THE 5% STUDY 2023

WHERE IT STILL PAYS OFF TO INVEST

Contents

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A Study by bulwiengesa AG

With the friendly support of

ADVANT Beiten

Forewords

Last year Chancellor Scholz declared a turning point, and by now its scope has become clear to us. The war in Europe called many supposed certainties into question – both in the political and social arena and in terms of the economy.

It also brought an abrupt end to the zero-interest phase – which had lasted far too long and led to exaggerations, the results of which are now becoming increasingly visible.

While other property markets reacted with sharp, sudden devaluations, the corrections in Germany are emerging only gradually. The key question is: How much further will yields have to rise before the market really picks up again? Currently, a 30 to 40 % increase in yields can be assumed on the office market as compared to the pre-crisis level. This is particularly also impacting construction projects, which now have little or no prospect of being profitable.
For this reason, hardly a week goes by now without insolvencies – especially of project developers.

On the other hand, liquid investors are waiting for opportunities to enter a market that was still considered overpriced and highly competitive less than two years ago. Only occasional deals can still be seen here, but there is certainly interest in German properties, including from foreign players.

So when judging the attractiveness of the market, it is entirely a matter of perspective – massive devaluations mean not only losses, but also opportunities.

Sustainability is still a relevant driving factor on the market. The goal of climate neutrality by 2045 poses additional challenges for the industry, to which responses are needed. Particularly on markets with a low rent level, there are growing question marks over how to make the necessary building upgrades economically viable.

In this context, the current 5 % study shows the yield potential in Germany for the ninth time – as always, in a granular analysis broken down by segment and region.

The focus, as usual, is on the IRR after a 10-year holding period. I hope you gain plenty of insights from it.

Sven Carstensen, Member of the board of bulwiengesa AG

Rising construction costs and higher interest rates, a tight energy market and continued supply chain disruption have dominated the property market again this year. The historic upward trend has been broken with property prices decreasing or stagnating for the first time since 2010. At the same time, construction costs for buildings of all types are continuing to rise. The rental market and the investment market are restrained. Consequently, the profitability of an investment needs to be continuously reassessed.

Investors have to deal with the challenge of more difficult final and follow-up financing and are facing increased equity requirements and higher interest rates along with uncertain yields.

With regard to investments in commercial properties, the trends of remote working instead of fully occupied office space and e-commerce instead of bricks-and-mortar retail are lasting developments that are affecting the market.

The „new work“ culture plays a key role for office properties. Properties in which office space can be rearranged to increase innovation and collaboration are continuing to become more attractive. Fewer fixed workstations, more flexible space for meetings and collaboration and the office as a „experience“ make an office property much more interesting for investors.

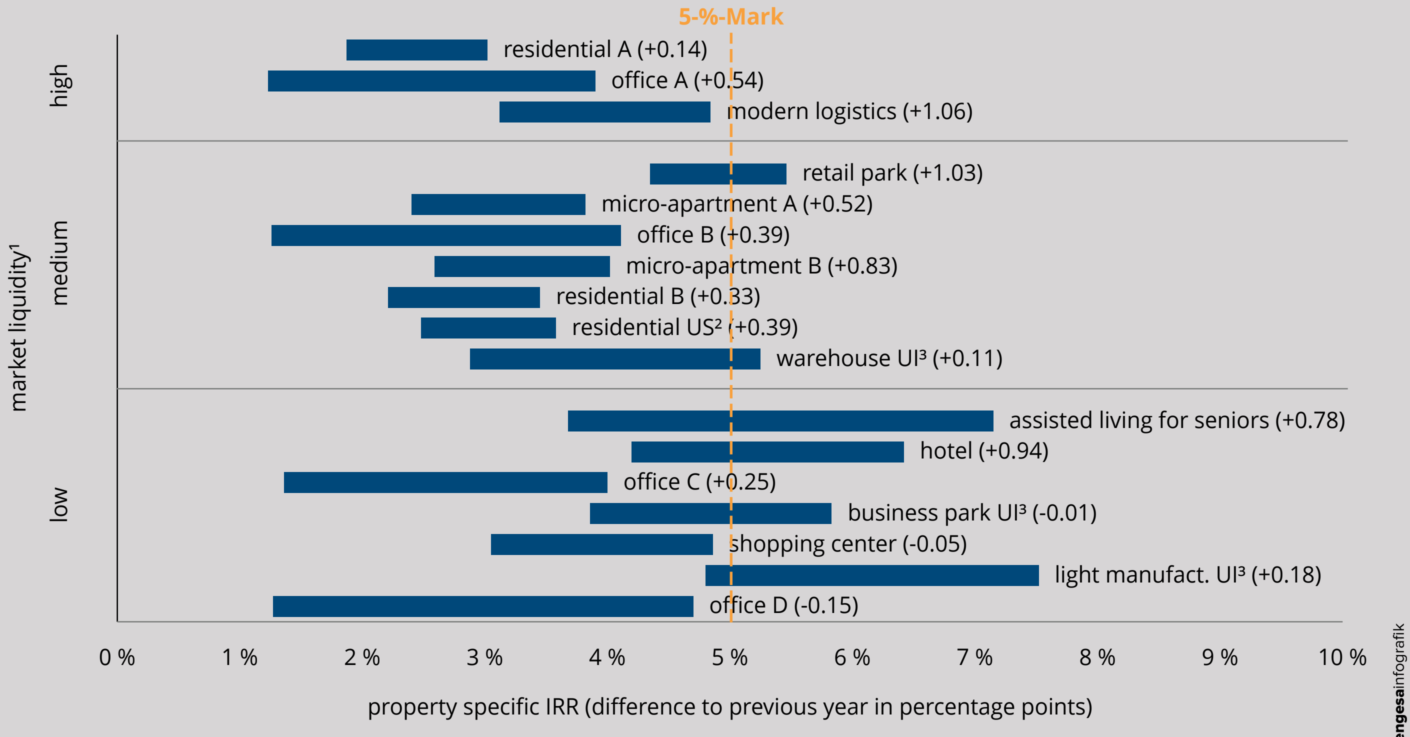
In retail properties, vacancy rates are rising still, causing market rents and consequently also valuations to decline. While in 2022 this trend could mainly be observed in rural regions and small towns, it is also continuing in major cities.

But there is one thing that all asset classes have in common: The principle of sustainability is firmly established among investors and has become the dominant criterion for investment decisions.

Dr. Detlef Koch, ADVANT Beiten

With its many years of experience, ADVANT Beiten provides advice on all phases of property management: from financing to the land purchase and project development through to letting or selling the property. We implement innovative forms of property sales and trading, as well designing German and foreign real estate funds.

Summary
Core-Matrix[1]



1 Liquidity of asset classes regardless of investment cycles. Within the categories of low, medium and high market liquidity shown in the diagram, there is no further assessment of the liquidity of the individual types of use. 2 US = University Cities. 3 UI = Unternehmensimmobilien.
Source: bulwiengesa AG

» Yields for residential properties increase only slightly

Despite rising purchase yields, the calculated IRRs are increasing only slightly. This is largely due to the assumed energy-efficiency upgrades that the majority of existing properties will likely have to implement in the medium term. In addition, the possibilities for rent increases remain limited. In view of the current inflation rate, the residential asset class – at least in A cities – has only limited suitability as protection against inflation. The base values for the attainable IRRs range between 2.4 % in A markets and 3.0 % in university cities.

» Which offices are still core?

Many investors are concerned about the future of the office asset class. Looking at the USA in particular, many fear that vacancy rates could shoot up here in Germany, too, as a result of the growing importance of remote working. Although a look at the fundamental data puts these worries into perspective, there is growing scepticism. Particularly in smaller markets, the need for energy-efficiency upgrades is also clearly reflected in the performance. In A markets, yields of between 1.2 % and 3.9 % are thus attainable for properties with secure cash flows. In D markets, the range extends from 1.3 % to 5.0 %.

» Micro-living becoming established as a core category

Furnished apartments have remained in demand, particularly in major cities. The shortage of residential space is driving demand for flexible forms of housing, as there is often a lack of alternatives for those seeking accommodation at short notice. The fact that occupancy rates have recently increased again attests to this trend. For housing industry units in A markets, the performance comes to 3.6 %.

» Food retail as a stabilising factor

In contrast to other established asset classes, the disruption in retail began before the coronavirus pandemic and the interest rate shock and was triggered by online retail. The associated rent adjustment processes are probably over in most areas. Nonetheless, shopping centres are still traded only extremely selectively, making it difficult to derive market yields. In specialist retail centres, food retailers are the stabilising factor for cash flow. When the investment market picks up, these products can be expected to be increasingly sought out by investors again. Performance is currently at 4.28 % for specialist retail centres and 4.59 % for stabilised shopping centres.

» Comeback for hotel properties?

Income from hotel properties has improved significantly following the lockdowns during the pandemic. Both room prices and occupancy rates have increased – particularly in city hotels. On the other hand, hotel operators are facing high cost blocks and staff shortages, meaning that the scope for development in leases is limited. On the investment market, the hotel sector currently still plays only a minor role – but interest is likely to increase again once the market picks up. For existing properties, the attainable IRR is between 3.4 and 6.8 % – as always with operator-managed properties, the lease contracts and the operator's economic fundamental data are the aspects that drive value.

