

# Investing in Quality *UBS Quantitative Conference 2014*

#### **Paul Winter**

Analyst

Tel: +61 2 9043 5662 paul-j.winter@ubs.com

#### **David Jessop**

Analyst

Tel: +44 20 7567 9882 david.jessop@ubs.com



This document has been prepared by UBS Securities Australia Ltd

UBS 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.

Why does Quality matter right now?

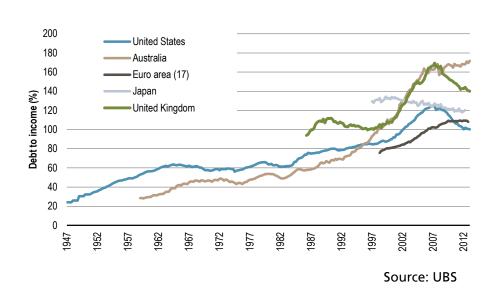


# Economic growth is likely to be sub-par for a long time

#### Inverse dependency ratios across major economies

# 3.0 2.5 2.0 1.5 1.0 0.5 Forecast US Europe Japan China Australia Source: UBS Source: UBS

#### Household & NPISHS debt to disposable income %



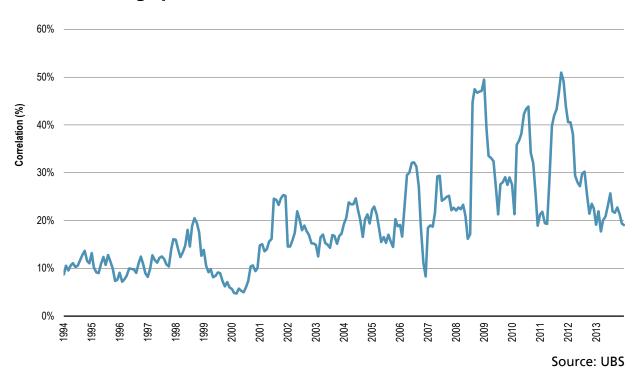
As the working age population declines relative to the number of dependants (the Dependency Ratio), economic growth is likely to slow.

Debt levels around the developed world have increased dramatically.



# Macro risk

#### Average pairwise correlation across stocks



As a consequence of lower growth and higher levels of gearing, stocks are now demonstrating increased sensitivity to macro factors along with higher levels of correlation.

In a highly leveraged world of sub-par growth and elevated macro risk, we believe that defensive styles such as Quality are likely to outperform.



# What is Quality



# **Defining Quality**

- Investors tend to think about Quality as either investing in high quality stocks, avoiding risky stocks or picking up on companies with improving quality.
- Linear vs. Binary
- We model factors based on their ability to predict
  - Excess returns,
  - Future earnings growth rates, and
  - Volatility.
- Tested across different economic regimes: US, Europe, Japan, Asia, and of course Australia
- In both up and down markets
- Excluding Financials
- Investigating twenty financial statement items across:
  - Profitability
  - Financial health
  - Efficiency
  - Management signalling
  - Risk

Note: for a list of factors tested, please see the report "Investing in Quality" Winter et al, 17 April 2014



# **Testing Quality**

- Universe: MSCI World
- 1997 to 2014
- Tested in US\$
- Equal weighted returns against an equal weighted benchmark
- Monthly rebalancing
- Tested both globally and regionally, unconstrained and sector neutral.
- Note: in all decile ranks, decile 10 is regarded as desirable, and decile 1 as undesirable.

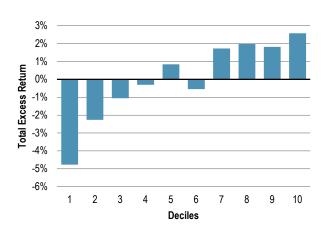


How does Quality perform?

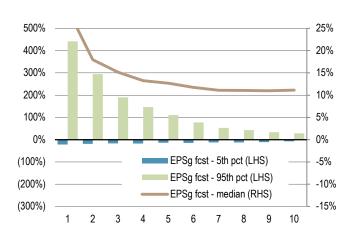


# **High Quality**

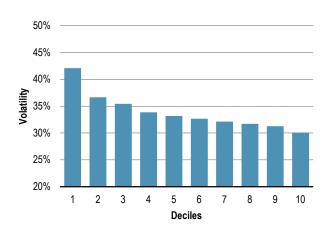
#### Total excess returns (12m, monthly)



