Oil Refining & Marketing

Industry Overview

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Bank of America Merrill Lynch

RESEARCH

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RIL-RPL theoretical refining margin US$11-15/bbl in 4Q

RIL-RPL gains from heavier crude use and Euro III-IV diesel

Singapore complex refining margins have recovered after the weakness in 3Q FY09 (ie 4Q 2008). BAS-ML Singapore complex refining margin to date in 4Q FY09 (ie 1Q 2009) is US$7.4/bbl. Theoretical refining margin of Reliance Industries (RIL) works out to US$11.4/bbl in 4Q FY09 and that of Reliance Petroleum (RPL) at US$15.3/bbl. Their premium to Singapore margins is due to ability to process cheaper and heavier crude and produce Euro III-IV diesel, which realizes higher price. We retain our Buy on RIL and Underperform on RPL.

BAS-ML Singapore complex margin at US$7.4/bbl in 4QFY09

BAS-ML Singapore complex refining margin was US$6.9/bbl last week and US$7.4/bbl to date in 4Q FY09 vis-à-vis US$5.9/bbl in 4Q 2008. The recovery in refining margins seen in the last few weeks is unlikely to sustain, in our view. Large new refining capacity including that of RPL will ramp up in 1H 2009E and oil demand can be expected to weaken after winter.

RIL & RPL's 4Q FY09 theoretical margin US$11.4-15.3/bbl

RIL's theoretical refining margin works out to US$11.4/bbl to date in 4Q FY09, which is higher than US$9.2/bbl in 3Q FY09. This improvement is driven by recovery in naphtha cracks from minus US$15.7/bbl in 3Q to US$0.5/bbl to date in 4Q. Theoretical refining margin of RPL to date in 4Q FY09 works out to US$15.3/bbl, which is lower than US$18.2/bbl in 3Q. RPL has gained in 4Q from gasoline cracks recovery by US$7.7/bbl QoQ. However, Euro IV diesel cracks declined by US$11.5/bbl QoQ and Oriente-Dubai spread fell by US$1.1/bbl QoQ.

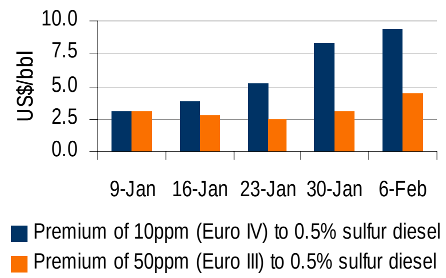
Gain from heavier crude use at US$5.7-7.6/bbl in 4Q FY09

Ability to process heavier and cheaper crude than Dubai is one of the drivers of RIL and RPL's premium over Singapore refining margins. The discount to Dubai of Arab heavy crude, which RIL can use, is US$5.7/bbl to date in 4Q FY09 (US$5.4/bbl in 3Q). The Arab heavy-Dubai spread has contracted to US$3.4/bbl last week. The discount to Dubai of Oriente crude (API of 24), which RPL can use, is US$7.6/bbl in 4Q vis-à-vis US$8.7/bbl in 3Q.

Gain from Euro III-IV diesel at US$1.2-1.9/bbl in 4Q FY09

RIL mainly produces Euro III (50ppm or 0.005% sulfur) diesel while RPL will produce Euro IV (10ppm or 0.001% sulfur) diesel. The price of Euro III-IV diesel is at premium to 0.5% sulfur diesel, on which BAS-ML Singapore margin is based. The premium of Euro III-IV diesel in 4Q FY09 is US$3.1-5.4/bbl and it has boosted RIL's and RPL's theoretical refining margins by US$1.2-1.9/bbl. The premium of Euro III-IV diesel was stronger at US$5.9-12.5/bbl in 3Q and it boosted margins by US$2.3-4.6/bbl. RIL-RPL's 3Q theoretical margins earlier did not factor these gains but we have revised them now to reflect the gains.

Chart 1: Premium of Euro III-IV diesel, which RIL-RPL produce, to 0.5% sulfur diesel



Source: Banc of America Securities - Merrill Lynch

Table 1: RIL and RPL's 4Q FY09 theoretical refining margin and factors driving it

US$/bbl	Last week	4Q FY09
Singapore refining margin as per		
BAS ML	6.9	7.4
Reuters	7.6	6.4
Gain from heavier crude		
RIL	3.4	5.7
RPL	7.4	7.6
Gain from premium of Euro III-IV diesel		
RIL	1.8	1.2
RPL	3.7	1.9
Theoretical refining margin		
RIL	8.5	11.4
RPL	15.6	15.3

Source: Reuters, Banc of America Securities - Merrill Lynch

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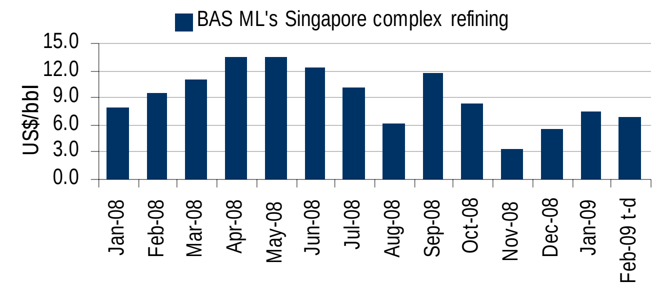
Refining margins update

