Real Estate Focus

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Dear reader,

Home prices are declining regionally. Rental apartment vacancies are increasing. Commercial properties lack the economic momentum they need. Distribution amounts for listed real estate are in jeopardy. It is high time for complacent real estate investors to wake up. But how? Jorge Bucay, a writer from Argentina, says, “You tell fairy tales to children so that they fall asleep, and to adults so that they wake up.” Plus, fairy tales can illustrate different strategies for responding to a risky environment.

The Town Musicians of Bremen flee to escape death and face towering risks to defeat a band of dangerous robbers. In the end, a sumptuous feast rewards them for their willingness to take risks. However, their actions smack of desperate courage. The Frog Prince takes a different approach. He is redeemed by his patience and becomes Prince Henry. However, the only action he can take is waiting, which gives him little opportunity to take risks in the first place. Cinderella, by contrast, takes a third, more mature course. She achieves her goal thanks to smart, strategic risk behavior that allows her to take action at the right moment.

Risky real estate purchases precipitated by the investment crisis may give off an appearance of desperation. Waiting for vacant, out-of-date properties to see better days is probably not a successful strategy, either. Instead, investors will have to adopt more nuanced strategies amid rising risks in the real estate market if they wish to seize opportunities at the right moment. We will be happy to help you hone your strategy in this year’s UBS Real Estate Focus.

We hope you enjoy reading our latest issue.

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Management of real estate risks

Risk management as an opportunity

Claudio Saputelli

Swiss real estate has outperformed most other asset classes during the last decade. But conditions are getting more difficult on the local real estate market. Professional risk management can protect an attractive income situation.

Since the financial crisis, the interest rates in Switzerland have slumped as never before. In the immediate wake of the Brexit referendum in the UK in June 2016, the entire interest curve of Swiss bonds slipped into negative territory. The investment crisis caused by low interest rates – aggravated by central banks’ extremely expansive monetary policy – has propelled the real estate market to an extent that would have been considered unthinkable just a few years ago. As a result, the voices warning against overheated real estate markets have also become louder. Nevertheless, real estate has been among the best-performing asset classes over the past 10 years. However, this does not change the fact that some properties are overvalued.

Managing risks instead of acting rashly

Real estate investors are wondering how things will go on. In simple terms, investors have three options: they can continue to invest in real estate, trusting that their market knowledge will still enable them to generate yield. Alternatively, skepticism about the high valuations might induce them to take profits. The final option would be to refrain from making a rash decision and instead engage in professional risk management to effectively preserve and increase the portfolio value.

So far, active risk management has played only a bit role in the real estate industry. For many decades, real estate had been considered an inflation-resistant, stable-value investment. However, in view of the real estate bubbles that have burst in recent years, shocking the global economy and financial industry, institutional and private real estate investors alike have started focusing systematically on risks. Efficient risk management does not mean trying to avoid risks altogether. Rather, the purpose is to achieve the investment targets on a long-term basis.

Using risk as a production factor

Centuries ago, the term “risk” – in an insurance context – was defined as the product of the probability of occurrence and the loss amount. This is partly why the term still has a negative connotation, implying hazard, danger or probability of loss in connection with an uncertain project. For many disciplines, this interpretation of risk is too narrow. By contrast, Eastern cultures consider the term from a broader perspective. For example, the Chinese term for risk – “wei-ji” – consists of the pictograms for “opportunity” and “danger.” In China, risk is not construed as a constriction that needs to be avoided, but as a natural interaction of potential profit and loss.
Some economists go even further and regard risk as a production factor, the use of which is compensated with a risk premium. On the other hand, risk avoidance causes a standstill, which amounts to a setback in a developed national economy. Australian author John Marsden grasped that total risk avoidance actually generates new risks, “The biggest risk is to take no risks.” Thus, the objective of efficient risk management is to make conscious use of opportunities and risks in order to achieve defined investment or enterprise goals as effectively as possible.

Current economic situation calls for risk management

When dangers are few, the motivation to manage risks usually remains low, especially if this would involve more effort and costs. Nonetheless, we believe that real estate investors should increasingly brace themselves for a changed reality.

Future value development could well be impaired by several factors: first, the interest rates will hardly drop any further and eventually they will go up again. Second, the per-capita area consumption, which had grown for decades, has reversed and is limiting further domestic demand. Third, excess supply in commercial and residential real estate is likely to spur tougher competition. And fourth, the drive to modernize is affecting more and more usage types, which will generally have a severe impact on older properties. So whoever would still seek to exploit opportunities in the real estate market would do well to embrace this new reality.

"Efficient risk management does not mean trying to avoid risks altogether."

Available space waxes and wanes in line with the economic cycle. The property market cycle – ideally represented as a sine wave – consists of four different stages: expansion, contraction, recession and recovery.

During the expansion phase, demand for space rises dramatically, often triggered by a recovery of the economy as a whole. Absorption rates rise; vacancy rates drop. Construction activity is brisk, but only a limited number of real estate projects are completed due to the long production times. This positive sentiment is then followed by a contraction in which falling property demand coincides with higher vacancy rates due to the completion of many development projects. The result: rents fall, leading to a recession. This worsens the situation in the real estate market even more, inevitably pushing down prices. In the subsequent recovery phase, low rents and greater demand for space drive up absorption again.

**Systematic risk affects all properties**

Supply and demand in property markets is determined by economic, societal and political factors. Some factors can be measured using various statistical methods, revealing the general direction of their impact. To give an example: empirical studies show that, contrary to widespread belief, the overall business cycle, income trends and job market conditions drive construction volumes far more than interest rates or population growth.

Once an analysis is conducted, the results are used to forecast the future development of the real estate market and gauge the systematic risk of real estate investments. Systematic – or market – risk, is risk that affects all real estate properties equally. It cannot be diversified away in a real estate portfolio.

**Location and property risks affect single properties**

While market risks apply to entire asset classes, and not just single investment properties, a location analysis identifies the upside potential and downside risk inherent in the property’s specific location. Analyses distinguish between macro and micro location factors. The macro location is the broader region where a parcel of land is located as well as its catchment areas and zones of influence. Typical macro location factors include economic structure, available space, rent levels, and so on. A micro location, by contrast, refers to the parcel’s immediate environs, where factors such as public services, transportation access and emissions predominate.

A property analysis shifts the focus to an individual property’s quality and specific characteristics. The upside and downside potential depends on the condition of the land, the structural condition of the building(s), the technical features and legal situation.
Two-dimensional approach improves visualization

Market, location and property analyses can obviously be examined in isolation. However, it is often fruitful to combine them using a two-dimensional portfolio construction approach. This method aims not to review individual properties, but rather to reveal their mutual interactions with respect to income and risk. Weaknesses in the portfolio are revealed; investors can thus begin developing a strategy to minimize risk exposure.

In a popular two-dimensional market/property matrix, key risk factors are selected, weighted and scored on a scale of 0 to 100, where higher scores mean more favorable conditions (e.g. high opportunities with low risk), and lower scores less favorable ones. The weighted scores for individual risk factors are added together to get one score for a property’s market potential and another for its property potential. These scores can be visualized in a nine-field matrix (see figure) that can be used to develop risk-specific investment and divestment strategies.

Prepare portfolio for difficult times now

When developing risk strategies, it helps to remember that investors have little control over market factors. They have far more influence over property factors, though. Market potential scores may be low at certain phases in the real estate market cycle. Currently, we are in a contraction phase, in which low interest rates are slowing the overall downturn.

However, the coming years are forecast to bring rising vacancy rates and a rather sluggish economy (see article on page 6, “The opportunity of risk management”). A professionally designed market/property matrix can help prepare real estate portfolios for difficult times by identifying opportunities to take profits and increase value. Investors who address this issue now will be perfectly poised for the next phase in the real estate cycle.

The right strategy: matrix of potential

Visualizing market, location and property potential

Possible strategies

1. Sell, at fair price if still possible
2. Perform construction to make targeted improvements to property conditions
3. Focus on returns, carefully observe market developments
4. Keep property due to favorable return expectations; consider profit-taking in case of overheating
5. Actively observe market developments: if positive, make additional property investments; if negative, consider selling the property

Source: K. M. Maier et al. “Risikomanagement im Immobilien- und Finanzwesen”, UBS
A real estate investment’s overall risk can be broken down into a market-specific and a property-specific component. In portfolio theory, the first risk is termed **systematic risk** and includes items such as economic risk, inflation, regulatory risk and interest rate risk (see article on page 12). The second component consists of **non-systematic risks** that reside within the local economy (such as a region’s purchasing power) or within the property (such as location or rent default risk). As non-systematic risks are specific to a property, they tend to occur in isolation. Consequently, they – unlike systematic risks – can be reduced through portfolio diversification.

**Same return, lower risk**
Risk diversification thus involves distributing (non-systematic) risks among various investment properties. Everyone knows the danger of putting all your eggs in one basket. But what does an optimally diversified real estate portfolio look like? Harry Markowitz developed an analytic approach for efficient portfolios in the 1950s (Portfolio Selection). According to this approach, a portfolio is considered optimally diversified if no other portfolio composition generates the same income (expected return) at a lower risk (standard deviation) or more income at the same risk.

It sounds simple in theory, but is hard to implement in practice. Real estate investors should nevertheless attempt to diversify their direct investments based on different criteria. Their goal should be to mix up their real estate holdings based on location, usage and property characteristics (age, size, quality and tenant structure). The more dissimilar individual properties are in a portfolio, the less impact a property-specific risk will have within the portfolio.

High investment volumes, complex real estate management and illiquidity are potential obstacles to adequate diversification in direct real estate investments. It takes far less money to invest in a real estate fund solution.

**Diversification within Swiss real estate funds and equities**
Broadly diversified real estate funds offer the advantage of virtually eliminating property-specific risks at the portfolio level. However, our calculations show that returns on listed Swiss real estate funds correlate strongly with one another despite having different geographic or sectoral focuses. That means it is almost impossible to diversify risk by region or sector with a portfolio made up of different real estate funds. Real estate fund performance is primarily determined by systematic risks such as economic development and interest rates, which cannot be diversified away at a state level. Calculations for Swiss real estate equities produce the same results. Investors are still advised to add several real estate funds or equities to their portfolio as this...
is one way of reducing non-systematic risks present at the individual security level. This includes, for example, the investment strategy and the quality of fund or senior management.

Rely on different asset classes
A combination of Swiss real estate funds and real estate equities, not being fully correlated, still offers ways to diversify away non-systematic risks at the individual security level. Here, the equity allocation in the portfolio is determined by the investor’s risk sentiment and capacity. Real estate stock corporations are different from real estate funds in that they are more leveraged and manage their portfolios more actively. As a result, real estate equities average higher yields but also carry higher risks than real estate funds.

“A staggered market entry can also improve a portfolio’s risk-return profile.”

Finally, real estate investments abroad also provide additional opportunities for risk diversification as this lowers the portfolio’s market-specific risk. Foreign investments, however, harbor currency, inflation or specific country risks that require extra costs to hedge.

A staggered market entry can also improve a portfolio’s risk-return profile. Given the highly cyclical nature of real estate investments, staggering the market entry can reduce the risk of an unfavorable investment.

Mix real estate into the traditional portfolio
Real estate investments can clearly improve the efficiency of a traditional portfolio consisting of (global) bonds and equities since this kind of portfolio has relatively little correlation with directly held properties or listed real estate. Academic analyses and investor experience indicate that integrating a real estate allocation of only 5–15% in a mixed portfolio can clearly improve risk-return ratios. The higher an investor’s risk tolerance, the lower the allocation of real estate in the portfolio, and vice versa.

Lower risks through diversification
Risk-return profile of equally weighted portfolios between 2000 and 2016

Explanation: From 2000 to 2016, adding direct real estate investments to real estate portfolios resulted in a higher return at lower risk (comparison P1 and P2). The inclusion of foreign real estate equities increased returns and risk (P3). In a mixed portfolio, investments in real estate helped to reduce risks compared to a traditional portfolio (comparison P5 and P4).

Note: The risk-return profile of each portfolio depends on the investment period. Swiss real estate funds, for example, performed very well due to falling interest rates. Once interest rates increase, however, their performance should be considerably lower.

Source: Bloomberg, UBS
Interest rate risks are considered market risks and, according to portfolio theory, as systematic risks they cannot be eliminated by diversifying an investment portfolio. However, investors are not helplessly exposed to interest rate fluctuations, but can soften their impact through focused interest rate management.

Interest rate management protects against multiple risks
Interest rate management has several occasionally competing goals: to optimize cash flow depending on liquidity needs, to control interest rate risks with suitable tools and, finally, to minimize interest costs.

All these goals can be achieved with traditional instruments and derivatives. Traditional instruments offset market rate fluctuations by locking in rates for various credit periods. Derivatives (e.g. interest rate swaps), by contrast, control interest rate risks over long and short-term horizons.

