Swiss real estate market

UBS Swiss Real Estate Bubble Index: 4Q 2012

Matthias Holzhey, economist, UBS AG
matthias.holzhey@ubs.com

Claudio Saputelli, economist, UBS AG
claudio.saputelli@ubs.com

- The *UBS Swiss Real Estate Bubble Index* continues its climb. The index has risen to 1.11 from 1.02.
- Investor demand for real estate remains high, house prices exceed income even more and debt goes on rising.
- The group of regions being monitored is being expanded to include the areas of Appenzell Innerrhoden, Lucerne and the Prättigau.

The *UBS Swiss Real Estate Bubble Index* currently stands at 1.11, representing an increase of 0.09 index points compared to the previous quarter. The index lies clearly in the risk zone, confirming the increased imbalances in the real estate market.

Remarkable is the uninterrupted investor interest in real estate, reflected in the all-time high level of credit applications for properties not intended for personal use. The unchanged record-low interest level also continues to drive the remaining indicators up. The inexpensive loans shift the cost ratio from buying and renting, allowing real estate to appear inexpensive in relation to income and driving the debt ratio of households up further.

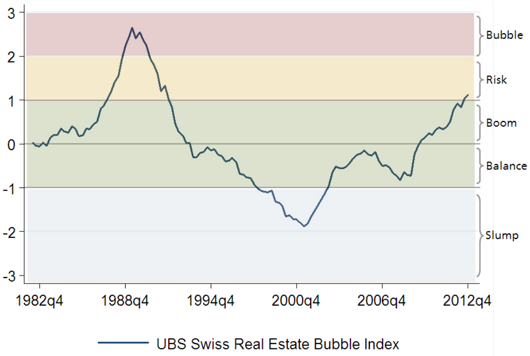
Methodology

The UBS Swiss Real Estate Bubble Index comprises six sub-indices that track: the relationship between purchase and rental prices, the relationship between house prices and household income, the relationship between house prices and inflation, the relationship between mortgage debt and income, the relationship between construction and gross domestic product (GDP) and the proportion of credit applications by UBS clients for residential property not intended for owner occupancy.

The UBS Swiss Real Estate Bubble Index is calculated as the average of trend-adjusted and standardized indicators weighted using a principal component analysis. The index level shows the deviation in standard deviations from the average, which is normalized to zero.

The index value is categorized into one of five levels: slump (below -1), balance (between -1 and 0), boom (between 0 and 1), risk (between 1 and 2) and bubble (above 2).

UBS Swiss Real Estate Bubble Index



Source: UBS

Performance of the UBS Swiss Real Estate Bubble Index

		Index
2009	Quarter 1	-0.24
	Quarter 2	-0.05
	Quarter 3	0.10
	Quarter 4	0.15
2010	Quarter 1	0.25
	Quarter 2	0.21
	Quarter 3	0.33
	Quarter 4	0.39
2011	Quarter 1	0.35
	Quarter 2	0.40
	Quarter 3	0.52
	Quarter 4	0.79
2012	Quarter 1	0.93
	Quarter 2	0.82
	Quarter 3	1.02
	Quarter 4	1.11

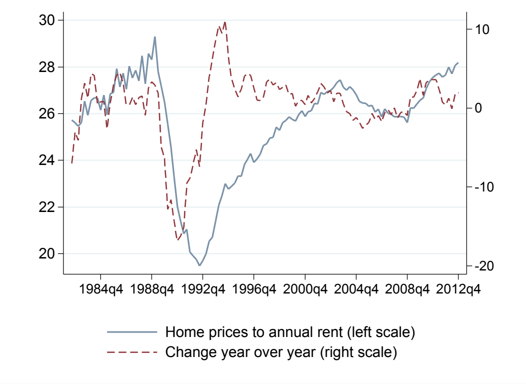
Source: UBS

This report has been prepared by UBS AG. Please see important disclaimers and disclosures that begin on page 6. Past performance is no indication of future performance. The market prices provided are closing prices on the respective principal stock exchange. This applies to all performance charts and tables in this publication.

