J.P.Morgan

Reliance Industries Ltd

Pricing in 'doom and gloom'

In our July 12 Note ("Compelling valuations, de-rating unjustified"), we noted that we were worried about cyclical stress in the event of a global economic downturn. Unfortunately, our fears seem closer to materializing in the current scenario. RIL stock has corrected 14% since July and now reflects refining margins @US\$6.5/bbl(vs. US\$10.2YTD), 30% downside to our petchem spreads, and a 60 mmscmd plateau for D6 gas with no further value attributed to E&P. We maintain the asset is attractively priced; OW.

- The stock is not immune to cyclical stress, risk aversion... With strong linkages to global cyclical sectors, RIL stock and earnings are vulnerable to a global economic slowdown and equity risk aversion.
- ...but reflects an ugly global scenario: RIL is currently trading at 5.2xEV/EBITDA on our earnings projections. This is below its 2008 trough. Earnings would need to contract 32% to reflect GFC multiples. At current prices, RIL is reflecting GRMs contracting to US\$6.5/bbl (vs. RIL GRMs@US\$6.6/bbl, Sing GRMs@US\$2.7/bb in FY10) and a 30% contraction in petchem EBITDA.
- Current margins are still healthy; contraction could accelerate refining balance: Benchmark Singapore GRMs are US\$7.8/bbl QTD, our forecast builds in moderation in GRMs over FY12 (US\$6/bbl for CY11). A collapse in GRMs would accelerate shutdowns of less efficient refineries, working out excesses in the refining system, improving refining economics for efficient, complex refiners like RIL.
- Cash from bane to boon? With inflow of US\$5.2bn on conclusion of BP deal, RIL will have US\$15bn of cash. Uncertainty on deployment of the cash has been an overhang, but significant cash balances do give RIL dry powder to weather a downturn, explore inorganic opportunities.
- **Reiterate our OW call:** Potential catalysts include: 1) earnings delivery aided by rupee depreciation, and 2) roadmap to ramp up KG production with fixed gas prices, E&P earnings will be stable even in a downturn. We believe the stock is attractively priced and reiterate our OW rating.

Overweight

RELI.BO, RIL IN Price: Rs741.20

Price Target: Rs1,200.00

India

India Oil, Gas and Petrochemicals

Pradeep Mirchandani, CFA AC

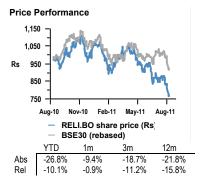
(91-22) 6157-3591

pradeep.a.mirchandani@jpmorgan.com

Neil Gupte

(91-22) 6157 3592 neil.x.gupte@jpmorgan.com

J.P. Morgan India Private Limited



Reliance Industries Ltd (Reuters: RELI.BO, Bloomberg: RIL IN)

		-,			
Rs in mn, year-end Mar	FY10A	FY11A	FY12E	FY13E	FY14E
Revenue (Rs mn)	2,037,400	2,658,106	3,132,220	3,005,420	2,946,670
Net Profit (Rs mn)	158,180.00	192,715.20	220,537.76	258,286.67	293,954.39
EPS (Rs)	53.12	64.65	73.98	86.64	98.61
DPS (Rs)	7.00	8.00	10.00	10.00	10.00
Revenue growth (%)	34.7%	30.5%	17.8%	-4.1%	-2.0%
EPS growth (%)	-4.2%	21.7%	14.4%	17.1%	13.8%
ROCE	12.0%	13.0%	12.6%	13.3%	13.8%
ROE	16.5%	17.5%	17.3%	17.6%	17.5%
P/E	14.0	11.5	10.0	8.6	7.5
P/BV	2.2	1.9	1.6	1.4	1.2
EV/EBITDA	8.4	6.3	5.2	4.5	3.8
Dividend Yield	0.9%	1 1%	1 4%	1 4%	1 4%

Source: Company data, Bloomberg, J.P. Morgan estimates.

Company Data	
Shares O/S (mn)	3,274
Market Cap (Rs mn)	2,426,892
Market Cap (\$ mn)	53,444
Price (Rs)	741.20
Date Of Price	18 Aug 11
Free float (%)	50.2%
3-mth trading value (Rs mn)	2,307.97
3-mth trading value (\$ mn)	50.83
3-mth trading volume (mn)	1.38
IN	

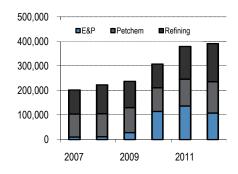
See page 11 for analyst certification and important disclosures, including non-US analyst disclosures.

J.P. Morgan does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Company Description

RIL is a conglomerate with interests in refining, petrochemical, E&P, retail and infrastructure development.RIL is India's largest company by market cap, and is a dominant player in the domestic petrochemical market. It recently merged RPL with itself. Over FY10-13, we estimate RIL's EPS would grow at a CAGR of 25%. Stable gas earnings would contribute ~37% of FY12E EBITDA.

RIL Ebitda Break-up (Rs mn)



Source: Company, J.P. Morgan estimates.

