Swiss real estate market

UBS Swiss Real Estate Bubble Index 4Q-2017

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- The *UBS Swiss Real Estate Bubble Index* declined in the fourth quarter of 2017, and is currently in the risk zone at 1.32 index points.
- This second fall in succession was driven by the persistently low increase of mortgage volumes. However, this may have been underestimated, as the records of mortgages granted by insurers and pension funds are inadequate.
- The majority of the sub-indicators remained unchanged in the last quarter.

At 1.32 points, the *UBS Swiss Real Estate Bubble Index* was in the risk zone in 4Q 2017. The disparities on the homeowner market declined for the second time in succession. The key factor was the persistently low growth in the mortgage debt of households with the banks, with simultaneously strong income growth in the last quarter. In 4Q, Switzerland recorded its strongest nominal economic growth in almost three years, up 0.6% quarter on quarter.

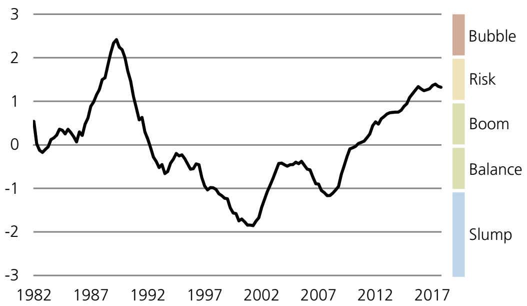
Mortgage debt growth underestimated

Household mortgage debt rose by 2.6% last year, considerably below the average for the last 10 years of 3.8%. Even so, the actual volume of outstanding mortgages might have grown more than the data suggest, because insurers and pension funds have started to award more mortgages in recent years. Insurers only hold a market share of around 5%, but the growth rate of their mortgages over the last three years was twice as high as those of the banks. The pension funds' mortgage books also picked up again significantly from 2016, following several years of declining trends. The *UBS Swiss Real Estate Bubble Index* could well be slightly underestimating the actual risks at the moment.

Increased disparities in the risk regions

Home price inflation was slightly up again in 4Q 2017, compared with the two previous quarters. This stopped a stronger decline in the Real Estate Bubble Index. On the one hand, general inflation persisted at the level of the previous quarter. On the other, asking rents fell by 0.4%. The price-to-rent ratio is thus lurching from one high to the next; it now takes over 30 years' rent to buy your own home. The highest price-to-rent ratios are to be found in the risk regions of German-speaking Switzerland and the tourist regions, where a home of your own actually costs considerably more than 35 years' rent.

UBS Swiss Real Estate Bubble Index



Source: UBS

	Index		Index
2014-Q1	0.75	2016-Q1	1.28
2014-Q2	0.79	2016-Q2	1.24
2014-Q3	0.88	2016-Q3	1.26
2014-Q4	0.94	2016-Q4	1.29
2015-Q1	1.09	2017-Q1	1.36
2015-Q2	1.17	2017-Q2	1.39
2015-Q3	1.26	2017-Q3	1.34
2015-Q4	1.34	2017-Q4	1.32

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

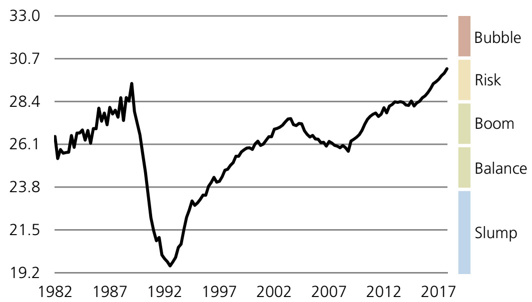
Methodology: *The UBS Swiss Real Estate Bubble Index comprises six sub-indices. The index is calculated as the average of trend-adjusted and standardized indicators weighted using a principal component analysis. The index level shows the deviation in standard deviations from the average, which is normalized 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).*

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

Owner-occupied home 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.
- In the fourth quarter of 2017, it took 30.2 annual rents to purchase a comparable home. This means that the index has risen steadily for more than three years.

