

PwC Real Estate Investor Survey

Cap rates and letting assumptions
for selected German and
Swiss real estate submarkets

**Germany and
Switzerland**

Volume 8, H1 2018
October 2018



Spotlight

Tidal wave or tsunami – What will tomorrow's
real estate market look like?

2

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Cap rates and letting assumptions for selected German and Swiss real estate submarkets

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Introduction

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This issue of the *PwC Real Estate Investor Survey* is marked by high rent increases in the German office market, investors' lack of confidence in the high street retail market, continuing strong demand for logistics and retail parks in Germany and slightly increasing vacancy rates in the office and residential markets in Switzerland.

These trends are reflected in the "all-risk-yields" (ARYs) which represent the relationship between the stabilised net operating income (NOI) and net purchase price. In Germany we do not see significant trend changes in either the retail or the office sector. The asset classes that experience the highest compression are logistics and non-high street retail. In Switzerland we observed a stronger compression across all asset classes, especially in core residential and high street retail properties.

In addition, we asked investors if they expect an upcoming downturn. In particular, we discussed the factors that may cause a turnaround in the real estate market and how investors incorporate this in their underwriting process. We gather our data by interviewing various types of market participants. For an overview of the participants and for our approach and definitions please refer to sections 5 and 6, respectively.

Fig. 1 Interest rate expectation

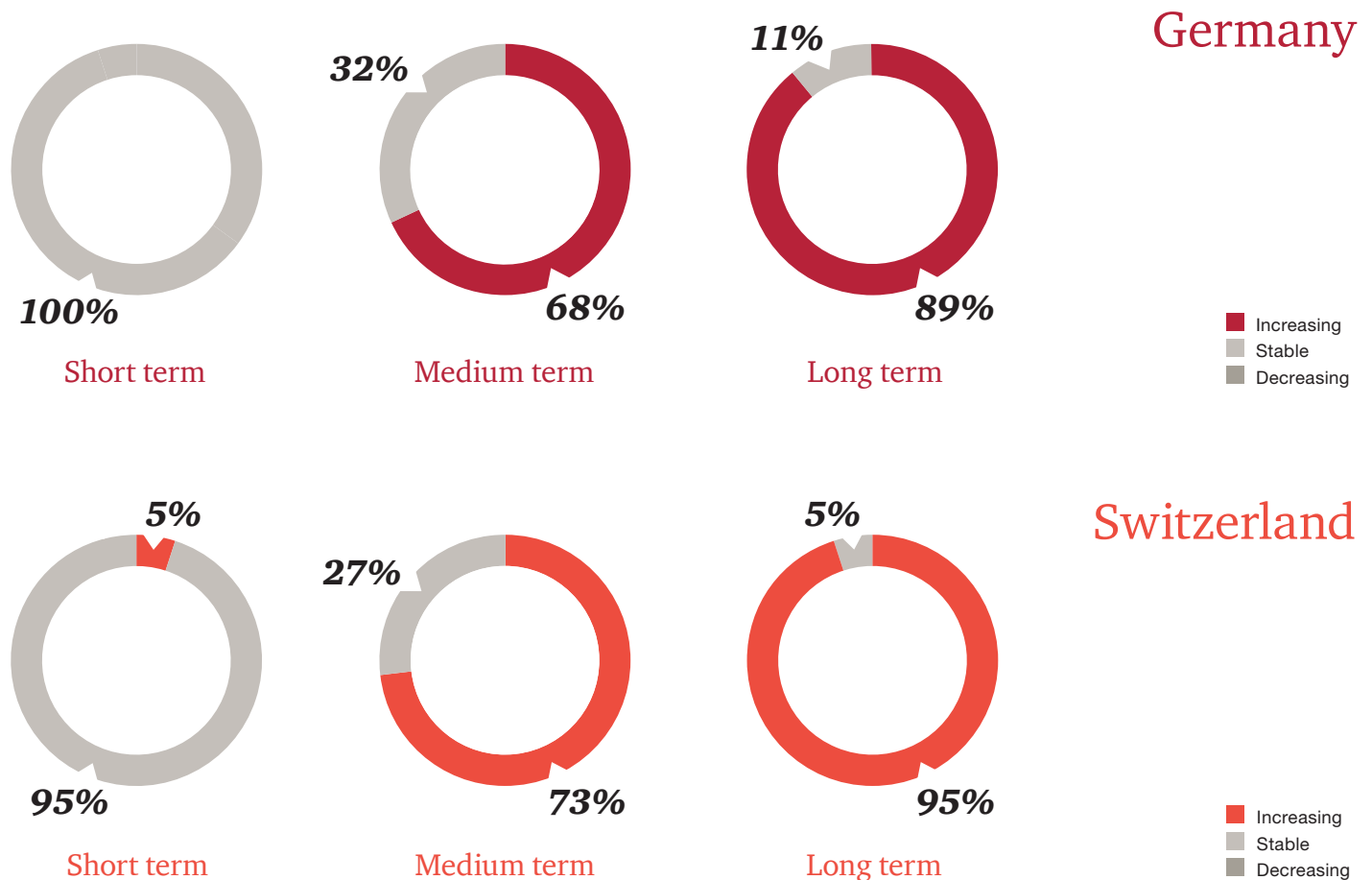
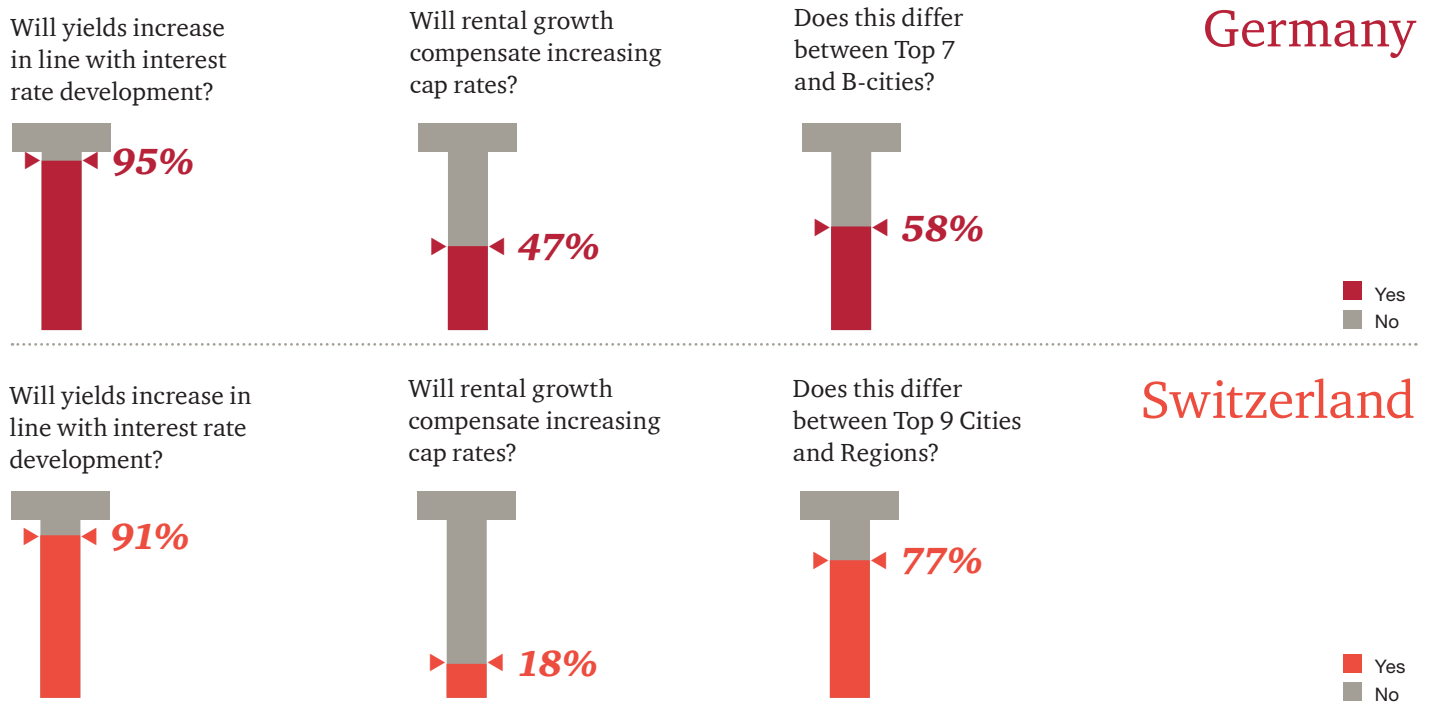


Fig. 2 Investors' expectations regarding cap rates



Germany

All of the **German** survey respondents believe that the **short term interest rates** will remain **stable** over the next 12 months. However, the **medium and long term interest rates are expected to increase**.

68% believe that **medium term interest rates** will **increase** over the next 5 years. This sentiment further continues over the long term, with **89%** expecting **long term interest rates to rise**. **95%** believe that the **real estate yields will increase in line with the expected increase in the interest rates**.

When compared to the previous survey, more investors believe that the rental growth will compensate for the increasing cap rates (47% vs. 35% six months ago). However, only 58% (81% six months ago) of the investors believe that this situation will differ between the Top 7 Cities and the B-cities.

Switzerland

Interest rate expectations among **Swiss investors** are more aligned than they were six months ago. The most sizeable change came in the **short-term** expectations: **95% expect rates to remain stable** over the course of one year, while the remaining 5% expect an increase. In the previous issue, only 72% expected stable rates, 23% expected an increase, and 5% even forecasted a further decrease. **Medium-term** expectations remain stable as **73% expect increasing rates** (same as six months ago). In **the long term**, **95%** of respondents expect rates **to increase** (up from 91%).

Further, 91% expect increasing real estate yields to accompany the interest rate hike (up from 83%). Meanwhile, optimism about market rent growth to compensate for increasing cap rates has shrunk to 18% (from 35% six months ago). Still, the majority of investors expect this to differ between cities and regions.

Germany

For the first time since 2014, office yields have stabilised. The average minimum ARYs for the Top 7 Cities remained at 3.3%, the same level as six months ago. Investors also predict prices to remain stable over the coming five years. However, there is a decline in average ARYs in Regional Cities such as Essen, Bonn and Hanover compared to six months ago.

The overall expectation of rental growth throughout the Top 7 Cities remains high. Investors anticipate a decrease in extension potential because as rents are increasing across all markets investors are aiming to re-let at higher price.

Office

The e-commerce business further impacts high street retail assets: The average minimum ARYs for the submarkets other than the Top 7 Cities experience no compression. On average, the minimum ARYs for the Top 7 Cities decreased by only 10 bps, which could be explained by the high level of liquidity in the market bundled with the deployment of in place retail strategies by various investors.

In contrast to high street retail, out-of-town shopping centers, retail parks, supermarkets and DIY stores further gained attractiveness amongst investors. Across all the sub-categories, ARYs compression continues, with the strongest levels of yield compression being in the core segment of retail parks (-44 bps) and supermarkets (-24 bps).

Retail

The high demand for logistic assets is now spreading to risky properties and Small Locations (outside the Top 15 Location). This is supported by the yield developments over the past six months where the ARYs compression for prime properties in Small Locations was at -25 bps while the ARYs for risky properties showed the strongest compression of -35 bps. On the other hand, the yield compression for prime logistic properties in the Top 15 Locations was on average -8 bps.

Logistics

Switzerland



Over the past six months, we observed an average yield compression of 25 bps for core properties across all Top 9 Cities. Zurich is still on top with a minimum ARY of 2.2%, followed by Geneva with 2.3%. Basel, Berne, Lausanne, Winterthur and Lugano constitute the mid-range with a 2.6% ARY. Lucerne (2.8%) and St. Gallen (3.0%) have the highest-yielding core properties. Regional yields have compressed notably less, leading to a widened spread over the urban centers of between 30 to 70 bps.

Properties in all submarkets experienced an ARY compression over the past six months. Especially properties with a higher risk profile in the cities (-39 bps on average) and core properties in the Regions (-30 bps on average) saw sizeable yield compression. The cities of Zurich and Geneva again top the list with minimum ARYs of 2.4% and 2.5%. At the bottom we find St. Gallen and Lugano with 3.2% minimum ARYs. Regional ARYs compressed only in the core segment, where the spread over the cities tightened by 10 to 20 bps.

Residential

Office

High street retail yields compressed across the board at an average of around 26 bps. The strongest moves came on the higher end and in the less attractive cities. Zurich remains on top with a 2.4% minimum ARY, followed by Geneva with 2.5% and thereafter Lausanne and Lucerne with 2.8% each. Lake Geneva tops the list for the regions with a minimum ARY of 3.3%, followed by Zurich with 3.4%. The regions' spread over the cities tightened as the regions experienced notably stronger compression.

Retail



Spotlight

Tidal wave or tsunami –
What will tomorrow's real
estate market look like?

2

Has the real estate market reached the peak of the cycle? How quickly will we see a downturn? Will it be a slight correction or a crisis similar to the one ten years ago? What will cause a downturn, a political event or a long awaited policy change of the central bank? This spotlight summarises discussions on these and other questions with the survey participants.

Do you see any indications of a market turnaround?

The current political and economic situation and the surplus of capital in the market support the strong demand for real estate, especially for office, logistics and residential. Thus, there are no indications for an upcoming downturn in the short term.

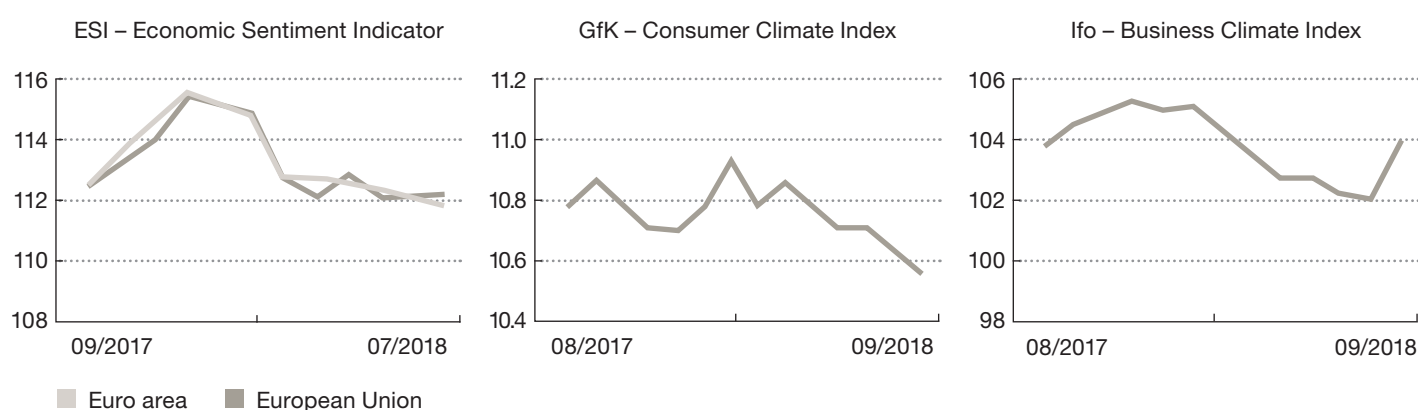
Although investors do not foresee any trend changes within the next 12 months, **a possible downturn is almost unanimously expected within the next two to five years.**

The majority of respondents do not see a reason for it to be as severe and prolonged as the last crisis, unless a significant external event such as the Lehman collapse were to repeat itself.