EPS: J.P. Morgan vs. consensus (Rs)

1		
	J. P. Morgan	Consensus
FY12E	74.0	70.7
FY13E	86.6	79.8

Source: Bloomberg, J.P. Morgan estimates.

P&L sensitivity metrics (FY12)	EBITDA	EPS
	impact (%)	impact (%)
GRM assumption		
Impact of each US\$1/bbl	-4.6%	-6.2%
Petchem margins		
Impact of 10% lower Petchem Ebitda	-3.0%	-4.0%
Gas Volume		
Impact of 10% lower gas volumes	-1.7%	-2.1%
Rupee depreciation		
Impact due to 5% rupee depeiciation	4.1%	5.5%

Source: J.P. Morgan estimates.

Price target and valuation analysis

Our Mar-12 PT is Rs 1200/share based on an SOTP valuation We estimate 15% earnings CAGR for RIL over FY11-14E with robust refining and petchem performance and introducing shale gas revenues. We assume KG gas production of 50-65mmscmd over FY12/13.

FY12 EPS	74
FY12 EBITDA	392,255
Current Price	738
FY12E P/E	10.0
FY12E EV/EBITDA	5.5

We estimate gas revenues, along with improving refining and petchem margins would be the primary drivers for earnings growth over FY10-13E. Also RIL's earnings are positively linked to rupee depreciation. Key downside risk would be a prolonged global slowdown leading to lower refining and petchem earnings, and harsh regulatory action.

Pricing in cyclical stress

News flow over the past two weeks has centered on renewed fears of a slowing global economy - raising the specter of a slowdown in RIL's cyclical businesses. RIL remains vulnerable to such stresses, and increased risk aversion. However, the stock correction of 14% (3% underperformance) over the last month builds in a 'doom and gloom' global economic scenario, in our view. At current stock prices, RIL is reflecting Singapore GRMs of US\$3-3.5/bbl (refinery valuations are below replacement levels of c.US\$15k/bpd capacity), petchem EBITDA contracting to GFC levels.

Table 1: Current RIL stock price reflects bear-case valuation

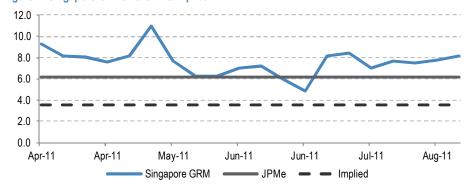
Business	Value/share (Rs)	Comments
Refining	218	GRMs at \$6.5/bbl, below GFC levels, refinery value below replacement cost at US\$12.8k/bpd
Petrochemicals	197	Petchem earnings lower 25-30% over FY12/13
E&P	104	Assuming a peak production rate of 60mmscmd - implies NPV of \$7.6bn. – BP deal values E&P assets at c.US\$14.4bn
Others	79	
Balance Sheet	135	Cash, investments and treasury stock
TOTAL	733	

Source: J.P. Morgan estimates.

Refining

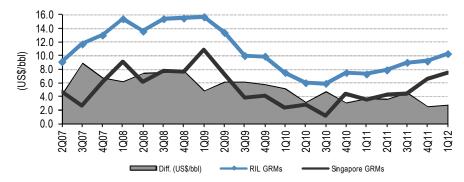
Singapore refining margins during 3QFY10 fell to a multi-year low of \$1.13/bbl — with RIL GRMs dipping below \$6/bbl. However, while markets have been unsettled, refining margins have not yet corrected (average \$7.6/bbl FY12TD), with key product cracks such as diesel, while off the highs seen post the Japan earthquake, remaining healthy (\$17-\$18/bbl since July).

Figure 1: Singapore GRMs vs. JPMe/Implied



Source: Bloomberg, J.P. Morgan estimates.

Figure 2: RIL GRMs vs. Singapore GRMs



Source: Bloomberg, Company reports.

Petrochemicals

The polyester business has seen margin contraction over the past few months, with cotton prices correcting 50% since early March. However, margins for the overall chain remain at levels higher than those seen in early 2010. The polymers business has been facing supply side led headwinds for over a year, and is expected to find a bottom in 2HCY11 with limited capacity adds —this should be a positive for margin recovery.

Figure 3: PE-Naphtha spread (US\$/MT) - CY10 cap adds are playing out

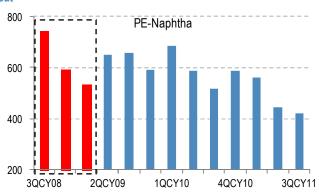
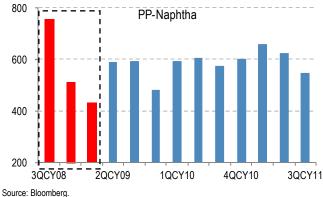


Figure 4: PP-Naphtha spread (US\$/MT)



Source: Bloomberg.