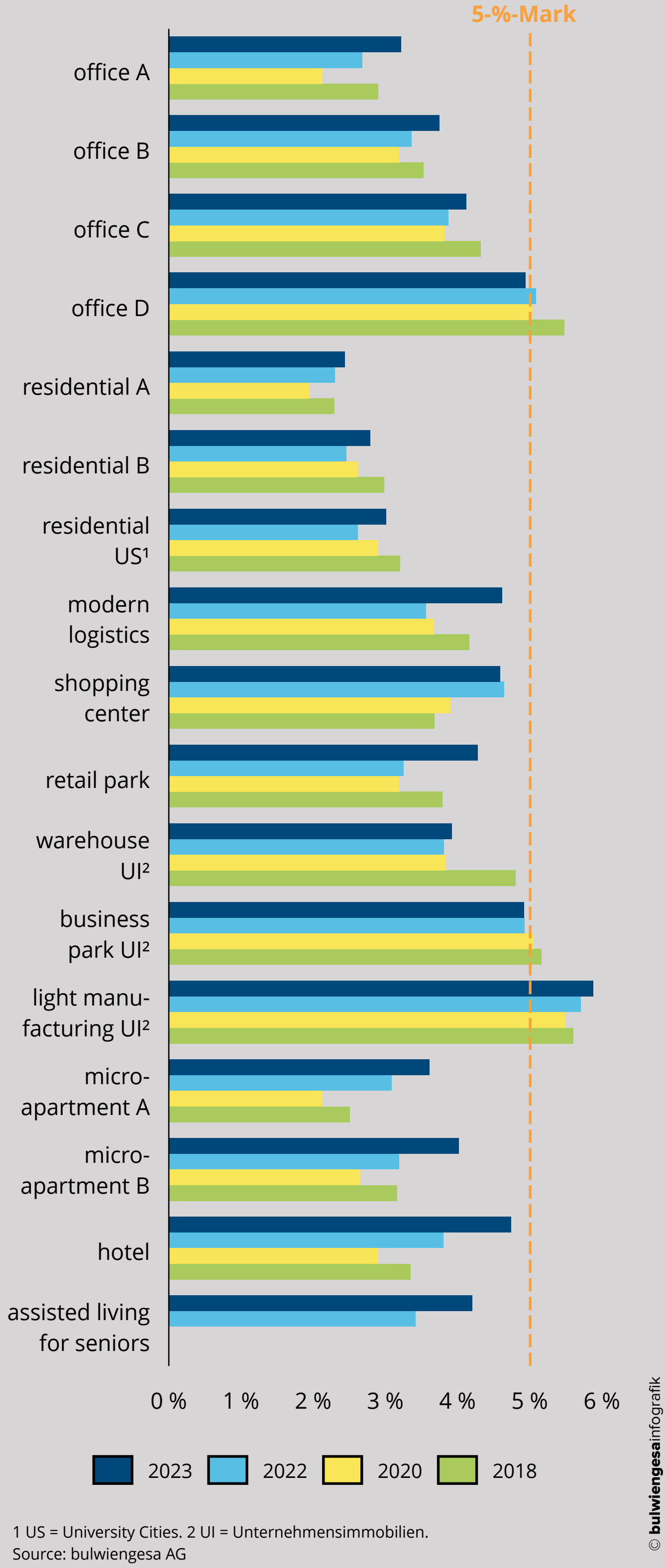
» Focus on logistics properties

Logistics properties are seen as winners from the coronavirus pandemic. The growing importance of online retail has substantially increased the need for warehouse and handling capacity, leading to rising rents in this area. Although the situation here has calmed somewhat, many investors still see high potential in logistics properties, particular in terms of the rent development. New industry requirements with regard to developing its own warehouse capacity are additionally fuelling speculation here. bulwiengesa's forecasts also anticipate a lively development in rents, leading to an increase in the attainable IRRs, which come to between 3.1 and 4.8 % for modern space.

» Business properties still a niche with potential

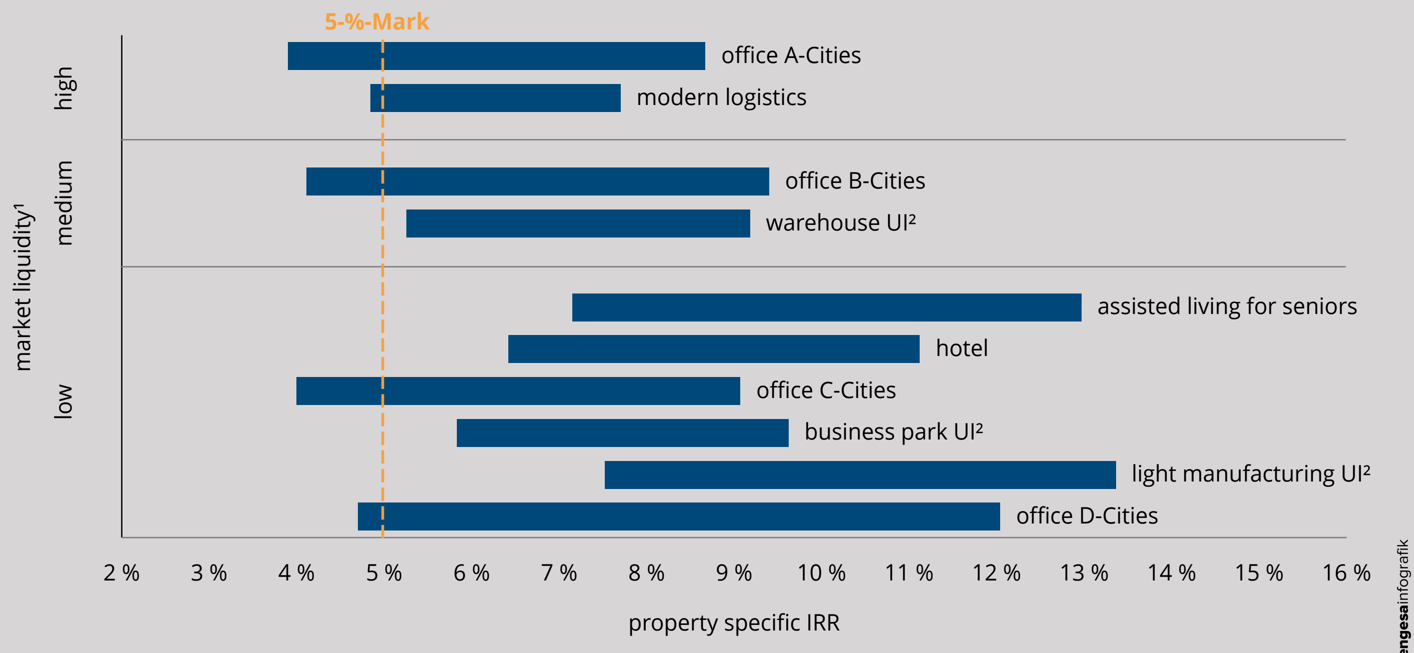
The category of business properties (Unternehmensimmobilien) comprises industrial parks, production properties and small-scale warehouse space. They are characterised by stable cash flows. As management-intensive asset classes, they continue to represent an alternative to the common types of use, particularly for price-sensitive tenants. The current investment environment and market uncertainty are leading to significant buyer restraint with business properties, too – but they remain a yield-focussed alternative when the market starts to pick up. The attainable IRRs range between 3.9 % for warehouse properties and 5.88 % for production properties. They are thus at the top of the yield ranking.

Overview Core Properties
IRR, 2018 to 2023



1 US = University Cities. 2 UI = Unternehmensimmobilien.
Source: bulwiengesa AG

Summary
Non-Core-Matrix[1]



1 Liquidity of asset classes regardless of investment cycles. Within the categories of low, medium and high market liquidity shown in the diagram, there is no further assessment of the liquidity of the individual types of use. 2 UI = Unternehmensimmobilien.
Source: bulwiengesa AG

In this study, non-core properties are defined as properties with an increased risk profile and thus higher performance opportunities. They have management deficiencies such as vacancies, are usually situated outside the central locations and have unstable letting structures. In terms of energy, too, these buildings meet only minimum requirements. The matrix above shows their market potential only; restructuring or renovations are not taken into account here. No outliers are included either. In some individual cases, the yields and the risks may therefore be considerably higher than in the model calculation. Residential property investments are not currently included in the non-core analysis, as they do not offer high enough yield potential for non-core investors in established markets. Modern shopping centres, specialist retail centres and assisted living properties also are not included.

Non-core investors are currently sounding out the market and looking for opportunities arising in particular from financing shortages. There is still a considerable gap in expectations between buyers and sellers. Investors' strategic approach is also changing. It is not enough now to bet on a rising market and accordingly purchase properties with vacancies. Additional management expertise is needed here.

This particularly applies to properties that do not satisfy the building standards and for which a comprehensive energy-efficiency upgrade is not economically viable or only viable to a very limited extent. In some individual cases, however, these may continue to deliver good cash flow for many more years. Besides the issue of meeting current ESG standards, they have only limited tradability for institutional investors but may well be an alternative for yield-focussed investors. Yields of up to 9 % are attainable here for offices in the model – if vacancies can be successfully reduced and rents raised to the market level. In the case of operator-managed properties, non-core properties are generally characterised by short lease terms – up to 13 % can be achieved here, and production properties show similar maximum levels.

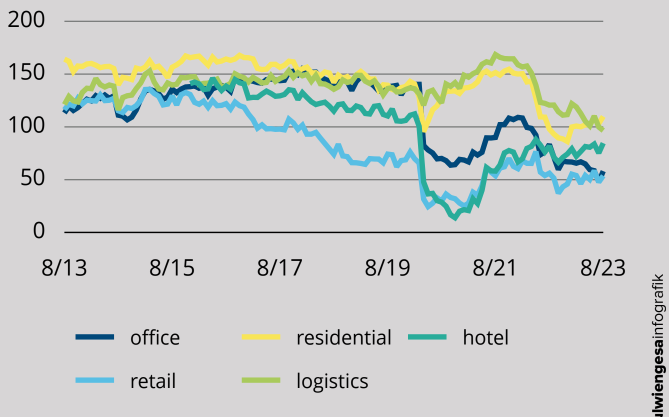
The Market Environment

The market environment is still characterised by uncertainty and restraint on the part of buyers. The shock that set in last year already is subsiding only very gradually, as buyers and sellers still cannot agree on a price level. As a result, the majority of transactions are taking place off-market – which very often means that buyers and sellers agree not to disclose the conditions. What is indisputable is that net yields are rising sharply – in A office markets they are currently at a level of just under 4 %, compared to 2.7 % at the end of 2021. This increase is evidently not enough to activate the market.

Its environment is currently being rocked by a wave of bankruptcies – for many project developers, the toxic combination of sharply falling sales prices, rising material costs and high financing costs is becoming a severe strain. In August 2023 alone, at least four well-known companies went bankrupt and many market observers expect more to follow. As of late summer 2023, the market is thus in an ambivalent situation – while some companies are struggling to secure follow-up financing, liquid investors are sounding out the market and honing the right market entry strategies and times. Cherry-picking – waiting for opportunities, often on an individual property basis – is the order of the day. Commercial transaction figures thus remain at a very low level – in the first two quarters of 2023, they came to just 10 billion euros – and are expected to reach 22 billion to 25 billion euros for the year as a whole. This would represent a decline of around 55 % compared to the (already weaker) previous year.