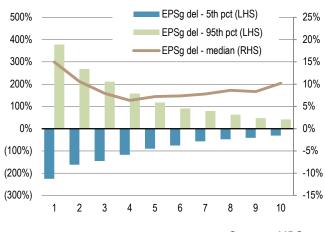
#### Forecast earnings growth



#### Subsequent volatility (12m, monthly)



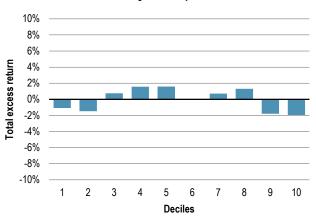
#### Delivered earnings growth rate



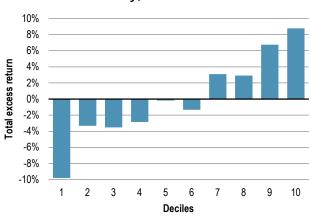


# High Quality – performance in up and down markets

Total excess returns (12m, monthly) in up-markets



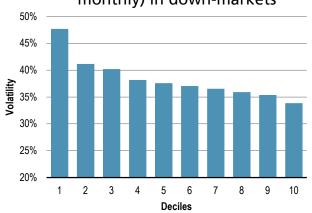
Total excess returns (12m, monthly) in down-markets



Subsequent volatility (12m, monthly) in up-markets



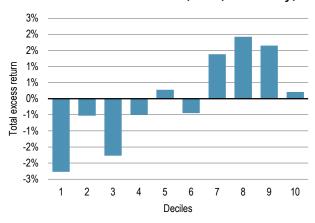
Subsequent volatility (12m, monthly) in down-markets



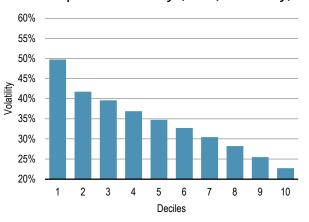


# Risk Alert

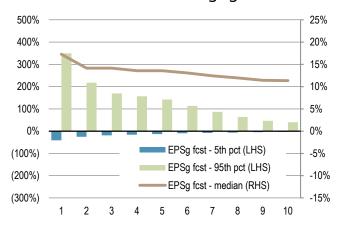
Total excess returns (12m, monthly)



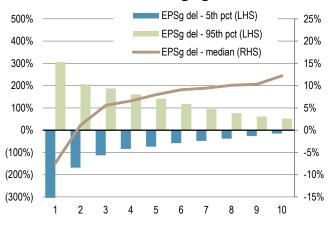
Subsequent volatility (12m, monthly)



Forecast earnings growth



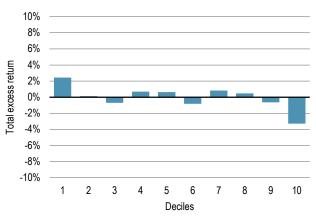
#### Delivered earnings growth rate



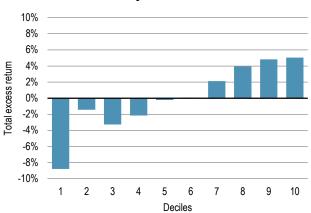


# Risk Alert – performance in up and down markets

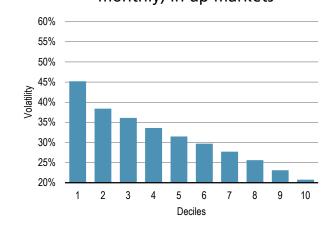
Total excess returns (12m, monthly) in up-markets



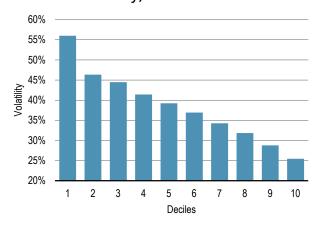
Total excess returns (12m, monthly) in down-markets



Subsequent volatility (12m, monthly) in up-markets



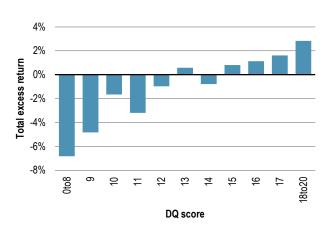
Subsequent volatility (12m, monthly) in down-markets



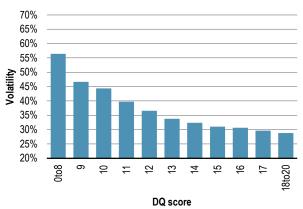


# **Delta Quality**

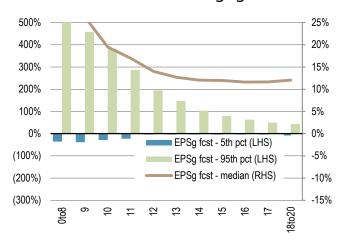
#### Total excess returns (12m, monthly)



