

JPM-pp1

Asia Pacific Equity Research

27 March 2015

Bank of Communications - H (3328 HK)

Underweight

Price: HK\$6.44

26 Mar 2015

Price Target: HK\$5.90

PT End Date: 31 Dec 2015

FY14 results - tight balance sheet liquidity led to worse-than-expected NIM contraction

BoCom reported net profits of Rmb65.9bn, up 6% YoY, and 2% higher than our estimate. However, total revenue was 1% lower than our estimate. The swing factor is credit costs, which were 46bp in 4Q14 on an annualized basis, significantly lower than the 65bp in 9M14. This is because BoCom cut its NPL coverage ratio by 22ppt in 4Q14. The key downside surprise was NIM contraction of 19bp qoq in 4Q14. On top of that, balance sheet liquidity remained tight despite CBRC's new regulation on LDR calculation. Both deposits and loans contracted in 4Q14 on a sequential basis. We remain UW on BoCom.

What we don't like about the results

- NIM contraction was the worst among peers (which have reported): NIM dropped by 19bp in 4Q14. This came as a negative surprise as we expected that with the relaxation of the loan-deposit calculation, BoCom would see more benefits in NIM than peers due to its tight balance sheet liquidity. The loan-deposit spread improved by 3bp qoq, mainly due to increasing loan yield of 11bp qoq; deposits cost went up by 8bp qoq. The NIM contraction was mainly due to a decline in investment yield of 67bp qoq and interbank asset yield of 89bp qoq. On the liabilities side, interbank funding costs dropped only 19bp qoq. Debt securities funding costs went up by 90bp qoq due to new debt issuance in 2H14.
- Loan and deposit contraction: Loans contracted 1% qoq and deposits contracted 2% qoq. BoCom's deposits contracted 3% yoy, while industry deposits went up by 9.6% YoY. BoCom's loan-deposit ratio, under CBRC's new calculation method, was 74.07%, not far from the required level of 75%. We believe this is the reason why, despite the relaxation, funding costs rose in 4Q14.
- Strategy to expand the wealth management business might lead to credit and regulatory risks: BoCom's WMP outstanding reached Rmb1.0trn, up 90% YoY. Total WMP outstanding accounted for 16% of total assets, much higher than peers'; for example, ICBC has total assets of Rmb20.6trn, but outstanding WMP of only Rmb1.98trn. We believe the aggressive growth in WMP may have contributed to slow growth in deposits in 2014. BoCom disclosed that non-standardized assets only accounted for 16% of total WMP and 3% of total assets. However, we believe the fast growth in WMP business amid regulatory tightening on shadow banking may lead to adverse selection in projects and increase asset quality risk going forward. In addition, we note that high-risk assets (i.e. trust beneficial rights and asset management plans issued by other financial institutions) increased by 95% YoY. This business strategy may lead to regulatory and credit risks.

What we like about the results

- Asset quality deterioration in line with industry trend: NPL ratio went up by 8bp qoq, slightly lower than the industry trend of 9bp qoq. Special-mention loans went up by 12% qoq, slower than the industry trend of 14% qoq. Total overdue loans went up by 30% HoH, but the alarming sign is that loans overdue less than 3 months went up by 57% HoH. We believe BoCom will continue to step up write-off efforts to manage NPLs.
- Announcement that it will issue up to Rmb60bn of preference shares: We calculate that this will increase the tier 1 capital ratio by 124bp and reduce common shareholders' equity by 27bp in 2015 (Table 3). Structure of preference share issuance plan is similar to ICBC's. A few details: a) size: no more than Rmb60bn of preference shares (Rmb45bn domestic + Rmb15bn offshore); and b) investors: no more than 200 investors for each tranche of domestic issuance. The announcement did not specify the number of investors for offshore issuances. Both the domestic and the offshore preference shares can be issued in multiple tranches; c) BoCom has the right to redeem the preference shares after 5 years of issuance; d) preference shares are subject to conversion into equity if the core ratio drops to 5.125% or at the discretion of CBRC/relevant regulatory bodies. Conversion price will be the average 20-day trading price prior to the announcement (Rmb6.25 per share / HK\$6.51 for domestic / offshore issuances respectively); f) the plan is subject to approval by shareholders (A and H), CSRC and CBRC.