Figure 5: PTA-Naphtha spread (US\$/MT)

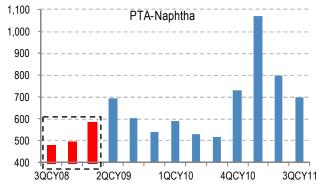
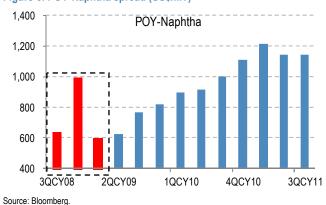


Figure 6: POY-Naphtha spread (US\$/MT)



Source: Bloomberg.

...and the stock reflects a very bearish outcome

As an exercise to determine what level of correction in cyclical businesses could take place, and what is already priced into the stock, we carry out a scenario analysis where: (i) we take GRMs for FY12E/13E down to \$6.5/bbl (RIL reported GRMs of \$10.3/bbl in 1Q12), and (ii) we take petrochemical earnings down to levels seen in the GFC and reduce refining and petchem multiples. Further, to reflect continuing investor concerns on the E&P business, we cut KG-D6 volumes building a peak production level of 60mmscmd (implying a cut to reserve assumptions). We also ascribe no value to any other domestic field that is part of the BP JV. E&P value of US\$7.6bn arrived at in this scenario is c50% of value implied for this business by the BP deal.

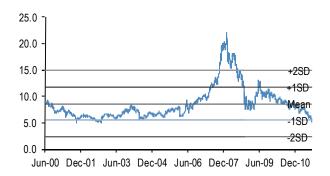
Table 2: RIL indicative bear case SOTP

Mar-12 SOTP	Rs m	US\$ bn	Rs/share	Comments
Refining Business				
Existing Refinery				
Refining EBITDA	95,275			
EV of Refining business	714,562	15.9	218	At 7.5x EV/EBITDA
Value of Refining businesses	714,562	15.9	218	
Petrochemicals				
Petchem EBITDA	91,939			
EV of petchem business'	643,575	14.3		At 7x EV/EBITDA
Value of Petrochem business	643.575	14.3	197	TK TX EVIEDITON
	210,010			
PMT and other assets				
PMT and other EBITDA	43,365			
PMT and other businesses	260,190	5.8	79	At 6x EV/EBITDA
New E&P Assets	339,823	7.6	104	SOP of E&P assets without sustainability premium
Value of total E&P & other assets	600,013	13.3	183	
Investments and Net debt				
Treasury stock	227,761	5.1	70	
Net Debt (FY12)	(213,827)	-4.8	(65)	(Debt - Investments -Cash)
Value of Investments and Net debt	441,588	9.8	135	
Value for Equity holders (Rs m)	2,399,738	53.3	733	
New E&P Assets	Rs mn	US\$ bn	Rs/Share	
KG D-6 Gas + Oil	339823	7.6	104	DCF based on 60 mmscmd of peak production + 60K b/d of oil profuction from MA fields
New E&P Valuation	339823		104	F1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
New car valuation	339823	7.6	104	

Source: J.P. Morgan estimates.

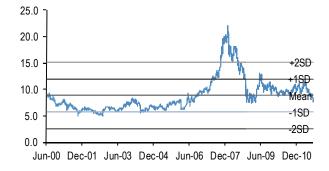
Adjusting for these conditions, our SOTP (March '12) is reduced to Rs733 –current market levels, implying that RIL stock is already pricing in a significant slowdown, with a simultaneous cyclical dip across refining/polyester/polymers.

Figure 7: RIL 12m forward EV/EBITDA



Source: Bloomberg, J.P. Morgan estimates, Company data

Figure 8: RIL 12m forward EV/EBITDA - bear case



Source: Bloomberg, J.P. Morgan estimates, Company data

RIL's multiples have trended downwards sharply, with the EV/EBITDA now 1SD below historical mean multiples. Assuming multiples seen during the GFC, EBITDA would be lower than our estimates by ~30-32%; in line with our bear-case assumptions of 27-30% lower EBITDA over FY12E/13E.

Cycles are not necessarily coincident

We note, however, that cycles across these businesses do not necessarily coincide, providing some valuation comfort – the move down in polyester (and the move up before) was linked to cotton prices, rather than crude. Also, the domestic E&P business is less vulnerable to global pricing pressure as gas prices are fixed.

12.0 1,300 10.0 1,100 8.0 900 6.0 700 4.0 500 2.0 0.0 300 Dec-04 Oct-07 May-06 Mar-09 Sep-10 GRM (LHS) Polyester-Naphtha PE-Naphtha

Figure 9: Refining, polyester, polymer cycles not coincident

Source: Bloomberg

Cash pile - finally becoming a virtue?

RIL's growing cash balance has been an investor concern - but, in uncertain times, this could provide RIL with a cushion, and allow it to explore inorganic growth opportunities – additionally, counter-cyclical investments offer an avenue for lowering capex costs. RIL has planned large investments, particularly on the petrochemical side – some of which will be funded out of internal accruals.

