

Autonomous

au•ton•o•mous (ô-t n -m s) adjective

- Not controlled by others or by outside forces; independent.
- Independent in mind or judgement; self-directed.
- Free from external control and constraint.



SIFMA Annual Meeting

November 10th, 2014

Redefining the Financial Sector: The Industry Analyst's View

Rebuilding the Financial Sector: The Industry Analyst's AUTONOMOUS

Exchanges & Infrastructure

Dan Fannon – Jefferies & Co.

Retail/Online Brokers

Joel Jeffrey - Keefe, Bruyette & Woods

Asset Managers

Bill Katz – Citigroup

Universal & Capital Markets Banks

Guy Moszkowski (Moderator) – Autonomous Research

Universal & Capital Markets Banks



Plenty of Challenges Remain:

- Litigation
- Regulatory impacts
- Revenue pressure from secular shifts (like indexing)
- Persistent low rates / low volatility

Litigation: FX manipulation



FX market share and potential fines

| FX market share and expecte | ed fines | |
|-----------------------------|-----------------|----------------------|
| Bank | FX market share | Forecast fine (\$mn) |
| Deutsche | 15.2% | 4,400 |
| Citigroup | 14.9% | 4,300 |
| Barclays | 10.2% | 3,000 |
| UBS | 10.1% | 8,055 |
| HSBC | 6.9% | 2,000 |
| JP Morgan | 6.1% | 2,016 |
| RBS | 5.6% | 2,288 |
| Credit Suisse | 3.7% | 1,100 |
| Morgan Stanley | 3.2% | 900 |
| Bank of America | 3.1% | 900 |
| Goldman Sachs | 2.0% | 900 |
| Industry | | 35,059 |

Mortgage litigation



Largely settled, but aftermath remains

Bank of America: "BofA Mortgage Settlement Stalls Over SEC Political Fight"

Bloomberg, 10/28/14

JPMorgan: "JPMorgan to face U.S. class action in \$10 billion MBS case"

Reuters, 9/30/14

Bank of America, others: "Virginia sues 13 big banks, claiming mortgage securities fraud"

Washington Post, 9/16/14

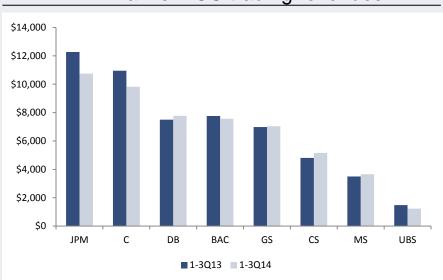
Bank of America Litigation Reserves

| \$bn | |
|---|-----------------------|
| Litigation Reserves Estimated 2Q14 adjusted for DOJ penalties | 2.4 |
| Liability (reserve) for Reps & Warranties | 11.9 |
| Total available reserves (est.) | 14.3 |
| Visible settlements: | |
| FHFA Private-label securities | - |
| FHFA final GSE Reps & Warranties Settlement* | - |
| Gibbs & Bruns Reps & Warranties Settlement | 8.5 |
| Civil Penalty (HSSL) | 1.3 |
| Compensatory payments to FDIC/NCUA/Ags | - |
| Total visible settlements | 9.8 |
| Reserve available following visible settlements | 4.5 |
| Other expected issues, in order of visibility: | |
| FHA | _ |
| Other PLS Reps & Warranties - non-FHFA buyers | 7.2 |
| Monoline exposures | 1.0 |
| LIBOR | 2.9 |
| FX | 0.9 |
| Total, other expected issues | 12.0 |
| | -7.5 |
| Available reserve after "Other expected" | |
| | -3.6 |
| Available reserve after "Other expected" Available "excess" credit reserves or modeled expenses** Total available | -3.6 -11. 1 |

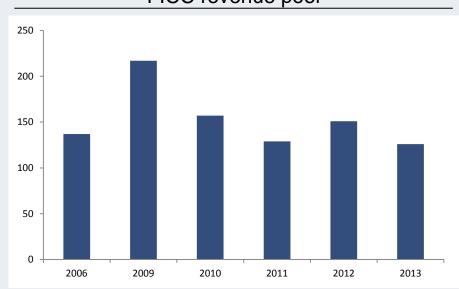
FICC results 2014 vs. 2013 YTD



Banks FICC trading revenues

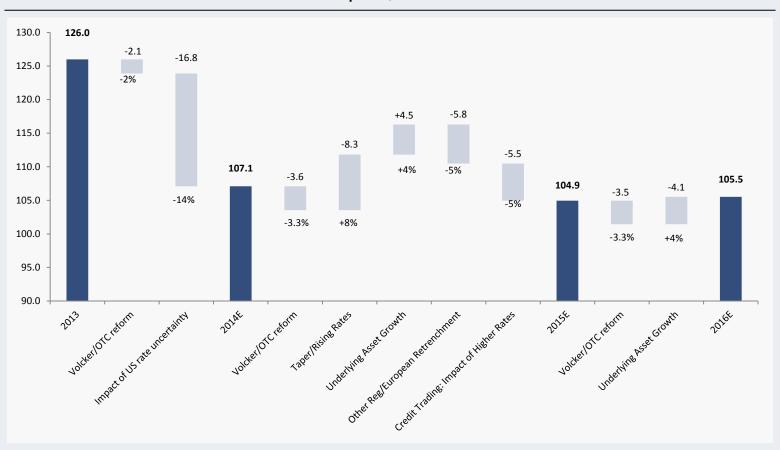


FICC revenue pool



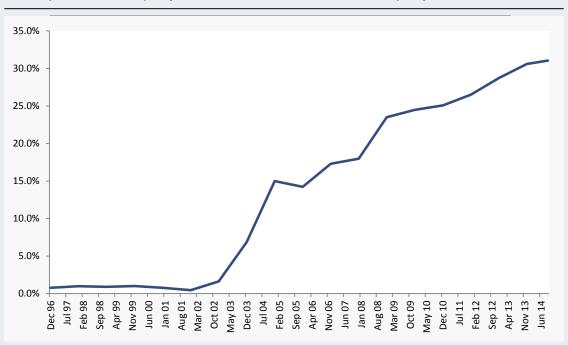
Potential revenue impacts from Volcker and derivatives AUTONOMOUS

FICC revenue pool, 2013-2016E



Equities: Indexing puts pressure on "traditional" buy side AUTONOMOUS

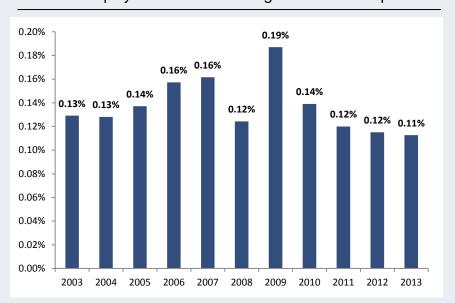
US passive equity fund AUM as % total equity fund AUM



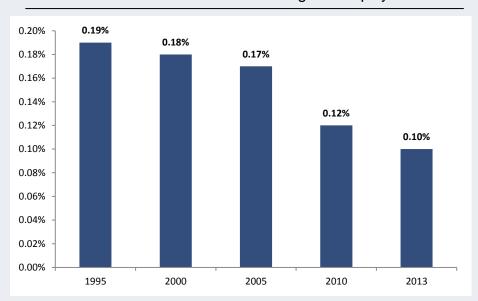
Equity revenues facing headwinds



Equity revenues as % of global market cap

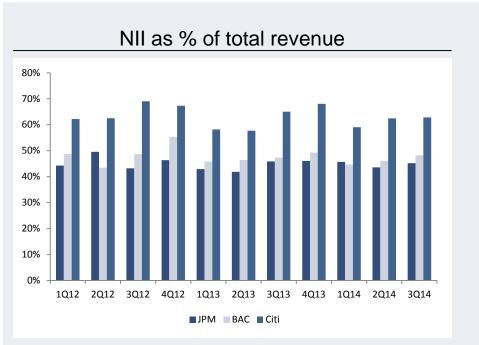


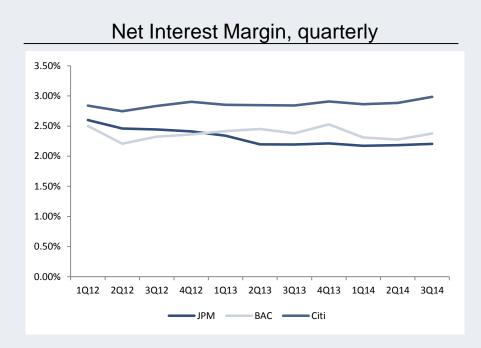
Commissions as % of AUM: 12 large US equity funds



Interest rate environment







Universal & Capital Markets Banks



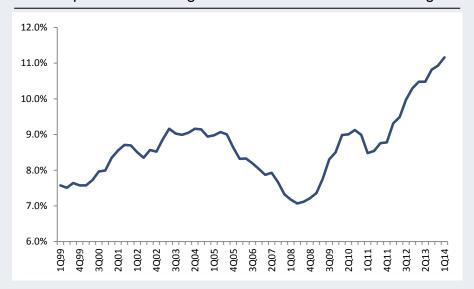
The Brighter Side:

- Global capital markets development
- Company-level adaptation/strategic refinement is taking hold
- When rates move banking businesses will do better, trading revenue will anticipate
- Advisory, ECM revenues reflecting economic growth

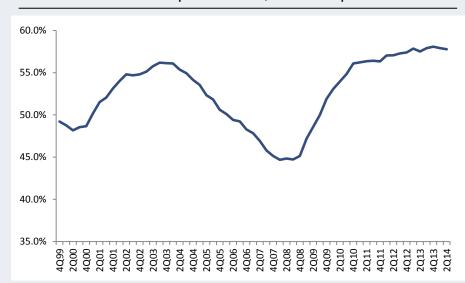
Corporate borrowing shifting to bonds from bank loans



