Macquarie Research **Equities**





INDIA

Reliance Industries

3 July 2009

RIL IN	0	utperform
Stock price as of 02 Jul 09 12-month target Upside/downside Valuation - Sum of Parts	Rs Rs % Rs	2,011.35 2,405.00 +19.6 2,405.00
GICS sector Market cap 30-day avg turnover Market cap Number shares on issue	Rs bn US\$m US\$m m	energy 3,166 220.0 66,100 1,574

Investment fundamentals

Year end 31 Mar		2009A	2010E	2011E	2012E
Total revenue	bn	1,492.6	1,641.3	2,147.4	2,288.8
EBITDA	bn	234.3	351.0	403.0	442.1
EBITDA growth	%	1.3	49.8	14.8	9.7
EBIT	bn	183.3	268.2	316.3	351.7
EBIT Growth	%	1.0	46.4	17.9	11.2
Reported profit	bn	152.2	232.8	282.8	331.6
Adjusted profit	bn	155.5	232.8	282.8	331.6
EPS rep	Rs	92.65	141.70	172.18	201.84
EPS adj	Rs	94.65	141.70	172.18	201.84
EPS adj growth	%	0.7	49.7	21.5	17.2
PE adj	x	21.3	14.2	11.7	10.0
Total DPS	Rs	12.60	19.28	23.42	27.46
Total div yield	%	0.6	1.0	1.2	1.4
ROE	%	14.6	17.9	19.6	19.4
EV/EBITDA	x	16.1	10.7	9.4	8.5
Net debt/equity	%	36.5	33.0	15.8	-1.2
Price/book	x	2.6	2.5	2.1	1.8

RIL IN rel SENSEX performance, & rec history



Source: FactSet, Macquarie Research, July 2009 (all figures in INR unless noted)

Analysts

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Gas dispute: Big picture perspective

Event

Notwithstanding the recent High Court judgement ruling in favour of RNRL, we believe the gas dispute is not over. Press reports suggest that the government believes that gas is a national asset and it may intervene in the dispute. Also, RIL has stated that it shall appeal in the Supreme Court. In our detailed series on the gas dispute, we discuss longer-term implications for India's upstream potential in addition to potential consumers. Maintain OP.

Impact

- Significant impact on value if worst-case materialises: The High Court ruling suggests that RIL should not only supply RNRL gas at US\$2.3/mmBtu as opposed to the government approved price of US\$4.2/mmBtu, but RIL should also compensate the government for the difference. Our base case assumption factors in the former which has an NPV implication of Rs39/sh for RIL. Nevertheless, if the latter worst case scenario materialises there will be significant impact of additional Rs148/sh on RIL's value. This is despite RIL's lifting cost being very low. We believe the Rs184/sh fall in share price on the day of the judgement entirely factors in the impact of both.
- Need for close coordination to exploit massive upstream potential. Our recent Oil Yatra (Tour) "Next Generation opportunity authenticated" India's massive upstream potential. The proposed oil & gas production from just ~4% of RIL's KG-D6 block and Cairn's Rajasthan block shall add 0.5% to global and equal 1/4th of Brazil or Gulf of Mexico current production. We estimate that this could add US\$20bn to India's GDP, cut India's oil imports by 23% and add US\$59bn NPV in government profit share and taxes. Yet this is the tip of the iceberg. Our Yatra finding suggests massive biogenic corridors not only in the rest of KG-D6, but across the east coast. We believe future contracts need to be closely coordinated between the buyers, sellers and the government otherwise misalignments such as the current one may dissuade future exploration and exploitation of India's mammoth upstream potential.
- Core consumer sectors at risk: Currently, the power sector consumes 39% and fertilisers consume 32% of the gas produced in India. From the first 40mmscmd, the government has also allocated four-fifths to existing facilities from these two sectors (Figure 27). Moreover, latent demand suggests that the entire proposed 80mmscmd KG-D6 production would be consumed by existing facilities (Figure 21). A 40mmscmd reservation for ADA Group's and NTPC's proposed new power facilities and an option for RNRL to source 40% additional volumes above 40mmscmd may leave little for existing facilities. We believe GMRI, LANCI, NFCL, CHMB and RCF are at risk.

Earnings and target price revision

No change.

Price catalyst

- 12-month price target: Rs2,405.00 based on a Sum of Parts methodology.
- Catalyst: New oil and gas finds and enhanced clarity on organised retail.

Action and recommendation

 We estimate RIL's profits, under our base case assumptions, to rise 50% in FY10E purely from volume growth, despite an assumed cyclical downturn.

Please refer to the important disclosures and analyst certification on inside back cover of this document, or on our website www.macquarie.com.au/research/disclosures.

Fig 1 Stocks mentioned in this report

Company Name	Bloomberg Code	Current Price (Rs/share)	Target Price (Rs/share)	Upside/Downside	Recommendation	Analyst
Reliance Natural Resources (RNRL)	RNR IN	81	-	-	Not Rated	
Cairn India	CAIR IN	234	175	-25%	Underperform	Jal Irani
Reliance Power	RPWR IN	173	-	_	Not Rated	
National Thermal Power Corp (NTPC)	NATP IN	199	-	-	Not Rated	
GMR Infra	GMRI IN	137	104	-24%	Underperform	Inderjeet Bhatia
Lanco Infratech	LANCI IN	358	-	-	Not Rated	•
Chambal Fertilisers and Chemicals	CHMB IN	65	-	-	Not Rated	
Nagarjuna Chemicals and Fertilisers	NFCL IN	40	-	-	Not Rated	
Rashtriya Chemicals and Fertilisers	RCF IN	76	-	-	Not Rated	
IFFCO	-	-			Not Listed	
KRIBHCO	-	-			Not Listed	
Gujarat State Fertiliser Company	GSFC IN	175	-	-	Not Rated	
Gujarat Narmada Valley Fertiliser	GNFC IN	94	-	-	Not Rated	
Tata Chemicals	TTCH IN	221	-	-	Not Rated	
National Fertilisers	NFL IN	63	-	-	Not Rated	
KRIBHCO-Shyam Fertilisers	-	-	-	-	Not Listed	
Indo-Gulf Fertilisers	ABNL IN	872	-	-	Not Rated	
Shriram Fertilisers and Chemicals	DCMS IN	53	-	-	Not Rated	
Torrent Power	TPW IN	191	-	-	Not Rated	

Source: FactSet, Macquarie Research, July 2009 Note: Data for companies not under coverage are based on FactSet consensus estimates.

Stress valuation scenarios for RIL's KG-D6

Our base case valuation of Rs211/sh (US\$7.3bn) for RIL's 90% stake in KG-D6 gas, assumes that RIL will have to sell 40mmscmd of its KG-D6 gas at a lower price of US\$2.3/mmBtu to RNRL and NTPC for a 10-year period.