Traditional instruments
Traditional instruments for managing interest rates select specific loan types (variable or fixed-rate mortgages) for interest rate hedging. Prospective mortgage takers should always answer themselves three questions: Can I afford to make substantially higher interest payments (interest rate risk)? How great is the risk that I will have to refinance my mortgage at the worst possible time (refinancing risk)? How high is the penalty for terminating the mortgage agreement prematurely (lock-in risk)? Borrowers with a Libor mortgage bear the full interest rate risk (both positive and negative), but also enjoy relatively high flexibility. A fixed-rate mortgage eliminates the interest rate risk, but comes with higher lock-in and refinancing risk.

A mortgage term is chosen based on the expected interest rate movements, risk-bearing capacity and required financing period. Diversifying mortgage financing by maturity creates a credit portfolio. This reduces the interest rate and refinancing risks and adds flexibility in case a repayment becomes necessary.

At present, different maturities have very similar interest costs (flat yield curve). Fixed 10-year mortgages offer the greatest protection against interest rate changes for relatively little extra cost. But even conservative borrowers can benefit from having Libor mortgages in their portfolio, especially to counter refinancing risk.

Derivative instruments
Interest rate derivatives can serve as hedges against interest rate risks. They improve predictability and protect against unfavorable interest rate movements. Interest rate derivatives are especially suitable for mid and large caps or real estate companies, because they are usually tailored to the company’s individual needs and

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Signs aren’t pointing toward a rapid rise in Swiss franc rates, but active interest rate management could keep unpleasant surprises at bay. A range of instruments can help.
require a minimum volume. The most important hedging instruments used in real estate include forward transactions or exchange-traded interest rate futures (locking in the interest rate for the investment period) and interest rate options (granting the right to a compensation payment should the reference interest rate differ from an agreed upon interest rate on certain dates).

Swaps are by far the most common interest rate derivatives. In interest rate swaps, the parties exchange – over a specified period – the fixed interest rate set at the start against a floating interest rate applicable on pre-defined days. Libor mortgages, for example, can be “converted” into fixed-rate mortgages for a certain period. In a fixed payer swap – the most frequently used option – the payer pays a fixed rate in exchange for an appropriate Libor interest rate, which finances the variable-rate payment to the mortgage lender.

**Interest rate swap balanced even in negative interest rate environment**

Variable-rate financing that incorporates hedges has been asymmetrical since the introduction of negative interest rates. Due to the zero floor in the lending business and in private bank accounts, banks do not pass on negative interest rates for Libor mortgages, i.e. mortgage borrowers receive no interest payments from banks at the current Libor rate of –0.75 percent. Banks will, however, demand a negative Libor from mortgage borrowers in swap transactions. As a result, a hedged variable financing strategy is more expensive today than in a positive interest rate environment – and the farther interest rates drop below zero, the more expensive hedging becomes.

However, even a negative interest rate environment harbors the risk of rising finance costs as interest rates go up. A swap transaction works as a hedge and remains even when interest rates are negative because the payable fixed interest rate is approximately the same as the expected variable interest rates. The current negative interest rate environment thus produces lower or even negative fixed interest rates. Furthermore, the popularity of fixed payer swaps among companies seems to stem partly from the flat yield curve, which means the fixed interest rate is only marginally higher than the current variable rate (low maturity premium). Although interest rates do not appear likely to increase any time soon, many companies have decided not to leave interest rate risks to chance, but to manage them actively, even in the current environment.

**Asymmetry with negative interest due to zero bound**

Interest rate risk hedging with payer swap

Assumptions: 10-year swap at 0.75% and margin for mortgage loan of 1.00%

**Scenario A: 3-month Libor CHF = 0.25%**

**Scenario B: 3-month Libor CHF = –0.75%**

Asymmetry with variable interest rates:

1. Binding 0% floor: mortgage bank does not pay negative interest.
2. No floor: client pays applicable negative interest.

Source: UBS
Condominiums and single-family homes

Pulled in centers’ wake

Matthias Holzhey and Maciej Skoczek

Home prices in the periphery began rallying in 2012, but are now losing steam. The lack of macroeconomic momentum makes the direction of future price movements unclear. Local risks and opportunities can be identified with some simple rules of thumb.

Large economic centers and their surrounding metropolitan areas are the clear winners of the current boom in residential homes. Home prices here gained around 50% in real terms from 2004 to 2012. While the greater metropolitan areas also saw prices surge, the cumulative increase was 15 percentage points lower than near the city center in the same period. In peripheral metropolitan areas, or municipalities 30–45 minutes' drive from the nearest major economic center, home prices were still 25% higher on average. Only in Greater Geneva and a few other big cities did home prices grow faster in the periphery than downtown.

Periphery has caught up

The price divergence made home purchases in the periphery relatively attractive for some time. All good things must end, though, and in 2012 the trend changed, while prices stayed essentially stagnant in the centers and core metropolitan areas. Gains still remained relatively strong in municipalities that were more than 30 minutes' drive from the centers. Bucking this trend were the relatively inexpensive cities of Bern, Basel and St. Gallen, where downtown prices continued to outpace prices in the metro area.

Last year, overall and on a national level, home prices rose once again, condominiums increased roughly 1% and single-family homes went up nearly 1.5%. A slight decline in mortgage interest rates gave the housing market a boost. Usage costs (interest costs, maintenance and

1% discount for each minute driven

The driving distance to the nearest economic center affects prices in municipalities. Prices are 5–15% lower than in the center when the commuting time is 15 minutes or less. However, the average price discount jumps to 25–40% for a drive of 30 minutes or less. After that, the price reduction can reach 45%. But only one out of six commuters spends more than 45 minutes enroute. Consequently, prices in these peripheral municipalities are not heavily affected by their distances from economic centers.
provisions) of owner-occupied housing dropped 2–3% year-over-year. However, prices grew more slowly than the year before, confirming the overall trend toward stabilization in owner-occupied home prices.

**Uncertainty before the turning point**
The slightly worsened economic environment may block more price increases this year. First, mortgage interest rates are not expected to fall further. Second, population growth will probably stabilize below the level seen in previous years, while housing construction will stay as high as before. For this reason, we expect to see zero nominal growth in condominium prices and marginal price growth of 0.5% for single-family homes.

After 17 years of rising prices, it’s not clear where the current real estate cycle is headed.

A significant correction is highly unlikely given the general macroeconomic situation – Switzerland’s economy is internationally competitive and the European Central Bank is keeping the financial floodgates open. On the other hand, though, few factors favor continued price increases in downtown or peripheral areas.

**Local risks and opportunities**
As we approach the end of this price cycle, local pockets of upside potential remain, created by regional differences in the owner-occupied housing market. But there are clear signs of overreach as well. Local risks and opportunities can be gauged using three criteria: Is it cheaper to buy than to rent? Are owner-occupied homes still economically viable? Is the vacancy rate low? If the answer is “yes” to all three questions, then the local market still has upside potential or will likely experience only a moder-
ate correction in a downturn. However, if the answer is “no” to all questions, then the risk of local price correction is more likely.

**Answers to criteria vary greatly by region**

**Criterion 1: Is it cheaper to buy a home than to rent a comparable apartment?**

A condominium is considered expensive, on average, if its purchase price is more than 30 times the annual rent for a comparable apartment. Once the multiplier reaches 35 or more, rental costs become much cheaper than the usage costs of home ownership. This criterion is met by most municipalities in the core cities of the Zurich and Zug metropolitan areas. A home purchase near the city center only makes financial sense in Bern and St. Gallen. In all other cases, it is nearly impossible to save money by purchasing residential property with a short commute of 15 minutes or less. Home purchases become financially attractive out in the extended metropolitan areas. In these peripheral regions, purchase prices are still 25 to 27 times the cost of renting. If mortgage interest rates were to increase 1 percentage point, a home purchase would only remain attractive in the peripheral municipalities.

**Criterion 2: Can workers in the area afford to buy a home?**

Once a home costs more than six times a household’s gross income, it becomes impossible to achieve a loan-to-value ratio of 80% under the banks’ economic affordability rules (see article on page 22). An average household can no longer borrow this much money for a medium-sized home in core cities (except for Bern, Lucerne and St. Gallen). However, once downtown driving times reach the 15-minute mark, an 80% loan-to-value ratio becomes economically viable again, except near Lake Geneva. Even in Geneva’s periphery, the price-to-income ratio is still almost six, which makes homes nearly unaffordable.

**Criterion 3: Is there excess demand (or at least no supply overhang) in the local housing market?**

Average vacancies in the owner-occupied housing market are only 0.6% nationwide. The supply overhang is currently limited to the rental housing market. However, the price pressure will inevitably spill over into the owner-occupied segment as declining rents in new buildings make rental apartments more attractive relative to condominiums. Median vacancy rates (owner-occupied homes and rental apartments) across all the municipalities in the metro area peripheries are currently the highest, at 1.6% – roughly double the rates in the core centers – and have also increased the most in recent years.

**Laggards with promise**

Upside potential is typically found in regions and municipalities with good locations where prices lag behind the average for their metropolitan areas. No municipalities in the most central suburban belts of Zurich, Zug and St. Gallen meet all the criteria; they all exceed the upper limits for vacancies, price-to-income ratios or price-to-rent ratios.

The city of Bern has the largest population of all municipalities that fulfill all three risk/opportunity criteria. A high concentration of promising municipalities can be found in the suburban belts of the cities of Basel, Lausanne and Lugano. The most attractive municipalities in the economic area of Zurich are to be found in the Zurich Unterland and here and there in the Weinland and the Freiamt region.

**Overvalued lakeside municipalities and risk-laden commuter towns**

Lakeside municipalities near city centers are particularly prone to violate all of the risk/opportunity criteria. At most lakeside locations, owner-occupied homes are neither economically viable for the average household, nor are they
attractive relative to rental apartments. Here, the average price-to-income ratio is 7.5 and the average buy-to-rent ratio is 38. In addition, an above-average proportion of vacant apartments increases the medium-term risk of a price decline.

Most commuter towns in the extended metropolitan area and its peripheries make up the second high-risk group. They are focused in the Fribourg regions of La Sarine, La Gruyère and Glâne-Veveyse and in the region of Aarau. In many of these municipalities, supply has far exceeded demand in recent years. Also, strong price increases have caused an imbalance between home prices, incomes and rents, even if the absolute levels fall short of the numbers in municipalities near the city centers.

Lakeside municipalities with higher risks

Metropolitan area types by driving time to city center

Selection of municipalities with risk and risk potential

Each community is assessed by first evaluating the three risk/opportunity criteria relative to the market average for the metropolitan area category. What may still be economically viable in the core, for example, may be a warning sign in the periphery. Second, income and vacancy data are smoothed using driving distances to surrounding municipalities so that the result is not distorted by outliers. Third, a strong increase in risk criteria over the last ten years is considered a risk signal, similar to a very high but stable value. Fourth, in order to identify high-potential municipalities, an above-average location is a condition (measured by access to jobs, market liquidity and land scarcity). Only municipalities with more than 1,000 residents are listed.
Apartment buildings

Vacancies are part of the game

Matthias Holzhey and Elias Hafner

Investment pressure drives up prices and vacancies. Vacancy rates are an imprecise measure of risk, however. Vacancies among apartment buildings in metropolitan areas have risen, but investments in these properties are still attractive. Also, renovation projects near city centers offer additional returns.

In Switzerland, over 50,000, or around 2% of rental apartments are vacant – double the low from 2009 and near the all-time high from 1998. Back then, total vacancies among rental apartments added up to nearly 3% since there were fewer units.

**Hunt for returns fosters imbalances**

Two factors are driving the significant rise in vacancies. First, demand growth has slowed down even more in 2016. Population growth has been dropping steadily from 1.3% in 2013 and probably came in just below 1% last year. This year, we expect population growth to only reach 0.9%. Vigorous construction is the second reason for the significant rise in vacancies. From 2011 to 2016, permits were issued for 53,000 to 58,000 apartments a year and the latest figures on building permit applications show no signs of a slowdown.

An important driver of housing construction is continued high demand for investment properties. Rental apartments have made up a rapidly growing share of construction projects in recent years. Institutional investors such as insurance companies and pension funds have been particularly active about buying development projects and paying ever higher prices amid the prevailing shortage of investment opportunities. In 2016, top net returns in Switzerland’s major cities continued to drop from an average of 2.8% to 2.6%, which implies an increase in net present value of 6%. Net present values for prime properties have increased nearly 15% since the Swiss franc was unpegged in early 2015 and an impressive 50% since 2008.

**Vacancy rates understate risks**

Low returns for apartment buildings in major Swiss cities have forced investors to look for higher returns in less central locations. Income losses seem to be moderate here in spite of increased vacancies. However, vacancy rates are an imprecise measure of a real estate investment’s default risk.

**More municipalities with high vacancies**

Number of municipalities by vacancy rate in rental apartments

Source: FSO, UBS
Rent defaults are higher
A vacancy rate of 2% does not translate directly into an expected rent default rate of 2%. The average rent default rate is about 1–1.5 percentage points higher since payment defaults by tenants or renovation-related rent defaults are not recorded as vacancies.

