

# Swiss real estate market

## UBS Swiss Real Estate Bubble Index 4Q/2016

Chief Investment Office WM | 3 February 2017 | Translation:

Matthias Holzhey, economist, matthias.holzhey@ubs.com; Claudio Saputelli, economist, claudio.saputelli@ubs.com

- The *UBS Swiss Real Estate Bubble Index* stood in the risk zone at 1.35 points after a slight increase in the final quarter of 2016.
- The further increase in the ratio of purchase prices to rents and income reflects increasing interest rate risks.
- The stabilization of the index in the last few quarters is due to the sharp slowdown in household debt growth.

The *UBS Swiss Real Estate Bubble Index* stayed in the risk zone in 4Q 2016 at 1.35 index points. The index increased only marginally over the slightly revised figure for the previous quarter. The sub-indicators price-to-earnings and price-to-rent increased slightly. On the other hand, the slower growth in mortgage debt had a dampening effect.

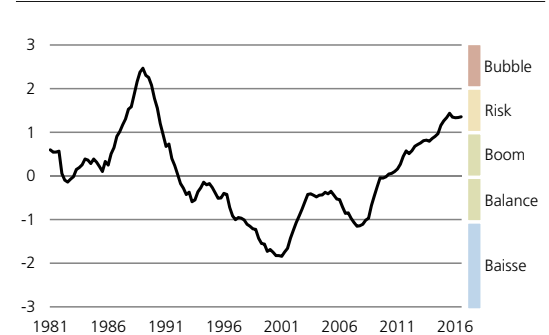
### Interest rate risks continue to rise

In the meanwhile, the index has been moving in the range of 1.30 to 1.45 index points for one and a half years. The disparities in the owner-occupied housing market have thus stabilized, but have not lessened. As such, the dependence of owner-occupied housing prices on low interest rates has risen further in recent quarters. The buy-to-rent ratio increased for the ninth consecutive quarter, as the average home ownership overheads in Switzerland have been lower than the cost of renting comparable properties since mid-2014. However, if the mortgage rate increases by one percentage point, the costs of an owner-occupied home would again exceed those of a comparable rented apartment, which could trigger a price correction on the owner-occupied housing market.

### Debt only driven by new buildings

By contrast, the volume of outstanding household mortgages rose by only 2.6% compared to the previous year. Although this is the lowest value since December 1999, the mortgage volumes are still rising faster than the disposable income of Swiss households. In general, the growth of the mortgage volume is determined by the construction of new apartments, the remortgaging of the housing stock and the amount of the amortization payments. The increase in household debt by CHF 18 billion in 2016 is probably due entirely to lending for new buildings. In the past year, amortization payments are likely to have been higher than the additional lending for the housing stock.

### UBS Swiss Real Estate Bubble Index



Source: UBS

	Index		Index
2013-Q1	0.72	2015-Q1	1.16
2013-Q2	0.76	2015-Q2	1.26
2013-Q3	0.81	2015-Q3	1.34
2013-Q4	0.82	2015-Q4	1.43
2014-Q1	0.79	2016-Q1	1.35
2014-Q2	0.86	2016-Q2	1.33
2014-Q3	0.91	2016-Q3	1.34
2014-Q4	0.97	2016-Q4	1.35

Source: UBS. Owing to data revisions and varying weightings of the sub-indices, slight adjustments can be made to the index values every quarter.

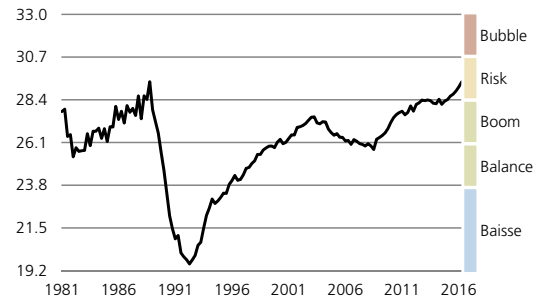
**Methodology:** The *UBS Swiss Real Estate Bubble Index* comprises six sub-indices. The index is calculated as the average of the trend-adjusted and standardized indicators weighted using a primary component analysis. The index shows the deviation in standard deviations from the average, which is standardized to zero. Depending on the current value, the index can have the following five levels: Downward trend (below -1), balance (between -1 and 0), boom (between 0 and 1), risk (between 1 and 2) and bubble (above 2).