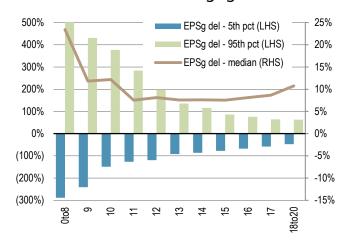
Subsequent volatility (12m, monthly)



Forecast earnings growth



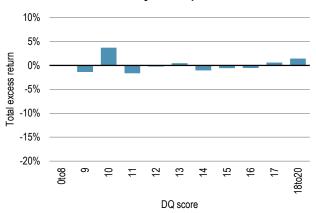
#### Delivered earnings growth rate



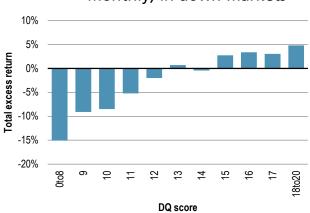


# Delta Quality – performance in up and down markets

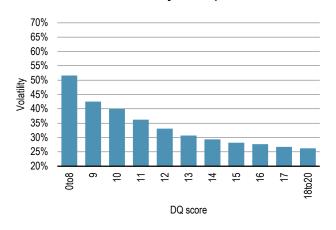
Total excess returns (12m, monthly) in up-markets



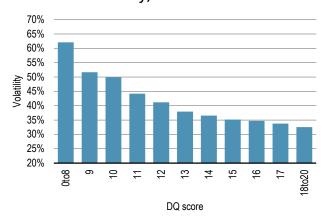
Total excess returns (12m, monthly) in down-markets



Subsequent volatility (12m, monthly) in up-markets



Subsequent volatility (12m, monthly) in down-markets





Digging into the detail



# Performance metrics & rank correlations

Model	Intersection	Total Excess Return	Volatility	Sharpe	T-stat
High Quality	High Quality	2.4%	4%	0.55	2.30
High Quality	Neutral Quality	0.4%	2%	0.19	0.79
High Quality	Low Quality	-3.0%	5%	-0.65	-2.72
Risk Alert	Safe	1.4%	7%	0.19	0.80
Risk Alert	Neutral	-0.7%	2%	-0.30	-1.24
Risk Alert	Risky	-1.3%	13%	-0.10	-0.44
Delta Quality	Improving	1.9%	5%	0.41	1.71
Delta Quality	Stable	-0.5%	2%	-0.32	-1.35
Delta Quality	Deteriorating	-9.0%	14%	-0.64	-2.66

#### **Rank correlations of the Quality models**





# Show me it's not just volatility

High Quality and Risk Alert models excess returns adjusted for volatility

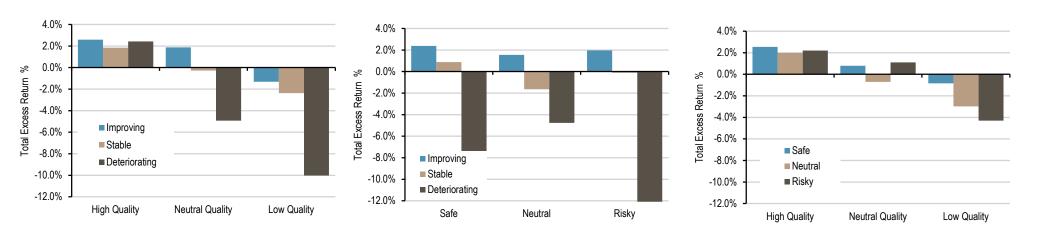
	<< Highest Volatility			Deciles of Volatility		Lowest Volatility >>				
	1	2	3	4	5	6	7	8	9	10
High Quality Model	-3.5%	-2.7%	-1.4%	-0.3%	-0.2%	1.6%	1.0%	1.8%	2.2%	2.3%
Risk Alert Model	-1.0%	-1.2%	-0.3%	-0.6%	-1.1%	-0.2%	1.1%	-0.1%	1.8%	1.6%

Delta Quality model excess returns adjusted for volatility

	<< Highest Volatility			Deciles of Volatility			Lowest Volatility >>			
	1	2	3	4	5	6	7	8	9	10
Delta Quality Model										
Declining Quality	-18.9%	-16.8%	-9.7%	-6.4%	-9.0%	-10.3%	-6.1%	-15.9%	0.9%	-1.5%
Stable Quality	-9.0%	-4.7%	-3.0%	-5.9%	-2.6%	-1.8%	-1.5%	-0.9%	-0.9%	-1.3%
Improving Quality	-3.5%	-5.3%	-4.8%	-0.6%	-0.9%	2.0%	0.3%	1.0%	1.0%	-0.9%