Concentration in submarkets
Residential vacancy rates can vary tremendously depending on region and segment. One-fourth of all communities currently have a vacancy rate of at least 5% in rental apartments, compared to one-sixth only three years ago. Furthermore, vacant apartments are often found in properties at bad microlocations, in subsegments such as luxury apartments or vacation rentals, and in new buildings. The vacancy risk is negligible for rental apartments with rents considerably below market rates, while vacancy rates in new buildings are around 10%. Especially in relatively illiquid submarkets (infrequent changes of tenants), investors will have to prepare for a drawn-out and therefore costly marketing process.

Likelihood of high default rates rises faster than vacancies...
Rising vacancy rates also lead to higher rent default rates. Data collected for loan applications shows a 10% rent default rate for 6% of properties in 2011. Currently, the default rate for these properties is between 9 and 10% even though the vacancy rate has “only” gone up half a percentage point in this period. The percentage of properties with 20% rent default rates has doubled, though, and is currently almost 6%.

... when portfolios are smaller
Insufficiently diversified, small-scale real estate investors in particular must pay proper attention to liquidity management. The more apartments a portfolio contains, the lower the risk of a significant rent default. A rent default rate of 20% will occur almost twice as often in a property with five apartments as in one with 10 apartments. And if there are 20 apartments (in an average, marketable property), it is unlikely that four apartments will be vacant for an entire year, even if the local vacancy rate is 10%.

Rents come under pressure
Finally, rising vacancies give tenants more leverage and the ability to negotiate lower rents. The greater supply has already put rents under pressure. For the first time since 2000, asking rents fell 1.3% year-on-year in 2016, while rents in new buildings fell an impressive 3.4%. Persistent vacancies generally reduce rents. Communities with a vacancy rate of over two percentage points above average have 10% lower rents than communities with an average vacancy rate.

Investors in Switzerland will once again have to record higher vacancy rates and rent defaults in their income statements. The average yield premium outside metropolitan areas still provides a sufficient buffer against vacancies. However, the extra return can quickly dwindle away if the portfolio is small, regional vacancies push down rents or the property is part of an illiquid market segment.

High upside potential from renovation
Instead of purchasing additional, expensive properties in this challenging market environment, another option is to put the capital in the existing building stock. Whether or not this is profitable strongly hinges on the potential for rent increases and the contribution of land to the property’s total value.

Potential for rent increases
Asking rents have increased 25% in the last ten years and an impressive 50% since their low in late 1999. A tenant change offers a significant opportunity for a rent increase, especially if the outgoing tenant resided there for a long time. Asking rents in the Lake Geneva region are at least 50% higher than existing rents. We also see greater potential for rent increases in Ticino and around the city of Zurich. In these locations in particular, investors can often boost a property’s value considerably by completely renovating the
property and then renting it out again. Local laws, however, sometimes hem this strategy. For example, at Lake Geneva, the high premiums are the direct result of heavy-handed regulations and conditions. Asking rents in large parts of the Central Plateau region and the periphery are only barely higher than existing rents and there is little potential for renovation.

Share of land value
A higher share of building value makes it even more difficult to drive value through renovation. Purchasing a property in a less favored location will result in considerably more brick and mortar, that is, a larger number of apartments than for the same outlay near the city center. More apartments means higher operating and maintenance costs and higher costs in a renovation scenario. The associated expenses can be three to four times as much as equal-value properties in central locations. Even with an assumed rent increase of 20%, these properties would be uneconomical to fully renovate (investing one-third of the building value) since rents could not be raised enough to recoup the building costs. By contrast, though, healthy returns can be had by renovating centrally located properties. If rents can theoretically go up 20%, a full renovation in a major city can generate a return of over 5% on the additional investment without leverage. This is much higher than the initial net return on the purchase of another property at the same location.

Regional analysis
Caught between disappearing yields and higher vacancies, investors wonder what regions offer the best risk-return profiles for residential investment properties. For guidance, it may help to compare local valuations, market risks (such as vacancy risks) and fundamental prospects for the future (such as demographics and long-term economic growth potential). Regions with medium to high valuations are the most attractive economic regions for investments in apartment buildings. However, there are more and less attractive areas also within regions with relatively low valuations and among the top locations.

Valuation category: low
Some of the residential investment properties in remote regions still offer gross initial returns of well over 5%. This carries a price tag in the form of a higher vacancy rate in rental apartments: from 2014 to 2016, vacancy rates in locations with low valuations rose over one percentage point, the strongest increase of all valuation categories, and reached almost 4% on average. Attractive economic regions include La Broye, Glâne-Veveyse and Willisau. They boast attractive valuations, comparatively low vacancies and the youngest population of all regions of this category. The regions of Uri, Solothurn, Mendrisio, Bellinzona and Sion, on the other hand, not only have significantly older populations, but their economic prospects are duller and their market risks higher despite similar or even better valuations.

Valuation category: medium
Sursee-Seetal, La Sarine (Fribourg), Gros-de-Vaud feature good economic prospects and a high natural population growth. In addition, valuations of apartment buildings and vacancies are moderate in these regions. In the Gros-de-Vaud region, only one in every 100 rental apartments is vacant; the average is three for the regions with medium valuation, and this number is set to increase, since in no other valuation category is housing stock growing as fast as here. In Innertwald and Knonaueramt in particular, the new supply of rental apartments will most likely not
be absorbed. The risk-return ratio also has very little appeal in the regions of Locarno, Chur and St. Gallen.

Valuation category: high
These locations offer a certain protection during a sustained economic slowdown and a downturn in the real estate market without demanding premiums as high as in top locations. Zurich’s business regions of Limmattal, Glattal-Furttal and Nyon boast enormous growth potential in the local economy and relatively low vacancies. By contrast, apartment homes in the Lucerne business region are relatively expensive and vacancy rates will probably rise considerably given brisk construction. The latter also applies to the Zurich Oberland region, which already has the highest vacancy rates of rental apartments in this valuation category.

Valuation category: top
Returns in top locations are meager, which is why investments are extremely susceptible to interest rate changes. Among the more expensive regions, Lausanne holds the greatest appeal for investments in apartment buildings. The region around the “Olympic Capital” offers low vacancy risks, good economic and demographic prospects and relatively moderate valuations.

Attractive regions for investments in apartment buildings
Within the valuation categories

Source: UBS
The effect of declining mortgage rates without debt caps can be observed in Sweden: From 2011 to 2015, mortgage rates dropped from 4 to 1.6%, and home prices skyrocketed at annual growth rates of up to 15%, resulting in total price increases of almost 50%. Lending caps and anticyclical capital buffers for banks to contain the price boom have proved ineffective. Not so in Switzerland, where interest costs have dropped by almost half. Here, the banks’ self-regulation with respect to mortgage lending has fulfilled its purpose. The pull of constantly declining mortgage interest rates on home prices has been curbed, forestalling the further accumulation of interest rate risks.

This has, however, made home purchases more difficult for a significant portion of the population. Outside cities, low financing costs mean that housing costs for home purchases are lower than for comparable properties. However, households from lower income groups or young families are unable to benefit from this saving opportunity, as they do not fulfill the affordability rules. Arguing that households with lower income should not be excluded from the home market, there is mounting pressure to soften lending restrictions.

Market situation relegates importance of lending cap
On the one hand, a lending cap on loans minimizes the potential loss in the event of default. Lending of more than 80% of the real estate value is considered risky. In the past, price corrections of more than 20% have occurred in Switzerland and in other countries every 15–20 years. On the other hand, the application of an imputed interest rate reduces the probability of default on a mortgage. If the borrower is highly indebted, unforeseen costs, higher interest rates or reduced income can quickly result in inability to pay. To minimize this risk, the banks’ affordability calculation stipulates that even for an interest rate of 5% (plus maintenance costs and provisions amounting to approximately 1.5 percentage points), the burden on gross income should amount to no more than one third. Given this rule, debt should not exceed five times gross annual income.

Until as late as 2006, the affordability rule was mainly hypothetical. The average income was sufficient to finance a medium-range home. Buyers were merely expected to pay 20% of the purchase price from their own assets. In the current market situation, the affordability rules limit the mortgage granted to an average household to just under 70% of the purchase price and therefore necessitates significantly more capital than only 10 years ago. Thus, the lending cap of 80% of the purchase price is currently of secondary importance to most households.

Imputed interest a bulwark figure
For these reasons, the imputed interest rate is subject to criticism. At 5%, it is currently an outlier in the interest landscape. On July 1, 2016,
the interest curve of Swiss Confederation bonds had a negative yield for the first time in history. Investors had to pay CHF 102 in order to receive only CHF 100 in 2066. The yields of bonds with shorter terms to maturity have also fallen to rock-bottom levels that would have been unthinkable until recently. At present, hardly anybody expects any major rise in interest rates, as the excessive debt around the globe could have a catastrophic impact on the financial system if interest rates were to rise.

However, the amount of the imputed interest rate as a security buffer against sudden interest rate rises is not determined precisely, even though the Capital Adequacy Ordinance 2011 of the Swiss Confederation and banks’ self-regulation measures granted it official status. According to the self-regulation, interest should be aligned with the long-term average of mortgage interest, which offers considerable leeway for calculation. Depending on the observation period and the term to maturity, the long-term average amounts to 4.5–5.0%. Since 2000, however, the moving average of the mortgage interest has only amounted to about 3%. Long-term mortgage interest rates were last 5% some 15 years ago.

**Little leeway for higher lending**

There is little debate that interest and maintenance costs should not exceed one third of gross income. After all, according to the Household Budget Survey (HBS) of the Swiss Confederation, one third of gross income corresponds to about 50% of disposable income. If, however, half of disposable income were spent on home financing and maintenance, the middle class would have to sacrifice vacations, eating out, hobbies and additional insurances. Also, unforeseen expenses could quickly result in excessive household debt. Still, this does not suggest what the optimum imputed interest rate should be.

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**Rising interest rates limit financial leeway**

*Breakdown of household budget by expense group*

- **Imputed interest rate = 5%**
  - Debt is five times the annual income
  - Mortgage interest rate: 1.5% and 3.5%
  - 18% Basic needs, 28% Housing, 26% Deductions, taxes, fees and insurance, 40% Discretionary income

- **Imputed interest rate = 3%**
  - Debt is seven times the annual income
  - Mortgage interest rate: 1.5% and 3.5%
  - 26% Basic needs, 40% Housing, 28% Deductions, taxes, fees and insurance, 6% Discretionary income

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* Housing: Usage costs of an owner-occupied home with an 80% loan-to-value ratio and minimum required income according to economic viability requirements.

Source: FSO, UBS

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UBS Real Estate Focus 2017 23
If the imputed interest rate were reduced to 3% – as some banks wish – a household would be able to obtain a home loan worth seven times its gross income. At the current mortgage interest with medium duration, housing costs (including amortization and maintenance) would thus amount to about one third of disposable income. Though this could currently be financed without any major consumption restriction, an interest rate rise of less than two percentage points would already push housing costs over half of disposable income, which would not be affordable. By means of a long-term financing scheme, the risk could be postponed, but not eliminated. Increasing the amortization to compensate for additional lending would also be hardly possible in view of the limited financial leeway.

**Fixed imputed interest rate guarantees stability**

With the conservative imputed interest rate of 5%, the security margin is relatively comfortable. But even in this case, an interest rate rise of two percentage points would cause a substantial added burden if the lending limit were exhausted – a burden that could not be financed without reducing consumption. High additional expenses, e.g. for childcare, could quickly evolve into a problem. As a general rule, the lower the imputed interest rate, the higher the risk of household insolvency should interest rates rise.

Easing the affordability standards would massively boost home prices. Downward-flexible imputed interest rates would lead to a new balance on the home market, with higher debt and higher prices. Thus, households with low income would again be debarred from the home market, and the dependence on continually low interest rates would be even more dangerous. By contrast, a fixed imputed interest rate pegs home prices to household income development, stabilizing the financial and real estate market in the long run. The level of this imputed interest rate reflects banks’ risk appetite. It does not reflect the expected mortgage interest.

A bank needs to back exceptions from its own mortgage lending regulations with more capital. In practice, however, the banks’ lending rules already leave plenty of room for interpretation. Exceptions are made frequently: in some cases, imputed interest rates of 4.5% are already being applied. According to the SNB, mortgage volume exceeds gross income by more than five times in 40% of all cases, meaning an imputed interest rate of less than 5%. Even the income underlying the affordability calculation is not hardwired. The banks are free to define the “sustainable income and expenses of the borrower” at their own discretion.

“Easing the affordability standards would massively boost home prices.”
Housing demand depends on the age structure of society and residential population trends. There are three key indicators driving forecasts of regional housing demand: immigration, natural population growth and future household formation, with the latter derived from today’s demographic structure.

A declining population bodes ill for real estate investments. Vacant apartments are rarely demolished, which pushes down real estate values. As borne out by data from the Swiss real estate market, in municipalities with shrinking populations, the average price growth has been a tepid 20% since 2004. In municipalities with a growing number of residents, the price increases were significantly higher, averaging 40%. That said, particularly strong rises in population did not always correlate with higher price or rent growth. Population growth may be a major prerequisite, but it does not guarantee the success of an investment.