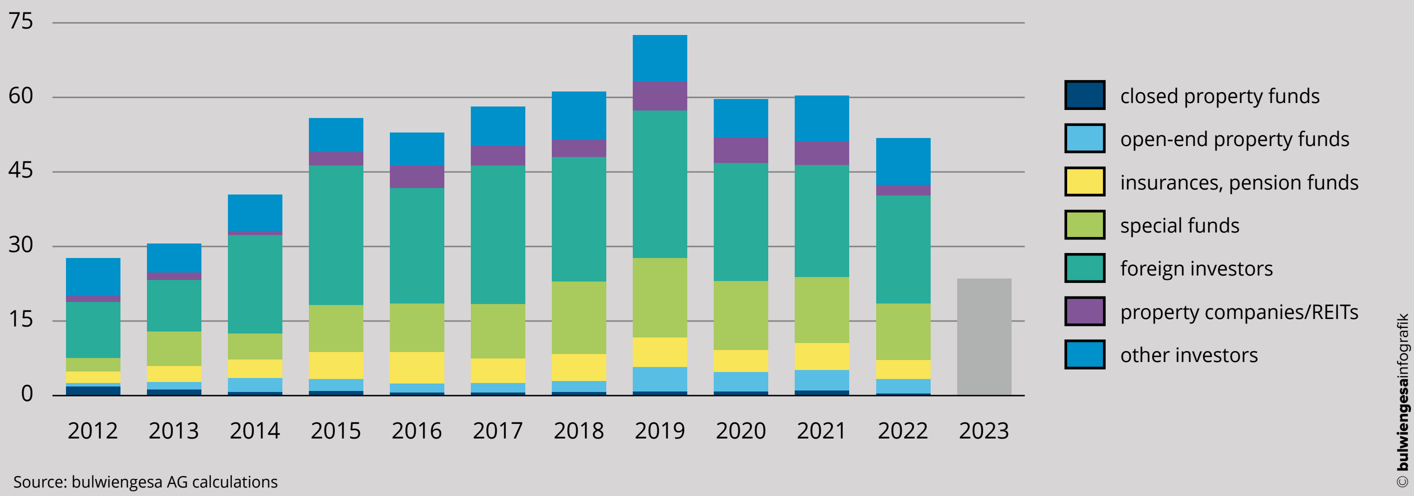
However, there have already been a few portfolio transactions again. For example, Slade acquired 188 supermarkets from X-Bricks. Despite these small signs of hope, sentiment on the market remains subdued, although Deutsche Hypo's real estate climate index has recently improved again somewhat. This is probably due to expectations that the interest rate rally will gradually come to an end and bring a return to more planning and calculation security. The office market is currently viewed particularly negatively – in addition to interest rate upheaval, uncertainty as regards future demand for office space still plays a prominent role.

Deutsche Hypo Real Estate Economic Index
by Segments, August 2013 to August 2023



Source: bulwiengesa AG, Deutsche Hypo

New Investments by Institutional Investors in Commercial Real Estate
in Germany, billion euros, 2012 to 2023, 2023 estimation



Source: bulwiengesa AG calculations

The Market for Residential Properties

There is probably no other property segment that is currently as ambivalent from investors' perspective as the housing market. Demand for housing is still not fully covered – on the contrary, the shortage is getting worse.

The population grew by more than 1.1 million people or 1.3 % last year. Although the scale of this growth was particularly due to refugees from Ukraine and it is not certain how long they will stay in Germany, the population increase further exacerbated the acute situation on many markets and particularly in major cities. And there is little hope of the situation easing.

This would happen if there was significant growth in the supply of housing – but the number of completions and building permits has been pointing in the wrong direction for years. At around 295,000, the number of homes completed was considerably below the federal government's target of 400,000. As a result of the above-mentioned migration, industry experts even anticipate a need for 700,000 more homes per year.

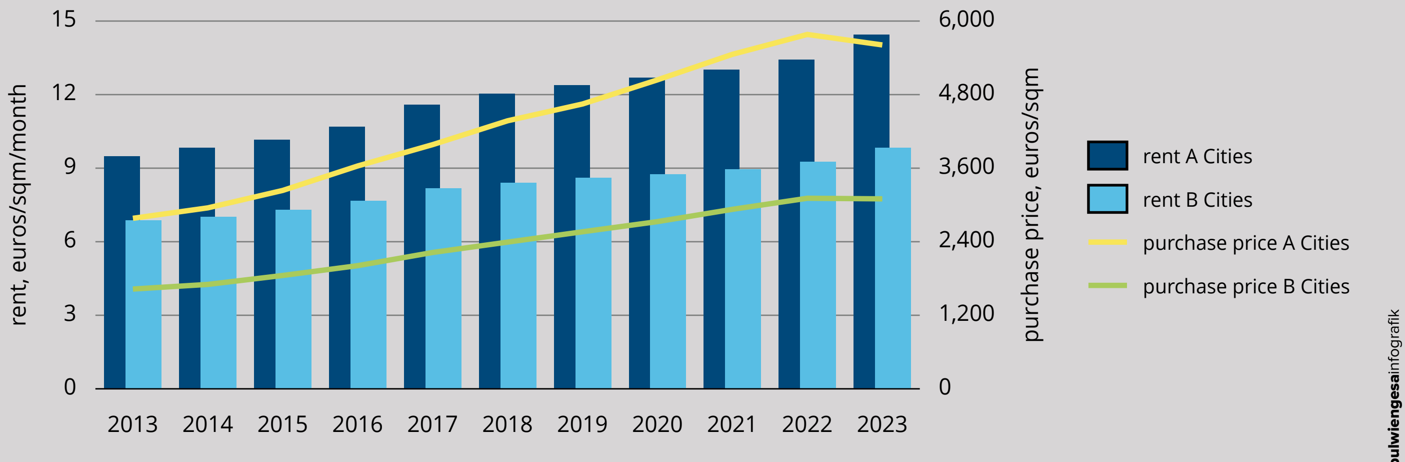
The number of building permits is also decreasing at present. According to the German Federal Statistical Office, they were granted for just 135,200 homes in the first half of 2023, representing a decline of 28.5 % compared to the first half of 2022.

Pressure on the housing market is thus growing and it is becoming increasingly clear that construction activity will not gain momentum without huge subsidies for several years. There is still too much of an imbalance between the attainable income and the costs incurred.
However, the signals from the government are very mixed here – even initiatives such as scrapping or at least lowering real estate transfer tax have failed so far.

Despite the continuing shortage, investors in existing properties have little hope of rent increases. Under the federal government's coalition agreement, the already quite limited possibilities for rent adjustment are to be restricted further. There is also additional uncertainty as regards the future energy-efficiency requirements for buildings and the associated need for upgrades.

Despite all the uncertainties, the market will become more attractive for investors again. Residential property is still the asset class for security-focussed investors, who certainly see good opportunities to enter the market in Germany now. For example, Vonovia sold 1,350 apartments to CBRE Investment Management at the beginning of this year. According to press reports, further sales on a scale of around 18,000 apartments are currently planned.

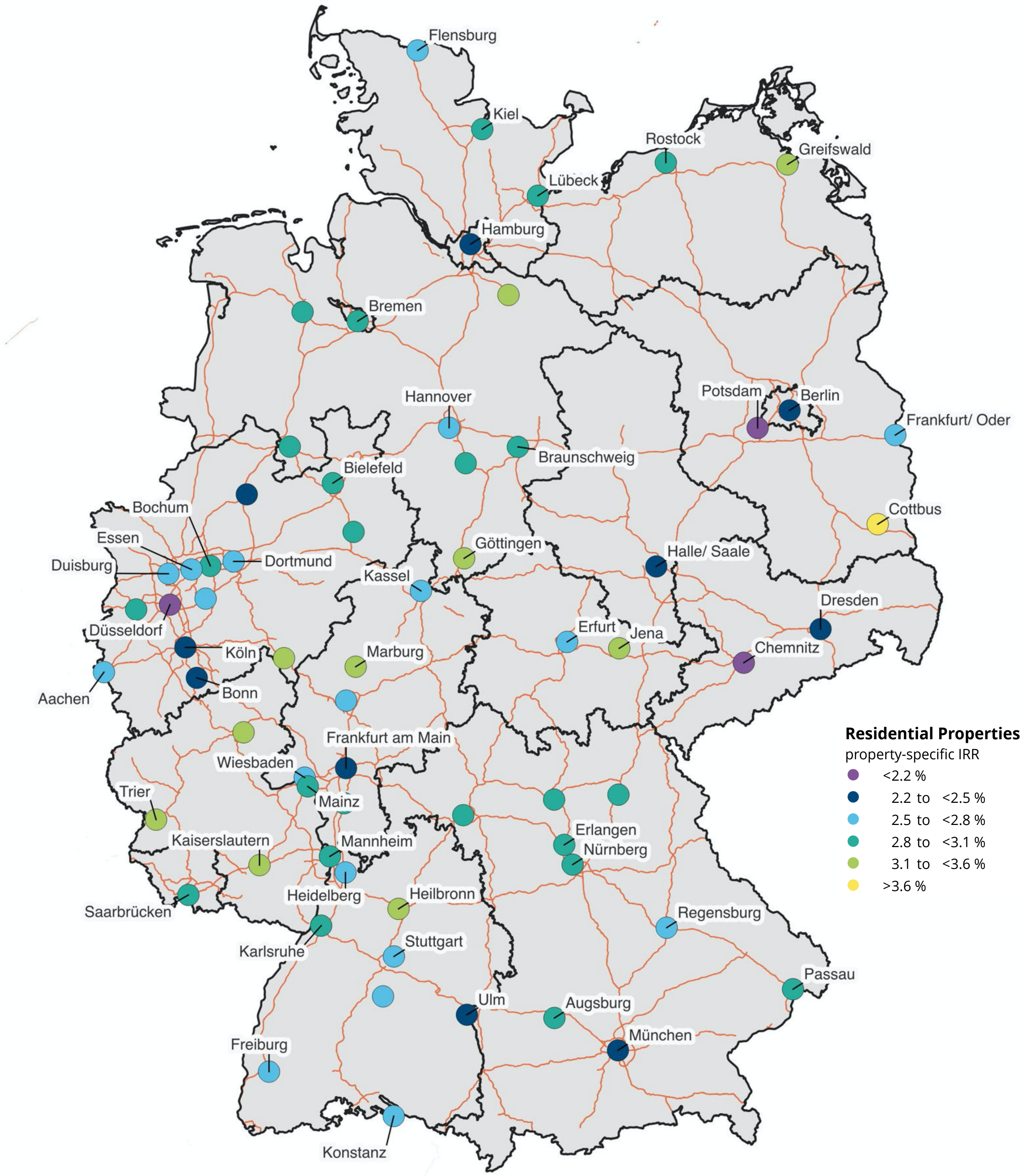
Residential Market in A and B Cities
stock, Ø, 2013 to 2023, 2023 forecast



Source: bulwiengesa AG, RIWIS

The Residential Market – Overview

Maximal Obtainable Property-Specific IRR for Core-Investors



Excursus: Index leases, caution is advised

In the past year, index-linked rental agreements have come into the public spotlight due to high inflation. Such agreements play an important role particularly in commercial letting, but increasingly also in the residential sector. This article will be about commercial leases.