Valuation, risks

We maintain our OW rating and SOTP-based Mar-12 price target of Rs1200. Key risks to our estimates stem from further margin compression in the refining/petchem businesses, and harsh regulatory action on the E&P business. Potential stock performance catalysts for RIL in our view are: (1) continued earnings delivery, even in a challenging environment – rupee depreciation is a positive for RIL, with a 5.5% EPS sensitivity for a 5% change in INR/USD and (2) a road map for ramp up of KG-D6 production. Given fixed gas prices, E&P earnings will remain stable even in the face of a downturn.

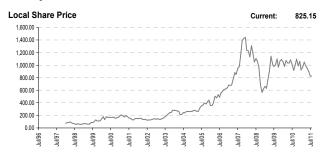
Table 3: RIL SOTP

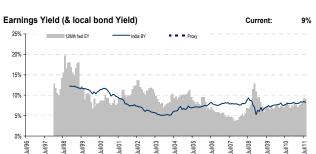
Mar-12 SOTP	Rs m	US\$ bn	Rs/share	Comments
Refining Business				
Existing Refinery				
Refining EBITDA	172,339			
EV of Refining business	1,378,714	30.6	421	At 8x EV/EBITDA
Value of Refining businesses	1,378,714	30.6	421	
Petrochemicals				
Petchem EBITDA	128.939			
EV of petchem business'	967.045	21.5		At 7.5x EV/EBITDA
Value of Petrochem business	967,045	21.5	295	
PMT and other assets				
PMT and other EBITDA	43,365			
PMT and other businesses	325,238	7.2		At 7.5x EV/EBITDA
New E&P Assets	663,221			SOP of E&P assets with sustainability premium
Value of total E&P & other assets	988,459	22.0	302	
Investments and Net debt				
Treasury stock	295,794	6.6	90	
Net Debt (FY12)	(293,987)	-6.5	(90)	(Debt - Investments -Cash)
Value of Investments and Net debt	589,781	13.1	180	
Value for Equity holders (Rs m)	3,923,998	87.2	1,199	
value for Equity floracis (its fly	0,320,330	01.2	1,100	
New E&P Assets	Rs mn	US\$ bn	Rs/Share	
KG D-6 Gas + Oil	395320	8.8	121	DCF based on 90 mmscmd of peak production + 60K b/d of oil profuction from MA fields
10 D-0 0d3 + Oli	393320	0.0	121	NEC -25 50% recovery and CBM at 50% recovery at US\$
NEC-25 + CBM	95955	2.1	29	3.5/boe
Sustainability premium	171946	3.8	53	35% of quantified discoveries
New E&P Valuation	663221	14.7	203	CO. C. Gastianos sicocronos

Source: J.P. Morgan estimates.



JPM Q-Profile Reliance Industries Ltd. (INDIA / Energy) As 0f: 11-Aug-2011

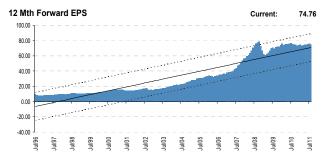






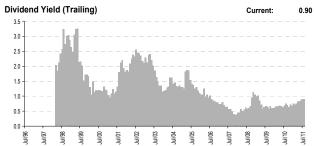


Global Equity Quantitative Analysis









Summary

Reliance Industries Ltd. INDIA Energy	SEDOL	6099626							As Of: Local Price: EPS:		11-Aug-11 825.15 74.76
Ellergy	Latest	Min	Max	Median	Average	2 S.D.+	2 S.D	% to Min	% to Max	% to Med	% to Ava
12mth Forward PE	11.04x	5.09	27.67	11.74	12.24	20.50	3.98	-54%	151%	6%	11%
P/BV (Trailing)	1.75x	0.86	5.89	2.24	2.33	4.29	0.38	-51%	236%	28%	33%
Dividend Yield (Trailing)	0.90	0.38	3.25	1.19	1.35	2.76	-0.06	-58%	261%	32%	50%
ROE (Trailing)	13.08	13.08	25.40	18.24	17.70	24.43	10.97	0%	94%	39%	35%
Implied Value of Growth	31.4%	-0.43	0.72	0.36	0.30	0.75	-0.14	-238%	129%	14%	-4%

Source: Bloomberg, Reuters Global Fundamentals, IBES CONSENSUS, J.P. Morgan Calcs

^{*} Implied Value Of Growth = (1 - EY/Cost of equity) where cost of equity =Bond Yield + 5.0% (ERP)