The worst case scenario for RIL would be if it were to lose the ongoing dispute against RNRL and the government were to use US\$4.2/mmBtu for computing the share of profit petroleum, royalty and corporate taxes, even though RIL realises only US\$2.3/mmBtu.

Best case value of Rs250/sh assumes full pricing of US\$4.2/mmBtu for the entire quantity.

Fig 2 Stress valuation scenarios for RIL's KG-D6 gas

	Base Case	Best Case	Worst Case
NPV (US\$bn)	7.3	8.5	2.2
NPV (Rs/sh)	211	250	63
Deviation from Base Case (Rs/sh)		39	-148
% of Target Price (Rs2,405)		1.6	-6.2
Source: Macquarie Research, July 2009			

Fig 3 Base case cashflow forecasts for KG-D6 block

	FY2010E	FY2011E	FY2012E	FY2013E	FY2014E	FY2015E	FY2016E	FY2017E	FY2018E	FY2019E
Cash profits	1,783	2,032	3,025	3,549	6,323	6,598	6,507	6,795	7,097	7,414
Government share	178	203	303	355	1,012	1,847	5,531	5,776	6,032	6,302
Tax	-	-	-	-	-	-	-	342	358	374
Capex	1,005	997	1,052	639	659	629	380	396	413	430
Net Operator cashflow	600	831	1,670	2,555	4,652	4,121	596	281	294	308
Source: Macquarie Research, July 2009										

Fig 4 Worst case cashflow forecasts for KG-D6 block

	FY2010E	FY2011E	FY2012E	FY2013E	FY2014E	FY2015E	FY2016E	FY2017E	FY2018E	FY2019E
Cash profits	1,733	1,982	2,975	3,472	6,238	6,506	6,309	6,580	6,865	7,165
Government share	273	298	397	502	2,220	7,089	7,050	7,417	7,801	8,206
Tax	-	-	-	-	-	-	-	440	463	487
Capex	1,005	1,047	1,102	717	743	721	479	503	528	555
Net Operator cashflow	455	637	1,476	2,253	3,276	(1,303)	(1,221)	(1,779)	(1,927)	(2,082)
Source: Macquarie Research, July 2009										

Fig 5 Best case cashflow forecasts for KG-D6 block

	FY2010E	FY2011E	FY2012E	FY2013E	FY2014E	FY2015E	FY2016E	FY2017E	FY2018E	FY2019E
Cash profits	2,732	2,980	3,974	5,022	7,927	8,340	8,294	8,725	9,178	9,654
Government share	273	298	397	502	2,220	7,089	7,050	7,417	7,801	8,206
Tax	-	-	-	-	-	-	-	440	463	487
Capex	1,005	1,047	1,102	717	743	721	479	503	528	555
Net Operator cashflow	1,454	1,635	2,474	3,803	4,964	530	765	366	386	407
Source: Macquarie Research, July 2009										

Fig 6 Reliance Industries: Sum-of-the-parts valuation by segment

	Contribution to value of RIL	Contribution to value of RIL	
	(Rs m)	(Rs/sh)	Basis for valuation
Core current business			
Refining and Petrochemicals business*	1,474,730	898	DCF based valuation
Auto-fuel retailing	138,768	88	DCF based valuation
Reliance Petroleum refinery	462,431	282	DCF based valuation
E&P business (KG basin gas)	346,958	211	DCF based valuation
E&P business (KG basin oil)	123,465	75	DCF based valuation
Contribution from main business segments	2,546,353	1,554	
Other assets and investments			
Treasury stock (14% of equity capital)	490,852	299	Valuation at mkt price
Contribution from assets and investments	490,852	299	·
Option value: Projects in gestation period			
CBM-Sohagpur and NEC 25 Gas	286,650	175	Using EV/ boe
Other E&P (D9, D3 and GS-01)	435,824	265	Using EV/ boe
Organised retail venture	44,660	27	DCF based valuation
2 mtpa Ethylene cracker	139,311	85	DCF based valuation
Total valué per share	3,943,650	2,405	
Source: Company data, Macquarie Research, July 2009			

Need for close coordination to exploit India's sizable upstream potential

Our recent Oil Yatra (Tour), "Next Generation opportunity authenticated," highlighted India's sizable upstream potential. From just ~4% of KGD6 block, RIL's 80mmscmd proposed gas production is equal to 0.5% of global or one-fourth of that of Brazil or Gulf of Mexico. We estimate that this could add US\$20bn to India's GDP, cut India's oil imports by 23% and add US\$59bn NPV in government profit share and taxes – and yet this is the tip of the iceberg. Our Yatra finding suggests massive biogenic corridors not only in the rest of KGD6, but across the East Coast. We believe that future contracts need to be closely coordinated between the buyers, sellers and the government, otherwise misalignments such as the current one may dissuade future exploration and exploitation of India's significant upstream potential.

India's new production = 34% of Brazil's current = 0.5% of world from small part of two blocks

Reliance's KG-D6 gas discovery was the world's largest gas discovery in 2002. First gas from the KG-D6 block is expected to flow in March-April 2009. Initial gas production is expected to be 80mmscmd, which would double India's current gas availability. In addition, there could be 40k bpd of oil and 9mmscmd of gas production from the MA field in the KG-D6 block. Similarly, Cairn India is scheduled to commence 175,000bpd of oil production from a small area of its Rajasthan MBA blocks, which has significant upside potential. Together, these should add 0.5% to the world oil equivalent production, which is equal to 34% of Brazil's current production.

Fig 7 India's new production = 34% of Brazil's current = 0.5% of world

	2011E production
Global Oil (m bbl/d)	81.5
Global Gas (mmscmd)	8,054.8
Global Oil Equivalent Production (m boe/d)	132.2
Brazil Oil (m bbl/d)	1.8
Brazil Gas (mmscmd)	30.9
Brazil Oil Equivalent Production (m boe/d)	2.1
Reliance Oil (m bbl/d)	0.04
Reliance Gas (mmscmd)	80
(1) Reliance Oil Equivalent Production (m boe/d)	0.5
(2) Cairn's Rajasthan Oil Production (m bbl/d)	0.2
(1) + (2) India's total new oil equivalent production (m boe/d)	0.7
% of world oil equivalent production	0.5
% of Brazil oil equivalent production	33.5
Source: Macquarie Research, July 2009	

World's largest deep-water gas operation from a portion of one block

Initial production from KG-D6 is from the seven wells drilled in one-fourth of the block area. There appears to be substantial upside to the current production rate from the other successful wells and from the unexplored area of the block.

