

Swiss real estate market

UBS Swiss Real Estate Bubble Index 2Q 2019

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- The *UBS Swiss Real Estate Bubble Index* has fallen slightly to 0.78 index points. Offered home prices continued to decline in 2Q19. The price-to-rent ratio hardly changed in view of the slight fall in rents: In 2Q19, 31 annual rents were needed to acquire a comparable home.
- The price-to-income ratio sank for the eighth quarter in a row in 2Q19. Almost 6.4 annual household incomes were still required to buy an owner-occupied home in the medium price segment. However, driven by increasingly attractive financing conditions, the momentum in mortgage lending rose slightly compared to a year ago.
- The regional risk map indicates the biggest imbalances are in the Zurich area and central Switzerland. However, imbalances are also elevated in Lausanne, Lugano and the Basel region.

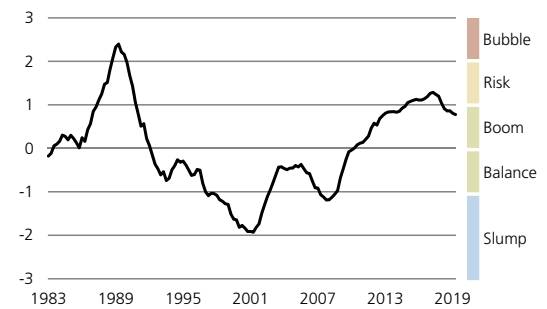
Basic concept

The term “bubble” describes significant and persistent asset mispricing. Bubbles can only be identified after they have burst. But property market excesses show patterns in historical data. Typical signs include a decoupling of prices from local incomes and home rents, as well as distortions of the real economy, such as excessive lending and construction activity. The *UBS Swiss Real Estate Bubble Index* uses the presence of such patterns to measure the risk of a real estate bubble on the Swiss market for owner-occupied homes.

Index calculation

The *UBS Swiss Real Estate Bubble Index* comprises six sub-indexes. It 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, normalized to zero. The index value is categorized into one of five levels based on the current value: downward trend (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



| Year | Period | Index | Trend |
|------|-----------|-------|-------|
| 2013 | Quarter 1 | 0.81 | ■ |
| | Quarter 2 | 0.83 | ■ |
| | Quarter 3 | 0.84 | ■ |
| | Quarter 4 | 0.84 | ■ |
| 2014 | Quarter 1 | 0.83 | ■ |
| | Quarter 2 | 0.85 | ■ |
| | Quarter 3 | 0.92 | ■ |
| | Quarter 4 | 0.96 | ■ |
| 2015 | Quarter 1 | 1.05 | ■ |
| | Quarter 2 | 1.08 | ■ |
| | Quarter 3 | 1.11 | ■ |
| | Quarter 4 | 1.12 | ■ |
| 2016 | Quarter 1 | 1.11 | ■ |
| | Quarter 2 | 1.11 | ■ |
| | Quarter 3 | 1.14 | ■ |
| | Quarter 4 | 1.19 | ■ |
| 2017 | Quarter 1 | 1.26 | ■ |
| | Quarter 2 | 1.29 | ■ |
| | Quarter 3 | 1.24 | ■ |
| | Quarter 4 | 1.20 | ■ |
| 2018 | Quarter 1 | 1.04 | ■ |
| | Quarter 2 | 0.91 | ■ |
| | Quarter 3 | 0.86 | ■ |
| | Quarter 4 | 0.86 | ■ |
| 2019 | Quarter 1 | 0.80 | ■ |
| | Quarter 2 | 0.78 | ■ |

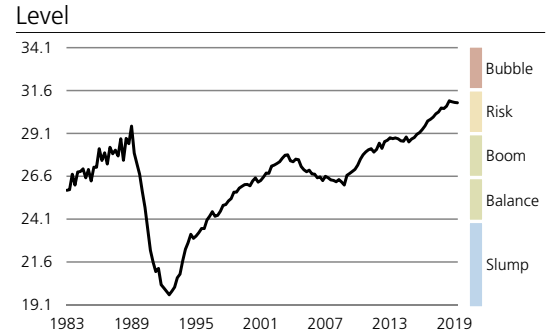
Source: UBS

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

Home prices to annual rents

An above-average buy-to-rent ratio indicates a high dependency on sustained low interest rates or implies expectations of price increases.