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

### Owner-occupied housing prices relative to annual rent payments

- An above-average buy-to-rent ratio indicates a high dependency on sustained low interest rates or implies expectations of future price increases.
- The long-term average is 26.1 annual rents. In March 1989, the indicator peaked at 29.3.
- After the ninth consecutive increase, in 4Q 2016, it took 29.5 annual rents to purchase a comparable owner-occupied home.

### Owner-occupied housing prices relative to annual rent payments Level

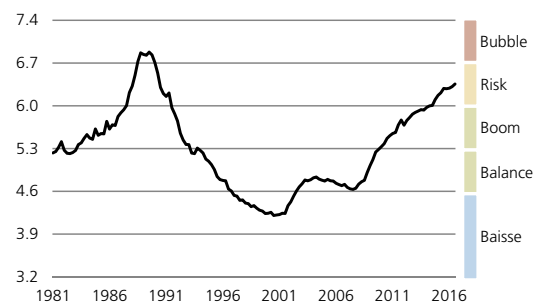


Sources: SNB, UBS

### Owner-occupied housing prices relative to household income

- The indicator shows whether the price behavior of the owner-occupied housing market is supported by changes in household income. A decoupling of prices from average household income can be interpreted as a sign of interest rate risks.
- As a long-term average, it takes 5.3 annual incomes to purchase an owner-occupied home in the medium price segment.
- In 4Q 2016, it took around 6.3 annual household incomes to purchase an owner-occupied home in the medium price segment. Compared to the previous quarter, the index rose slightly.

### Owner-occupied housing prices relative to household income Level

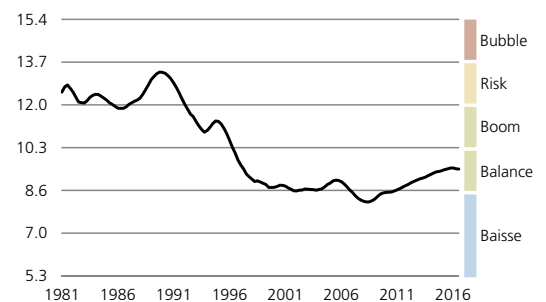


Sources: SNB; FSO; UBS

### Construction relative to gross domestic product (GDP)

- If the construction sector gains weight within the national economy, this can signal an overheating of the real estate market.
- The current values are significantly below the peak values of the 1980s.
- Nominal construction investment increased slightly in 4Q 2016. In a year-on-year comparison, it recorded a plus of 0.4%. Since the low in 2009, however, the share of construction investment rose from 8.1 to 9.5% of the gross domestic product.

### Construction relative to gross domestic product Share of total



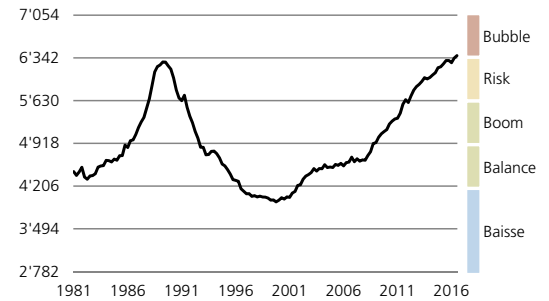
Sources: seco; FSO; UBS

### Owner-occupied housing prices relative to consumer prices

- In the long term, owner-occupied housing prices are likely to be oriented towards the development of construction costs and general inflation. A sharp and lasting increase in inflation-adjusted owner-occupied housing prices is thus a warning signal for a possible correction.
- After adjustment for inflation, owner-occupied housing prices are meanwhile around 1% above the high of 1989.
- Owner-occupied housing prices increased 0.6% in real terms due to negative inflation. Year-on-year, a rise of 1.3% was recorded.