Table 1: Summary of 2014 results

Rmb mn	FY13 Actual	FY14 Actual	YoY	Actual vs JPM				
				FY14 JPM Est.	est	1H14	2H14	HoH
NII	130,658	134,776	3%	137,468	-2%	67,211	67,565	1%
Non-Interest Income	33,197	41,232	24%	39,456	5%	21,567	19,665	-9%

Fees	25,968	29,604	14%	30,334	-2%	15,701	13,903	-11%
Non-fee	7,229	11,628	61%	9,122	27%	5,866	5,762	-2%
Total Income	163,855	176,008	7%	176,924	-1%	88,778	87,230	-2%
Operating expenses	(64,830)	(70,732)	9%	(69,755)	1%	(31,424)	(39,308)	25%
Staff costs	(22,488)	(24,690)	10%	(25,522)	-3%	(11,343)	(13,347)	18%
Other operating expenses	(42,342)	(46,042)	9%	(44,234)	4%	(20,081)	(25,961)	29%
PPOP	99,025	105,276	6%	107,169	-2%	57,354	47,922	-16%
LLP	(18,410)	(20,439)	11%	(23,297)	-12%	(10,159)	(10,280)	1%
Pre-Tax	79,909	84,927	6%	83,072	2%	47,195	37,732	-20%
Income Tax	(17,448)	(18,892)	8%	(18,372)	3%	(10,300)	(8,592)	-17%
Attributable Income	62,295	65,850	6%	64,277	2%	36,773	29,077	-21%
Gross Loans	3,266,368	3,431,735	5%	3,605,457	-5%	3,433,769	3,431,735	0%
Deposits	4,157,833	4,029,668	-3%	4,375,920	-8%	4,375,920	4,029,668	-8%
Equity	419,561	471,055	12%	468,007	1%	440,503	471,055	7%
Total Assets	5,960,937	6,268,299	5%	6,584,493	-5%	6,283,936	6,268,299	0%
Key Ratios								
NIM	2.52%	2.36%	-16 bp	2.38%	-3 bp	2.39%	2.32%	-7 bp
Cost income ratio	39.6%	40.2%	62 bp	39.4%	76 bp	35.4%	45.1%	967 bp
ROE	15.6%	14.8%	-80 bp	14.5%	29 bp	17.1%	12.8%	-434 bp
ROA	1.11%	1.08%	-3 bp	1.02%	5 bp	1.20%	0.93%	-27 bp
NPL Ratio	1.05%	1.25%	20 bp	1.19%	7 bp	1.13%	1.25%	13 bp
NPL Coverage ratio	213.7%	178.9%	-35 pt	204%	-25 pt	204%	179%	-25 pt
Loan loss reserve	2.24%	2.24%	0 bp	2.42%	-18 bp	2.30%	2.24%	-6 bp
LDR	78.6%	85.2%	660 bp	82.4%	277 bp	78.5%	85.2%	669 bp
Credit costs	0.59%	0.61%	2 bp	0.68%	-7 bp	0.61%	0.60%	-1 bp
Core capital ratio	9.76%	11.30%	154 bp	10.69%	60 bp	10.70%	11.30%	60 bp
Tier 1 Ratio	9.76%	11.30%	154 bp	10.69%	60 bp	10.70%	11.30%	60 bp
Total CAR	12.08%	14.04%	195 bp	14.02%	1 bp	12.75%	14.04%	129 bp
Dividend payout ratio	31%	30%	-1 pt					