Sub-indices of the *UBS Swiss Real Estate Bubble Index*

Own home prices relative to annual rent
The divide between purchase prices and rents widened even more. In 4Q 2012, 28.2 annual rents were required to purchase a comparable home. In the previous quarter this ratio was still at 28.1. The long-term equilibrium lies at about 25.

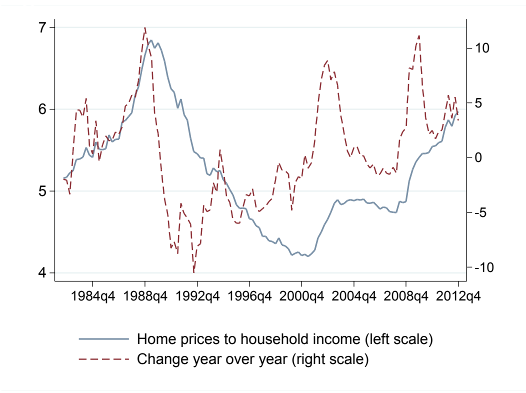
Home prices relative to annual rent
Level and change year-over-year in percent



Sources: SNB; UBS

Home prices relative to household income
It became more difficult for the average household to purchase a home. In 4Q 2012 it already required six annual household incomes, compared with 5.9 in the previous quarter, while at the beginning of 2000 around four annual incomes sufficed. Since 2000, home prices have consistently risen more dramatically than incomes.

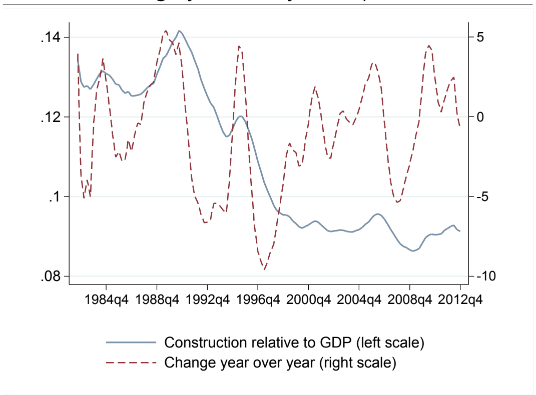
Home prices relative to household income
Level and change year-over-year in percent



Sources: SNB; BFS; UBS

Construction relative to gross domestic product (GDP)
Nothing new in the construction industry: The construction sector is not growing faster than the economy as a whole. The indicator persists unchanged at 9.1% and thus clearly below the long-term average.

Construction relative to gross domestic product
Level and change year-over-year in percent

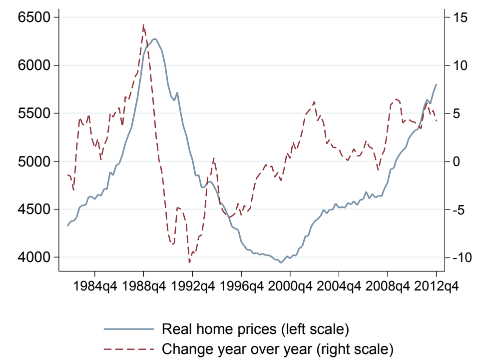


Sources: seco; BFS; UBS

Swiss real estate market

Own home prices relative to consumer prices
Real estate prices continue to decouple from inflation in general. Homes rose in price by 1.2% in 4Q 2012 compared to the previous quarter. At the same time, consumer prices continued to display deflationary trends.

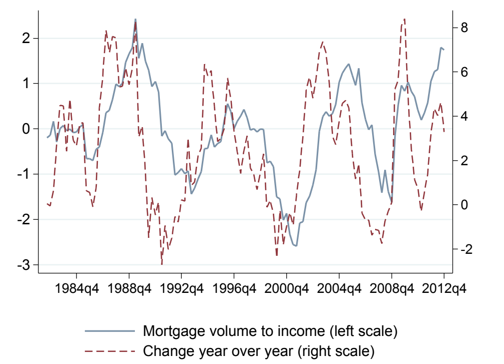
Home prices relative to consumer prices
Real home prices (CHF/m²) and change year-over-year in percent



Sources: SNB; BFS; UBS

Mortgage volume relative to income
The indicator flattened slightly in 4Q 2012 and now stands at 1.7 standard deviations above the long-term average. There is no indication of a trend reversal in the robustly growing mortgage volume. Without significantly higher interest rates, credit risks for the macroeconomy will foreseeably keep rising.