Immigration drives population growth nationwide
Switzerland’s population growth depends on the number of people migrating to and from the country. Its net immigration as a five-year average has been consistently positive since the end of World War II, with the exception of the economically stricken 1970s. Switzerland will likely continue to have a net influx of immigrants due to its high competitiveness and attractive wages. However, it remains to be seen how strong growth will be – whether it will barely nudge above zero or, as currently is the case, go as high as 1%. Immigration since the turn of the millennium, for example, has been underestimated by a margin of over 700,000 people.

According to the current reference scenario provided by the Swiss Federal Statistical Office (FSO), 60,000 more people will be moving to Switzerland each year than leaving it until 2030. As a result, the population will rise from today’s 8.4 million to 9.5 million, which translates into an increase of 13%. Based on this scenario, the population in the Cantons of Thurgau and Waadt will grow 17%, and a whopping 23% in the Canton of Fribourg. Even the cantons at the other end of the scale, Uri and Appenzell Innerrhoden, still show growth of 2% – an important signal for investors at these locations.

Population to decline in a third of the cantons without immigration
Today’s age structure makes it relatively easy to reliably forecast the population’s natural growth. In a migration-free scenario, the population will peak at nearly 8.6 million in 2027 and then begin to decline. Even in this extreme scenario, though, the population in 2030 will still be higher than today’s level.

If we exclude migration, however, the aging of society will take its toll in around a third of the cantons. In the two Basels and in Bern, Glarus, Graubünden, Schaffhausen, Solothurn and
Ticino, the number of residents might drop 3.5% from today by 2030. Clearly, housing demand in these cantons will depend significantly on immigration. In the two Appenzells and in Jura, Nidwalden and Uri, population numbers would also contract without international immigrants as young people will likely continue to relocate to other cantons.

At the top end of the range are cantons with young populations – Fribourg, Geneva, Lucerne, Waadt, Zug and Zurich. These cantons have growing populations even with zero immigration, offering real estate investors protection against downside risk.

**Shrinking household size boosts number of households**
The aging of society offers opportunities for investors even in the cantons that are affected the most. As residents get older, the average household size shrinks, which means that more apartments are needed per capita – in other words, the number of households is set to outgrow the population in the future. At a regional level, that means that, save for Basel City, even cantons with a declining population (in an extreme scenario) will not see the number of households drop. To see an actual drop in the number of households and, consequently, in housing demand throughout Switzerland, the population would have to shrink by over 5% by 2030.

Declining household size drives demand for small housing units. Based on the FSO’s reference scenario, the main demand group for small apartments will grow three times as fast (+18%) as the main demand group for large apartments (+6%) and considerably faster than the total population (+13%) by 2030. Even in a zero immigration scenario, the demand group for small apartments will increase 3%, while demand for large units will go down 5%.

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**Dim prospects for large apartments in the periphery**

Change in main demand group by apartment size* and population scenario, until 2030, in %

* The main demand group for large apartments is aged 0 to 19 years and 45 to 59 years; the main demand group for small apartments is aged 25 to 39 years and over 70 years.

Reading example for the Canton of Jura:
By 2030, the main demand group for large apartments (red dot JU) will shrink in both scenarios: by 13/percent in the scenario without migration (x-axis) and by 3/percent in the reference scenario of the FSO (y-axis). By contrast, the main demand group for small apartments (brown dot JU) will grow in both scenarios: by 19/percent in the scenario without migration (x-axis) and by 21/percent in the reference scenario of the FSO (y-axis).

Source: FSO, UBS
High potential demand for small apartments

Switzerland’s children typically spend their first few years in medium-sized (3–4 rooms) to large apartments (five or more rooms). After these first few years, the average number of rooms in the family home goes up as parents tend to move into larger apartments. The first peak in the number of rooms is reached by the end of adolescence. Until they are in their early thirties, people often live in one or two-person households (1–2 rooms) or share a medium-sized apartment with others. The average number of rooms demanded per apartment goes down as a result.

When people start a family, the number of rooms goes up again. The median age of first-time home buyers is around 40 years old. The second peak in the number of rooms is reached when people are in their mid to late 50s. After that, the percentage of medium-sized to small apartments increases with the population’s age.

The baby boomers who were born during the highest birthrate years are now anywhere between 50 and 60 years old. They are about to reach the second peak if they haven’t already reached it. In the coming 15 to 30 years, they will be riding the downward trend with respect to the number of rooms, which will be a boon to demand for small apartments.

Small apartments are an asset in the periphery

Demand for small and senior citizen-ready apartments will rise substantially. Demand for large apartments greatly depends on immigration and will most likely decline without immigration. Projecting both population scenarios forward until 2045 (FSO’s reference scenario and zero immigration scenario), the discrepancy between housing demand for small vs. large units will become even more pronounced.

The drop in demand for large apartments will be particularly striking in peripheral cantons. At the same time, demand for small apartments in these regions will grow disproportionately and will continue growing even if the population declines in absolute terms. Thus, small apartments provide downside protection against declining housing demand and structural vacancies, especially when investing in peripheral regions.

Greater demand for small apartments due to aging

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Source: FSO, UBS
Office space

Demand slump dims prospects

Matthias Holzhey

Rents, returns and vacancies paint a picture of consolidation in the office space market. But appearances are deceiving. Low employment growth, productivity gains and ongoing construction activity keep the situation from stabilizing. The oversupply is, however, mainly limited to the economic areas of Zurich and Geneva.

There is little cause for optimism when comparing the figures for building permits and investments with the trends in office employment. Even on conservative assumptions, construction outpaced demand by at least half a million square meters from 2010 to 2015. Meanwhile, construction activity has stabilized at a relatively low level. The number of building permits points to almost 1% annual growth in office space. This is equal to the levels in 2007, before the building boom began. Office employment grew roughly 0.2% in 2016, the lowest rate since the financial crisis, and is not expected to pick up considerably this year, either. As a result, the oversupply is not expected to decline last year or this year.

Market in a better state than expected

The office space market appears relatively solid, at least judging from rents, returns and vacancies. Top returns continued to decline last year and now average 2.4% in Zurich and Geneva. As in the residential investment market, participants believe that risks are low at prime locations. Average asking rents in Switzerland were stable overall in the last three years. While vacancy rates are gradually increasing, both asking rents and official vacancy rates are still below pre-crisis levels. Vacancies have increased by less than one percentage point overall since 2011. Existing vacancies increased up to 300,000 square meters, which is equivalent to 15,000 to 20,000 office jobs. This increase has been absorbed, on average, over the last five years. The vacancy risk still seems to be manageable, at least in good locations, even if it takes significant rent discounts to achieve full occupancy at some properties. In Geneva and, to a lesser degree, in Zurich, for example, top rents have been declining steadily. Rents in the high-end segment have been adjusting downward by up to 20% since peaking in 2011 and 2012.

Oversupply strongly concentrated

Annual increase in office space and employment (estimate since 2011), number of jobs

Source: Docu Media, FSG, UBS
Little cause for optimism
The difference between newly built office space and employment growth was almost twice as high as it appears in the data. Even if some of the approved building projects remain unbuilt or are delayed in entering the market, excess supply is not likely to decrease for the time being even if employment growth picks up. Vacancies are particularly likely to increase among B and C class real estate.

Also, office space per work station has shrunk considerably over the last 15 years. Modern open-plan offices only allocate 12 square meters of space to each workstation. In traditional office buildings with a mix of single and multi-person offices, by contrast, the area per workstation is considerably higher, reaching 15 to 20 square meters. Furthermore, companies often only provide 80 to 90 workstations for 100 employees to boost capacity utilization (shared desks). Only 15 years ago, an office building with 1,000 square meters of usable area often held only 50 employees. Now, it can accommodate up to 100 employees.

An average 10% reduction of the space used per employee would free up 10 times the current annual production of office space, creating a structural tenant’s market. While the area allotted per workstation has not (yet) declined this drastically on a broad scale, the trend for smaller offices has reduced space requirements, especially in big companies. This does not help landlords looking for large anchor tenants.

“Office buildings that often held only 50 employees 15 years ago can accommodate up to 100 employees now.”
Regional analysis
Office markets in Switzerland’s largest centers have performed unevenly in recent years. In Geneva, Bern and Zurich, the supply of office space grew faster than demand, while the regions of Basel and Lausanne and Central Switzerland saw demand keep up or even outpace supply.

“In Basel, supply growth is dominated by space intended for large companies’ own use.”

The data from the economic region of Zurich is mixed. The supply expansion outpaced demand growth by a significant margin. This trend is still continuing, although vacancy rates in the city of Zurich have fallen since 2014. Available space remained stable in the greater metropolitan area, too. However, vacancies are probably higher, since larger projects are delayed in coming to market and renovations are underway. Capacity utilization is high at construction firms in Zurich that specialize in renovating office space. Since 2010, the prices for renovating office space in Zurich have grown twice as fast as the Swiss average.

A more positive picture for investors can be found in the cantons of Basel and Vaud and in Central Switzerland. The economic regions of Lausanne and Central Switzerland are Switzerland’s employment powerhouses, which means new office space is readily absorbed. In Basel, supply growth is dominated by space intended for large companies’ own use. The vacancy rate of around 2% signals a lack of larger office properties. Should, however, employment growth in Basel weaken, vacancies are expected to rise once the pharmaceutical and insurance corporations are done consolidating their sites.

Oversupply of large spaces in Geneva
Future anchor tenants are crucial, especially when planning large new buildings. Employment statistics show vast differences among economic centers. In Basel, 90% of new jobs were created by companies with more than 50 employees. In the canton of Geneva, medium and large companies were only responsible for 7% of job growth. Here, contiguous spaces of over 1,000 square meters were particularly hard to market. In the cantons of Vaud and Zurich and as an average for all of Switzerland, medium and large companies contributed around 50% to employment growth.

The comparison is based on annual building permits for office space from 2011 to 2015 and office employment figures from 2011 to 2014, a period of robust economic growth. Judging by the weaker economy and stagnant employment throughout Switzerland, it is safe to assume that demand growth has been weaker in the last two years.

The discrepancy between job growth and office space expansion seems to be biggest in the economic regions of Geneva and Bern. Of all the economic areas analyzed, Geneva reported the strongest annual expansion in supply, growing at almost 2%. At the same time, it also reported the second-lowest employment growth rate, trailing Bern. It comes as no surprise that vacancies have quadrupled in the city of Geneva since 2010. Vacancies in the city of Bern also increased, although the vacancy rate is under 2% and so does not appear threatening.
UBS Swiss Office Space Investment Index

The **UBS Swiss Office Space Investment Index** measures the attractiveness of direct investments in Swiss office space. The index is currently at −0.3, which indicates slightly negative investment attractiveness. We advise caution when investing. However, prospects have improved since the low at the start of 2014.

**Valuation outlook: There are more attractive alternatives**

Despite lower top returns on office space, the attractiveness of office space remains practically unchanged from a valuation perspective. Office investments are very attractive compared to the potential income that could be obtained from safe Swiss franc bonds. Office space at prime locations currently offers about 2.5 percentage points more yield than 10-year Swiss Confederation bonds and between 1.5 and 2 percentage points more than long-term corporate bonds. Yields on Swiss office properties are also not unattractive compared to direct investments in other European cities.

Relative to the dividend yield of the overall Swiss equities market, however, yields on office space are too low. Just 10 years ago, the initial yields on offices at top locations were up to two percentage points above the dividend yield. At present, they are one percentage point lower than the dividend yield, making equity investments more attractive. There are obvious disadvantages to direct investments in office properties compared to listed real estate funds or equities. The average dividend yield for real estate equities is 4%. While the difference compared to initial yields from direct investments has shrunk slightly from the previous year, it is still clearly higher than average.

**Market outlook: Not out of the woods yet**

The market outlook has gradually improved in recent quarters but is currently still negative. Investment projects are clearly flattening out, but employment prospects are dimming considerably. Consequently, the supply of office space is expected to grow faster than demand. The number of advertised properties has, however, been constant in recent quarters, which can be interpreted as a positive sign.

**Investment attractiveness slightly negative**

The **UBS Swiss Office Space Investment Index** tracks office space valuations. The attractiveness of office space investments must be viewed against possible alternative investments (valuation outlook). At the same time, returns have to be viewed in the context of the fundamental situation in the office market (market outlook). The valuation outlook, in other words, compares returns on office investments with yields on alternative real estate investments as well as the opportunity cost of investing in bonds or other equities. The market outlook, by contrast, analyzes the potential for rent increases based on occupancy rates.
Retail space

Cutthroat competition intensifies

Maciej Skoczek and Sandra Wiedmer

Declining retail sales drive down rents for retail space and drive up vacancies. That hasn’t stopped new shopping centers from opening their doors, though. The losers in this process: malls that fall short of client expectations of a shopping experience.