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

Table 2: Summary of 4Q14 financials

Rmb mm	4Q13	1Q14	2Q14	3Q14	4Q14	QoQ	YoY
Key P&L Items							
Nil	33,023	32,282	34,929	35,169	32,396	-8%	-2%
Non-Interest Income	7,169	12,593	8,974	9,697	9,968	3%	39%
Fees	6,467	7,639	8,062	7,283	6,620	-9%	2%
Non-fee	702	4,954	912	2,414	3,348	39%	377%
Total Income	40,192	44,875	43,903	44,866	42,364	-6%	5%
Operating expenses	(17,051)	(15,365)	(16,059)	(18,741)	(20,567)	10%	21%
PPOP	23,141	29,510	27,844	26,125	21,797	-17%	-6%
LLP	(5,066)	(5,407)	(4,752)	(6,341)	(3,939)	-38%	-22%
Pre-Tax	17,366	24,127	23,068	19,820	17,912	-10%	3%
Income Tax	(3,745)	(5,369)	(4,931)	(5,021)	(3,571)	-29%	-5%
Attributable Income	13,589	18,690	18,083	14,749	14,328	-3%	5%
Key Balance Sheet Items							
Gross Loans	3,266,368	3,309,896	3,433,769	3,479,148	3,431,735	-1%	5%
Including NPL amount	34,310	36,058	38,750	40,872	43,017	5%	25%
Total deposits	4,157,833	4,123,583	4,375,920	4,116,546	4,029,668	-2%	-3%
Total assets	5,960,937	5,979,360	6,283,936	6,212,718	6,268,299	1%	5%
Equity	419,561	439,756	440,503	455,800	471,055	3%	12%
Key Ratios							
NIM	2.46%	2.33%	2.44%	2.42%	2.23%	-19bp	-23bp
Cost income ratio	42.4%	34.2%	36.6%	41.8%	48.5%	678bp	612bp
ROE	13.13%	17.40%	16.43%	13.16%	12.37%	-80bp	-76bp
ROA	0.93%	1.25%	1.18%	0.94%	0.92%	-3bp	-1bp
NPL Ratio	1.05%	1.09%	1.13%	1.17%	1.25%	8bp	20bp
NPL Coverage ratio	213.7%	212.3%	204.2%	201.3%	178.9%	-22 pt	-35 pt
Loan loss reserve	2.24%	2.31%	2.30%	2.36%	2.24%	-12bp	0bp
Credit cost	0.63%	0.66%	0.56%	0.73%	0.46%	-28bp	-17bp
LDR	78.6%	80.3%	78.5%	84.5%	85.2%	65bp	660bp
Core capital ratio	9.76%	10.04%	10.70%	11.10%	11.30%	20bp	154bp
Tier 1 Ratio	9.76%	10.04%	10.70%	11.10%	11.30%	20bp	154bp
Total CAR	12.08%	12.19%	12.75%	13.80%	14.04%	24bp	195bp

Source: Company reports.

Table 3: Effects of the preference share issuance on the BoCom's financials (2015E), assuming BoCom does not leverage up on the preference shares

Rmb mn	2015E		Difference
	Before issuance	After issuance	
Share capital, without conversion	74,263	74,263	0%
Share capital, with conversion	74,263	83,767	13%
Common equity	521,997	521,997	0%
Net profit attributable to common equity holders	66,846	65,496	-2%
Return on net assets attributable to ordinary shareholders	13.46%	13.19%	-27bp

Earnings per share attributable to ordinary shareholders	0.90	0.88	-2%
Core capital (net)	509,530	508,180	0%
Tier-1 capital (net)	509,539	568,189	12%
Total capital	654,526	713,176	9%
Risk-weighted assets	4,741,258	4,741,258	0%
Core capital adequacy ratio	10.75%	10.72%	-3bp
Tier-1 capital adequacy ratio	10.75%	11.98%	124bp
Capital adequacy ratio	13.80%	15.04%	124bp

Source: J.P. Morgan estimates. * Assuming the Issuance of Preference Shares was completed on 1 January 2015 with a total size of RMB60 billion and a coupon rate of 6.0%, and investment yield on additional capital is 5%

Investment Thesis

- As the only H-share bank headquartered in the eastern coast of China (Shanghai), BoCom's loan portfolio is more exposed to asset quality risk of SMEs and exporters in this region
- BoCom has the weakest retail franchise among SOE banks, thus it relies more on interbank liquidity to fund its growth. We believe BoCom is more vulnerable to interbank rate volatility
- BoCom's LDR remained the highest among peers at 78.6% at end-2013 and we are cautious that its balance sheet liquidity remains weak
- BoCom has the lowest ROE among H-share banks we cover. Thus it has less strength to withstand headwinds from an asset cycle
- BoCom follows the same regulatory measure as SOE banks (ie. minimum tier 1 ratio of 9.5% vs other banks of 8.5%), but its profitability and balance sheet liquidity are significantly trailing other SOE banks

Valuation

Our Dec-15 price target of HK\$5.9 is DDM-derived, assuming a cost of equity of 14.1%, normalised ROE of 10.8%, and terminal date of 31 December 2016.

Risks to Rating and Price Target

- Key upside risk: better-than-expected macro growth could enable BoCom to improve its loan pricing power, which might lead to a higher ROE than our estimate.

Banks & Financial Services

AC

Katherine Lei

(852) 2800-8552

katherine.lei@jpmorgan.com

Bloomberg JPMA LEI <GO>

Lu Lu

(852) 2800-8592

lu.lu@jpmorgan.com

Josh Klaczek

(852) 2800-8534

josh.klaczek@jpmorgan.com

J.P. Morgan Securities (Asia Pacific) Limited

www.jpmorganmarkets.com

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. For all Korea-based research analysts listed on the front cover, they also certify, as per KOFIA requirements, that their analysis was made in good faith and that the views reflect their own opinion, without undue influence or intervention.

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.