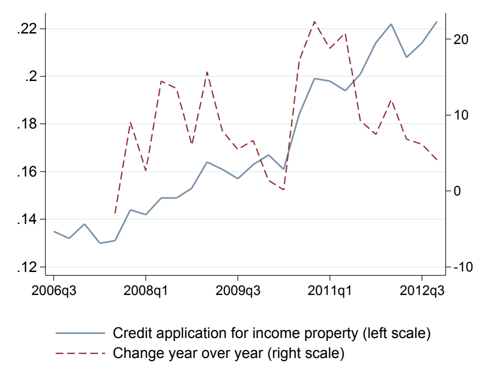
Mortgage volume relative to income
Mortgage debt of private households relative to income (detrended series) and change year-over-year in percent



Sources: SNB; BFS; UBS

Credit applications for residential property not intended for owner occupancy (UBS clients)
The number of loan applications for non-owner-occupied real estate hit a new record high in 4Q 2012. Some 22.3% of credit applications were meant for properties without direct self-usage. In the previous quarter this value was at 21.4%.

Credit applications for residential property not intended for owner occupancy
Share of total and change year-over-year in percent



Source: UBS

Regions with risk potential for the residential real estate market

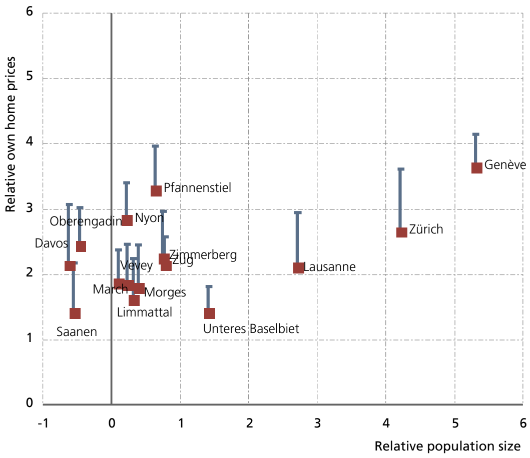
The number of risk regions remained unchanged in 4Q 2012. The number of regions being monitored increased, however. The areas of Appenzell Innerrhoden, Lucerne and the Prättigau Valley are now also among the regions being monitored along with Nidwalden, Innerschwyz, Basel-Stadt, Knonaueramt and the Glattal-Furttal region.

Furthermore, the MS-regions of Zurich, Geneva and Lausanne remain among Switzerland's riskiest due to their national importance. Other exposed regions include the large metropolitan areas of Zug, Pfannenstiel, Limmattal, Zimmerberg, March, Unteres Baselbiet, Vevey, Morges and Nyon as well as the tourist regions of Davos, Saanen-Obersimmental and Oberengadin.

Methodology

Our selection of exposed regions is tied to the level of the UBS Swiss Real Estate Bubble Index and is based on a multi-level selection process utilizing regional population and property price data (see appendix).