Fig 8 One-fourth of KG-D6 acreage has been drilled

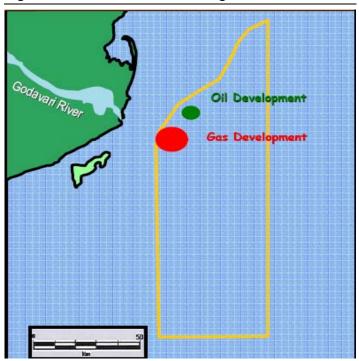
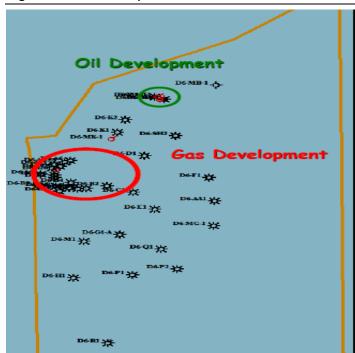


Fig 9 25% of Brazil production from 25% of KG-D6



Source: Niko Resources, Macquarie Research, July 2009

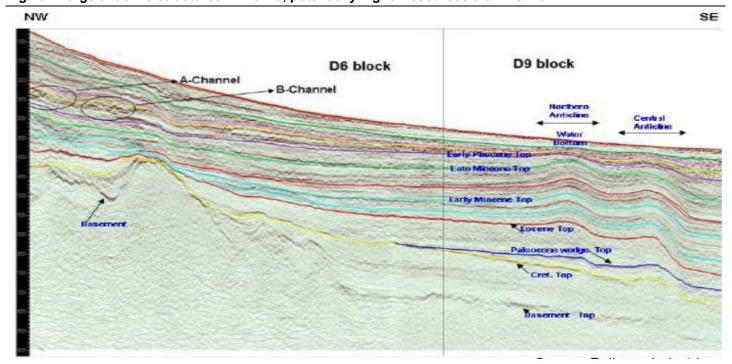
Source: Niko Resources, Macquarie Research, July 2009

Same geological plays extend to other blocks on the east coast

Recent studies carried out by the upstream exploration companies show that the geological plays present in the KG-D6 block extend through to the large area of the KG basin. RIL's partner in KG-D9, Hardy Oil, believes that KG-D9 could be much larger than KG-D6. These views were re-affirmed by the DGH.

In addition, there have been several discoveries in recent years in the Mahanadi and the Cauvery basins. Reliance's Mahanadi block MN-D4 could itself be multiple times larger than the KG-D6.

Fig 10 Large anticline structures in KG-D9, potentially higher resources than KG-D6



Source: Hardy Oil, Macquarie Research, July 2009

3 July 2009

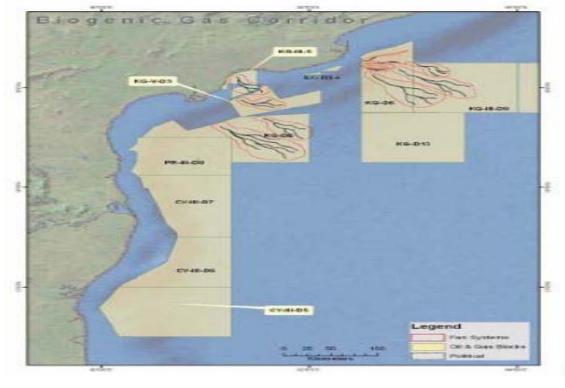


Fig 11 Across Indian east coast, blocks have same geological plays as KG-D6

Source: Hardy Oil, Macquarie Research, July 2009

US\$ 20bn direct and indirect gain to GDP, equal to 1.5%

We estimate India shall have a total potential total gain of US\$20bn pa to GDP, which is equal to 1.5% within the next two years on the back of RIL and Cairn's committed oil and gas start-up. We estimate approximately half of this shall be a direct gain and the balance shall be gains to downstream user of cheap gas.

US\$11bn direct gain to GDP, equal to 0.8%

India is an energy-starved country as it imports three-quarters of its oil requirements. Moreover, India's rapid economic growth is expected to keep the energy demand high. The increased domestic gas supply will have a big impact on key consuming sectors such as fertilisers and power generation.

We expect new domestic gas and oil production from Reliance's KG-D6 and crude oil production from Cairn's Rajasthan block to directly contribute US\$10.6bn pa. This assumes RIL shall sell gas at US\$4.2/mmBtu, an oil equivalent price of US\$25/bbl, ie, 70% lower than our FY11E forecast of US\$77/bbl.

Fig 12 New oil and gas production shall directly add US\$11bn to GDP

	Amount
Reliance Gas Production (mmscmd)	80.0
Reliance Gas Production (bcm)	29.2
Reliance Oil Equivalent Production (m boe)	183.7
Value at US\$4.2/mmBtu (US\$bn)	4.6
Reliance Oil Production ('000bpd)	40.0
Reliance Oil Production (m bbl)	14.6
Value at US\$77/bbl (FY11E Macquarie forecast) (US\$bn)	1.1
Cairn's Oil Production ('000bpd)	175.0
Cairn's Oil Production (m bbl)	63.9
Value at US\$77/bbl (US\$bn)	4.9
Value of total incremental oil & gas production (US\$bn)	10.6
India's GDP forecast FY11E (US\$tr)	~1.3
% Add to GDP forecast	0.8
Source: Macquarie Research, June 2009	

Additional indirect gain of US\$9.5bn to GDP, equal to 0.7%

We assume that the energy-starved downstream consuming sectors – such as fertiliser, power generation, refineries – shall substitute for oil consumption, costing US\$77/bbl with RIL's gas that costs one-third. The additional indirect gain of the same shall be another US\$9.5bn pa to GDP.

Fig 13 US\$20bn total gain to GDP including benefit to downstream users

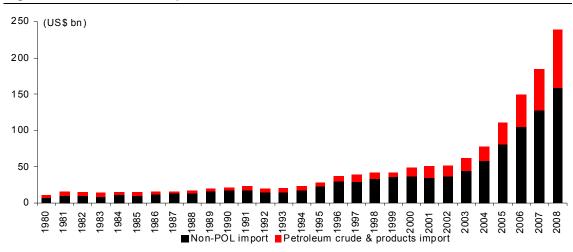
	Amount
Reliance Gas Production (mmscmd) Value at US\$12.8/mmBtu ie, oil equivalent price of US\$77/bbl (US\$bn)	80.0 14.1
Reliance + Cairn Oil Production (000bpd) Value at US\$77/bbl (US\$bn)	215.0 6.0
Value of total incremental oil & gas production (US\$bn) % Add to GDP forecast	20.1 1.5
Source: Company data, Macquarie Research, July 2009	

Oil import bill to reduce by 11-30%, or US\$19-30bn pa

India is energy-starved, importing 75% or ~US\$85bn oil and petroleum product requirements in FY09E.

Petroleum crude and products imports have always formed a large chunk of Indian imports. The last five years have seen the petroleum crude and product imports reach close to 33% of total imports. Based on the growing demand for development in the economy, this proportion is likely to increase, as only about 30% of the total consumption is produced domestically.