Contrary to some populists viewpoints, index-linked rental agreements are transparent and therefore – provided the agreements contain clearly negotiated regulations – fair and flexible.

In the past, there was only one direction: index-based increases. Lessors and tenants of commercial space with index-linked rental agreements should be particularly careful now. All rental agreements with indexation or price clauses must provide for an adjustment „upward“ and „downward“.

An index-linked rent clause is ineffective not only if it gives rise to an unreasonable disadvantage, for example if it only provides for the possibility of increases. The effectiveness of an index-linked rent clause is also tied to the requirement for the lease to be of a long-term nature. This means that lessors must waive the right to regular termination and to extraordinary termination for a period of at least ten years, and tenants must have the right to increase the lease term to at least ten years. Otherwise, the index-linked rent clause is ineffective under the German Price Clause Act.

Indexing does not have to be carried out at 100 % or every year, but instead can be adjusted partially and at specific time intervals depending on the agreed index and the negotiated regulation in the lease. Good contract design is the key to avoiding disputes.

With forward agreements, we are seeing more and more cases in which indexing is to apply as soon as the lease is signed, i.e. well before the start of the lease. There is thus a risk for tenants and lessors: By the start of the lease, there may be a discrepancy between the contractual rent and the current market rent, as it is notoriously difficult to see the future in a crystal ball. In order to avoid this, an agreement can made under which the rent to be paid at the start of the lease will correspond to the current market rent. The market rent can be determined by an appraiser or by taking the average of several estate agents' valuations. Admittedly, this does not make things easy for the financial backers even if they do choose to go along with this.

Finally, let's take a quick look at the topic of housing and index clauses: The government sees such agreements as problematic when inflation is high. It remains to be seen whether legal regulations and an associated cap will be introduced to mitigate the effects of high inflation. But the debate is in progress.

Klaus Beine
ADVANT Beiten

ADVANT Beiten is the German member law firm of ADVANT, a European alliance of independent corporate law firms. Founded in 1990, ADVANT Beiten is an independent law firm with around 260 professionals at its six German locations in Berlin, Düsseldorf, Frankfurt, Freiburg, Hamburg and Munich, as well as in Belgium, Russia and China.

The Market for Micro-Apartments

The microliving initiative, launched by bulwiengesa AG in 2020, stands for a new innovative association of companies that act as owners, operators and/or administrators in the property segment of apartments.

Its goal is to improve market transparency on the basis on a reporting system in which the participants' property and letting data are analysed. Investors and market observers are thus regularly informed about the latest market trends. Members of the initiative also receive a benchmark report analysing their respective portfolio in relation to all other members. In addition to general information on the location of the property and the number of apartments, fixtures and fittings and letting data such as target rents, occupancy rates and operating costs are also requested. Due to the great variation in participants, the apartment buildings were clustered according to their building quality and fit-out quality for the first time in spring 2023.

In the seventh market report, operating data on around 24,735 residential units in 123 apartment buildings were analysed. This corresponds to total residential space of approximately 692,000 square metres. At 58 %, the majority of the apartment buildings analysed are located in German A cities.
The latest survey showed that the market for micro-living seems to have recovered, with occupancy rates of more than 90 % achieved in all city categories again for the first time. But after overcoming the challenges of the COVID-19 pandemic, continuing economic and political risks bring new challenges for letting such apartments.

In the context of rising energy costs and a persistently high inflation rate of around 6 % for 2023, the assessment already made in autumn 2022 – that expensive apartments in particular will require high marketing costs – continues to apply. However, significant easing can be seen when it comes to letting apartments to various target groups. While letting them to target groups from Germany is comparatively easy, it seems considerably more challenging to address target groups outside Europe.

Almost all residential units are offered with all-in rents, which average around 592 euros per month. The wide range of rents for the apartments – from around 208 to 1,560 euros per month – reflects the high degree of variation in terms of the building and location quality, the apartment sizes and the respective city and tenant clientele. Compared to autumn 2022, rents of all members have risen by around 5 % on average.

In the latest survey, operating costs of 7.09 euros per square metre were documented, representing an increase of 10.1 % as against autumn 2022.

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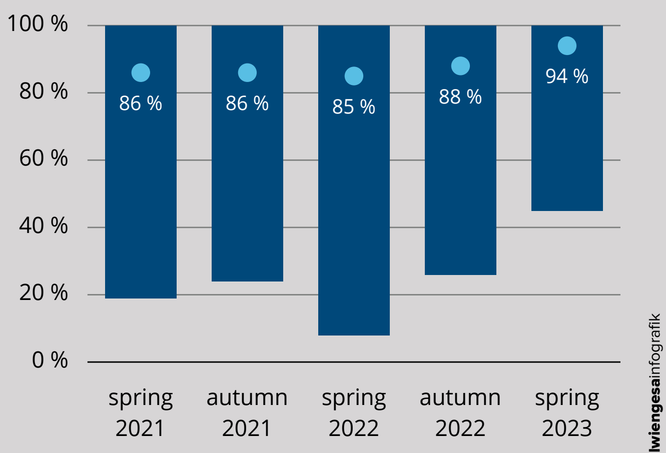
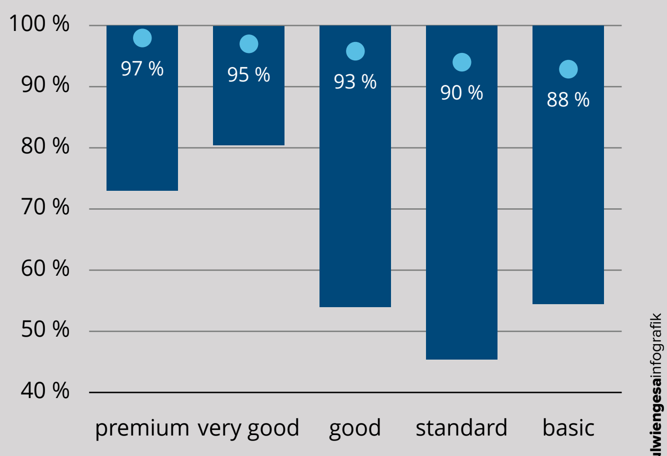
Occupancy rate Micro-Apartments
Germany, spring 2021 to spring 2023, min./avg./max.



Source: bulwiengesa AG

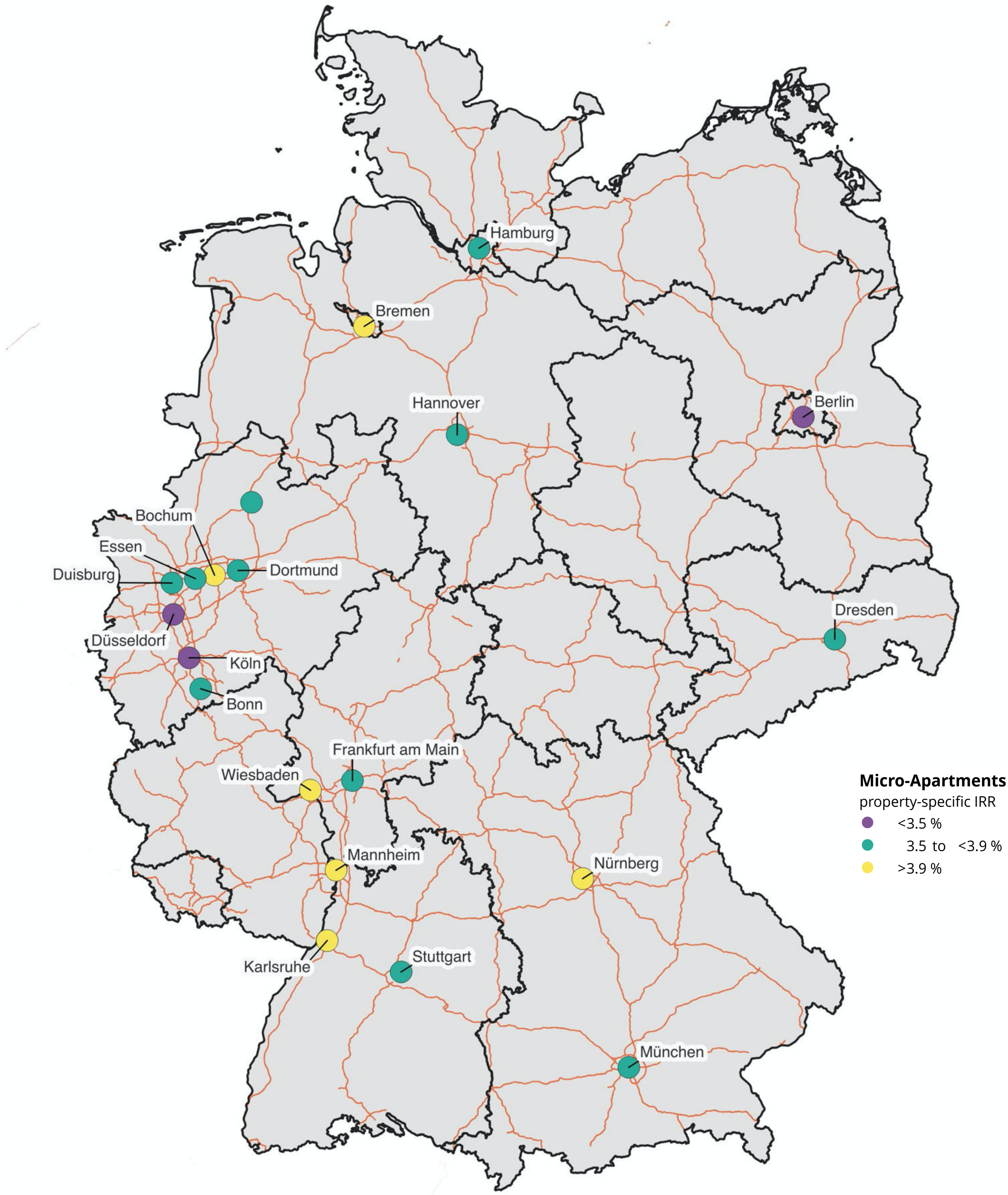
Occupancy rate Micro-Apartments
Germany, by equipment, spring 2023, min./avg./max.