European outstanding debt securities as % of borrowing



US bond share up from crisis, but more penetrated



Self-help: rapid wind-down of Citi Holdings assets



Significant progress made in ~2yrs

| Assets \$bn | 3Q12 | 2Q14 | Notes |
|----------------------------|------|------|-----------------------------------|
| North America Assets: | | | |
| Mortgage | 95 | 67 | Implied 4 year life |
| Personal | 10 | 9 | Implied 5 year life - OneMain |
| Other | 6 | 2 | |
| Loans | 111 | 78 | |
| Other Assets | 33 | 14 | |
| Total North America Assets | 144 | 92 | |
| International | 10 | 6 | Spain/Greece - Sold, closing 3Q14 |
| Other Assets: | | | |
| Securities at HTM | 7 | 3 | |
| Trading MTM/AFS | 14 | 5 | |
| Other Assets | 7 | 3 | |
| Total Other Assets | 28 | 11 | |
| Total Assets | 182 | 111 | |

Note: Numbers may not add due to rounding

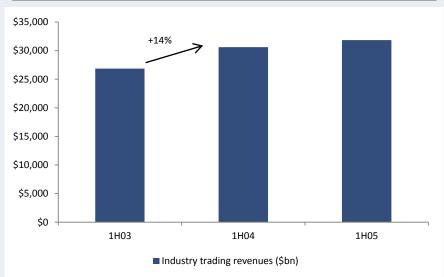
Rising rates benefit in several ways



EPS upside – '15 estimates 30% 25% 20% 15% 10% 5% BAC JPM Citi MS

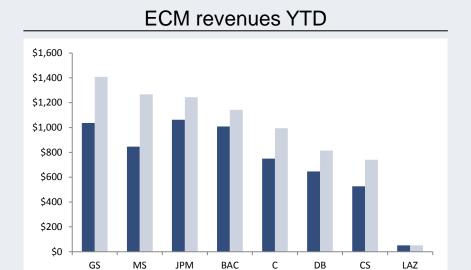
■ FF+100bps ■ FF+200bps

Trading benefits when tightening imminent

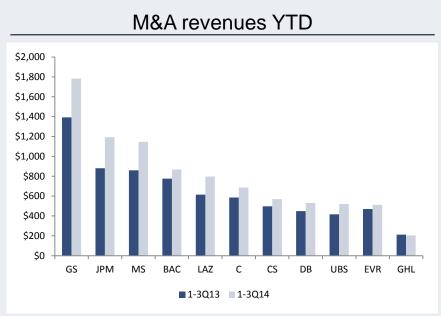


Upswing in ECM, M&A





■1-3Q13 ■1-3Q14



Disclaimer



GENERAL DISCLAIMER

Please note that the information presented herein is based on reliable sources and, or opinion of Autonomous Research LLP and/or Autonomous Research US LP (herein referred to as "Autonomous"). The content of this document may present a number of risks and uncertainties that might cause different results to that stated and events may differ materially from that which is expressed or implied herein. Autonomous assumes no responsibility to update any of the contents or opinions contained in this presentation. The information contained herein should not be interpreted as advice or a solicitation on the purchase or sale of specific financial instruments. Autonomous bears no responsibility in any instance for any loss including any consequential loss which may result from reliance on the information contained herein.

The information in this report has been prepared for information purposes only. It does not constitute a personal recommendation, as defined by regulations. This material is intended only for investors who are "eligible counterparties" or "professional clients" or "institutional investors" and "professional investors" as defined by the respective Regulators, and must not be redistributed to retail clients as defined by the relevant Regulators. Retail clients through whatever media receive this report should note that the services of Autonomous are not available to them and should not rely on the material herein to make an investment decision. The result of such act will not hold Autonomous liable for any loss thus incurred as Autonomous is not registered/ authorised/ licensed to deal with retail clients and will not enter into any contractual agreement/ arrangement with retail clients for the services provided by Autonomous.

The material in this report is based on information that we consider reliable, but we do not warrant or represent (expressly or implied) that it is accurate, complete, not misleading or as to its fitness for the purpose intended and it should not be relied upon as such. Opinions expressed are our current opinions as of the date appearing on the material only. The information is private and confidential and for the use of the client only. For the protection of persons other than the client who are not authorised to receive this report, this report may not be reproduced in whole or in part by any means except for the personal reference of the client. No part of this material may be reproduced, distributed or transmitted or otherwise made available without prior consent of Autonomous. Copyright Autonomous Research LLP, Autonomous Research US LP and Autonomous Research Asia Limited. All rights reserved. The trademarks and service marks contained herein are the property of their respective owners. Any unauthorised use or disclosure is strictly prohibited.

In Europe: Autonomous Research LLP is authorised and regulated by the Financial Conduct Authority in the United Kingdom (500498). Registered in England & Wales No OC343985. Autonomous Research LLP is a FINRA registered Broker-Dealer (Financial Industry Regulatory Authority ("FINRA")) www.sipc.org. In the US: Autonomous Research US LP is a FINRA registered Broker-Dealer www.sipc.org. and a Member of SIPC www.sipc.org.





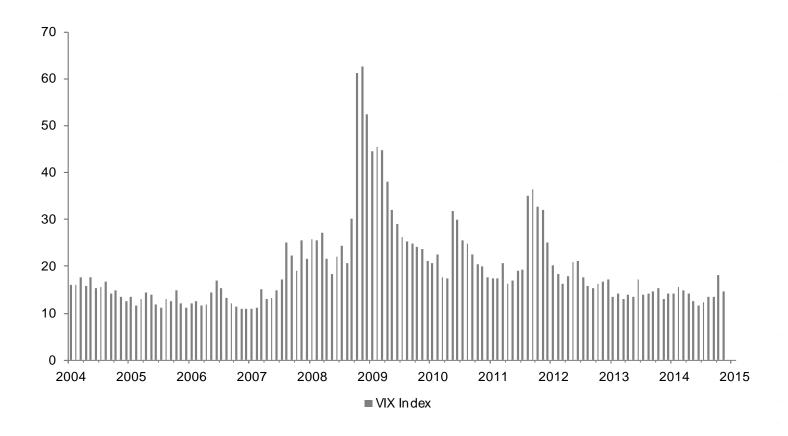
Contact:

Guy Moszkowski, CFA – CEO, Capital Markets Banks gmoszkowski@autonomous.com +1 646 561 6250

Jefferies US Equity Research | November, 2014 USA | Financials | Brokers, Asset Managers & Exchanges Daniel T. Fannon Managing Director Brokers, Asset Mgrs & Exchanges Email dfannon@jefferies.com 415.229.1523

Jefferies

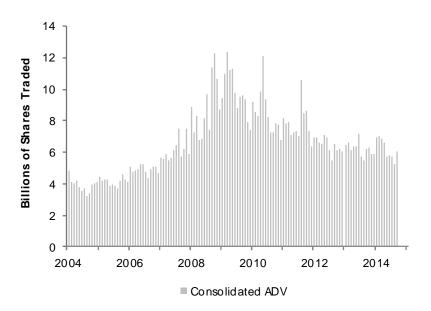
In the absence of secular growth, trading volume is highly impacted by market volatility

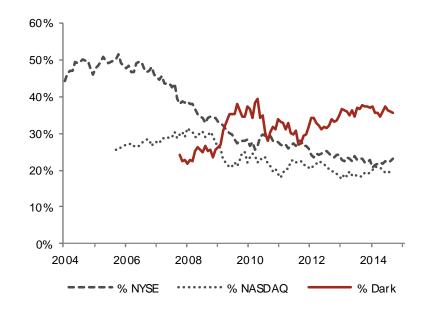


Source: CBOE Holdings

US Cash Equity Volumes

Equity trading volumes have failed to recover since the financial crisis; following regulatory changes and technological advancement limits organic growth trends are limited

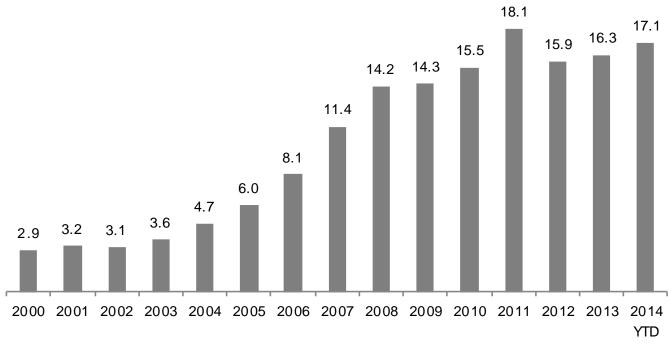




Source: BATS Trading

Daniel T. Fannon (415.229.1523, dfannon@jefferies.com),)

Options volumes represent one of the few areas of continued growth within all of trading.



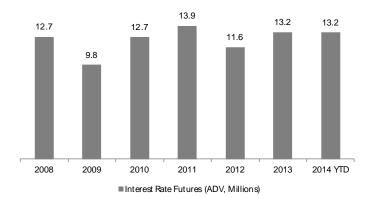
■ Equity Options (ADV, Millions)

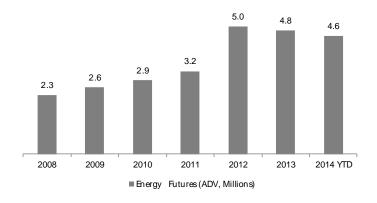
Source: Options Clearing Corporation (OCC)

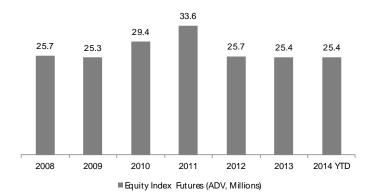
Daniel T. Fannon (415.229.1523, dfannon@jefferies.com),)

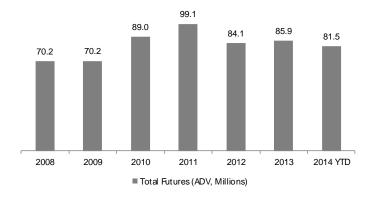
Global Futures Volumes

Outside of interest rates, most asset classes have experienced downward y/y volume trends in 2014.