Asking rents for retail space have dropped sharply since late 2012. According to Wüest Partner, the average decline in Switzerland was 10% over this period. Rents in the regions of Bern and Zurich have fallen a comparable amount. Retail space rents in Basel continued to rise until mid-2015, but then reversed and dropped below 2012 levels as well. Lake Geneva saw the largest correction: around 30%. Prime locations in major cities are also showing a significant deterioration. In the third quarter of 2016, top rents for retail space at all shopping centers averaged around 10% less than in 2012.

E-commerce and shopping tourism put pressure on retail sales
Declining rents are mainly caused by the retailers’ lower solvency. By October 2016, seasonally adjusted retail sales (excluding fuel) showed a nominal decline of 2.2% on an annual average, bringing the number to its lowest level since 2003. Non-food retailers were hit the hardest – their sales contracted almost 5%. Non-food prices had remained virtually unchanged, so the drop in sales is largely attributable to shrinking volumes as more consumers turn to e-commerce and shopping tourism.

According to the research institute GfK, e-commerce has reported over 50% sales growth since 2009 and is estimated to account for almost 8% of all retail sales currently. Shopping tourism was fueled by the Swiss franc’s appreciation against the euro, increasing more than 150% since 2007 (based on the number of export certificates). While shopping tourism – based on the initial 2016 data – should have passed its peak by now, it is not expected to drop noticeably this year despite the expected slight CHF devaluation.

Rents for retail space plummeting
Asking rents for Switzerland and market regions, index 4th quarter 2012=100

Source: Wüest Partner, UBS
Rents decline further this year
Retailers with falling sales need less space.
According to Wüest Partner, advertised retail space increased 60%, to about 530,000 square meters, in the three years leading up to mid-2016, which is more than the total space of Switzerland’s 13 largest shopping centers. This supply overhang curbs investors’ appetite for expansion. Over the last four quarters, building permits for retail space were granted for a total cost of CHF 250 million, which translates into a 50% drop in investment volume within five years. Since a decline in investment takes time to work its way through the economy, vacancy risks will remain elevated for the next three to five years.

Vacant space limits the property owner’s leverage in rent negotiations. Tenants push for earlier contract negotiations to reduce rents or get more flexible rental terms (for example, sales-linked rents or shorter notice periods). With real wages stagnant and unemployment slightly higher, retail sales are not expected to recover this year, either, limiting retailers’ willingness to pay. As a result, we expect asking rents to decline 3.0% this year.

Falling rents erode total returns
Falling rents cause total returns from investment portfolios to drop. According to the Investment Property Database (IPD), directly held commercial real estate returned 5.4% in 2015. This return was the second-lowest ever measured, after 2014, and the first time since 2002 that it was below the average for all types of real estate use.

Low capitalization rates limit the upside for value gains, which puts even greater emphasis on rental income as the main driver of returns. However, income returns were already at the historically low level of 3.9% in 2015. Given that an estimated 10–20% of all retail space leases are renegotiated each year, lower market rents will drive rental income down even further this year. And that means total returns on directly held commercial space will decline even more, barring a rise in property values.

Shopping centers
Shopping centers are not unaffected by the difficult market environment. According to GfK, average space productivity for all shopping centers, measured in net sales per square meter, fell roughly 10%, or almost CHF 1,000 per square meter, from 2010 to 2015. Around three of four malls were affected by the decrease, including all of the 10 largest shopping centers. The “Centro Ovale” in Ticino was hit the hardest and in 2015 became Switzerland’s first “dead mall” – a closed, abandoned shopping center. E-commerce and shopping tourism are not solely to blame for the loss in productivity, which has also been eaten away by rapid growth in space over the last 15 years.

Peak in shopping tourism passed
Number of export certificates* (in millions) and EUR/CHF exchange rate

* In private movements of travelers from Germany (main customs offices in Lörrach and Singen); number estimated for 2016

Source: Main customs offices in Lörrach and Singen, Bloomberg, UBS
Expansion in a saturated market
The supply of space has almost doubled since 2000, while the Swiss population has only grown around 15%. Switzerland has around 1.5 square meters of retail space per capita (one-fifth of which is located in shopping centers), one of the highest values in Europe. Its 197 malls, each with at least 5,000 square meters of retail space, and five outlet centers are supplemented by retail space across the border, which provides high and, in some cases, competing coverage. Around 85% of the Swiss population can reach a shopping center with 15 minutes of driving.

While the retail space expansion has slowed down considerably in recent years, new shopping centers continue to hit the market. Last year, “Welle 7” in Bern and “Lipo Park” in Schaffhausen opened their doors, and this year will see the addition of the second-largest shopping center, the “Mall of Switzerland,” with nearly 50,000 square meters. It is very possible that 10 other malls with around 100,000 square meters of available retail space will follow suit by 2020.

Expansion despite declining productivity
Productivity* (in %) and shopping center expansion (by opening year)
*Productivity (revenue/m²) on average across all centers by canton
Investors appear to shy away from competing with foreign shopping sites. With the exception of one property in Basel, there are no plans for new shopping centers near the national border. Across the border, however, investment is buoyant. According to GfK, there are projects to build nearly 300,000 square meters of shopping center space in border areas over the next few years – two malls in Germany, three in Austria and one in France. In addition, Europe’s second-largest shopping center, holding 170,000 square meters of retail space, is currently being built next to Milan Linate Airport, only 45 minutes away from Chiasso.

**Turning shopping into an event**

In a saturated market environment, shopping centers are challenged to attract new clients and differentiate themselves from other mall operators. They do this by offering attractions not directly associated with shopping, such as fashion shows, autograph sessions or ice skating rinks. Consequently, shopping centers are evolving into spots for events and relaxation, while shopping becomes secondary.

**The tenant mix**

A shopping center’s success hinges on its mix of tenants. One possible strategy for making retail space more attractive is to mix major, established names that generate high store traffic with small brands that are often not widely available. Small providers like start-ups, online companies or local firms benefit from pop-up stores, which is retail space they can use temporarily as needed at a reduced price or even free of charge. In this way, shopping centers can offer their visitors a unique and exciting experience, for example, by presenting and selling new kinds of products. This strategy also prevents vacancies that act as deterrents to clients.

Attractive restaurants are another popular draw for clients. A study published by ECE, a company that operates dozens of shopping centers around the globe, shows that 40% of all visitors to German shopping centers primarily base their choice of shopping center on the available dining options.

**Digitization**

Interactive offerings boost a shopping center’s appeal. A parking guidance system helps mall visitors to find a parking spot upon arrival. They can enter the location of their car in an app and quickly find their way back to the parking spot when they leave the shopping center. As they drive out, the parking fee is charged to the driver’s user account. There is no need to wait in line to pay before leaving. In another app, clients can have relevant product information or recipe ideas sent directly to their mobile devices as they stand in front of a display. Apps can also serve as navigation systems that know the clients’ individual purchasing behavior and guide them through the store. Free smartphone charging stations, WiFi or click-and-collect, a service where customers order products online and pick them up at the store, offer even more opportunities to make stationary retail “smarter.”

**More mall closings are possible**

A new shopping center that enters a saturated market may well succeed if it manages to differentiate itself from the local competition with an attractive shopping experience. At the same time, this may pose considerable difficulties for older, established shopping centers in the same service area. In the current environment, shopping centers are likely at risk if they fail to satisfy their client expectations for events and experiences and are located in border areas or B and C-grade locations. Multiple shopping centers will most likely be forced to downsize their retail space in the coming years. And, for locations that are heavily affected by declining sales, the best strategy may be to shutter their doors or repurpose the shopping center altogether. More dead malls, in other words, can not be excluded.
Coworking spaces

A solution to office vacancies

Maciej Skoczek

The advance of digitization has reduced the attractiveness of conventional offices. Especially in knowledge-intensive professions such as consulting and research or in freelance professions, i.e. in employment segments that are experiencing above-average growth, working is often possible without being tied to a specific location. This promotes the demand for coworking opportunities – flexible workplaces at which working space and office infrastructure are shared.

Coworking facilities provide access to modern offices and conference rooms on the basis of flexible lease agreements, sometimes even by the day or hour. The sharing of office space and infrastructure by several coworkers reduces the workplace costs for the individual tenant. What is more, coworking encourages networking and interchange, making coworking facilities superior to the home office.

Coworking boom to continue

In recent years, the number of coworking spaces has seen a sharp increase around the globe. According to a survey conducted by DeskMag, the online magazine on coworking, there will be more than 13,000 coworking facilities around the globe by the end of 2017, a ten-fold increase compared to 2011. Compared to 2011, the number of users is expected to undergo a six-fold increase to more than one million coworkers. Only about 15% of all those interviewed felt that there were too many coworking spaces in their region (this figure has increased slightly since 2014).

In Switzerland, there are currently nearly 100 coworking facilities, more than half of which are located in and around the five largest cities. The total number of workplaces offered is estimated at around 3,000. The economic region of Zurich is believed to have about 1,000 workplaces, and Geneva about 500. At these locations and in the economic region of Lausanne, the demand for

Coworking is growing rapidly

Number of members and locations worldwide

Source: DeskMag, UBS
Coworking opportunities is especially high, as the size and economic structure of these places and their proximity to universities and colleges are ideal for the exercise of freelance professions and the development of key technologies and new services. At the same time, the relative attractiveness of coworking offers is increased by the fact that these locations have the highest conventional office rents.

Though occupancy statistics are seldom published, the utilization level of the coworking spaces in Switzerland appears to be good. The more this type of utilization becomes known, the more the demand will continue to grow. Additional demand is expected from large enterprises, which increasingly promote work in such facilities.

**Capacity utilization – a key factor for profitability**

Usually, letting an office space to a coworking operator requires the owner to reduce the rent. In turn, the coworking operator takes care of the overhead associated with the letting; Wüest Partner estimates that coworking providers pay an average of CHF 230 a year per square meter. Compared to the quoted rents in the medium segment in Zurich, this means a markdown of about 35%. As many coworking spaces are in good locations, the markdown can be even higher.

A markdown on the rent must be expected even if workplaces are let directly to coworkers. While a conventional office workplace costs CHF 400–650 per month in Zurich and as much as CHF 600–900 in Geneva, the rent for a fixed workplace in a coworking space averages CHF 400 a month. The prices vary greatly between the facilities, though the average rents in large cities and other locations hardly differ. For landlords, hourly billing is very attractive, as coworkers who only use the facilities occasionally are usually willing to pay the quoted price. Hourly rates may range up to CHF 10, which means CHF 1,800 a month in the event of full utilization.

For a coworking facility to represent a viable alternative to conventional office letting, it must not only cover the fixed costs, but also generate positive yield. As the tenants usually do not use their workplaces continually, the number of coworkers in a facility may exceed the number of workplaces offered. If the landlord is familiar with his tenants' working habits, he can optimize the space utilization with a suitable pricing system, thereby maximizing the rent income. This represents the key factor for long-term profitability. A high number of hourly coworkers can boost the rent income.

**Coworking as a means to combat vacancy**

In recent years, investors in Swiss office spaces have been confronted with increasing vacancies. For example, the supply has gone up significantly in the economic regions of Zurich and Geneva. While only 2–3% of the office spaces

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### In big centers, coworking workplaces are cheaper than office space

* Asking rents in traditional offices and in coworking locations, per fixed workplace, in CHF per month

<table>
<thead>
<tr>
<th>City</th>
<th>Office rents range 50 to 70 quantile</th>
<th>Office rents range 30 to 50 quantile</th>
<th>Coworking space*</th>
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</thead>
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</tbody>
</table>

* Not an exhaustive list

Source: Wüest Partner, UBS
were available to let in 2010, this rate has meanwhile reached 5–6%. Against this backdrop, the importance of alternative forms of use is on the rise. The growing demand for coworking spaces can represent a solution to vacancies. Depending on whether a short-term or long-term vacancy is expected, various strategies can be pursued.

"It is often not worth converting offices that are expected to be vacant for less than two years."

Short-term vacancy
The conversion of a vacant office space into a coworking space requires some investment, e.g. for a kitchen or common facilities, a reliable office and IT infrastructure and the establishment of a pleasant work environment. A high-quality interior increases the letting chances, but is of course more costly for the landlord. If the offices remain vacant for less than two years, a temporary conversion often does not pay, as the temporary rent income will hardly cover the conversion costs. Therefore, letting of so-called pop-up workplaces may be an option for short-term vacancies. Pop-up workplaces are individual, usually rather plain workplaces and facilities that are offered at relatively low hourly or daily rates. This strategy can be employed even if only part of the office space is vacant. In this way, the investment costs remain manageable, and loss of rent can be reduced.