# Quality model intersections



#### **Performance of Quality model intersections**

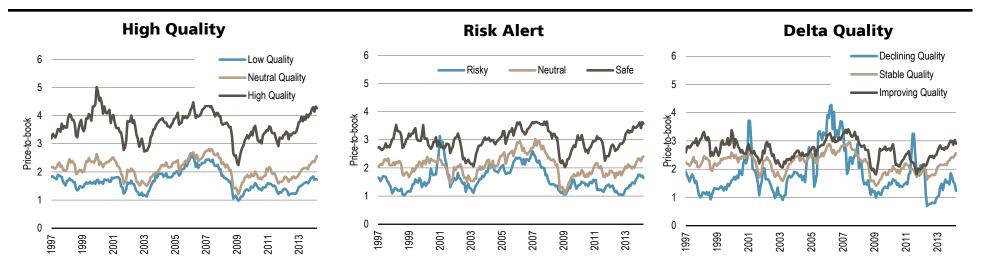
Model 1	Intersection	Model 2	Intersection	Total excess return	Volatility	Sharpe	T-stat
High Quality	High	Delta Quality	Improving	2.6%	6%	0.44	1.82
High Quality	Low	Delta Quality	Deteriorating	-10.0%	15%	-0.68	-2.83
Risk Alert	Safe	Delta Quality	Improving	2.4%	8%	0.30	1.26
Risk Alert	Risky	Delta Quality	Deteriorating	-12.1%	23%	-0.54	-2.22
Delta Quality	High	Risk Alert	Safe	2.5%	8%	0.33	1.37
Delta Quality	Low	Risk Alert	Risky	-4.3%	16%	-0.27	-1.12



Surely it's priced?



# Price to Book of each Quality model

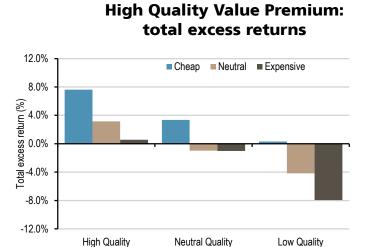


Source: UBS For illustrative purposes only

- Absolute levels of Quality (our High Quality and Risk Alert models) are reasonably efficiently priced, whilst the Delta Quality model is less so.
- These mispricing effects line up with periods of 'irrational exuberance' such as the Tech Bubble, the Resource Bubble and the post GFC recovery.



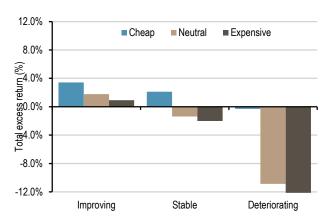
# So where is the opportunity?





**Risk Alert Value Premium:** 

# Delta Quality Value Premium: total excess returns



Source: UBS For illustrative purposes only

#### Performance of Quality model intersections with Value (Price-to-Book)

Quality model	Description	Valuation	Total excess return	Volatility	Sharpe	T-stat
High Quality	High	Cheap	7.6%	31%	0.24	5.64
High Quality	Low	Expensive	-7.9%	39%	-0.21	-6.25
Risk Alert	Safe	Cheap	3.0%	25%	0.12	4.34
Risk Alert	Risky	Expensive	-6.3%	47%	-0.13	-3.35
Delta Quality	Improving	Cheap	3.4%	27%	0.13	5.05
Delta Quality	Deteriorating	Expensive	-12.5%	51%	-0.24	-3.81



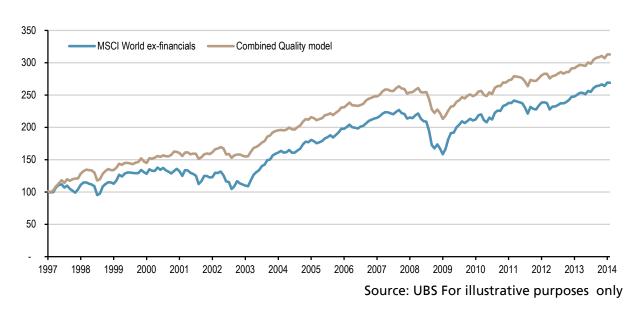
Source: UBS For illustrative purposes only

# Building a Quality model



# A simple intersection approach

#### Combined Quality Model vs MSCI World ex-financials equal weighted

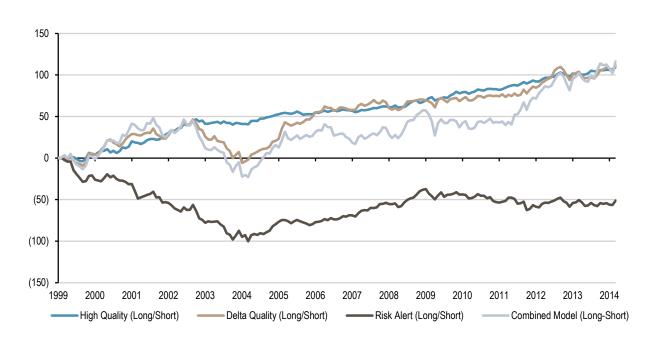


- We take the intersection of High Quality stocks with Improving Quality, and eliminate any stocks that fall into the Risky category of the Risk Alert model. The intersection has an average of 171 stocks in it at any point in time.
- Overall, the model outperforms the benchmark by 2.6% per annum, with 6.4% volatility, a Sharpe ratio of 0.40 and a t-stat of 1.65