According to some respondents, the following current trends could be indicators for a downturn:

- The yield spread of prime vs. peripheral locations, especially in Switzerland, do not sufficiently reflect the respective location risk. In Switzerland significant developments have taken place in the residential and office sector. There is oversupply in the non-prime locations, which reflect the sustained pressure for institutional players to invest in development projects against the backdrop of a slow-down in population growth.
- Institutional investors have slowed down their investment activities whilst getting more selective when it comes to the terms under which they are willing to invest. In addition, some of these investors are alternatively choosing more attractive investment alternatives abroad.
- General economic indicators are going slightly down, e.g. ESI and GfK.
- It was further mentioned that small brokers selling large assets is becoming a more common phenomenon. This in itself is not a sign of a downturn but a situation that one would not expect in a normal market.

Fig. 3 Development of economic indices over the last 12 months



Source: ESI – Economic Sentiment Indicator; GfK – Consumer Climate Index; Ifo – Business Climate Index

How does your current underwriting policy take into account the risk of a possible downturn?

Investors see diversification across real estate asset classes as the best protection in case of a downturn. As most of them already diversify, they do not expect a significant adjustment to their investment strategy in case the market conditions change.

The majority of our respondents' investment models assume that the **exit yields remain at the same level or above the entry yields**. According to the participants, rents are the main return driver. At least in the top locations this is not difficult to argue.

As stated in the introduction to the survey, both German and Swiss respondents strongly believe that the interest rates will increase in the medium- to long-term. Therefore, for the short- to medium-term investments refinancing was not a major issue. For long-term investments, the **potential refinancing risk**, due to higher interest rates, is reflected by higher refinancing terms in the investment model.

Thus, it seems that **underwriting policies in general are very conservative**. This makes us as well as market participants believe that a potential downturn would not have a significant negative effect, unless the external shock is so strong that the global economy would suffer as a whole.

What are the main factors that will have an impact on the market trend?

The majority of respondents believe that factors such as a negative political event or ECB interest rate policy would have the strongest negative impact on the real estate market. As when it comes to digitalisation and big data, the participants do not have a strong view across the board on how these changes may influence real estate investments. It is worth noting that, digitalised industry might imply fewer work-force, which will result in less working places being required in the future. On the contrary, digitalisation might also simplify processes such as acquisition and asset management, which will have a positive effect on the development of the industry.

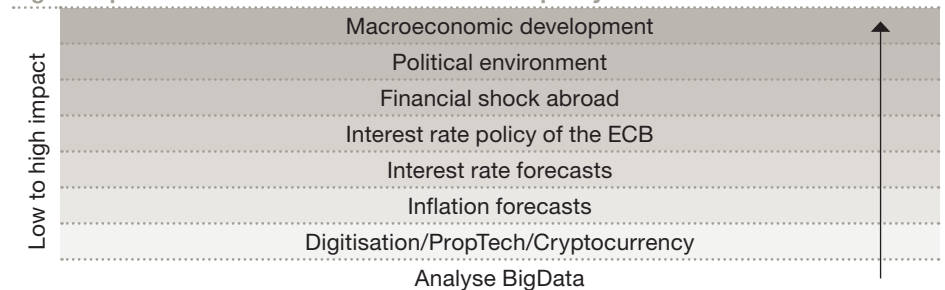
Do you expect the change of the German regulation in respect to the share deals to have any influence on your investment strategy?

For most of the investors, the change has no significant impact. In general, asset deals are always preferred to share deals. Therefore, the pending legislation change will not have a large impact on the way investments will be done in the future. Generally, the number of share deals is expected to decrease. The investors will only prefer share deals if the advantages outweigh its costs.

Fig. 4 PropTechs by type of application



Fig. 5 Impact of these factors on the investment policy



Does the property valuation reflect the future risks?

Investors doubt that valuations accurately reflect the future risks, either property or market related. The income approach is modelled in such a way that the current market developments are reflected in the valuation. However, it is debatable how future rent development, structural vacancy, lease terms, and capex could be included. On the other hand, some investors also believe that a valuation is a snapshot, therefore the risks should be accounted for in underwriting.

Germany

3



3.1 Office

In comparison to the data six months ago, the yield compressions of the Top 7 Cities remain on a stable plateau. Such a stability between two periods has been observed in our *PwC Real Estate Investor Survey* for the first time. Munich is displaying the lowest minimum ARY of 2.9% (–2 bps), almost catching up by Berlin's minimum ARY of stable 3.0%. With the strongest decline in maximum ARYs observed for Hamburg (–27 bps) and the strongest increase for Stuttgart (20 bps), only scattered cities have significantly changed compared to six months ago.

However, compared to the results 12 months ago a greater compression for all Top 7 Cities is still observed. The minimum ARYs for core investments were declining the least whereas value add investments were declining the most. Further, our data shows that the five year forecast will be stable for all Top 7 Cities.

The compression of minimum ARYs in Regional Cities reported in the previous survey has stopped. Minimum ARYs as well as average and maximum ARYs have reached a stable level for Regional Cities with some exceptions: Strong compressions of the average ARYs were overserved for Essen (–41 bps), Bonn (–18 bps) and Hanover (–16 bps).

In terms of letting parameters, marketing periods remain stable. Some investors are aiming to increase re-letting to better conditions instead of prolonging existing contracts. Thus, extension probability decreases by more than 1.7% on average throughout the Top 7 Cities.

Investors expect the average rental growth to increase for Top 7 Cities predominantly compared to six months ago. Among the Top 7 Cities, Berlin (3.5% p.a.) is still in the lead, followed by Munich (2.8% p.a.). Whereas the remaining cities are above 2.0%, except for Dusseldorf and Cologne (each 1.6% p.a.). The Top 7 Cities together display an average of 2.2%. Regional Cities and Regions still show lower average levels of 1.1% and 1.0%, respectively.

Fig. 6 ARYs for office in German submarkets



↑ → ↓
 Minimum ARYs movement compared to last six months

Top 7 Cities
 Min./Average/Max. %

Regional Cities
 Min./Average/Max. %

Regions
 Min./Average/Max. %

Berlin 3.0%/4.2%/5.6%	Dusseldorf 3.6%/4.6%/6.2%	Frankfurt am Main 3.3%/4.3%/5.7%	Hamburg 3.2%/4.3%/5.4%	Cologne 3.7%/4.7%/6.1%	Munich 2.9%/3.9%/5.2%	Stuttgart 3.5%/4.4%/5.8%
Bonn 4.2%/5.0%/6.2%	Bremen 4.6%/5.6%/6.9%	Dortmund 4.8%/5.8%/6.9%	Dresden 4.7%/5.6%/7.0%	Duisburg 5.2%/6.2%/7.4%	Erfurt 5.2%/6.0%/7.2%	Essen 4.7%/5.5%/6.8%
Karlsruhe 4.6%/5.5%/6.5%	Hanover 4.3%/5.2%/6.5%	Leipzig 4.6%/5.3%/6.8%	Magdeburg 5.7%/6.5%/8.0%	Mainz-Wiesbaden 4.5%/5.4%/6.8%	Nuremberg 4.3%/5.1%/6.4%	Rhine Neckar 4.6%/5.7%/6.6%
Low. Saxony & S.-Holstein 5.4%/6.0%/7.2%	MV. & Sax.-A. & Brandenburg 5.3%/6.6%/7.4%	North of Hesse & Thu. & Sax. 5.5%/6.3%/7.4%	North Rhine-Westphalia 4.8%/5.8%/8.1%	Rhineland-P. & Saarland 5.5%/6.0%/7.9%	South of Hesse & BaWue 4.7%/5.4%/7.0%	Bavaria 4.6%/5.5%/7.2%

Expected 5-year yield development

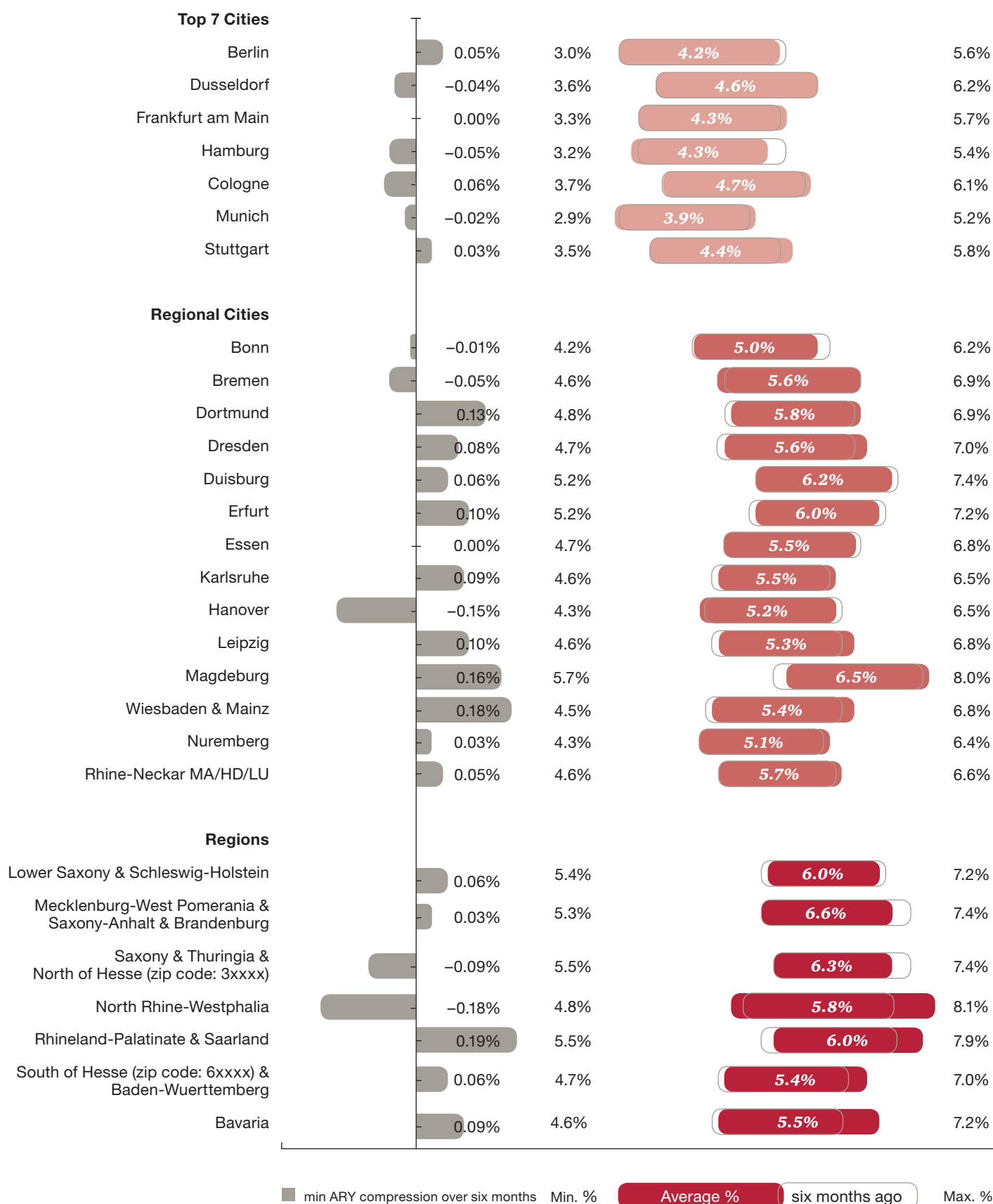


↓ <-1%
 ↘ -1.0% to -0.25%
 → -0.25% to 0.25%
 ↗ 0.25% to 1.0%
 ↑ >1.0%
 (majority of responses)

Fig. 7 Letting parameters for German office market

Top 7 Cities	Rent-free period (months)				Marketing period (months)				Extension propability	Annual market rent growth rate	
	Min.	Med.	Max.	Dev.	Min.	Med.	Max.	Dev.	Dev.		
Berlin	1	3	5	→	2	4	7	↗	73%	↘	3.5%
Dusseldorf	3	4	7	↑	3	5	8	↑	67%	↘	1.6%
Frankfurt am Main	2	4	7	↗	3	5	9	↗	68%	↓	2.1%
Hamburg	2	4	6	↑	3	4	7	↑	69%	↓	2.1%
Cologne	3	4	7	↑	3	5	8	↘	68%	↘	1.6%
Munich	1	3	5	↗	2	4	6	→	76%	↘	2.8%
Stuttgart	1	3	5	↑	3	4	8	↗	72%	↘	2.0%

Fig. 8 ARYs ranges and compression of minimum yields for German office market





3.2 Retail

High Street Retail

The general market sentiment towards high street retail remains negative. However, the high level of liquidity in the market bundled with the deployment of in place retail strategies by various investors explain the slight compression of minimum ARYs (-10 bps) in the Top 7 Cities.

Munich remains the most expensive high street retail location among the Top 7 Cities with a minimum ARY of 2.7% (2.8% in the last survey), followed by Berlin with a minimum ARY of 3.0% as well as Frankfurt and Hamburg (both 3.1% minimum ARYs).

The average minimum ARY for the examined 14 Regional Cities shows only a slight compression of 5 bps over the last six months. Bremen and Leipzig are the frontrunner in terms of compression with -27 bps and -18 bps for the minimum ARYs. The absolute minimum ARY of 3.9% of the survey results six months ago was not overruled. But in addition to Dresden, Hanover and Nuremberg, another three Regional Cities, Bonn, Karlsruhe and Rhine Neckar, reached that milestone.

In the last survey six months ago, the Regions still recorded slight compressions in the average ARYs for core and core+ retail properties. In this edition, however, the average ARYs increased by 8 bps for core and by 2 bps for core+ properties. Only for value add properties, the average ARY continues to show a compression (-28 bps). The regions South of Hesse, Baden-Wuerttemberg and Bavaria remain the ones with the most expensive prime retail properties, showing a stable minimum ARY of 4.3%.

Investors hardly see any rental growth in Regional Cities and Regions, with an average growth assumption of 0.2% and 0.0%. Only for prime high street properties in Berlin and Munich, investors do expect slight rental growth of 1.4% and 1.2% respectively.