### Owner-occupied housing prices relative to consumer prices

Real owner-occupied housing price behavior (CHF / m<sup>2</sup>)



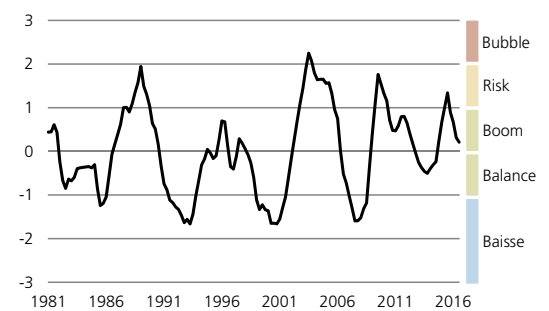
Sources: SNB; FSO; UBS

### Mortgage volume relative to disposable household income

- A sharp growth in mortgage debt is a clear indication of the owner-occupied housing market overheating. In the event of an increase in interest rates or a correction in owner-occupied housing prices, high household debt increases the negative consequences for the national economy.
- The volume of outstanding household mortgages rose by 2.6% compared to the previous year. The downward trend in household debt growth thus continued in 4Q 2016.
- The sharp slowdown in household debt growth dampened the development the Real Estate Bubble Index in the last few quarters.

### Mortgage volume relative to income

Mortgages of private households relative to income (trend-adjusted, standardized)



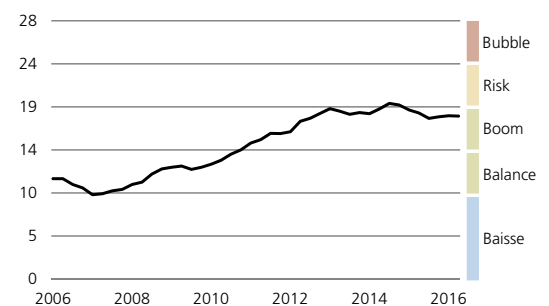
Sources: SNB; FSO; UBS

### UBS loan applications for real estate intended for leasing

- High demand for residential property for the purpose of leasing (buy-to-let) indicates speculative demand.
- However, the current value remains below the record high in 2015.
- The number of loan applications for non-owner-occupied properties remained practically constant in 4Q 2016. Accounting for 18% of all loan applications, buy-to-let remains a popular investment strategy.