BAS-ML Singapore margin US$7.4/bbl in 1Q09

Last week's margin at US$6.9/bbl is 20% WoW lower

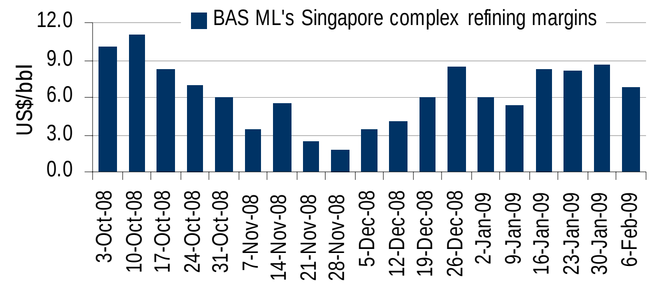
BAS-ML's Singapore complex margin was at US$6.89/bbl last week (week ended February 6, 2009). It is 20% WoW lower.

Chart 2: BAS ML's Singapore complex refining margin recover to US$7.4/bbl in 2009 after weakness in November-December 2008



Source: Banc of America Securities - Merrill Lynch

Chart 3: BAS ML's Singapore complex refining margins weekly trend



Source: Banc of America Securities - Merrill Lynch

Decline last week due to diesel & jet fuel cracks weakness

Diesel and jet fuel cracks down 31-32% WoW last week

Diesel and jet fuel cracks were strong at US$20.5/bbl and US$16.7/bbl respectively in 3Q FY09 (ie 4Q 2008) even as refining margins were weak. Diesel and jet fuel cracks have weakened to US$12.7-15.2/bbl in January 2009. Diesel cracks weakened further last week to US$5.8/bbl (down 44% WoW) and jet fuel cracks to US$10.7/bbl (down 25% WoW). This weakness was mainly responsible for the 20% WoW decline in BAS-ML Singapore refining margins last week.

Table 2: Jet fuel & diesel cracks to date in 4Q FY09

	Jet fuel	Diesel
Average crack spread		
To date in 4Q FY09	14.3	11.4
In Q3 FY09	20.5	16.7
Change	-30%	-32%

Source: Banc of America Securities - Merrill Lynch

BAS-ML Singapore margin at US$7.6/bbl in January 2009

BAS-ML's Singapore complex refining margin has averaged US$7.6/bbl in January 2009. The average in the first five weeks of 2009 is US$7.4/bbl.

Gasoline & naphtha cracks continue to strengthen

Gasoline cracks US$14.1/bbl and naphtha cracks US$4.9/bbl last week

Gasoline cracks, which averaged US$3/bbl in 3Q FY09 (ie 4Q 2008), recovered to average US$10/bbl in January 2009. The recovery continued last week with gasoline cracks up 2% WoW to US$14.1/bbl. Naphtha cracks, which were minus US$15.7/bbl in 3Q FY09, have recovered smartly in 2009 and have been positive in the last three weeks. Naphtha cracks jumped 34% WoW to US$4.9/bbl last week.

Gasoline cracks boosted by refinery output cuts and better US demand

Gasoline cracks have recovered smartly in January 2009. US refineries operating at levels of 83.6% in January 2009 vis-à-vis 87% in January 2008 has helped boost gasoline cracks. Australasian refineries operating at lower levels also boosted gasoline cracks. US gasoline demand also is showing some signs of recovery. US gasoline demand for the week ending Jan 30 was up 1.1% YoY and 4.2% WoW as per data released last week by US Energy Department.

Naphtha cracks rise as petrochemical sector buys after 4Q destocking

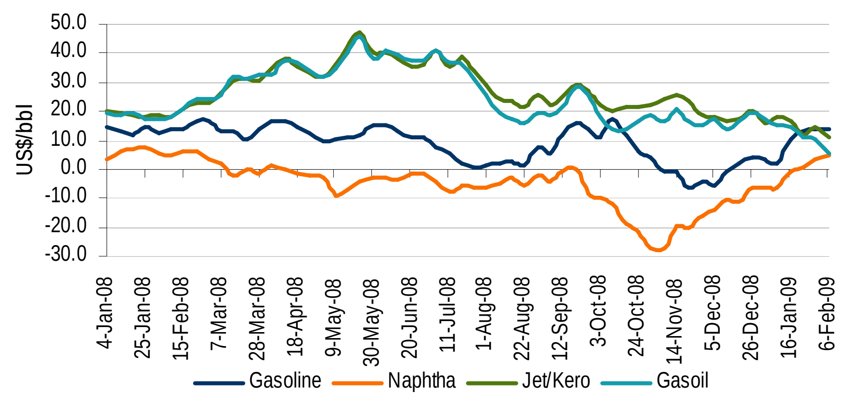
Naphtha cracks were negative in 4Q 2008. Destocking by consumers prompted petrochemical producers to cut output and run down feedstock naphtha inventories. Ethylene operating rates were down to 78% in Asia and 66% in US. The naphtha cracks recovery has been driven by

- Petrochemical producers now buying naphtha on the spot market to rebuild inventories
- Lower output by South Korean and Japanese refiners, who have cut operating rates
- Lower naphtha exports by India (higher domestic demand from fertilizer and power) and Iran have also helped.