Source: bulwiengesa AG

The Market for Micro-Apartments – Overview

Maximal Obtainable Property-Specific IRR for Core-Investors



The Market for Office Properties

In 2022, the yield compression of the past few years came to a premature end. This was chiefly due to significant changes in the conditions on the capital markets and uncertainties with regard to the further development of prices. Besides geopolitical uncertainties and sharp increases in consumer prices, the ECB's new interest rate regime is the main factor here. As a result of this, initial net yields have increased on a broad front – in A cities, they currently average is 3.8 %.

The weakest half-year for transactions since the financial crisis indicates that the new pricing processes have not yet been completed and investors are still exercising restraint. At present, there are growing signs that no significant recovery is to be expected in the second half of 2023 either. Increased market activity is not to be expected again until the interest rate adjustment is complete and the pricing process has thus reached its conclusion. Due to the scarcity of market evidence, yield forecasts are subject to considerable uncertainty. We currently expect prime yields in A cities to increase by another 20-40 basis points over the remainder of the year.

The trend towards modern, high-quality space in city centres and locations near city centres with good accessibility and service infrastructure is also continuing in 2023. In addition to the requirements of new work, this development is also fuelled by ESG topics. Leases focussing on sustainability known as „green leases“ will become increasingly important in order to achieve sustainability goals. The core focus of green leases is the most sustainable and resource-efficient possible use and management by the tenant and the lessor. However, the tenant is also subject to higher transparency requirements, which can certainly also have a deterrent effect. In the context of sharp increases in energy costs, the buildings' energy footprint is moving into the spotlight even more.

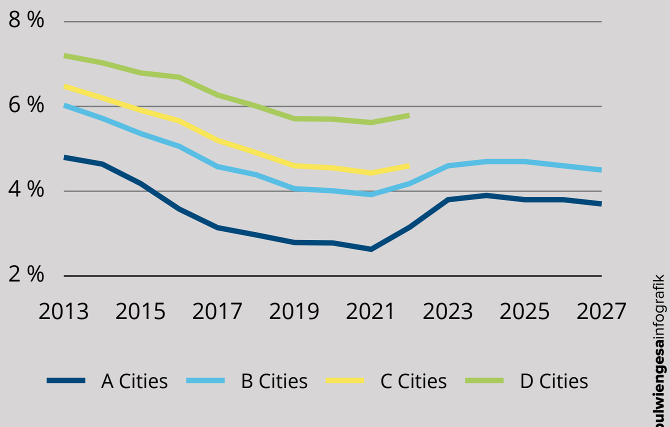
Based on the well-filled pipeline and more modest demand, vacancy rates are likely to keep rising this year. Last year already, a number of new buildings did not reach the usual high occupancy rates by completion. In a few cases, these properties still have very high vacancy rates. Increased vacancies can be expected particularly in A cities and to a somewhat lesser extent in B cities. In C and D cities, the significant decrease in speculative construction has a stabilising effect.

For office properties currently in the planning stage, the general conditions have changed dramatically as a result of the sharp increase in construction and financing costs. A decline in new construction can therefore be expected in the medium term.

Higher construction costs and growing ESG requirements will lead to rent increases in the prime segment this year, too. This will be observable particularly in city centres and nearby locations. In the context of increased location requirements, there may be significant corrections in the rent levels in secondary locations. The spread between prices for lower-quality buildings and for core properties will thus widen further.

Net Initial Yield

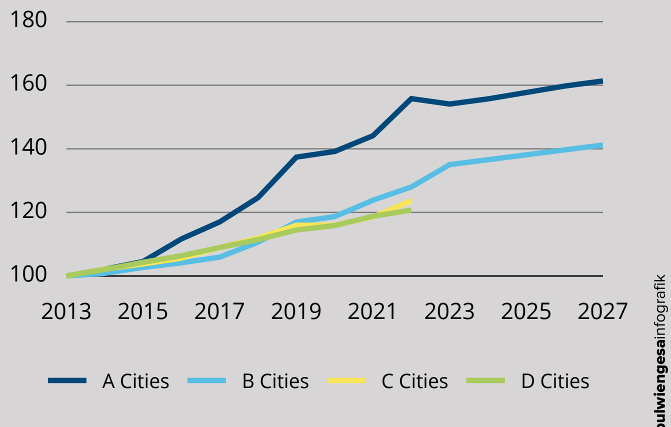
central locations, 2013 to 2027, forecast from 2023



Source: bulwiengesa AG, RIWIS

Prime Office Rents

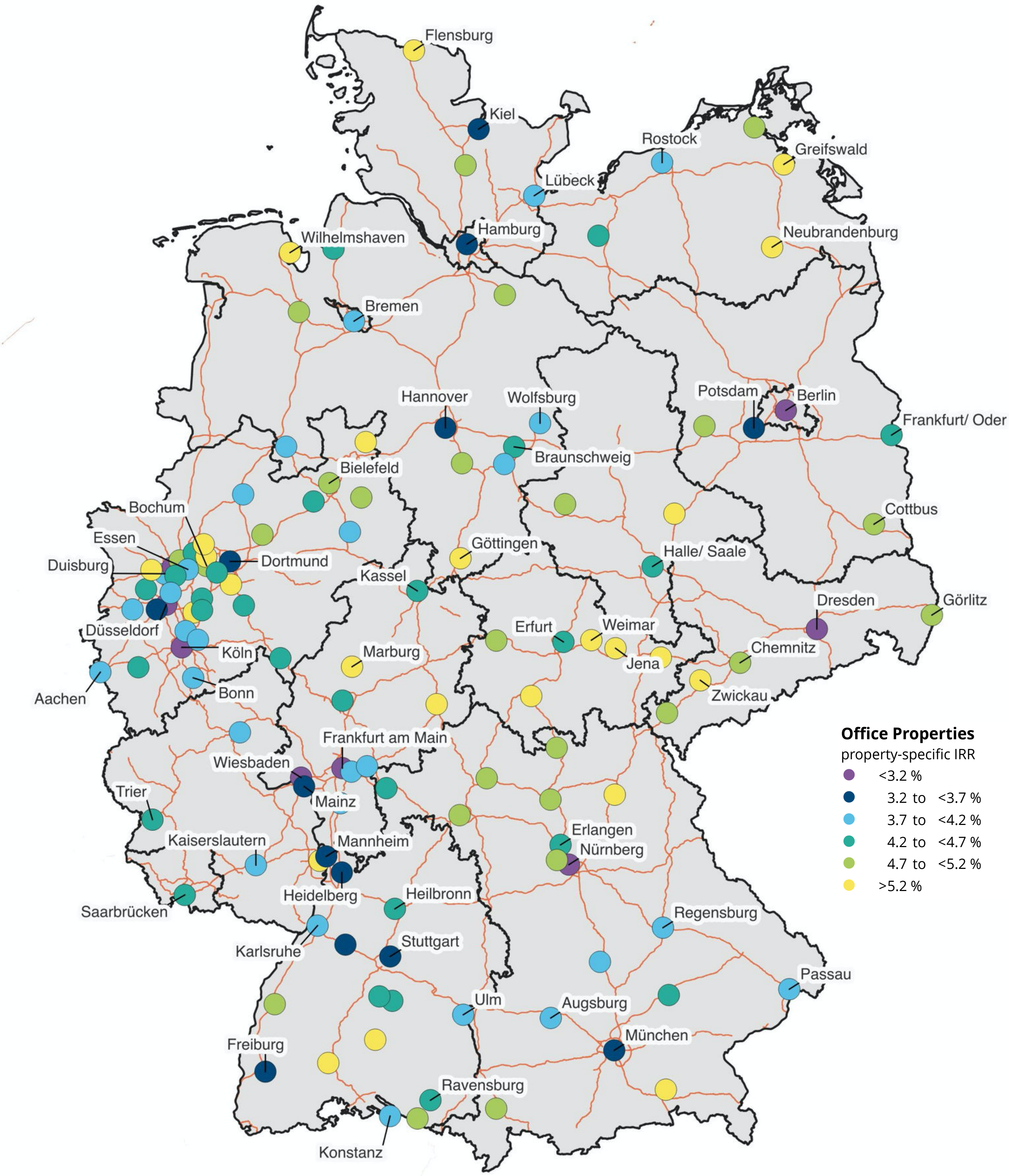
index 2013 = 100, 2013 to 2027, forecast from 2023



Source: bulwiengesa AG, RIWIS

The Market for Office Properties – Overview

Maximal Obtainable Property-Specific IRR for Core-Investors



The Market for Logistics Properties

The shock on the commercial investment market also did not spare the logistics market. Although the investment volume of approximately 3.2 billion euros in the second half of 2022 was only slightly lower than the figure from the first two quarters, the consequences of changes in market parameters generally do not become apparent until later. As deals are made a few months in advance and players do not/cannot react abruptly to exogenous shocks, the effects of the rapid increase in interest rates did not unfold completely until 2023. With a total volume of only around 900 million euros, this was by far the weakest half-year period for a long time.