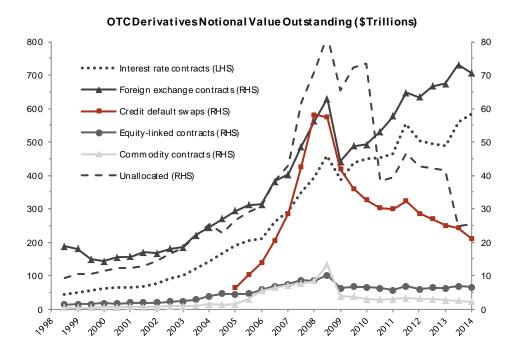






Source: Futures Industry Association (FIA)

Following Dodd Frank implementation in the US and EMIR in Europe, the OTC market is beginning to look more like the futures world.



| As of Dec 31, 2013 | \$Trillions | Y/ Y |
|----------------------------|-------------|------|
| Interest rate contracts | 584.4 | 18% |
| Foreign exchange contracts | 70.6 | 6% |
| Credit default swaps | 21.0 | -22% |
| Equity-linked contracts | 6.6 | 4% |
| Commodity contracts | 2.2 | -26% |
| Unallocated | 25.5 | -39% |
| Total notional outstanding | 710.2 | 2% |

| As of June 30, 2013 | \$Trillions | Y/ Y |
|----------------------------|-------------|------|
| Interest rate contracts | 561.3 | 11% |
| Foreign exchange contracts | 73.1 | 15% |
| Credit default swaps | 24.3 | -15% |
| Equity-linked contracts | 6.8 | 14% |
| Commodity contracts | 2.5 | -20% |
| Unallocated | 24.9 | -7% |
| Total notional outstanding | 692.9 | 7% |

Source: Bank for International Settlement (bis.org)

Daniel T. Fannon (415.229.1523, dfannon@jefferies.com),)

Analyst Certification

I, Daniel Fannon, certify that all of the views expressed in this research report accurately reflect my personal views about the subject security(ies) and subject company(ies). I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed in this research report.

Other Important Disclosures

Jefferies Equity Research refers to research reports produced by analysts employed by one of the following Jefferies Group LLC ("Jefferies") group companies:

United States: Jefferies LLC, which is an SEC registered firm and a member of FINRA.

United Kingdom: Jefferies International Limited, which is authorized and regulated by the Financial Conduct Authority; registered in England and Wales No. 1978621; registered office: Vintners Place, 68 Upper Thames Street, London EC4V 3BJ; telephone +44 (0)20 7029 8000; facsimile +44 (0)20 7029 8010.

Hong Kong: Jefferies Hong Kong Limited, which is licensed by the Securities and Futures Commission of Hong Kong with CE number ATS546; located at Suite 2201, 22nd Floor, Cheung Kong Center, 2 Queen's Road Central, Hong Kong.

> Daniel T. Fannon (415.229.1523, dfannon@jefferies.com),) **Jefferies**

Singapore: Jefferies Singapore Limited, which is licensed by the Monetary Authority of Singapore; located at 80 Raffles Place #15-20, UOB Plaza 2, Singapore 048624, telephone: +65 6551 3950.

Japan: Jefferies (Japan) Limited, Tokyo Branch, which is a securities company registered by the Financial Services Agency of Japan and is a member of the Japan Securities Dealers Association; located at Hibiya Marine Bldg, 3F, 1-5-1 Yuraku-cho, Chiyoda-ku, Tokyo 100-0006; telephone +813 5251 6100; facsimile +813 5251 6101.

India: India: Jefferies India Private Limited, which is licensed by the Securities and Exchange Board of India as a Merchant Banker (INM000011443) and a Stock Broker with Bombay Stock Exchange Limited (INB011438539) and National Stock Exchange of India Limited (INB231438533) in the Capital Market Segment; located at 42/43, 2 North Avenue, Maker Maxity, Bandra-Kurla Complex, Bandra (East) Mumbai 400 051, India; Tel +91 22 4356 6000.

This material has been prepared by Jefferies employing appropriate expertise, and in the belief that it is fair and not misleading. The information set forth herein was obtained from sources believed to be reliable, but has not been independently verified by Jefferies. Therefore, except for any obligation under applicable rules we do not guarantee its accuracy. Additional and supporting information is available upon request. Unless prohibited by the provisions of Regulation S of the U.S. Securities Act of 1933, this material is distributed in the United States ("US"), by Jefferies LLC, a US-registered broker-dealer, which accepts responsibility for its contents in accordance with the provisions of Rule 15a-6, under the US Securities Exchange Act of 1934. Transactions by or on behalf of any US person may only be effected through Jefferies LLC. In the United Kingdom and European Economic Area this report is issued and/or approved for distribution by Jefferies International Limited and is intended for use only by persons who have, or have been assessed as having, suitable professional experience and expertise, or by persons to whom it can be otherwise lawfully distributed. Jefferies International Limited has adopted a conflicts management policy in connection with the preparation and publication of research, the details of which are available upon request in writing to the Compliance Officer. For Canadian investors, this material is intended for use only by professional investors. None of the investments or investment services mentioned or described herein is available to other persons or to anyone in Canada who is not a "Designated Institution" as defined by the Securities Act (Ontario).

Daniel T. Fannon (415.229.1523, dfannon@jefferies.com),)

For investors in the Republic of Singapore, this material is provided by Jefferies Singapore Limited pursuant to Regulation 32C of the Financial Advisers Regulations. The material contained in this document is intended solely for accredited, expert or institutional investors, as defined under the Securities and Futures Act (Cap. 289 of Singapore). If there are any matters arising from, or in connection with this material, please contact Jefferies Singapore Limited. In Japan this material is issued and distributed by Jefferies (Japan) Limited to institutional investors only. In Hong Kong, this report is issued and approved by Jefferies Hong Kong Limited and is intended for use only by professional investors as defined in the Hong Kong Securities and Futures Ordinance and its subsidiary legislation. In India this report is made available by Jefferies India Private Limited. In Australia this information is issued solely by Jefferies International Limited and is directed solely at wholesale clients within the meaning of the Corporations Act 2001 of Australia (the "Act") in connection with their consideration of any investment or investment service that is the subject of this document. Any offer or issue that is the subject of this document does not require, and this document is not, a disclosure document or product disclosure statement within the meaning of the Act. Jefferies International Limited is authorised and regulated by the Financial Conduct Authority under the laws of the United Kingdom, which differ from Australian laws. Jefferies International Limited has obtained relief under Australian Securities and Investments Commission Class Order 03/1099, which conditionally exempts it from holding an Australian financial services licence under the Act in respect of the provision of certain financial services to wholesale clients. Recipients of this document in any other jurisdictions should inform themselves about and observe any applicable legal requirements in relation to the receipt of this document.

This report is not an offer or solicitation of an offer to buy or sell any security or derivative instrument, or to make any investment. Any opinion or estimate constitutes the preparer's best judgment as of the date of preparation, and is subject to change without notice. Jefferies assumes no obligation to maintain or update this report based on subsequent information and events. Jefferies, its associates or affiliates, and its respective officers, directors, and employees may have long or short positions in, or may buy or sell any of the securities, derivative instruments or other investments mentioned or described herein, either as agent or as principal for their own account. Upon request Jefferies may provide specialized research products or services to certain customers focusing on the prospects for individual covered stocks as compared to other covered stocks over varying time horizons or under differing market conditions. While the views expressed in these situations may not always be directionally consistent with the long-term views expressed in the analyst's published research, the analyst has a reasonable basis and any inconsistencies can be reasonably explained. This material does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this report is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. The price and value of the investments referred to herein and the income from them may fluctuate. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments.

Daniel T. Fannon (415,229,1523, dfannon@jefferies.com),)

This report has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of securities. None of Jefferies, any of its affiliates or its research analysts has any authority whatsoever to make any representations or warranty on behalf of the issuer(s). Jefferies policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis. Any comments or statements made herein are those of the author(s) and may differ from the views of Jefferies.

This report may contain information obtained from third parties, including ratings from credit ratings agencies such as Standard & Poor's. Reproduction and distribution of third party content in any form is prohibited except with the prior written permission of the related third party. Third party content providers do not guarantee the accuracy, completeness, timeliness or availability of any information, including ratings, and are not responsible for any errors or omissions (negligent or otherwise), regardless of the cause, or for the results obtained from the use of such content. Third party content providers give no express or implied warranties, including, but not limited to, any warranties of merchantability or fitness for a particular purpose or use. Third party content providers shall not be liable for any direct, inclidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including lost income or profits and opportunity costs) in connection with any use of their content, including ratings. Credit ratings are statements of opinions and are not statements of fact or recommendations to purchase, hold or sell securities. They do not address the suitability of securities or the suitability of securities for investment purposes, and should not be relied on as investment advice.

Jefferies research reports are disseminated and available primarily electronically, and, in some cases, in printed form. Electronic research is simultaneously available to all clients. This report or any portion hereof may not be reprinted, sold or redistributed without the written consent of Jefferies. Neither Jefferies nor any officer nor employee of Jefferies accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this report or its contents.

For Important Disclosure information, please visit our website at https://javatar.bluematrix.com/sellside/Disclosures.action or call 1.888.JEFFERIES

© 2014 Jefferies Group LLC

Jefferies



North American Equity Research



November 2014

Joel M. Jeffrey Managing Director 212 887 3865 jjeffrey@kbw.com

Outlook for the Retail Brokerage Industry

Brokerage

Keefe, Bruyette & Woods, Inc. 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. Please refer to important disclosures and analyst certification information on pages 5–8 of this report.

Retail Brokerage Going Forward

What Will Drive the Retail Brokerage Industry In the Future?

