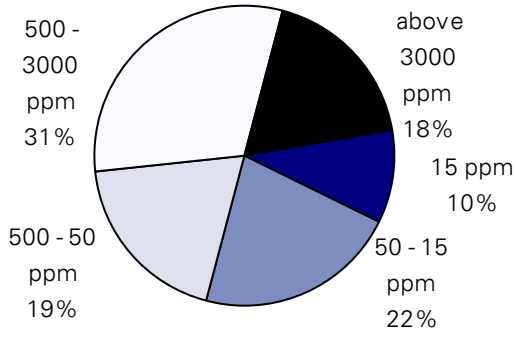
Source: Company presentation, Deutsche Bank

Figure 13: Global gasoline demand by quality – 2010



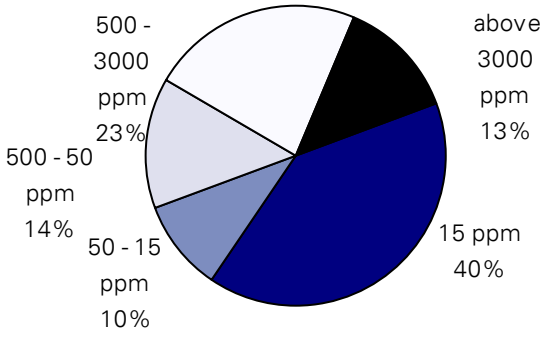
Source: Company presentation, Deutsche Bank

Figure 14: Global gas oil demand by quality – 2006



Source: company presentation, Deutsche Bank

Figure 15: Global gas oil demand by quality – 2010



Source: Company presentation, Deutsche Bank

Enter RPL

In keeping with the successful track record of its promoter RIL, RPL is aiming to grab the early mover advantage in the global refining industry, which is suffering from a refining capacity shortage at present, especially for upgraded fuels meeting EURO-IV norms. It is setting up an export-oriented complex refinery with 580,000bpd capacity (or 29.4mmtpa) and a downstream polypropylene plant with 0.9mmtpa capacity at a cost of about INR270bn (US$6bn). This is being set up in an SEZ in Jamnagar, and is expected to be commissioned by December '08 and operational by Q1CY09. The refinery is likely to be almost identical to RIL's existing 660,000bpd (33mmtpa) refinery in its basic configuration.

Targeting exports of upgraded fuels

However, as the new refinery would be export-oriented, it will be designed with improved secondary processing and enhanced fuel upgradation facilities such as desulphurisation to produce ultra-low sulphur (ULSD: 10ppm), gasoline and diesel. In the US, regulations have already mandated that 80% of the existing diesel used for transportation will be replaced by ULSD (in effect from October 15, '06) and the use of 100% ULSD by '10 (in California, 100% ULSD is mandatory at present). This is an opportunity for RIL to enhance margins on the premium that ULSD should fetch in the US.

RIL's excellent track record and Bechtel's (a leading US engineering and construction company) execution of project engineering augur well for the project's timely implementation. RPL's proposed refinery is expected to be superior to both regional refineries and RIL's existing refinery due to i) its complexity score of 14 (based on the Nelson Complexity Index), which improves the yield of value-added products ii) its ability to supply ultra-low sulphur, gasoline and diesel to meet tighter fuel emission norms, and iii) flexibility to handle heavier crude, which implies savings on crude cost by taking advantage of the wider light-heavy crude differential.

Leveraging refining margins and logistics

Superior configuration and world-class logistics are likely to give RPL a competitive advantage in crude costs and enhance its GRMs above global benchmarks. RPL's proposed refinery will, in our view, achieve higher refining margins than Singapore refineries and even RIL, given its higher complexity which, in turn, provides it with a superior product mix and higher flexibility in handling heavier crude slates. The global-scale supply chain logistics and sophisticated infrastructure for crude, product handling and supply of utilities outsourced from RIL's group companies (Reliance Ports and Terminals and Reliance Utilities and Power) will likely give RPL a competitive edge in achieving lower costs of crude procurement as well as in minimizing the cost of utilities such as power and water.

RPL's superior mix and supply chain enhance margins

Figure 16: RPL's margin enhancement over the Singapore benchmark

Advantages	Indicative upside in GRMs (US$/bbl)
Light-Heavy differential by using heavier crude	2.5-3
Savings in crude import and handling cost	1.5-2
Enhanced yield from higher secondary processing and conversion	1.5-2

Source: Deutsche Bank

We expect RPL's margins to be incrementally higher than benchmarks (Figure 16) due to the following:

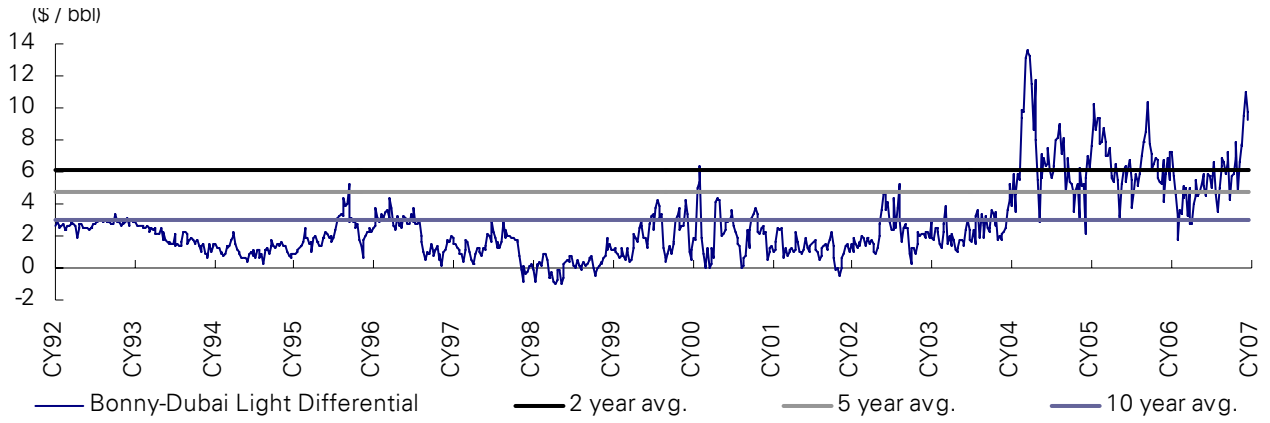
Increase in GRM of US$1/bbl boosts RPL's net income by 12%

According to our base-case scenario, a US$1/bbl change in GRMs would impact RPL's FY10e earnings by 12%. So, when GRMs are on a rising trend, RPL can enjoy a significant upswing in earnings; assuming a US$2-5/bbl increase in GRMs, RPL's FY10e earnings can go up 23-58% from our base case.

RPL's refinery is designed to maximise the yield of light and middle distillates – which are likely to remain in short supply – through improved secondary processing and conversion capacity. It is pertinent here to discuss the global conversion capacity shortage for processing an increased proportion of heavier crude to recover lighter fuels. There are two important aspects in this context:

- The pace of growth in light products such as auto-fuels globally has resulted in the demand for lighter crude growing faster than that of heavier and sourer crude. This has widened the differential between light and heavy crude (Figure 17).

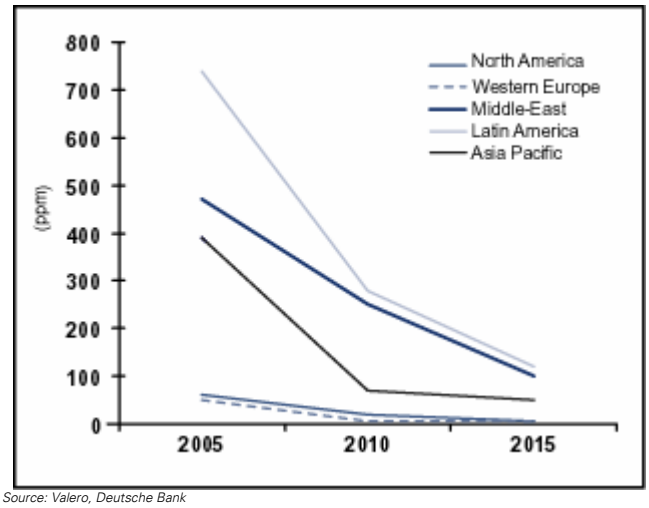
Figure 17: Light-Heavy differential



Source: Bloomberg, Deutsche Bank

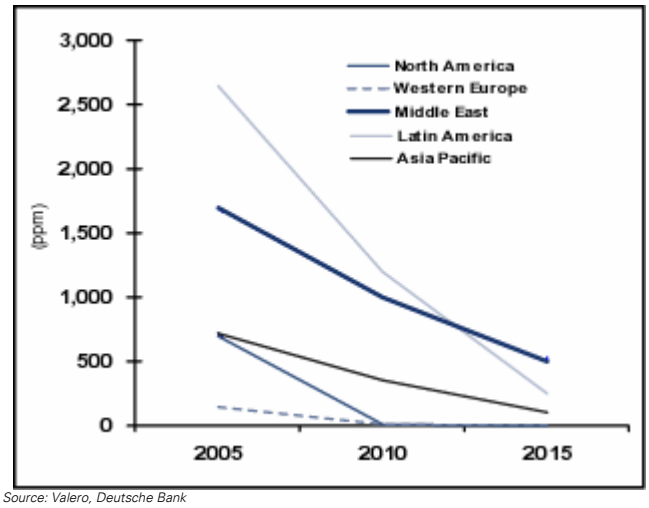
- The above growth in demand, coupled with the introduction of tighter fuel specifications, especially with reference to sulphur content, has reduced the effective capacity available (operable capacity). This is because many refineries, especially in the US, have been forced to scale down operations as (i) they cannot remain viable after an upgrade and (ii) the demand for normal fuel is falling with the introduction of tighter specifications (Figures 18 and 19).

Figure 18: Gasoline sulphur specifications



Source: Valero, Deutsche Bank

Figure 19: Diesel sulphur specifications

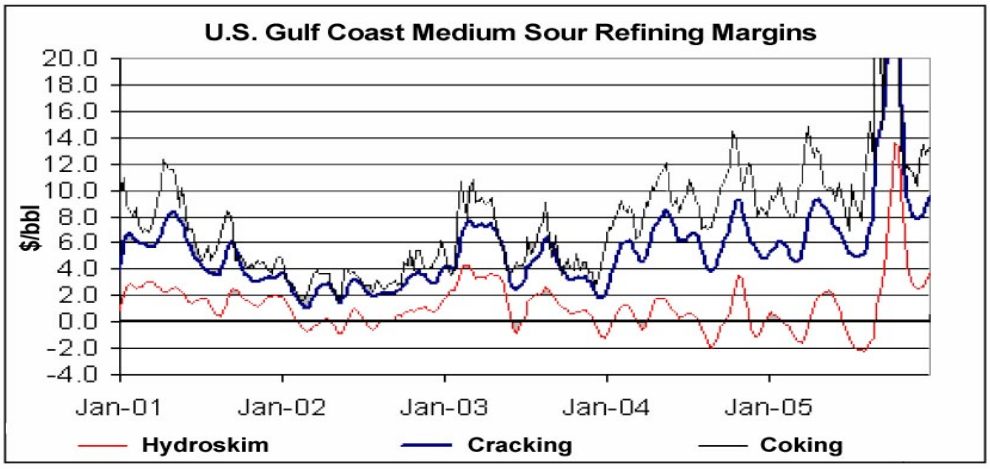


Source: Valero, Deutsche Bank

Conversion capacity more critical than refining capacity

This brings up the significance of conversion capacity – the ability to convert heavier bottom distillates produced by a primary distillation process in a simple refinery to more value-added lighter fuels – and upgradation, i.e. de-sulphurisation to reduce sulphur.

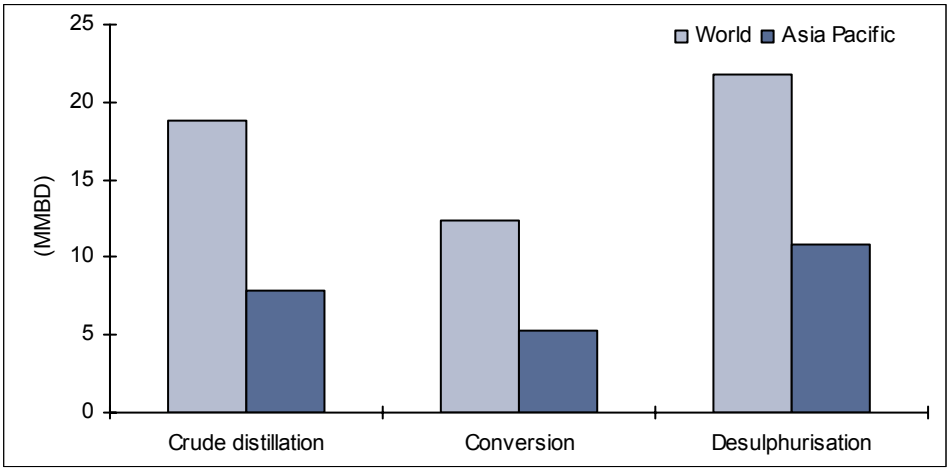
Figure 20: Conversion, secondary processing improve margins



Source: Valero, Deutsche Bank

As the demand for lighter and upgraded fuels rises, it results in i) higher demand for lighter crude, ii) a surplus of heavier crude, and iii) a shortage of refining and conversion capacity, in terms of a company's ability to process heavier crude. This requires additional investments in downstream heavy crude conversion capacity to enhance the yield of lighter fuels (Figure 21).