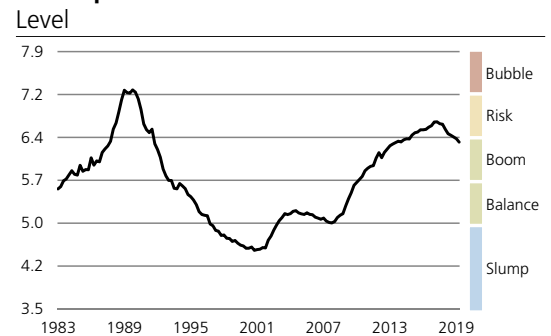
Home prices to annual rents



Home prices to household income

The indicator shows whether the price behavior of the owner-occupied housing market is supported by a change in household income. A decoupling of prices from average household income can be interpreted as a sign of interest rate risks.

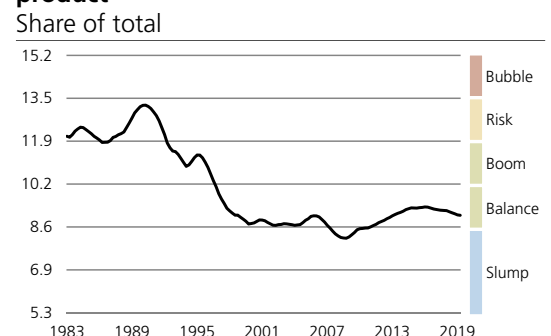
Home prices to household income



Construction relative to gross domestic product (GDP)

The construction sector gaining weighting within the national economy can signal an overheating of the real estate market.

Construction relative to gross domestic product

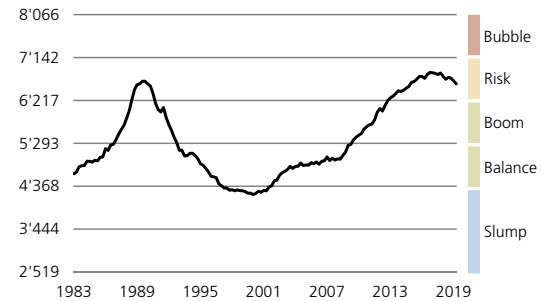


Home prices relative to consumer prices

Over the long term, owner-occupied housing prices are likely to relate to 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.

Home prices relative to consumer prices

Real owner-occupied housing price behavior (CHF/m²)



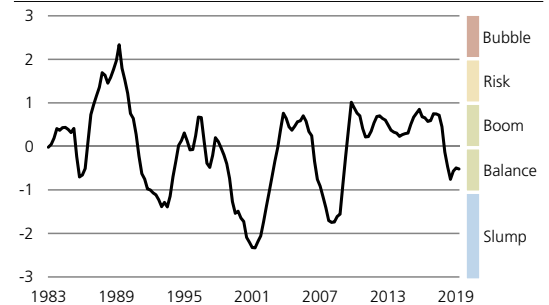
Sources: SNB; FSO; UBS

Mortgage volume relative to disposable income of private households

Any sharp growth in mortgage debt is a clear indication of the owner-occupied housing market overheating. If interest rates rise or owner-occupied housing prices correct, high household debt increases the negative consequences for the national economy.

Mortgage volume relative to income

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



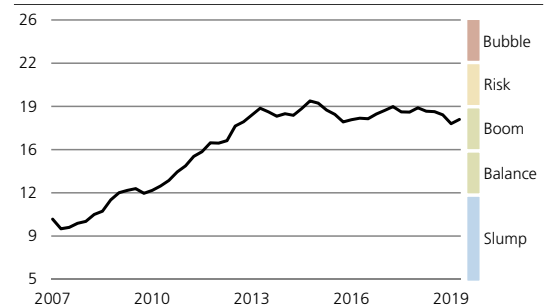
Sources: SNB; FSO; UBS

Credit applications for residential real estate not intended for self-occupancy (UBS clients)

High demand for residential property for the purpose of leasing (buy-to-let) indicates greater speculative demand.