### Loan applications for real estate intended for leasing

Share of total



Source: UBS

## Regional analysis

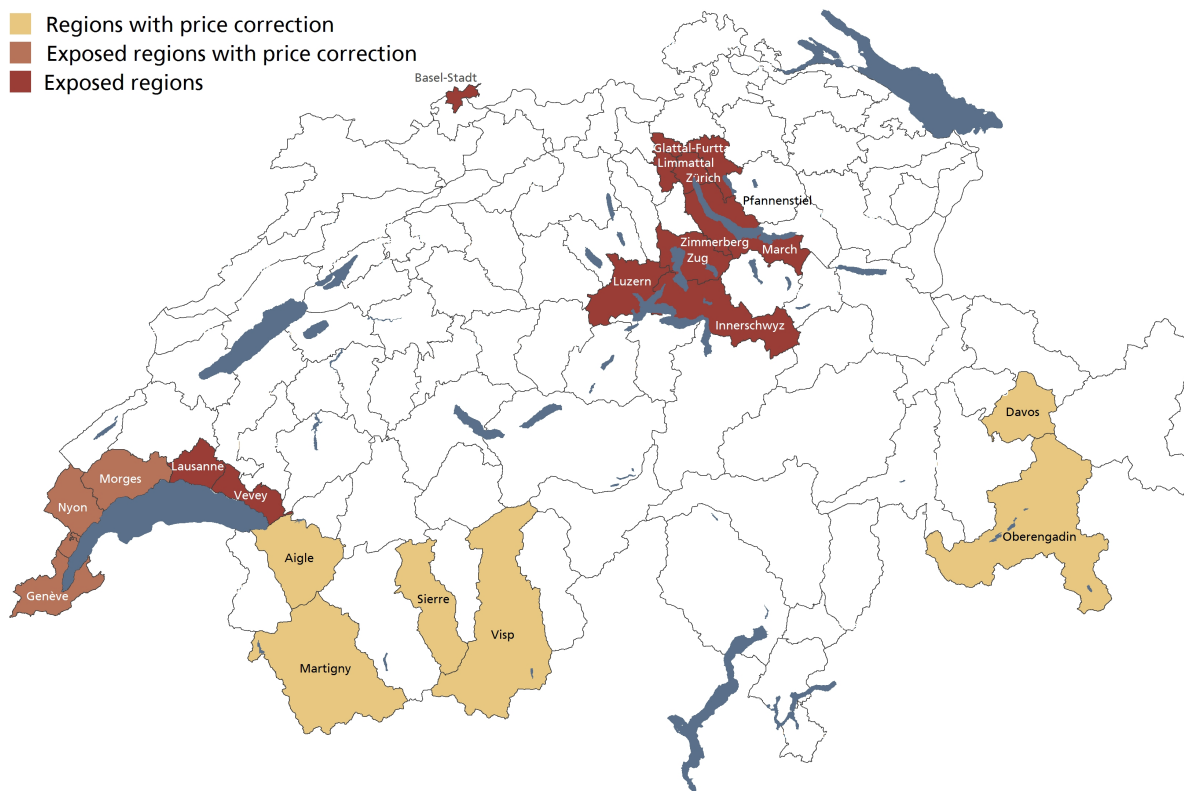
The number of risk regions remained unchanged in 4Q 2016. The Geneva, Nyon and Morges regions are in a correction phase. Local owner-occupied housing markets have already cooled down in these regions. In the past three years, price corrections in the Valais, the Bernese Oberland and parts of Graubünden have led to no tourist regions being on the risk map anymore. The regional risk focus is gradually shifting from Lake Geneva to the regions of Zurich and Central Switzerland. In view of the low price dynamics on the owner-occupied housing market, no monitoring regions are listed on the risk map anymore.

### Methodology

The regional risk map shows those regions posing the greatest macroeconomic risks in the event of a Swiss-wide correction. The analysis is based on the population size, the price level and the price behavior for owner-occupied homes. The selection of risk regions is linked to the UBS Swiss Real Estate Bubble Index. Vacancy or liquidity risks are not taken into account.

### Regional risk map 4Q/2016

Risk regions for the Swiss residential property market and regions with a price correction of more than 5% since 2013



Source: UBS

## Appendix

**Generic financial research – Risk information:** UBS Chief Investment Office WM's investment views are prepared and published by Wealth Management and Personal & Corporate Banking or Wealth Management Americas, Business Divisions of UBS AG (regulated by FINMA in Switzerland), its subsidiary or affiliate ("UBS"). In certain countries UBS AG is referred to as UBS SA. This material 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. 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 material 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). 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. The market prices provided in performance charts and tables are closing prices on the respective principal stock exchange. The analysis contained herein is based on numerous assumptions. Different assumptions could result in materially different results. 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. UBS and any of its directors or employees may be entitled at any time to hold long or short positions in investment instruments referred to herein, carry out transactions involving relevant investment instruments in the capacity of principal or agent, or provide any other services or have officers, who serve as directors, either to/for the issuer, the investment instrument itself or to/for any company commercially or financially affiliated to such issuers. At any time, investment decisions (including whether to buy, sell or hold securities) made by UBS and its employees may differ from or be contrary to the opinions expressed in UBS research publications. 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 not suitable for every investor as there is a substantial risk of loss, and losses in excess of an initial investment may occur. Past performance of an investment is no guarantee for its future performance. Additional information will be made available upon request. 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 foreign exchange rates may have an adverse effect on the price, value or income of an investment. The analyst(s) responsible for the preparation of this report may interact with trading desk personnel, sales personnel and other constituencies for the purpose of gathering, synthesizing and interpreting market information. Tax treatment depends on the individual circumstances and may be subject to change in the future. UBS does not provide legal or tax advice and makes no representations as to the tax treatment of assets or the investment returns thereon both in general or with reference to specific client's circumstances and needs. 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 material may not be reproduced or copies circulated without prior authority of UBS. UBS expressly prohibits the distribution and transfer of this material to third parties for any reason. UBS accepts no liability whatsoever for any claims or lawsuits from any third parties arising from the use or distribution of this material. This report is for distribution only under such circumstances as may be permitted by applicable law. In developing the Chief Investment Office (CIO) 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. For information on the ways in which UBS CIO WM manages conflicts and maintains independence of its investment views and publication offering, and research and rating methodologies, please visit [www.ubs.com/research](http://www.ubs.com/research). Additional information on the relevant authors of this publication and other CIO publication(s) referenced in this report; and copy of any past reports on this topic; are available upon request from your client advisor.