Long-term vacancy
If the owner of the premises is faced with a prolonged vacancy, the comprehensive conversion of an office space into a coworking space could be a viable solution. Compared to simple pop-up spaces, the rent income from coworking spaces is higher. Studies have shown that the success greatly depends on the location and size of the coworking facilities. Higher rents can be charged at central locations and hubs such as airports and railway stations, resulting in a better utilization of the available spaces. Such locations appeal to coworkers with high mobility requirements, who are willing to pay higher hourly prices for short and irregular use. Moreover, centrally situated spaces are attractive and are highly suitable for meetings with clients or even as company headquarters. According to a survey conducted by Wüest Partner, more than 80% of all spaces are located less than 500 meters from the city center, and about 50% are situated in a vicinity of 500 meters from a railway station. Moreover, medium-size facilities seem to be more successful. After all, a pleasant setting attracts tenants and ties them to the facility.

Derelict industrial areas
Derelict industrial areas can also be converted into coworking spaces. The workplace costs are lower in peripheral parts of town, and subscription prices are considerably below those of central locations. Especially the trendy parts of town appeal to both local and less affluent coworkers.

Conventional offices an endangered species?
Coworking spaces are an alternative to conventional offices and could put office rents under pressure. Still, the frequently voiced notion that coworking spaces could soon replace conventional office spaces appears to be exaggerated. Especially in industries which are heavily regulated by the protection of intellectual property, personal or privacy rights, the possibility of outsourcing personnel to coworking spaces is limited.
E-commerce

Flexible space management in demand

Nena Winkler and Elias Hafner

E-commerce is growing rapidly, and appears to be eliminating boundaries of time and space. Where real estate is concerned, however, it’s still all about the location. The shifting of retail to the internet requires more active space management by real estate owners.

Worldwide e-commerce sales have doubled over the past five years, yet only 7% of global retail sales are currently transacted online. Over the next 10 years, e-commerce is projected to increase at a rate of 15–20% annually, meaning that global online sales could double again by 2021.

Properties must meet new requirements

In retail, a shift is underway from bricks-and-mortar stores to internet shopping, which is having a strong impact on the markets for retail space and logistics properties. While e-commerce poses risks for real estate investors, it also opens up opportunities.

Retail space

Retailers are focusing on a smaller number of store locations, and so are renting less retail space overall. At the same time, however, demand for quality space in downtown areas and at prestigious locations is rising, and the same applies in high client-traffic areas like railway stations and airports. In-store interaction is evolving in the direction of a “shopping experience.” Clients are able to view and try out products at a flagship store or showroom before ordering them online from home later or while out and about. In addition, formerly online-only webshops are increasingly opening regular non-virtual stores, further boosting demand for space in good locations. For the “Click and Collect” model to work efficiently (online ordering followed by pickup in-store or at a delivery station), changes in space utilization and/or space conversion are often required.

Smaller, more peripheral retail spaces are coming under increasing pressure as a result of this development. Once the prospects for ongoing profitable operation of a particular sales space deteriorate past a certain point, repurposing looms. In addition to sale or repurposing, sales space that is no longer profitable can be converted entirely into a pick-up station for online retailing or a shipment distribution center as part of a multi-channel strategy. In future, renters of retail space will have to be much more flexible in general, performing more conversions and structuring leases more individually and with shorter terms. The blending of in-store and online sales means that sales-linked rent will likely become less important.

Logistics space

Online retailing is fueling demand for customized, modern logistics space, meaning buildings specially equipped for e-commerce will increasingly be pushing older properties out of the market. For example, e-commerce centers require three times more space than traditional logistics for the same volume of goods sold because they keep more inventory; this is in contrast to high-volume shipments to retailers who then individually pack client orders and handle returns. Currently, roughly half of all
fashion/clothing items purchased online are returned. Online retailing generally also requires significantly more personnel/robots for processing than traditional logistics. Ultimately technical building equipment, including internet connections, is also becoming more important for logistics spaces due to digital ordering processes and electronic warehousing systems.

Another logistical challenge is “the last mile,” i.e. delivery from the last transport hub to the end-client, primarily because this part of the delivery chain is traffic-heavy. This is reflected in the high costs accruing in this phase which, according to estimates for the US market, amount to around half of total delivery costs. Increasing urbanization will likely boost these costs further, shifting demand for large warehouse spaces and distribution centers still closer to central areas. Thus, e-commerce will benefit central locations the most when it comes to logistics spaces as well.

“The last mile accounts for around half of total delivery costs.”

China in the fast lane

China is both the world’s largest e-commerce market and the world’s second-place leader in online retail sales at 13.9%, as compared to a modest 2.5% as recently as 2011. Only South Korea has a greater percentage of online retailing at 16.4%. China is followed by the UK and the US, then at some distance by the major continental European markets. Between 2011 and 2015, global online retail has increased from 3.6 to 7.4% of total retail.

The rise of e-commerce has been fueled by a widening range of products available online, as well as technical advances. Robust population growth, increasing urbanization and rising internet and smartphone penetration have played a significant role especially in emerging markets. Worldwide, roughly half of online purchases are now transacted via mobile devices such as mobile phones and tablets, and this figure will rise further as these devices become more powerful and affordable. Between 2010 and 2015, smartphone penetration in China nearly tripled, rising from roughly 33% to 90%, due in part to falling prices for mobile devices and a rapidly growing middle class. Growth in e-commerce in China has been promoted as well by the market leader Alibaba, which offers an array of services for online trading such as online marketplaces and payment systems. The company’s large market share exceeding 70% has made it possible to introduce new products and services to a huge pool of potential clients within an extremely short period of time, significantly contributing to the surging growth.

Asian markets leading in e-commerce

Source: Euromonitor, GfK, UBS
The Swiss e-commerce market

E-commerce is on the rise in Switzerland as elsewhere, steadily gaining market share. Since 2009, online sales have risen by approximately 7.5% annually – significantly greater than the 1.7% growth in gross domestic product, although overall retail sales have stagnated. Switzerland corresponds to the global average internationally, with online sales comprising roughly 8% of total retail sales.

Assuming a saturation level at a good 20%, more Swiss retail sales will likely migrate to the online channel over the next few years. This means that a significant portion of the current supply of retail space will no longer be needed. This migration process is in full swing, and in combination with the strong franc is responsible for the troubled current situation in the retail property market (see article page 32).

Nevertheless, growth of online sales will likely increase demand for logistics properties in this country. Many such properties are being built as large distribution or processing centers in locations in the Swiss Plateau region with good transport infrastructure. The five largest centers are currently being built along the primary transport route A1, allowing delivery throughout Switzerland within just a few hours (same-day delivery). Traffic congestion on Swiss national roads has nearly doubled between 2009 and 2015, and the competition to deliver certain products to the client in the shortest time (for example within three hours) is getting keener. Thus the importance of having logistics properties located closer to urban centers is gaining significance. The same usually applies for both logistics properties and retail space: the better the location, the better the prospects. In addition, leading international retailers have started building lower-cost logistics centers in neighboring countries, increasing competition in Swiss border areas.

Innovating through the last mile

Micro-hubs in central urban locations have proven an efficient solution for last-mile delivery (delivery stations at railway stations, kiosks, post offices, etc.). Building spaces that have fallen out of use have been converted for these purposes. The use of new technologies is also being examined, hence an underground delivery system ("cargo sous terrain") is being planned by a consortium of private-sector firms to circumvent crowded roads and railways. The first section of this system is to be opened for operation in 2030, connecting Härkingen/Niederbipp with Zurich city. Swiss Post is already testing delivery by self-propelled robots and drones, commercial use of which could start before the year 2020. Using flying objects would greatly shorten delivery times and redefine what makes an ideal logistics location, as dependency on railways and roadways is reduced.

Online sales trump retail sales and overall economy

Swiss gross domestic product and retail and online sales revenues, inflation-adjusted index 2009=100; annual growth rate of real online sales revenues, in %, right scale

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP</th>
<th>Retail sales</th>
<th>Online sales</th>
<th>Growth in online sales (right scale)</th>
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<tr>
<td>2015</td>
<td>140</td>
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Source: GfK, Seco, UBS
2016 was another year marked by positive returns for Swiss listed real estate funds. By July, prices had climbed to a total return of 9% from the start of the year, particularly after the Brexit vote in late June. Rising long-term interest rates undermined performance by mid-November, but a sprint to year-end brought returns including distributions up 7% overall. While slightly less than the average from the previous seven years (8%), it was much better than last year’s total return on Swiss franc bonds (2%) and particularly than the Swiss Performance Index’s performance (–1%).

Higher premiums reflect the transaction market
The market-weighted average agio (premium of the market price to the net asset value) was 26% at the end of 2016, well above the long-term average of around 18%. This makes valuations for the sector expensive. There are, however, several reasons why investors are willing to pay a high agio.

First, net asset values are calculated by simply adding up individual real estate values and subtracting debts. Listed real estate funds, however, offer advantages over individual direct investments: higher liquidity, better diversification and the right to redeem fund shares at net asset value. These lower structural and portfolio risks explain part of the premium.

Second, net fund assets are shown after deducting all estimated taxes (especially property gains tax) due on portfolio liquidation. In fact, however, only a few properties are sold each year, which means net fund assets are understated. Moreover, these deferred taxes have built up over the years as valuations have increased. According to a weighted average of the biggest funds, the premium attributable to the deferred liquidation tax has increased around two percentage points between 2010 and 2016. This

Higher premiums on Swiss real estate funds do not necessarily indicate that the funds are overvalued relative to the direct market. Distributions are undermined by rising vacancies, lower asking rents and the dilution of returns following an influx of new money into the funds.

Agios depending on interest rate movements

Source: UBS
"Investors should carefully examine the composition of fund agios."

amount, averaged across all funds, is now slightly less than 10 percentage points.

Third, market prices respond faster than book values to changes in transaction markets. The discount rate used for fund valuations has decreased steadily and is expected to have dropped to an average of nearly 4.0% in 2016. However, comparable portfolios are currently priced at lower rates in the transaction market. We estimate that the premium will shed an average of three percentage points for each 0.1 percentage point drop in the discount rate.

Given these considerations, listed real estate funds no longer seem to be heavily overvalued relative to direct investments. Instead, the higher premiums reflect average conditions in the transaction market. Investors should still take a careful look at the composition of the agios, though, given the significant valuation differences among real estate funds. We recommend not building up new positions and/or reducing existing positions in real estate funds with relatively high premiums that cannot be attributed to a high liquidation tax and/or that are subject to an (excessively) low discount rate.

Sustainable purchases increasingly difficult
Various listed real estate funds issued additional shares last year in response to strong demand for real estate investments. Capital increases generated over CHF 1.5 billion in new money, or more than 4% of the previous market capitalization in the sector. Due to the high transaction prices, however, it has become increasingly difficult to find new investments that contribute to returns on a sustainable basis. Acquisitions of additional real estate will therefore tend to dilute previous returns.

The economic fundamentals remain challenging as well. Vacancies rose considerably in 2015 and the average rent default rate was 4.5%. In the
past year, the rent default rate rose only slightly to 4.6%, but this often required additional marketing measures or discounts on rent prices. The rising number of vacant residential and commercial properties will continue to push down asking rents this year, too. In addition, an expected reduction of the reference interest rate in June of 2017 will limit the upside potential for earnings.

**Shorter maturities only path to significantly cheaper financing**

Given the dearth of alternatives, returns may end up being driven by lower financing costs. Average interest rates have dropped constantly in recent years and were only 1.4% according to the most recent financial statements of the six largest funds. This number hides big differences between the funds, though. The rates range from 1.6% for a financing period of close to five years to 0.75% for the shortest term of under two years. Costs are expected to drop a bit more since refinancing is usually done on a rolling basis. However, the only way to reduce financing costs significantly in the next 12 months will be through shorter maturities.

Lower interest rates have disadvantages, too. Some funds have paid negative interest on their bank deposits in the past two years. This prompted the funds to lend each other money, in some cases at zero interest. This created a win-win situation: funds with extra cash do not pay negative interest, while others that require funding have inexpensive financing sources.

**Attractive distributions could drop**

Interest rates are expected to remain low but could trend slightly upward in the next 12 months. This will shore up demand for real estate funds. However, there will not be any momentum for price gains unless interest rates decline even further. This will make distribution an even more important factor. A distribution yield of 2.7% still seems attractive when compared to zero interest paid on long-term government bonds. Amid starkly limited choices for sustainable real estate investments, increased vacancies, falling asking rents and only marginally lower financing costs, more cuts in distributions should be expected.

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**Rise in vacancies was curbed**

Rent default rates for real estate funds by type of use, in %

Source: Annual and semi-annual reports of various Swiss listed real estate funds, UBS as of December 30, 2016
Real estate equities

More tenant proximity and new business fields

Stefan R. Meyer

In 2016, Swiss real-estate companies outperformed the overall equities market despite the increasingly demanding conditions. The companies focused on reducing vacancies and expanding the value chain. As capital gains are getting scarcer, reliable dividends are growing in importance.

The performance of Swiss real estate equities was once again very attractive in the last year. On average, real estate companies returned an overall yield (capital gains plus dividend payment) of almost 12%. In the first half of the year in particular, real estate equities recorded an outstanding performance. Thereafter, a slight consolidation phase started, particularly due to anticipated interest rate rises. One of last year’s stock market winners was Flughafen Zürich (+30%), whose airport operations benefited from factors such as the good passenger growth. On June 30, 2016, the Investis Real Estate Group joined the stock-market landscape as a new player in the Swiss real estate equity sector. Founded in 1994, this stock-market newcomer is the largest listed owner of residential property in Western Switzerland and one of the country’s largest companies in the field of property management and janitorial services.