Reliance Industries Ltd: Summary of Financials

Income Statement						Cash flow statement					
Rs in millions, year end Mar	FY09	FY10	FY11	FY12E	FY13E	Rs in millions, year end Mar	FY09	FY10	FY11	FY12E	FY13E
Revenues	1,512,245	2,037,400	2,658,106	3,132,220	3,005,420	EBIT	181,123	199,480	239,228	263,330	299,254
% change Y/Y	13.3%	34.7%	30.5%	17.8%	(4.1%)	Depr. & amortization	56,510	109,460	141,208	128,925	141,424
Gross Margin	27.3%	24.1%	23.1%	56.9%	58.6%	Change in working capital	-46,221	-143,128	25,257	-98,787	1,656
EBITDA	237,633	308,940	380,436	392,255	440,679	Taxes	-12740	-31250	-44124	-60512	-70026
% change Y/Y	6.5%	30.0%	23.1%	3.1%	12.3%	Others	-	-	-	-	
EBITDA Margin	15.7%	15.2%	14.3%	12.5%	14.7%	Cash flow from operations	159,502	210,573	359,180	240,279	380,568
EBIT	181,123	199,480	239,228	263,330	299,254	•					
% change Y/Y	3.7%	10.1%	19.9%	10.1%		Capex	-437,983	-219,210	-150,474	-175,500	-267,000
EBIT Margin	12.0%	9.8%	9.0%	8.4%	10.0%	Disposal/(purchase)		· -	-	· -	· ·
Net Interest	-2,720	87,320	1,321	21,184		Free cash flow	-278,481	-8.638	208,705	388.779	113.568
Earnings before tax	175,123	372,860	240,550	284,514	332,692		-, -	-,	,	,	-,
% change Y/Y	-35.6%	112.9%	-35.5%	18.3%		Equity raised/(repaid)	68.056	-116,128	-1,973	0	(
Tax	-29,190	-42,560	-47,834	-63,976	-74.406		,	-116,511	,		
as % of EBT	16.7%	11.4%	19.9%	22.5%	22.4%		-	-	-		0.,002
Net income (reported)	152,492.60						-22.195	-24,286	-34.729	-34,729	-34.729
% change Y/Y	-0.1%	3.7%	21.8%	14.4%	17.1%	Beginning cash	,	,	,		- 1,1 = 1
Shares outstanding	2,749	2,978	2,981	2,981		Ending cash	_	_	_	_	
EPS (reported)	55.46	53.12	64.65	73.98	86.64		6.90	7.00	8.00	10.00	10.00
% change Y/Y	5.6%	(4.2%)	21.7%	14.4%	17.1%	2. 3	0.00		0.00		
Balance sheet		, ,				Ratio Analysis					
Rs in millions, year end Mar	FY09	FY10	FY11	FY12E	FY13E	Rs in millions, year end Mar	FY09	FY10	FY11	FY12E	FY13E
Cash and cash equivalents	227,421	138,908	301,390	561,259		EBITDA margin	15.7%	15.2%	14.3%	12.5%	14.7%
Accounts receivable	48,450	100,829	156,952	109,575	,	Operating margin	12.0%	9.8%	9.0%	8.4%	10.0%
Inventories	201,096	343,933	385,194	414,881		Net margin	10.1%	7.8%	7.2%	7.0%	8.6%
Others	110,494	107,409	137,273	139,952	142.699						
Current assets	651,816	822,203	1,324,271		,						
	,	,	.,,	.,,	.,,	Sales per share growth	19.8%	24.4%	30.3%	17.8%	(4.1%)
LT investments	_	_	_	_	_	· · · · ·	13.3%	34.7%	30.5%	17.8%	(4.1%
Net fixed assets	1.498.880	1 375 761	1 385 028	1,107,602	1 233 178	•	-0.1%	3.7%	21.8%	14.4%	17.1%
Total Assets	,,					EPS growth	5.6%		21.7%	14.4%	17.1%
Liabilities	_,,	_,,	_,. 00,_00	_,. 0_,0	_,00.,000	Interest coverage (x)	87.36	, ,	,	-	
Short-term loans	83,675	66,192	131,886	131,662	131 662	Net debt to total capital	35.2%		10.6%	-7.8%	-10.7%
Payables	-	-	-	101,002		Net debt to equity	52.1%	36.9%	16.6%	-11.9%	-15.4%
Others	483,833	532,815	685,329	571,544		Sales/assets	0.87	0.94	1.08	1.15	1.07
Total current liabilities	567,508	599,007	817,215	703,206		Assets/equity	1.84	1.67	1.53	1.43	1.84
Long-term debt	678.891	579.863	709.176	666.718	634,916		19.8%	16.5%	17.5%	17.3%	17.6%
Other liabilities	070,031	0/ 3,003	03,170	000,710		ROCE	13.6%	12.0%	13.0%	12.6%	13.3%
Total Liabilities	1,246,399	1,178,870	1,526,391	1,369,924		NOOL	10.070	12.0/0	10.0 /0	12.0/0	10.07
Shareholders' equity	904,296	1,019,093	1,182,908	1,362,791							
	304.230	1,015,053	1,102,500	1,304,191	1,000,000						

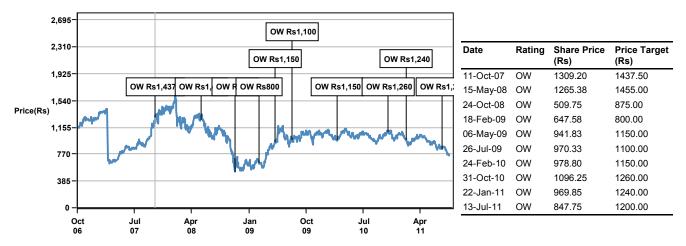
Source: Company reports and J.P. Morgan estimates.

