# J.P.Morgan

## **Gas Authority of India Limited**

Steady 2QFY12

GAIL reported 2Q profits of Rs10.9bn (up 19% y/y; 11% q/q) slightly ahead of our and street estimates, with better than expected performance from the petrochemical and LPG segments. Gas volumes were marginally higher.

- Gas transmission volumes stable, margins lower: Gas transmission volumes were stable q/q, at 119mmscmd. However, gas transmission EBITDA was 10% lower sequentially. Gas trading volumes were also stable, at 84mmscmd, with a similar 8% sequential drop in EBITDA. GAIL brought in 4 LNG cargos during the quarter, and expects to bring in a similar number for the December quarter as well.
- **Petrochemicals stages smart recovery:** Petchem volumes were at 129KMT for the quarter (up 47% q/q), with petchem EBITDA rising 56%. EBITDA/MT rose to  $\sim$ \$757 (from \$726).
- LPG benefits from lower subsidy: LPG contribution rose with a lower sequential subsidy, with EBITDA rising 49% sequentially.
- Subsidy as expected: Subsidies came in at Rs5.6 bn. The upstream sector has borne ~33% of subsidies for the quarter.
- **Project update:** The Dabhol LNG terminal is expected to be commissioned in the March quarter. GAIL continues to work on the expansion of its pipeline network, and expects to exit FY12 with a nameplate capacity of ~220mmscmd.
- **Retain rating, estimates:** Our estimates are subject to review following further analysis and inputs from GAIL management conference call in the coming days. As such, we retain our Overweight rating, and Mar-12 price target of Rs535.

#### Gas Authority of India Limited (Reuters: GAIL.BO, Bloomberg: GAIL IN)

Rs in mn, year-end Mar	FY10A	FY11A	FY12E	FY13E	FY14E	Company Data	
Revenue (Rs mn)	251,033	325,365	463,032	522,498	611,600	Shares O/S (mn)	1,268
EBITDA (Rs mn)	47,760	55,324	56,499	66,831	82,758	Market Cap (Rs mn)	539,991
Net Profit (Rs mn)	33,174	35,611	36,688	40,043	46,916	Market Cap (\$ mn)	10,794
EPS (Rs)	26.15	28.07	28.92	31.57	36.99	Price (Rs)	425.70
DPS (Rs)	9.16	10.39	10.70	11.68	13.68	Date Of Price	24 Oct 11
Revenue growth (%)	5.6%	29.6%	42.3%	12.8%	17.1%	Free float (%)	27.7%
EPS growth (%)	18.3%	7.4%	3.0%	9.1%	17.2%	3-mth trading value (Rs mn)	661.24
ROCE	24.6%	24.5%	19.0%	17.3%	17.5%	3-mth trading value (\$ mn)	13.22
ROE	21.0%	19.8%	18.1%	17.8%	18.7%	3-mth trading volume (mn)	2.72
P/E	16.3	15.2	14.7	13.5	11.5	BSE30	16,786
P/BV	3.2	2.8	2.5	2.3	2.0	Exchange Rate	50.03
EV/EBITDA	10.8	9.8	10.2	9.5	8.1	Fiscal Year End	Mar
Dividend Yield	2.2%	2.4%	2.5%	2.7%	3.2%		

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

#### See page 5 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.

### Overweight

GAIL.BO, GAIL IN Price: Rs425.70

Price Target: Rs535.00

#### India

#### India Oil, Gas and Petrochemicals

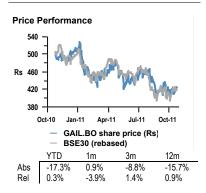
Pradeep Mirchandani, CFA <sup>AC</sup> (91-22) 6157-3591

pradeep.a.mirchandani@jpmorgan.com

#### Neil Gupte

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

J.P. Morgan India Private Limited

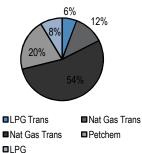


Asia Pacific Equity Research 24 October 2011

#### **Company Description**

GAIL Limited is India's largest natural gas transmission company with 7,000km of natural gas and 80% market share in India's natural gas Transmission. GAIL has diversified into petrochemicals with 410Kmta of PE capacity and has 1,2mmtpa LPG extraction capacity. With increasing gas supplies from RIL's KG basin and additional LNG, GAIL should be a major beneficiary with majority of the gas being transmitted through GAIL's network. We see this as a primary earnings driver for GAIL over FY11-15E.