Fig 14 Oil as % of total imports



Source: Ministry of Commerce, Macquarie Research, July 2009

India's trade deficit has widened in the recent past due to ever rising oil prices. Three-fourths of the oil and one-fourth of the gas consumed in India is imported. Crude oil and gas formed 33% of the total imports in FY08, one of the largest contributors to the trade deficit.

The new gas will be sold at a price of US\$4.2/mmBtu or US\$25/bbl in crude oil equivalent terms. At our forecast price of US\$77/bbl, the direct savings in energy spend will be ~US\$19bn pa in 2011.

Fig 15 Incremental natural gas production will reduce the net oil import bill by 11–30%

	2009E	2010E	2011E	2012E	2013E	2014E	2015E
Macquarie WTI price forecast (US\$/bbl)	86.3	54.5	77.0	81.0	84.0	80.0	81.6
Reliance's KG-D6 Gas at US\$4.2/mmBtu (US\$bn)	0.0	2.3	4.6	4.6	6.9	6.9	6.9
Reliance's KG D6 Gas at international crude prices equivalent (US\$/bn)	0.0	5.0	14.1	14.9	23.1	22.0	22.5
Reduction in energy import bill (US\$bn)	0.0	5.0	14.1	14.9	23.1	22.0	22.5
Reliance's KG-D6 Oil (US\$bn)	0.0	0.6	1.1	1.2	1.8	1.8	1.8
Cairn India's Oil (US\$bn)	0.0	0.6	3.7	4.4	5.4	5.1	5.2
Reduction in energy import bill (US\$bn)	0.0	1.2	4.8	5.6	7.2	6.9	7.0
Total reduction in energy import bill (US\$bn)	0.0	6.2	18.9	20.5	30.3	28.9	29.5
Net oil and petroleum product import bill if no new oil and gas prodn (US\$bn)	85	56	84	92	101	101	108
% savings in net oil import bill	0	11	23	22	30	29	27
Source: Macquarie Research, July 2009							

Value to government is 4x that of the E&P firm

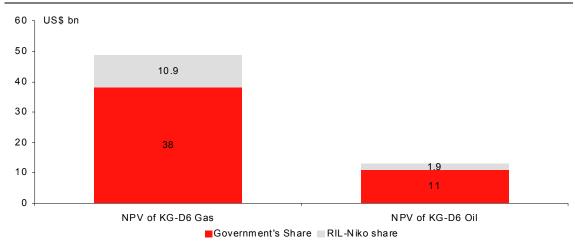
The value to the government of India from an oil and gas production block can be as much as 4x that of the operator of the block, as is evident from RIL's KG-D6 block. This includes the government's profit share, royalties and corporate income tax on oil and gas companies' profits. We have analysed the government's NPV as the difference between the present value of the cash profit from two projects and the present value of the operator's cash profit.

NPV of the government's cash profits from KG-D6 is US\$49bn

We estimate that the government will gain US\$38bn and US\$11bn from KG-D6 gas and oil production, respectively. The figures do not include gains from savings on fuel, fertiliser and power subsidies.

On the other hand, our base-case NPV to E&P companies is US\$10.9bn and US\$1.9bn from KG-D6 gas and oil production, respectively.

Fig 16 Government gets 4x more than RIL-Niko from KG-D6 production



Source: Company data, Macquarie Research, July 2009

Government's cash profits are typically back-ended

Most of the production-sharing contracts are based on a rising scale, where the government's share of profits increases with an increase in a contractor's recovery of capital.

3 July 2009

20 US\$ bn 18 16 14 12 10 8 6 4 2 2026 2030 2010 2012 2014 2016 2018 2020 2022 2024 2028 ■Government Cash-flow KG-D6 ■RIL-Niko Cash flow KG-D6

Fig 17 Government's cashflow is back-ended as in KG-D6

Source: Company data, Macquarie Research, July 2009

Government's NPV from Cairn's Rajasthan block is US\$10bn

We estimate that the government of India will gain US\$10bn from the Rajasthan oil production. This does not include the gains from the savings on fuel, fertiliser and power subsidies; it includes tax revenues from E&P companies' profits.

On the other hand, our base-case NPV to Cairn India and ONGC are US\$5.9bn and US\$2.5bn from Rajasthan oil production.

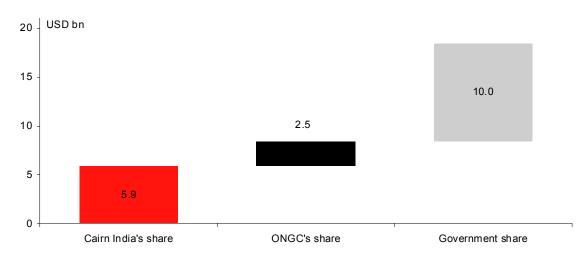


Fig 18 Government gets more than ONGC-Cairn India from Rajasthan production

Source: Company data, Macquarie Research, July 2009

The government's cash profits are higher than the E&P companies

The government's profit-share formula in the Rajasthan block is capped at a 50% profit share between the E&P companies and the government. This compares with 85% for KG-D6. The profit share for the government would typically not be lower than 50%.

■Cairn-ONGC Cash flow ■ Government's Cash flows

Fig 19 The government's cashflow is evenly spread due to the equal profit share

Source: Company data, Macquarie Research, June 2009

Core consumer sectors at risk

Currently, the power sector consumes 39% and fertilisers consume 32% of the gas produced in India. From the first 40mmscmd, the government has also allocated 82% to existing facilities from these two sectors. Moreover, latent demand suggests that the entire proposed 80mmscmd KG-D6 production would be consumed by existing facilities. A 40mmscmd reservation for RNRL (Reliance Power's) and NTPC's proposed new power facilities and an option for RNRL to source 40% additional volumes above 40mmscmd may leave little for existing facilities. Amongst the listed plays, we believe GMR Infra, GVK Power, Lanco Infratech, Nagarjuna Fertilisers, Chambal Fertilisers and Rashtriya Chemicals and Fertilisers are at risk.

Natural gas demand-supply outlook

Supply-demand projections for an immature market in transition – which is where the Indian natural gas market is currently – are fraught with considerable risk. The Ministry of Petroleum and Natural Gas has recently reduced its gas supply estimates for the next five years as projects other than RIL's KG-D6 are expected to be delayed.