# Four factor alphas

#### High Quality model (Long Short) four factor alpha



	Ann Ret	Vol	Sharpe / IR	Tstat
High Quality (High-Low)	7.2%	6%	1.16	4.50
Risk Alert (Safe-Torpedo)	-3.4%	12%	-0.29	-1.12
Delta Quality (Improving- Declining)	7.4%	13%	0.57	2.22
Combined Model (Long Only)	2.1%	4%	0.49	1.89
Combined Model (Short Only)	-5.6%	18%	-0.32	-1.23
Combined Model (Long-Short)	7.7%	20%	0.39	1.52



Source: UBS For illustrative purposes only

# Conclusion



# Quality matters

- Quality matters right now for two reasons:
  - we have entered into a world of structurally lower growth defined by ageing populations and rising dependency ratios.
  - secondly, as a result of the demographic dividend and consummate credit bubble we now find ourselves in a highly leveraged world with lower growth rates.

As a consequence, we face heightened macro-economic risk which is likely to result in higher levels of volatility and correlation in the future. In this environment, good quality companies are likely to outperform.

- We find that Quality can be defined as: High Quality, Risky or Change in Quality
- Quality models can be used in two ways:
  - Firstly to deliver a low risk equity risk premium,
  - and secondly to enhance the Value Premium.



# Statement of Risk

#### **Analyst Certification**

Each research analyst primarily responsible for the content of this research report, in whole or in part, certifies that with respect to each security or issuer that the analyst covered in this report: (1) all of the views expressed accurately reflect his or her personal views about those securities or issuers and were prepared in an independent manner, including with respect to UBS, and (2) no part of his or her compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in the research report.



# Required disclosures

This report has been prepared by UBS Securities Australia Ltd, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

For information on the ways in which UBS manages conflicts and maintains independence of its research product; historical performance information; and certain additional disclosures concerning UBS research recommendations, please visit www.ubs.com/disclosures. The figures contained in performance charts refer to the past; past performance is not a reliable indicator of future results. Additional information will be made available upon request. UBS Securities Co. Limited is licensed to conduct securities investment consultancy businesses by the China Securities Regulatory Commission.

#### **UBS Investment Research: Global Equity Rating Definitions**

UBS 12-Month Rating	Definition	Coverage <sup>1</sup>	IB Services <sup>2</sup>
Buy	FSR is > 6% above the MRA.	47%	33%
Neutral	FSR is between -6% and 6% of the MRA.	42%	34%
Sell	FSR is > 6% below the MRA.	11%	23%
UBS Short-Term Rating	Definition	<b>Coverage</b> <sup>3</sup>	IB Services <sup>4</sup>
Buy	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	less than 1%	less than 1%
Sell	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	less than 1%	less than 1%

Source: UBS. Rating allocations are as of 31 March 2014.

1:Percentage of companies under coverage globally within the 12-month rating category. 2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months. 3:Percentage of companies under coverage globally within the Short-Term rating category. 4:Percentage of companies within the Short-Term rating category for which investment banking (IB) services were provided within the past 12 months.

**KEY DEFINITIONS:** Forecast Stock Return (FSR) is defined as expected percentage price appreciation plus gross dividend yield over the next 12 months. **Market Return Assumption (MRA)** is defined as the one-year local market interest rate plus 5% (a proxy for, and not a forecast of, the equity risk premium). **Under Review (UR)** Stocks may be flagged as UR by the analyst, indicating that the stock's price target and/or rating are subject to possible change in the near term, usually in response to an event that may affect the investment case or valuation. **Short-Term Ratings** reflect the expected near-term (up to three months) performance of the stock and do not reflect any change in the fundamental view or investment case. **Equity Price Targets** have an investment horizon of 12 months.

**EXCEPTIONS AND SPECIAL CASES: UK and European Investment Fund ratings and definitions are: Buy:** Positive on factors such as structure, management, performance record, discount; **Neutral:** Neutral on factors such as structure, management, performance record, discount; **Sell:** Negative on factors such as structure, management, performance record, discount. **Core Banding Exceptions (CBE):** Exceptions to the standard +/-6% bands may be granted by the Investment Review Committee (IRC). Factors considered by the IRC include the stock's volatility and the credit spread of the respective company's debt. As a result, stocks deemed to be very high or low risk may be subject to higher or lower bands as they relate to the rating. When such exceptions apply, they will be identified in the Company Disclosures table in the relevant research piece.