#### **Revenue customer chart**



Source: Company, J.P.Morgan estimates

#### EPS: J.P. Morgan vs consensus

Rs	J. P. Morgan	Consensus
FY12E	28.9	31.4
FY13E	31.6	33.9

Source: Bloomberg, J.P.Morgan estimates

P&L sensitivity metrics (FY12)	EBITDA	EPS
-	impact (%)	impact (%)
Transmission Volume Impact		
Impact of each 5mmsmcd volumes	7.7%	9.0%
Higher subsidy		
Impact of 7% share in upstream	-14.9%	-17.4%
Petchem margin impact		
Impact of 10% lower margins	-5.4%	-6.3%

Source: J.P.Morgan estimates

#### Price target and valuation analysis

Our Mar-12 PT is at Rs 535/share based on DCF (including Rs77/share for investments). The DCF estimate assumes 8% intermediate growth from FY16-FY20 and 3% terminal growth from FY21 onwards with explicit estimates capturing gas volume increases till FY15. We assume a beta of 0.8, risk-free rate of 8.0%, market risk premium of 6.0%, and cost of debt of 9.0% to arrive at a WACC of 10.4%.

Risk free rate: Market risk premium:	8% 6%
Beta:	0.8
Debt/equity:	35%
Cost of debt:	9%
Terminal "g":	3%

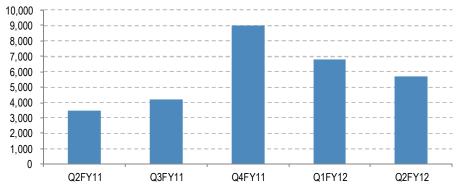
Our PT implies a FY12E P/E of 18.5x, higher than the historical range. We believe an easing of pipeline constraints, coupled with favourable pricing will drive 14% earnings CAGR over FY10-15E. Key downside risks are higher than expected subsidy share and lower than forecast gas transmission volumes.

Rs mn	Q2FY11	Q3FY11	Q4FY11	Q1FY12	Q2FY12	y/y %	q/q %
Net sales	81,282	83,836	89,089	88,890	97,264	20%	9%
Chg in stock	(555)	179	(235)	(1,875)	(912)	64%	-51%
Purchases	55,741	56,863	61,613	62,114	65,926	18%	6%
Raw Mat.	4,938	5,647	5,862	5,788	6,316	28%	9%
Staff costs	1,538	1,604	2,750	1,782	1,779	16%	0%
Other exp.	5,050	6,212	6,221	5,309	7,400	47%	39%
EBITDA	14,570	13,331	12,877	15,772	16,755	15%	6%
Other inc.	1,499	1,906	525	647	1,160	-23%	79%
Interest	117	165	341	208	226	93%	9%
Depreciation	1,626	1,605	1,672	1,782	2,008	23%	13%
PBT	14,326	13,467	11,389	14,429	15,682	9%	9%
Tax	5,090	3,791	3,558	4,582	4,738	-7%	3%
Net profit	9,236	9,676	7,831	9,847	10,944	19%	11%

#### Table 1: GAIL 2QFY12 earnings summary

Source: Company reports.





Source: Company reports.





Source: Company reports.