- Regulatory Issues
 - Fiduciary versus Suitability
 - Payment for Order Flow
- Higher Compliance and Technology Costs
- Increased Focus on Advice-Driven Offerings
 - Traditional brokers move to fee-based models
 - Demographics more favorable for advice models
 - Brokers get more stable revenue stream versus commission-driven model
 - Advisory Fees could see pressure from lower-cost advice products
 - Continued focus on recruiting
- Online Brokers Move to Derivatives Trades
 - Equity trades industry-wide are declining
 - Options generate twice the commission levels as equity
 - Firms will need to continue to invest in technology, compliance, and client education

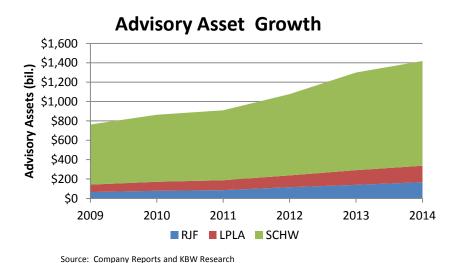
Advisory Model Driving Retail Brokerage Growth

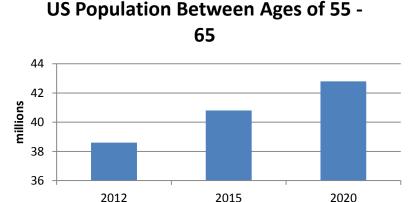
Advice-Driven Models Are Gaining Momentum

- Demographics show an aging population
- Advice becoming more important to clients as they get closer to retirement

Advisory and RIA Growth Has Been Substantial

- Since 2008, RIA assets have doubled to \$4 trillion
- Since 2009, advisory assets increased at 13% CAGR at three major firms





Source: Company Reports and KBW Research

Outlook:

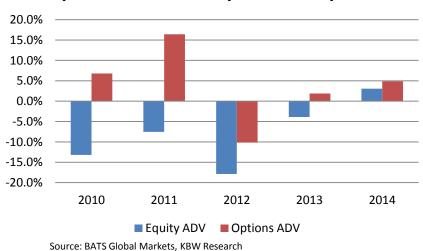
• The advisory business should further expand as the investor population ages and given more stable fee-based revenues. We'd expect fees to be pressured by new online offerings

Online Brokers Shift to Derivatives Trades versus Equity Trades

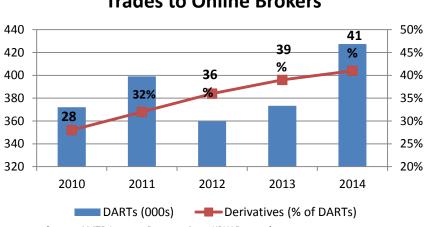
Recent Trend:

- Overall trading activity in Equities has been weak as options volumes have outperformed.
- Online brokers have grown trading revenues with increased derivatives trading.





Increasing Importance of Derivatives Trades to Online Brokers



Source: AMTD Investor Presentations, KBW Research

Outlook:

Online brokers will increasingly focus on higher-margin derivative trades which should result
in continued technology, compliance, and education investments.

RESEARCH ANALYST CERTIFICATION

I, Joel Jeffrey, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject companies and their securities. I also certify that I have not been, and will not be receiving direct or indirect compensation in exchange for expressing the specific recommendation in this report.

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.

COMPANY SPECIFIC DISCLOSURES

For disclosures pertaining to recommendations or estimates made on a security mentioned in this report, please see the most recently published company report or visit our global disclosures page on our website at http://www.kbw.com/research/disclosures or see the section below titled "Disclosure Information" for further information on how to obtain these disclosures.

AFFILIATE DISCLOSURES

This report has been prepared by Keefe, Bruyette & Woods, Inc. ("KBWI") and/or its affiliate Stifel Nicolaus Europe Limited ("SNEL"), also trading as Keefe, Bruyette & Woods Europe ("KBW Europe"); collectively "KBW". Both KBWI and KBW Europe are affiliates of Stifel, Nicolaus & Company, Inc. KBWI is regulated by FINRA and the United States Securities and Exchange Commission, is a member of NYSE, and its headquarters is located at 787 7th Avenue, New York, NY 10019. Stifel Nicolaus Europe Limited, also trading as Keefe, Bruyette & Woods Europe, is registered in England and Wales, no. 03719559 and its registered office is 7th Floor, One Broadgate, London EC2M 2QS. Stifel Nicolaus Europe Limited, also trading as Keefe, Bruyette & Woods Europe, is authorised and regulated by the Financial Conduct Authority (FCA) in the UK entered on the FCA's register, no. 190412 and is a member of the London Stock Exchange. Disclosures in the Important Disclosures section referencing KBW include one or all affiliated entities unless otherwise specified.

Registration of non-U.S. Analysts: Any non-U.S. Research Analyst employed by a non-U.S. affiliate of KBWI contributing to this report is not registered/qualified as research analyst with FINRA and/or the NYSE and may not be an associated person of KBWI and therefore may not be subject to NASD Rule 2711 or NYSE Rule 472 restrictions on communications with a subject company, public appearances, and trading securities held by a research analyst account.

Disclosure Information: For current company-specific disclosures, please write to one of the KBW entities: For **U.S. Research**: Keefe, Bruyette & Woods, Inc. Research Department, 787 7th Avenue, 4th Floor, New York, NY 10019. For **European Research**: The Compliance Officer, Keefe, Bruyette and Woods Europe, 7th Floor, One Broadgate, London EC2m 2QS. Or visit our website at http://www.kbw.com/research/disclosures. KBW has arrangements in place to manage conflicts of interest including information barriers between the Research Department and certain other business groups. As a result, KBW does not disclose certain client relationships with, or compensation received from, such companies in its research reports.

Important Disclosures (Continued)

Distribution of Ratings/IB Services KBW

*IB Serv./Past 12 Mos. Count Percent Rating Count Percent Outperform [BUY] 241 39.97 79 32.78 Market Perform [HOLD] 305 50.58 28.52 Underperform [SELL] 27 4.48 14.81 Restricted [RES] 0.00 0.00 Suspended [SP] 4.98 20.00 Covered -Not Rated [CNR] 0.17 100.00

As of October 31, 2014.

*KBW maintains separate research departments; however, the above chart, "Distribution of Ratings/IB Services," reflects combined information related to the distribution of research ratings and the receipt of investment banking fees globally.

Explanation of Ratings: KBW Research Department provides three core ratings: Outperform, Market Perform, and Underperform, and three ancillary ratings: Suspended, Restricted, and Covered-Not Rated. For purposes of New York Stock Exchange Rule 472 and FINRA Rule 2711, Outperform is classified as a Buy, Market Perform is classified as a Hold, and Underperform is classified as a Sell. Suspended indicates that KBW's investment rating and/or target price have been temporarily suspended due to applicable regulations and/or KBW policies. Restricted indicates that KBW is precluded from providing an investment rating or price target due to the firm's role in connection with a merger or other strategic financial transaction. Covered-Not Rated indicates that KBW is not providing an investment rating and/or price target due to the lack of publicly available information to sufficiently produce such metrics.

North American Stocks are rated based on an absolute rate of return (percentage price change plus dividend yield). Outperform represents a total rate of return of 15% or greater. Market Perform represents a total rate of return in a range between -5% and +15%. Underperform represents a total rate of return at or below -5%.

European Stocks are rated based on the share price upside to target price relative to the relevant sector index performance on a 12-month horizon. Outperform rated stocks have a greater than 10 percentage point ("pp") relative performance versus the sector, Market Perform rated stocks between +10pp to -10pp relative performance versus the sector, and Underperform rated stocks a lower than 10pp relative performance versus the sector. The 12-month price target may be determined by the stock's fundamentally driven fair value and/or other factors (e.g., takeover premium or illiquidity discount).

KBW Model Portfolio: "Model Portfolio Buy" - Companies placed on this list are expected to generate a total rate of return (percentage price change plus dividend yield) of 10% or more over the next 3 to 6 months. "Model Portfolio Sell" - Companies placed on this list are expected to generate a total rate of return (percentage price change plus dividend yield) at or below -10% over the next 3 to 6 months.

The purpose of the Model Portfolio is to inform institutional investors of KBWl's short-term (as described above) outlook for a particular industry sector. The Portfolio is not available for purchase or sale, cannot be duplicated as shown, is hypothetical and is for illustrative purposes only. For a more detailed description of the selection criteria and other specifics related to the construction of the Model Portfolio, please refer to the January 5, 2010 Model Portfolio Primer and/or contact your KBWl representative for more information.

The Model Portfolio should be viewed as a short-term outlook of a particular industry sector, not as individual security recommendations. The Model Portfolio uses a three-to-six-month time horizon and should not be considered when making longer term investments. KBWI Research publishes research with a 12-month outlook on each issuer of securities contained in the Model Portfolio. Investors who are interested in a particular security should request KBWI Research's coverage of such securities by contacting your KBWI representative. KBW research contains analyses of fundamentals underlying each issuer.

KBWI's long-term recommendations may differ from recommendations made for the Model Portfolio. These differences are the result of different time horizons—KBWI research has a 12-month outlook and the Model Portfolio has a three-to-six-month outlook.

^{*}KBW maintains separate research departments; however, the above chart, "Distribution of Ratings/IB Services," reflects combined information related to the distribution of research ratings and the receipt of investment banking fees globally.

Important Disclosures (Continued)

Although the model portfolio is based upon actual performance of actual investments, KBWI did not recommend that investors purchase this combination—or hypothetical portfolio—of investments during the time period depicted here. As this hypothetical portfolio was designed with the benefit of hindsight, the choice of investments contained in it reflects a subjective choice by KBWI. Accordingly, this hypothetical portfolio may reflect a choice of investments that performed better than an actual portfolio, which was recommended during the depicted time frame, would have performed during the same time period. Moreover, unlike an actual performance record, these results do not represent actual trading wherein market conditions or other risk factors may have caused the holder of the portfolio to liquidate or retain all or part of the represented holdings.

Stifel/KBW Income Opportunity List, Stifel/KBW Analyst Select List, and Stifel/KBW Select Income Opportunity—The Crossovers List: These lists include companies that analysts believe have the most attractive risk-adjusted return potential over the next 12 months, or, in the case of the Stifel/KBW Income Opportunity Ideas List, have yield in excess of 2%. In some cases, analysts who cover more than one sub-sector may have more than one name on the list.