Important Disclosures

- **Lead or Co-manager:** J.P. Morgan acted as lead or co-manager in a public offering of equity and/or debt securities for Bank of Communications - H within the past 12 months.
- **Client:** J.P. Morgan currently has, or had within the past 12 months, the following company(ies) as clients: Bank of Communications - H.
- **Client/Investment Banking:** J.P. Morgan currently has, or had within the past 12 months, the following company(ies) as investment banking clients: Bank of Communications - H.
- **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: Bank of Communications - H.

- **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: Bank of Communications - H.
- **Investment Banking (past 12 months):** J.P. Morgan received in the past 12 months compensation from investment banking Bank of Communications - H.
- **Investment Banking (next 3 months):** J.P. Morgan expects to receive, or intends to seek, compensation for investment banking services in the next three months from Bank of Communications - H.
- **Non-Investment Banking Compensation:** J.P. Morgan has received compensation in the past 12 months for products or services other than investment banking from Bank of Communications - H.

Company-Specific Disclosures: Important disclosures, including price charts and credit opinion history tables, are available for compendium reports and all J.P. Morgan-covered companies by visiting <https://jpm.com/research/disclosures>, calling 1-800-477-0406, or e-mailing research.disclosure.inquiries@jpmorgan.com with your request. J.P. Morgan's Strategy, Technical, and Quantitative Research teams may screen companies not covered by J.P. Morgan. For important disclosures for these companies, please call 1-800-477-0406 or e-mail research.disclosure.inquiries@jpmorgan.com.

Date	Rating	Share Price (HK\$)	Price Target (HK\$)
04-Dec-06	N	7.16	7.50
07-Jan-07	N	8.66	8.60
13-Aug-07	N	8.34	9.50
16-Aug-07	N	7.91	9.70
29-Oct-07	OW	12.88	17.40
13-Jan-08	OW	10.18	16.00
26-Feb-08	OW	9.12	12.90
19-Mar-08	OW	8.16	12.70
29-Apr-08	OW	11.30	13.70
06-Jul-08	OW	9.06	12.00
27-Aug-08	OW	9.30	12.50
16-Sep-08	N	7.82	12.50
28-Sep-08	N	7.31	10.50
31-Oct-08	N	4.42	9.00
04-Mar-09	OW	4.50	9.00
19-Mar-09	OW	5.17	8.80
28-Jun-09	OW	8.40	11.20
19-Aug-09	OW	9.07	11.70
30-Nov-09	OW	8.81	13.00
10-Mar-10	OW	8.66	11.40
31-Mar-10	OW	9.25	12.00
07-Jun-10	OW	8.13	11.70
09-Aug-10	OW	9.00	11.20
19-Aug-10	OW	8.65	10.80
27-Nov-10	N	8.13	10.60
23-Mar-11	OW	7.90	10.80
31-Mar-11	OW	8.23	11.40
18-Aug-11	OW	5.75	10.40
12-Jan-12	OW	5.81	10.10
29-Mar-12	OW	5.80	9.60
31-Jul-12	OW	5.15	6.75
31-Oct-12	N	5.72	5.90
19-Feb-13	N	6.14	6.40
28-Apr-13	N	6.08	6.00
10-Sep-13	N	5.83	5.90
09-Feb-14	UW	4.90	4.90
26-Jun-14	UW	5.27	4.60
17-Oct-14	UW	5.42	5.00
03-Mar-15	UW	6.53	5.90

<http://gps-app.amer.jpmchase.net:6080/server/console/chart/?shareClassId=503796&shareClassServerId=4&chartDesignation=1&actionType=C>

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 or designations: OW = Overweight, N= Neutral, UW = Underweight, NR = Not Rated

Explanation of Equity Research Ratings, Designations 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.] Not Rated (NR): J.P. Morgan has removed the rating and, if applicable, the price target, for this stock because of either a lack of a sufficient fundamental basis or for legal, regulatory or policy reasons. The previous rating and, if applicable, the price target, no longer should be relied upon. An NR designation is not a recommendation or a rating. In our Asia (ex-Australia) and U.K. 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.jpmorganmarkets.com.