Fig. 9 ARYs for high street retail in German submarkets



Berlin 3.0%/3.7%/5.0%	Dusseldorf 3.3%/4.0%/5.3%	Frankfurt am Main 3.1%/3.8%/4.9%	Hamburg 3.1%/3.8%/5.0%	Cologne 3.4%/4.1%/5.3%	Munich 2.7%/3.5%/4.7%	Stuttgart 3.2%/3.9%/5.1%
Bonn 3.9%/4.7%/5.6%	Bremen 4.1%/5.0%/5.8%	Dortmund 4.1%/4.9%/5.9%	Dresden 3.9%/4.7%/5.7%	Duisburg 4.7%/5.5%/6.7%	Erfurt 4.4%/5.2%/6.3%	Essen 4.3%/5.1%/6.0%
Karlsruhe 3.9%/4.6%/5.7%	Hanover 3.9%/4.7%/5.6%	Leipzig 4.0%/4.8%/5.9%	Magdeburg 4.9%/5.7%/6.8%	Mainz-Wiesbaden 4.1%/4.8%/5.8%	Nuremberg 3.9%/4.7%/5.6%	Rhine Neckar 3.9%/4.7%/5.8%
Low. Saxony & S.-Holstein 4.8%/5.5%/6.7%	MV. & Sax.-A. & Brandenburg 5.2%/6.0%/7.6%	North of Hesse & Thu. & Sax. 5.2%/6.0%/7.5%	North Rhine-Westphalia 4.9%/5.7%/7.1%	Rhineland-P. & Saarland 4.9%/5.7%/6.9%	South of Hesse & BaWue 4.3%/5.1%/6.4%	Bavaria 4.3%/5.1%/6.3%

Expected 5-year yield development

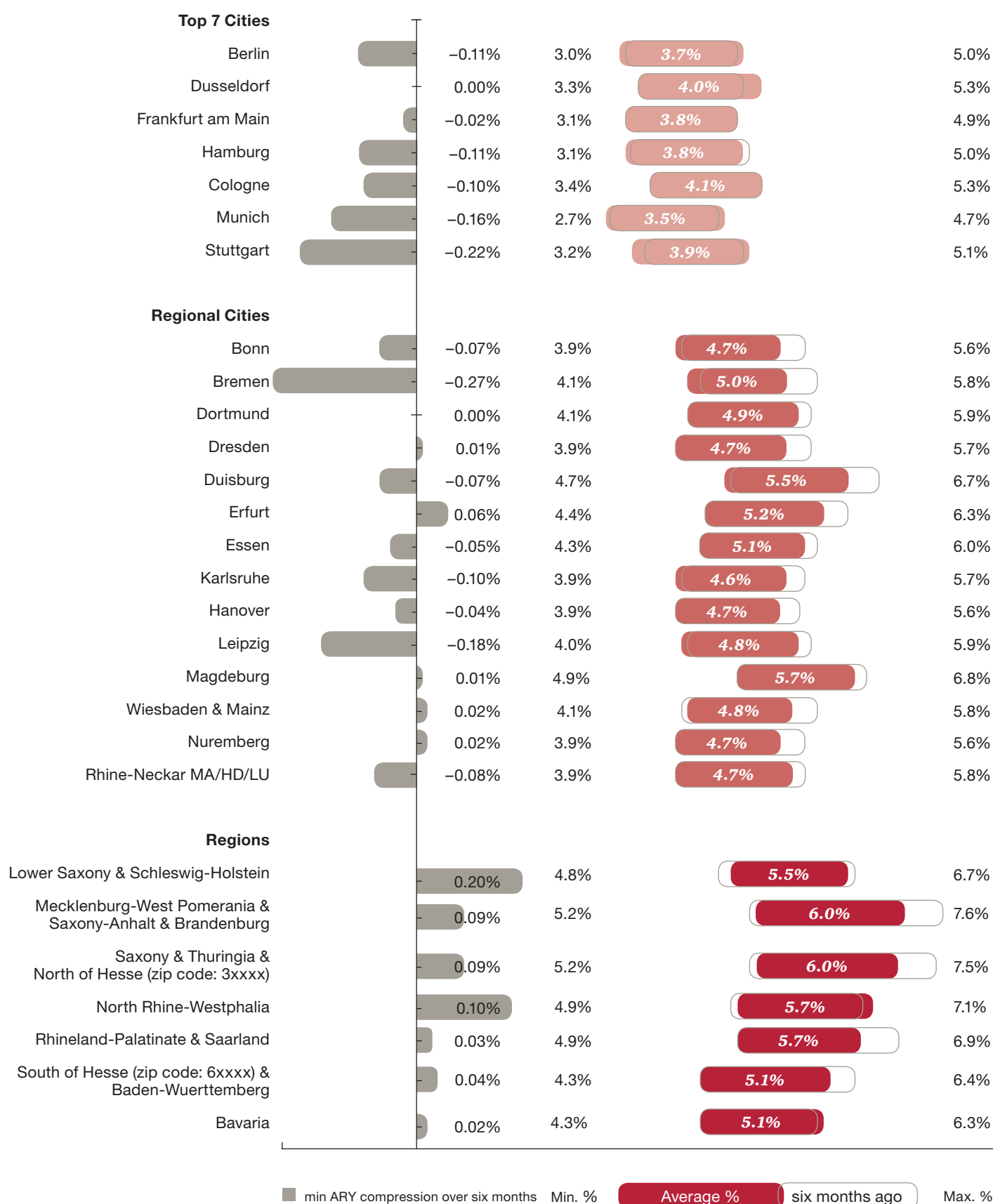


↓ <-1% ↘ -1.0% to -0.25% → -0.25% to 0.25% ↗ 0.25% to 1.0% ↑ >1.0%
 (majority of responses)

Fig. 10 Letting parameters for German high street retail

Top 7 Cities	Rent-free period (months)				Marketing period (months)				Extension propability	Annual market rent growth rate	
	Min.	Med.	Max.	Dev.	Min.	Med.	Max.	Dev.	Dev.		
Berlin	1	3	5	→	1	3	5	↗	64%	↓	1.4%
Dusseldorf	2	4	6	↘	2	6	7	↓	56%	↓	0.8%
Frankfurt am Main	2	4	6	↗	2	6	7	↘	56%	↓	0.9%
Hamburg	1	4	6	↓	2	5	6	↗	64%	↓	0.8%
Cologne	2	4	6	↓	2	6	8	↑	56%	↓	0.8%
Munich	1	3	5	→	2	4	5	↘	66%	↓	1.2%
Stuttgart	1	3	5	↘	2	4	7	↓	56%	↓	1.0%

Fig. 11 ARYs ranges and compression of minimum yields for German high street retail



Non-High Street Retail

In contrast to high street retail, out-of-town shopping centers, retail parks, supermarkets and DIY stores gained further attractiveness among investors. Our data shows compression for all ARYs levels (minimum, average and maximum) across all the sub-types, i.e. out-of-town shopping centers, retail parks, supermarkets and DIY stores. The strongest yield compressions in the core segment were observed for retail parks (–44 bps) and supermarkets (–24 bps). With this development, the minimum ARY for retail parks of 4.3% is now at the same level as the prime ARY for out-of-town shopping centers.

For out-of-town shopping centers, investors continuously expect decreasing market rents (–0.3%), whereas marginal rent growth is still expected for supermarkets (0.7%) and retail parks, (0.6%). However, compared to the previous survey six months ago, investors are less optimistic regarding rental growth rates, which were at 1.2% for retail parks and 1.1% for supermarkets.

Expected 5-year yield development



↓ <-1% ↘ -1.0% to -0.25% → -0.25% to 0.25% ↗ 0.25% to 1.0% ↑ >1.0%
 (majority of responses)

Fig. 12 ARYs and letting parameters for German retail market (excluding high street)

	All-risk-yield			Rent-free period (months)				Marketing period (months)				Extension probability	Annual market rent growth rate	
	Min.	Avg.	Max.	Min.	Med.	Max.	Dev.	Min.	Med.	Max.	Dev.	Dev.		
Out-of-town shopping center	4.3%	5.3%	7.0%	3	5	8	↑	5	7	11	↗	47%	↓	(0.3%)
Retail park	4.3%	5.2%	7.1%	1	3	5	↗	1	4	6	↓	75%	↘	0.6%
Supermarket	5.0%	6.0%	7.5%	1	2	3	↘	2	5	9	↓	75%	↓	0.7%
DIY store	5.6%	6.4%	8.0%	2	4	6	↑	2	5	9	→	67%	↓	0.0%



3.3 Logistics

Logistic yields remain at low levels with strong compression at Small Locations (outside the Top 15 Locations) and for risky properties.

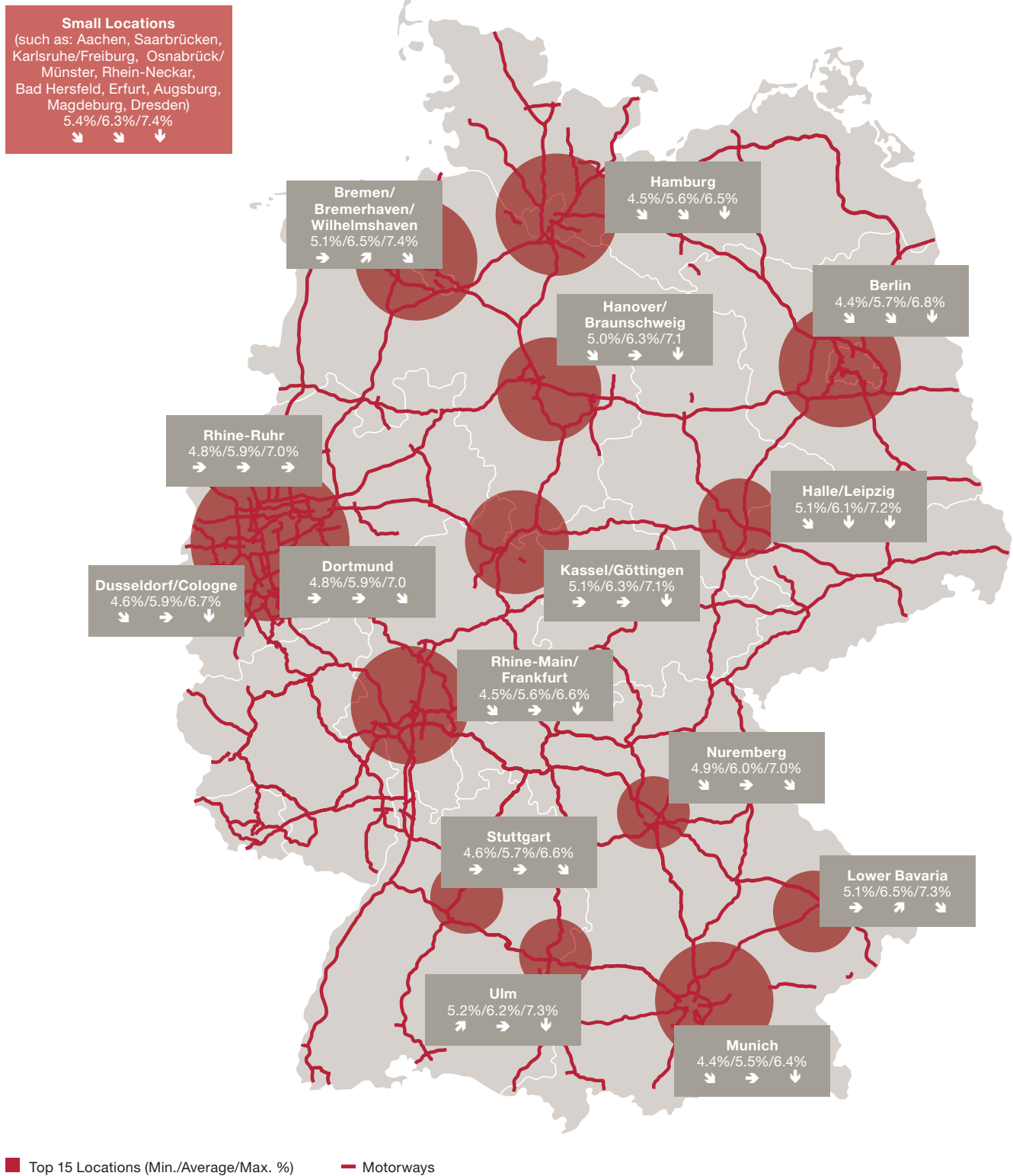
Over the last six months, the yield compression for prime logistic properties in the Top 15 Locations was on average –8 bps. The yield compression for prime properties in Small Locations was even stronger with –25 bps.

Unlike the results of the last survey, ARYs for risky properties showed the strongest compression with –35 bps. Overall, this development in yields indicates that the high demand for logistics is now spreading to more risky properties and Small Locations.

Among the Top 15 Locations, the Berlin region has shown the strongest decline in minimum ARYs (–25 bps), followed by Hamburg (–16 bps) and Munich (–15 bps). Alongside with Munich, Berlin is now the most expensive logistics market in Germany.

Rent-free periods for the Small Locations converge with those of the Top 15. A clear distinction between the Top 15 Locations and the smaller markets is, however, noticeable for the marketing period: With 6 to 12 months, the marketing period for logistic properties in small locations is 3 months longer than for the Top 15 Locations (3 to 9 months).