**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:** 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 under Austrian law, but might be made available for information purposes to clients of UBS Europe SE, Niederlassung Österreich, with place of business at Wächtergasse 1, A-1010 Wien. UBS Europe SE, Niederlassung Österreich is a branch of UBS Europe SE, a credit institution constituted under German Law in the form of a Societas Europaea, duly authorized by the German Federal Financial Services Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin), and is subject to the joint supervision of BaFin, the central bank of Germany (Deutsche Bundesbank), as well as of the Austrian supervisory authority (Finanzmarktaufsicht, FMA), to which this publication has not been submitted for approval. **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 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. **Brazil:** Prepared by UBS Brasil Administradora de Valores Mobiliários Ltda, entity regulated by Comissão de Valores Mobiliários ("CVM"). **Canada:** In Canada, this publication is distributed to clients of UBS Wealth Management Canada by UBS Investment Management Canada Inc.. **Czech Republic:** UBS is not a licensed bank in Czech Republic and thus is not allowed to provide regulated banking or investment services in Czech Republic. This material is distributed for marketing purposes. **Denmark:** This publication is not intended to constitute a public offer under Danish law, but might be distributed by UBS Europe SE, Denmark Branch, filial af UBS Europe SE, with place of business at Sankt Annæ Plads 13, 1250 Copenhagen, Denmark, registered with the Danish Commerce and Companies Agency, under the No. 38 17 24 33. UBS Europe SE, Denmark Branch, filial af UBS Europe SE is a branch of UBS Europe SE, a credit institution constituted under German Law in the form of a Societas Europaea, duly authorized by the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin). UBS Europe SE, Denmark Branch, filial af UBS Europe SE is subject to the joint supervision of the BaFin, the central bank of Germany (Deutsche Bundesbank) and the Danish Financial Supervisory Authority (DFSA) (Finanstilsynet), to which this document has not been submitted for approval. **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 "Autorité de Contrôle Prudentiel et de Résolution". **Germany:** The issuer under German Law is UBS Europe SE, Bockenheimer Landstrasse 2-4, 60306 Frankfurt am Main. UBS Europe SE 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. **Israel:** UBS Switzerland AG is registered as a Foreign Dealer in cooperation with UBS Wealth Management Israel Ltd, a wholly owned UBS subsidiary. UBS Wealth Management Israel Ltd is a licensed Portfolio Manager which engages also in Investment Marketing and is regulated by the Israel Securities Authority. This publication shall not replace any investment advice and/or investment marketing provided by a relevant licensee which is adjusted to your personal needs. **Italy:** This publication is distributed to the clients of UBS Europe SE, Succursale Italia, Via del Vecchio Politecnico, 3 - 20121 Milano, the branch of a German bank duly authorized by the "Bundesanstalt für Finanzdienstleistungsaufsicht" to the provision of financial services and supervised by "Consob". **Jersey:** UBS AG, Jersey Branch, is regulated and authorized by the Jersey Financial Services Commission for the conduct of banking, funds and investment business. Where services are provided from outside Jersey, they will not be covered by the Jersey regulatory regime. UBS AG, Jersey Branch is a branch of UBS AG a public company limited by shares, incorporated in Switzerland whose registered offices are at Aeschenvorstadt 1, CH-4051 Basel and Bahnhofstrasse 45, CH 8001 Zurich. UBS AG, Jersey Branch's principal place business is P.O. Box 350, 24 Union Street, St Helier, Jersey JE4 8UJ. **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 Europe SE, Luxembourg Branch, with place of business at 33A, Avenue J. F. Kennedy, L-1855 Luxembourg. UBS Europe SE, Luxembourg Branch is a branch of UBS Europe SE, a credit institution constituted under German Law in the form of a Societas Europaea, duly authorized by the German Federal Financial Services Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin), and is subject to the joint supervision of BaFin, the central bank of Germany (Deutsche Bundesbank), as well as of the Luxembourg supervisory authority, the Commission de Surveillance du Secteur Financier (the "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 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. **Netherlands:** This publication is not intended to constitute a public offering or a comparable solicitation under Dutch law, but might be made available for information purposes to clients of UBS Europe SE, Netherlands branch, a branch of a German bank duly authorized by the "Bundesanstalt für Finanzdienstleistungsaufsicht" for the provision of financial services and supervised by "Autoriteit Financiële Markten" (AFM) in the Netherlands, to which this publication has not been submitted for approval. **New Zealand:** This notice is distributed to clients of UBS Wealth Management Australia Limited 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. You are being provided with this UBS publication or material because you have indicated to UBS that you are a client certified as a wholesale investor and/or an eligible investor ("Certified Client") located in New Zealand. This publication or material is not intended for clients who are not Certified Clients ("Non-Certified Clients"), and if you are a Non-Certified Client you must not rely on this publication or material. If despite this warning you nevertheless rely on this publication or material, you hereby (i) acknowledge that you may not rely on the content of this publication or material and that any recommendations or opinions in this publication or material are not made or provided to you, and (ii) to the maximum extent permitted by law (a) indemnify UBS and its associates or related entities (and their respective directors, officers, agents and advisers (each a "Relevant Person") for any loss, damage, liability or claim any of them may incur or suffer as a result of, or in connection with, your unauthorised reliance on this publication or material and (b) waive any rights or remedies you may have against any Relevant Person for (or in respect of) any loss, damage, liability or claim you may incur or suffer as a result of, or in connection with, your unauthorised reliance on this publication or material. **Saudi Arabia:** This publication has been approved by UBS Saudi Arabia (a subsidiary of UBS AG), a Saudi Arabian 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 of Saudi Arabia. **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 its clients by UBS Europe SE, Sucursal en España, with registered office at Calle María de Molina 4, C.P. 28006, Madrid, entity supervised by Banco de España and the Bundesanstalt für Finanzdienstleistungsaufsicht. UBS Europe SE, Sucursal en España