Figure 21: Global refining requirements – 2020e



Source: Company presentation, Deutsche Bank

E&P – Long-term driver

RIL's world class gas reserve in the KG D-6 block off the east coast of India is going to propel RIL into the big league in the Indian and even the global E&P business. Overall, proved reserves (1P), currently at 1.4bn BOE (as indicated by the company) including KG D-6, is ~10% of India's reserves. This is under development at a capex of US$5.2bn. The company is planning to commence production at the rate of 40mmscmd by June 08 and eventually step this up to peak production of 80mmscmd by end Dec 08. Despite the controversies surrounding the issue of marketing and pricing the gas, we believe the natural gas business offers attractive fundamentals based on:

- Growth in demand likely to outpace supply
- Competitiveness of gas vs. petroleum fuels
- Lower emissions for natural gas compared with petroleum fuels and even coal.

We also believe, as discussed below, that gas pricing concerns for KG D6 gas may be overdone.

E&P led by KG gas to boost earnings by FY10

We estimate KG gas operations will add INR133bn or 7% of revenue and INR111bn or 28% of EBITDA in FY10 assuming 80mmscmd of gas production. This is assuming blended price of US$2.4/mmbtu for 40mmscmd contracted to NTPC and RNRL and the balance at market price of US$4.5/mmbtu. We value KG gas at an EV of INR254bn (US$6.3bn) or INR161/shr, after providing for the government's profit share (for details, please refer to discussion under **Valuation)**. The KG gas operations can potentially open the door for long-term growth in its vast E&P portfolio of 38 domestic blocks and 8 overseas blocks. Any delay in execution or tying up downstream customers to sell gas could hamper the valuation. Further, the final decision on the way the government takes its share of profits (in cash or kind) may also have a bearing on the actual volumes available for sale.

Ramp up of production to 120mmscmd could boost KG valuation by 39%

The impact on RIL's earnings from KG gas operations could be enhanced if the proposed Phase II capex of US$2.8bn (total of US$8bn) is implemented. This offers a potential 50% upside in gas production and implies 33% upside in RIL's FY10e EPS. Further, RIL's KG gas NPV would be enhanced by 38.6% to INR352bn (US$8.7bn) or INR223/shr. However, pending formal confirmation, we have not factored in the impact of this.

Rig mobilisation plan to overcome rig shortage

The company has put in place a rig mobilisation plan to ensure that it can complete its drilling program in line with its target for KG D6 startup (Figure 22). The management has also indicated that any interim delays in rig availability will be handled by interchanging available rigs where required.

Figure 22: Rig mobilization plan

Name	Supplier	Deep /Shallow	Contract Period
Frontier	Transcocean	Deepwater	June-06 to June-11
Actinia	Transcocean	Shallow	Sept-06 to Sept-09
C Kirk Rhein	Transcocean	Deepwater	Feb-07 to Aug-07
D534	Transcocean	Deepwater	Oct-07to Oct-11
Neptune	Neptune Marine	Deepwater	Dec-07 to Dec-10
Expedition	Transcocean	Deepwater	Sept-08 to Sept-10
Blackford dolphin	Dolphin Drilling	Deepwater	Mar-08 to Mar-11

Source: Company presentation, Deutsche Bank

Unraveling the KG gas pricing jigsaw puzzle

The uncertainty on gas pricing for RIL's KG gas is a matter of concern as the returns from this business are ostensibly linked to the gas pricing. Its contracted prices for supplies of the first 40mmscmd to NPTC and RNRL at US$2.4/mmbtu are below the prevailing market determined price of US$4.75/mmbtu laid down by the government. Further, there is no clarity on the selling price for sale of surplus gas to non-regulated segments.

We have analysed the impact of a change in RIL's gas realisations on the NPV of the KG gas business. This is not a linear relationship, contrary to what conventional wisdom suggests.

- **Case 1: KG gas NPV responds more to falling than rising gas prices**

Our analysis shows that the NPV of KG D6 increases 6-10% for a 10-50% rise in gas price. However, the NPV falls 11-34% for a similar fall in gas price (Figure 23). This means that the NPV of KG gas has a muted response to rising gas prices as compared to falling gas prices. This is due to the impact of the sharp increase in government share in the progressive rise in earnings from an increase in gas prices (the government's share of profit is linked to recovery of investments by operator). This arrangement reduces the NPV of incremental gas prices to the operator i.e. RIL. Just to illustrate, if we assume nil government profit sharing, the NPV for KG D6 would be INR273/shr, 70% higher then our base case of INR161/shr. In this case the NPV would show a linear response to a change in gas prices.

Figure 23: Impact of gas pricing on KG D6 NPV

Change in gas price for non-regulated segment											
Gas price (US$ / mmbtu)	2.3	2.7	3.2	3.6	4.1	4.5	5.0	5.4	5.9	6.3	6.8
Change in gas price (%)	-50	-40	-30	-20	-10	Base case	10	20	30	40	50
Impact on KG D6 NPV (INR/shr)	107	119	128	143	144	161	170	163	178	192	177
Change in total realization (40mmscmd to NTPC & RNRL and balance to non-regulated segment)											
Gas price (US$ / mmbtu)	1.7	2.0	2.4	2.7	3.0	3.4	3.7	4.0	4.4	4.7	5.1
Change in gas price (%)	-50	-40	-30	-20	-10	Base case	10	20	30	40	50
Impact on KG D6 NPV (INR/shr)	48	82	106	129	149	161	159	184	180	194	217

Source: Deutsche Bank

- **Case 2: Fuel substitution benefit mitigates gas pricing impact**

Under this case, we also factor in the NPV of the cost savings from internal use of 14mmscmd of gas for fuel substitution projects in RIL and RPL (out of the volume available for sale at market price).

Figure 24: Overall impact of gas pricing on RIL

Gas price (US$ / mmbtu)		2.25	2.7	3.15	3.6	4.05	4.5	4.95	5.4	5.85	6.3	6.75
Change in gas price from the base case (%)		-50	-40	-30	-20	-10	Base case	10	20	30	40	50
NPV of KG D6 (INR/shr)	A	107	119	128	143	144	161	170	163	178	192	177
NPV of gas substitution (INR/shr)	B	172	161	150	138	127	116	105	93	82	71	60
Total NPV - C (INR/shr)	**A+B**	**279**	**280**	**278**	**282**	**271**	**277**	**274**	**256**	**260**	**263**	**236**
Net Impact of gas pricing on C (INR / shr)		**2**	**2**	**1**	**4**	**-6**		**-3**	**-21**	**-18**	**-14**	**-41**

Source: Deutsche Bank

Figure 25: Assumptions for KG D6 NPV

40mmscmd of gas sold to RNRL + NTPC at blended price of US$2.4/mmbtu.
14mmscmd of gas used by RIL for captive consumption +RPL as fuel and remaining 26mmscmd sold externally.
For the purpose of sensitivity and valuation of KG D6 the gas pricing for sale to RNRL and NTPC is kept fixed at $2.4/mmbtu. Our base case factors in a selling price for the balance of 40mmscmd at US$4.5/mmbtu. Impact of gas pricing is calculated by varying the selling price for gas sold at market pricing and internal consumption.
WACC of 10.2%
Savings based on crude oil price of US$60/bbl

Source: Deutsche Bank

As shown in Figure 24, savings from internal consumption of gas has a linear but inverse response to changes in gas pricing; i.e. NPV of savings falls 9.7% for a 10% rise in base case gas prices and the NPV of savings increases by 9.7% for a 10% fall in base case gas price. Taking the combined NPV of the KG gas business and the savings from internal consumption for fuel substitution reveals the following:

- Assuming KG D6 gas price for free market segment falls 20% or more below base case, the increase in NPV of savings from fuel substitution goes up and offsets the fall in NPV of KG D6.
- However, under rising gas prices the relatively muted benefit on KG D6 NPV is offset by the proportional fall in NPV from fuel substitution.

Thus, when viewed on a combined basis (KG D6 gas + fuel substitution) a fall in price for KG gas may prove beneficial to RIL.

E&P business –overview

RIL is the largest exploration acreage holder among private sector companies in India with 34 domestic blocks covering 331,000sqkms. This is in addition to its interest in eight overseas exploration blocks with cumulative acreage of 87,000 sq km. RIL's flagship producing asset at present is through its 30% interest in JV Panna-Mukta-Tapti (PMT) JV. The company's share of production in FY07 was 461,000te of oil and 482mmscm of gas from Panna and Mukta and 576mmscm of gas from Tapti. Further development of these fields is expected to yield an additional recovery of oil and gas over the next two years. Its overseas block in Yemen is already in production at 4,500 bpd and likely to be ramped up over time.

Following the mega gas discovery of 2P reserves of 11.3tcf in the Krishna-Godavari D6 basin, RIL's and India's E&P profile has received a facelift. This find is the largest oil or gas discovery in the world in recent times and has been rated as a world-class discovery by international consultants (Figure 26).

Figure 26: Recent oil and gas discoveries

Year	Operator	Type	Location
2000	Cairn	Gas	Gulf of Cambay
2001	Cairn	Oil /Gas	KG Basin
2002	RIL	Gas	Deepwater - KG Basin - KG D6 Block
2004	Cairn	Oil	Barmer
2004	RIL	Gas	Mahanadi Basin
2005	GSPC	Gas	Shallow water - KG Basin
2005	RIL	Oil	Shallow water - KG Basin
2007	ONGC	Gas	Deepwater - KG Basin
2007	ONGC	Gas	Deep water - Mahanadi Basin
2007	RIL	Gas	Shallow water - Saurashtra offshore
2007	RIL	Oil /Gas	Deep water - Cauvery Basin

Source: Deutsche Bank

RIL is implementing the development plan for Dhirubhai 1 & 3 fields in block D-6 in KG Basin (RIL - 90% interest) at a capex of US$5.2bn (INR205bn). The company intends to commence commercial supplies from the Krishna-Godavari D6 basin from H2FY09, envisaging an initial production of 40mmscmd of gas; it is likely to be ramped-up to 80mmscmd by Q4FY09.

Power-packed gas demand-supply fundamentals

Gas is fundamentally attractive due to robust demand – this will be boosted further on increasing supplies due to recent gas finds and development of LNG terminals. Despite the increase in supplies, we still expect the gas demand-supply gap to persist in India as supplies at 204mmscmd will lag demand at 216mmscmd by FY2010, compared with the current demand of 160mmscmd and supply of 104mmscmd. The estimated demand-supply gap for FY2010 could widen on delays in projected increase in LNG supplies.

Gas demand CAGR at 11.7% over FY07-12e

India's gas demand is estimated to grow at 11.7% CAGR to 258.6mmscmd over FY07-FY12e, assuming a gas price of US$3.5/mmbtu (Figure 27). Gas demand is driven by gas pricing versus the price of the competing fuel. In the longer run, visibility on gas availability would also stimulate gas demand growth from existing and new customer segments through fuel substitution as gas is a cleaner fuel. Relative stability and sustained competitiveness versus oil substitutes (so long as crude prevails above US$45/bbl) would accelerate future demand growth.