Credit applications for residential real estate not intended for self-occupancy

Share of total

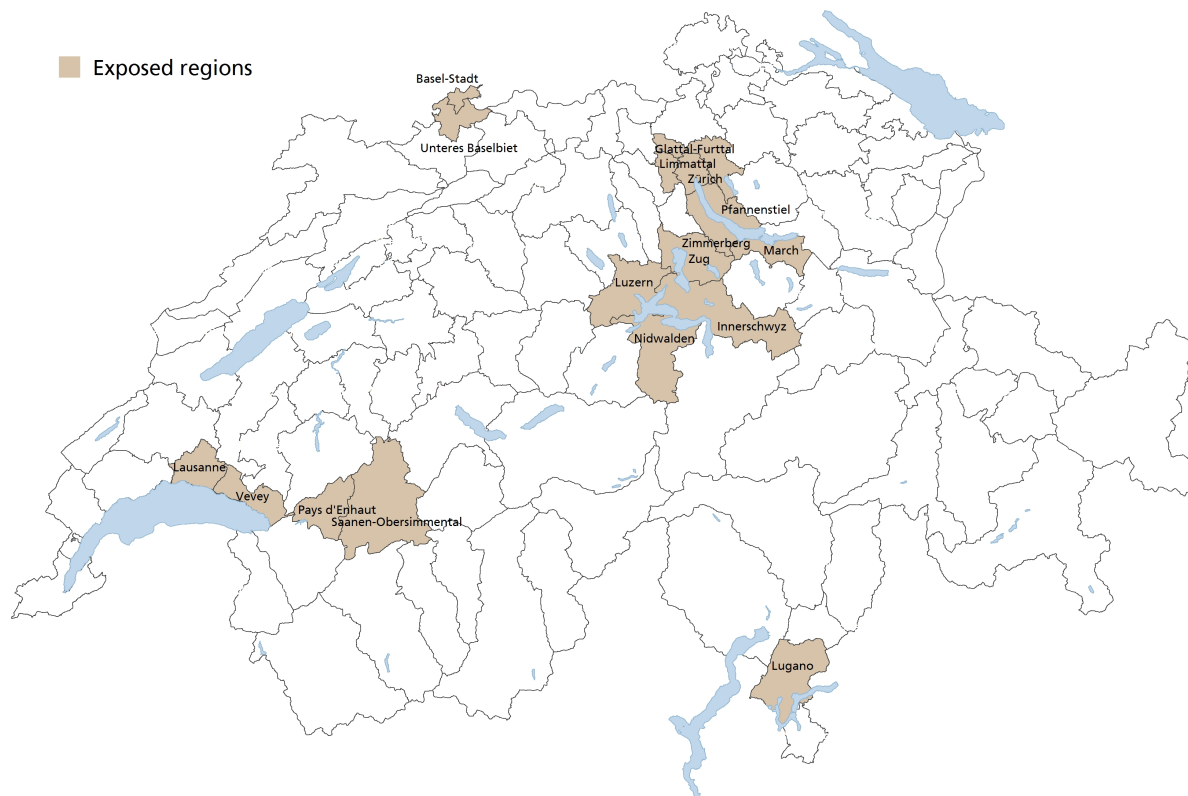


Source: UBS

Regional risk map

The *regional risk map* reveals the regions in which the imbalances are most extreme. The analysis is based on the local price/income ratio, the local price/rent ratio and the long-term price behavior of homes. The selection of risk regions is linked to the *UBS Swiss Real Estate Bubble Index* and takes into account the size of the local second-home market. Due to adjustments made to the method, the risk map is only comparable to some extent with previous issues of the report.

Risk regions in the Swiss residential real estate market



Source: UBS

Appendix

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