Other Research Methods: Please be advised that KBW provides to certain customers on request specialized research products or services that focus on covered stocks from a particular perspective. These products or services include, but are not limited to, compilations, reviews, and analysis that may use different research methodologies or focus on the prospects for individual stocks as compared to other covered stocks or over differing time horizons or under assumed market events or conditions.

OTHER DISCLOSURES

Indices: The following indices: U.S.: KBW Bank Index (BKX), KBW Insurance Index (KIX), KBW Capital Markets Index (KSX), KBW Regional Banking Index (KRX), KBW Mortgage Finance Index (MFX), KBW Property & Casualty Index (KPX), KBW Premium Yield Equity REIT Index (KYX); KBW Financial Sector Dividend Yield Index (KDX) and Global: KBW Global ex-U.S. Financial Sector Index (KGX), are the property of KBWI.

KBWI does not guarantee the accuracy and/or completeness of the Indices, makes no express or implied warranties with respect to the Indices and shall have no liability for any damages, claims, losses, or expenses caused by errors in the index calculation. KBWI makes no representation regarding the advisability of investing in options on the Index. Past performance is not necessarily indicative of future results.

ETFs: The shares ("Shares") of KBW ETFs are not sponsored, endorsed, sold, or promoted by KBWI. KBWI makes no representation or warranty, express or implied, to the owners of the Shares or any member of the public regarding the advisability of investing in securities generally or in the Shares particularly or the ability of its Indices to track general stock market performance. The only relationship of KBWI to Invesco PowerShares Capital Management LLC and ProShares is the licensing of certain trademarks and trade names of KBWI and its Indices which are determined, composed, and calculated by KBWI without regard to Invesco PowerShares Capital Management LLC and ProShares, the fund, or the Shares. KBWI has no obligation to take the needs of Invesco PowerShares Capital Management LLC and ProShares or the owners of the shares into consideration in determining, composing, or calculating the Indices. KBWI is not responsible for and has not participated in any determination or calculation made with respect to issuance or redemption of the Shares. KBWI has no obligation or liability in connection with the administration, marketing, or trading of the Shares.

ETFs trade like stocks, are subject to investment risk, fluctuate in market value and may trade at prices above or below the ETFs net asset value. Investing in a single sector may be subject to more volatility than funds investing in a diverse group of sectors. Brokerage commissions and ETF expenses will reduce returns. In general, ETFs can be expected to move up or down in value with the value of the applicable index. Although ETFs may be bought and sold on the exchange through any brokerage account, ETFs are not individually redeemable from the Fund. Investors may acquire ETFs and tender them for redemption through the Fund in Creation Unit Aggregations only, please see the prospectus for more details. There are risks involved with investing in ETFs, including possible loss of money. Shares are not actively managed and are subject to risks including those regarding short selling and margin maintenance requirements. Past performance is not necessarily indicative of future results.

Leverage and Inverse ETFs: ProShares Ultra KBW Regional Banking (KRU) and ProShares Short KBW Regional Banking (KRS) ETFs seek returns that are either 2x, -1x, respectively, the return of an index or other benchmark (target) for a single day, as measured from one NAV calculation to the next. Due to the compounding of daily returns, returns over periods other than one day will likely differ in amount and possibly direction from the target return for the same period. These effects may be more pronounced in funds with larger or inverse multiples and in funds with volatile benchmarks. These funds may not be suitable for all investors and should be used only by knowledgeable investors who understand the potential consequences of seeking daily leveraged investment results. Investing involves risk, including the possible loss of principal. ProShares Short are non-diversified and should lose value when their market indexes rise—a result that is opposite from traditional ETFs—and they entail certain risks including risk associated with the use of derivatives, imperfect benchmark correlation, leverage, and market price variance, all of which can increase volatility and decrease performance.

For more on correlation, leverage, and other risks, please read the prospectus.

An investor should consider the Funds' investment objectives, risks, charges, and expenses carefully before investing. This and other information can be found in their prospectuses. For this and more complete information about the Funds, call InvescoPowerShares at 1-800-983-0903 or visit https://invescopowershares.com/resources/litcenter/ for a prospectus. The prospectus should be read carefully before investing.

Important Disclosures (Continued)

Shares of the ETFs funds are not guaranteed or insured by the FDIC or by another governmental agency; they are not obligations of the FDIC nor are they deposits or obligations of or guaranteed by KBWI, Invesco PowerShares Capital Management LLC or ProShares. ETFs are distributed by Invesco Distributors, Inc. the distributor of the PowerShares Exchange-Traded Fund Trust II. PowerShares® is a registered trademark of Invesco PowerShares Capital Management LLC; ProShares are distributed by SEI Investments Distribution Co., which is not affiliated with ProFunds Group or its affiliates.

General Risk Disclosure: Investments in securities or financial instrument involve numerous risks which may include market risk, counterparty default risk, liquidity risk and exchange rate risk. No security or financial instrument is suitable for all investors, and some investors may be prohibited in certain states or other jurisdictions from purchasing securities mentioned in this communication. The securities of some issuers may not be subject to the audit and reporting standards, practices and requirements comparable to those companies located in the investor's local jurisdiction. Where net dividends to ADR investors are discussed, these are estimated, using withholding tax rate conventions, and deemed accurate, but recipients should always consult their tax advisor for exact dividend computations.

COUNTRY-SPECIFIC AND JURISDICTIONAL DISCLOSURES

United States: This report is being distributed in the U.S. by KBWI. Where the report has been prepared by a non-U.S. affiliate, KBWI accepts responsibility for its contents. **U.K. and European Economic Area (EEA):** This report is issued and approved for distribution in the EEA by Stifel Nicolaus Europe Limited, also trading as Keefe, Bruyette & Woods Europe, which is regulated in the United Kingdom by the Financial Conduct Authority (FCA).

In jurisdictions where KBW is not already licensed or registered to trade securities, transactions will only be affected in accordance with local securities legislation which will vary from jurisdiction to jurisdiction and may require that a transaction is carried out in accordance with applicable exemptions from registration and licensing requirements. Non-U.S. customers wishing to effect a transaction should contact a representative of the KBW entity in their regional jurisdiction except where governing law permits otherwise. U.S. customers wishing to effect a transaction should do so by contacting a representative of KBWI.

ONLY DISTRIBUTE UNDER REGULATORY LICENSE

This communication is only intended for and will only be distributed to persons residing in any jurisdictions where such distribution or availability would not be contrary to local law or regulation. This communication must not be acted upon or relied on by persons in any jurisdiction other than in accordance with local law or regulation and where such person is an investment professional with the requisite sophistication and resources to understand an investment in such securities of the type communicated and assume the risks associated therewith.

CONFIDENTIAL INFO

This communication is confidential and is intended solely for the addressee. It is not to be forwarded to any other person or copied without the permission of the sender. Please notify the sender in the event you have received this communication in error

NO SOLICITATION OR PERSONAL ADVICE

This communication is provided for information purposes only. It is not a personal recommendation or an offer to sell or a solicitation to buy the securities mentioned. Investors should obtain independent professional advice before making an investment.

ASSUMPTIONS, EFFECTIVE DATE, AND UPDATES

Certain assumptions may have been made in connection with the analysis presented herein, so changes to assumptions may have a material impact on the conclusions or statements made in this communication. Facts and views presented in this communication have not been reviewed by, and may not reflect information known to, professionals in other business areas of KBW, including investment banking personnel.

The information relating to any company herein is derived from publicly available sources and KBW makes no representation as to the accuracy or completeness of such information. Neither KBW nor any of its officers or employees accept any liability whatsoever for any direct, indirect, or consequential damages or losses arising from any use of this report or its content.

This communication has been prepared as of the date of the report.

KBW does not undertake to advise clients of any changes in information, estimates, price targets, or ratings, all of which are subject to change without notice. The recipients should assume that KBW will not update any fact, circumstance, or opinion contained in this report.

COPYRIGHT

This report is produced for the use of KBW customers and may not be reproduced, re-distributed or passed to any other person or published in whole or in part for any purpose without the prior consent of KBW.



Asset Management: An Industry In Transition

Repercussions Of The Financial Crisis – Risk Management Trumps Alpha Generation

William R. Katz

Director
William.Katz@citi.com
212-816-5394

Neil Stratton, CFA

Senior Associate
Neil.Stratton@citi.com

Steve Fullerton

Senior Associate Steve.Fullerton@citi.com **Ryan Bailey**

Associate

Ryan.Bailey@citi.com

Date Published: October 31, 2014

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures

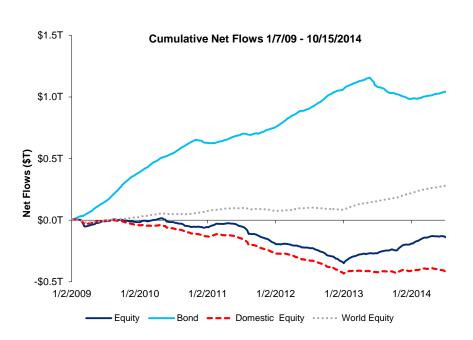
Citi Research is a division of Citigroup Global Markets Inc. (the "Firm"), which does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. Certain products (not inconsistent with the author's published research) are available only on Citi's portals.

Investor Mindset Is Shifting Away From U.S. Equities

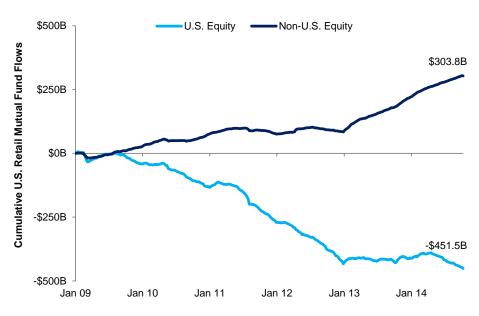
As Investors Emphasize Capital Preservation & Diversification

Retail Favors Fixed Income & International Equity, While Domestic Equity Lags...