## Gas Authority of India Limited: Summary of Financials

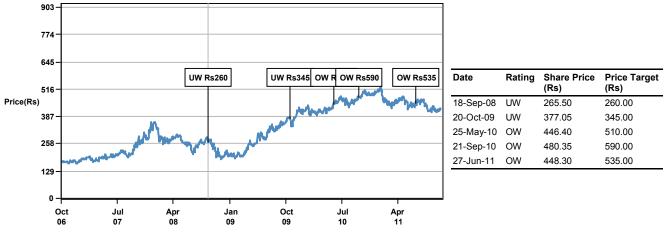
Income Statement						Cash flow statement					
Rs in millions, year end Mar	FY10	FY11	FY12E	FY13E	FY14E	Rs in millions, year end Mar	FY10	FY11	FY12E	FY13E	FY14E
Revenues	251,033	325,365	463,032	522,498	611,600	EBIT	42,142	48,822	46,296	53,569	66,351
% change Y/Y	5.6%	29.6%	42.3%	12.8%	17.1%	Depr. & amortization	5,618	6,503	10,203	13,262	16,406
Gross Margin	-	-	-	-	-	Change in working capital	14,628	-10,372	30,366	176	4,157
EBITDA	47,760	55,324	56,499	66,831	82,758	Taxes	-	-	-	-	
% change Y/Y	17.8%	15.8%	2.1%	18.3%	23.8%	Others	-	-	-	-	
EBITDA Margin	19.0%	17.0%	12.2%	12.8%	13.5%	Cash flow from operations	54,056	34,179	77,257	53,482	67,478
EBIT	42,142	48,822	46,296	53,569	66,351						
% change Y/Y	20.6%	15.9%	NM	15.7%	23.9%	Capex	-33,379	-46,714	-91,920	-99,270	-82,220
EBIT Margin	16.8%	15.0%	10.0%	10.3%	10.9%	Disposal/(purchase)	-	-	-	-	
Net Interest	5,418	3,578	3,283	-178	-3,797	Free cash flow	17,320	-17,630	-14,663	-45,788	-14,742
Earnings before tax	47,560	52,400	49,579	53,391	62,554						
% change Y/Y	13.1%	10.2%	-5.4%	7.7%	17.2%	Equity raised/(repaid)	-	-	-	-	
Tax	-14,386	-16,789	-12,891	-13,348	-15,639	Debt raised/(repaid)	-	-	-	-	
as % of EBT	30.3%	32.0%	26.0%	25.0%	25.0%	Other	-	-	-	-	
Net income (reported)	33,174	35,611	36,688	40,043	46,916	Dividends paid	-	-	-	-	
% change Y/Y	18.3%	7.4%	3.0%	9.1%	17.2%	Beginning cash	-	-	-	-	
Shares outstanding	1,268	1,268	1,268	1,268	1,268	Ending cash	-	-	-	-	
EPS (reported)	26.15	28.07	28.92	31.57	36.99	DPS	9.16	10.39	10.70	11.68	13.68
% change Y/Y	18.3%	7.4%	3.0%	9.1%	17.2%						
Balance sheet						Ratio Analysis					
Rs in millions, year end Mar	FY10	FY11	FY12E	FY13E	FY14E	Rs in millions, year end Mar	FY10	FY11	FY12E	FY13E	FY14E
Cash and cash equivalents	41,715	21,314	26,088	15,910	18,129	EBITDA margin	19.0%	17.0%	12.2%	12.8%	13.5%
Accounts receivable	12,950	19,059	22,798	25,724	30,109	Operating margin	16.8%	15.0%	10.0%	10.3%	10.9%
Inventories	6,317	8,551	15,199	20,007	23,418	Net margin	13.2%	11.0%	7.9%	7.7%	7.7%
Others	76,144	62,538	20,037	20,037	20,038	-					
Current assets	137,127	111,462	84,122	81,678	91,695						
						Sales per share growth	5.6%	29.6%	42.3%	12.8%	17.1%
LT investments	20,730	25,825	25,825	25,825	25,825	Sales growth	5.6%	29.6%	42.3%	12.8%	17.1%
Net fixed assets	130,084	182,827	264,544	350,552	416,365	Net profit growth	18.3%	7.4%	3.0%	9.1%	17.2%
Total Assets	184,157	231,966	288,092	363,745	427,621	EPS growth	18.3%	7.4%	3.0%	9.1%	17.2%
Liabilities						Interest coverage (x)	-	-	-	375.13	21.79
Short-term loans	0	0	0	0	0	Net debt to total capital	-15.7%	0.9%	13.1%	30.6%	34.0%
Payables	54,483	47,544	67,327	73,967	83,347	Net debt to equity	-16.0%	0.9%	14.9%	39.9%	48.9%
Others	49,301	40,605	19,072	20,343	22,917	Sales/assets	1.41	1.56	1.78	1.60	1.55
Total current liabilities	103,784	88,149	86,400	94,310	106,264	Assets/equity	1.46	1.44	1.35	1.54	1.62
Long-term debt	14,804	23,100	58,013	110,513		ROE	21.0%	19.8%	18.1%	17.8%	18.7%
Other liabilities	13,896	16,332	16,332	16,332	16,332		24.6%	24.5%	19.0%	17.3%	17.5%
Total Liabilities	28,699	39,432	74,345	126,845	163,595						
Shareholders' equity	167,990	192,533	213,747	236,900	264,026						
	,	,	168.51	186.76	208.14						

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: Gas Authority of India Limited.



Gas Authority of India Limited (GAIL.BO) Price Chart

Source: Bloomberg and J.P. Morgan; price data adjusted for stock splits and dividends. Initiated coverage Sep 18, 2008.

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 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 team's) coverage universe.] In our Asia (ex-Australia) and UK small- and mid-cap equity research, each stock's expected total return is compared to the expected total return of a benchmark country market index, not to those analysts' coverage universe. If it does not appear in the Important Disclosures section of this report, the certifying analyst's coverage universe can be found on J.P. Morgan's research website, www.morganmarkets.com.

**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 September 30, 2011

	Overweight	Neutral	Underweight
	(buy)	(hold)	(sell)
J.P. Morgan Global Equity Research Coverage	47%	42%	11%
IB clients*	51%	44%	33%
JPMS Equity Research Coverage	45%	47%	7%
IB clients*	70%	60%	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:** For valuation methodology and risks associated with covered companies or price targets for covered companies, please see the most recent company-specific research report at <a href="http://www.morganmarkets.com">http://www.morganmarkets.com</a>, contact the primary analyst or your J.P. Morgan representative, or email <a href="http://www.morgan.com">research.disclosure.inquiries@jpmorgan.com</a>.

**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 <a href="http://www.optionsclearing.com/publications/risks/riskstoc.pdf">http://www.optionsclearing.com/publications/risks/riskstoc.pdf</a>

#### 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, Type II Financial Instruments Firms Association and Japan Securities Investment Advisers Association. 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 independent decisions regarding any securities or 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 September 30, 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.