Naphtha and gasoline cracks rise limited refining margin fall last week

The recovery in gasoline and naphtha cracks helped partly neutralize decline in diesel and jet fuel cracks last week. It thus helped limit BAS-ML Singapore complex refining margin decline to 20% WOW last week.

Chart 4: Naphtha and gasoline cracks strengthen but diesel and jet fuel cracks weaken



Source: Banc of America Securities-Merrill Lynch

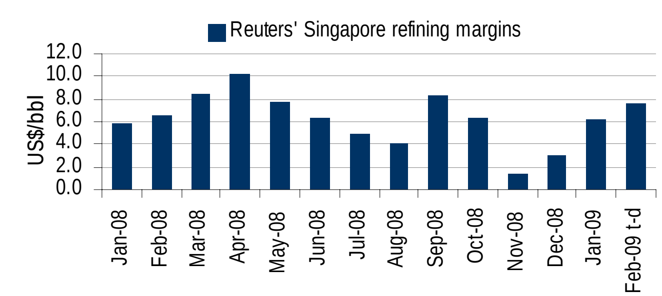
Reuters' Singapore margin US$6.4/bbl in 1Q09

Last week's margin US$7.6/bbl, down 8% WoW

Reuters' Singapore refining margin at US$6.1/bbl in January 2009

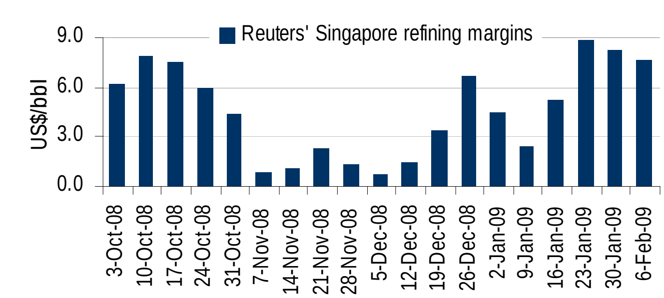
Reuters' Singapore margin averaged US$7.6/bbl last week, which is 8% WoW lower. Reuters' Singapore refining margin has averaged US$6.1/bbl in January 2009. The average in the first five weeks of 2009 is US$6.4/bbl.

Chart 5: Reuters' Singapore refining margins far stronger in 2009 than in



Source: Reuters, Banc of America Securities -Merrill Lynch

Chart 6: Reuters' Singapore refining margins at US$/bbl last week



Source: Reuters, Banc of America Securities -Merrill Lynch

RIL’s and RPL’s premium to Singapore margins

RIL’s & RPL’s refineries’ Nelson complexity at 11.4-14.0

RIL’s refining margin has been consistently higher than Singapore refining margins. This is due to the fact that it is one of the most complex refineries in Asia, with Nelson complexity of 11.4. Refinery of RIL’s subsidiary RPL is even more complex, with Nelson complexity of 14. We expect RPL to achieve even higher refining margins than RIL when it starts commercial operations in April 2009.

RIL has two of the three largest most complex refineries

Only one other refinery larger and more complex than RIL and RPL

There is only one refinery in the world that is larger than RIL’s and RPL’s refineries and also more complex. All other refineries are either smaller in size or less complex. Valero has five refineries with Nelson complexity of 14.3-18.4. However all of these more complex refineries of Valero are smaller than RIL’s and RPL’s refineries with capacity of 135-315k bpd. Valero has 15 refineries with an aggregate capacity of 3.1m bpd and weighted average Nelson complexity of 11.9.

Table 3: Only one refinery in the world larger and more complex than RIL's and RPL's refineries

Company	Location	Capacity (k bpd)	Nelson complexity Index
BP	Texas City	433	14.2
RPL	Jamnagar	580	14.0
RIL	Jamnagar	660	11.4
Citgo	Lake Charles	320	11.2
Exxon Mobil	Baytown	428	10.9
Exxon Mobil	Beaumont	320	10.8

Source: RIL

Process heavier crude & produce high specs products

These advantages boost refining margins of RIL’s refineries

The high complexity of RIL and RPL’s refineries translates into two clear advantages, which boost RIL’s and will boost RPL’s refining margins. These advantages are

- Ability to process heavier crude than Dubai, which are cheaper than Dubai
- Ability to process high specification gasoline & diesel, realizing higher prices

RIL can use cheaper Arab heavy and RPL Oriente crude

RIL uses crude mix, which are cheaper than even Arab heavy

RIL can use crude with average API of 28. RIL can therefore use Arab Heavy crude, which has API of 27, if it has to use one crude. RPL can use crude with average API of 24. We have identified Oriente crude from Ecuador and Souedie crude from Syria, which have API of 24.