Fig 20 Gas supply outlook - KG-D6 gas to double domestic availability

Sources (mmscmd)	2007/08	2011/12	2016/17	
ONGC (Firm + Indicative)	47.19	51.65	42.36	
OIL	10	10	10	
Pvt / JVs (As per DGH)	22.21	102.57	99.09	
Projected Domestic Supply Conservative	79.4	164.22	151.45	
Additional RIL	0	2	3.2	
GSPC	0	4.5	4.5	
Additional Gas Anticipated	0 00	13	7.7	
Total Projected Supply Optimistic	79.4	177.72	159.15	
LNG Supply Source (MMTPA)				
Dahej	6.5	12	12.5	
Hazira	2.5	2.5	5	
Dabhol	-	5	5	
Kochi	-	2.5	5	
Mangalore	-	1.25	2.5	
Ennore	-	-	1.25	
Total LNG Supply	9	23.25	31.25	
Total LNG Supply (mmscmd)	31.5	81.38	109.38	
Total Domestic Gas + LNG (Conservative)	110.9	245.6	260.83	
Total Domestic Gas + LNG (Optimistic)	110.9	258.6	268.53	
Source: MoPNG, Macquarie Research, July 2009				

Fig 21 Gas demand outlook – power sector will be the biggest demand driver

Sector	2007/08	2011/12	2016/17
Fertilizers	41.02	79.36	95.36
Power	73.68	148.38	-
City Gas	12.08	15.83	23.26
Industrial	15	21.96	35.37
Petrochemical / Refineries / internal Consumption	25.37	33.25	46.63
Sponge Iron / Steel	6	27.86	-
Total	173.15	326.14	-

For the power, fertiliser and steel sector, projections are provided by the Ministry of Power, Department of Fertiliser and Ministry of Steel

For the industrial sector, annual growth rate of 10% as per Department of Industrial Policy & Promotion.

For city gas and petrochemicals, growth rates of 8% and 7%, respectively, are considered.

Source: Macquarie Research, July 2009

Government gas allocation policy

The recommendation of the Empowered Group of Ministers (EGoM) suggests that greenfield power projects are the last in the order of priority for receiving gas.

EGoM's proposed priority for receiving gas supplies

In view of the current deficit in the availability of natural gas in the country, the first priority has been given to existing plants to ensure utilisation of capacity already created and to obtain faster monetization of natural gas.

Second, wherever possible, liquid fuels in energy-intensive industries should be replaced by natural gas at the earliest possible time for environmental and economic reasons. Third, existing plants should meet the requirements of de-bottlenecking and expansions at existing locations.

The following priority order for existing plants has been announced by the government.

- Existing gas-based urea plants, which are now getting gas below their full requirement, would be supplied gas to enable full-capacity utilisation.
 - ⇒ There are currently 22 fertiliser plants in the country that have the ability to use natural gas. The combined production capacity of these plants is 16.6mmtpa. Due to shortfalls in gas availability in the country, these plants use costlier alternate fuels like naphtha and fuel oil. Against the requirement of 39.4mmscmd, the current supply to these plants is around 30.2mmscmd, resulting in a shortfall of 9.2mmscmd.
 - ⇒ In addition to gas-based fertiliser plants, there are five naphtha and three fuel oil-based plants. The gas requirements of these plants are 6.8mmscmd and 3mmscmd, respectively.
 - ⇒ Furthermore, there are seven closed fertiliser units, which can produce an additional 7mmtpa of urea. The gas requirement of these plants is expected to be around 14mmscmd.
- LPG plants would be supplied a maximum quantity of 3.0mmscmd.
 - ⇒ At present, there is a shortage in meeting the requirement of LPG for domestic use. About 25% of plants' requirements is met by imports. This is expected to rise in the coming years because of continuing enrolment and almost static production levels. Therefore, the next priority should be given to existing LPG extraction plants.
 - ⇒ The present total natural gas requirement for petrochemicals is estimated at 13–15mmscmd, of which around 5mmscmd is current supply. The current shortfall is thus around 8–10mmscmd.
- Power plants. Supplies to power plants could include up to 18mmscmd of natural gas, which is the partial requirement of gas-based power plants that are lying idle/underutilised and that are likely to be commissioned during FY09, and liquid fuel plants, which are now running on liquid fuel and could switch over to natural gas.
 - ⇒ Over the years, several gas-based power plants have been built in the country. Some of these plants are either lying idle or are using expensive alternative fuels because of limited availability of natural gas.
 - ⇒ The demand for gas from existing gas-based power plants, including Ratnagiri and RRVUN, Dholpur, is around 66.93mmscmd, and the current supply is around 37mmscmd, resulting in current unmet demand of around 30mmscmd.
- City gas distribution. A maximum quantity of 5.0mmscmd would be made available to city gas
 distribution projects for the supply of piped natural gas (PNG) to households and compressed
 natural gas (CNG) in the transport sector.
 - ⇒ The supply of city gas as a clean and cheap fuel for domestic purpose uses has become a vital necessity for the urban dwellers. Currently, PNG is supplied to 790,000 domestic households, 1,289 commercial customers and 74 industrial customers. Also, there are 409 CNG stations set up in the country.
 - ⇒ At present, the country has 12 cities with populations of more than 2.5m each. All cities with a population of more than 2.5m are supposed to be connected within three years. Furthermore, for cities with a population of 1.0–2.5m, connection will be phased in.
- Refineries. Any additional gas available, beyond categories 1–4 above, would be supplied to the refineries.
 - ⇒ Refineries are currently using costly alternatives like crude oil/fuel oil for processing and to burn naphtha for hydrogen production. Expansion of refineries is being constrained due to environmental concerns. Use of gas in refineries would help refiners to meet environmental norms and economical capacity expansion. Use of gas would likely result in reduced losses to PSU refineries, resulting in savings in government subsidies.

- ⇒ The total liquid fuel consumption in the PSU refineries is estimated at 640t per month. Most of the liquid fuel used in refineries is fuel oil. However, naphtha is also used in refineries for the generation of hydrogen and for power. The estimated total liquid fuel consumption in the PSU refineries, both for fuel and hydrogen generation, translates to around 24mmscmd of natural gas. Against this, the current supply is only 2.0mmscmd.
- Other industries. The existing industries that use natural gas have to be given importance over greenfield projects in other sectors, according to the utilisation policy.
 - ⇒ An important industry in this regard is sponge iron. Although 80% of sponge iron production in the world is from gas-based plants, only about 30% of such production is in India. Gas-based sponge iron plants use natural gas as a feedstock for reducing iron oxide to iron. The current sponge iron plants are getting around 50% of their requirement of natural gas. Similarly, ceramic plants use natural gas. Usage of natural gas is energy efficient and environmentally friendly.

Once gas demand from existing units has been satisfied, gas should be utilized in the following order of priority for new greenfield expansion plants.