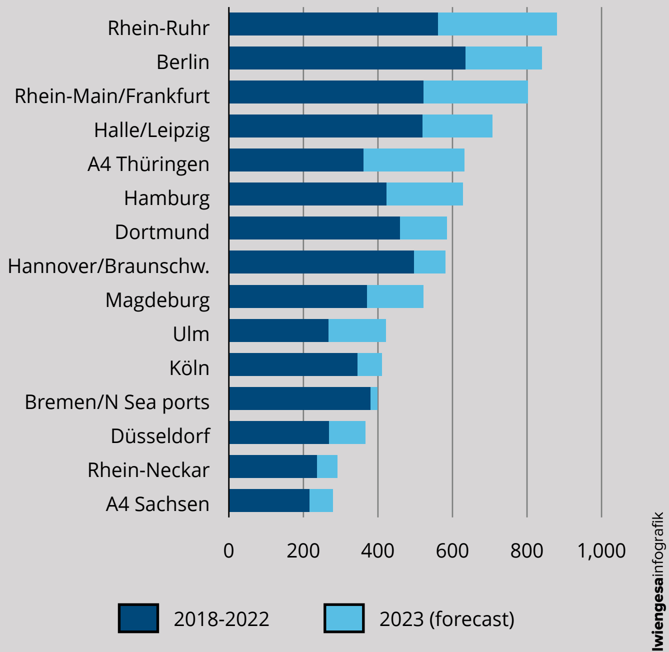
In addition to the Rhine/Main logistics region, due to its central location and proximity to many manufacturing companies and the pharmaceutical industry, the Hanover/Braunschweig logistics region was in high demand in the first half of 2023. With a share of 47 %, almost half of the previous year's investment volume for logistics properties was attributable to peripheral locations outside the established logistics regions. This is equivalent to more than twice the long-term average (22 %). Various different factors play a role in this development, particularly including the availability of space as well as the quality of the buildings.

Given the current financing conditions, speculative project developments have very little chance of securing external financing. Even in the case of pre-letting, many banks now expect a certain risk premium (depending on the tenant). As in other asset classes, lenders pay particular attention to the capacity for alternative uses and to ESG conformity, both in new buildings and in existing properties. Sustainable investments are thus becoming established in a market that is increasingly selective as a result of decreasing transactions.

After a small dip in 2020 due to the coronavirus, the completion volume last year matched the previous year's level at more than 5 million square metres. Many of the projects completed in 2022 were already under construction before the increase in inflation and the interest rate changes in the spring. As a result, the effects on the development landscape will become more clearly recognisable only over the course of this year and the next. In both periods, a downward trend in completions can be seen, although this is still at the average level of the past few years. We therefore cannot refer to it as a slump in the logistics development yet.

Selected Completions

top 15 logistics regions, thousands sqm, 2018 to 2023, 2023 forecast



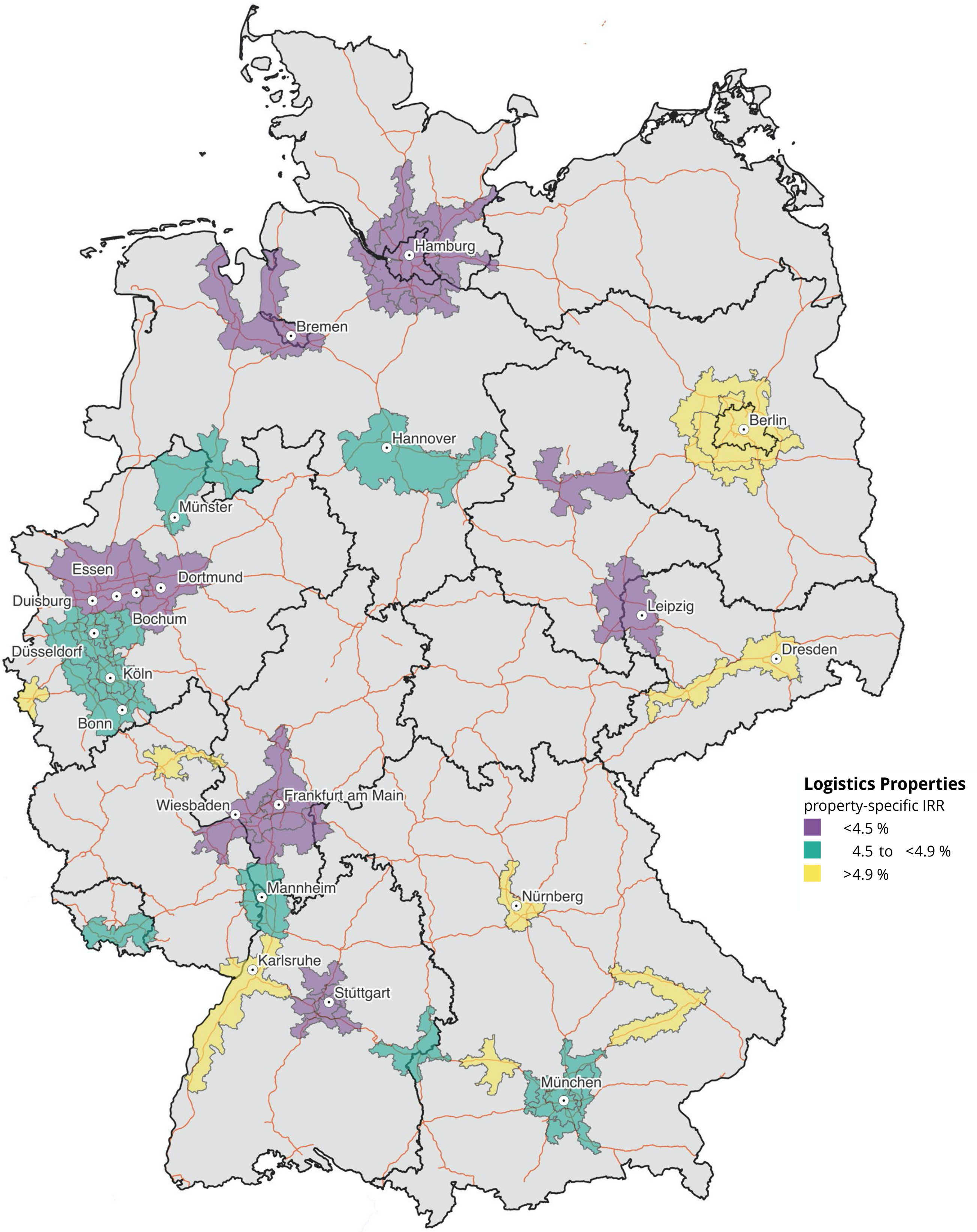
Source: bulwiengesa AG, Study „Logistik und Immobilien 2023"

After emerging as one of the fastest climbers in the regional ranking in recent years, the Rhine-Ruhr logistics region reached the top spot among the 28 logistics regions for the first time in the period under review with a total new construction volume of around 881,000 square metres.

Last year's frontrunner Berlin was close behind with a total development volume of approximately 840,000 square metres. The Rhine-Main/Frankfurt region also achieved an impressive result of more than 800,000 square metres, thus taking the third spot on the podium.

The Market for Logistics Properties – Overview

Maximal Obtainable Property-Specific IRR for Core-Investors



The Market for Large-Scale Retail Properties

Despite news of several insolvencies in German retail, such as Görtz, Galeria and Gerry Weber, the sector proved robust over the course of 2022. Bricks-and-mortar retail in particular (and in contrast to online retail) increased its sales in spite of the well-known crises – coronavirus, the Ukraine war, inflation, interest rate increases. Consumer sentiment has also recovered from its low point over the past few weeks and months, and footfall is almost back at its pre-pandemic level.

However, private consumer spending is currently negatively impacted by the high increases in consumer prices. Private households' reluctance to consume is reflected in declines in areas such as food and drinks, clothing and shoes, and furniture. Although private consumer spending saw an increase of 4.3 % in real terms in 2022, a decline of 0.8 % is expected for 2023 as a whole based on the weak first quarter and the anticipated slight decrease in the second quarter. However, increased income combined with a decrease in the inflation rate and a normalisation of the savings rate will drive growth in consumer spending, according to the forecasts.

It will be interesting to observe how city centres develop over the coming years. Firstly, decreased rent levels are currently making city-centre locations interesting for market participants outside the retail sector, too. Alongside users from the leisure and entertainment sector, free space is increasingly also being used as showrooms (e.g. for the automotive industry). While retail in general has been growing only slightly for several years, luxury brands are speeding from one sales record to the next. It is particularly the high demand in the luxury sector, as well as users that rent space as showrooms or for marketing purposes, that are stabilising prime rents in top locations. According to the forecasts, this trend means that the decline in prime rents in top locations can be expected to stabilise.