Analyst Certification: The research analyst(s) denoted by an "AC" on the cover of this report certifies (or, where multiple research analysts are primarily responsible for this report, the research analyst denoted by an "AC" on the cover or within the document individually certifies, with respect to each security or issuer that the research analyst covers in this research) that: (1) all of the views expressed in this report accurately reflect his or her personal views about any and all of the subject securities or issuers; and (2) no part of any of the research analyst's compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the research analyst(s) in this report.

Important Disclosures

- Client: J.P. Morgan currently has, or had within the past 12 months, the following company(ies) as clients: Reliance Industries Ltd.
- Client/Non-Investment Banking, Securities-Related: J.P. Morgan currently has, or had within the past 12 months, the following company(ies) as clients, and the services provided were non-investment-banking, securities-related: Reliance Industries Ltd.
- Client/Non-Securities-Related: J.P. Morgan currently has, or had within the past 12 months, the following company(ies) as clients, and the services provided were non-securities-related: Reliance Industries Ltd.
- Non-Investment Banking Compensation: J.P. Morgan has received compensation in the past 12 months for products or services other than investment banking from Reliance Industries Ltd.

Reliance Industries Ltd (RELI.BO) Price Chart



Source: Bloomberg and J.P. Morgan; price data adjusted for stock splits and dividends initiated coverage Oct 11, 2007.

The chart(s) show J.P. Morgan's continuing coverage of the stocks; the current analysts may or may not have covered it over the entire period.

J.P. Morgan ratings: OW = Overweight, N= Neutral, UW = Underweight

Explanation of Equity Research Ratings and Analyst(s) Coverage Universe:

J.P. Morgan uses the following rating system: Overweight [Over the next six to twelve months, we expect this stock will outperform the average total return of the stocks in the analyst's (or the analyst's team's) coverage universe.] Neutral [Over the next six to twelve months, we expect this stock will perform in line with the average total return of the stocks in the analyst's (or the analyst's team's) coverage universe.] Underweight [Over the next six to twelve months, we expect this stock will underperform the average total return of the stocks in the analyst's (or the analyst's team's) coverage universe.] The analyst or analyst's team's coverage universe is the sector and/or country shown on the cover of each publication. See below for the specific stocks in the certifying analyst(s) coverage universe.

Coverage Universe: Mirchandani, Pradeep: Bharat Petroleum Corporation (BPCL) (BPCL.BO), Cairn India Limited (CAIL.BO), Essar Oil Ltd. (ESRO.BO), Gas Authority of India Limited (GAIL.BO), Gujarat Gas Ltd (GGAS.BO), Gujarat State Petronet Ltd. (GSPT.BO), Hindustan Petroleum Corporation (HPCL) (HPCL.BO), Indian Oil Corporation (IOC.BO), Indraprastha Gas (IGAS.BO), Oil India Ltd. (OILI.BO), Oil and Natural Gas Corporation (ONGC.BO), Petronet LNG Ltd. (PLNG.BO), Reliance Industries Ltd (RELI.BO)



J.P. Morgan Equity Research Ratings Distribution, as of June 30, 2011

	Overweight	Neutral	Underweight
	(buy)	(hold)	(sell)
J.P. Morgan Global Equity Research Coverage	47%	42%	11%
IB clients*	50%	46%	32%
JPMS Equity Research Coverage	45%	47%	8%
IB clients*	70%	64%	52%

^{*}Percentage of investment banking clients in each rating category.

For purposes only of FINRA/NYSE ratings distribution rules, our Overweight rating falls into a buy rating category; our Neutral rating falls into a hold rating category; and our Underweight rating falls into a sell rating category.

Equity Valuation and Risks: Please see the most recent company-specific research report for an analysis of valuation methodology and risks on any securities recommended herein. Research is available at http://www.morganmarkets.com, or you can contact the analyst named on the front of this note or your J.P. Morgan representative.

Equity Analysts' Compensation: The equity research analysts responsible for the preparation of this report receive compensation based upon various factors, including the quality and accuracy of research, client feedback, competitive factors, and overall firm revenues, which include revenues from, among other business units, Institutional Equities and Investment Banking.

Registration of non-US Analysts: Unless otherwise noted, the non-US analysts listed on the front of this report are employees of non-US affiliates of JPMS, are not registered/qualified as research analysts under NASD/NYSE rules, may not be associated persons of JPMS, and may not be subject to FINRA Rule 2711 and NYSE Rule 472 restrictions on communications with covered companies, public appearances, and trading securities held by a research analyst account.

Other Disclosures

J.P. Morgan ("JPM") is the global brand name for J.P. Morgan Securities LLC ("JPMS") and its affiliates worldwide. J.P. Morgan Cazenove is a marketing name for the U.K. investment banking businesses and EMEA cash equities and equity research businesses of JPMorgan Chase & Co. and its subsidiaries.