- Greenfield fertiliser plants. At present, there is a gap of 6mmtpa between urea demand and indigenous production of urea. With the present production capacities, the gap is projected to grow to 11mmtpa by 2011/12. The demand-supply gap is likely to increase further after 2011/12. Large dependence on imports for meeting the urea requirement in the country is not desirable, because it has an inflationary effect on international prices, which are largely dependent on the prevailing demand-supply position. Due to the sharp increase in international prices, the country has been paying a high price for its import dependence in the past few years.
 - ⇒ The expected demand for greenfield gas-based fertilizer plants is projected to be around 16mmscmd for a capacity of around 8mmtpa for eight units. That demand is expected to occur by 2011/12.
- Greenfield petrochemical plants. Around 15–17mmscmd of additional demand is expected from the petrochemicals sector.
- City gas distribution. The expected demand from CGD is estimated at 7.9mmscmd as PNG and 13.4mmscmd as CNG.
- New refineries.
- New power plants. In addition to the existing gas-based power plants, around 4,266MW gas-based plants are expected to be added by FY12. The gas requirement for those plants is expected to be around 24mmscmd. Additional projects that have been identified and that can be taken up for execution in the XI/XII Plan subject to availability of natural gas are around 13,000MW, requiring about 62mmscmd of natural gas.

RIL has signed GSPA with the fertiliser companies

RIL's Gas Sales and Purchase Agreement (GSPA) with the fertiliser companies involve supply of 15mmscmd of natural gas from KG-D6 block to 15 urea units across the country.

The following fertiliser companies are receiving the gas from April 2009:

Nagarjuna Fertilisers and Chemicals – Kakinada, Rashtriya Chemical and Fertilisers – Trombay and Thal, IFFCO – Aonla, Kalol, Phulpur, KRIBHCO – Hazira, Gujarat State Fertiliser Company – Baroda, Gujarat Narmada Valley Fertiliser – Bharuch, Tata Chemicals – Babrala, National Fertilisers – Vijaypur, Chambal Fertilisers and Chemicals – Gadepan, KRIBHCO-Shyam Fertilisers – Shahjahanpur, Indo Gulf Fertilisers – Jagdishpur, Shriram Fertilisers and Chemicals – Kota.

Pipeline infrastructure supports initial production

- KG-D6 gas will come onshore at Kakinada (Andhra Pradesh) from where it will be transported to Bharuch (Gujarat) through a 1,386-km pipeline laid by RGTIL. In Gujarat, RGTIL will use the pipeline network of GSPL to take the gas to end-consumers as well as connect to GAIL's Hazira-Vijaypur-Jagdishpur pipeline.
- On the HBJ pipeline, NFL will get 0.65mmscmd, Chambal Fertiliser 1.15mmscmd, KRIBHCO Shahjahanpur 0.978mmscmd, Tata's Babrala plant 0.88mmscmd, Indo Gulf Fertiliser's Jagdishpur plant 0.48mmscmd, Shriram Fertilisers' Kota plant 0.62mmscmd, IFFCO's Aonla and Phulpur units in Uttar Pradesh 1.75 and 0.52mmscmd, respectively.

Among non-HBJ customers, KRIBHCO Hazira unit will get 1.37mmscmd, Gujarat State Fertilisers & Chemicals' Baroda plant 0.72mmscmd, Rashtriya Chemical Fertilisers' Trombay unit 0.95mmscmd and Thal 2.1mmscmd, Nagarjuna Fertiliser 1.55mmscmd, GNFC 0.342mmscmd and IFFCO's Kalol plant would get 1.3mmscmd of gas, respectively.

Gas to reach fertiliser plants at a cost of US\$5.3-6.2/mmBtu

- RIL will sell gas to the fertiliser companies at US\$4.20/mmBtu as per the contract. However, the
 actual cost of the KG basin gas to the fertiliser companies would be higher due to the additional
 transportation charge, which would be levied depending on the distance and the terms of contract
 with the gas transporting firms such as GAIL and GSPL.
- GAIL will charge US\$0.14-0.60/mmBtu for providing the last-mile connectivity to consumers through its pipeline network. GSPL's pipeline will be used for transporting its gas through Gujarat.
- RIL has lowered the margin it would charge on selling the gas to US\$0.135/mmBtu from the proposed US\$0.15/mmBtu even though its proposed margin was lower than GAIL's US\$0.17/mmBtu.
- For instance, the delivered price, including taxes and transportation charges, of the RIL gas in Andhra Pradesh would be US\$5.34/mmBtu while in Maharashtra it would cost US\$5.87/mmBtu. In Gujarat, it would cost US\$5.87/mmBtu, and along the Hazira-Vijaypur-Jagdishpur (HVJ) pipeline US\$6.21/mmBtu.

KG-D6 gas price is affordable for the fertiliser sector

We estimate that the delivered gas price of US\$6.0/mmBtu will be affordable for the fertiliser sector.

Fig 22 Comparative cost of production of urea in India and abroad

Item	Average cost (15 years) of urea prod	luction (US\$/t)
	India	Abroad
Variable Cost		
Natural Gas (US\$1/mmbtu)	20.7	20.7
Fixed Cost		
Utilities	3.6	3.6
Bags	6.2	6.2
Labour and overheads	12.8	32.1
Maintenance and insurance	16	20.6
CRC	89.6	102.4
Subtotal (FC)	128.2	164.9
Total (VC + FC)	148.9	185.6
Additional Cost for consumption in India		
Ocean Freight		20
Port handling and Bagging etc		15
Subtotal		35
Total	148.9	220.6
Source: Fertiliser Ministry, Macquarie Research, July 20	09	

US\$1/mmBtu increase in gas price leads to US\$21/t increase in urea cost of production

Fig 23 Sensitivity of cost of production in India with changes in gas prices

	<u> </u>	<u> </u>
Natural Gas Price (US\$/mmBtu)	Cost of Urea Production in India (US\$/t)	Cost of Urea Production Abroad (US\$/t)
1.0	148.9	185.6
2.0	169.6	206.3
3.0	190.3	227.0
4.0	211.0	247.7
5.0	231.7	268.4
6.0	252.4	289.1
Source: Fertiliser Ministry, Macquarie Research, Jul	ly 2009	

GSPA with power plants followed as production increased

Reliance has signed GSPA with these power companies:

- Gautami Power Limited, GVK Industries Limited Phase I, GVK Industries Limited Ext Phase II
- Gujarat Paguthan Energy Corporation (Not Listed)
- Lanco Infratech Konaseema Gas Power and Kondapalli Power

- Maharashtra State Power Generation Company (Not Listed)
- Reliance Infrastructure Ltd (Not Listed)
- Torrent Power Limited Sugen and Vatva
- GMR Infra Vemagiri Power

KG-D6 gas price is affordable for the sector

We estimate that the delivered gas price of US\$6.0/mmBtu will be affordable for the power sector. Our calculations are based on the following assumptions:

- Though domestic coal is ideally suited for power generation, power demand may outpace the domestic coal output.
- Recent biddings for power plants have set a benchmark power tariff.

Fig 24 Benchmark tariff based on recent biddings for power plants

Power Plant	Quoted power tariff
Bids for imported coal based 4,000MW power plant Essar winning bid for imported coal-based 1,000MW power plant in Jamnagar	Rs2.26–2.96 per unit Rs2.40 per unit
Source: Reliance Industries, Macquarie Research, July 2009	

- Widely accepted affordable power generation cost of Rs2.50 per unit.
- To achieve the same power tariff, the affordable delivered gas price is around US\$6/mmBtu.