Fig. 13 ARYs for logistics in German submarkets



Expected 5-year yield development

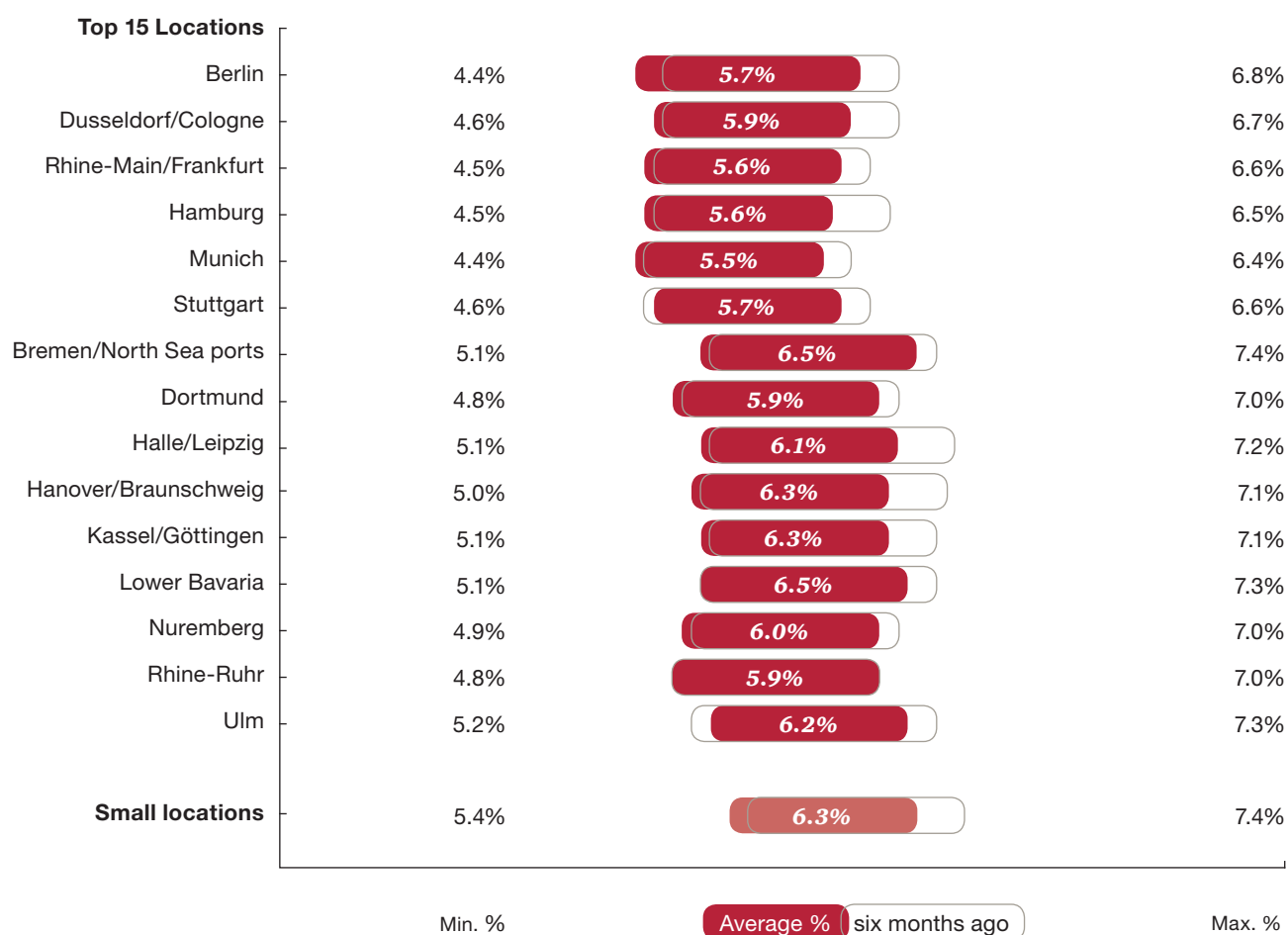
Top 15 Locations

Small Locations

- ↓ <-1%
- ↘ -1.0% to -0.25%
- -0.25% to 0.25%
- ↗ 0.25% to 1.0%
- ↑ >1.0%
(majority of responses)

2.0%
Annual logistics
market rent
growth rate



Fig. 14 ARYs ranges for logistics in German submarkets**Fig. 15 Letting parameters for German logistics market**

	Rent-free period (months)			Marketing period (months)			Extension probability	Annual market rent growth rate
	Min.	Med.	Max.	Min.	Med.	Max.		
Top 15 Locations	2	3	6	3	5	9	71%	2.0%
Small Locations	2	4	6	6	9	12	60%	0.9%



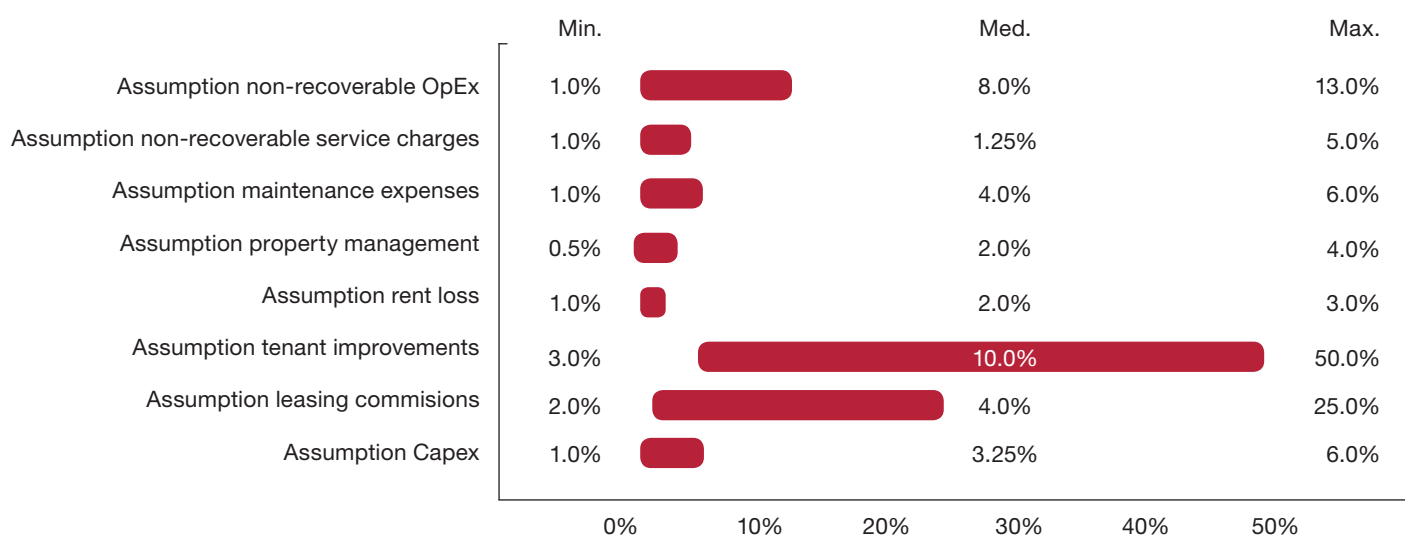
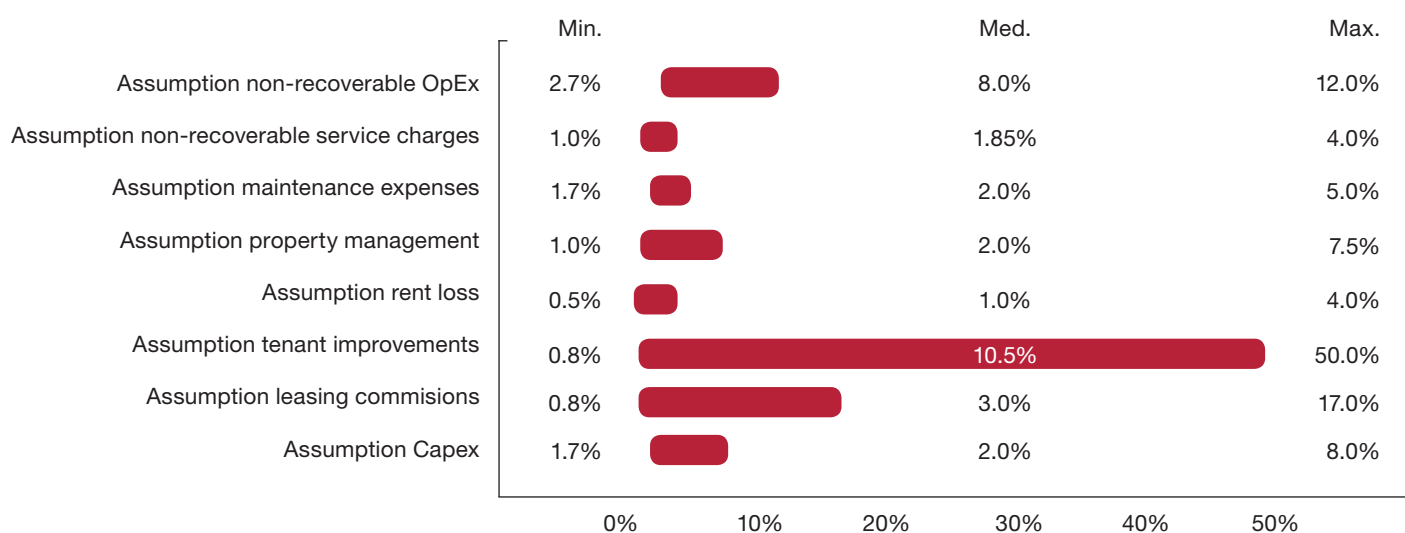
3.4 NOI Analysis

Office

Our participants generally include non-recoverable service charges, maintenance expenses and property management as well as rent loss into their calculation of Net Operating Income (NOI). Less than 30% of respondents include improvements and leasing commissions. These items are therefore largely treated as one-off items, which are considered below NOI. CapEx were excluded from NOI calculation by a large majority of participants.

Retail

As with the results for office properties, our participants generally include non-recoverable service charges, maintenance expenses and property management as well as rent loss into their calculation of Net Operating Income (NOI) for retail properties. Only 33% of the respondents include tenant improvements and leasing commissions, which is similar to the answers obtained for office properties. CapEx were excluded from NOI calculation by most of the participants.

Fig. 16 NOI calculation method for the office market**Fig. 17 NOI calculation method for the retail market**

Switzerland

4



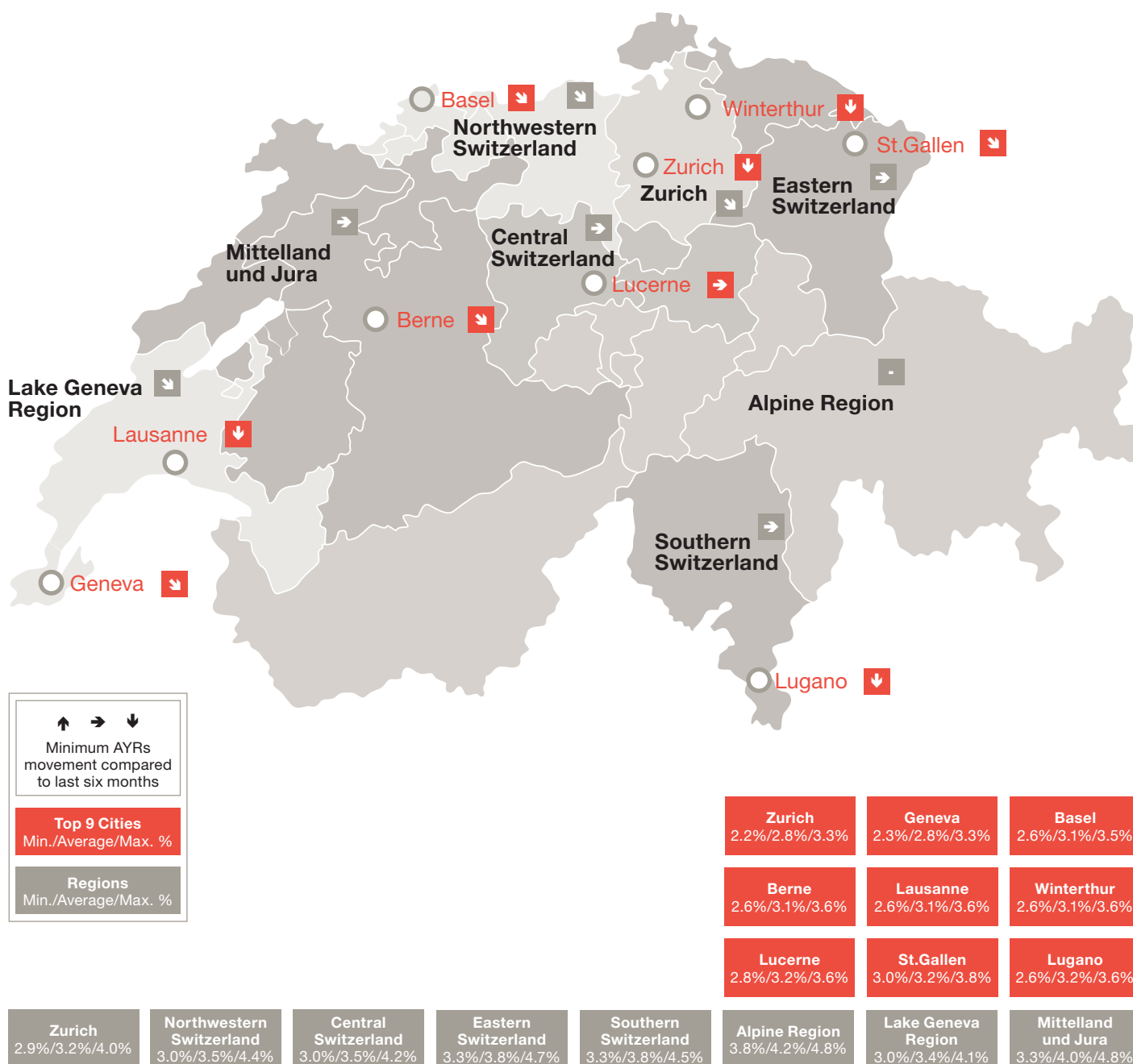
4.1 Residential

In the residential market, our data shows ARY compression across all Top 9 Cities. Zurich is still at the top with an ARY of 2.2% for core properties, followed by Geneva with 2.3%. Basel, Berne, Winterthur, Lausanne and Lugano constitute the mid-range with minimum ARYs of 2.6%. The highest-yielding core properties are in Lucerne and St. Gallen, 20 and 40 bps above the mid-range cities, respectively.

Notably, core properties have experienced the most sizeable compression over the past six months. For example, Zurich's minimum ARY represents a decrease of 27 bps compared to the last issue. This is no exception, as ARYs across all cities have decreased by an average of 25 bps. The strongest compression across all three ARY levels was observed in Lugano.