At the editorial deadline, the corporate results for 2016 had not been received. We expect robust figures – despite the demanding market environment. On the one hand, the interest in rental spaces has calmed down. One the other, the market has seen an influx of new supply that has not been fully absorbed, caused by the excess demand in previous years. These factors are likely to encumber this year’s income as well.

Value increases more difficult

Over the past years, real estate companies used to rely on significant profit contributions from revaluations. This included value increases due to rising real estate market prices. This portion is now increasingly disappearing, and can even make for a negative impact in individual cases. Due to the market situation, most real estate companies have abandoned new development projects.

Vacancy rate decreases, pay-out ratio increases

Average values of real estate stock corporations, in %

Source: companies, UBS
Nevertheless, investments in conversion, renovation and higher density continue increasing value, resulting in improved rental capability. This, however, requires the input of money and management capacity, unlike a pure market price increase that has a positive effect on the income statement without causing any expenses. Thus, value increases are getting scarcer and more difficult.

On average, the real estate equity companies we analyzed achieved 27% of their net profits in the years 2005–2015 from revaluation. At 41%, PSP Swiss Property recorded the highest share. Since their IPO, HIAG Immobilien and Zug Estates have also performed above average. Last year, however, the share of net revaluation gains is estimated to have dropped by half throughout the sector.

Focus on tenant proximity and new income sources
Due to their specific focus on development projects that have mostly already started, the revaluation contribution at HIAG Immobilien and Zug Estates will remain relatively high. Though Allreal, Flughafen Zürich, Mobimo, PSP Swiss Property and Swiss Prime Site (SPS) also have some extensive and promising development projects for the coming year, they are likely to depend primarily on profits from rent and service income for the next two to three years.

Under the current conditions, real estate companies have seen the need to explore new business fields. More tenant proximity and new income sources appear to be promising. A broader value chain can be achieved by means of new real estate-based or supplementary offers. Thus, SPS has expanded its business field with residential property and services for the elderly and the management of real estate for pension funds. HIAG is establishing an IT infrastructure with data centers, a data network and cloud services and has launched a business park project with a flexible “pay as you use” business model (Coworking, see article on page 36).

A better tenant understanding enables more efficient property maintenance and increases tenant loyalty, as maintenance investments can be aligned more precisely with the tenant needs, resulting in greater satisfaction. For this purpose, companies like Allreal, Mobimo and Investis are expanding their own property management units. Until a few years ago, property management services were often outsourced entirely. Now, however, they are increasingly being integrated internally, enabling direct customer contact.

Downward trend of borrowing costs largely halted
From 2007 to 2014, the average borrowing costs of real estate companies dropped continually. In 2015, however, they stalled at 2%. At the same time, the average residual term increased slightly to five and a quarter years. The companies with the lowest borrowing costs were HIAG (1%) and PSP Swiss Property (1.53%). The companies with the longest residual terms were Zug Estate (9.2 years) and Mobimo (7.7 years), while the low-interest payers HIAG (2.1 years) and PSP (3.4 years) obviously also had the shortest residual terms.

Only PSP and SPS, the two largest real estate-only companies, managed to reduce their borrowing costs further in 2015 and 2016. For this purpose, SPS issued a nine-year Swiss franc bond with a rate of 0.5% in April 2016, and PSP followed up with a seven-year bond with a rate of 0% four months later. In general, however, the potential for lower borrowing costs is declining.

In the more difficult market environment that we are currently witnessing, it is vital to coordinate the financing periods under consideration of the contract periods in the tenant portfolios and to ensure a high balance-sheet quality. Generally, an equity ratio of at least 40% is considered to be solid. Allreal, HIAG, Flughafen Zürich, Investis, PSP and Zug Estates even boast ratios of upwards of 50%.
Sustainability over growth
Proactive real estate management includes real estate and tenant care, which is ultimately reflected in the rent income and vacancies. Therefore, it is good to see that the average vacancies of the real estate companies we analyzed were slightly lower in 2015 than in the previous year. It is likely that as of the end of 2016, the vacancy level will have dropped further, and the decline will have slightly accelerated. Allreal, SPS and Zug Estates are expected to have achieved the most significant improvements, while Intershop and PSP will most likely report a slight deterioration of the capacity utilization. Flughafen Zürich will continue reporting by far the lowest vacancy level of about 1.5%.

The more difficult it becomes to achieve growth, the more important sustainable dividend yields become for investors. While a high dividend distribution rate reveals an investor-friendly corporate policy, the stability of the dividend payments can be endangered when profits are under pressure. For reasons of sustainability, companies with a more volatile profit share usually have a lower dividend distribution rate. By contrast, more stable rent income and thus more stable profits mean higher dividend distribution rates. HIAG and SPS have the highest dividend distribution rates. For most companies, the dividend growth expected for the next three years is zero or slightly above zero. Only the growth companies HIAG and Zug Estates have succeeded in achieving a few percent of dividend growth.

In view of the current equity valuations and growth prospects, it is very probable that in the current year, real estate equities will not perform as well as the overall Swiss equity market.

Key financials for the largest listed Swiss real estate equities
Unless otherwise stated, all figures are in %

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<thead>
<tr>
<th>Year</th>
<th>SPS</th>
<th>Flughafen Zürich</th>
<th>PSP</th>
<th>Allreal</th>
<th>Mobimo</th>
<th>Intershop</th>
<th>Zug Estates</th>
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<tr>
<td>2014</td>
<td>6.6</td>
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<td>10.0</td>
<td>7.9</td>
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<tr>
<td>2015</td>
<td>6.7</td>
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<td>11.5</td>
<td>5.4</td>
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<tr>
<td>2016²</td>
<td>6.0–6.1</td>
<td>1.5⁴</td>
<td>9.5</td>
<td>&lt;5.5</td>
<td>4.9³</td>
<td>&gt;12</td>
<td>&lt;4.0</td>
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<td>Dividend growth</td>
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<tr>
<td>2010–2015</td>
<td>1.1</td>
<td>34.7</td>
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<td>Pay-out ratio³</td>
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<td>Dividend policy²</td>
<td>–80</td>
<td>Variable div. + prelim.</td>
<td>&gt;70</td>
<td>–80</td>
<td>≧ CHF 10</td>
<td>CHF 20 since 2007</td>
<td>≧40</td>
<td>4⁶</td>
<td>CHF 30m</td>
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<td>2015</td>
<td>88</td>
<td>34</td>
<td>94</td>
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<td>43</td>
<td>88</td>
<td>76</td>
<td>97</td>
<td>77</td>
<td>40⁶</td>
<td>109⁴</td>
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<tr>
<td>2016⁴</td>
<td>4.6</td>
<td>3.6</td>
<td>3.9</td>
<td>4.0</td>
<td>4.2</td>
<td>4.0</td>
<td>1.3</td>
<td>3.5</td>
<td>4.2</td>
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<tr>
<td>2017⁴</td>
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<td>3.7</td>
<td>3.9</td>
<td>4.0</td>
<td>4.2</td>
<td>4.0</td>
<td>1.4</td>
<td>3.7</td>
<td>4.2</td>
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<td>Equity ratio³</td>
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<td>54</td>
<td>56</td>
<td>50</td>
<td>43</td>
<td>42</td>
<td>61</td>
<td>55</td>
<td>50</td>
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¹ in CHF m ² according to the company information ³ as of the 1st half of 2016 ⁴ consensus expectations ⁵ Dividend/net profit excluding non-cash revaluation changes ⁶ of net asset value ⁷ 2012–2015 ⁸ 2014–2015
This table is a reference list and does not represent a recommendation list.

Source: companies, UBS; as of November 15, 2016
Valuations of real estate equities and funds

Years of outperformance come to an end

Elias Hafner and Stefan R. Meyer

Gearing explains much of the difference in returns between real estate equities and real estate funds. Real estate equities are valued slightly higher than real estate funds. The total stock market should outperform both asset classes this year.

Last year, real estate stocks outperformed the Swiss Performance Index (SPI) by 13%. Swiss real estate funds also beat the SPI by 8%. Both cases marked a continuation of a long-running trend driven by falling interest rates. Since 2002, real estate companies have generated over 8% in total returns per year. Real estate funds also outstripped the SPI’s return of 5%, delivering a solid 6% with significantly less price volatility.

Returns on real estate equities more heavily leveraged
Different characteristics of the two asset classes explain why real estate equities show much higher returns than funds.

Business model
Most real estate companies are not solely investors. They also do business in related fields such as property management and property development. Plus, they mainly own business space, while real estate funds primarily invest in residential investment property.

Finance
According to the total return generated on real estate funds over the past 15 years, the underlying properties have returned a good 5% a year with an average gearing of 20%. If the loan-to-value ratio were increased to 50% – the standard level for real estate companies – the total return on the same underlying property return would be around 8%, which is close to the total return on real estate equities. The higher leverage increases the return on equity whenever interest rates are falling and property prices are rising. If property values in the portfolio fall, however, the leverage would cause the return on equity to fall faster.

Real estate equities valued relatively higher

Premiums and agios of selected real estate equities¹ and real estate funds², 30-day moving average, in %

1 Market capitalization-weighted premiums based on historical price to book values of the following equities: SPS, PSP, Allreal, Mobimo, Intershop, Warteck

2 Market capitalization-weighted agios based on the historical NAV of the following funds: SIMA, SIA, INT, SRE, SIC, SRI, FONC, SOL61

Source: Bloomberg, UBS as of December 30, 2016
**Risk-return profile**

Real estate equities have a higher risk-return profile – not only are they more leveraged, but cyclical business properties are also a riskier investment than residential. Prices of real estate equities are more volatile overall and more tightly correlated with the total stock market than real estate funds. Funds, however, are more dependent on interest rates and thus tend to correlate more with bonds.

**Slight preference for real estate funds over real estate equities**

The strong performance of listed real estate securities has made its way into valuations. Common valuation metrics such as premiums (amount paid by stock market investors in excess of net asset values) and dividend and distribution yields provide valuable information on relative attractiveness.

**Stock and fund premiums**

The average premium on real estate equities was almost 21% at the end of 2016 – much higher than the average since 2004. During this period, valuations have tended to crumble quickly whenever premiums exceeded 20%. Premiums on real estate funds, for their part, averaged 26% at the end of 2016 – also higher than the period average, but evidently less than their critical ceiling of 30% (see article on Page 42). Judging from the historical premiums, in other words, real estate equities are valued higher than real estate funds.

**Distribution and dividend yield**

The average distribution yield for real estate funds of 2.7% – is attractive in today’s low interest rate environment. Real estate equities do offer a higher dividend yield of 3.9%. However, to maintain this level, real estate companies have had to significantly increase their pay-out ratios in recent years.

Currently, we slightly prefer real estate funds over real estate equities. We recognize that real estate equities have higher dividend yields and that real estate companies have significantly increased the portion of income that is not directly dependent on real estate prices (see article on Page 45). However, real estate equity valuations appear to be closer to their maximum limits and thus pose a greater correction risk. Also, the business property market remains more challenging than the market for residential investment property.

What’s more, a decline in real estate prices would reduce total returns on real estate equities much more than funds due to the higher gearing. While we do not expect returns on long-term Swiss federal bonds to rise significantly before the end of 2017, they probably bottomed out in 2016. That translates into a latent risk of higher interest rates and thus falling property prices.

**SPI should outperform listed real estate**

After three successive years with lower total returns, we expect the total stock market to outperform real estate equities and funds in 2017. In subsequent years, we still prefer the total stock market over real estate equities and funds amid gradually rising interest rates. That said, real estate funds in particular will remain an important component of a balanced portfolio due to their strong diversification properties.

**Real estate investors benefit from Corporate Tax Reform III**

After the elimination of tax privileges for foreign sourced income, many cantons will lower their regular corporate income tax rates. Property gains taxes will generally fall overall, resulting in lower deferred taxes for listed real estate investments fairly early on. Annual profits will be also taxed less in the future. Depending on their geographic focus, some real estate securities will benefit more from this tax relief than others because the tax reductions will vary considerably from canton to canton – from zero reduction in Lucerne to over 10% in Geneva. On average, though, investors should receive a larger slice of the pre-tax profit, which should drive up prices significantly over the long run.
Listed real estate companies worldwide have an estimated 230 billion US dollars in bank loans and 250 billion US dollars in bonds on their balance sheets. In most cases, bank loans are backed by real estate, while private or public bonds are usually unsecured. Of outstanding bonds, 90% have been issued in the five most important markets (US, Continental Europe, Hong Kong, Australia and Japan), with half coming from the US alone. Between low interest rates and markets flush with liquidity, bonds have captured a growing slice of the debt market in recent years.