Figure 27: Gas demand, at US$3.5/mmbtu gas price

(mmscmd)	FY06	FY07	FY08e	FY09e	FY10e	FY11e	FY12e
Power	48.5	69.5	69.5	86.8	104	121.3	138.5
Fertiliser	32.9	35.1	44.2	44.2	48.9	53.6	53.6
Total regulated sector (A)	**81.4**	**104.6**	**113.7**	**130.9**	**152.9**	**174.9**	**192.1**
Sponge Iron Plants	6	6	6	6	7	8	10
Refineries	23	24.7	25.4	25.4	25.4	25.4	25.4
City Gas Distribution	9.9	11.1	12.1	13	13.6	13.6	13.6
Industrial	12.8	13.9	15	16.2	17.5	17.5	17.5
Total others (B)	**51.7**	**53.8**	**58.4**	**61.6**	**63.5**	**64.4**	**66.5**
Total Demand (A)+(B)	**133.1**	**160.4**	**172.1**	**191.5**	**216.4**	**239.3**	**258.6**

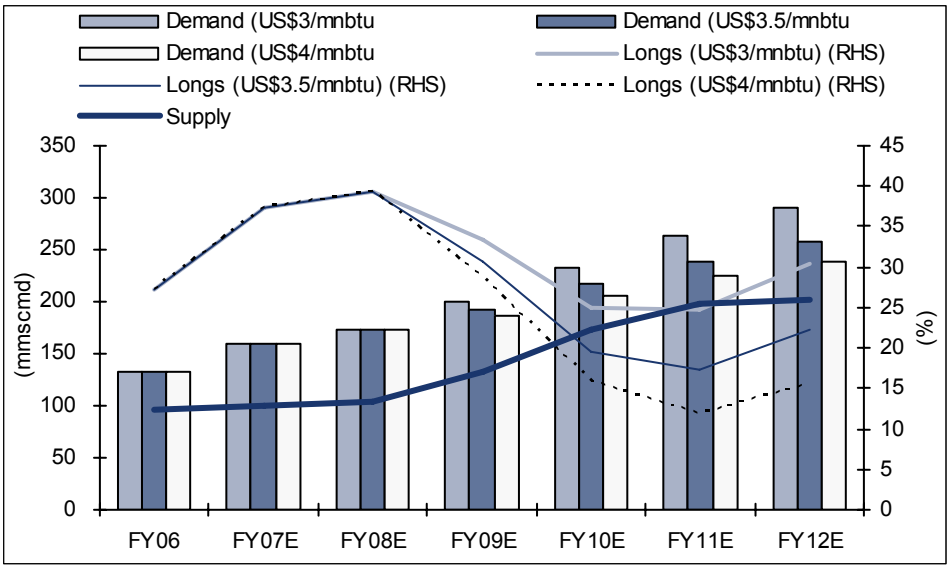
Source: Infraline, Deutsche Bank

As per published estimates, gas demand is sensitive to gas prices. Assuming a higher gas price at US$4/mmbtu (versus US$3.5/mmbtu), gas demand in FY12e would be lower 7.7% at 238.6mmscmd. Under such higher gas prices and assuming that supplies remain unchanged,

the demand-supply gap would be relatively stable at 37.3mmscmd through FY06-12e. In actual terms, gas supplies may also increase in response to higher prices, through higher domestic output or imports, thereby reducing this gap further (Figure 28).

However, it is pertinent to note that the above data was published when spot prices for LNG contracts were still in the US$3.5-4/mmbtu range. In the past one year, LNG prices have risen significantly. Spot cargos are being priced at US$8-10/mmbtu based on growing demand from industrial, power and fertiliser segments. This is based on 62.7% savings through replacement of Naphtha (US$12.75/mmbtu) with gas. Therefore, the analysis on sensitivity to prices should be viewed from this perspective.

Figure 28: Demand growth to outpace supply growth



Source: Infraline, Deutsche Bank

Note: Longs are the surplus (demand-supply) as a % of demand.

Gas supply CAGR at 13% over FY07-12e

Gas supply is estimated to grow at a 13% CAGR to 201.3mmscm over FY07-12e, primarily led by commencement of production from RIL's KG D-6 field (at 80mmscmd plateau rate) and 200% growth in LNG imports (Figure 29).

Figure 29: Gas supplies to surge over the next six years

(mmscmd)	FY06	FY07	FY08e	FY09e	FY10e	FY11e	FY12e
Domestic							
ONGC	62.8	64.2	62.1	58.5	51.1	42.2	34.5
OIL	6	6.5	7	8	10	10.5	11.5
JV/ Pvt	21	24.1	29.1	29.5	28.7	28.7	28.7
RIL (KG D-6)	-	-	-	44.4	80	80	80
Total domestic production	89.9	94.8	98.1	140.4	169.8	161.4	154.7
Internal Consumption	-14.5	-14.5	-14.5	-14.5	-14.5	-15	-14.8
Net domestic gas Availability (*) (A)	**75.4**	**80.3**	**83.6**	**125.9**	**155.3**	**146.4**	**139.9**
LNG Imports							
Qatar (Existing)	17.6	17.6	17.6	17.6	17.6	17.6	17.6
Qatar (Additional)				8.8	8.8	8.8	8.8
Iran Phase – I					15.8	17.6	17.6
Iran Phase – II							8.8
Shell LNG	4	2.5	3.5	5	6.5	7.5	8.8
Total LNG imports (B)	21.6	20.1	21.1	31.3	48.6	51.4	61.4
Total gas availability (A+B)	**96.9**	**100.4**	**104.7**	**157.2**	**203.9**	**197.7**	**201.3**

Source: Infraline, Deutsche Bank

Key drivers for gas supply

We believe that gas supplies will likely get a fillip from RIL's KG D-6 production (at 80mmscmd from December '08 as per RIL's proposed timeline). This would be enhanced by:

- Recent finds being developed by companies such as ONGC, GSPC and BG through drilling in the KG basin. Industry sources expect these efforts to bear fruit by FY12.
- Gas finds in other fields – CBM blocks, which can sustain production at 38mmscmd and recent NELP awards.
- **Imported LNG:** PLNG's Dahej (5-10mmtpa) and Kochi (2.5mmtpa) expansions would add 17.6-26.4mmscmd by FY10e. LNG imports have already been firmed up at 17.6mmscmd (5mmtpa). Further, the increase in PLNG's capacity by another 5mmtpa, as proposed, would add another 17.6mmscmd once the imported LNG supplies are contracted. Supply from Shell's LNG terminal at Hazira may take time to ramp-up to its full capacity as the company is yet to tie up a long-term contract for LNG supplies for this terminal.

Overall, we expect supplies of 105-174mmscmd in the medium term based on existing plans for domestic and imported gas; future additions would boost this to 201mmscmd by FY12. This could potentially go up further to an estimated 241-271mmscmd if we factor in potential upside in gas production from the East coast by RIL, ONGC and others.

Gas more competitive than crude at above US$45/bbl

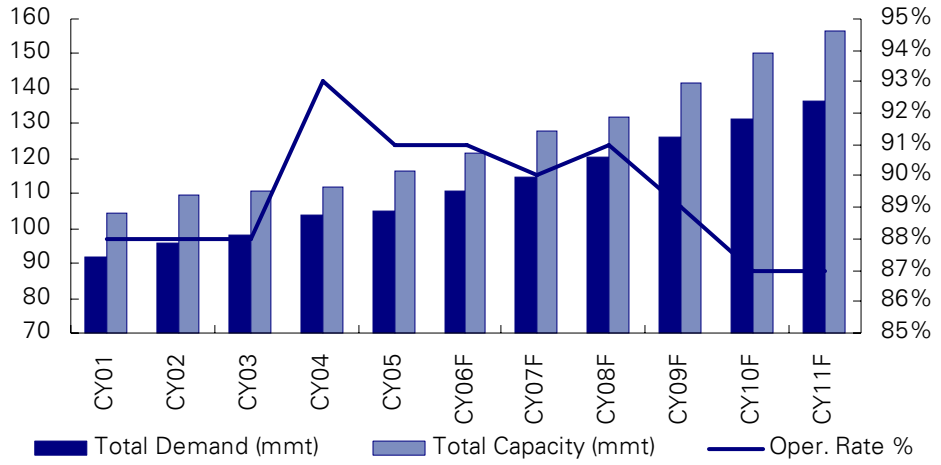
Our analysis shows that gas at prevailing market price of US$4.75/mmbtu (excluding sales tax) in India is hugely competitive compared with other fuels at prevailing prices. In fact, even at US$4.75/mmbtu price, gas is at a compelling discount relative to crude priced at US$45/bbl. And, if the gas price goes up 40-50% to US$6-7/mmbtu to factor in the global tightness in LNG supplies, gas still remains competitive at US$45/bbl crude. The key factor which could affect this analysis is the government policy on subsidy and taxation related to competing fuels.

Petrochemical and Polyesters

Hinging on start up delays

The outlook for petrochemicals and polymers is likely to be driven by the potential increase in global capacity in ethylene crackers and key polymers like PE and PP. Presently demand is looking healthy. However, it is difficult to time a downturn in the cycle arising out of demand contraction. And this is the key risk to the outlook on prices and margins in petrochemical and polyester businesses.

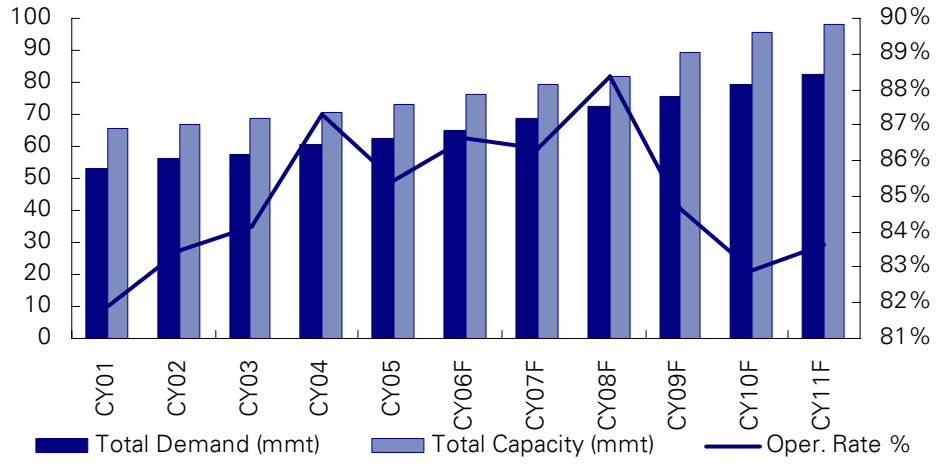
Figure 30: World ethylene demand – supply and operating rates



Source: CMAI, Deutsche Bank

What is relatively more visible is the capacity adds, although potential delays are again difficult to predict. Assuming current demand growth is sustained for the next 3-5 years, industry margins would fall if the projected capacity builds materialise, especially the gas based in Middle East crackers (see Figures 30-32).

Figure 31: World polyethylene demand – supply and operating rates

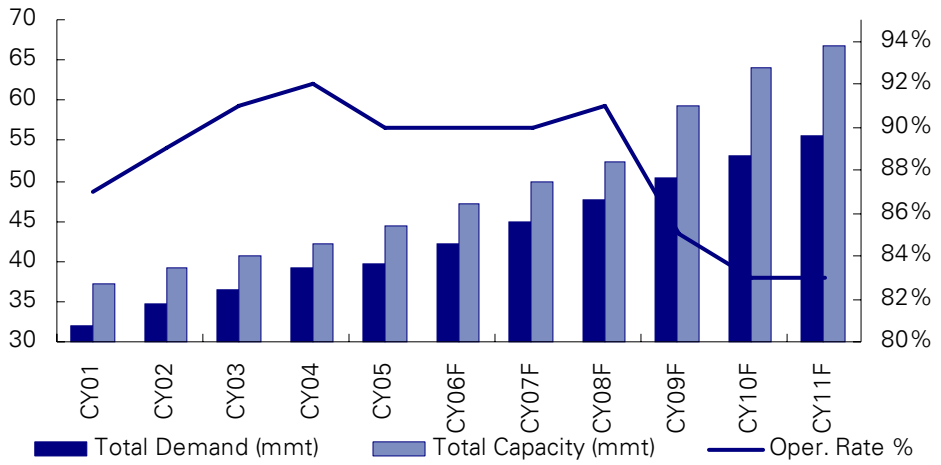


Source: CMAI, Deutsche Bank

The caveat is that resource constraints in critical areas would delay the proposed capacity additions to beyond 2010 and thereby improve the current pricing cycle.

Key constraints include global engineering and plant fabrication capacity and shortage of technical manpower to implement and operate these facilities. And in terms of excess capacity looming in the Middle East, these new plants especially in Iran may not operate above 30-40% as they lack the qualified technical manpower and technical knowledge to stabilise and sustain these plants at optimum operating rates above 80%.