Arab heavy, Oriente and Souedei crude have especially since 2005 traded at significant discount to Dubai crude, on which Singapore refining margins are calculated. RIL has contended that instead of using just Arab Heavy crude it uses a mix of heavier and lighter crude than Arab heavy, which have API of 27 and are even cheaper than Arab heavy. We expect RPL to do the same. This is one of the main reasons why RIL’s refinery is higher than Singapore refining margins.

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To produce high specs products with higher realization

RPL can produce diesel with 10ppm sulfur and RIL 50ppm sulfur

RPL will produce diesel with 10ppm sulfur diesel (Euro IV), which became applicable in Europe from Jan 2009. RIL's existing refinery mainly produces diesel with 50ppm sulfur (Euro III) and some Euro IV diesel, too.

Euro III and IV diesel at premium to 0.5% sulfur diesel

Singapore complex refining margins based on 0.5% sulfur diesel

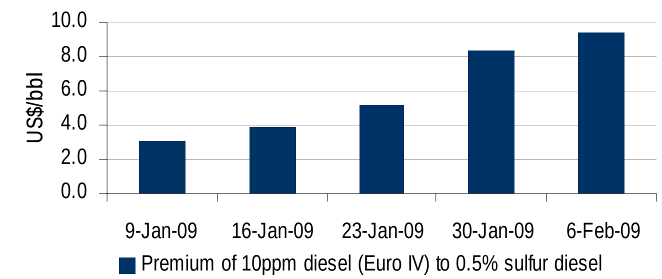
Our Singapore complex refining margin calculation is based on price of 0.5% or 5,000ppm sulfur diesel. RIL produces Euro III or 50ppm (0.005%) sulfur diesel while RPL will produce Euro IV or 10ppm (0.001%) sulfur diesel.

Premium to 0.5% sulfur diesel US$3.1-5.4/bbl in 2009

Euro III-IV diesel premium to 0.5% sulfur diesel US$4.4-9.4/bbl last week

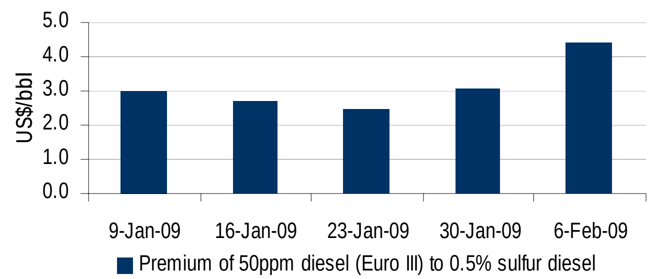
The premium of Euro IV diesel to 0.5% sulfur diesel is US$5.4/bbl on an average to date in 2009. It is sharply up to US$9.4/bbl last week. The premium of Euro III diesel to 0.5% sulfur diesel is US$3.1/bbl on an average to date in 2009. It is sharply up to US$4.4/bbl last week.

Chart 7: Premium of 10ppm diesel (Euro IV), which RPL will produce to 0.5% sulfur diesel



Source: Bloomberg, Banc of America Securities -Merrill Lynch

Chart 8: Premium of 50ppm diesel (Euro III), which RIL mainly produces to 0.5% sulfur diesel



Source: Bloomberg, Banc of America Securities -Merrill Lynch

1m bpd 10ppm distillate shortage in Europe; RPL to produce 0.28m bpd

Upgrades to produce 10ppm sulfur diesel of several European refineries and Russian refineries supplying to Europe have been delayed. Europe is estimated to be more than 1m bpd short of 10ppm sulfur middle distillate products. RPL can produce 0.25-0.28m bpd of 10ppm diesel at peak. RPL's 10ppm sulfur diesel volumes can thus be absorbed in Europe and will in fact not entirely meet the shortfall. Thus given the demand collapse there may be no room for addition diesel supply but there is actually shortfall of the 10ppm diesel, which RPL will produce.

Table 4: Revised estimate of RIL's 3Q FY09 theoretical refining margin

	US$/bbl
3Q FY09 theoretical refining margin	
Earlier estimate	6.9
Gain from Euro III diesel	2.3
Revised estimate	9.2

Source: Banc of America Securities -Merrill Lynch

RIL's theoretical refining margin

3Q theoretical margins raised to US$9.2/bbl

Earlier estimate of US$6.9/bbl did not factor Euro III diesel premium

We had calculated RIL's theoretical refining margin for 3Q FY09 at US$6.9/bbl. However, that calculation did not factor in the premium RIL's Euro III diesel would realize vis-à-vis 0.5% sulfur diesel used in Singapore refining margin calculation. The premium of Euro III diesel to 0.5% sulfur diesel was US$5.9/bbl in 3Q. Diesel being 40% of RIL's product slate would boost 3Q theoretical refining margin by US$2.3/bbl to US$9.2/bbl.