Widely differing loans, yields and spreads
The bond-to-bank-loan ratio varies from market to market. Real estate companies in Japan and Continental Europe borrow from banks much more frequently, since bank loans cost less than bonds. In the US, by contrast, two-thirds of finance occurs through bonds.

With the monetary floodgates wide open across the globe, bonds issued by real estate companies offer investors higher yields than government bonds with the same maturity. At the end of 2016, the spread for five-year bonds averaged around one percentage point globally. Spreads, however, differed widely from market to market. Also, markets with lower interest rates tend to have lower spreads. Real estate bonds in Japan and Continental Europe, for example, yielded less than 0.5% on average with a spread of around 0.5 percentage points over government bonds. In the US, real estate bonds yielded nearly 3.0% and traded at a spread of around one percentage point.

Ratios convey a solid picture
Investors in real estate company bonds should focus on three ratios.

Debt-to-assets ratio
The lower the debt-to-assets ratio (gross debt to total assets), the higher the quality of the bonds. The debt-to-assets ratio is affected by

Investing properly in real estate bonds
Investors should first select an appropriate reference currency, as currency-induced yield premiums significantly affect bond investment performance. They must also consider the issuer rating and market liquidity. Only then should they look at maturities, current valuations and spreads (difference between the yield on real estate company bonds and the yield on government bonds with identical maturities). Over a short period, the total return on real estate company bonds strongly correlates with returns in the bond market. Over the medium term, bond prices are determined by the issuer’s credit rating, and over the long term by the fundamentals of the real estate market.
"Markets with lower interest rates tend to have lower spreads."

developments in the real estate market; rising property values mean a lower debt-to-assets ratio, and vice versa. The global debt-to-assets ratio has changed very little over the last 10 years, standing at 36% at the end of 2016 despite higher property values. And, although the debt-to-assets ratio has declined significantly in Britain and the US, America still leads the worldwide ranking at 46%. In Japan and Continental Europe, the debt-to-assets ratio has increased slightly in the last 10 years.

**Interest coverage ratio**
The interest coverage ratio (gross income to interest expenses) describes the real estate company’s ability to meet its obligations. The higher the interest coverage ratio, the more protection investors have against rising interest rates. If investors expect rental income to decline, the interest coverage ratio will likely drop, too. This in turn drives down valuations of outstanding bonds. The interest coverage ratio has improved everywhere in the last 10 years, except in Continental Europe. At seven, however, it is significantly higher in Continental Europe than the US and British ratio of roughly 2.5. Interest coverage ratios are even higher in Asia, exceeding 10.

**Ratio of net debt to gross profit**
A lower net-debt-to-gross-profit ratio means more financial leeway for a company to repay debt. This ratio is converging worldwide, increasing in Asia in the last 10 years and decreasing in Western countries, especially the US. Hong Kong and China are still at low levels of around 3.5, while Britain, Continental Europe and Switzerland have a ratio of nine, which is high compared to the rest of the world.

**Consider the real estate cycle**
Overall, these ratios seem to indicate that real estate companies have robust balance sheets. The debt-to-assets ratio and net debt relative to gross profit have been stable in recent years.
even as companies have improved interest coverage ratios. Also, issuers appear to have learned from the latest financial crisis. They have optimized their refinancing plans by better distributing maturities along a timeline, extended the average debt maturity and significantly scaled back their foreign exposure.

Balance sheets are also robust because of the good fundamentals of the real estate market, such as high rents and occupancies, increased property values and low interest rates. But the current real estate and interest rate cycle is very advanced. Conditions for investing in real estate company bonds can hardly improve much more. Debt-to-assets and interest coverage ratios are therefore more likely to get worse than better, which should drive up spreads over government bonds. Also, the recent overall increase in maturities has made real estate company bonds more sensitive to interest rates.

That means prices of real estate company bonds are likely to have peaked; yields will probably not fall any further. Our advice in the current environment is therefore to gradually reduce high allocations. Given the potential for higher interest rate volatility, we also recommend shortening durations (average capital commitment period) and avoiding low-grade bonds at this advanced stage in the real estate cycle.

The US with improved financial leeway

Ratio of net debt to gross profit (EBITDA) and historical highs and lows (since 2006)

![Graph showing ratio of net debt to gross profit (EBITDA) for different countries and historical highs and lows.](image)

*Starting in 2008, market capitalization-weighted average of values for SPS, PSP, Allreal

Source: UBS
Vancouver is at the top of the UBS Global Real Estate Bubble Index 2016. The risk of a real estate bubble also appears high in London, Stockholm, Sydney, Munich and Hong Kong. We consider San Francisco and Amsterdam to be significantly overvalued. These cities are followed by Zurich, Paris, Geneva, Tokyo and Frankfurt. Following a price decline, Singapore is considered appropriately valued, and so are Boston, New York and Milan. According to the UBS Global Real Estate Bubble Index, Chicago remains undervalued.

Monetary policy and international capital flows boost prices
In cities with a bubble risk, prices have gone up by an average of 50% since 2011. In the other metropolises analyzed, the prices have increased a mere 13%. Both groups, however, have seen the same rise in rents (18%) and household income (13%).

The divergent price developments in various cities can hardly be explained solely on the basis of changes in the local economic conditions. Other explanations include low interest rates, which are far too low for many national economies, and the increase in international capital flows in local housing markets.

UBS Global Real Estate Bubble Index
A price bubble is defined as major price deviation from the fundamental value of the underlying asset. As the value of real estate cannot be determined precisely, the existence of a real estate bubble can only be confirmed after it bursts. Historically, sharp price increases not underpinned by real economic factors have been strong indicators of misvaluation and harbingers of price corrections.

The UBS Global Real Estate Bubble Index shows how much the fundamental valuation of the residential property markets in 18 selected financial centers deviates from the long-term levels. However, no clear statements can be made concerning the time, duration and intensity of a potential price correction.
Low interest rates cause housing markets to overheat
In recent years, financing costs have dropped massively in virtually all financial centers analyzed – without causing any comprehensive price boom.

A comparison across multiple countries shows that low interest rates only lead to a demand boom on the housing market if combined with sound economic performance. In countries in which the economic perspective is uncertain, real estate purchases involve substantial risks, and banks only grant loans restrictively, so that low interest rates have little effect.

In the German economy, for example, labor costs have gone up considerably in recent years as the country has neared full employment. The Taylor rule (see chart) would require the interest rates in Germany to be much higher than the standard rate of the European Central Bank (ECB). In recent years, this imbalance has obviously contributed to the surge of housing prices, especially in cities. Conversely, the Taylor rule implies that due to the high unemployment rates, the ECB interest rate is too high for Italy and France; there, low financing costs have done little to invigorate residential property markets. According to the Taylor rule, interest rates are too low in Sweden, Canada and the UK as well. The two-digit price increase rates in Stockholm in the last two years reflect these excessively easy financing conditions.

**UBS Global Real Estate Bubble Index**
Latest index scores for the housing markets of selected world cities

<table>
<thead>
<tr>
<th>City</th>
<th>Index Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vancouver</td>
<td>–1.5</td>
</tr>
<tr>
<td>London</td>
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<tr>
<td>Stockholm</td>
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<tr>
<td>Sydney</td>
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</tr>
<tr>
<td>Munich</td>
<td>0.5</td>
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<tr>
<td>Hong Kong</td>
<td>1.5</td>
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<tr>
<td>San Francisco</td>
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</tr>
<tr>
<td>Amsterdam</td>
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</tr>
<tr>
<td>Zurich</td>
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</tr>
<tr>
<td>Paris</td>
<td>1.5</td>
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<td>Geneva</td>
<td>1.5</td>
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<tr>
<td>Tokyo</td>
<td>–0.5</td>
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<td>Frankfurt</td>
<td>–0.5</td>
</tr>
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<td>Singapore</td>
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<td>Boston</td>
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<td>New York</td>
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<td>Milan</td>
<td>–0.5</td>
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<tr>
<td>Chicago</td>
<td>–1.5</td>
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</table>

UBS Global Real Estate Bubble Index represents the weighted average of five standardized sub-indicators. It analyzes the development of the price-to-income, price-to-rent and city-to-country price ratios. Mortgage volume and construction activity growth are factored in as well. For a detailed description of the methodology and underlying assumptions, please refer to the UBS Global Real Estate Bubble Index of 27 September 2016.

Source: UBS
Role of foreign investors unclear

Political and economic changes in Europe, Russia and the Far East also demonstrably affect the development of house prices in metropolises around the globe. For example, a survey conducted by Oxford University shows that the rise in macroeconomic risks in Greece has pushed up house prices in parts of London with a high proportion of inhabitants of Greek origin.

Sydney and Vancouver are among the key areas experiencing foreign demand for residential property. In Sydney, foreign investments have tripled over the last three years, and Vancouver has also recorded a noticeable surge in the demand from Asia. In both cities, the swell was promoted by significant currency depreciation. Though two-digit price increases were achieved in local currency, prices stagnated in terms of the value in US dollars and Asian currencies linked to the US dollar. Still, capital inflows from overseas can only partially explain price developments observed both in Sydney and in Vancouver in recent years.

Available data do not reveal whether foreigners buy apartments to let, for their own use or for capital preservation purposes. The labor market in the financial centers is usually marked by an international mix. Foreigners who live and work on site contribute to the local demand for residential property, but have little to do with international capital inflow. Moreover, foreign investments can even curb the price development if the capital flows into the construction of new residential buildings.

Isolation policy increases risk of correction

Nevertheless, in recent years many financial centers have seen increasing efforts to shield the residential property markets from foreign demand. In this area, Hong Kong and Singapore are in the lead; they had already marked up the taxes for foreign buyers back in 2010. Meanwhile, Vancouver, Sydney and London have followed suit.

In Vancouver, San Francisco and London, the proportion of transactions executed by foreigners is over 20%. These transactions focus on downtown property, new developments and the luxury market in general. In view of this magnitude, measures to isolate the market can significantly reduce the demand for residential property. Moreover, restrictions are usually introduced at the peak of a price cycle, which can trigger or at least significantly aggravate a correction phase.

Increased housing offers a double-edged sword

Following a certain delay, the rising prices of residential space also leads to an expansion of supply in cities. Thus, construction activity in many of cities with the highest valuation (Vancouver, Sydney, Hong Kong, San Francisco and Stockholm) is already clearly above the respective five-year average. However, a higher supply is a double-edged sword. On the one hand, additional residential units curb the price increase and can thus help prevent excessive prices. However, if the demand drops significantly, the additional supply could trigger or even intensify a possible price correction.

Excessively low interest rates favor real estate bubbles

Colors according to the risk classes of the UBS Global Real Estate Bubble Index (see page 54)

Five-year growth rate of home prices, in %

Interest rate too low
Interest rate too high

The Taylor rule is a rule of thumb describing how a central bank’s interest rate should be aligned with inflation and the labor market situation. In the Eurozone, for example, the record unemployment levels in the South along with the shortage of specialists in the North make it impossible to determine an optimum (uniform) interest level.
Overview and forecasts

Unless otherwise indicated, all figures refer to percentage growth over the previous year.

<table>
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<tr>
<th>Drivers</th>
<th>2017¹</th>
<th>2016²</th>
<th>2015</th>
<th>2014</th>
<th>2013</th>
<th>2012</th>
<th>10 years³</th>
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<td>Average annual inflation</td>
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<td>−0.1</td>
<td>0.0</td>
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<td><strong>Population and employment</strong></td>
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<td>Population</td>
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<td>Unemployment rate</td>
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<td>0.8</td>
<td>0.8</td>
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<td>Asking prices for condominiums</td>
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<td>1.5</td>
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<td>Growth in mortgage lending to individuals</td>
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<td>3.4</td>
<td>3.5</td>
<td>5.1</td>
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<td>1.0</td>
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<td>1.8</td>
<td>1.8</td>
<td>2.0</td>
<td>2.0</td>
<td>2.3</td>
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<td>3.5</td>
<td>4.0</td>
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<td>1.0</td>
<td>2.0</td>
<td>4.1</td>
<td>1.8</td>
<td>2.4</td>
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<td>2.1</td>
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<td>6.0</td>
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<td>1.4</td>
<td>1.0</td>
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<td>6.3</td>
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<tr>
<td>Performance</td>
<td>–</td>
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<td>9.6</td>
<td>13.6</td>
<td>−6.9</td>
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<td>Perform. of real estate investment foundations</td>
<td>–</td>
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<td>5.8</td>
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<td>–</td>
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<td>2.7</td>
<td>13.0</td>
<td>24.6</td>
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<td>–</td>
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<td>Performance of Swiss Bond Index (“AAA”)</td>
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</table>

¹ UBS forecast
² UBS projections or forecasts (as of January 10, 2017)
³ Average: 2007 to 2016
⁴ End of year
⁵ Direct investment in existing properties
⁶ Value between −1 (complete diversification) and 1 (no diversification)
⁷ Premiums on net asset values of real estate equities (premiums) and real estate funds (agios)

Source: SECO, FSO, SNB, Wüest Partner, BWO, IPD, Docu Media, Bloomberg, UBS