Fig 25 Delivered gas price of US\$6/mmBtu is affordable for power sector

Parameter	Assumption
Capex	Rs2.75 Cr/MW
PLF	90%
Debt equity	70:30
Long-term debt	10% pa
Return on Equity	14%
Tenure	20 years
Fixed tariff levellised	Rs0.70/unit
Affordable variable cost to achieve total cost of Rs2.50	Rs1.8/unit
Heat Rate	1550-1650 Kcal/Kwh
Gas Price	\$6-6.4/mmBtu
Source: Reliance Industries, Macquarie Research, July 2009	

Fig 26 Net back price based on imported coal-based power plant is US\$6/mmBtu

Description	Unit	Value	
CIF price of coal	US\$/t	60	
Customs duty @5%	US\$/t	3	
Handling charges	US\$/t	5	
Delivered price of coal	US\$/t	68	
CV of coal	kcal/kg	5500	
Delivered Price	US\$/mmBtu	3.1	
Variable Cost Coal	Rs/kWh	1.29	
Capital cost margin coal vs gas	Rs/kWh	0.3	
Affordable gas price	US\$/mmBtu	6.0	
Premium for lower carbon emissions		??	
Source: Reliance Industries, Macquarie Research, J	uly 2009		

Gas sales commenced in April 2009

In January 2009, the Bombay High Court had modified its interim judgement in the RIL-RNRL case to lift the stay on sale of gas from RIL's KG-D6 block. This order cleared the roadblock for start of gas production from the KG-D6. Fertiliser and Power companies, as the users of KG-D6 gas, were the key beneficiaries.

RIL signed the Gas Sales and Purchase Agreements (GSPA) with 15 fertiliser units for supply of gas to be produced from the KG-D6 block. This was followed by the signing of the GSPA with the existing gas based power producers. RIL started gas production in early April.

Fig 27 The off-take plan for first 40mmscmd of KG-D6 gas through GAIL's pipelines

	Fertiliser	Power	LPG	City Gas	Total
KG basin	1.5	6.0	0.0	0.2	7.8
HVJ (ex Hazira)	8.4	1.7	2.2	1.5	13.8
DUPL	3.1	3.7	0.3	1.5	8.5
Gujarat	1.9	6.5	0.5	1.8	10.7
Total	14.9	17.9	3.0	5.0	40.8
Source: GAIL, Macquarie Rese	earch, July 2009				

Government approved price at US\$ 4.2/mmBtu

In September 2007, the empowered group of ministers approved RIL's proposed formula for KG-D6 gas with minor changes. The approved price of the KG-D6 gas is US\$4.2/mmBtu, which will be valid for the next five years, after which it will be open for revision. This price compares with a price of US\$2.3/mmBtu that RNRL believes it is entitled to receive.

Gas pricing formula approved by the government

Selling price of gas (US $\frac{mBtu} = 2.5 + (CP - 25) \cdot 0.15$

Where:

SP is the sales price of gas in US\$/mmBtu (NHV basis).

CP is the annual average Brent crude price for the previous FY, with a cap of **US\$60/bbl** and a floor of US\$25/bbl.

Government's NPV is optimum at a price >US\$4.0/mmBtu

The government's NPV depends on the investment multiple (IM) and subsidy on user sectors. Investment multiple for the government is dependent on the price of gas as well as on capital cost. The mathematical expression for the investment multiple is as follows.

IM = Cum NCIF / Cum ED

NCIF = Cost petroleum + Profit Petroleum + Incidental incomes – Production costs – Royalty payments (NCIF: Net cash inflow)

ED = Exploration costs + Development Costs

Fig 28 Government and Reliance's NPV at different gas prices

Gas prices (US\$/mmBtu)	2.5	3.0	3.5	4.0	4.5	5.0
(A) Contractor take, ie, RIL's take (US\$bn)	6.6	9.5	12.3	13.7	14.9	15.7
Government take:						
Royalty (US\$bn)	1.6	1.9	2.3	2.6	2.9	3.2
Profit Petroleum (US\$bn)	1.2	2.1	3.2	6.5	9.6	13.3
Corporate income tax (US\$bn)	1.8	2.2	2.5	2.1	2.0	2.1
(B) Total government take (US\$bn)	4.6	6.2	8.0	11.1	14.5	18.6
Increase in government take as % of total increase		36%	39%	69%	74%	84%
If fertiliser sector gets 40% of the 10TCF gas and urea continues to be subsidised						
(C) Fertiliser subsidy implications (US\$)		1.9	3.8	5.7	7.6	9.6
(D) = (B) – (C) Net Government take* (US\$bn)	4.6	4.3	4.2	5.4	6.9	9.1

*If power sector is also subsidised /regulated, the net take can be further reduced