Options related research: If the information contained herein regards options related research, such information is available only to persons who have received the proper option risk disclosure documents. For a copy of the Option Clearing Corporation's Characteristics and Risks of Standardized Options, please contact your J.P. Morgan Representative or visit the OCC's website at http://www.optionsclearing.com/publications/risks/riskstoc.pdf

Legal Entities Disclosures

U.S.: JPMS is a member of NYSE, FINRA, SIPC and the NFA. JPMorgan Chase Bank, N.A. is a member of FDIC and is authorized and regulated in the UK by the Financial Services Authority. U.K.: J.P. Morgan Securities Ltd. (JPMSL) is a member of the London Stock Exchange and is authorized and regulated by the Financial Services Authority. Registered in England & Wales No. 2711006. Registered Office 125 London Wall, London EC2Y 5AJ. South Africa: J.P. Morgan Equities Limited is a member of the Johannesburg Securities Exchange and is regulated by the FSB. Hong Kong: J.P. Morgan Securities (Asia Pacific) Limited (CE number AAJ321) is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission in Hong Kong. Korea: J.P. Morgan Securities (Far East) Ltd, Seoul Branch, is regulated by the Korea Financial Supervisory Service. Australia: J.P. Morgan Australia Limited (ABN 52 002 888 011/AFS Licence No. 238188) is regulated by ASIC and J.P. Morgan Securities Australia Limited (ABN 61 003 245 234/AFS Licence No: 238066) is a Market Participant with the ASX and regulated by ASIC. Taiwan: J.P. Morgan Securities (Taiwan) Limited is a participant of the Taiwan Stock Exchange (company-type) and regulated by the Taiwan Securities and Futures Bureau. India: J.P. Morgan India Private Limited, having its registered office at J.P. Morgan Tower, Off. C.S.T. Road, Kalina, Santacruz East, Mumbai - 400098, is a member of the National Stock Exchange of India Limited (SEBI Registration Number - INB 230675231/INF 230675231/INE 230675231) and Bombay Stock Exchange Limited (SEBI Registration Number - INB 010675237/INF 010675237) and is regulated by Securities and Exchange Board of India. Thailand: JPMorgan Securities (Thailand) Limited is a member of the Stock Exchange of Thailand and is regulated by the Ministry of Finance and the Securities and Exchange Commission. Indonesia: PT J.P. Morgan Securities Indonesia is a member of the Indonesia Stock Exchange and is regulated by the BAPEPAM LK. Philippines: J.P. Morgan Securities Philippines Inc. is a member of the Philippine Stock Exchange and is regulated by the Securities and Exchange Commission. Brazil: Banco J.P. Morgan S.A. is regulated by the Comissao de Valores Mobiliarios (CVM) and by the Central Bank of Brazil. Mexico: J.P. Morgan Casa de Bolsa, S.A. de C.V., J.P. Morgan Grupo Financiero is a member of the Mexican Stock Exchange and authorized to act as a broker dealer by the National Banking and Securities Exchange Commission. Singapore: This material is issued and distributed in Singapore by J.P. Morgan Securities Singapore Private Limited (JPMSS) [MICA (P) 025/01/2011 and Co. Reg. No.: 199405335R] which is a member of the Singapore Exchange Securities Trading Limited and is regulated by the Monetary Authority of Singapore (MAS) and/or JPMorgan Chase Bank, N.A., Singapore branch (JPMCB Singapore) which is regulated by the MAS. Malaysia: This material is issued and distributed in Malaysia by JPMorgan Securities (Malaysia) Sdn Bhd (18146-X) which is a Participating Organization of Bursa Malaysia Berhad and a holder of Capital Markets Services License issued by the Securities Commission in Malaysia. Pakistan: J. P. Morgan Pakistan Broking (Pvt.) Ltd is a member of the Karachi Stock Exchange and regulated by the Securities and Exchange Commission of Pakistan. Saudi Arabia: J.P. Morgan Saudi Arabia Ltd. is authorized by the Capital Market Authority of the Kingdom of Saudi Arabia (CMA) to carry out dealing as an agent, arranging, advising and custody, with respect to securities business under licence number 35-07079 and its registered address is at 8th Floor, Al-Faisaliyah Tower, King Fahad Road, P.O. Box 51907, Riyadh 11553, Kingdom of Saudi Arabia. Dubai: JPMorgan Chase Bank, N.A., Dubai Branch is regulated by the Dubai Financial Services Authority (DFSA) and its registered address is Dubai International Financial Centre - Building 3, Level 7, PO Box 506551, Dubai, UAE.