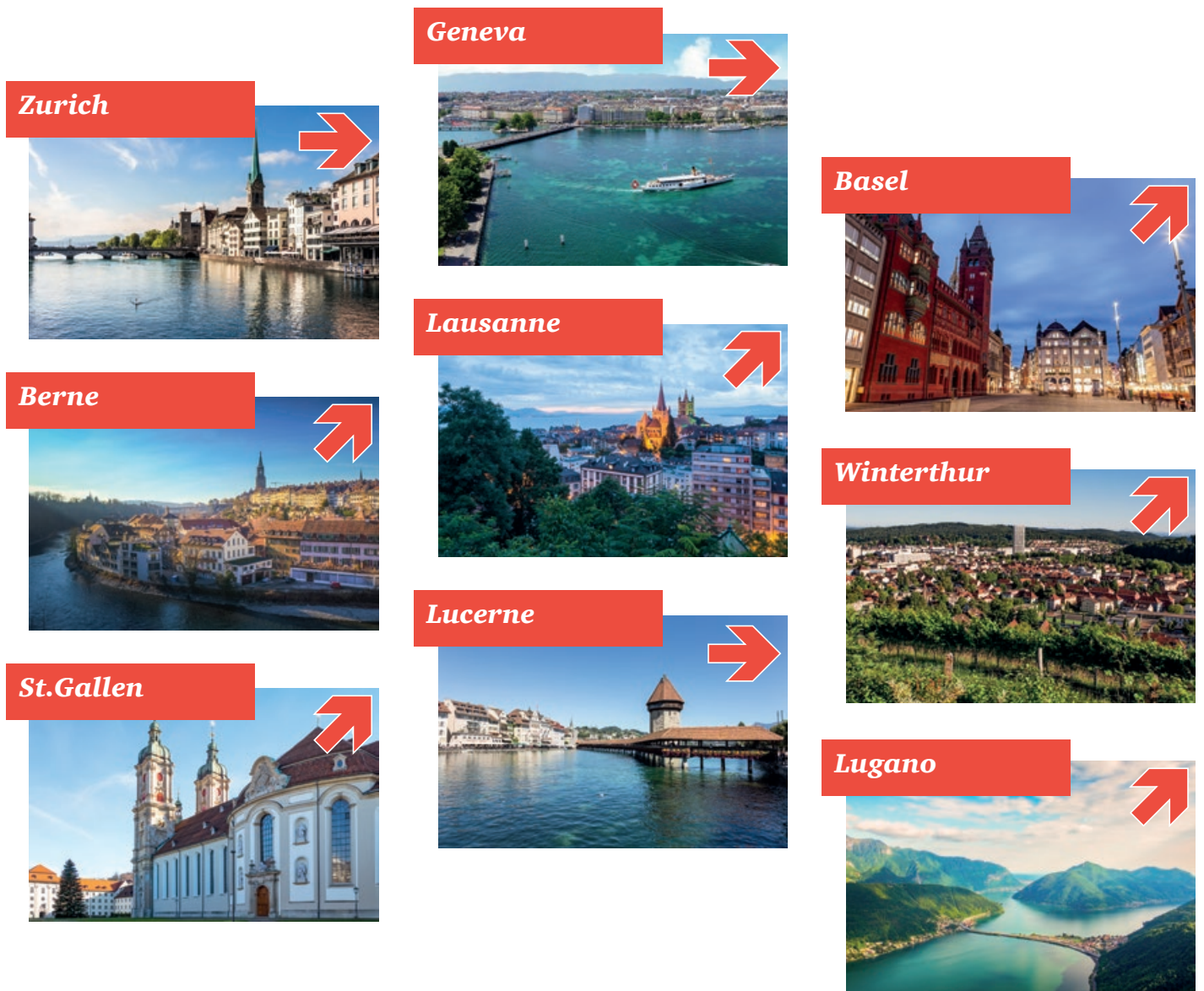
Yield compression for average and higher risk properties (represented by average and maximum ARYs) was prevalent as well, yet slightly less pronounced than among core properties. On average, both categories saw a compression of 17 bps. Regional yields have remained notably more constant. Only core properties experienced compression across the board with an average decrease of 9 bps. Average and maximum ARYs increased by 7 bps and 5 bps, respectively, across all regions over the past six months. The largest movements came for Eastern and Southern Switzerland (+10 bps each) and especially for the Mittelland (+34 bps). Central Switzerland and the Lake Geneva Region experienced the strongest compression at the high end with respective decreases of 10 bps and 33 bps for maximum ARYs. This can be attributed to the fact that for this issue the cantons Obwalden, Nidwalden, Uri and Valais were moved into the newly created Alpine Region.

Fig. 18 ARYs for residential in Swiss submarkets



Rental growth expectations remained stable at zero for the majority of the cities over the past six months. The exception at the lower end is Lugano, for which investors now project a 50 bps decrease. For the regions, rents are expected to decrease in Eastern (-0.5%) and Southern Switzerland (-1.0%) and to remain stable elsewhere.

Expected 5-year yield development



↘ <-1%
 ↘ -1.0% to -0.25%
 → -0.25% to 0.25%
 ↗ 0.25% to 1.0%
 ↗ >1.0%
 (majority of responses)

Fig. 19 Letting parameters for Swiss residential market

Top 9 Cities	Rent-free period (months)				Marketing period (months)				Annual market rent growth rate	
	Min.	Med.	Max.	Dev.	Min.	Med.	Max.	Dev.		Dev.
Zurich	0	0	0	→	0	3	1	→	0%	→
Geneva	0	0	0	→	0	2	1	→	0%	→
Basel	0	0	0	→	0	3	1	↘	0%	→
Berne	0	0	0	→	0	3	1	↘	0%	→
Lausanne	0	0	0	→	0	3	1	↘	0%	→
Winterthur	0	0	0	→	0	3	1	↘	0%	→
Lucerne	0	0	0	→	0	2	1	↘	0%	→
St.Gallen	0	0	0	→	0	3	2	→	0%	→
Lugano	0	0	0	→	0	3	1	↘	-0.5%	→

Fig. 20 ARYs ranges and compression of minimum yields for Swiss residential market





4.2 Office

For the office market, we found compression across all ARY levels (minimum, maximum and average) and across all submarkets (cities and regions). Zurich again tops the list with a minimum ARY of 2.4%, followed by Geneva with 2.5%, which is 10 bps lower than six months ago. In third position comes the newly added city of Zug with a 2.6% ARY for core office properties. Basel, Berne, Lausanne and Winterthur constitute the mid-range with minimum ARYs of between 2.7% and 2.9%. At the bottom, we again find St. Gallen and Lugano, where core properties are priced at 3.2% ARY on average.

The greatest compression within the office markets of the Swiss Top 9 Cities came among high-risk properties. Maximum ARYs decreased by an average of 39 bps compared to six months ago. This effect is widespread as yields for Zurich, Geneva, Basel, Berne, Lausanne and Winterthur all compressed by more than 40 bps. Pricing for core properties remained more stable with an average compression of 12 bps across all Top 9 Cities. The exception to this is Lausanne, where the minimum ARY decreased by 30 bps.

In the regions, the image is reversed as core properties experienced the greatest core segment decrease in ARYs, averaging 30 bps. This effect was strongest for Southern and Eastern Switzerland, with decreases of roughly 50 bps.

Rental growth expectations only changed notably for a few cities. For Zurich and Geneva, investors corrected their negative growth expectations upwards by 1 percentage point. For Berne, the expectations shifted from a zero-growth assumption to an expected 1% annual decrease.

Fig. 21 ARYs for office in Swiss submarkets



↑ → ↓
 Minimum ARYs movement compared to last six months

Top 9 Cities
 Min./Average/Max. %

Regions
 Min./Average/Max. %

Zurich 2.4%/3.0%/3.8%	Geneva 2.5%/3.1%/4.0%	Basel 2.8%/3.4%/4.0%
Berne 2.9%/3.5%/4.0%	Lausanne 2.7%/3.4%/4.0%	Winterthur 2.9%/3.5%/4.0%
Zug 2.6%/3.4%/4.1%	St.Gallen 3.2%/3.7%/4.2%	Lugano 3.2%/3.7%/4.3%

Zurich 3.4%/4.0%/5.0%	Northwestern Switzerland 3.8%/4.5%/5.2%	Central Switzerland 3.5%/4.4%/5.0%	Eastern Switzerland 3.7%/4.8%/5.5%	Southern Switzerland 4.0%/4.7%/5.8%	Alpine Region 3.6%/4.5%/5.6%	Lake Geneva Region 3.7%/4.5%/5.2%	Mittelland und Jura 4.0%/4.7%/5.8%
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Expected 5-year yield development



↓ <-1% ↘ -1.0% to -0.25% → -0.25% to 0.25% ↗ 0.25% to 1.0% ↑ >1.0%
 (majority of responses)

Fig. 22 Letting parameters for Swiss office market

Top 9 Cities	Rent-free period (months)				Marketing period (months)				Extension probability	Annual market rent growth rate		
	Min.	Med.	Max.	Dev.	Min.	Med.	Max.	Dev.	Dev.	Dev.		
Zurich	0	6	3	→	3	12	6	→	70%	→	0.0%	→
Geneva	0	6	3	↓	3	12	6	↘	60%	→	-1.0%	→
Basel	0	8	3	↗	3	12	7	→	70%	→	0.0%	→
Berne	0	6	3	→	3	13	7	→	68%	→	-1.0%	↘
Lausanne	0	6	3	→	3	12	6	→	70%	→	0.0%	→
Winterthur	0	6	3	→	3	12	6	→	70%	→	0.0%	→
Zug	0	8	3	→	3	12	6	↘	70%	→	0.0%	→
St.Gallen	0	8	4	→	3	12	8	→	66%	→	-2.0%	→
Lugano	0	9	3	↓	3	12	8	→	66%	→	-1.0%	→

Fig. 23 ARYs ranges and compression of minimum yields for Swiss office market





4.3 Retail

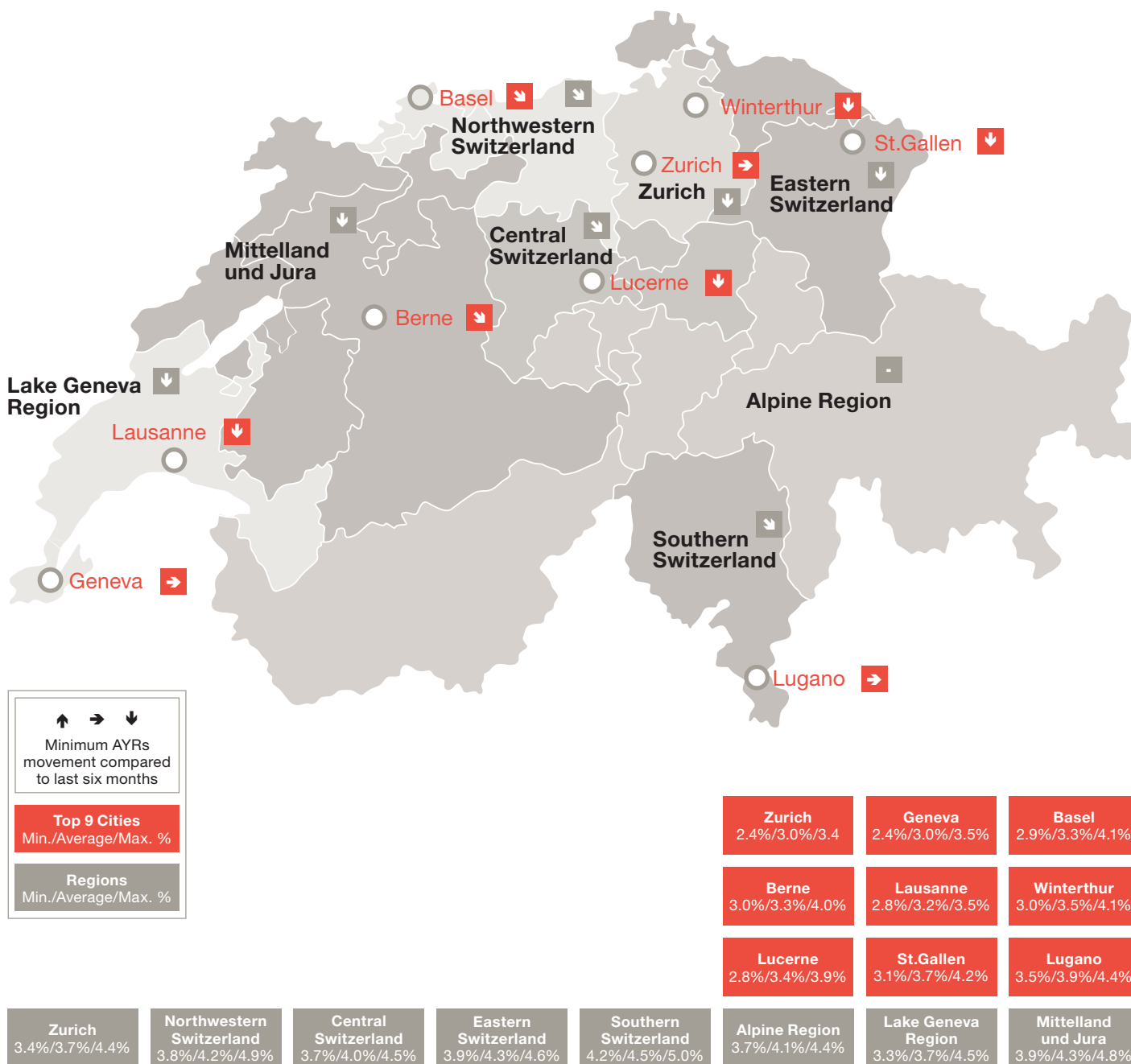
High Street Retail

As for residential and office, high street retail yields moved mainly in one direction over the past six months: down. In the cities, the average compression for minimum, average and maximum ARYs are around 30 bps. In the regions, compression was even stronger at –37 bps, –46 bps and –31 bps for minimum, average and maximum ARYs, respectively.

In the cities, only yields for core properties in Zurich, Geneva and Lugano, as well as for average properties in Zurich, St. Gallen and Lugano remained roughly stable. For all other cities and categories, the data shows significant compressions. In terms of relative levels, however, not much changed. Zurich's and Geneva's high streets are still priced the highest at 2.4% minimum ARYs. However, the margin to Basel, Lausanne and Lucerne has narrowed from 60–80 bps six months ago to only 40–50 bps. As mentioned above, this is due to the fact that compression was much weaker in the top two cities.

In the Regions, we also find Lake Geneva and Zurich at the top of the list with 3.3% and 3.4% minimum ARYs, respectively. Unlike their urban centers, these two regions have experienced sizeable compression over the past six months. Average ARYs, representing less attractive locations on high street, have compressed the most (–46 bps). The strongest moves took place in Zurich and Northwestern Switzerland. Yield compression for properties in close proximity to the high street (maximum ARY) was lower than for on-high street properties but is still at a sizeable level of 31 bps.

Fig. 24 ARYs for high street retail in Swiss submarkets



While investors still project rental growth to remain in negative territory, expectations are significantly less pessimistic than six months ago. -1% is the projection for six out of the Top 9 cities, with expected contractions slightly weaker for Lucerne and stronger for St. Gallen and Lugano. On average, annual contraction of market rents is projected to slow down by 1.3 percentage points. The strongest move is expected for Basel, which jumps from a 4% negative growth to -1%.

Expected 5-year yield development



↘ <-1%
 ↘ -1.0% to -0.25%
 → -0.25% to 0.25%
 ↗ 0.25% to 1.0%
 ↗ >1.0%
 (majority of responses)

Fig. 25 Letting parameters for Swiss retail market

Top 9 Cities	Rent-free period (months)				Marketing period (months)				Extension probability	Annual market rent growth rate		
	Min.	Med.	Max.	Dev.	Min.	Med.	Max.	Dev.	Dev.	Dev.		
Zurich	0	6	3	↘	3	12	7	→	60%	→	-1.0%	→
Geneva	0	6	3	↘	3	12	6	↘	55%	→	-1.0%	↗
Basel	0	6	4	↘	3	12	7	→	60%	→	-1.0%	↗
Berne	0	6	3	↘	3	12	6	↘	60%	→	-1.0%	→
Lausanne	0	6	3	↘	3	12	6	↘	60%	→	-1.0%	→
Winterthur	0	6	4	↘	3	12	6	↘	60%	→	-1.0%	↗
Lucerne	0	6	3	↘	3	12	7	↘	60%	→	-0.5%	→
St.Gallen	0	6	4	↘	3	12	6	↘	60%	→	-1.5%	↗
Lugano	0	6	4	↘	3	12	6	↘	50%	↘	-1.3%	↗

Fig. 26 ARYs ranges and compression of minimum yields for Swiss retail market



Non-High Street Retail

Yields for location-independent retail properties remained roughly stable over the past six months. Out-of-town shopping centers have seen a slight contraction for average and maximum yields. For retail parks we observed an increase in minimum and maximum yields, while the average decreased minimally. The largest contraction was observed for supermarkets, where particularly average yields decreased (–25 bps compared to the previous issue). DIY stores have seen some contraction in minimum and average yields and slightly increasing maximum ARYs.