Source: Fertiliser Ministry, July 2009

Reliance Industries	(RII IN	Outperform	Target price	Re2 405 00\

Balance Sheet		2009A	2010E	2011E	2012E	Profit & Loss		2009A	2010E	2011E	2012E
Cash	m	62,890	137,639	166,115	136,134	Revenue	m	1,492,606	1,641,311	2,147,447	2,288,789
Receivables	m	77,131	80,009	102,311	108,083	Gross Profit	m	345,101	430,072	491,805	533,264
Inventories	m	123,203	113,575	151,274	154,945	Cost of Goods Sold	m	1,147,506	1,211,239	1,655,642	1,755,525
Investments	m	255,636	290,636	325,636	360,636	EBITDA	m	234,347	350,979	402,969	442,101
Fixed Assets	m	1,451,870	1,450,368	1,441,709	1,424,726	Depreciation	m	51,069	82,732	86,654	90,402
Intangibles	m	0	0	0	0	Amortisation of Goodwill	m	0	0	0	0
Other Assets	m	155,246	128,184	162,639	166,478	Other Amortisation	m	0	0	0	0
Total Assets	m	2,125,977	2,200,411	2,349,684	2,351,002	EBIT	m	183,278	268,247	316,315	351,699
Payables	m	196,782	171,485	226,253	230,290	Net Interest Income	m	-17,878	-34,086	-26,023	-13,311
Short Term Debt	m	87,000	87,000	87,000	37,000	Associates	m	0	0	0	0
Long Term Debt	m	440,743	486,951	325,757	77,162	Exceptionals	m	-3,280	0	0	0
Provisions	m	29,926	29,926	29,926	29,926	Forex Gains / Losses	m	0	0	0	0
Other Liabilities	m	97,370	103,438	115,505	124,925	Other Pre-Tax Income	m	20,775	22,822	24,218	25,668
Total Liabilities	m	851,821	878,801	784,441	499,304	Pre-Tax Profit	m	182,896	256,983	314,510	364,056
Shareholders' Funds	m	1,274,156	1,321,611		1,851,698	Tax Expense	m	-30,700	-24,218	-31,686	-32,501
Minority Interests	m	0	0	0	0	Net Profit	m	152,196	232,765	282,823	331,555
Other	m	Ö	0	Ö	0	Minority Interests	m	0	0	0	0
Total S/H Equity	m		1,321,611		1,851,698	Willionty Interests		ŭ	· ·	Ū	Ū
Total Liab & S/H Funds	m		2,200,411	2,349,684	2,351,002	Reported Earnings	m	152,196	232,765	282,823	331,555
Total Liab & 3/111 ullus		2,123,377	2,200,411	2,343,004	2,331,002	Adjusted Earnings	m	155,476	232,765	282,823	331,555
						Aujusteu Earnings		155,476	232,765	202,023	331,333
						EPS (rep)		92.65	141.70	172.18	201.84
						EPS (adj)		94.65	141.70	172.18	201.84
						EPS Growth (adj)	%	0.7	49.7	21.5	17.2
						PE (rep)	X	21.7	14.2	11.7	10.0
						PE (adi)	X	21.3	14.2	11.7	10.0
						i L (auj)	^	21.5	14.2	11.7	10.0
						Total DPS		12.60	19.28	23.42	27.46
						Total Div Yield	%	0.6	1.0	1.2	1.4
						Weighted Average Shares	m	1,643	1,643	1,643	1,643
						Period End Shares	m	1,643	1,643	1,643	1,643
								,-	,	,-	,
Profit and Loss Ratios		2009A	2010E	2011E	2012E	Cashflow Analysis		2009A	2010E	2011E	2012E
Revenue Growth	%	8.8	10.0	30.8	6.6	EBITDA	m	234,347	350,979	402,969	442,101
EBITDA Growth	%	1.3	49.8	14.8	9.7	Tax Paid	m	-30,700	-24,218	-31,686	-32,501
EBIT Growth	%	1.0	46.4	17.9	11.2	Chgs in Working Cap	m	82,253	6,606	-37,496	-9,231
Gross Profit Margin	%	23.1	26.2	22.9	23.3	Net Interest Paid	m	-17,878	-34,086	-26,023	-13,311
EBITDA Margin	%	15.7	21.4	18.8	19.3	Other	m	6,462	7,977	9,875	9,406
	% %	12.3	16.3	14.7	15.4						
EBIT Margin	% %					Operating Cashflow	m	274,484	307,258 0	317,639 0	396,464
Net Profit Margin		10.2	14.2	13.2	14.5	Acquisitions	m	-156,574	-	-	72.420
Payout Ratio	%	13.3	13.6	13.6	13.6	Capex	m	-363,487	-81,229	-77,996	-73,420
EV/EBITDA	Х	16.1	10.7	9.4	8.5	Asset Sales	m	0	0	0	0
EV/EBIT	Х	20.6	14.0	11.9	10.7	Other	m	20,775	22,822	24,218	25,668
						Investing Cashflow	m	-499,286	-58,407	-53,778	-47,751
Balance Sheet Ratios						Dividend (Ordinary)	m	-20,699	-31,662	-38,471	-45,100
ROE	%	14.6	17.9	19.6	19.4	Equity Raised	m	692	0	0	0
ROA	%	9.5	12.4	13.9	15.0	Debt Movements	m	20,782	46,208	-161,194	-298,594
ROIC	%	11.2	14.0	16.2	17.7	Other	m	246,008	-153,648	-720	0
Net Debt/Equity	%	36.5	33.0	15.8	-1.2	Financing Cashflow	m	246,784	-139,102	-200,385	-343,694
Interest Cover	Х	10.3	7.9	12.2	26.4	1		.,	-,	-,	-,
Price/Book	Х	2.6	2.5	2.1	1.8	Net Chg in Cash/Debt	m	21,982	109,749	63,476	5,019
Book Value per Share		775.7	804.6	952.9	1,127.3			,	,. 10	,	-,- 1
				002.0	.,5	Free Cashflow	m	-89,003	226,029	239,643	323,045
						. ,		,-30	,	,•	,- 10

All figures in INR unless noted. Source: Company data, Macquarie Research, July 2009

3 July 2009 18

Important disclosures:

Recommendation definitions

Macquarie - Australia/New Zealand

Outperform – return >5% in excess of benchmark return Neutral – return within 5% of benchmark return Underperform – return >5% below benchmark return

Macquarie - Asia/Europe

Outperform – expected return >+10% Neutral – expected return from -10% to +10% Underperform – expected return <-10%

Macquarie First South - South Africa

Outperform – expected return >+10% Neutral – expected return from -10% to +10% Underperform – expected return <-10%

Macquarie - Canada

Outperform – return >5% in excess of benchmark return Neutral – return within 5% of benchmark return Underperform – return >5% below benchmark return

Macquarie - USA

Outperform (Buy) – return >5% in excess of benchmark return (Russell 3000)

Neutral (Hold) – return within 5% of benchmark return (Russell 3000)

Underperform (Sell)– return >5% below benchmark return (Russell 3000)

Recommendations - 12 months

Note: Quant recommendations may differ from Fundamental Analyst recommendations

Volatility index definition*

This is calculated from the volatility of historical price movements.

Very high-highest risk – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative.

High – stock should be expected to move up or down at least 40–60% in a year – investors should be aware this stock could be speculative.

Medium – stock should be expected to move up or down at least 30–40% in a year.

Low-medium – stock should be expected to move up or down at least 25–30% in a year.

Low – stock should be expected to move up or down at least 15–25% in a year.

* Applicable to Australian/NZ/Canada stocks only

Financial definitions

All "Adjusted" data items have had the following adjustments made:

Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests

EPS = adjusted net profit / efpowa*

ROA = adjusted ebit / average total assets
ROA Banks/Insurance = adjusted net profit /average
total assets

ROE = adjusted net profit / average shareholders funds Gross cashflow = adjusted net profit + depreciation *equivalent fully paid ordinary weighted average number of shares

All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

Recommendation proportions - For quarter ending 30 June 2009

AU/NZ	Asia	RSA	USA	CA	EUR
40.38%	48.53%	40.00%	44.02%	57.42%	40.20%
39.25%	17.08%	45.00%	37.45%	32.90%	39.21%
20.38%	34.40%	15.00%	18.53%	9.68%	20.59%
	40.38% 39.25%	40.38% 48.53% 39.25% 17.08%	40.38% 48.53% 40.00% 39.25% 17.08% 45.00%	40.38% 48.53% 40.00% 44.02% 39.25% 17.08% 45.00% 37.45%	40.38% 48.53% 40.00% 44.02% 57.42% 39.25% 17.08% 45.00% 37.45% 32.90%

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