US$11.4/bbl to date in 4Q FY09 vis-à-vis US$9.2/bbl in 3Q

RIL's theoretical refining margin in 4Q FY09 works out to US$11.4/bbl vis-à-vis US$9.2/bbl in 3Q FY09. Weighted average product cracks for its product slate based on Dubai crude work out to US$5.7/bbl vis-à-vis US$3.8/bbl in 3Q.

Naphtha & gasoline cracks drive recovery

The main driver of weighted average products cracks rise is naphtha cracks rising to US$0.5/bbl to date in 4Q FY09 from minus US$15.7/bbl in 3Q. Naphtha and derivatives are 23% of RIL's product slate. Rise in gasoline cracks to US$10/bbl in 4Q FY09 from US$3/bbl in 3Q also helped

Table 5: RIL's theoretical refining margins based on product and crude prices in 4Q FY09

US$/bbl	RIL's product slate	Cracks-4Q FY09 YTD	RIL's product cracks
Diesel (50ppm sulfur or Euro III)	40%	14.5	5.8
Gasoline	11%	10.7	1.2
Jet/ Kerosene	8%	14.3	1.2
LPG	8%	-4.1	-0.3
Naphtha	13%	0.5	0.1
Propylene	3%	22.2	0.6
Reformate	8%	17.4	1.4
Petroleum coke	9%	-45.8	-4.2
Weighted average product prices	100%		5.7
Discount of Arab heavy to Dubai			5.7
RIL's theoretical refining margin			11.4

Source: Company, Banc of America Securities - Merrill Lynch

Arab heavy discount to Dubai US$5.7/bbl in 4Q FY09

Arab heavy discount to Dubai down to US$3.4/bbl last week

Discount of Arab heavy, which RIL can use, to Dubai has averaged US$5.7/bbl in 4Q FY09 vis-à-vis US$5.4/bbl in 3Q. This discount however contracted to US$3.4/bbl last week.

RIL's theoretical refining margin last week at US$8.5/bbl

Hit by weaker diesel cracks and contracting Arab heavy-Dubai spread

RIL's theoretical refining margin for last week works out to US$8.5/bbl. Weighted average product cracks for its product slate based on Dubai crude works out to US$5.0/bbl last week. This is higher than US$3.8/bbl in 3Q FY09 but lower than US$5.7/bbl to date in 4Q. The weakness vis-à-vis 4Q is due to weaker diesel cracks. Last week's margin was also hurt by lower Arab heavy-Dubai spread.

Table 6: RIL's theoretical refining margins based on product and crude prices last week

US$/bbl	RIL's product slate	Last week	RIL's product cracks
Diesel (50ppm sulfur or Euro III)	40%	10.2	4.1
Gasoline	11%	14.1	1.6
Jet/ Kerosene	8%	10.7	0.9
LPG	8%	-2.7	-0.2
Naphtha	13%	4.9	0.6
Propylene	3%	22.4	0.6
Reformate	8%	21.8	1.8
Petroleum coke	9%	-45.8	-4.2
Weighted average product prices	100%		5.0
Discount of Arab heavy to Dubai			3.4
RIL's theoretical refining margin			8.5

Source: Company, Banc of America Securities - Merrill Lynch

RPL's theoretical refining margin

3Q theoretical margins raised to US$18.2/bbl

Earlier estimate of US$13.6/bbl did not factor Euro III diesel premium

We had calculated RPL's theoretical refining margin for 3Q FY09 at US$13.6/bbl. However, that calculation did not factor in the premium RPL's Euro IV diesel would realize vis-à-vis 0.5% sulfur diesel. The premium of Euro IV diesel to 0.5% sulfur diesel was US$12.5/bbl in 3Q. Adjusting it for higher freight to transport to Europe would bring down the premium to US$10.5/bbll. Diesel being 44% of RPL's product slate would boost 3Q theoretical refining margin by US$4.6/bbl to US$18.2/bbl.

Table 7: Revised estimate of RPL's 3Q FY09 theoretical refining margin

	US$/bbl
3Q FY09 theoretical refining margin	
Earlier estimate	13.6
Gain from Euro IV diesel	4.6
Revised estimate	18.2

Source: Banc of America Securities -Merrill Lynch

US$15.3/bbl to date in 4Q FY09 vis-à-vis US$18.2/bbl in 3Q

RPL's theoretical refining margin to date in 4Q FY09 works out to US$15.3/bbl. Weighted average product cracks for its product slate works out to US$7.7/bbl vis-à-vis US$9.5/bbl in 3Q. RPL has been hit by US$11.5/bbl QoQ decline in Euro IV diesel cracks. Discount to Dubai of Oriente crude, which RPL can use, is also US$1.1/bbl QoQ lower to US$7.6/bbl. However, RPL gained from US$7.7/bbl QoQ rise in gasoline cracks.