...And Home Country Bias Is Declining



Source: ICI, Citi Research



Note: Data From January 1, 2009 Through October 15, 2014

Source: ICI, Citi Research

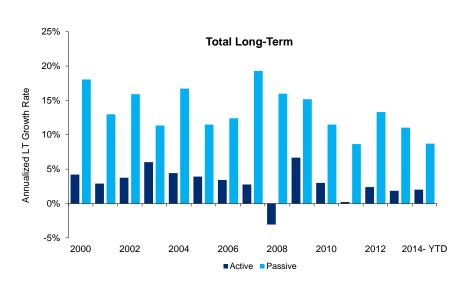


Excess Capacity Is Fueling Barbell Dynamics

The Industry Is Barbelling, Causing Outsized Growth In Passive (Beta Products) & High Alpha



Passive Organic Growth Is Outpacing Active...



Note: Retail data used Source: Strategic Insight Simfund, Citi Research

Funds

...While Non-Style Box Organic Growth Remains Strong

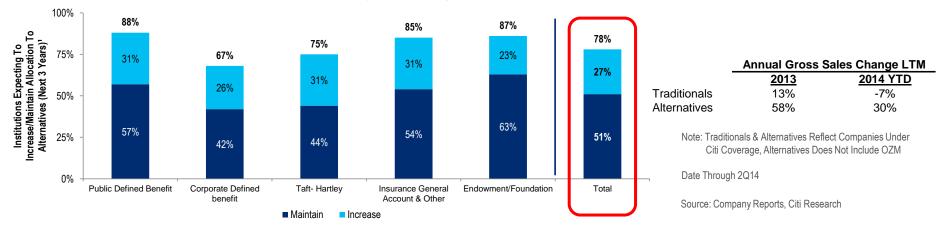


Note: Retail data used, we define "Style Box" As Large/Mid/Small Cap Value/Growth/Blend Funds Source: Strategic Insight Simfund, Citi Research



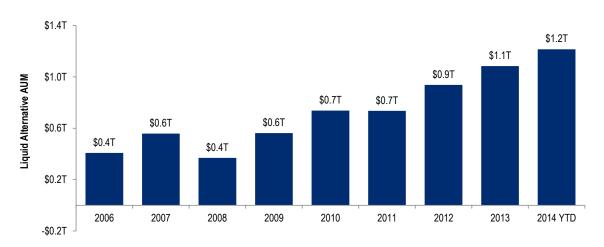
The Rise Of Alternative Investing – Diversified Returns

Institutional Investors Are Generally Looking To Maintain Or Increase Alternatives Exposure...



Source: McKinsey Alternative Investment Survey 2013/2014

...While Retail Demand For Alternative Products Is Apparent



Note: We Define Liquid Alternatives As World Allocation, Tactical Allocation, Target Date, Retirement Income, Diversified Emerging Markets, Diversified Pacific/Asia, Bear Market, Multicurrency, Long/Short Equity, Market Neutral, Multi-alternative. Managed Funds. Volatility. Multi-Sector Bond

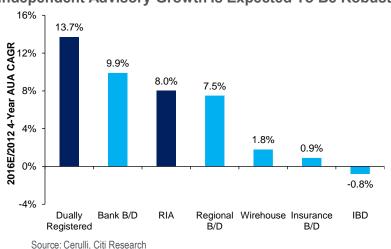
Source: Strategic Insight Simfund, Citi Research

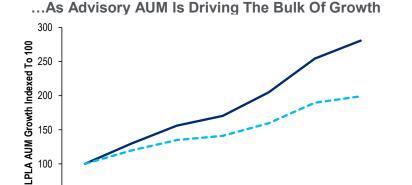


Reshaping Of U.S. Retail Distribution Channel

The Emergence Of Independent Advisory Channels And Migration Towards Financial Planning Is Reducing Individual Stock And Manager Selection

Independent Advisory Growth Is Expected To Be Robust...





2011

2012

Total Client Assets

2013

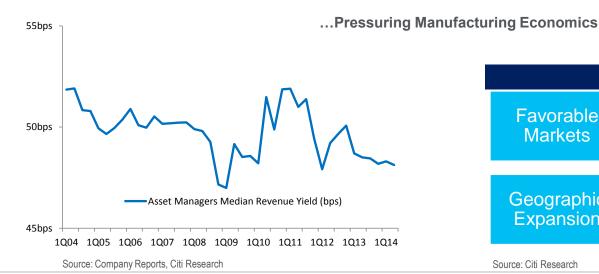
2Q14

Source: Company Reports, Citi Research

2009

- Advisory AUM

2010





Source: Citi Research

50

2008



Appendix A-1

Analyst Certification

The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

IMPORTANT DISCLOSURES

Analysts' compensation is determined based upon activities and services intended to benefit the investor clients of Citigroup Global Markets Inc. and its affiliates ("the Firm"). Like all Firm employees, analysts receive compensation that is impacted by overall firm profitability which includes investment banking revenues.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Research product ("the Product"), please contact Citi Research, 388 Greenwich Street, 28th Floor, New York, NY, 10013, Attention: Legal/Compliance [E6WYB6412478]. In addition, the same important disclosures, with the exception of the Valuation and Risk assessments and historical disclosures, are contained on the Firm's disclosure website at

https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures. Valuation and Risk assessments can be found in the text of the most recent research note/report regarding the subject company. Historical disclosures (for up to the past three years) will be provided upon request.

Other Analyst Disclosures

Bill Katz holds a long position in the securities of an exchange-traded fund that invests primarily in securities of U.S. broker-dealers.

| Citi Research Equity Ratings Distribution | | | | | | |
|--|-----------------|------|------|-----------------|------|------|
| | 12 Month Rating | | | Relative Rating | | |
| Data current as of 30 Sep 2014 | Buy | Hold | Sell | Buy | Hold | Sell |
| Citi Research Global Fundamental Coverage | 48% | 40% | 12% | 0% | 100% | 0% |
| % of companies in each rating category that are investment banking clients | 66% | 63% | 56% | 0% | 64% | 0% |

Guide to Citi Research Fundamental Research Investment Ratings:

Citi Research stock recommendations include an investment rating and an optional risk rating to highlight high risk stocks.

Risk rating takes into account both price volatility and fundamental criteria. Stocks will either have no risk rating or a High risk rating assigned.

Investment Ratings: Citi Research investment ratings are Buy, Neutral and Sell. Our ratings are a function of analyst expectations of expected total return ("ETR") and risk. ETR is the sum of the forecast price appreciation (or depreciation) plus the dividend yield for a stock within the next 12 months. The Investment rating definitions are: Buy (1) ETR of 15% or more or 25% or more for High risk stocks; and Sell (3) for negative ETR. Any covered stock not assigned a Buy or a Sell is a Neutral (2). For stocks rated Neutral (2), if an analyst believes that there are insufficient valuation drivers and/or investment catalysts to derive a positive or negative investment view, they may elect with the approval of Citi Research management not to assign a target price and, thus, not derive an ETR. Analysts may place covered stocks "Under Review" in response to exceptional



circumstances (e.g. lack of information critical to the analyst's thesis) affecting the company and / or trading in the company's securities (e.g. trading suspension). As soon as practically possible, the analyst will publish a note re-establishing a rating and investment thesis. To satisfy regulatory requirements, we correspond Under Review and Neutral to Hold in our ratings distribution table for our 12-month fundamental rating system. However, we reiterate that we do not consider Under Review to be a recommendation.

Prior to May 1, 2014 Citi Research may have also assigned a three-month relative call (or rating) to a stock to highlight expected out-performance (most preferred) or underperformance (least preferred) versus the geographic and industry sector over a 3 month period. The relative call may have highlighted a specific near-term catalyst or event impacting the company or the market that was anticipated to have a short-term price impact on the equity securities of the company. Absent any specific catalyst the analyst(s) may have indicated the most and least preferred stocks in the universe of stocks under consideration, explaining the basis for this short-term view. This three-month view may have been different from and did not affect a stock's fundamental equity rating, which reflected a longer-term total absolute return expectation. For purposes of NASD/NYSE ratings-distribution-disclosure rules, most preferred calls corresponded to a buy recommendation and least preferred calls corresponded to a sell recommendation. Any stock not assigned to a most preferred or least preferred call was considered non-relative-rated (NRR). For purposes of NASD/NYSE ratings-distribution-disclosure rules we corresponded NRR to Hold in our ratings distribution table for our 3-month relative rating system. However, we reiterate that we did not consider NRR to be a recommendation.

Prior to October 8, 2011, the firm's stock recommendation system included a risk rating and an investment rating. **Risk ratings**, which took into account both price volatility and fundamental criteria, were: Low (L), Medium (M), High (H), and Speculative (S). **Investment Ratings** of Buy, Hold and Sell were a function of the Citi Research expectation of total return (forecast price appreciation and dividend yield within the next 12 months) and risk rating. Additionally, analysts could have placed covered stocks "Under Review" in response to exceptional circumstances (e.g. lack of information critical to the analyst's thesis) affecting the company and/or trading in the company's securities (e.g. trading suspension). Stocks placed "Under Review" were monitored daily by management and as practically possible, the analyst published a note re-establishing a rating and investment thesis. For securities in developed markets (US, UK, Europe, Japan, and Australia/New Zealand), investment ratings were:Buy (1) (expected total return of 10% or more for Low-Risk stocks, 15% or more for Medium-Risk stocks, 20% or more for High-Risk stocks, and 35% or more for Speculative stocks); Hold (2) (0%-10% for Low-Risk stocks, 0%-15% for Medium-Risk stocks, 0%-20% for High-Risk stocks, and 0%-35% for Speculative stocks); and Sell (3) (negative total return). For securities in emerging markets (Asia Pacific, Emerging Europe/Middle East/Africa, and Latin America), investment ratings were:Buy (1) (expected total return of 15% or more for Low-Risk stocks, 20% or more for Medium-Risk stocks, 30% or more for High-Risk stocks, and 40% or more for Speculative stocks); Hold (2) (5%-15% for Low-Risk stocks, 10%-20% for Medium-Risk stocks, 15%-30% for High-Risk stocks, and 20%-40% for Speculative stocks); and Sell (3) (5% or less for Low-Risk stocks, 10% or less for Medium-Risk stocks, 15% or less for Speculative stocks).