Owner-occupied home prices relative to annual rent payments
Value

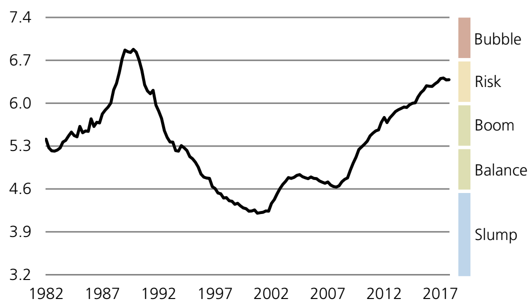


Sources: SNB; UBS

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.
- In terms of a long-term average, it takes 5.3 annual incomes to purchase an owner-occupied home in the medium price segment.
- In 4Q 2017, it took around 6.4 annual household incomes to purchase a home of your own in the medium price segment. Compared to the previous quarter, the index remained unchanged.

Owner-occupied housing prices relative to household income
Value

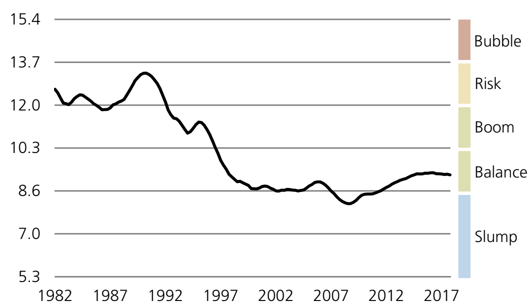


Sources: SNB; FSO; UBS

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 fell slightly in 4Q 2017. In a year-on-year comparison, it recorded a minimal increase of 0.2%. The contribution of construction investment to gross domestic product stayed steady over the year at just under 9.3%.

Construction relative to gross domestic product
Share of total

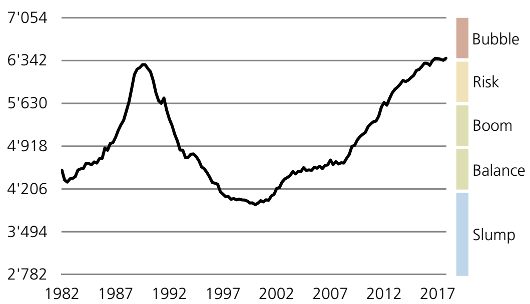


Sources: SECO; FSO; UBS

Owner-occupied home 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 now barely above the high of 1989.
- Prices for owner-occupied homes rose by 0.4%, with this being attributable to the rise in asking prices for single-family homes of almost 1%. By contrast, the consumer price index remained virtually unchanged in 4Q 2017.

Owner-occupied home prices relative to consumer prices
Real owner-occupied housing price behavior (CHF / m^2)

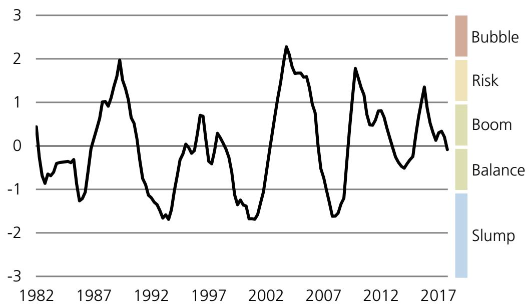


Sources: SNB; FSO; UBS

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 around 2.6% compared to the previous year. This is the lowest value since 1999. Outstanding mortgage volumes have risen by 3.8% per year on average over the last 10 years.
- The sharp slowdown in household debt growth dampened the development the *UBS Swiss Real Estate Bubble Index* in the last few quarters.

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

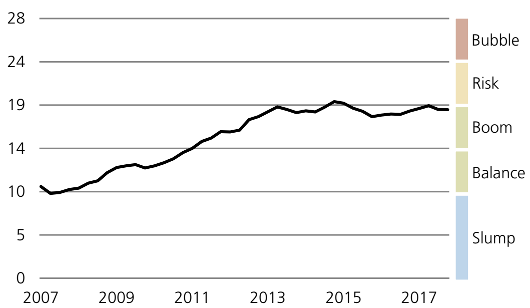


Sources: SNB; FSO; UBS

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 was stable in 4Q 2017. Buy-to-let nevertheless appears to remain a popular investment strategy, accounting for 18.5% of all loan applications.