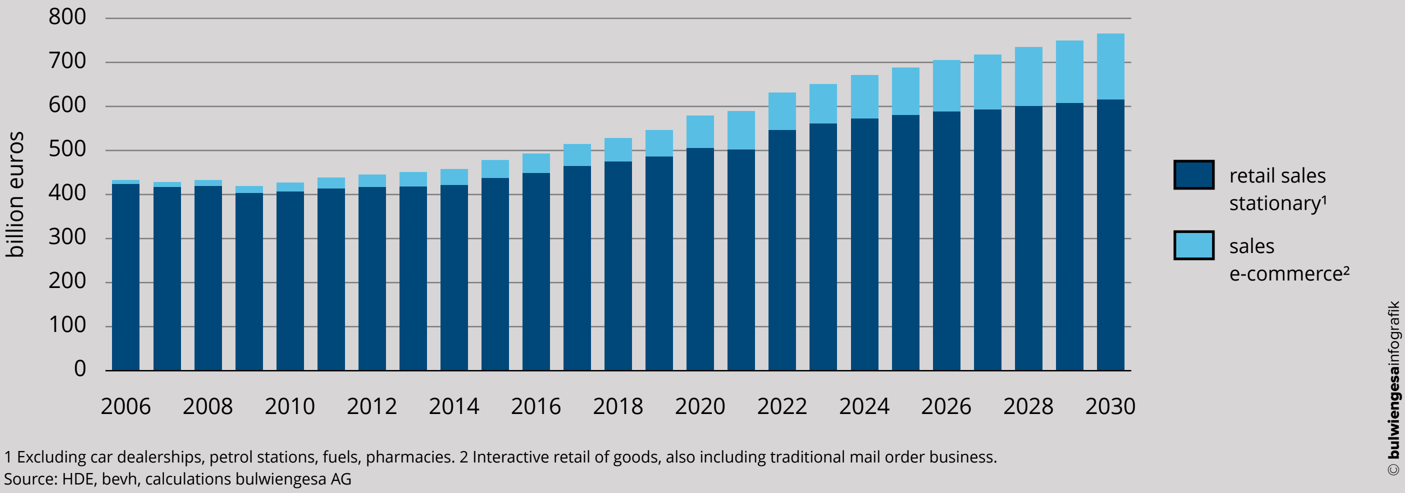
Secondly, city centres need to adjust to growing changes in what consumers want. Multi-optionality – i.e. not having to decide between online and offline shopping – points the way to shopping as an experience in destination stores.

As such, demand for retail space will inevitably decrease in the future, but space in sought-after locations and properties with attractive neighbourhoods will remain in expansionists' focus. High-street properties and shopping centres with regional appeal or a local connection (urban district centres) will thus remain important retail properties.

The yield level for shopping centres has recently remained stable, although the changed interest rate market is having an impact here, too. The yield level for specialist retail centres has risen significantly by 90 percentage points since 2022. While investors are still focussing on specialist retail centres with an emphasis on periodic shopping requirements, demand for shopping centres remains at a very low level.

Retail Sales

dynamic scenario, billion euros, 2006 to 2030, from 2023 forecast



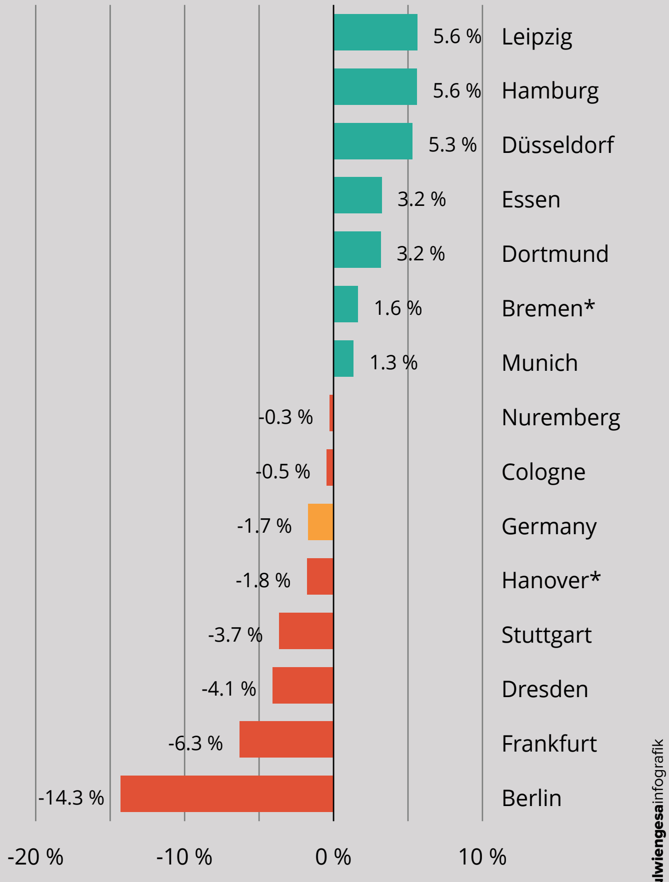
1 Excluding car dealerships, petrol stations, fuels, pharmacies. 2 Interactive retail of goods, also including traditional mail order business.
Source: HDE, bevh, calculations bulwiengesa AG

The Market for Hotel Properties

Hotels in Germany are meeting with interest from investors again to a very limited extent in 2023, but are still facing difficult market conditions. The further increase in city tourism is one positive aspect here, although in some places it has not yet reached its pre-coronavirus level again (see diagram).
Throughout Germany, the number of overnight stays in the first half of 2023 was still almost 2 % lower than the comparative figure from 2019. In particular, there is a lack of foreign tourists, who usually account for more than 40 % of demand in cities like Frankfurt, Munich and Berlin and tend to be less price-sensitive than German tourists. Before the pandemic, this particularly benefited the upscale hotel industry in Germany.
From the perspective of hotel businesses, the increase in room rates in Germany during the coronavirus pandemic was also positive, although the average rate of a little over 100 euros per room is still very low compared to elsewhere in Europe.
At the same time, several new hotels have been opened in the past three years, leading to more intense competition. The German hotel industry has therefore achieved only average room occupancy of around 57 % so far (Jan. to June 2023). Occupancy in city hotels is generally higher, but is also far from its 2019 level still.
There are exceptions, however. Among the different hotel segments, the budget economy hotel industry has performed relatively well. The hotels belonging to the B&B chain recorded average occupancy of 63 % in the first half of 2023, slightly more than in 2019. Motel One hotels did not quite match their 2019 occupancy (down 6 %) but still reached a level of as high as 69 % on average. Several hotel chains thus posted strong growth in sales in the first half of 2023.
Overall, nominal sales in the hotel industry were up around 12.8 % in the first half of 2023 as compared to 2019. In real terms, however, there was a decline in sales of almost 4 %.

The hotel industry currently has to contend not only with sharply rising costs for energy and goods, but also with staff shortages and rising labour costs. In the first quarter of 2023 alone, negotiated wages in the hospitality industry increased by 10.4 % year-on-year. In addition, some companies are now having to pay back the assistance granted to them during the coronavirus pandemic. The profit situation in the hotel industry thus remains strained for the time being, which is massively holding back the construction of new hotels at a time of rapidly rising construction costs and capital costs. Building costs in Germany have risen more in the past two years than in the eight years before. There is thus a disparity at present between the earnings performance of many hotel businesses and the investment costs for the hotel property. As a result, cost-extensive hotel concepts are increasingly being planned and built, such as serviced apartments and budget hotels. At the same time, project developments are shifting to C and D cities, which have recovered much faster from the coronavirus pandemic in some cases and are less competitive than some A and B cities.

Overnight Stays Development
January to June 2022 compared to 2019



Source: Federal/Regional Statistical Offices

These products and locations have also dominated transaction activity to date in 2023, with brands such as Stayery, Habyt and Premier Inn and cities such as Braunschweig, Heilbronn and Offenburg. As buyers and sellers have different price expectations, however, there is still comparatively little movement on the German hotel investment market at present.

In view of the current market risks, yields of over 5 % can currently be generated with hotel properties, including in the city hotel sector, where the prime yield was considerably lower before the pandemic.

The Market for Assisted Living for Seniors

The number of senior citizens will grow enormously in the coming years with a particularly significant increase in very elderly people. Around 18 million people, or roughly 22 % of the total population of Germany, are aged 65 or over and have differentiated requirements as regards the housing they want in their old age, depending not least on their current living environment, their social status, their state of health and their personal income situation.

bulwiengesa was commissioned by CERES to conduct a short study taking a closer look at the rental cost burden on senior citizens in German cities. To this end, 866 residential complexes for assisted living (2- to 4-star segment according to gif e.V.) throughout Germany were analysed. The number of residential complexes for assisted living in Germany is currently around 7,800, containing approximately 340,000 to 360,000 residential units. Around 47 % of the complexes and around 54 % of the units are located in the RIWIS cities of the former West German states. Throughout Germany, it can thus be seen that the supply is clearly focussed in urban and for the most part economically strong regions. Based on analyses of average comparable rents in the traditional housing segment and average rents for assisted living in the RIWIS cities of the former West German states, the rent burden for senior citizen households can be derived.

While the rental cost burden for traditional housing in A to D cities ranged between 21 % and 28 % and was thus highest in A cities as expected, a largely homogeneous rental cost burden across all city categories could be observed in the assisted living segment. In some cases, this is considerably higher than in traditional rental housing, with senior citizen households in B to D cities having to spend around 27 % of their disposable income on rent, while those in A markets spend almost 29 %. The pricing of net rents excluding heating in assisted living residences is extremely opaque and results from various different price components. Average net rents excluding heating in assisted living residences deviate significantly from the usual market rule of thumb „10 to 30 % mark-up on comparable rents“ in some cases, meaning that a product-specific rent irrespective of the actual rent level is assumed instead.

The actual housing costs in assisted living residences also include the fixed service charge, which comes to between 80 and 400 euros per person across Germany depending on the operator. So assuming a standard market rate for the fixed service charge of 180.00 euros, the actual housing cost burden in assisted living residences for a single-person household comes to between 48 % (B cities) and 51 % (A cities).

Rent burden ratio of senior citizen households (65+) in RIWIS cities of western German federal states

		A cities	B cities	C cities	D cities
Average disposable income per capita* in 2020	Euros p. a.	31,880	28,257	28,445	27,987
	Euros p. m.	2,657	2,355	2,370	2,332
Average houshold size in 2018	Number of people	1.50	1.50	1.50	1.50
Disposable income per houshold	Euros p. m.	3,985	3,532	3,556	3,498
Traditional housing rent burden per average household					
Average net rent excluding heating, etc. in 2022	Euros per m²	14.48	8.98	9.57	8.35
Ancillary costs	Euros per m²	4.00	4.00	4.00	4.00
Average rent including heating, etc. and ancillary costs	Euros p. m.	18.48	12.98	13.57	12.35
Apartment size	m²	60	60	60	60
Rent including heating, etc. (per month)	Euros	1,108.80	778.80	814.20	741.00
Rent burden ratio		**27.8 %**	**22.0 %**	**22.9 %**	**21.2 %**
Assisted living rent burden per average househould					
Average net rent excluding heating, etc. in 2022	Euros per m²	15.59	12.02	12.98	11.88
Ancillary costs	Euros per m²	4.00	4.00	4.00	4.00
Average rent including heating, etc. and ancillary costs	Euros p. m.	19.59	16.02	16.98	15.88
Apartment size	m²	60	60	60	60
Rent including heating, etc. (per month)	Euros	1,175.40	961.20	1,018.80	952.80
Rent burden ratio		**29.5 %**	**27.2 %**	**28.7 %**	**27.2 %**

Source: bulwiengesa calculations; * corresponds to average net income according to MB Research for the population aged 65+; rent figures relate to average quoted rent in existing properties for traditional housing and average rent for assisted living residences in the 2- to 4-star category

The demand potential for housing suitable for senior citizens is almost inexhaustible, meaning that the market draws on a comprehensive supply in all product qualities, apartment sizes and operator concepts. The key challenge for society here must be to ensure a needs-based, affordable supply for all income groups.