Table 8: RPL's theoretical refining margins based on product and crude prices in 4Q FY09

US$/bbl	RPL's product slate	Cracks-4Q FY09 YTD	RPL's product cracks
Diesel (10ppm sulfur or Euro IV)	44%	15.8	6.9
Gasoline	30%	10.7	3.2
Jet/ Kerosene	4%	14.3	0.5
Alkylates	8%	12.8	1.1
LPG	0%	-4.1	0.0
Naphtha	0%	0.5	0.0
Propylene	3%	22.2	0.7
Reformate	0%	17.4	0.0
Petroleum coke	9%	-45.8	-4.0
Sulfur	2%	-45.8	-0.8
Weighted average product prices	100%		7.7
Discount to Oriente (API of 24) to Dubai, adjusted for freight			7.6
RPL's theoretical refining margin			15.3

Source: Company, Banc of America Securities - Merrill Lynch

RPL's theoretical refining margin last week at US$15.6/bbl

RPL's theoretical refining margin for last week is US$15.6/bbl. Gasoline cracks are stronger last week than to date in 4Q but Euro IV diesel cracks are lower.

Table 9: RPL's theoretical refining margins based on product and crude prices last week

US$/bbl	RPL's product slate	Last week	RPL's product cracks
Diesel (10ppm sulfur or Euro IV)	44%	14.2	6.2
Gasoline	30%	14.1	4.2
Jet/ Kerosene	4%	10.7	0.4
Alkylates	8%	16.2	1.3
LPG	0%	-2.7	0.0
Naphtha	0%	4.9	0.0
Propylene	3%	22.4	0.7
Reformate	0%	21.8	0.0
Petroleum coke	9%	-45.8	-4.0
Sulfur	2%	-45.8	-0.8
Weighted average product prices	100%		8.2
Discount to Oriente (API of 24) to Dubai, adjusted for freight			7.4
RPL's theoretical refining margin			15.6

Source: Company, Banc of America Securities - Merrill Lynch

Retain Buy on RIL; Underperform on RPL

RIL's 2-year EPS CAGR to FY11E of 30%

We expect FY10E EPS of RIL to rise by 35% YoY and FY11E EPS by 26% YoY. The anticipated earnings growth is expected to be driven by

- 0.6m bpoed of oil and gas production in the next 12-18 months from the KG D6 block
- Addition of 0.58m bpd refining capacity of RPL. RPL's refinery is more complex than RIL's and it is likely to be more profitable, too

The 2-year EPS CAGR to FY11E is now 30%.

14% potential upside at revised PO of Rs1,581/share

The PO of RIL of Rs1,581/share offers 14% potential upside. We retain our Buy on RIL (XRELF/RLNIY, B-1-7/B-1-7, Rs1389.70/US$58.20).

RPL exposure only to refining a negative

RPL startup may mean regional margins weaken further

RPL is one of the most complex refineries in the Asia Pac region and is likely to do better than regional peers. However in the current environment of weak global economic growth, oil demand will likely be weak and hence the refining margin outlook is not good. Singapore refining margins have recovered in 2009 but as large new capacity including RPL's comes on stream in 1H 2009E weakening from current levels is likely, in our view.

Problems in stabilizing refinery is another risk

Another risk is that RPL may have problems in stabilizing its refinery. The track record of the Reliance group in implementing and commissioning projects is impeccable but problems can never be ruled out.

PO of Rs70/share implies 20% potential downside

RPL also expensive at 9.6x FY10E EPS

RPL is currently trading at 9.6x FY10E EPS. At this multiple it is one of the most expensive commodity stocks in India. RPL's estimated fair value of Rs70/share, which is also our PO, implies potential downside of 20% at current share price of Rs88/share. We retain our Underperform on RPL (RPLUF, C-3-7, Rs88.15).

Price objective basis & risk

Reliance Inds (XRELF / RLNIY)

Our PO of Rs1,581 (GDR US$68.75) is based on a sum of parts valuation. The value of the refining and petrochemical business has been calculated on an EV/EBITDA basis using a multiple of 7-8x on FY10E EBITDA. The value of its investment in Reliance Petroleum (RPL) is calculated by applying the EV/EBITDA based value of RPL (multiple of 7x FY10E EBITDA) to RIL's holding in RPL. Oil and gas reserves and resources, as well as its retail business, are valued on a DCF basis using WACC of 11.8%. Refining and marketing, including investment in RPL, is 21pct of PO, E&P valuation (Rs900) 57pct, petrochemicals 16pct and organized retail 6pct. Risks are (1) Decline in refining and petrochemical margins being steeper than expected, (2) Lower than expected oil price. (3) huge disappointments on the E&P front as we have valued exploration upside of Rs154/share, (4) failure in the retail business, and (5) changes in government policies (eg, withdrawal of the tax holiday) which may have a direct impact on the business, cash flow and profit.

RPL (RPLUF)

Our PO of Rs70 is calculated on EV/EBITDA basis. It is based on 7x FY10E EBITDA. The EV/EBITDA multiple used to value RPL is higher than that of Asia Pac peers. RPL is a very complex refinery with Nelson complexity of 14.0. We expect it to achieve even higher refining margins than refinery of parent Reliance Industries (RIL), which has a Nelson complexity of 11.3. RIL has over the last eight years consistently reported the highest refining margins among Asia Pac refiners. At the PO of Rs70, RPL would be trading at 7.6x FY10E EPS. Upside risks: (1) Stronger-than-expected refining margins, and (2) RPL implementing new projects which have the potential to add substantial value. Downside risks: (1) Weaker-than-expected refining margins for RPL, and (2) problems stabilizing the refinery and therefore utilization rates being lower than assumed.