Exposed regions for the residential real estate market



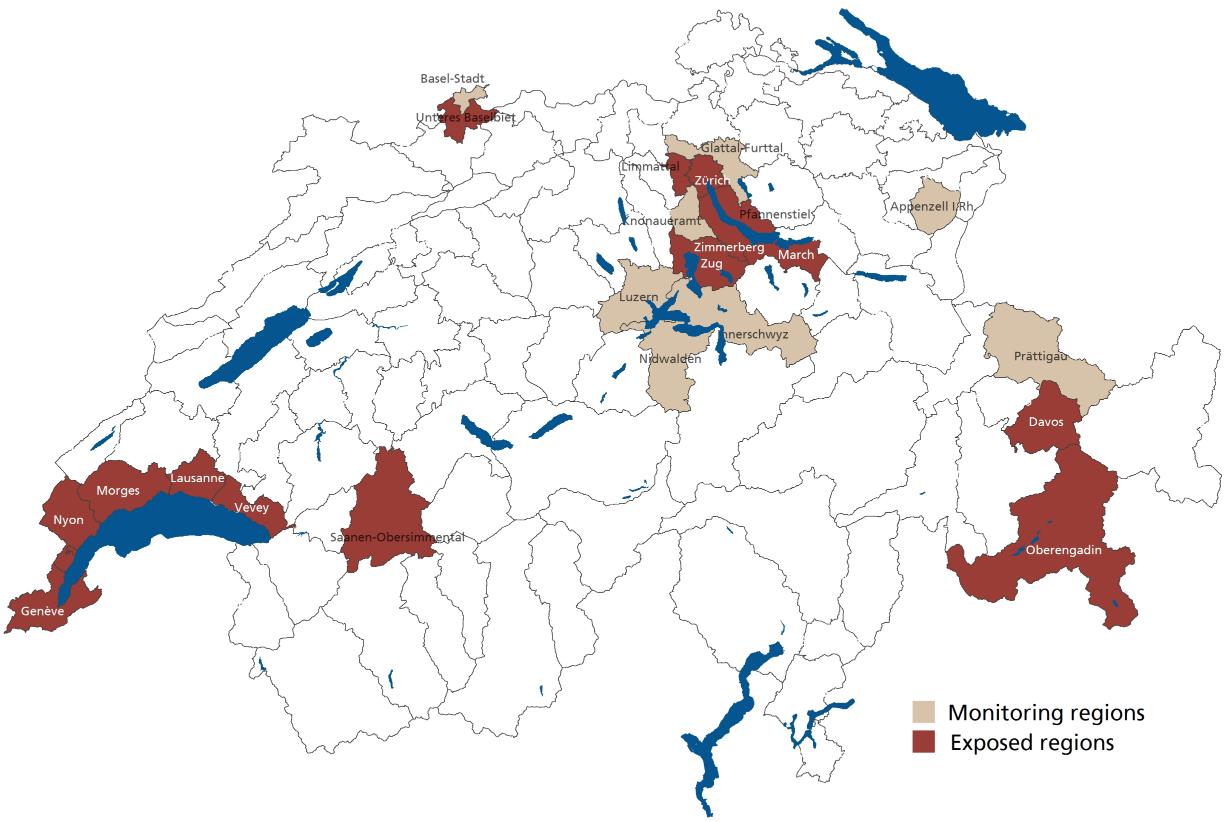
Sources: Wüest & Partner; BFS; UBS

Number of standard deviations from the Swiss median value for population and own home prices. The further to the right and to the top a region is located, the greater the risks of a price correction.

Price rises over the last three years are additionally shown as a bar, with a span of 1 unit representing an annual 10 percent gain.

Regional risk map

Exposed- and monitoring regions for the Swiss residential real estate market



Sources: Wüest & Partner; BFS; UBS

Appendix: Regional analysis

We utilize an adjusted relative market growth matrix to measure regional risks and risk accruing to the Swiss economy in relation to the situation of the overall market.

First, every region is assigned to one of four categories on the basis of population and population growth (outer matrix):

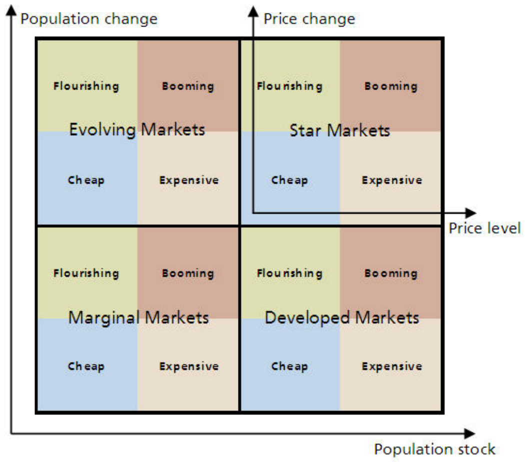
- *Star markets* – densely-populated regions with above-average population growth
- *Saturated markets* - densely populated regions with below-average population growth
- *Growth markets* – small regions with above-average population growth
- *Niche markets* - small regions with below-average population growth

Secondly, the regions are assigned to one of four further categories (inner matrix), irrespective of their categorization described above, based on price levels and housing price increases:

- *Booming* – expensive regions with above-average price increases
- *Expensive* – expensive regions with below-average price increases
- *Flourishing* – cheap regions with above-average price increases
- *Cheap* – cheap regions with below-average price increases

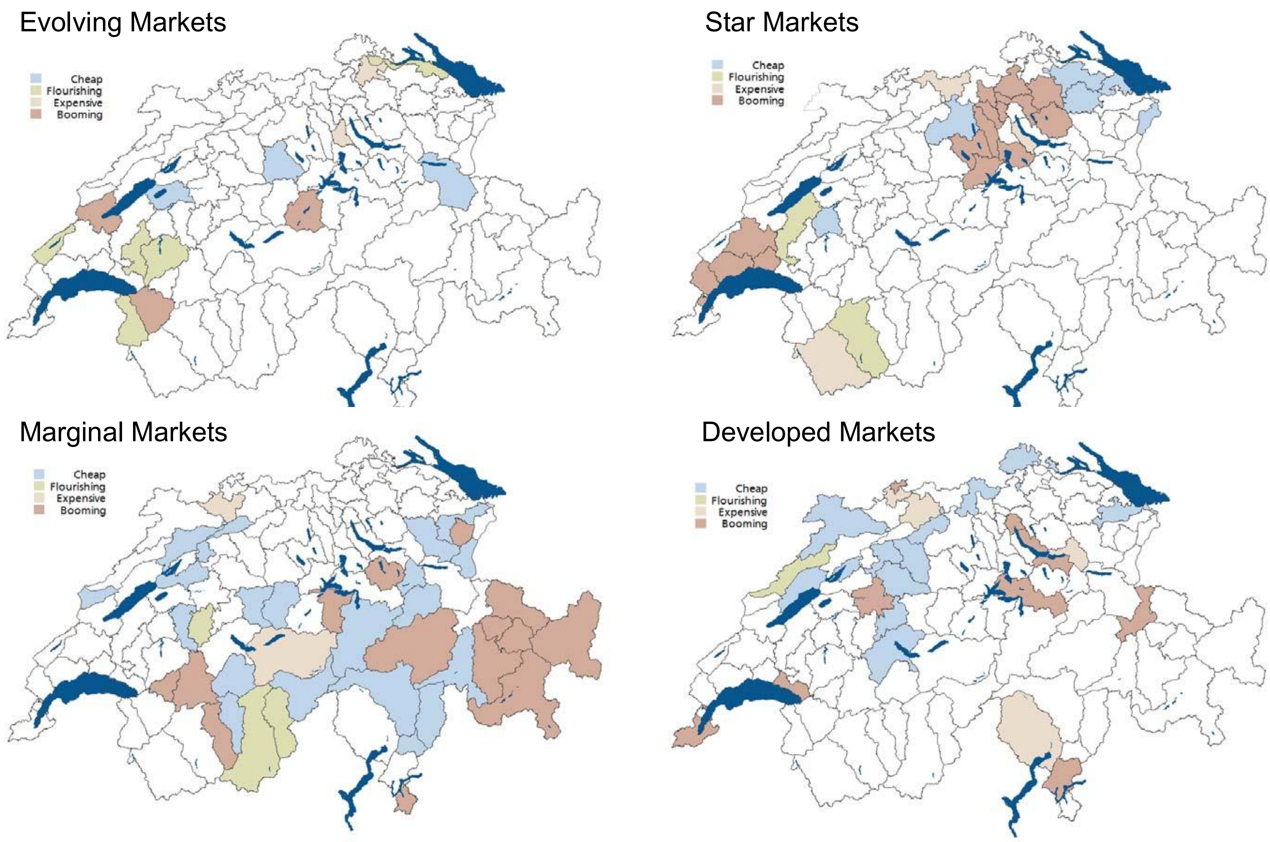
Thirdly, the relative market growth matrix is linked to the UBS Swiss Real Estate Bubble Index, rendering the selection criteria dependent on the current index level. The higher the index level, the less (relatively) restrictive the selection of regions is.

Relative market growth matrix
With population and prices as variables



Source: UBS
Example: The upper right quadrant – Star market, booming – contains all regions with both above-average population growth and price increases and that are among the most populated and expensive regions.