Investment ratings are determined by the ranges described above at the time of initiation of coverage, a change in investment and/or risk rating, or a change in target price (subject to limited management discretion). At other times, the expected total returns may fall outside of these ranges because of market price movements and/or other short-term volatility or trading patterns. Such interim deviations from specified ranges will be permitted but will become subject to review by Research Management. Your decision to buy or sell a security should be based upon your personal investment objectives and should be made only after evaluating the stock's expected performance and risk.

NON-US RESEARCH ANALYST DISCLOSURES

Non-US research analysts who have prepared this report (i.e., all research analysts listed below other than those identified as employed by Citigroup Global Markets Inc.) are not registered/qualified as research analysts with FINRA. Such research analysts may not be associated persons of the member organization and therefore may not be subject to the NYSE Rule 472 and NASD Rule 2711 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account. The legal entities employing the authors of this report are listed below:

Citigroup Global Markets Inc

William R Katz; Neil Stratton, CFA; Steven J Fullerton; Ryan Bailey

OTHER DISCLOSURES

For securities recommended in the Product in which the Firm is not a market maker, the Firm is a liquidity provider in the issuers' financial instruments and may act as principal in connection with such transactions. The Firm is a regular issuer of traded financial instruments linked to securities that may have been recommended in the Product. The Firm



regularly trades in the securities of the issuer(s) discussed in the Product. The Firm may engage in securities transactions in a manner inconsistent with the Product and, with respect to securities covered by the Product, will buy or sell from customers on a principal basis.

Securities recommended, offered, or sold by the Firm: (i) are not insured by the Federal Deposit Insurance Corporation; (ii) are not deposits or other obligations of any insured depository institution (including Citibank); and (iii) are subject to investment risks, including the possible loss of the principal amount invested. Although information has been obtained from and is based upon sources that the Firm believes to be reliable, we do not guarantee its accuracy and it may be incomplete and condensed. Note, however, that the Firm has taken all reasonable steps to determine the accuracy and completeness of the disclosures made in the Important Disclosures section of the Product. The Firm's research department has received assistance from the subject company(ies) referred to in this Product including, but not limited to, discussions with management of the subject company(ies). Firm policy prohibits research analysts from sending draft research to subject companies. However, it should be presumed that the author of the Product has had discussions with the subject company to ensure factual accuracy prior to publication. All opinions, projections and estimates constitute the judgment of the author as of the date of the Product and these, plus any other information contained in the Product, are subject to change without notice. Prices and availability of financial instruments also are subject to change without notice. Notwithstanding other departments within the Firm advising the companies discussed in this Product, information obtained in such role is not used in the preparation of the Product. Although Citi Research does not set a predetermined frequency for publication, if the Product is a fundamental research report, it is the intention of Citi Research to provide research coverage of the/those issuer(s) mentioned therein, including in response to news affecting this issuer, subject to applicable quiet periods and capacity constraints. The Product is for informational purposes only and is not intended as an of

Investing in non-U.S. securities, including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of the U.S. Securities and Exchange Commission. There may be limited information available on foreign securities. Foreign companies are generally not subject to uniform audit and reporting standards, practices and requirements comparable to those in the U.S. Securities of some foreign companies may be less liquid and their prices more volatile than securities of comparable U.S. companies. In addition, exchange rate movements may have an adverse effect on the value of an investment in a foreign stock and its corresponding dividend payment for U.S. investors. Net dividends to ADR investors are estimated, using withholding tax rates conventions, deemed accurate, but investors are urged to consult their tax advisor for exact dividend computations. Investors who have received the Product from the Firm may be prohibited in certain states or other jurisdictions from purchasing securities mentioned in the Product from the Firm. Please ask your Financial Consultant for additional details. Citigroup Global Markets Inc. takes responsibility for the Product in the United States. Any orders by US investors resulting from the information contained in the Product may be placed only through Citigroup Global Markets Inc.

Important Disclosures for Bell Potter Customers: Bell Potter is making this Product available to its clients pursuant to an agreement with Citigroup Global Markets Australia Pty Limited. Neither Citigroup Global Markets Australia Pty Limited nor any of its affiliates has made any determination as to the suitability of the information provided herein and clients should consult with their Bell Potter financial advisor before making any investment decision.

The Citigroup legal entity that takes responsibility for the production of the Product is the legal entity which the first named author is employed by. The Product is made available in Australia through Citigroup Global Markets Australia Pty Limited. (ABN 64 003 114 832 and AFSL No. 240992), participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in Australia to Private Banking wholesale clients through Citigroup Pty Limited (ABN 88 004 325 080 and AFSL 238098). Citigroup Pty Limited provides all financial product advice to Australian Private Banking wholesale clients through bankers and relationship managers. If there is any doubt about the suitability of investments held in Citigroup Private Bank accounts, investors should contact the Citigroup Private Bank in Australia. Citigroup companies may compensate affiliates and their representatives for providing products and services to clients. The Product is made available in Brazil by Citigroup Global Markets Brasil - CCTVM SA, which is regulated by CVM - Comissão de Valores Mobiliários, BACEN - Brazilian Central Bank, APIMEC - Associação dos Analistas e Profissionais de Investimento do Mercado de Capitais and ANBID - Associação Nacional dos Bancos de Investimento. Av. Paulista, 1111 - 11° andar - CEP. 01311920 - São Paulo - SP. If the Product is being made available in certain provinces of Canada by Citigroup Global Markets (Canada) Inc. ("CGM Canada"), CGM Canada has approved the Product. Citigroup Place, 123 Front Street West, Suite 1100, Toronto, Ontario M5J 2M3. This product is available in Chile through Banchile Corredores de Bolsa S.A., an indirect subsidiary of Citigroup Inc., which is regulated by the Superintendencia de Valores y Seguros.



Agustinas 975, piso 2, Santiago, Chile. The Product is distributed in Germany by Citigroup Global Markets Deutschland AG ("CGMD"), which is regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin), CGMD, Reuterweg 16, 60323 Frankfurt am Main, Research which relates to "securities" (as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong)) is issued in Hong Kong by, or on behalf of, Citigroup Global Markets Asia Limited which takes full responsibility for its content. Citigroup Global Markets Asia Ltd. is regulated by Hong Kong Securities and Futures Commission. If the Research is made available through Citibank, N.A., Hong Kong Branch, for its clients in Citi Private Bank, it is made available by Citibank N.A., Citibank Tower, Citibank Plaza, 3 Garden Road, Hong Kong, Citibank N.A. is regulated by the Hong Kong Monetary Authority, Please contact your Private Banker in Citibank N.A., Hong Kong, Branch if you have any queries on or any matters arising from or in connection with this document. The Product is made available in India by Citigroup Global Markets India Private Limited, which is regulated by Securities and Exchange Board of India. 1202, 12th Floor, FIFC, G Block, Bandra Kurla Complex, Bandra East, Mumbai - 400051 Corporate Identity Number: U99999MH2000PTC126657 Tel:+9102261759999 Fax:+9102261759961. The Product is made available in Indonesia through PT Citigroup Securities Indonesia. 5/F, Citibank Tower, Bapindo Plaza, Jl. Jend. Sudirman Kav. 54-55, Jakarta 12190. Neither this Product nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable capital market laws and regulations. This Product is not an offer of securities in Indonesia. The securities referred to in this Product have not been registered with the Capital Market and Financial Institutions Supervisory Agency (BAPEPAM-LK) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market laws and regulations. The Product is made available in Israel through Citibank NA, regulated by the Bank of Israel and the Israeli Securities Authority. Citibank, N.A, Platinum Building, 21 Ha'arba'ah St, Tel Aviv, Israel. The Product is made available in Italy by Citigroup Global Markets Limited, which is authorised by the PRA and regulated by the FCA and the PRA. Via dei Mercanti, 12, Milan, 20121, Italy. The Product is made available in Japan by Citigroup Global Markets Japan Inc. ("CGMJ"), which is regulated by Financial Services Agency, Securities and Exchange Surveillance Commission, Japan Securities Dealers Association, Tokyo Stock Exchange and Osaka Securities Exchange. Shin-Marunouchi Building, 1-5-1 Marunouchi, Chiyoda-ku, Tokyo 100-6520 Japan. If the Product was distributed by SMBC Nikko Securities Inc. it is being so distributed under license. In the event that an error is found in an CGMJ research report, a revised version will be posted on the Firm's Citi Velocity website. If you have questions regarding Citi Velocity, please call (81 3) 6270-3019 for help. The Product is made available in Korea by Citigroup Global Markets Korea Securities Ltd., which is regulated by the Financial Services Commission, the Financial Supervisory Service and the Korea Financial Investment Association (KOFIA). Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. KOFIA makes available registration information of research analysts on its website. Please visit the following website if you wish to find KOFIA registration information on research analysts of Citigroup Global Markets Korea Securities Ltd. http://dis.kofia.or.kr/fs/dis2/fundMgr/DISFundMgrAnalystPop.jsp?companyCd2=A03030&pageDiv=02. The Product is made available in Korea by Citibank Korea Inc., which is regulated by the Financial Services Commission and the Financial Supervisory Service. Address is Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. The Product is made available in Malaysia by Citigroup Global Markets Malaysia Sdn Bhd (Company No. 460819-D) ("CGMM") to its clients and CGMM takes responsibility for its contents. CGMM is regulated by the Securities Commission of Malaysia. Please contact CGMM at Level 43 Menara Citibank, 165 Jalan Ampang, 50450 Kuala Lumpur, Malaysia in respect of any matters arising from, or in connection with, the Product. The Product is made available in **Mexico** by Acciones v Valores Banamex, S.A. De C. V.. Casa de Bolsa, Integrante del Grupo Financiero Banamex ("Accival") which is a wholly owned subsidiary of Citigroup Inc. and is regulated by Comision Nacional Bancaria y de Valores. Reforma 398, Col. Juarez, 06600 Mexico, D.F. In **New Zealand** the Product is made available to 'wholesale clients' only as defined by s5C(1) of the Financial Advisers Act 2008 ('FAA') through Citigroup Global Markets Australia Pty Ltd (ABN 64 003 114 832 and AFSL No. 240992), an overseas financial adviser as defined by the FAA, participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in Pakistan by Citibank N.A. Pakistan branch, which is regulated by the State Bank of Pakistan and Securities Exchange Commission, Pakistan AWT Plaza, 1.1. Chundrigar Road, P.O. Box 4889, Karachi-74200. The Product is made available in the **Philippines** through Citicorp Financial Services and Insurance Brokerage Philippines, Inc., which is regulated by the Philippines Securities and Exchange Commission. 20th Floor Citibank Square Bldg. The Product is made available in the Philippines through Citibank NA Philippines branch, Citibank Tower, 8741 Paseo De Roxas, Makati City, Manila. Citibank NA Philippines NA is regulated by The Bangko Sentral ng Pilipinas. The Product is made available in **Poland** by Dom Maklerski Banku Handlowego SA an indirect subsidiary of Citigroup Inc., which is regulated by Komisja Nadzoru Finansowego. Dom Maklerski Banku Handlowego S.A. ul. Senatorska 16, 00-923 Warszawa. The Product is made available in the Russian Federation through ZAO Citibank, which is licensed to carry out banking activities in the Russian Federation in accordance with the general banking license issued by the Central Bank of the Russian Federation