Figure 32: World polypropylene demand – supply and operating rates

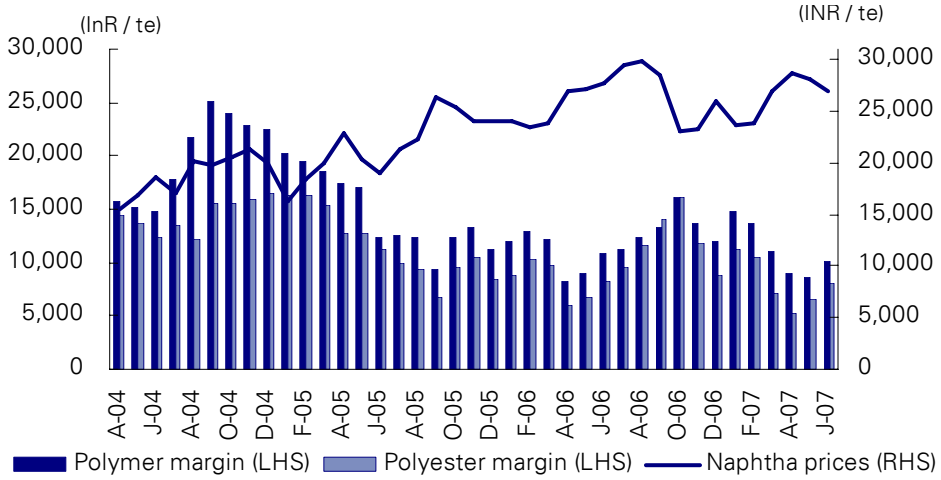


Source: CMAI, Deutsche Bank

Crude, naphtha cost may dampen pricing power in the near term

Industry margins are also impacted by the cost of naphtha and ethylene which may not always get passed on if demand is not sustained at a higher price point. This in our view has hit the petchem industry hard over the last 3 years as the rise of Brent crude from US$40/bbl to over US$75/bbl has pushed up the price table - well above US$80/bbl for naphtha, US$1200 for ethylene. These prices are above historic 5- and 10-year averages. If we look at chain spreads of naphtha-crude and ethylene-naphtha, we have recently seen record high naphtha spreads above US$10/bbl squeeze margins in the chain (see Figures 33 and 34).

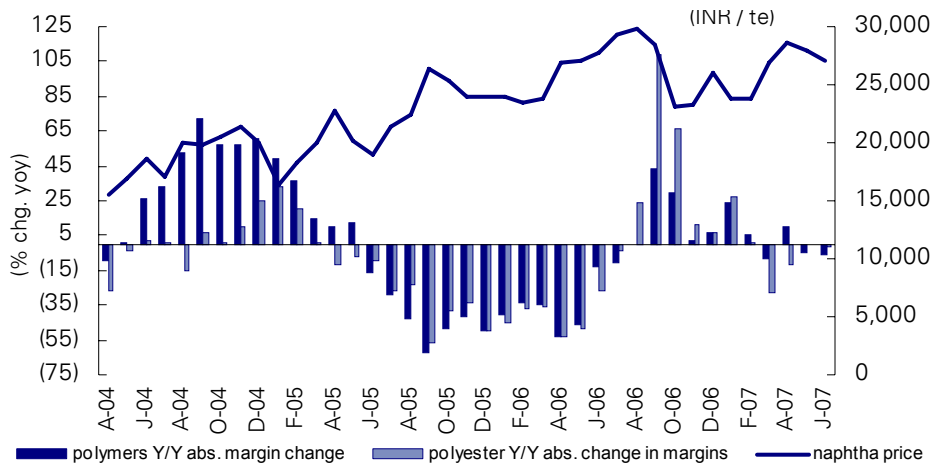
Figure 33: Naphtha price and polymer & polyester margins



Source: Deutsche Bank

The above factors may not be a concern in the longer term as the industry is likely to come to terms with the higher price table and become willing to accept further nominal price hikes in products to pass on the impact of higher crude and naphtha prices.

Figure 34: Naphtha price and change in polymer & polyester margins

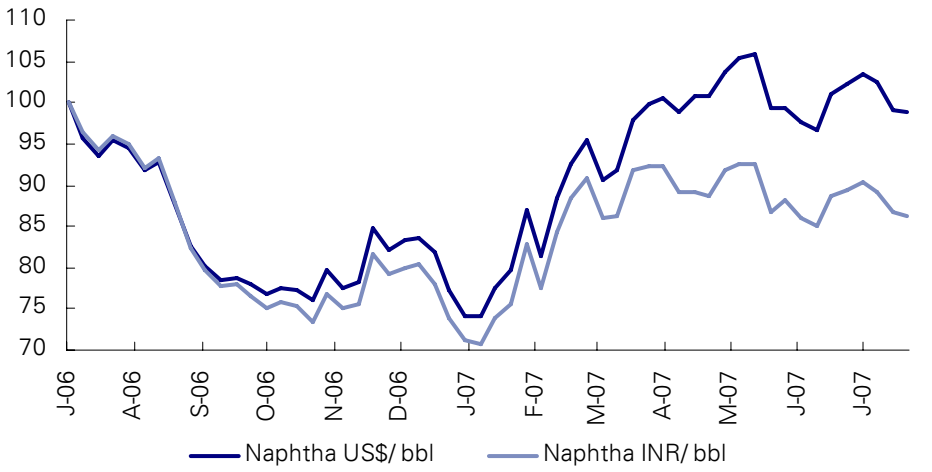


Source: Deutsche Bank

Rising local currencies in Asia augur well for volume growth, absorbing oil shock

The above impact has been cushioned by the muted impact in domestic currency terms in India and to lesser extent in China. In India, for example, the INR has appreciated 13% vs. US$ over the past one year. This has resulted in INR denominated naphtha prices falling by 8% vs. the 7% rise in US$ denominated naphtha prices (Figure 35).

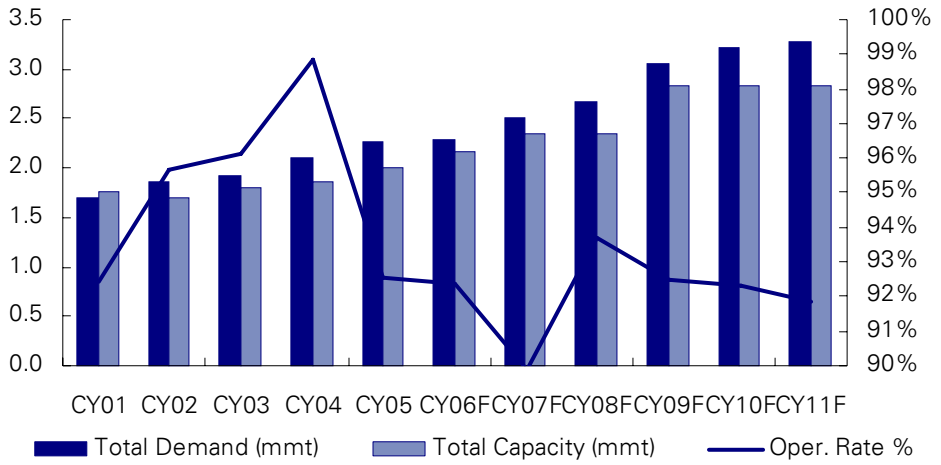
Figure 35: INR vs. US$ denominated Asian naphtha prices



Source: Deutsche Bank

In our view the recent positive outlook for the INR and other Asian currencies in general vs. the USD is likely to be positive and help sustain growth in petrochemical and polyester demand at its true potential, despite the likely buoyancy in US Dollar prices. Or in economic terms the price elasticity of demand is unlikely to come into play and be a demand dampener (Figure 36).

Figure 36: India polyethylene demand – supply and operating rates



Source: CMAI, Deutsche Bank

This would of course reverse if the outlook for Asian currencies, especially the INR, changes for the worse, as a fall in INR combined with higher dollar prices would push up the domestic INR price line for petrochemicals.

To sum up, the strong local currencies in large petchem markets like China and India are likely to sustain or even improve demand growth for polymers and polyesters as local prices lag global prices. This would also be positive for RIL as the volume growth would offset the potential dampener on revenues from lower rupee realization due to the local currency appreciating against the US$.

Polyesters segment

Reliance has emerged as the largest polyester producer in the world with its recent capacity expansion. This expansion in our view may be timely as the industry appears to be at long last emerging out of the shadows and coming into its own. In a recent analyst meet, RIL management attributed the growth in petchem EBIT margin expansion to the improved pricing power in polyesters.

Key issues facing polyester business

- **Excess capacity**: Growth in new capacity in East Asia has surpassed demand growth, pulling operating rates down from 80% to 70% in the last 2 years. This growth in supply has been mostly led by the rabid expansion in China.
- **Weak cotton prices**. The surplus in capacity and the poor pricing outlook for cotton was hampering the pricing regime in polyesters. And the surge in inputs costs for polyesters, especially in paraxylene-PTA chain and MEG, driven by the shortage of capacities in these intermediates and the cost push from higher crude and naphtha prices, has pushed polyesters into a wedge – low pricing power and high input costs.

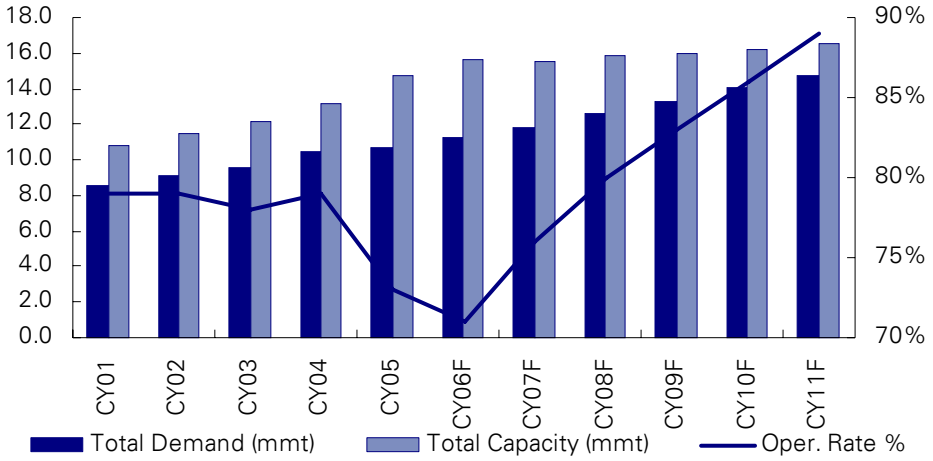
Signs of a revival in the polyester cycle:

This is based on three factors, namely robust demand growth, capacity rationalization and a revival in prices of substitute cotton:

- **Capacity rationalization in China** has accounted for the bulk of the capacity added over the past 3-5 years. Such a rationalization is likely to reduce the surplus capacity in the industry.

- **The healthy demand growth:** The global demand CAGR for PSF is projected at 6.4% over next 5 years.

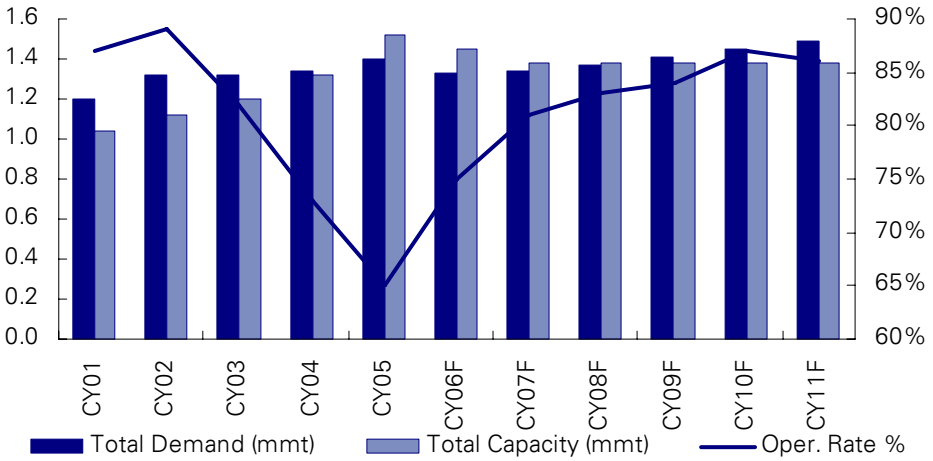
Figure 37: World polyester staple fiber demand – supply and operating rates



Source: CMAI, Deutsche Bank

The reduction in surplus capacity and demand growth is likely to improve operating rates – Asian and global operating are projected to rebound sharply from 70% to more than 85% over CY06-11 as per CMAI (Figure 37 and 38).