Analyst Certification

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APR - Energy Coverage Cluster

Investment rating	Company	ML ticker	Bloomberg symbol	Analyst
BUY				
	Cairn India	XCANF	CAIR IN	Vidyadhar Ginde
	China BlueChem	CBLUF	3983 HK	Timothy Bush
	Hindustan Petro.	XHTPF	HPCL IN	Vidyadhar Ginde
	IOC	IOCOF	IOCL IN	Vidyadhar Ginde
	ONGC	ONGCF	ONGC IN	Vidyadhar Ginde
	Reliance Inds	XRELF	RIL IN	Vidyadhar Ginde
	Reliance Inds -G	RLNIY	RIGD LI	Vidyadhar Ginde
	Sinofert HLDG	SNFRF	297 HK	Timothy Bush
	SK Holdings	SKCXF	003600 KS	Sonia Song
NEUTRAL				
	Aban Offshore L	XBWTF	ABAN IN	Vidyadhar Ginde
	BPCL	XBPCF	BPCL IN	Vidyadhar Ginde
	Shell Refining	SRMMF	SHELL MK	Sonia Song
UNDERPERFORM				
	Formosa Chems	XFUMF	1326 TT	Sonia Song
	Formosa Petro	FPTCF	6505 TT	Sonia Song
	Formosa Plastics	FSAPF	1301 TT	Sonia Song
	GS Holdings Corp	GSHDF	078930 KS	Duke Suttikulpanich
	Hanwha Chem Corp	HAYCF	009830 KS	Stephan Han
	Honam Petrochem	HBBHF	011170 KS	Stephan Han
	LG Chem Ltd	LGCLF	051910 KS	Stephan Han
	Nan Ya Plastics	NNYPF	1303 TT	Sonia Song
	Petronet LNG Ltd	POLNF	PLNG IN	Vidyadhar Ginde
	RPL	RPLUF	RPET IN	Vidyadhar Ginde
	SK Energy Co Ltd	XVERF	096770 KS	Sonia Song
	S-Oil Corp	SOOCF	010950 KS	Duke Suttikulpanich
	SPC	SPCJF	SPC SP	Duke Suttikulpanich

Important Disclosures

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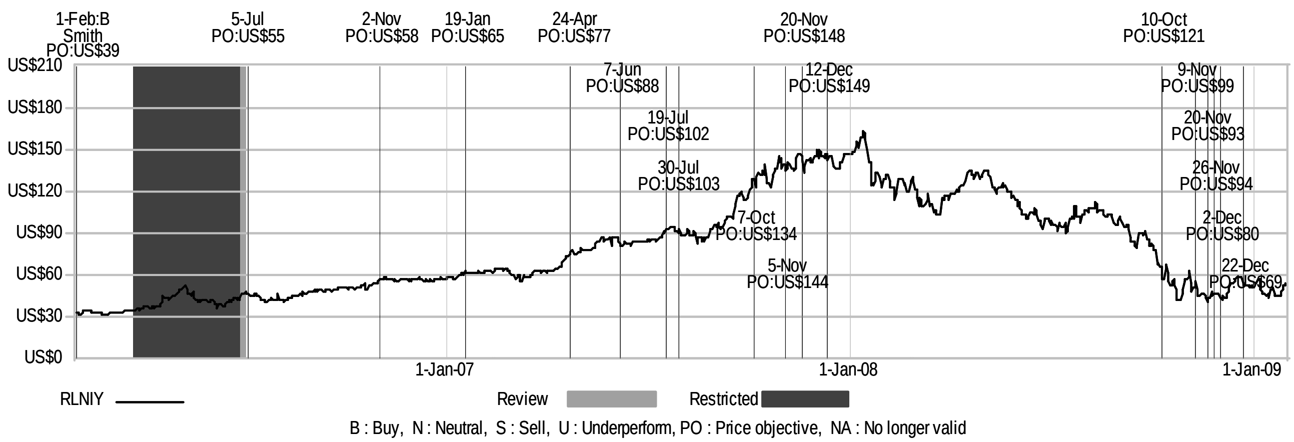

"Prior to May 31, 2008, the investment opinion system included Buy, Neutral and Sell. As of May 31, 2008, the investment opinion system includes Buy, Neutral and Underperform. Dark Grey shading indicates that a security is restricted with the opinion suspended. Light grey shading indicates that a security is under review with the opinion withdrawn. The current investment opinion key is contained at the end of the report. Chart is current as of January 31, 2009 or such later date as indicated.