Coverage Universe: Lei, Katherine: Agricultural Bank of China - A (601288.SS), Agricultural Bank of China - H (1288.HK), Bank of China - A (601988.SS), Bank of China - H (3988.HK), Bank of Communications - A (601328.SS), Bank of Communications - H (3328.HK), CITIC Securities - A (600030.SS), CITIC Securities - H (6030.HK), China Cinda Asset Management Co Ltd (1359.HK), China Citic Bank - A (601998.SS), China Citic Bank - H (0998.HK), China Construction Bank - A (601939.SS), China Construction Bank - H (0939.HK), China Galaxy Securities Co - H (6881.HK), China Merchants Bank - A (600036.SS), China Merchants Bank - H (3968.HK), China Minsheng Banking - A (600016.SS), China Minsheng Banking - H (1988.HK), Chongqing Rural Commercial Bank (3618.HK), Far East Horizon (3360.HK), Haitong Securities - A (600837.SS), Haitong Securities - H (6837.HK), Huishang Bank (3698.HK), Industrial and Commercial Bank of China - A (601398.SS), Industrial and Commercial Bank of China - H (1398.HK)

J.P. Morgan Equity Research Ratings Distribution, as of January 1, 2015

	Overweight (buy)	Neutral (hold)	Underweight (sell)
J.P. Morgan Global Equity Research Coverage	45%	43%	12%
IB clients*	56%	49%	33%
JPMS Equity Research Coverage	45%	48%	7%
IB clients*	75%	67%	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. Please note that stocks with an NR designation are not included in the table above.

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 <http://www.jpmorganmarkets.com>, contact the primary analyst or your J.P. Morgan representative, or email research.disclosure.inquiries@jpmorgan.com.

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.

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.

All research reports made available to clients are simultaneously available on our client website, J.P. Morgan Markets. Not all research content is redistributed, e-mailed or made available to third-party aggregators. For all research reports available on a particular stock, please contact your sales representative.

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. **U.K.:** JPMorgan Chase N.A., London Branch, is authorised by the Prudential Regulation Authority and is subject to regulation by the Financial Conduct Authority and to limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from J.P. Morgan on request. J.P. Morgan Securities plc (JPMS plc) is a member of the London Stock Exchange and is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. Registered in England & Wales No. 2711006. Registered Office 25 Bank Street, London, E14 5JP. **South Africa:** J.P. Morgan Equities South Africa Proprietary Limited is a member of the Johannesburg Securities Exchange and is regulated by the Financial Services Board. **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 and/or J.P. Morgan Broking (Hong Kong) Limited (CE number AAB027) is regulated by 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 (JPMSAL) (ABN 52 002 888 011/AFS Licence No: 238188) is regulated by ASIC and J.P. Morgan Securities Australia Limited (JPMSAL) (ABN 61 003 245 234/AFS Licence No: 238066) is regulated by ASIC and is a Market, Clearing and Settlement Participant of ASX Limited and CHI-X. **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 (Corporate Identity Number - U67120MH1992FTC068724), 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. Telephone: 91-22-6157 3000, Facsimile: 91-22-6157 3990 and Website: www.jpmsipl.com. For non local research reports, this material is not distributed in India by J.P. Morgan India Private Limited. **Thailand:** This material is issued and distributed in Thailand by JPMorgan Securities (Thailand) Ltd., which is a member of the Stock Exchange of Thailand and is regulated by the Ministry of Finance and the Securities and Exchange Commission and its registered address is 3rd Floor, 20 North Sathorn Road, Silom, Bangrak, Bangkok 10500. **Indonesia:** PT J.P. Morgan Securities Indonesia is a member of the Indonesia Stock Exchange and is regulated by the OJK a.k.a. BAPEPAM LK. **Philippines:** J.P. Morgan Securities Philippines Inc. is a Trading Participant of the Philippine Stock Exchange and a member of the Securities Clearing Corporation of the Philippines and the Securities Investor Protection Fund. It 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 or through J.P. Morgan Securities Singapore Private Limited (JPMS) [MCI (P) 199/03/2014 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. This material is provided in Singapore only to accredited investors, expert investors and institutional investors, as defined in Section 4A of the Securities and Futures Act, Cap. 289. Recipients of this document are to contact JPMS or JPMCB Singapore in respect of any matters arising from, or in connection with, the document. **Japan:** JPMorgan Securities Japan Co., Ltd. is regulated by the Financial Services Agency in Japan. **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 JPMS plc. Investment research issued by JPMS plc has been prepared in accordance with JPMS plc's policies for managing conflicts of interest arising as a result of 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. This material does not take into account the specific investment objectives, financial situation or particular needs of the recipient. 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 term "wholesale client" has the meaning given in section 761G of the Corporations Act 2001. **Germany:** This material is distributed in Germany by J.P. Morgan Securities plc, 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 derivatives 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 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:** JPMS 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. **Taiwan:** This material is issued and distributed in Taiwan by J.P. Morgan Securities (Taiwan Limited). **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. **Brazil:** Ombudsman J.P. Morgan: 0800-7700847 / ouvidoria.jp.morgan@jpmorgan.com.

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 November 29, 2014.

Copyright 2015 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.