Credit applications for residential property not intended for owner occupancy
Share of total



Source: UBS

Regional analysis

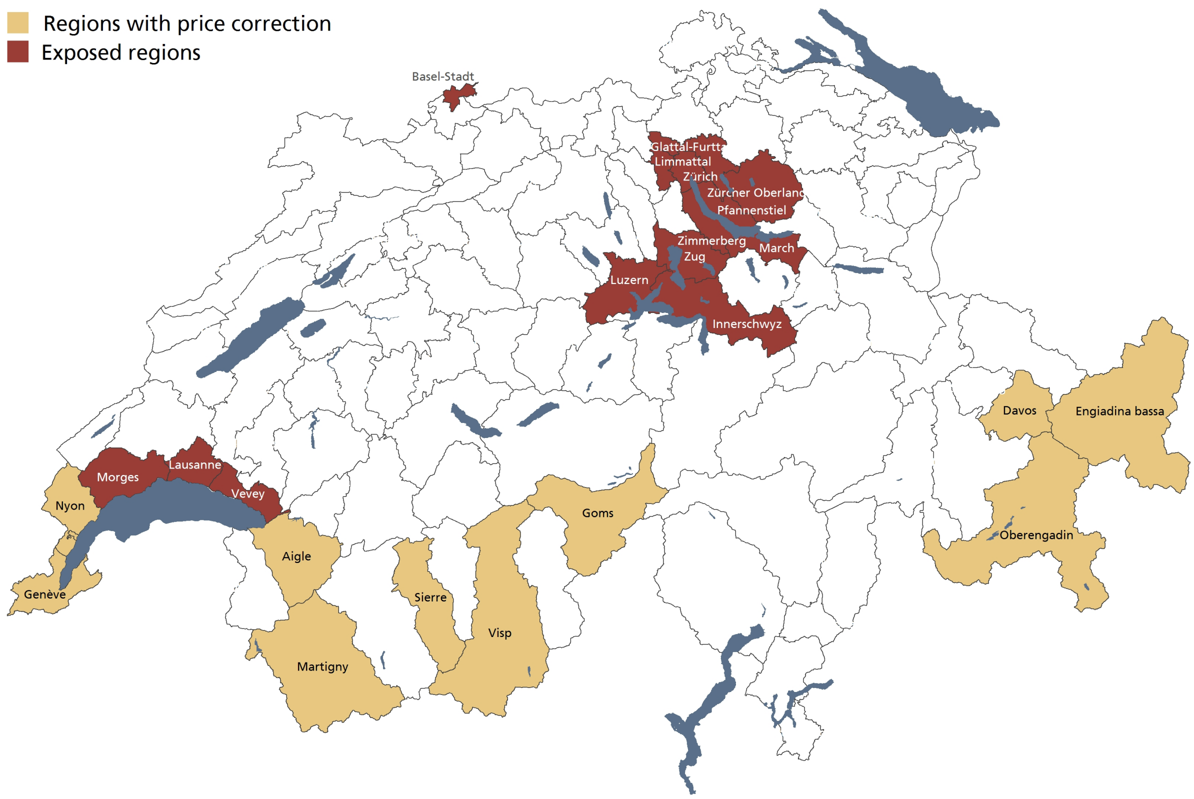
The number of risk regions remained unchanged in 4Q 2017. The Geneva and Nyon regions are in a correction phase. Local owner-occupied housing markets have already cooled down in these regions. In the past three years, price corrections in the Valais, the Bernese Oberland and parts of Graubünden have 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.

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 2017

Risk regions for the Swiss residential property market and regions with a price correction of more than 5 percent since 2014



Source: UBS

Appendix

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