Categorization using the relative market growth matrix – overview



Sources: Wüest & Partner; BFS; UBS

Appendix

Global Disclaimer

UBS CIO WM Research is published by Wealth Management & Swiss Bank and Wealth Management Americas, Business Divisions of UBS AG (UBS) or an affiliate thereof. In certain countries UBS AG is referred to as UBS SA. This publication is for your information only and is not intended as an offer, or a solicitation of an offer, to buy or sell any investment or other specific product. The analysis contained herein is based on numerous assumptions. Different assumptions could result in materially different results. Certain services and products are subject to legal restrictions and cannot be offered worldwide on an unrestricted basis and/or may not be eligible for sale to all investors. All information and opinions expressed in this document were obtained from sources believed to be reliable and in good faith, but no representation or warranty, express or implied, is made as to its accuracy or completeness (other than disclosures relating to UBS and its affiliates). All information and opinions as well as any prices indicated are current as of the date of this report, and are subject to change without notice. Opinions expressed herein may differ or be contrary to those expressed by other business areas or divisions of UBS as a result of using different assumptions and/or criteria. At any time UBS AG and other companies in the UBS group (or employees thereof) may have a long or short position, or deal as principal or agent, in relevant securities or provide advisory or other services to the issuer of relevant securities or to a company connected with an issuer. Some investments may not be readily realizable since the market in the securities is illiquid and therefore valuing the investment and identifying the risk to which you are exposed may be difficult to quantify. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS, into other areas, units, divisions or affiliates of UBS. Futures and options trading is considered risky. Past performance of an investment is no guarantee for its future performance. Some investments may be subject to sudden and large falls in value and on realization you may receive back less than you invested or may be required to pay more. Changes in FX rates may have an adverse effect on the price, value or income of an investment. We are of necessity unable to take into account the particular investment objectives, financial situation and needs of our individual clients and we would recommend that you take financial and/or tax advice as to the implications (including tax) of investing in any of the products mentioned herein. This document may not be reproduced or copies circulated without prior authority of UBS or a subsidiary of UBS. UBS expressly prohibits the distribution and transfer of this document to third parties for any reason. UBS will not be liable for any claims or lawsuits from any third parties arising from the use or distribution of this document. This report is for distribution only under such circumstances as may be permitted by applicable law. In developing the Chief Investment Office economic forecasts, CIO economists worked in collaboration with economists employed by UBS Investment Research. Forecasts and estimates are current only as of the date of this publication and may change without notice.
External Asset Managers / External Financial Consultants: In case this research or publication is provided to an External Asset Manager or an External Financial Consultant, UBS expressly prohibits that it is redistributed by the External Asset Manager or the External Financial Consultant and is made available to their clients and/or third parties. **Australia**: 1) **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), Chifley Tower, 2 Chifley 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. 2) **Clients of UBS AG**: This notice is issued by UBS AG ABN 47 088 129 613 (Holder of Australian Financial Services Licence No 231087): This Document is issued and distributed by UBS AG. This is the case despite anything to the contrary in the Document. The Document is intended for use only by "Wholesale Clients" as defined in section 761G ("Wholesale Clients") of the Corporations Act 2001 (Cth) ("Corporations Act"). In no circumstances may the Document be made available by UBS AG to a "Retail Client" as defined in section 761G of the Corporations Act. UBS AG's research services are only available to Wholesale Clients. The Document is general information only and does not take into account any person's investment objectives, financial and taxation situation or particular needs. **Austria**: This publication is not intended to constitute a public offer or a comparable solicitation under Austrian law and will only be used under circumstances which will not be equivalent to a public offering of securities in Austria. The document may only be used by the direct recipient of this information and may under no circumstances be passed on to any other investor. **Bahamas**: This publication is distributed to private clients of UBS (Bahamas) Ltd and is not