While changes in yields are moderate, investors see expected annual rent growth more critically than six months ago. Rents for out-of-town shopping centers, retail parks (–1% each) and especially DIY stores (–2.5%) are expected to fall, while no changes are expected for supermarkets.

Expected 5-year yield development



↓ <-1% ↘ -1.0% to -0.25% → -0.25% to 0.25% ↗ 0.25% to 1.0% ↑ >1.0%
 (majority of responses)

Fig. 27 Letting parameters for Swiss non-high street retail

	All-risk-yield			Rent-free period (months)				Marketing period (months)				Extension probability	Annual market rent growth rate		
	Min.	Avg.	Max.	Min.	Med.	Max.	Dev.	Min.	Med.	Max.	Dev.	Dev.	Dev.	Dev.	
Out-of-town shopping center	4.0%	4.5%	5.2%	3	12	6	↗	6	18	9	↗	60%	↗	-1.0%	↗
Retail park	4.0%	4.8%	5.5%	0	9	6	↓	3	15	9	↗	68%	↗	-1.0%	↘
Supermarket	3.6%	4.6%	5.2%	3	11	5	↗	5	12	9	↘	78%	↗	0.0%	↗
DIY store	3.9%	4.8%	5.3%	2	11	6	↓	5	15	9	↓	55%	↗	-2.5%	↓



4.4 NOI Analysis

Residential

In the residential sphere, all of our participants deduct non-recoverable service charges, maintenance expenses, property management and rent loss when calculating the NOI. These four categories together, summarised as non-recoverable OpEx, make up 16.1% of net rental income (NRI) on average. For the remaining three categories, we observed less cohesion among investors. Two out of three participants foresee a deduction for tenant improvements. For those who do, it makes up 1.3% of NRI on average. Further, investors are split over the dealing with leasing commissions. Finally, two thirds deduct Capex at an average proportion of 5% of NRI.

Retail and office

For office and retail properties, investors again unanimously deduct non-recoverable OpEx. They amount to 16.0% for offices and 16.4% for retail properties. Tenant improvements for offices are considered by just over half of the participants, which deduct an average of 2% of NRI. In the retail market slightly more than half of the investors deduct on average 1.5% of NRI for this category. Leasing commissions are deducted by three quarters of participants and at a proportion of 1.5% of NRI for both office and retail. Finally, Capex are deducted by less than half of office and retail investors. The deductions are 4.0% of NRI for office properties and 3.5% in the retail space.

Fig. 28 NOI calculation method Swiss residential

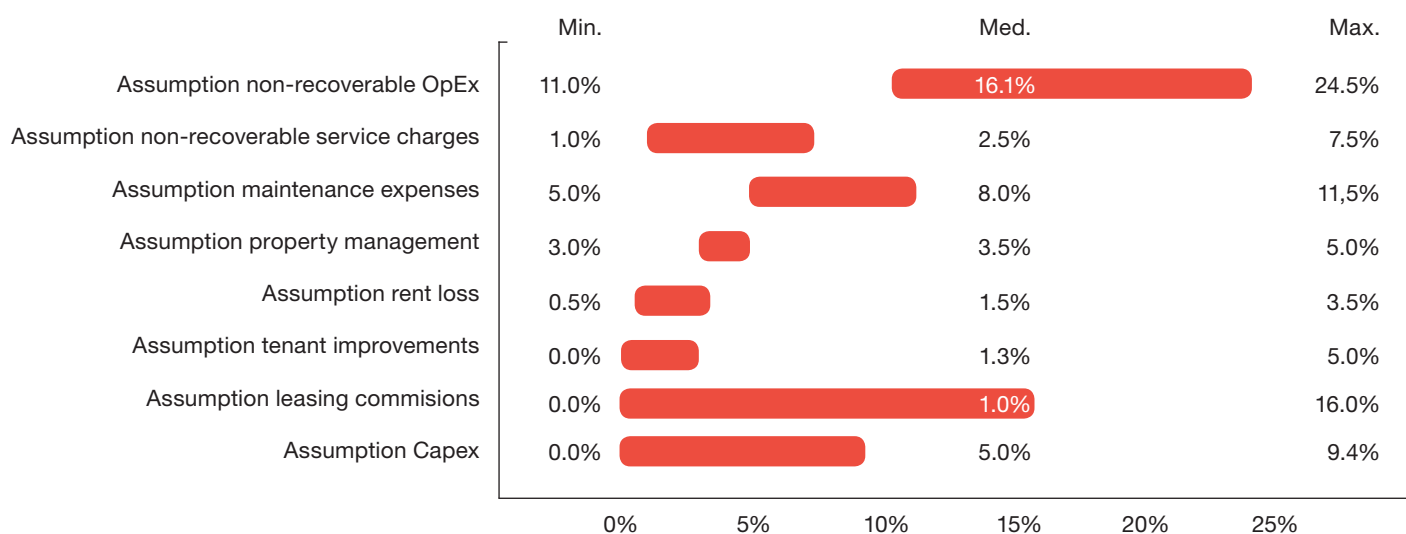
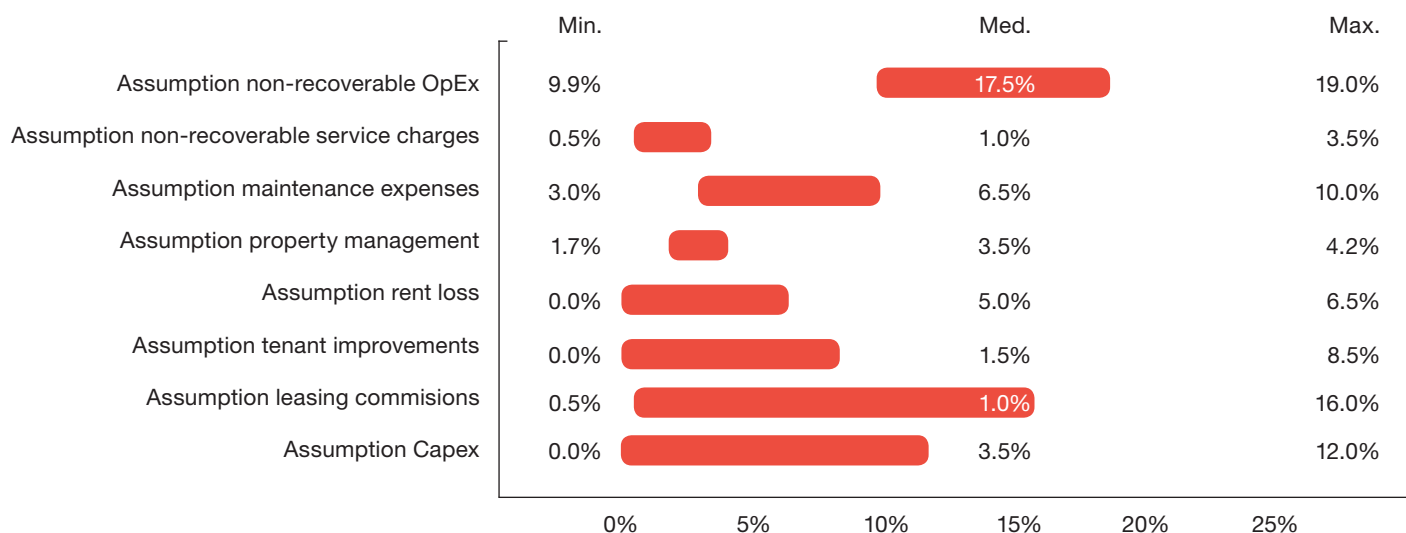


Fig. 29 NOI calculation method Swiss office



Fig. 30 NOI calculation method Swiss retail

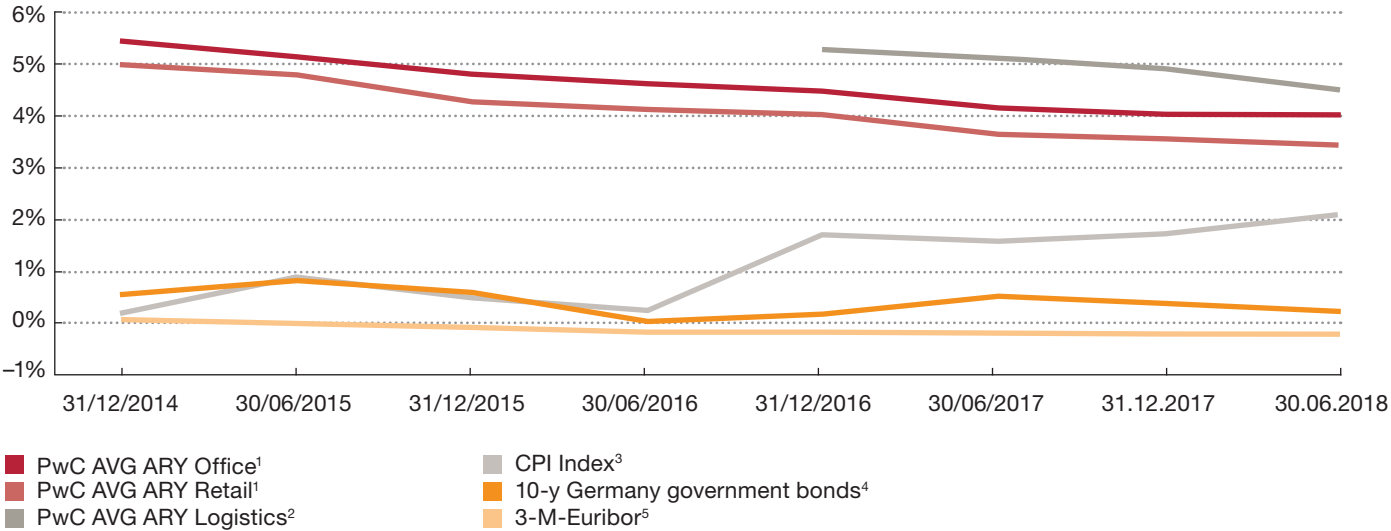




Overview of results

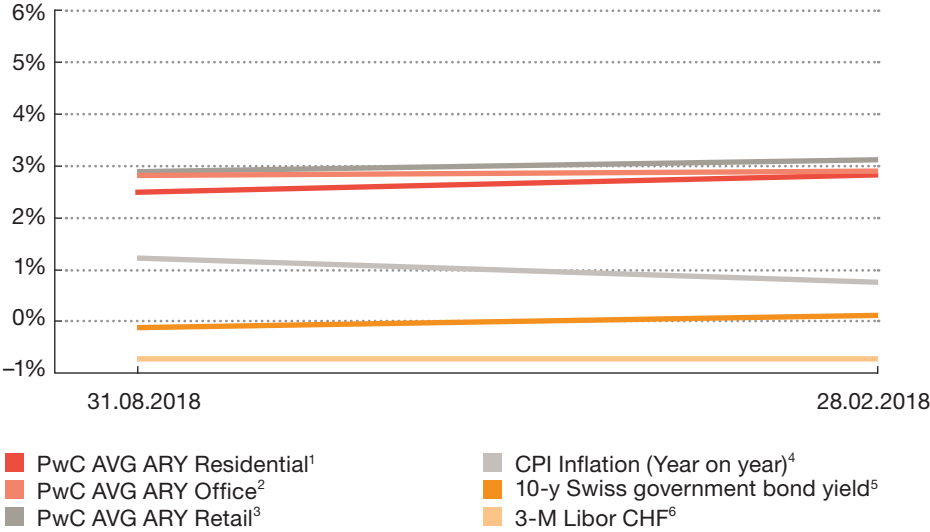
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Fig. 31 Yield comparison Germany



¹ AVG ARY includes only min ARY for Top 7 Cities and Regional Cities
² AVG ARY includes only min ARY for Top 15 Locations
³ Statistisches Bundesamt (Germany)
⁴ Bloomberg
⁵ ECB: Historical close, average of observations through period

Fig. 32 Yield comparison Switzerland



¹ AVG ARY includes only min ARY for Top 9 Cities
² AVG ARY includes only min ARY for Top 9 Cities
³ AVG ARY includes only min ARY for Top 9 Cities
⁴ Source: Bundesamt für Statistik, 12 February 2018
⁵ Bloomberg
⁶ Swiss National Bank

Result overview for Germany

Fig. 33 Results overview for office

	Current			Annual market rent growth rate	6 months ago			12 months ago		
	Min.	Med.	Max.		Min.	Med.	Max.	Min.	Med.	Max.
Top 7 Cities										
Berlin	3.0%	4.2%	5.6%	3.5%	3.0%	4.2%	5.7%	3.1%	4.3%	5.8%
Dusseldorf	3.6%	4.6%	6.2%	1.6%	3.6%	4.7%	6.2%	3.8%	5.0%	6.4%
Frankfurt am Main	3.3%	4.3%	5.7%	2.1%	3.3%	4.3%	5.6%	3.5%	4.5%	6.0%
Hamburg	3.2%	4.3%	5.4%	2.1%	3.3%	4.3%	5.7%	3.4%	4.5%	6.1%
Cologne	3.7%	4.7%	6.1%	1.6%	3.7%	4.7%	6.0%	3.8%	5.0%	6.6%
Munich	2.9%	3.9%	5.2%	2.8%	3.0%	4.0%	5.1%	3.0%	4.0%	5.3%
Stuttgart	3.5%	4.4%	5.8%	2.0%	3.5%	4.4%	5.6%	3.6%	4.6%	6.0%
Regional Cities										
Bonn	4.2%	5.0%	6.2%	1.0%	4.2%	5.2%	6.4%	4.6%	5.5%	6.9%
Bremen	4.6%	5.6%	6.9%	0.9%	4.7%	5.7%	6.9%	4.9%	5.9%	7.2%
Dortmund	4.8%	5.8%	6.9%	0.8%	4.7%	5.6%	6.8%	4.9%	5.9%	7.2%
Dresden	4.7%	5.6%	7.0%	1.3%	4.6%	5.6%	6.8%	4.8%	5.8%	7.0%
Duisburg	5.2%	6.2%	7.4%	0.8%	5.2%	6.2%	7.5%	5.3%	6.3%	7.7%
Erfurt	5.2%	6.0%	7.2%	1.1%	5.1%	6.0%	7.3%	5.4%	6.3%	7.6%
Essen	4.7%	5.5%	6.8%	0.9%	4.7%	6.0%	6.9%	5.0%	5.9%	7.1%
Karlsruhe	4.6%	5.5%	6.5%	1.3%	4.5%	5.3%	6.4%	4.8%	5.7%	6.9%
Hanover	4.3%	5.2%	6.5%	1.2%	4.4%	5.3%	6.6%	4.6%	5.7%	7.0%
Leipzig	4.6%	5.3%	6.8%	1.4%	4.5%	5.4%	6.6%	4.7%	5.8%	7.3%
Magdeburg	5.7%	6.5%	8.0%	0.8%	5.5%	6.5%	7.9%	5.7%	6.6%	7.9%
Wiesbaden & Mainz	4.5%	5.4%	6.8%	1.3%	4.4%	5.3%	6.6%	4.7%	5.6%	7.1%
Nuremberg	4.3%	5.1%	6.4%	1.4%	4.3%	5.2%	6.3%	4.5%	5.5%	6.9%
Rhine-Neckar MA/HD/LU	4.6%	5.7%	6.6%	1.3%	4.6%	5.4%	6.5%	5.0%	5.7%	7.3%
Regions										
Lower Saxony & Schleswig-Holstein	5.4%	6.0%	7.2%	0.7%	5.3%	6.0%	7.3%	5.5%	6.2%	7.6%
Mecklenburg-West Pomerania & Saxony-Anhalt & Brandenburg	5.3%	6.6%	7.4%	0.5%	5.3%	6.4%	7.7%	5.6%	6.6%	7.9%
Saxony & Thuringia & North of Hesse (zip code: 3xxxx)	5.5%	6.3%	7.4%	0.5%	5.5%	6.3%	7.7%	5.8%	6.5%	7.9%
North Rhine-Westphalia	4.8%	5.8%	8.1%	1.0%	5.0%	5.9%	7.3%	5.2%	6.2%	7.5%
Rhineland-Palatinate & Saarland	5.5%	6.0%	7.9%	0.9%	5.3%	6.1%	7.5%	5.7%	6.3%	7.7%
South of Hesse (zip code: 6xxxx) & Baden-Wuerttemberg	4.7%	5.4%	7.0%	1.6%	4.6%	5.5%	6.7%	4.8%	5.6%	7.1%
Bavaria	4.6%	5.5%	7.2%	1.8%	4.5%	5.3%	6.6%	4.7%	5.5%	6.9%