Research analysts contributing to this report who are employed by any non-US affiliate of UBS Securities LLC are not registered/qualified as research analysts with the NASD and NYSE and therefore are not subject to the restrictions contained in the NASD and NYSE rules on communications with a subject company, public appearances, and trading securities held by a research analyst account. The name of each affiliate and analyst employed by that affiliate contributing to this report, if any, follows.

**UBS Securities Australia Ltd:** Paul Winter, **UBS Limited:** David Jessop

Unless otherwise indicated, please refer to the Valuation and Risk sections within the body of this report.



# Global disclaimer

This document has been prepared by UBS Securities Australia Ltd, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

This document is for distribution only as may be permitted by law. It is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or would subject UBS to any registration or licensing requirement within such jurisdiction. It is published solely for information purposes; it is not an advertisement nor is it a solicitation or an offer to buy or sell any financial instruments or to participate in any particular trading strategy. No representation or warranty, either express or implied, is provided in relation to the accuracy, completeness or reliability of the information contained in this document ('the Information'), except with respect to Information concerning UBS. The Information is not intended to be a complete statement or summary of the securities, markets or developments referred to in the document. UBS does not undertake to update or keep current the Information. Any opinions expressed in this document may change without notice and may differ or be contrary to opinions expressed by other business areas or groups of UBS. Any statements contained in this report attributed to a third party represent UBS's interpretation of the data, information and/or opinions provided by that third party either publicly or through a subscription service, and such use and interpretation have not been reviewed by the third party.

Nothing in this document constitutes a representation that any investment strategy or recommendation is suitable or appropriate to an investor's individual circumstances or otherwise constitutes a personal recommendation. Investments involve risks, and investors should exercise prudence and their own judgement in making their investment decisions. The financial instruments described in the document may not be eligible for sale in all jurisdictions or to certain categories of investors. Options, derivative products and futures are not suitable for all investors, and trading in these instruments is considered risky. Mortgage and asset-backed securities may involve a high degree of risk and may be highly volatile in response to fluctuations in interest rates or other market conditions. Foreign currency rates of exchange may adversely affect the value, price or income of any security or related instrument referred to in the document. For investment advice, trade execution or other enquiries, clients should contact their local sales representative.

The value of any investment or income may go down as well as up, and investors may not get back the full amount invested. Past performance is not necessarily a guide to future performance. Neither UBS nor any of its directors, employees or agents accepts any liability for any loss (including investment loss) or damage arising out of the use of all or any of the Information.

Any prices stated in this document are for information purposes only and do not represent valuations for individual securities or other financial instruments. There is no representation that any transaction can or could have been effected at those prices, and any prices do not necessarily reflect UBS's internal books and records or theoretical model-based valuations and may be based on certain assumptions. Different assumptions by UBS or any other source may yield substantially different results.

Research will initiate, update and cease coverage solely at the discretion of UBS Investment Bank Research Management. The analysis contained in this document is based on numerous assumptions. Different assumptions could result in materially different results. The analyst(s) responsible for the preparation of this document may interact with trading desk personnel and other parties for the purpose of gathering, applying and interpreting market information. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS into other areas, units, groups or affiliates of UBS. The compensation of the analyst who prepared this document is determined exclusively by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking revenues; however, compensation may relate to the revenues of UBS Investment Bank as a whole, of which investment banking application of the analyst who prepared this document is determined exclusively by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking revenues; however, compensation may relate to the revenues of UBS Investment Bank as a whole, of which investment banking application.

For financial instruments admitted to trading on an EU regulated market: UBS AG, its affiliates or subsidiaries (excluding UBS Securities LLC) acts as a market maker or liquidity provider (in accordance with the interpretation of these terms in the UK) in the financial instruments of the issuer save that where the activity of liquidity provider is carried out in accordance with the definition given to it by the laws and regulations of any other EU jurisdictions, such information is separately disclosed in this document. For financial instruments admitted to trading on a non-EU regulated market: UBS may act as a market maker save that where this activity is carried out in the US in accordance with the definition given to it by the relevant laws and regulations, such activity will be specifically disclosed in this document. UBS may have issued a warrant the value of which is based on one or more of the financial instruments referred to in the document. UBS and its affiliates and employees may have long or short positions, trade as principal and buy and sell in instruments or derivatives identified herein; such transactions or positions may be inconsistent with the opinions expressed in this document.