intended for distribution to persons designated as a Bahamian citizen or resident under the Bahamas Exchange Control Regulations. Bahrain: UBS AG is a Swiss bank not licensed, supervised or regulated in Bahrain by the Central Bank of Bahrain and does not undertake banking or investment business activities in Bahrain. Therefore, Clients have no protection under local banking and investment services laws and regulations. **Belgium**: This publication is not intended to constitute a public offering or a comparable solicitation under Belgian law, but might be made available for information purposes to clients of UBS Belgium NV/SA, a regulated bank under the "Commission Bancaire, Financière et des Assurances", to which this publication has not been submitted for approval. **Canada**: In Canada, this publication is distributed to clients of UBS Wealth Management Canada by UBS Investment Management Canada Inc.. **Dubai**: Research is issued by UBS AG Dubai Branch within the DIFC, is intended for professional clients only and is not for onward distribution within the United Arab Emirates. **France**: This publication is distributed by UBS (France) S.A., French "société anonyme" with share capital of € 125.726.944, 69, boulevard Haussmann F-75008 Paris, R.C.S. Paris B 421 255 670, to its clients and prospects. UBS (France) S.A. is a provider of investment services duly authorized according to the terms of the "Code Monétaire et Financier", regulated by French banking and financial authorities as the "Banque de France" and the "Autorité des Marchés Financiers". **Germany**: The issuer under German Law is UBS Deutschland AG, Bockenheimer Landstrasse 2-4, 60306 Frankfurt am Main. UBS Deutschland AG is authorized and regulated by the "Bundesanstalt für Finanzdienstleistungsaufsicht". **Hong Kong**: This publication is distributed to clients of UBS AG Hong Kong Branch by UBS AG Hong Kong Branch, a licensed bank under the Hong Kong Banking Ordinance and a registered institution under the Securities and Futures Ordinance. **India:** Distributed 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. **Indonesia**: This research or publication is not intended and not prepared for purposes of public offering of securities under the Indonesian Capital Market Law and its implementing regulations. Securities mentioned in this material have not been, and will not be, registered under the Indonesian Capital Market Law and Regulations. **Italy**: This publication is distributed to the clients of UBS (Italia) S.p.A., via del vecchio politecnico 3, Milano, an Italian bank duly authorized by Bank of Italy to the provision of financial services and supervised by "Consob" and Bank of Italy. UBS Italia has not participated in the production of the publication and of the research on investments and financial analysis herein contained. **Jersey**: UBS AG, Jersey Branch, is regulated and authorized by the Jersey Financial Services Commission for the conduct of banking, funds and investment business. **Luxembourg**: This publication is not intended to constitute a public offer under Luxembourg law, but might be made available for information purposes to clients of UBS (Luxembourg) S.A., a regulated bank under the supervision of the "Commission de Surveillance du Secteur Financier" (CSSF), to which this publication has not been submitted for approval. **Mexico**: This document has been distributed by UBS Asesores México, S.A. de C.V., a company which is not subject to supervision by the National Banking and Securities Commission of Mexico and is not part of UBS Grupo Financiero, S.A. de C.V. or of any other Mexican financial group and whose obligations are not guaranteed by any third party. UBS Asesores México, S.A. de C.V. does not guarantee any yield whatsoever. **Singapore**: Please contact 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 report. **Spain**: This publication is distributed to clients of UBS Bank, S.A. by UBS Bank, S.A., a bank registered with the Bank of Spain. **UAE**: This research report is not intended to constitute an offer, sale or delivery of shares or other securities under the laws of the United Arab Emirates (UAE). The contents of this report have not been and will not be approved by any authority in the United Arab Emirates including the UAE Central Bank or Dubai Financial Authorities, the Emirates Securities and Commodities Authority, the Dubai Financial Market, the Abu Dhabi Securities market or any other UAE exchange. **UK**: Approved by UBS AG, authorized and regulated in the UK by the Financial Services Authority. A member of the London Stock Exchange. This publication is distributed to private clients of UBS London in the UK. Where products or services are provided from outside the UK, they will not be covered by the UK regulatory regime or the Financial Services Compensation Scheme. **USA**: This document is not intended for distribution into the US and / or to US persons. UBS Securities LLC is a subsidiary of UBS AG and an affiliate of UBS Financial Services Inc., UBS Financial Services Inc. is a subsidiary of UBS AG.
Version 1/2013.
© UBS 2013. The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.