Result overview for Germany

Fig. 34 Results overview for high street retail

	Current			Annual market rent growth rate	6 months ago			12 months ago		
	Min.	Med.	Max.		Min.	Med.	Max.	Min.	Med.	Max.
Top 7 Cities										
Berlin	3.0%	3.7%	5.0%	1.4%	3.1%	3.9%	4.9%	3.2%	3.7%	4.5%
Dusseldorf	3.3%	4.0%	5.3%	0.8%	3.3%	4.1%	5.0%	3.4%	4.0%	4.9%
Frankfurt am Main	3.1%	3.8%	4.9%	0.9%	3.1%	3.8%	4.9%	3.2%	3.8%	4.6%
Hamburg	3.1%	3.8%	5.0%	0.8%	3.2%	3.9%	5.1%	3.2%	3.8%	4.6%
Cologne	3.4%	4.1%	5.3%	0.8%	3.5%	4.1%	5.3%	3.4%	3.9%	4.8%
Munich	2.7%	3.5%	4.7%	1.2%	2.8%	3.6%	4.6%	2.9%	3.5%	4.3%
Stuttgart	3.2%	3.9%	5.1%	1.0%	3.4%	4.0%	5.0%	3.3%	3.8%	4.4%
Regional Cities										
Bonn	3.9%	4.7%	5.6%	0.1%	4.0%	4.7%	6.0%	4.0%	4.7%	5.6%
Bremen	4.1%	5.0%	5.8%	0.0%	4.3%	5.1%	6.2%	4.4%	5.1%	6.0%
Dortmund	4.1%	4.9%	5.9%	(0.2%)	4.1%	4.9%	6.1%	4.2%	4.9%	6.2%
Dresden	3.9%	4.7%	5.7%	0.4%	3.9%	4.7%	6.1%	3.9%	4.7%	5.8%
Duisburg	4.7%	5.5%	6.7%	(0.2%)	4.8%	5.7%	7.2%	4.7%	5.6%	6.7%
Erfurt	4.4%	5.2%	6.3%	0.0%	4.4%	5.2%	6.7%	4.5%	5.2%	6.5%
Essen	4.3%	5.1%	6.0%	0.0%	4.3%	5.3%	6.2%	4.2%	5.0%	6.0%
Karlsruhe	3.9%	4.6%	5.7%	0.6%	4.0%	4.8%	6.0%	3.9%	4.7%	5.7%
Hanover	3.9%	4.7%	5.6%	0.3%	3.9%	4.6%	5.9%	4.0%	4.7%	5.9%
Leipzig	4.0%	4.8%	5.9%	0.5%	4.1%	5.0%	6.1%	4.0%	4.9%	5.8%
Magdeburg	4.9%	5.7%	6.8%	0.0%	4.9%	6.0%	7.0%	4.9%	5.8%	6.9%
Wiesbaden & Mainz	4.1%	4.8%	5.8%	0.3%	4.0%	4.9%	6.2%	3.9%	4.7%	5.7%
Nuremberg	3.9%	4.7%	5.6%	0.3%	3.9%	4.7%	6.0%	3.8%	4.5%	5.5%
Rhine-Neckar MA/HD/LU	3.9%	4.7%	5.8%	0.6%	4.0%	4.9%	6.0%	4.2%	5.0%	6.0%
Regions										
Lower Saxony & Schleswig-Holstein	4.8%	5.5%	6.7%	(0.2%)	4.6%	5.2%	6.8%	4.7%	5.7%	7.2%
Mecklenburg-West Pomerania & Saxony-Anhalt & Brandenburg	5.2%	6.0%	7.6%	(0.3%)	5.1%	6.1%	8.2%	5.0%	6.1%	7.8%
Saxony & Thuringia & North of Hesse (zip code: 3xxxx)	5.2%	6.0%	7.5%	(0.3%)	5.1%	6.0%	8.1%	5.1%	5.9%	7.6%
North Rhine-Westphalia	4.9%	5.7%	7.1%	(0.2%)	4.8%	5.4%	6.9%	4.9%	5.7%	7.3%
Rhineland-Palatinate & Saarland	4.9%	5.7%	6.9%	0.3%	4.9%	5.8%	7.5%	4.9%	5.8%	7.2%
South of Hesse (zip code: 6xxxx) & Baden-Wuerttemberg	4.3%	5.1%	6.4%	0.6%	4.3%	5.2%	6.8%	4.3%	5.3%	6.7%
Bavaria	4.3%	5.1%	6.3%	0.1%	4.3%	5.1%	6.2%	4.2%	5.1%	6.4%

Result overview for Germany

Fig. 35 Results overview for non-high street retail

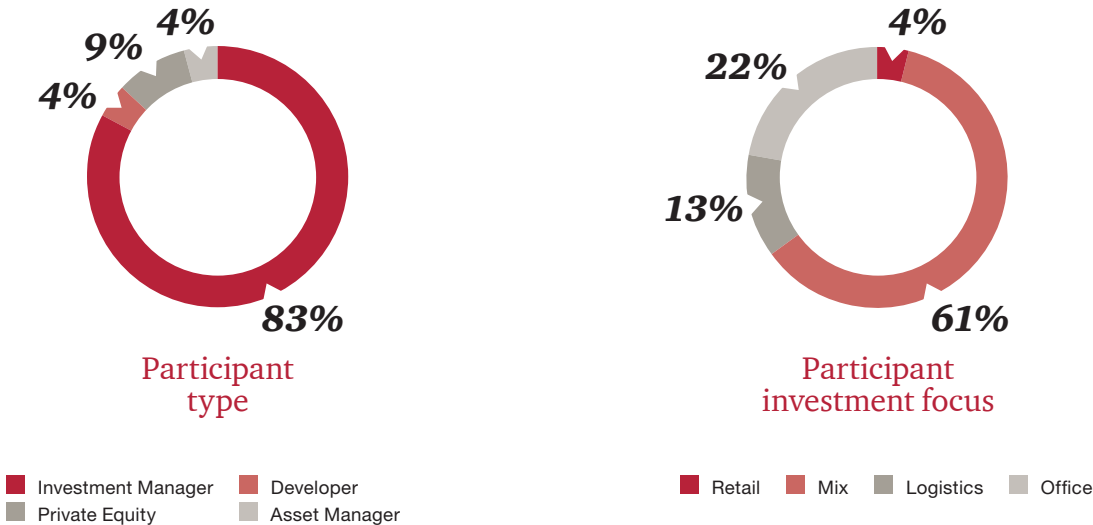
	Current			Annual market rent growth rate	6 months ago			12 months ago		
	Min.	Med.	Max.		Min.	Med.	Max.	Min.	Med.	Max.
Out-of-town shopping center	4.3%	5.3%	7.0%	(0.3%)	4.5%	5.7%	7.1%	4.6%	6.3%	8.0%
Retail park	4.3%	5.2%	7.1%	0.6%	4.8%	5.6%	7.2%	5.1%	6.8%	8.2%
Supermarket	5.0%	6.0%	7.5%	0.7%	5.3%	6.1%	7.8%	5.4%	6.8%	8.4%
DIY store	5.6%	6.4%	8.0%	0.0%	5.7%	6.4%	8.3%	6.2%	7.5%	9.0%

Fig. 36 Results overview for logistics

	Current			Annual market rent growth rate	6 months ago			12 months ago		
	Min.	Med.	Max.		Min.	Med.	Max.	Min.	Med.	Max.
Top 15 Locations										
Berlin	4.4%	5.7%	6.8%		4.7%	5.8%	7.2%	4.9%	6.2%	7.2%
Dusseldorf/ Cologne	4.6%	5.9%	6.7%		4.7%	5.8%	7.2%	4.9%	6.1%	7.2%
Rhine-Main/ Frankfurt	4.5%	5.6%	6.6%		4.6%	5.7%	6.9%	4.9%	6.1%	7.1%
Hamburg	4.5%	5.6%	6.5%	2.0%	4.6%	5.8%	7.1%	4.8%	6.1%	7.1%
Munich	4.4%	5.5%	6.4%		4.5%	5.6%	6.7%	4.7%	5.9%	6.9%
Stuttgart	4.6%	5.7%	6.6%		4.5%	5.6%	6.9%	4.9%	6.0%	7.1%
Bremen/North Sea ports	5.1%	6.5%	7.4%		5.2%	6.4%	7.6%	5.5%	6.7%	7.5%
Dortmund	4.8%	5.9%	7.0%		4.9%	5.9%	7.2%	5.4%	6.6%	7.6%
Halle/Leipzig	5.1%	6.1%	7.2%		5.2%	6.4%	7.8%	5.5%	6.8%	7.7%
Hanover/ Braunschweig	5.0%	6.3%	7.1%		5.1%	6.4%	7.7%	5.6%	6.8%	7.7%
Kassel/Göttingen	5.1%	6.3%	7.1%		5.2%	6.3%	7.6%	5.4%	6.6%	7.6%
Lower Bavaria	5.1%	6.5%	7.3%		5.1%	6.3%	7.6%	5.5%	6.7%	7.5%
Nuremberg	4.9%	6.0%	7.0%		5.0%	6.1%	7.2%	5.5%	6.6%	7.5%
Rhine-Ruhr	4.8%	5.9%	7.0%		4.8%	5.9%	7.0%	5.3%	6.5%	7.5%
Ulm	5.2%	6.2%	7.3%		5.0%	6.2%	7.6%	5.7%	6.8%	7.7%
Small Locations										
Small Locations	5.4%	6.3%	7.4%	0.9%	5.6%	6.4%	7.9%	6.1%	6.8%	8.0%

Result overview for Germany

Fig. 37 Overview participants Germany



Result overview for Switzerland

Fig. 38 Results overview for residential

Top 9 Cities	Current				6 months ago			
	Min.	Med.	Max.	Exp. Growth	Min.	Med.	Max.	Exp. Growth
Zurich	2.2%	2.8%	3.3%	0.0%	2.5%	2.9%	3.5%	0.0%
Geneva	2.3%	2.8%	3.3%	0.0%	2.5%	3.0%	3.5%	0.0%
Basel	2.6%	3.1%	3.5%	0.0%	2.8%	3.2%	3.7%	0.0%
Berne	2.6%	3.1%	3.6%	0.0%	2.7%	3.2%	3.7%	0.0%
Lausanne	2.6%	3.1%	3.6%	0.0%	3.0%	3.3%	3.6%	0.0%
Winterthur	2.6%	3.1%	3.6%	0.0%	3.0%	3.3%	3.7%	0.0%
Lucerne	2.8%	3.2%	3.6%	0.0%	2.8%	3.3%	3.9%	0.0%
St.Gallen	3.0%	3.2%	3.8%	0.0%	3.2%	3.4%	4.0%	0.0%
Lugano	2.6%	3.2%	3.6%	-0.5%	3.1%	3.5%	3.9%	0.0%
Regions								
Zurich	2.9%	3.2%	4.0%	0.0%	3.0%	3.3%	4.1%	0.0%
Northwestern Switzerland	3.0%	3.5%	4.4%	0.0%	3.3%	3.5%	4.3%	0.0%
Central Switzerland	3.0%	3.5%	4.2%	0.0%	3.0%	3.6%	4.3%	0.0%
Eastern Switzerland	3.3%	3.8%	4.7%	-0.5%	3.4%	3.7%	4.5%	-0.8%
Southern Switzerland	3.3%	3.8%	4.5%	-1.0%	3.3%	3.7%	4.1%	-0.5%
Alpine Region	3.8%	4.2%	4.8%	0.0%	-	-	-	-
Lake Geneva Region	3.0%	3.4%	4.1%	0.0%	3.1%	3.4%	4.5%	0.0%
Mittelland	3.3%	4.0%	4.8%	0.0%	3.3%	3.7%	4.5%	-0.3%