# Global disclaimer continued

United Kingdom and the rest of Europe: Except as otherwise specified herein, this material is distributed by UBS Limited to persons who are eligible counterparties or professional clients. UBS Limited is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. France: Prepared by UBS Limited and distributed by UBS Securities France S.A. UBS S (Autorité de Contrôle Prudentiel) and the Autorité des Marchés Financiers (AMF). Where an analyst of URS Securities France S.A. has contributed to this document, the document is also deemed to have been prepared by URS Securities France S.A. Germany: Prepared by UBS Limited and distributed by UBS Limited and UBS Deutschland AG. UBS Deutschland AG is regulated by the Bundesanstalt fur Finanzdienstleistungsaufsicht (RaFin). Spain: Prepared by UBS Limited and distributed by UBS Limited and distributed by UBS Limited and Description of the Bundesanstalt fur Finanzdienstleistungsaufsicht (RaFin). Limited and UBS Securities España SV, SA. UBS Securities España SV, SA is regulated by the Comisión Nacional del Mercado de Valores (CNMV). **Turkey:** Distributed by UBS Limited. No information in this document is provided for the purpose of offering, marketing and sale by any means of any capital market instruments and services in the Republic of Turkey. Therefore, this document may not be considered as an offer made or to be made to residents of the Republic of Turkey. UBS AG is not licensed by the Turkish Capital Market Board under the provisions of the Capital Market Law (Law No. 6362). Accordingly, neither this document nor any other offering material related to the instruments/services may be utilized in connection with providing any capital market services to persons within the Republic of Turkey without the prior approval of the Capital Market Board. However, according to article 15 (d) (ii) of the Decree No. 32, there is no restriction on the purchase or sale of the securities abroad by residents of the Republic of Turkey. Poland: Distributed by UBS Limited (spolka z ograniczona odpowiedzialnoscia) Oddział w Polsce. Russia: Prepared and distributed by UBS Securities CJSC. Switzerland: Distributed by UBS Limited (spolka z ograniczona odpowiedzialnoscia) AG to persons who are institutional investors only. Italy: Prepared by UBS Limited and distributed by UBS Limited and UBS Italia Sim S.p.A. UBS Italia Sim S.p.A. is regulated by the Bank of Italy and by the Commissione Nazionale per le Società e la Borsa (CONSOB), Where an analyst of UBS Italia Sim S.p.A. has contributed to this document, the document is also deemed to have been prepared by UBS Italia Sim S.p.A. South Africa: Distributed by UBS South Africa (Ptv) Limited, an authorised user of the JSE and an authorised Financial Services Provider. Israel: This material is distributed by UBS Limited. UBS Limited is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation. Authority, UBS Securities Israel Ltd is a licensed Investment Marketer that is supervised by the Israel Securities Authority (ISA). UBS Limited and its affiliates incorporated outside Israel are not licensed under the Israeli Advisory Law. This Material is being issued only to and/or is directed only at persons who are Qualified Investors within the meaning of the Israeli Advisory Law, and this material must not be relied on or acted upon by any other persons. Saudi Arabia: This document has been issued by UBS AG (and/or any of its subsidiaries, branches or affiliates), a public company limited by shares, incorporated in Switzerland with its registered offices at Aeschenvorstadt 1, CH-4051 Basel and Bahnhofstrasse 45, CH-8001 Zurich. This publication has been approved by UBS Saudi Arabia (a subsidiary of UBS AG), a Saudi closed joint stock company incorporated in the Kingdom of Saudi Arabia under commercial register number 1010257812 having its registered office at Tatweer Towers, P.O. Box 75724, Riyadh 11588, Kingdom of Saudi Arabia. UBS Saudi Arabia is authorized and regulated by the Capital Market Authority to conduct securities business under license number 08113-37. United States: Distributed to US persons by either UBS Securities LLC or by UBS Financial Services Inc., subsidiaries of UBS AG; or by a group, subsidiary or affiliate of UBS AG that is not registered as a US broker-dealer (a 'non-US affiliate') to major US institutional investors only. UBS Securities LLC or UBS Financial Services Inc., accepts responsibility for the content of a document prepared by another non-US affiliate when distributed to US persons by UBS Securities LLC or UBS Financial Services Inc., All transactions by a US person in the securities mentioned in this document must be effected through UBS Securities LLC or UBS Financial Services Inc., and not through a non-US affiliate. Canada: Distributed by UBS Securities Canada Inc., a registered investment dealer in Canada and a Member-Canadian Investor Protection Fund, or by another affiliate of URS AG that is registered to conduct business in Canada or is otherwise exempt from registration. **Brazil:** Except as otherwise specified herein, this material is prepared by URS Brasil CCTVM. S.A. to persons who are eligible investors residing in Brazil, which are considered to be: (i) financial institutions, (ii) insurance firms and investment capital companies, (iii) supplementary pension entities, (iv) entities that hold financial investments higher than R\$300,000,00 