and brokerage activities in accordance with the license issued by the Federal Service for Financial Markets. Neither the Product nor any information contained in the Product shall be considered as advertising the securities mentioned in this report within the territory of the Russian Federation or outside the Russian Federation. The Product does not constitute an appraisal within the meaning of the Federal Law of the Russian Federation of 29 July 1998 No. 135-FZ (as amended) On Appraisal Activities in the Russian Federation. 8-10 Gasheka Street, 125047 Moscow. The Product is made available in Singapore through Citigroup Global Markets Singapore Pte. Ltd. ("CGMSPL"), a capital markets services license holder, and regulated by Monetary Authority of Singapore. Please contact CGMSPL at 8 Marina View, 21st Floor Asia Square Tower 1, Singapore 018960, in respect of any matters arising from, or in connection with, the analysis of this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). The Product is made available by The Citigroup Private Bank in Singapore through Citibank. N.A., Singapore Branch, a licensed bank in Singapore that is regulated by Monetary Authority of Singapore. Please contact your Private Banker in Citibank N.A., Singapore Branch if you have any gueries on or any matters arising from or in connection with this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). This report is distributed in Singapore by Citibank Singapore Ltd ("CSL") to selected Citigold/Citigold Private Clients, CSL provides no independent research or analysis of the substance or in preparation of this report. Please contact your Citigold/Citigold Private Client Relationship Manager in CSL if you have any gueries on or any matters arising from or in connection with this report. This report is intended for recipients who are accredited investors as defined under the Securities and Futures Act (Cap. 289). Citigroup Global Markets (Pty) Ltd. is incorporated in the Republic of South Africa (company registration number 2000/025866/07) and its registered office is at 145 West Street, Sandton, 2196, Saxonwold. Citigroup Global Markets (Pty) Ltd. is regulated by JSE Securities Exchange South Africa, South African Reserve Bank and the Financial Services Board. The investments and services contained herein are not available to private customers in South Africa. The Product is made available in the Republic of China through Citigroup Global Markets Taiwan Securities Company Ltd. ("CGMTS"), 14 and 15F, No. 1, Sonozhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Sonozhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Sonozhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Sonozhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Sonozhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Sonozhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Sonozhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Sonozhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Sonozhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Sonozhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Sonozhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 15 and 15 to the respective license scope of each entity and the applicable laws and regulations in the Republic of China. CGMTS and CSTL are both regulated by the Securities and Futures Bureau of the Financial Supervisory Commission of Taiwan, the Republic of China. No portion of the Product may be reproduced or quoted in the Republic of China by the press or any third parties [without the written authorization of CGMTS and CSTL]. If the Product covers securities which are not allowed to be offered or traded in the Republic of China, neither the Product nor any information contained in the Product shall be considered as advertising the securities or making recommendation of the securities in the Republic of China. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security or financial products. Any decision to purchase securities or financial products mentioned in the Product must take into account existing public information on such security or the financial products or any registered prospectus. The Product is made available in Thailand through Citicorp Securities (Thailand) Ltd., which is regulated by the Securities and Exchange Commission of Thailand. 399 Interchange 21 Building, 18th Floor, Sukhumvit Road, Klongtoey Nua, Wattana ,Bangkok 10110, Thailand. The Product is made available in Turkey through Citibank AS which is regulated by Capital Markets Board. Tekfen Tower, Eski Buyukdere Caddesi # 209 Kat 2B, 23294 Levent, Istanbul, Turkey. In the U.A.E. these materials (the "Materials") are communicated by Citigroup Global Markets Limited, DIFC branch ("CGML"), an entity registered in the Dubai International Financial Center ("DIFC") and licensed and regulated by the Dubai Financial Services Authority ("DFSA") to Professional Clients and Market Counterparties only and should not be relied upon or distributed to Retail Clients. A distribution of the different Citi Research ratings distribution, in percentage terms for Investments in each sector covered is made available on request. Financial products and/or services to which the Materials relate will only be made available to Professional Clients and Market Counterparties. The Product is made available in United Kingdom by Citigroup Global Markets Limited, which is authorised by the Prudential Regulation Authority ("PRA") and regulated by the Financial Conduct Authority ("FCA") and the PRA. This material may relate to investments or services of a person outside of the UK or to other matters which are not authorised by the PRA nor regulated by the FCA and the PRA and further details as to where this may be the case are available upon request in respect of this material. Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB. The Product is made available in **United States** by Citigroup Global Markets Inc., which is a member of FINRA and registered with the US Securities and Exchange Commission. 388 Greenwich Street, New York, NY 10013. Unless specified to the contrary, within EU Member States, the Product is made available by Citigroup Global Markets Limited, which is authorised by the PRA and regulated by the FCA and the PRA. Pursuant to Comissão de Valores Mobiliários Rule 483, Citi is required to disclose whether a Citi related company or business has a commercial relationship with the subject company. Considering that Citi operates multiple businesses in more than 100 countries around the world, it is likely that Citi has a commercial relationship with the subject



company.

Many European regulators require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of investment research. The policy applicable to Citi Research's Products can be found at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures. Compensation of equity research analysts is determined by equity research management and Citigroup's senior management and is not linked to specific transactions or recommendations.

The Product is not to be construed as providing investment services in any jurisdiction where the provision of such services would not be permitted.

Subject to the nature and contents of the Product, the investments described therein are subject to fluctuations in price and/or value and investors may get back less than originally invested. Certain high-volatility investments can be subject to sudden and large falls in value that could equal or exceed the amount invested. Certain investments contained in the Product may have tax implications for private customers whereby levels and basis of taxation may be subject to change. If in doubt, investors should seek advice from a tax adviser. The Product does not purport to identify the nature of the specific market or other risks associated with a particular transaction. Advice in the Product is general and should not be construed as personal advice given it has been prepared without taking account of the objectives, financial situation or needs of any particular investor. Accordingly, investors should, before acting on the advice, consider the appropriateness of the advice, having regard to their objectives, financial situation and needs. Prior to acquiring any financial product, it is the client's responsibility to obtain the relevant offer document for the product and consider it before making a decision as to whether to purchase the product.

Citi Research generally disseminates its research to the Firm's global institutional and retail clients via both proprietary (e.g., Citi Velocity and Citi Personal Wealth Management) and non-proprietary electronic distribution platforms. Certain research may be disseminated only via Citi's proprietary distribution platforms; however such research will not contain changes to earnings forecasts, target price, investment or risk rating or investment thesis or be otherwise inconsistent with the author's previously published research. Certain research is made available only to institutional investors to satisfy regulatory requirements. Individual Citi Research analysts may also opt to circulate published research to one or more clients by email; such email distribution is discretionary and is done only after the research has been disseminated.

The level and types of services provided by Citi Research analysts to clients may vary depending on various factors such as the client's individual preferences as to the frequency and manner of receiving communications from analysts, the client's risk profile and investment focus and perspective (e.g. market-wide, sector specific, long term, short-term etc.), the size and scope of the overall client relationship with Citi and legal and regulatory constraints.

Citi Research product may source data from dataCentral. dataCentral is a Citi Research proprietary database, which includes Citi estimates, data from company reports and feeds from Thomson Reuters. The printed and printable version of the research report may not include all the information (e.g., certain financial summary information and comparable company data) that is linked to the online version available on Citi's proprietary electronic distribution platforms.

© 2014 Citigroup Global Markets Inc. Citi Research is a division of Citigroup Global Markets Inc. Citi and Citi with Arc Design are trademarks and service marks of Citigroup Inc. and its affiliates and are used and registered throughout the world. All rights reserved. Any unauthorized use, duplication, redistribution or disclosure of this report (the "Product"), including, but not limited to, redistribution of the Product by electronic mail, posting of the Product on a website or page, and/or providing to a third party a link to the Product, is prohibited by law and will result in prosecution. The information contained in the Product is intended solely for the recipient and may not be further distributed by the recipient to any third party. Where included in this report, MSCI sourced information is the exclusive property of Morgan Stanley Capital International Inc. (MSCI). Without prior written permission of MSCI, this information and any other MSCI intellectual property may not be reproduced, redisseminated or used to create any financial products, including any indices. This information is provided on an "as is" basis. The user assumes the entire risk of any use made of this information. MSCI, its affiliates and any third party involved in, or related to, computing or compiling the information hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of this information. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in, or related to, computing or compiling the information have any liability for any damages of any kind. MSCI, Morgan Stanley Capital International and the MSCI indexes are services marks of MSCI and its affiliates. The Firm accepts no liability whatsoever for the actions of third parties. The Product may provide the addresses of, or contain hyperlinks to, websites. Except to the extent to which the Product refers to website material of



the linked site does not in anyway form part of this document. Accessing such website or following such link through the Product or the website of the Firm shall be at your own risk and the Firm shall have no liability arising out of, or in connection with, any such referenced website.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST