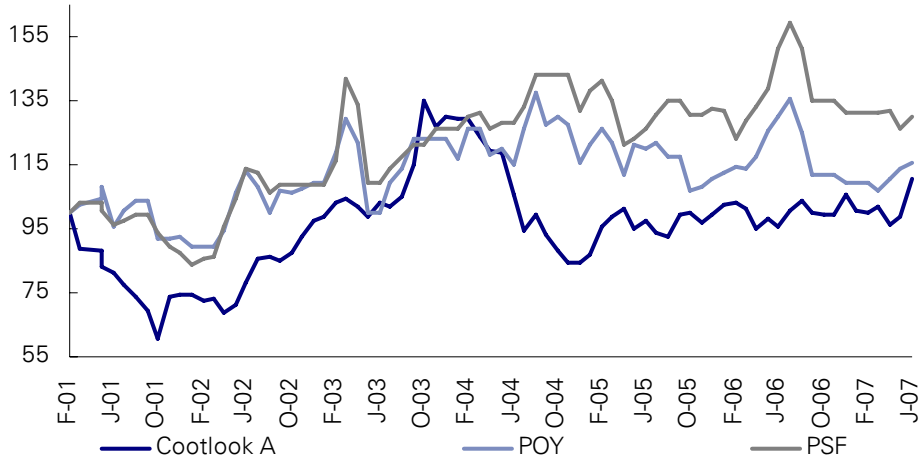
Figure 38: Southeast Asia polyester staple fiber demand – supply and operating rates



Source: CMAI, Deutsche Bank

Revival in cotton prices: The recent trend in cotton prices suggests that the outlook for cotton a key polyester substitute is turning around (Figure 39).

Figure 39: Cotlook index vs. POY and PSF



Source: Deutsche Bank

The key factor favoring the revival in cotton prices is the fall in acreage for cotton in the US. The US remains the largest cotton producer in the world but farmers are switching to more attractive options like corn to meet the growth in ethanol demand in the US for bio fuels.

Financials

Key growth drivers include:

Encouraging long-term prospects from growing E&P portfolio
We expect our FY09 (March) forecasts to reflect the impact of gas production from its mega gas field – KG D6 in the Krishna-Godavari basin off the east coast of Andhra Pradesh.

Timely refining volume growth of 89% post RPL start up
Once RPL starts commercial operation, it should boost RIL's crude throughput by 89% to 1.24mnbpd on a gross basis. This coming at a time of global refining shortage, which implies a potential upswing in global refining margins, would deliver the combined leverage from the above-incremental volumes and margins.

Cyclical upswing in petrochemical and polyester margins
This could boost RIL's earnings further from our current forecast of declining segment earnings. We also believe that RIL has some headroom in polyester capacity based on the Q1FY08 production of 394,000te. Just to illustrate, RIL enjoys huge leverage to polymer and polyester margins with a combined capacity of 4.1mmtpa.

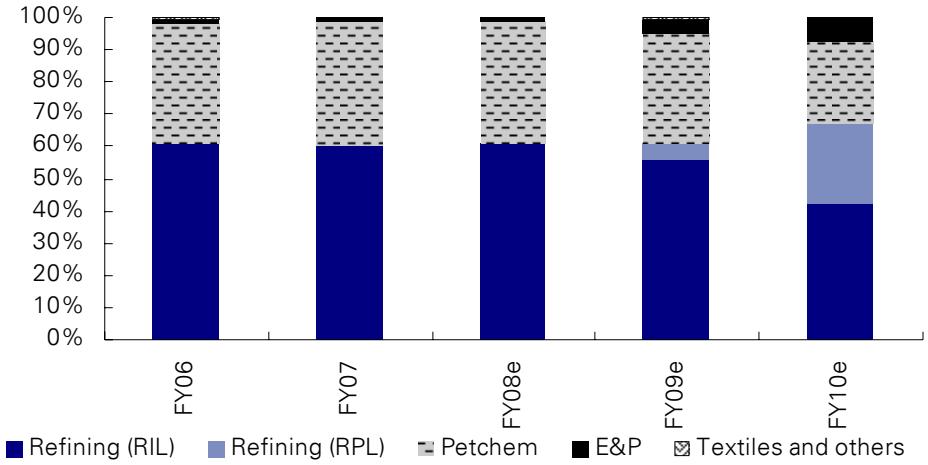
Figure 40: Operating assumptions

	FY07	FY08e	% chg.	FY09e	% chg.	FY10e	% chg.
RIL-refining throughput (mmt)	31.7	32.0	1.0	32.3	1.0	33.0	2.0
RPL-refining throughput (mmt)	-	-	-	4.4	-	26.5	500
Crude price (US$/bbl)	63.8	70.0	9.8	65.0	(7.1)	60.0	(7.7)
RIL-GRM (US$/bbl)	11.7	14.0	19.6	14.3	2.1	13.5	(5.4)
RPL-GRM (US$/bbl)	-	-	-	15.4	-	15.2	(1.1)
KG-D6 gas sales volume (bcm)	-	-	-	16.2	-	29.2	80.2
KG-D6 blended gas realisation (INR/scm)	-	-	-	3.9	-	5.1	31.2
Petchem prices (INR/kg)							
HDPE	65.3	65.8	0.7	61.1	(7.1)	59.2	(3.1)
LLDPE	65.3	64.5	(1.2)	62.9	(2.5)	58.1	(7.7)
PP	65.3	67.0	2.6	68.4	2.1	66.3	(3.1)
PTA	46.4	48.5	4.4	47.2	(2.5)	43.6	(7.7)
PFY	70.8	71.3	0.7	69.5	(2.5)	64.1	(7.7)
PSF	68.9	69.4	0.7	67.7	(2.5)	62.4	(7.7)
Petchem sales volume ('000 te)							
HDPE	450.0	450.0	-	450.0	-	450.0	-
PP	1,292.2	1,430.0	10.7	1,501.5	5.0	1,501.5	-
PTA	1,791.0	2,185.0	16.1	2,185.0	-	2,185.0	-
PFY	674.4	843.0	25.0	843.0	-	843.0	-
PSF	648.0	810.0	25.0	810.0	-	810.0	-

Source: Deutsche Bank, company

KG gas, RPL to contribute to revenues, earnings by FY10e
In terms of revenues, RIL's revenue mix is currently divided between refining & retailing (65.8%), petrochemicals & polyesters (32.3%) with oil & gas and textiles forming the rest. We expect this to change over the next 3 years. Our FY10 forecast shows that E&P (based on KG gas) should become significant and refining including RPL will retain prominence in RIL's business mix (Figures 41 and 42).

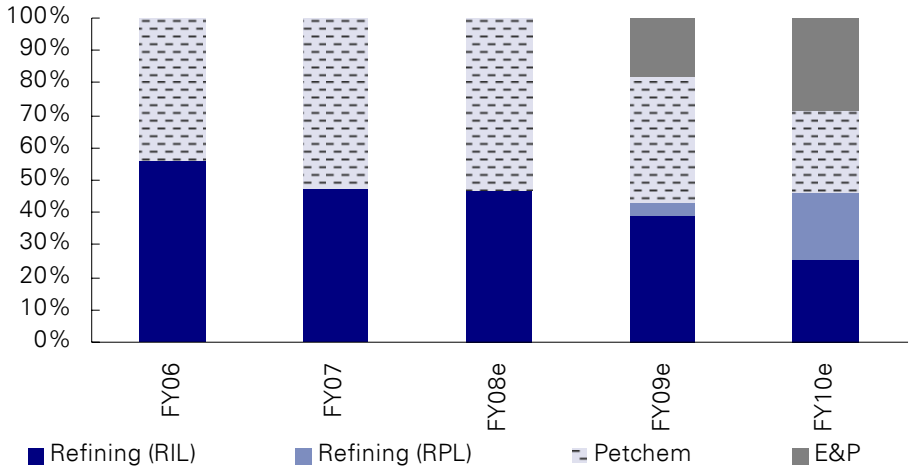
Figure 41: Sales mix over FY06-FY10e



Source: Deutsche Bank, company

Note: We have included IPCL's financials in the petchem segment on post merger basis

Figure 42: EBITDA mix over FY06-FY10e



Source: Deutsche Bank, company

Note: We have included IPCL's financials in the petchem segment on post merger basis

We have calculated pro-forma estimates for FY10e to capture the impact of the KG gas operations and consolidation of RPL. We expect earnings from KG gas production and RPL's 580,000bpd EOU refinery to boost pro-forma consolidated earnings 26% to INR167/shr through FY08e-10e (Figure 43). Also, KG business would help offset any potential downside risk to petchem.

We have included IPCL's revenue and EBITDA in the sales and EBITDA mix analysis and pro-forma financials on a post-merger basis. However, in our financial summary we have added IPCL's earnings under minority interest from associates assuming 46.6% stake prior to the merger. The merger involves a share swap of five IPCL shares for one share of RIL and is with retrospective effect from April 2006. The company is yet to publish the merged accounts as it is awaiting approval from the Gujarat high court.

Figure 43: Pro-forma consolidated financials for FY10e

(INR bn)	FY10e	CAGR FY08-10e (%)
Sales		
RIL (ex KG)	1,348	
KG gas	133	
RPL	534	
Total	2,016	26.2
EBITDA		
RIL (ex KG)	209	
KG gas	111	
RPL	84	
Total	425	27.4
Net income		
RIL (ex KG)	122	
KG gas	81	
RPL	65	
Total (Incl. RPL 100%)	279	38.6
Minority interest (25% in RPL)	16	
Consolidated net income (incl. RPL)	263	
Number of shares (mn)	1,573.6	
Consolidated, Merged EPS (INR)	166.9	29.1

Source: Deutsche Bank

Note: The above pro-forma consolidated financial statement includes RPL; whereas the financial summary on page2 does not include RPL as we are awaiting merged financial details for FY07. RIL ex-KG includes IPCL on a post merger basis.

- **KG Gas:** Our pro-forma estimates for a full year of operations in FY10e indicate KG gas revenues of INR133bn and EBITDA of INR111bn (7% and 28% of pro-forma consolidated revenues and EBITDA respectively). This is assuming volumes of 44mmscmd in FY09e and 80mmscmd in FY10e.
- **RPL:** Post-commissioning, RPL should contribute INR534bn to RIL's FY10e pro-forma consolidated revenues and INR84.1bn to EBITDA (26.5% and 20% of pro-forma consolidated revenues and EBITDA respectively). Cumulatively, by FY10e, KG gas and RPL operations should result in a 29% CAGR in earnings for RIL (Figure 43).

Future plans

Healthy operating cash flows of INR685bn over the next three years will support capex and investments of over INR395bn (US$ 10bn) over this period (Figure 44).

Figure 44: Proposed investments

(INR m)	FY07	FY08e	FY09e	FY10e
Petchem	4,170	5,000	5,000	5,000
Refinery	12,181	12,520	5,000	5,000
Auto-fuel retailing	2,119	861	936	1,061
KG development (Phase I)	42,250	105,300	35,470	4,418
Total NELP	15,000	15,000	15,000	15,000
Others/Normal capex	15,000	15,000	15,000	15,000
Reliance retail	45,000	40,000	40,000	40,000
Total (INR m)	**135,720**	**193,681**	**116,406**	**85,479**
Total (US$ bn)	**3.4**	**4.8**	**2.9**	**2.1**

Source: Deutsche Bank, company

Potential end uses of future free cash flows

Over the next three years, we estimate RIL will have significant free cash flow of INR290bn (US$7bn) generated from existing business and fructification of new initiatives i.e. KG production and RPL going on-stream. We expect RIL to invest its free cash in new growth initiatives such as:

- **Petchem:** It is planning a US$3bn investment to set up a global ethylene cracker with downstream capacity of 2mmtpa by FY11. The company expects this to be competitive with the Middle East – the lowest cost producer, based on refinery off-gas feedstock.
- **Petroleum retailing, supply chain:** RIL has been going slow in this due to the government's freeze on domestic retail fuel prices. In the long run, the industry is likely to get some flexibility to earn stable margins and returns on the retail assets. So eventually RIL may ramp up its retail network and its petroleum supply chain including storage depots and transportation pipelines to expand its footprint all over India. This may cost US$1-1.5bn.
- **E&P:** Phase II of KG expansion, developmental expenditure in CBM blocks and NEC-25 may cumulatively cost US$5bn. Further investments in Cauvery basin, forthcoming NELP rounds and investments in overseas assets may also require cash based on the progress in exploration\development works commitment. New exploration blocks may cumulatively entail capex of ~US$5bn at US$1bn per annum.
- **Acquisition of rigs**: RIL may also look at the strategic merits of buying and owning rigs or buying out oil rig companies to ensure availability of rigs. This may be of strategic significance given the current shortage and high hire rates for rigs, especially for deepwater rigs.
- **M&A in all its businesses:** A cash chest of US$10-20bn would be useful in case RIL wishes to capitalize on acquiring assets or businesses in refining & fuel retailing, petchem, E&P, gas distribution and consumer retailing. However, the management is also keen to avoid overvaluing such transactions, in line with its focus on value accretive investments whether organic or inorganic.
- **Downstream investments based on gas:**
  - **City gas/CNG distribution:** RIL has plans to enter retail gas markets for household and auto fuels segments. Since the regulatory angle in this segment is still evolving, RIL may weigh up its options. It may still play a role in promoting this through direct and indirect partnerships with public sector and government organisations like GAIL, GSPC and the local state governments.
  - Other options include gas-based chemicals like fertilizers – this would again depend on the comfort it has on the potential for reforms in the regulatory framework.

Funding new initiatives

The total requirement for the above potential projects amounts to ~INR800bn. This could be met by: i) free cash flows of INR415bn, ii) proceeds from the conversion of 120mn warrants issued to promoters in April 2007 (at a conversion price of INR1,402/shr this could bring in another ~INR150bn), or iii) balance INR235bn through debt; this will not strain the company's balance sheet given its comfortable net gearing.

Sensitivity analysis

Our estimates show that RIL earnings are sensitive to key variables like refining margins (GRM), polymer prices, polyester prices and currency. However, the actual impact on earnings is likely to depend on the magnitude of change in each of these, at any point in time. Past experience shows that refining is more volatile than the other two and could have a greater impact. And this could be enhanced both on the up and downsides from FY10 once we combine RIL with RPL for refining earnings.

Figure 45: Earnings sensitivity

	Change in variable	FY 08e EPS (INR)	Change in EPS (%)	FY 09e EPS (INR)	Change in EPS (%)
Base Case		89.1		106.9	
GRM Impact (US$1/bbl)	US$1/bbl	94.2	5.8	111.2	4.9
Polymer pricing impact (10%)	10%	97.4	9.3	114.4	8.0
Polyester pricing impact (10%)	10%	95.9	7.7	112.6	6.2
FX Rate (INR depreciation)	10%	107.0	20.1	126.9	19.7

Source: Deutsche Bank

Globally capacity additions in the petrochemical and refining segment have been moving slowly due to cost escalations and scarcity of skilled manpower. Hence there is a possibility of earnings upside given the leverage to key margins. As most of the revenues are US$ denominated, earnings are very sensitive to changes in FX rate. A 10% rupee depreciation/appreciation could impact earnings by +20%/-20% respectively (Figure 45).

Valuations

Sum-of-the-parts based target price of INR2,130/shr; offers 18% upside
We have estimated RIL's target price at Rs2130/sh of based on FY09e earnings and a sum-of-the-parts valuation. This captures the full impact of all its existing core businesses (refining, petrochemicals and polyester) along with RPL on EV/E multiple and KG gas on DCF-based NPV.(Figure 46). The impact of RPL is based on the full year impact of FY10e earnings discounted to FY09e equivalent at 12% and assigning the FY09 EV/E multiple used for RIL's refining business. We have also factored in part of the upside from future projects like KG expansion and fuel substitution by assuming 25% probability.

Key catalysts for future valuations include refining re-rating, E&P reserve accretion and visibility in Reliance Retail cash flows.

There could be further upside to our valuation due to:
i) Confirmation of higher-than-expected reserve accretions, especially in Cauvery basin which the company has reported but not quantified a significant gas discovery.

ii) Higher visibility on future projects like KG Phase II expansion to 120mmscmd and fuel substitution in RIL, RPL.

Figure 46: RIL's sum-of-the-parts valuation

Business Segment	EBIDTA FY09e (INR bn)	Valuation Multiple (x)	EV (INR bn)	Value(INR / share)
RIL Petchem	85.6	8.1	694	441
IPCL Petchem (post merger)	24.5	8.1	198	126
RIL Refining	123.8	8.3	1,025	651
RPL Refining (75% Share)	56.3	8.3	466	296
KG D6 (based on DCF)			254	161
Miscellaneous E&P portfolio			124	79
Total EV			**2,761**	**1,755**
Less: RIL's net debt (FY09)			9	6
Less: RPL's net debt (75% of FY10e net debt discounted back to FY09e at 12%)			42	27
Equity Value of RIL including RPL			2,710	1,722
Equity value of Reliance retail			170	108
Treasury stock (198.3m shares valued at our fair price for RIL)			363	231
Total –A				**2,061**
Future projects				
Incremental value from KG Phase II (based on DCF)			98	62
Savings from fuel switching to gas (based on DCF)			201	128
Incremental value from every 1 bn boe of reserve accretion			135	86
Gross upside --X			**434**	**276**
Upside from future projects factored in target price (assuming 25% probability on X) – B				**69**
Target Price (A+B)				**2,130**

Source: Deutsche Bank

Assumptions used to reach our target price

- We have given effect to the dilution resulting from IPCL merger and issue of warrant to promoters. Diluted number of shares taken for the valuation thus stands at 1573.6m.
- Core petrochem business valued at 8.1X FY09e EBIDTA. This implies ~10% discount to regional peers (Figure 47).

- RIL's refining business valued at 8.3x FY09e EBIDTA, a 20% premium to regional peers to reflect superior complexity (Figure 48). RPL's FY10e EBIDTA has been discounted to the equivalent of FY09e using a discount rate of 12%. We then value 75% of this discounted EBITDA (in line with RIL's 75% stake in RPL) at 8.3x FY09e, in line with RIL's refining multiple.
- KG gas on DCF-based NPV.
- Miscellaneous E&P assets like MA oil, NEC -25 and CBM blocks being developed over FY09-10 using EV/boe multiple on estimated recoverable reserves (Figure 49).
- Reliance Retail (Figure 50).

Figure 47: Regional petchem valuation

EV/EBITDA (x)	CY07e	CY08e
Formosa Chem. & Fibre	13.1	10.9
Formosa Plastics	15.0	13.9
Nan Ya Plastics	12.4	13.1
Oriental Union Chemical	5.0	4.6
Shanghai Petrochemical	8.6	6.6
Siam Cement	7.7	7.4
Vinythai PCL (VNT)	8.6	5.6
Yizheng Chemical Fibre	10.8	8.8
Indorama Polymers	9.3	9.6
Regional Average	**10.0**	**9.0**

Source: Deutsche Bank

Note: We have used CY08E multiple for FY09e equivalent as RIL has a March year end

Figure 48: Regional refining valuation

EV/EBITDA (x)	CY07e	CY08e
Caltex Australia	7.2	6.8
Petron	6.7	5.2
SK Corp*	7.7	7.5
S-Oil	5.4	5.7
FPCC	10.1	9.3
Regional Average	**7.4**	**6.9**

Source: Deutsche Bank

*Note: We have used CY08e multiple for FY09e equivalent as RIL has a March year end. *SK Corp coverage discontinued as on last trading-27.06.07 due to de-listing. Hence, above figures are as on last trading day.*

Figure 49: Valuation of miscellaneous E&P assets

Particulars	MA oil	NEC 25	CBM	Total
Average production	30,000 bpd	6.5mmscmd	5.5mmscmd	
Production life	15	15	15	
Recoverable Reserve (bcm)		36	30	
Recoverable Reserve (mmboe)	**164.3**	**223.8**	**189.4**	**577.5**
EV/bbl (US$)	7.5	5	5	
Exchange Rate (INR/ US$)	40.5	40.5	40.5	
Gross EV (INR m)	**49,891**	**45,329**	**38,355**	**133,575**
RIL Share (%)	90%	90%	100%	
RIL Share of EV (INR m)	**44,902**	**40,796**	**38,355**	**124,053**
Value/shr (INR)	**29**	**26**	**24**	**79**

Source: Deutsche Bank

Future projects

- KG phase II

We estimate that the proposed phase II capex of US$2.8bn to increase KG gas production 50% to 120mmscmd could boost KG gas EV 39% to INR8.7bn. This would add INR62/shr or 3% to our target price.

- Future reserve accretion

Future successes in RIL's exploration spend in its NELP and overseas portfolio could add INR86/shr or 4% for every 1bn boe of reserve accretion. The most likely near-term prospects for new reserves include the Cauvery deep water block, where the company has indicated that it has made a significant oil and gas find.

- Savings from fuel switching to gas

RIL is likely to use 14mmscmd of gas for fuel switching in RIL and RPL by FY08-09. We estimate this will be value accretive. However, we are not factoring this into our base case forecast pending progress on gas allocation and pricing.

We have valued the impact of the above projects by assigning a 25% probability.

Retail worth INR108/shr

RIL is in an early phase of building an organized consumer retailing business in India across a wide range of verticals covering 1,500 cities through its 100% subsidiary Reliance Retail. The verticals would cover FMCG, lifestyle, energy, food, grocery, apparel, consumer durables, home essentials, health, education and services covering entertainment, financial, travel etc.

We have valued RIL's 100% stake in Reliance Retail on the basis of Pantaloon and the broad industry benchmark to value RIL's retail foray. We have assumed 3% net margin on projected revenues of INR1,000bn assuming full-scale operations over seven years (by FY15e). This implies 120mn sqft retail space assuming revenues of INR700/sqft per month. Using ballpark estimates, this may require an investment of INR240-360bn assuming INR2,000-3,000/sqft (Figure 50).

Figure 50: Retail valuation snapshot	
Sales FY15e (INR bn)	1,000
Net profit margin	3%
Net income FY15e (INR bn)	30
Discount rate	12%
Present value in FY08 (INR bn)	13.6
EPS (INR/shr.)	8.6
PE	25
Gross value (INR/shr.)	216
Base case target value (INR/shr.) @ 50% discount	108

Source: Deutsche Bank

We have discounted expected full-scale earnings estimated in FY15e by seven years to FY08e equivalent at 12%. Based on this, we have arrived at an equity value of INR14bn at FY08e P/E of 25x, given the significant growth and sustainable value creation in this business.

Based on full 100% impact of this, we get an equity value of INR216/shr. In our view it is too early to factor in the entire value as we are still not clear on details such as the number and type of stores, timelines and back-end investments in space, supply chain etc. We have factored in a 50% early stage discount to the above equity value to arrive at a fair value of INR108/shr.

Once the rollout and business plan are crystallized, the market is likely to value the actual potential. Over the long term, Reliance could potentially improve on our assumptions through its ability to build a world class supply chain, sweat investments and manage costs.

Risks

Cyclical risk in refining and petchem business segment
A slowdown in demand could affect refining and petchem margins, thereby impacting earnings (Figure 45). An adverse change in the light-heavy crude differential could affect RIL's earnings as it would lead to a fall in refinery margins.

Risks to E&P business
RIL's E&P foray entails significant risk of write-offs due to expenses on non-productive assets. The DGH may impose a penalty on RIL for not conforming to its work program commitments. Besides, RIL may suffer from an increase in capital costs due to higher rig charges and increased expenses on concomitant equipment.

Consumer retailing
RIL could face challenges in handling supply-chain logistics as well as in its retail expansion over a large geography.

Operational setbacks in plants or production schedules
Operational setbacks in new and existing plants pose risks to RIL's earnings. Moreover, a delay in the project schedules for RPL's Jamnagar plant and KG basin production could potentially impact FY09e and FY10e earnings.

Gas pricing & marketing
Uncertainty on gas pricing for KG D6 and contractual arrangements for selling gas remain a concern. If we ignore the impact of KG gas in FY09 to factor in a delay of one year, it implies a 17% downside to our FY09e earnings.

Annexure A – RPL, E&P business & Reliance Retail

RPL

RPL's proposed refinery addresses the shortage in conversion capacity based on its enhanced secondary processing facilities such as fluidised catalytic cracking unit (FCCU) which enhance yields of lighter fuels such as gasoline and middle distillates such as jet fuel and diesel. Such a design, in our view, would give RPL the flexibility to switch its product mix based on market changes (Figure51).

Figure 51: Product slate

Product	mntpa
Diesel	12.5
Gasoline	9
Jet Kerosene	1.5
Petcoke	2.5
Alkylates	2.5
Polypropylene	0.9
Sulphur	0.5

Source: Company presentation, Deutsche Bank

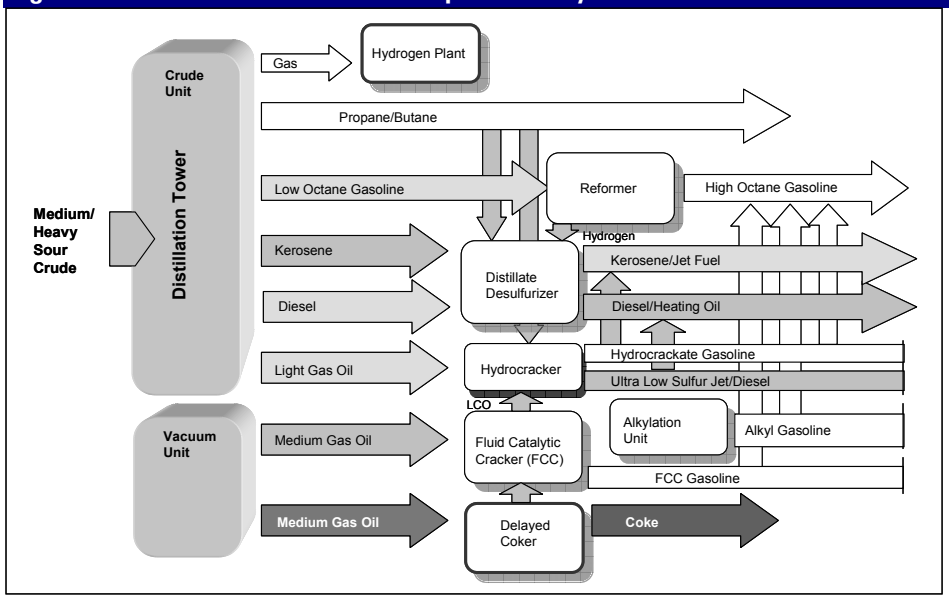
RPL's marketing plan envisages substantial export of all of its products except the lower value residues such as sulphur and coke, which will be sold in the domestic market. The proposed refinery would also have a propylene recovery unit based on cracked LPG stream from the FCCU – an alternative source of propylene. This propylene will be converted to polypropylene in its downstream 0.9mntpa plant at the same location as the proposed refinery. This would give an added stream of earnings and capture the higher value in the petrochemical chain compared with the value the cracked LPG stream would fetch if sold as LPG.