and that confirm the status of qualified investors in written, (v) investment funds, (vi) securities portfolio managers and securities consultants duly authorized by Comissão de Valores Mobiliários (CVM), regarding their own investments, and (vii) social security systems created by the Federal Government. States, and Municipalities. Hong Kong: Distributed by UBS Securities Asia Limited. Singapore: Distributed by UBS Securities Pte. Ltd. (mica (p) 107/09/2013 and Co. Reg. No.: 198500648C] or UBS AG, Singapore Branch. Please contact UBS Securities Pte. Ltd., an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110); or UBS AG, Singapore Branch, an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110) and a wholesale bank licensed under the Singapore Banking Act (Cap. 19) regulated by the Monetary Authority of Singapore, in respect of any matters arising from, or in connection with, the analysis or document. The recipients of this document represent and warrant that they are accredited and institutional investors as defined in the Securities and Futures Act (Cap. 289). Japan: Distributed by UBS Securities Japan Co., Ltd. to institutional investors only. Where this document has been prepared by UBS Securities Japan Co., Ltd., UBS Securities Japan Co., Ltd., is the author, publisher and distributor of the document. Distributed by UBS AG, Tokyo Branch to Professional Investors (except as otherwise permitted) in relation to foreign exchange and other banking businesses when relevant. Australia: 1) Distributed by UBS AG (Holder of Australian Financial Services License No. 231087) and/or UBS Securities Australia Ltd (Holder of Australian Financial Services License No. 231098). The Information in this document has been prepared without taking into account any investor's objectives, financial situation or needs, and investors should, before acting on the Information, consider the appropriateness of the Information, having regard to their objectives, financial situation and needs. If the Information contained in this document relates to the acquisition, or potential acquisition of a particular financial product by a 'Retail' client as defined by section 761G of the Corporations Act 2001 where a Product Disclosure Statement would be required, the retail client should obtain and consider the Product Disclosure Statement relating to the product before making any decision about whether to acquire the product. 2) Clients of UBS Wealth Management Australia Ltd: This notice is distributed to clients of UBS Wealth Management Australia Ltd. This notice is distributed to clients of UBS Wealth Management Australia Ltd. ABN 50 005 311 937 (Holder of Australian Financial Services Licence No. 231127). Chiffey Tower, 2 Chiffey Tower, 3 Chiffey Tower, 2 Chiffey Tower, 3 Chiffy Tower, 3 Chiff Square, Sydney, New South Wales, NSW 2000, by UBS Wealth Management Australia Ltd. This Document contains general information and/or general advice only and does not constitute personal financial product advice. As such the content of the Document was prepared without taking into account the objectives, financial situation or needs of any specific recipient. Prior to making any investment decision, a recipient should obtain personal financial product advice from an independent adviser and consider any relevant offer documents (including any product disclosure statement) where the acquisition of financial products is being considered. UBS AG is authorised to provide financial product advice in relation to foreign exchange contracts in Australia, and as such UBS AG is responsible for all general advice on foreign exchange and currencies contained herein. New Zealand: Distributed by UBS New Zealand Ltd. The information and recommendations in this publication are provided for general information purposes only. To the extent that any such information or recommendations constitute financial advice, they do not take into account any person's particular financial situation or goals. We recommend that recipients seek advice specific to their circumstances from their financial advisor. **Dubai:** The research distributed by UBS AG Dubai Branch is intended for Professional Clients only and is not for further distribution within the United Arab Emirates. **Korea:** Distributed in Korea by UBS Securities Pte, Ltd., Seoul Branch, This document may have been edited or contributed to from time to time by affiliates of UBS Securities Pte, Ltd., Seoul Branch, This material is authorized to be distributed in Malaysia by UBS. Securities Malaysia Sdn. Bhd (253825-x). India: Prepared by UBS Securities India Private Ltd. 2/F, 2 North Avenue, Maker Maxity, Bandra Kurla Complex, Bandra (East), Mumbai (India) 400051. Phone: +912261556000 SEBI Registration Numbers: NSE (Capital Market Segment): INB230951431, NSE (F&O Segment) INF230951431, BSE (Capital Market Segment) INB010951437.

The disclosures contained in research documents produced by UBS Limited shall be governed by and construed in accordance with English law.

UBS specifically prohibits the redistribution of this document in whole or in part without the written permission of UBS and UBS accepts no liability whatsoever for the actions of third parties in this respect. Images may depict objects or elements that are protected by third party copyright, trademarks and other intellectual property rights. © UBS 2014. The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.