## Appendix

is a branch of UBS Europe SE, a credit institution constituted in the form of a Societas Europaea authorized and regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht. **Sweden:** This publication is not intended to constitute a public offer under Swedish law, but might be distributed by UBS Europe SE, Sweden Bankfilial with place of business at Regeringsgatan 38, 11153 Stockholm, Sweden, registered with the Swedish Companies Registration Office under the Reg. No 516406-1011. UBS Europe SE, Sweden Bankfilial is a branch of UBS Europe SE, a credit institution constituted under German Law in the form of a Societas Europaea, duly authorized by the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin). UBS Europe SE, Sweden Bankfilial is subject to the joint supervision of the BaFin, the central bank of Germany (Deutsche Bundesbank) and the Swedish financial supervisory authority (Finansinspektionen), to which this document has not been submitted for approval. **Taiwan:** This material is provided by UBS AG, Taipei Branch in accordance with laws of Taiwan, in agreement with or at the request of clients/prospects. **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. This material is intended for professional clients only. UBS AG Dubai Branch is regulated by the DFSA in the DIFC. UBS AG/UBS Switzerland AG is not licensed to provide banking services in the UAE by the Central Bank of the UAE nor is it licensed by the UAE Securities and Commodities Authority. The UBS AG Representative Office in Abu Dhabi is licensed by the Central Bank of the UAE to operate a representative office. **UK:** Approved by UBS AG, authorised and regulated by the Financial Market Supervisory Authority in Switzerland. In the United Kingdom, UBS AG is authorised by the Prudential Regulation Authority and subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from us on request. 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, to US persons, or by US-based UBS personnel. 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 11/2016.

©UBS 2017. The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.