The RPL refinery's features include:

- A plan to produce alkylates from the saturated LPG stream (from RIL's existing Jamnagar refinery and RPL's own LPG stream). The alkylate is a superior blending component used in gasoline production to enhance octane value and fetches a premium of US$5-10/bbl. This will be exported to the US market.
- It's configuration will enhance production of middle distillates such as aviation fuel and high-speed diesel. There is a global shortage in middle distillates, especially in diesel which is a key fuel for Asia and emerging as a prospective fuel in Europe, driven by the increase in diesel cars and commercial vehicles.
- Flexibility to switch between naphtha & gasoline, aviation fuel & diesel within a 20% range based on market conditions, would optimise RPL's product yield, thereby improving value addition and moderating the volatility in margins.
- The capability to process heavier and sourer grades of crude, which trade at a discount of US$3-4/bbl (the light-sweet or sour-sweet differential as it is called). RPL's majority shareholder, RIL, can process crude basket of 28^0 API (America Petroleum Institute) which is among the heavier grades of crude assays worldwide. RPL can process still heavier crudes and plans to handle heavy crude mix of 24^0 API (the lower along the degree API scale the heavier the crude), with a design throughput of 580,000bpd. Just to

put this in perspective, this is the equivalent of running a throughput of 660,000bpd (14% higher) with lighter crude slate of 28^0 API. So the processing of heavier crude entails a compromise on the volume of crude processed, but this is offset by the extraction of higher volumes of value-added distillates by converting heavier fractions in the associated secondary processing units (Figure 52)

Figure 52: Process flow chart of a complex refinery



Yield (%)	High conversion	Medium conversion	Hydro-skimming
Propane/ butane	7	8	4
Gasoline	58	45	30
Distillates (Jet fuel, Diesel, Heating oil)	28	27	34
Heavy	15	24	32
Total	**108**	**104**	**100**
Distillate yield	**93**	**80**	**68**

Source: Valero, Deutsche Bank

E&P

At present, RIL has 34 domestic exploration (mostly deepwater) blocks in India spanning 336000 sq km and five coal-bed methane (CBM) blocks across 4,000 sq km. The company also has interests in 8 overseas blocks spread over 87000 sq km in Yemen (3), Columbia, East Timor, Oman (2), and Australia. RIL has bagged seven deep-water blocks in the recently concluded NELP VI. RIL has so far drilled 50 exploratory wells, of which 31 have been declared successful; 9 have been relinquished.

RIL has transferred the international exploration portfolio to a wholly-owned subsidiary, Reliance Exploration and Production (REP) DMCC, incorporated in Dubai. RIL is currently negotiating PSCs blocks 34 and 37 in Yemen and block 41 in Oman.

KG D6 update

Execution is in full swing to start up gas production by June 08. The company has achieved 72% drilling completion. Of the 18 wells planned, 13 wells have been drilled, the rest to be completed by November 07. The company has contracted 7 deepwater rigs and has 3 rigs including 2 deep water ones in operation. It has also mobilised 12 supply vessels. Among the deep water rigs, one contract is expiring in Aug 07, 2 are commencing in Oct 07 (4 years) and Dec 07 (3 years) and 2 more are commencing in March 08 (3 years) and Sep 08 (2 years).

KG D6 MA - 1 (oil)

This received commerciality approval in Feb 07. A development plan is likely to be filed to DGH by Q2FY08 (Jul-Sep 08). The company is targeting start up in CY08-09 with 30000-35000 bpd production. We are awaiting details on reserves and type of crude.

NEC -25 & CBM

NEC 25: A development plan for 6 discoveries has been filed with the regulator DGH for approval. Production start up at 6.5mmscmd is planned for CY2012.

CBM: RIL's Sohagpur East & West CBM blocks, which have 3.65tcf initial reserves in place, are expected to commence production at 5mmscmd by CY10. The company submitted development plans for these two blocks in Q1FY08. Exploration efforts in the other three blocks are currently underway.

Reliance Retail (RRL)

Reliance Fresh has added 105 stores in Q1FY08, taking the total number of stores to 201 stores across 25 cities. With the roll out of these stores, total space increased to ~500,000sqft. The loyalty programme for Reliance Retail ('RelianceOne'), grew to 1mn members.

RIL has also launched 'Reliance Digital', a 20,000sqft one-stop solution for all technology solutions, in Faridabad.

The company has received INR60bn in equity infusion from its parent RIL which holds a 100% stake. RIL plans to invest INR100bn in total in RRL's equity and raise the balance proposed from outside sources including debt.

Figure 53: Reliance retail expansion

	March '07	June '07
Total outlets (nos)	96	201
Area covered (sqft)	250,000	500,000
Area per outlet (sqft)	2,604	2,000
Investment (INR m)	40,000	60,000

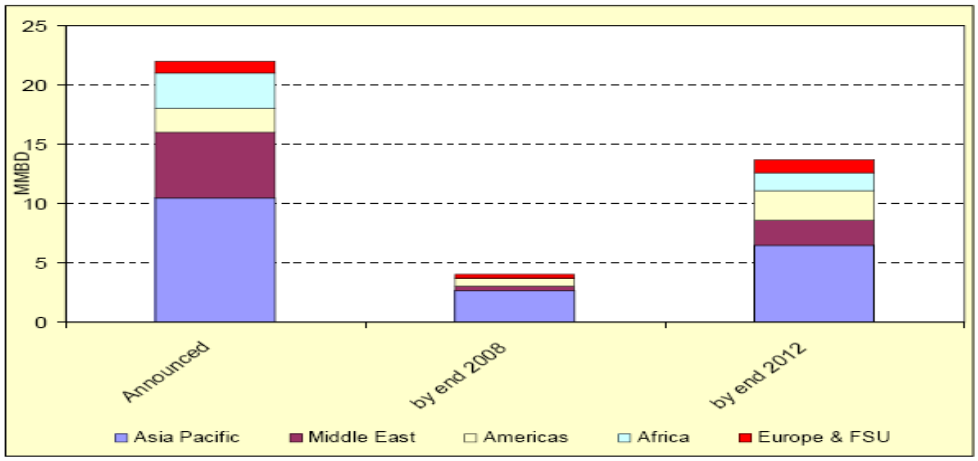
Source: Company presentation, Deutsche Bank

Annexure B: Industry section

Refining

The large number of new projects announced by global players, with an estimated incremental capacity of 22mnbpd, are unlikely to be operational before CY12e. This, in our view, could sustain an extended upswing in GRMs (Figure 54).

Figure 54: Delay in capacity expansion



Source: Company presentation, Deutsche Bank

India to boost capacity by 45% over the next five years

We expect India to remain a net exporter of petroleum products due to aggressive expansion plans by most refiners. Essar has recently commissioned a 10.5mntpa plant at Vadinar, which is, at present, running at 7.5mnte capacity; the company expects to increase capacity to 14mnte by March '08 and to 32mnte later on. Reliance Petroleum (RPL) is planning to commission its 27mnte Jamnagar refinery by December '08. Overall, the industry is expected to add 65.3mnte (45% of the current capacity) to additional capacity over the next five years (Figure 55). We have not factored in possible expansions (still at proposal stage) such as: i) Essar refinery expansion (32mntpa), ii) MRPL refinery (15mntpa), and iii) HPCL Visakh refinery (5mntpa). With a firming-up of these capacities, India's refining capacity and excess supply could further increase to 255mntpa by FY12 (Figure 55).

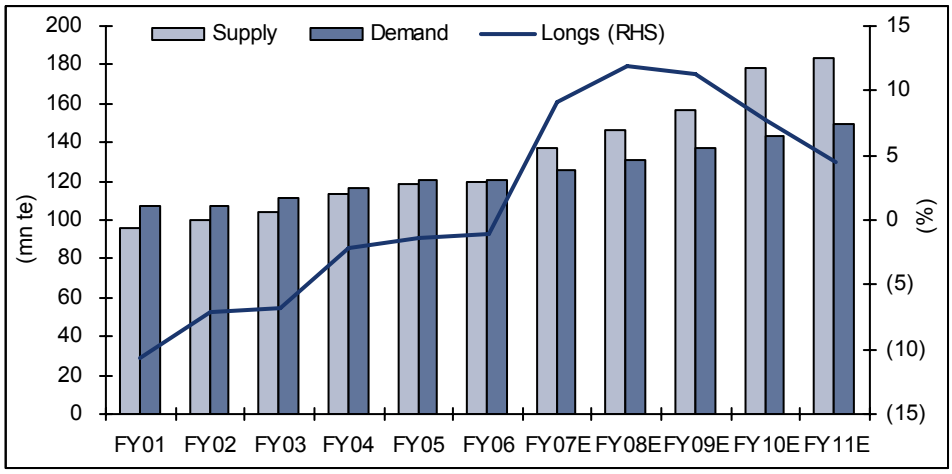
Figure 55: Refinery expansions in India

Refinery location	Company	Capacity (mn te)	Additional capacity ('000 te)	Date of completion	Capacity post expansions (mn te)
Guwahati	IOC	1			1
Barauni	IOC	6			6
Koyali	IOC	13.7			13.7
Haldia	IOC	6			6
Mathura	IOC	8			8
Digboi	IOC	0.7			0.7
Panipat	IOC	12	3	Dec -09	15
Mumbai	BPCL	12			12
Kochi	BPCL	7.5	2	Sep - 09	9.5
Mumbai	HPCL	5.5	2	H1 FY08	7.5
Visakh	HPCL	7.5	0.8	H2 FY08	8.3
Manali	CPCL	9.5	1	H1 FY10	10.5
Narimanam	CPCL	1			1
Bongaigaon	BRPL	2.4			2.4
Numaligarh	NRL	3			3
Tatipaka	ONGC	0.1			0.1
Mangalore	MRPL	9.7			9.7
Jamnagar	RIL	33			33
Vadinar	Essar	7.5	6.5	Mar 08	14
Jamnagar	RPL		27	Dec 08	27
Bina	BPCL		6	Dec 09	6
Bhatinda	HPCL		9	Dec 10	9
Paradip	IOC		9	May 11	9
Total Capacity		146	65.3		212.3

Source: Deutsche Bank

** We have not included the proposed expansion of the MRPL refinery and the Essar refinery to 15mntpa and 32mntpa respectively.*

Figure 56: India -- a net exporter of petroleum products



Source: MOPNG, Deutsche Bank

Despite the capacity overhang in India, global margins are likely to remain healthy due to sustained global and Asian refining capacity constraints and strong demand for petroleum products from the US and Europe.

Tighter emission norms

Emission norms across the world are getting tighter, with the implementation of Euro IV norms by the US and Europe and Euro II & Euro III by the Asian countries. India has scheduled a road-map for implementation of Bharat III (equivalent to Euro III) norms across the country. OMCs have already implemented Euro III across 13 major cities, with more cities in the pipeline. The Government has planned Euro III to be effective across the country and Euro IV across 13 cities by '10. In terms of sulphur content for HSD, Euro II norms advocate 500ppm sulphur while Euro III and Euro IV require 350ppm and 50ppm sulphur content respectively. The US government has actually stepped ahead of Euro IV and instructed distribution of ULSD with sulphur content of 15ppm. The guideline instructs that 80% of highway diesel sales should be ULSD, reaching 100% by '10 (Figure 57). In California, 100% usage of ULSD on highways has already been made mandatory.