Fig. 39 Results overview for office

Top 9 Cities	Current				6 months ago			
	Min.	Med.	Max.	Exp. Growth	Min.	Med.	Max.	Exp. Growth
Zurich	2.4%	3.0%	3.8%	0.0%	2.5%	3.3%	4.3%	-1.0%
Geneva	2.5%	3.1%	4.0%	-1.0%	2.5%	3.3%	4.5%	-2.0%
Basel	2.8%	3.4%	4.0%	0.0%	3.0%	3.5%	4.5%	0.0%
Berne	2.9%	3.5%	4.0%	-1.0%	3.0%	3.5%	4.5%	0.0%
Lausanne	2.7%	3.4%	4.0%	0.0%	3.0%	3.5%	4.4%	0.0%
Winterthur	2.9%	3.5%	4.0%	0.0%	3.0%	3.5%	4.5%	0.0%
Zug	2.6%	3.4%	4.1%	0.0%	-	-	-	-
St.Gallen	3.2%	3.7%	4.2%	-2.0%	3.2%	4.0%	4.5%	-1.5%
Lugano	3.2%	3.7%	4.3%	-1.0%	3.2%	3.7%	4.3%	-2.0%
Regions								
Zurich	3.4%	4.0%	5.0%	-1.0%	3.7%	4.2%	5.2%	-1.5%
Northwestern Switzerland	3.8%	4.5%	5.2%	-1.5%	4.0%	4.5%	5.2%	-1.5%
Central Switzerland	3.5%	4.4%	5.0%	-0.8%	3.8%	4.4%	5.1%	-1.0%
Eastern Switzerland	3.7%	4.8%	5.5%	-1.0%	4.2%	4.8%	5.3%	-1.5%
Southern Switzerland	4.0%	4.7%	5.8%	-1.0%	4.5%	4.9%	6.4%	-0.5%
Alpine Region	3.6%	4.5%	5.6%	0.0%	4.5%	5.0%	7.0%	-1.0%
Lake Geneva Region	3.7%	4.5%	5.2%	-2.0%	4.0%	4.5%	5.0%	-2.5%
Mittelland	4.0%	4.7%	5.8%	-2.5%	4.0%	4.5%	5.5%	-2.0%

Result overview for Switzerland

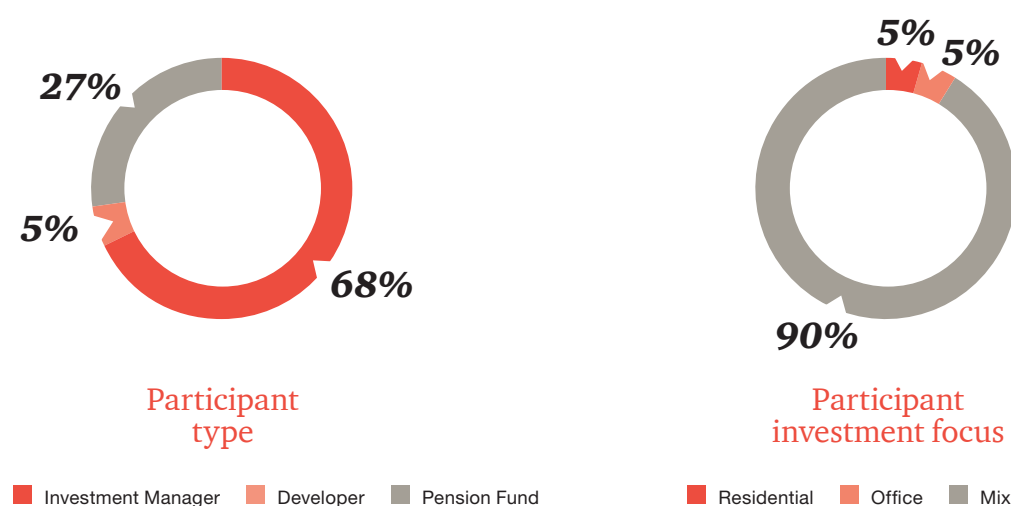
Fig. 40 Results overview for high street retail

Top 9 Cities	Current				6 months ago			
	Min.	Med.	Max.	Exp. Growth	Min.	Med.	Max.	Exp. Growth
Zurich	2.4%	3.0%	3.4%	-1.0%	2.5%	3.1%	3.8%	-2.0%
Geneva	2.5%	3.0%	3.5%	-1.0%	2.5%	3.3%	4.0%	-3.0%
Basel	2.9%	3.3%	4.1%	-1.0%	3.1%	3.7%	4.4%	-4.0%
Berne	3.0%	3.3%	4.0%	-1.0%	3.2%	3.7%	4.2%	-1.0%
Lausanne	2.8%	3.2%	3.5%	-1.0%	3.2%	3.7%	4.3%	-2.0%
Winterthur	3.0%	3.5%	4.1%	-1.0%	3.4%	3.8%	4.4%	-3.0%
Lucerne	2.8%	3.4%	3.9%	-0.5%	3.3%	3.8%	4.1%	0.0%
St.Gallen	3.1%	3.7%	4.2%	-1.5%	3.5%	3.7%	4.4%	-3.0%
Lugano	3.5%	3.9%	4.4%	-1.3%	3.5%	3.9%	4.6%	-3.0%
Regions								
Zurich	3.4%	3.7%	4.4%	-1.0%	3.8%	4.4%	5.0%	-2.5%
Northwestern Switzerland	3.8%	4.2%	4.9%	-1.0%	4.0%	4.9%	5.3%	-3.5%
Central Switzerland	3.7%	4.0%	4.5%	-1.9%	3.9%	4.3%	4.5%	-3.0%
Eastern Switzerland	3.9%	4.3%	4.6%	-2.0%	4.3%	4.4%	4.7%	-3.0%
Southern Switzerland	4.2%	4.5%	5.0%	-1.5%	4.4%	4.7%	5.0%	-4.5%
Alpine Region	3.7%	4.1%	4.4%	-1.9%	-	-	-	-
Lake Geneva Region	3.3%	3.7%	4.5%	-3.0%	4.0%	4.3%	4.8%	-4.0%
Mittelland	3.9%	4.3%	4.8%	-3.0%	4.3%	4.9%	5.5%	-2.8%

Fig. 41 Results overview for non-high street retail

	Current				6 months ago			
	Min.	Med.	Max.	Exp. Growth	Min.	Med.	Max.	Exp. Growth
Out-of-town shopping center	4.0%	4.5%	5.2%	-1.0%	4.0%	4.7%	5.2%	-1%
Retail park	4.0%	4.8%	5.5%	-1.0%	4.0%	4.9%	5.4%	0%
Supermarket	3.6%	4.6%	5.2%	0.0%	3.7%	4.8%	5.2%	0%
DIY store	3.9%	4.8%	5.3%	-2.5%	4.0%	5.0%	5.2%	0%

Fig. 42 Overview participants Switzerland





Approach and Definitions

In our survey, we concentrated on all-risk-yields or ARYs, as these reflect the relationship (capitalisation rate) between stabilised net operating income (NOI) and an expected purchase price. It thus takes into account the individual risk-return relationship and provides an insight into future market trends and developments in rent levels. The ARY is the capitalisation rate that is used in the direct capitalisation method. The ARYs presented in our results are a simple average of the single data points received for the respective submarkets.

To account for a broader market – comprising Core, Core+, and Value-Add properties – we put the ARYs into three categories: minimum (Core), maximum (Value-Add) and average (Core+). Using office properties in Frankfurt as one example, we have defined these categories as follows:

6

Fig. 43 Classification of the range of ARYs for the office market

	Location	WAULT	Vacancy	Age
Office				
Min.	CBD (eg, Frankfurt Financial District)	>5	~5%–10%	<5 years
Average	Immediate vicinity to CBD (eg, Frankfurt trade fair)	~5	~10%–15%	~5–20 years
Max.	Peripheral office locations (eg, Frankfurt-Niederrad)	<4	>15%–40%	<25 years

Regarding the retail sector, we separated in-town high street retail from location-independent retail. Out-of-town shopping centres, retail parks, single grocery stores and DIY stores represent typical subclasses of the location-independent retail market. Within location-independent retail, we view macro-locations to be of less importance, given that individual competition, performance and accessibility are the factors driving the value of such retail properties. As a result, we have divided the definition of retail as follows:

Fig. 44 Classification of the range of ARYs for high street retail

	Location/retail class	WAULT	Vacancy	Age
High street retail				
Min.	City centre high street or 1a shopping centre (Frankfurt Goethestrasse)	>5	<5%	<5 years
Average	Lesser frequented sections of the high street	~5	~5%	~5–15 years
Max.	Close proximity to the high street, within 100m distance	<4	~20%	>15 years

Fig. 45 Classification of the range of ARYs for location-independent retail

	Competition	WAULT	Vacancy	Age
Location-independent retail				
Min.	Dominant situation	>5	<5%	<5 years
Average	In competition with equal competitors	~5	~5%	~5–15 years
Max.	Inferior to competitors	<4	~25%	>15 years

For logistics properties we have defined three categories (minimum, maximum and average) as follows:

Fig. 46 Classification of the range of ARYs for the logistics market

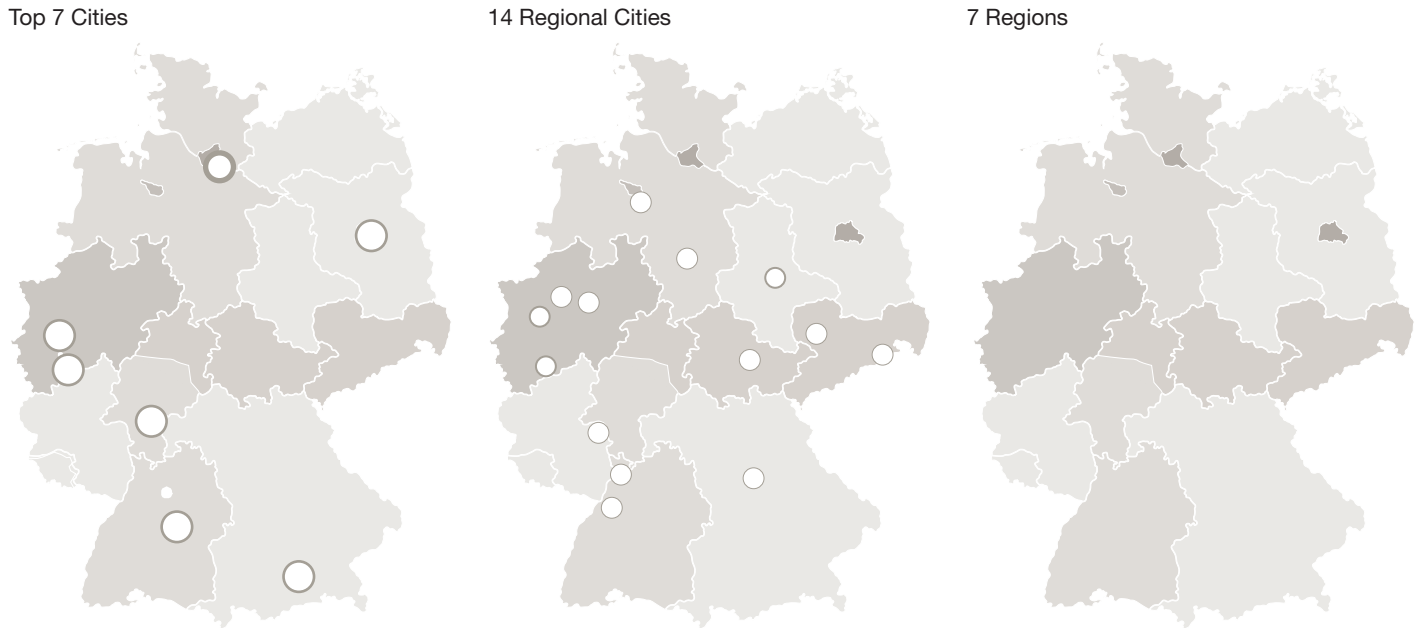
	Motorway access	Third party usability	WAULT	Age
Logistics				
Min.	<5 minutes	excellent	~10	<5 years
Average	~5–15 minutes	good	~5	~5–20 years
Max.	>15 minutes	limited	<4	>25 years

The maximum yield does not cover assets that cannot be valued with a direct capitalisation method – that is to say, where there is no sustainable cash flow or opportunistic development assets.

German submarkets

Based on Germany’s geographical structure, we have identified three categories of markets for office and retail properties: i) Top 7 Cities, ii) Regional Cities and iii) Regions. The Top 7 Cities reflect the ARYs of the seven most populated cities in Germany. Regional Cities represent a selection of 13 cities with a population ranging from 200,000 to 600,000. The Regions provide the yields in the respective areas, excluding all Top 7 Cities and Regional Cities.

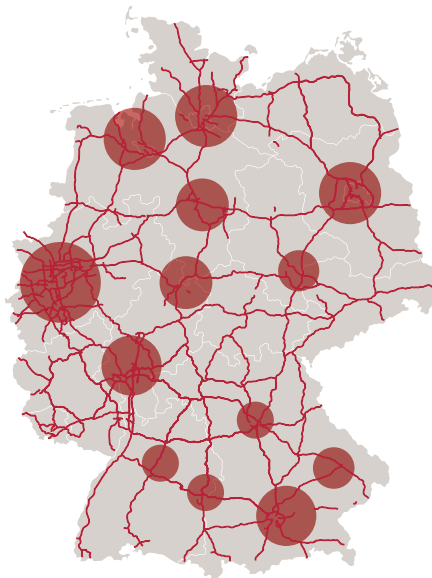
Fig. 47 Identified German submarkets for office and retail



We identified two additional markets for logistics properties which result from varying location requirements:

i) Top 15 Locations and ii) Small Locations. The Top 15 Locations reflect the ARYs of the 15 most successful logistics locations in Germany in respect of the investment volume of the last five years and prime yields of the last two years. Small Locations represent the remaining established logistics regions in Germany.

Fig. 48 Identified German submarkets for logistics

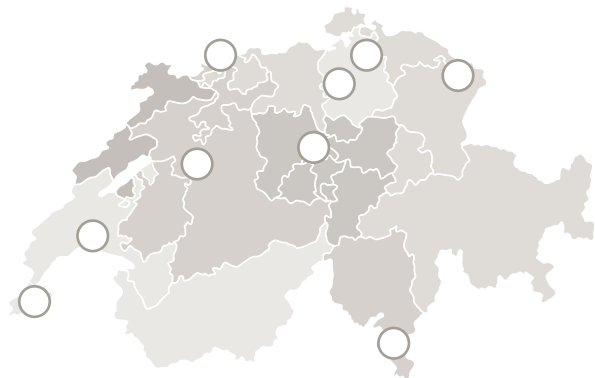


Switzerland submarkets

We introduce two categories for the Swiss market – Top 9 Cities and eight Regions. The map below reflects our definition.

Fig. 49 Identified Swiss submarkets

Top 9 Cities



8 Regions



In addition to ARYs, we have been covering market-specific letting assumptions since the third issue of the *PwC Real Estate Investor Survey Germany*. In the course of our research, we asked for typical **Market Rent Growth Rates, Rent-Free Periods, Reletting Periods** and **Prolongation Probabilities** for the market in question.

The rental growth rate is defined as the expected average annual rental growth rate over the next five years. Respondents provided a range and median for Rent-Free Periods and Reletting Periods (both in months) that are typically observed in the respective markets. The given underlying lease length is set at 7.5 years.

It is worth noting that we do not use a textbook definition of NOI. Our survey takes investment strategies into account and thus varies significantly among participants. We tried to identify which parameters are included in the NOI and which are accounted for below NOI. The results for the office and retail NOI calculation methods are provided in the respective sections.

We do not aim to obtain a uniform average ARY and so we have not adjusted single ARYs for a respective NOI calculation method. The resulting average office, retail or logistics ARYs are to be read as an average of single data points.

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