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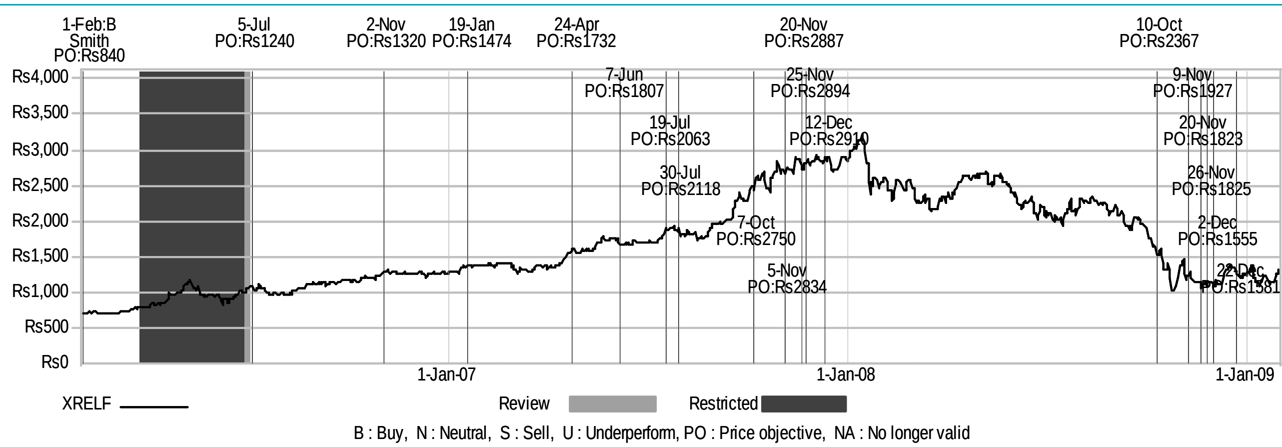
XRELF Price Chart



"Prior to May 31, 2008, the investment opinion system included Buy, Neutral and Sell. As of May 31, 2008, the investment opinion system includes Buy, Neutral and Underperform. Dark Grey shading indicates that a security is restricted with the opinion suspended. Light grey shading indicates that a security is under review with the opinion withdrawn. The current investment opinion key is contained at the end of the report. Chart is current as of January 31, 2009 or such later date as indicated.

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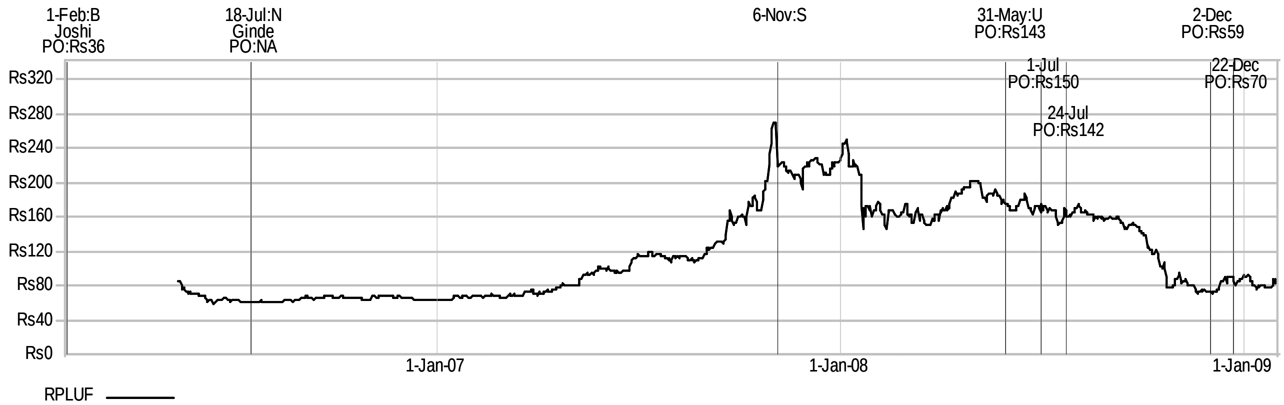
RPLUF Price Chart



B : Buy, N : Neutral, S : Sell, U : Underperform, PO : Price objective, NA : No longer valid

"Prior to May 31, 2008, the investment opinion system included Buy, Neutral and Sell. As of May 31, 2008, the investment opinion system includes Buy, Neutral and Underperform. Dark Grey shading indicates that a security is restricted with the opinion suspended. Light grey shading indicates that a security is under review with the opinion withdrawn. The current investment opinion key is contained at the end of the report. Chart is current as of January 31, 2009 or such later date as indicated.

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Investment Rating Distribution: Chemicals Group (as of 01 Jan 2009)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	35	41.67%	Buy	5	16.67%
Neutral	19	22.62%	Neutral	2	14.29%
Sell	30	35.71%	Sell	3	11.11%

Investment Rating Distribution: Energy Group (as of 01 Jan 2009)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	115	43.89%	Buy	37	36.63%
Neutral	60	22.90%	Neutral	19	36.54%
Sell	87	33.21%	Sell	12	15.79%

Investment Rating Distribution: Global Group (as of 01 Jan 2009)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	1297	38.46%	Buy	314	26.81%
Neutral	859	25.47%	Neutral	210	28.23%
Sell	1216	36.06%	Sell	229	20.71%

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster*
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

* Ratings dispersions may vary from time to time where BAS-ML Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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