Figure 57: Tighter emission norms

Sulphur content (ppm)	Gasoline		Diesel	
	Current	'10-15	Current	'10-15
USA	90	30	500	15
Europe	10-50	10	10-50	10
China	150-500	50-150	350-500	50-350
India	150-500	50-150	350-500	50-350
Malaysia	500	150	500	10
Hong Kong	150	10	50	10
Singapore	500	10	50	10

Source: Industry, Deutsche Bank

Figure 58: Implementation of Euro norms

Country	95	96	97	98	99	2000	01	02	03	04	05	06	07	08	09	10
European Union	Euro I	Euro II					Euro III				Euro IV			Euro V		
Bangladesh									Euro II (under discussion)							
Hong Kong, China	Euro I		Euro II				Euro III					Euro IV				
India [a]							Euro I				Euro II					E III
India [b]					E I	Euro II					Euro III					
Indonesia											Euro II					
Malaysia			Euro I			Euro II										
Nepal						Euro I										
Phillipines									Euro I							
PRC [a]							Euro I			Euro II				Euro III		
PRC [c]							Euro I		Euro II		Euro III					
Singapore [e]	Euro I						Euro II									
Singapore [g]	Euro I						Euro II					Euro IV				
Sri Lanka									Euro I							
Taipei, China					US Tier I								US Tier II for diesel			
Thailand	Euro I						Euro II			Euro III					Euro IV	
VietNam [e]				Euro I												
VietNam [f]											Euro I					

Source: Industry data, Deutsche Bank

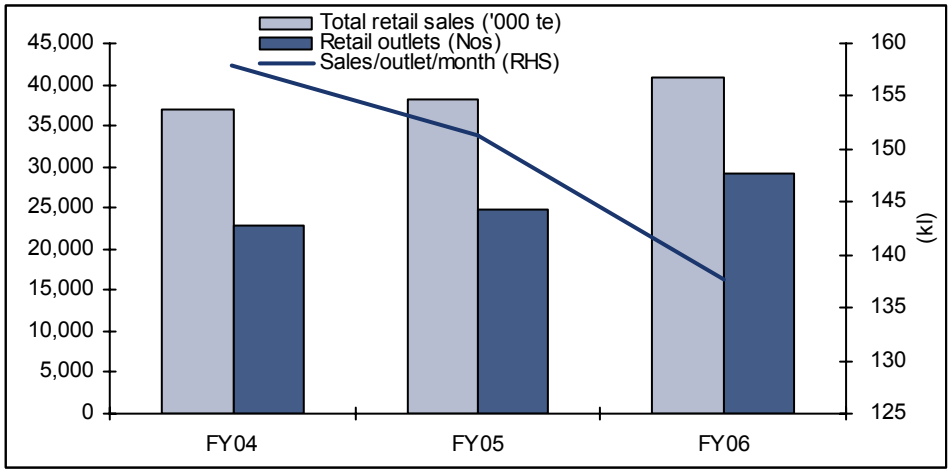
Notes: Entire country, b Delhi and other cities; Euro II introduced in Mumbai, Kolkata and Chennai in '01; Euro II in Bangalore, Hyderabad, Khampur, Pune and Ahmedabad in '03, Euro III to be introduced in Delhi, Mumbai, Kolkata, Chennai, Bangalore, Hyderabad and Ahmedabad in '05, c Beijing and Shanghai, d Gasoline vehicles under consideration, e For gasoline vehicles, f for diesel vehicles, g for all types of diesel vehicles

Petroleum retailing

Increasing competition from network expansion

Domestic fuel retailing, which finds itself at a crossroads since it opened up to private competition, has seen a 35% rise in retail outlets to more than 31,000 in the past three years, thereby reducing the monthly throughput by 13% to 135kl/pump (Figure 59).

Figure 59: Expanding retail network leading to decreased throughput



Source: Deutsche Bank

Fuel retailing extends value chain

RIL can enhance its refining business by capturing retail margins on domestic sales of gasoil and gasoline. Currently RIL has 1,411 outlets. Added drivers would be non-fuel revenues that RIL can generate by extending non-fuel services relating to convenience shopping, fast food and other services. Globally non-fuel earnings account for 35-40% of earnings for gas stations. In the final analysis, Reliance retail kicking off its hyper mall format would help exploit synergies between fuel retailing and consumer retailing.

Fuel substitution threat – A function of Government policy, crude price

We believe natural gas is the most formidable threat to petroleum fuels as is illustrated by its success in NCT Delhi and Mumbai through Indraprastha Gas (IGL) and Mahanagar Gas (MGL) respectively. New gas discoveries on the East coast by RIL, ONGC and Gujarat State Petroleum (GSPC) may increase gas supplies, which augurs well for city gas expansion and CNG networks. GAIL has commenced implementation of such projects in Uttar Pradesh, Maharashtra, Karnataka, Andhra Pradesh, Gujarat, Madhya Pradesh and Bihar in collaboration with OMCs (which are supplementing these projects with auto-LPG).

We estimate that natural gas may eventually gain 5-10% of the Indian MS/HSD market in the next 7-10 years. This impact is factored into our industry growth assumption for MS/HSD demand at 6% over the next four years.

Natural gas substituting conventional auto-fuels, especially in petrol engines, would be technically and economically more effective and depending on: i) availability of gas, ii) pricing of input gas and distribution margins allowed under the new policy, and iii) taxes; all of which would determine the final selling price of CNG. At its current market price, the competitiveness of CNG looks overwhelming as it is 69% and 49% cheaper than petrol and diesel respectively, on an energy equivalent basis. Even if we consider our long-term forecast for crude (US$45/bbl by FY10e), CNG still remains competitive, assuming no change in CNG price and 15% and 18% cuts in petrol and diesel prices respectively (Figure 60).

Figure 60: Competitiveness of CNG

	Prevalent prices (Delhi)				Prices @US$45/bbl crude			
	Current retail price	Volumes	Effective price	CNG relative to alternatives	Price	Volumes	Effective price	CNG relative to alternatives
	(INR/unit)	(kg equivalent of CNG)	(INR per kg of CNG equivalent)	premium / (discount)	(INR/unit)	(kg equivalent of CNG)	(INR per kg of CNG equivalent)	premium / (discount)
CNG (per kg) @	24.46	1	24.46	-	24.46	1	24.46	-
Petrol (per litre) *	42.85	0.7	59.99	-59.2	37.74	0.7	53.91	-54.6
Diesel (per litre) *	31.25	0.8	37.5	-34.8	25.6	0.8	32	-23.6
Auto LPG (per litre) #	26.18	1	26.44	-7.5	21.26	1	21.47	13.9

Source: Deutsche Bank

Gas policy, pricing

Proposed terms of reference for the regulator

The regulator is expected to review and lay down guidelines for the following:

- Awarding pipeline projects under common/contract carrier principle, based on competitive bidding, subject to common carriers offering 33% excess capacity for third-party use. This includes laying down tariffs for common carriers.
- The pipeline and marketing activities to be unbundled based on an arm-length relationship.
- Deciding on the award of new city gas pipeline & distribution networks and city gas expansion plans; tariffs as well as period of exclusivity based on demand, population and other factors, which determine the viability of city gas projects. The policy has suggested 3-5 years of marketing exclusivity.

Key issues

Visibility on investments in gas infrastructure is positive for gas demand and long-term growth for gas companies. For city gas projects, the suggested exclusivity period does not appear attractive when compared to the longer duration of 20-30 years allowed in other emerging economies. Further, it is questionable whether the proposed marketing exclusivity is unconditional or for a specified scale-sales volume.

There is need for more clarity on the future policy relating to pricing of domestic gas, including that for RIL's KG gas. The government is likely to refer this to the regulator as per latest media reports.

Appendix 1

Important Disclosures

Additional information available upon request

Disclosure checklist			
Company	**Ticker**	**Recent price***	**Disclosure**
Reliance Industries	RELI.BO	1810.75 (INR) 10 Aug 07	6,7,8,14

*Prices are sourced from local exchanges via Reuters, Bloomberg and other vendors. Data is sourced from Deutsche Bank and subject companies.

Important Disclosures Required by U.S. Regulators

Disclosures marked with an asterisk may also be required by at least one jurisdiction in addition to the United States. See "Important Disclosures Required by Non-US Regulators" and Explanatory Notes.

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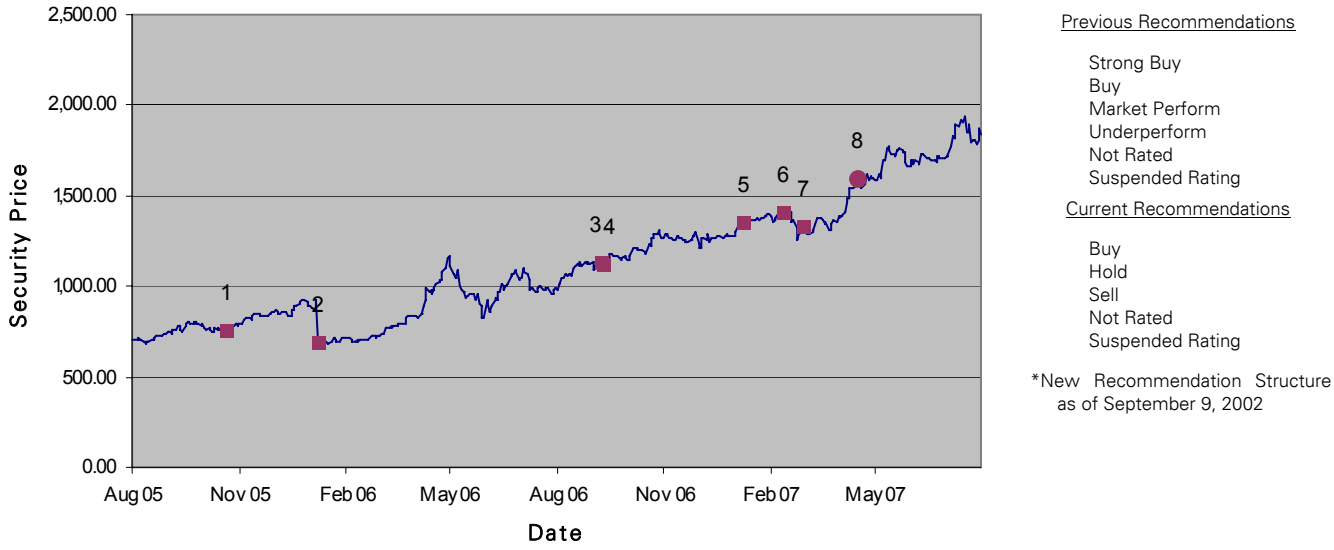
Historical recommendations and target price: Reliance Industries (RELI.BO)

(as of 10/08/2007)



1.	31/10/2005:	Buy, Target Price Change INR850.00	5.	18/1/2007:	Buy, Target Price Change INR1,420.00
2.	18/1/2006:	Buy, Target Price Change INR788.00	6.	22/2/2007:	Buy, Target Price Change INR1,540.00
3.	19/9/2006:	Buy, Target Price Change INR788.00	7.	11/3/2007:	Buy, Target Price Change INR1,585.00
4.	20/9/2006:	Buy, Target Price Change INR1,300.00	8.	27/4/2007:	Downgrade to Hold, INR1,585.00

Equity rating key

Buy: Based on a current 12- month view of total share-holder return (TSR = percentage change in share price from current price to projected target price plus pro-jected dividend yield) , we recommend that investors buy the stock.

Sell: Based on a current 12-month view of total share-holder return, we recommend that investors sell the stock

Hold: We take a neutral view on the stock 12-months out and, based on this time horizon, do not recommend either a Buy or Sell.

Notes:

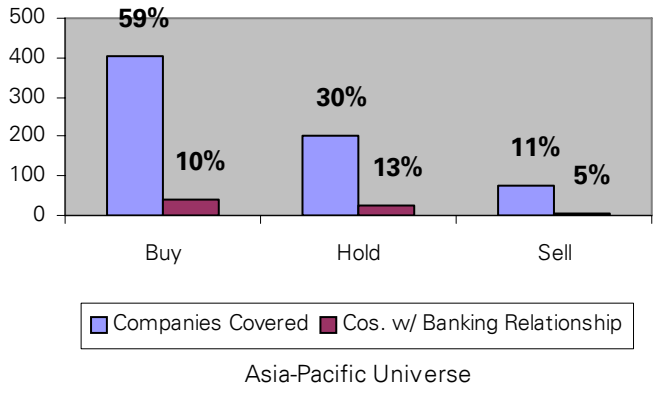
1. Newly issued research recommendations and target prices always supersede previously published research.
2. Ratings definitions prior to 27 January, 2007 were:

Buy: Expected total return (including dividends) of 10% or more over a 12-month period

Hold: Expected total return (including dividends) between -10% and 10% over a 12-month period

Sell: Expected total return (including dividends) of -10% or worse over a 12-month period

Equity rating dispersion and banking relationships



Regulatory Disclosures

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