Country and Region Specific Disclosures

U.K. and European Economic Area (EEA): Unless specified to the contrary, issued and approved for distribution in the U.K. and the EEA by JPMSL. Investment research issued by JPMSL has been prepared in accordance with JPMSL's policies for managing conflicts of interest arising as a result of

J.P.Morgan

publication and distribution of investment research. Many European regulators require a firm to establish, implement and maintain such a policy. This report has been issued in the U.K. only to persons of a kind described in Article 19 (5), 38, 47 and 49 of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (all such persons being referred to as "relevant persons"). This document must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is only available to relevant persons and will be engaged in only with relevant persons. In other EEA countries, the report has been issued to persons regarded as professional investors (or equivalent) in their home jurisdiction. Australia: This material is issued and distributed by JPMSAL in Australia to "wholesale clients" only. JPMSAL does not issue or distribute this material to "retail clients". The recipient of this material must not distribute it to any third party or outside Australia without the prior written consent of JPMSAL. For the purposes of this paragraph the terms "wholesale client" and "retail client" have the meanings given to them in section 761G of the Corporations Act 2001. Germany: This material is distributed in Germany by J.P. Morgan Securities Ltd., Frankfurt Branch and J.P. Morgan Chase Bank, N.A., Frankfurt Branch which are regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht. Hong Kong: The 1% ownership disclosure as of the previous month end satisfies the requirements under Paragraph 16.5(a) of the Hong Kong Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission. (For research published within the first ten days of the month, the disclosure may be based on the month end data from two months prior.) J.P. Morgan Broking (Hong Kong) Limited is the liquidity provider/market maker for derivative warrants, callable bull bear contracts and stock options listed on the Stock Exchange of Hong Kong Limited. An updated list can be found on HKEx website: http://www.hkex.com.hk. Japan: There is a risk that a loss may occur due to a change in the price of the shares in the case of share trading, and that a loss may occur due to the exchange rate in the case of foreign share trading. In the case of share trading, JPMorgan Securities Japan Co., Ltd., will be receiving a brokerage fee and consumption tax (shouhizei) calculated by multiplying the executed price by the commission rate which was individually agreed between JPMorgan Securities Japan Co., Ltd., and the customer in advance. Financial Instruments Firms: JPMorgan Securities Japan Co., Ltd., Kanto Local Finance Bureau (kinsho) No. 82 Participating Association / Japan Securities Dealers Association, The Financial Futures Association of Japan. Korea: This report may have been edited or contributed to from time to time by affiliates of J.P. Morgan Securities (Far East) Ltd, Seoul Branch. Singapore: JPMSS and/or its affiliates may have a holding in any of the securities discussed in this report; for securities where the holding is 1% or greater, the specific holding is disclosed in the Important Disclosures section above. India: For private circulation only, not for sale. Pakistan: For private circulation only, not for sale. New Zealand: This material is issued and distributed by JPMSAL in New Zealand only to persons whose principal business is the investment of money or who, in the course of and for the purposes of their business, habitually invest money. JPMSAL does not issue or distribute this material to members of "the public" as determined in accordance with section 3 of the Securities Act 1978. The recipient of this material must not distribute it to any third party or outside New Zealand without the prior written consent of JPMSAL. Canada: The information contained herein is not, and under no circumstances is to be construed as, a prospectus, an advertisement, a public offering, an offer to sell securities described herein, or solicitation of an offer to buy securities described herein, in Canada or any province or territory thereof. Any offer or sale of the securities described herein in Canada will be made only under an exemption from the requirements to file a prospectus with the relevant Canadian securities regulators and only by a dealer properly registered under applicable securities laws or, alternatively, pursuant to an exemption from the dealer registration requirement in the relevant province or territory of Canada in which such offer or sale is made. The information contained herein is under no circumstances to be construed as investment advice in any province or territory of Canada and is not tailored to the needs of the recipient. To the extent that the information contained herein references securities of an issuer incorporated, formed or created under the laws of Canada or a province or territory of Canada, any trades in such securities must be conducted through a dealer registered in Canada. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed judgment upon these materials, the information contained herein or the merits of the securities described herein, and any representation to the contrary is an offence. **Dubai:** This report has been issued to persons regarded as professional clients as defined under the DFSA rules.

General: Additional information is available upon request. Information has been obtained from sources believed to be reliable but JPMorgan Chase & Co. or its affiliates and/or subsidiaries (collectively J.P. Morgan) do not warrant its completeness or accuracy except with respect to any disclosures relative to JPMS and/or its affiliates and the analyst's involvement with the issuer that is the subject of the research. All pricing is as of the close of market for the securities discussed, unless otherwise stated. Opinions and estimates constitute our judgment as of the date of this material and are subject to change without notice. Past performance is not indicative of future results. This material is not intended as an offer or solicitation for the purchase or sale of any financial instrument. The opinions and recommendations herein do not take into account individual client circumstances, objectives, or needs and are not intended as recommendations of particular securities, financial instruments or strategies to particular clients. The recipient of this report must make its own independent decisions regarding any securities or financial instruments mentioned herein. JPMS distributes in the U.S. research published by non-U.S. affiliates and accepts responsibility for its contents. Periodic updates may be provided on companies/industries based on company specific developments or announcements, market conditions or any other publicly available information. Clients should contact analysts and execute transactions through a J.P. Morgan subsidiary or affiliate in their home jurisdiction unless governing law permits otherwise.

"Other Disclosures" last revised June 13, 2011.

Copyright 2011 JPMorgan Chase & Co. All rights reserved. This report or any portion hereof may not be reprinted, sold or redistributed without the written consent of J.P. Morgan.