The Market for Unternehmensimmobilien (UI)

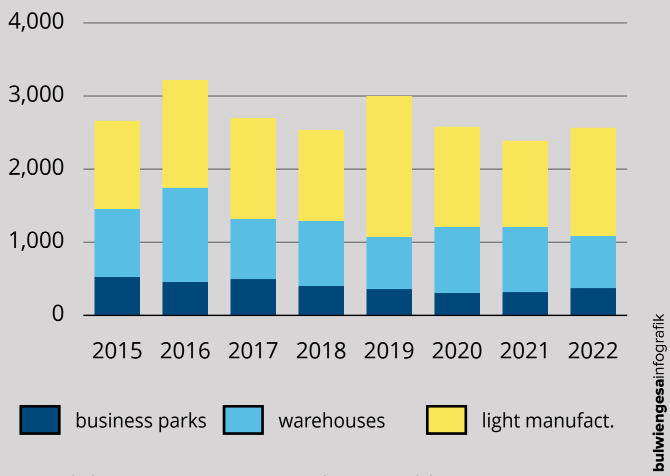
Unternehmensimmobilien are regularly analysed by the Initiative Unternehmensimmobilien. They can be broken down into: business parks, warehouse properties, light manufacturing properties and transformation properties. Because no project developments are analysed in this study, there is no separate focus on transformation properties.

In the first half of 2022, the investment market for business properties had proven to be crisis-resistant and, unlike most asset classes, recorded increasing transaction volumes. Now the transaction volume has fallen by around 19 % to approximately 1.32 billion euros. Take-up is thus around 26 % below the long-term average. The decline in the investment volume shows market players' uncertainty even in the business properties segment, which is actually a very crisis-resistant asset class. More transactions will come about only when there is greater certainty as regards the development of inflation and interest rates.

Light manufacturing properties were in particularly high demand among investors in the second half of 2022. These proved to be the most resilient type of building within the business properties asset class during the crisis. The investment volume here is in line with the figures from the previous years. One of the biggest transactions by volume was the purchase of a former print shop in the Dresden urban area. The second-largest volume was attributable to business parks, for which a transaction volume of approximately 311 million euros was registered. With a decrease of around 40 %, there was thus a very clear downward trend for business parks compared to the first half of 2022. Along with the turnaround in interest rates in the middle of last year, the valuation of investments in Unternehmensimmobilien also changed and significant increases in yields were recorded in all segments. Over the course of the year, the financing conditions became considerably more difficult. The increase in yields gained further momentum, at least in some cases. Whereas in the first half of 2022 investments had been broadly diversified across the different regions, investments in the second half of the year were increasingly focussed on individual regions. The top three regions – Berlin, the Eastern region and the Southern region – thus generated around 67 % of the total investment volume in the second half of the year.

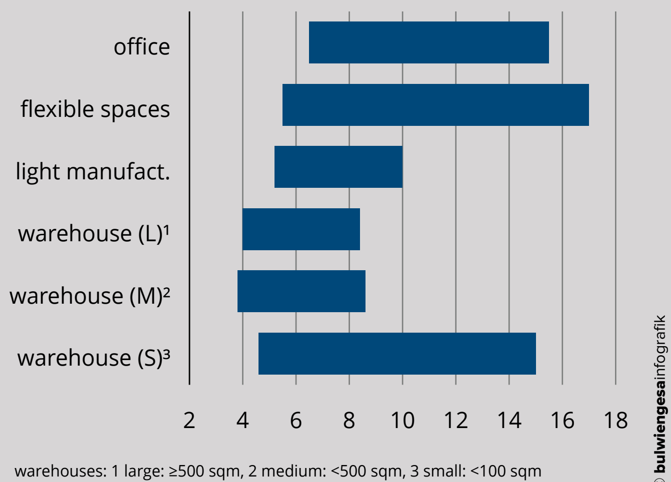
Demand for space thus remains consistently high, with turbulence on the investment market mainly due to the development of interest rates and the resulting shock. Increasing take-up in Unternehmensimmobilien was thus recorded in the second half of 2022. At around 1.34 million square metres, take-up was roughly 7.5 % higher than in the first half of the year and also around 5 % above the five-year average. This makes it clear that there is stable demand for space even in an environment of rising rents. The highest demand was for rental space in light manufacturing properties; the users here come from the manufacturing industry and include many companies from the technology sector. Due to the shortage of space in the Unternehmensimmobilien segment, rents for all types of space continued to rise. Despite uncertainties in the economic environment, there is still extremely high demand for well-positioned industrial space.

Take-up of Unternehmensimmobilien
thousand sqm, 2015 to 2022



Source: bulwiengesa AG, Initiative Unternehmensimmobilien

Rent level of Unternehmensimmobilien
rent euros/sqm/month, second half year 2022



warehouses: 1 large: ≥500 sqm, 2 medium: <500 sqm, 3 small: <100 sqm
Source: bulwiengesa AG, Initiative Unternehmensimmobilien

The 6-Percenters

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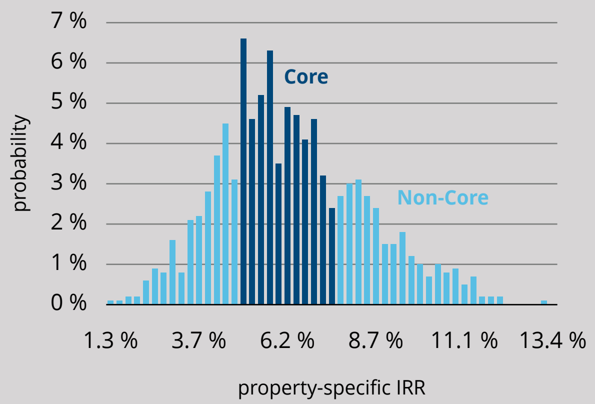
The 5.50- to 6.49-Percenters

Property-Specific IRR

The Market for Light Manufacturing (UI)

IRR Range UI Light Manufacturing



Results Range

IRR base value	5.88 %
performace expectation	**Who should invest?**
4.8 - 7.5 %	**Core-Investors**
4.7 - 7.3 %	previous year
up to 13.4 %	**Non-Core-Investors**
up to 12.3 %	previous year

Conclusion

Production properties still represent a highly profitable alternative to traditional real estate investments. The capacity for alternative uses is often limited, so it is highly relevant to examine the contractual arrangements and the performance of the production company.

Market Environment

investment demand	national to international
demand for space	regional to national
liquidity	low
volatility	medium
marketable size	from 5 million euros upwards

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The 5-Percenters

4

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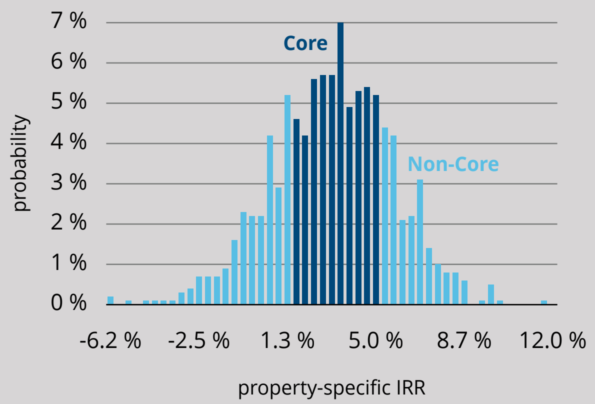
The 4.50- to 5.49-Percenters

Property-Specific IRR

The Market for Office Properties in D Cities

IRR Range Office D Cities



Results Range

IRR base value	4.94 %
performace expectation	**Who should invest?**
1.3 - 5.0 %	**Core-Investors**
2.2 - 5.2 %	previous year
up to 12.0 %	**Non-Core-Investors**
up to 10.8 %	previous year

Conclusion

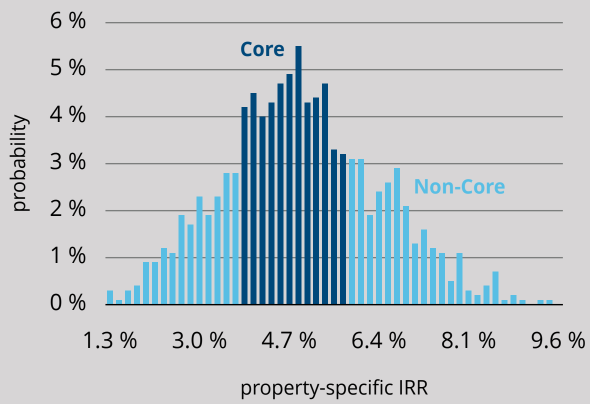
For office stock in smaller markets in particular, the economic sustainability of real estate investments must be examined in the context of necessary energy-efficiency upgrades. The often low rent levels leave little room for manoeuvre here in many cases.

Market Environment

investment demand	regional to international
demand for space	regional to national
liquidity	low
volatility	low
marketable size	approx. 3 to 18 million euros

The Market for Business Parks (UI)

IRR Range UI Business Park



Results Range

IRR base value	4.92 %
performace expectation	**Who should invest?**
3.9 - 5.8 %	**Core-Investors**
4.0 - 5.9 %	previous year
up to 9.6 %	**Non-Core-Investors**
up to 10.1 %	previous year

Conclusion

As a hybrid of different types of use such as office and warehouse space, industrial parks present a good opportunity for diversifying use. Their cash flows have proven stable even in times of crisis, although management expense is comparatively high.

Market Environment

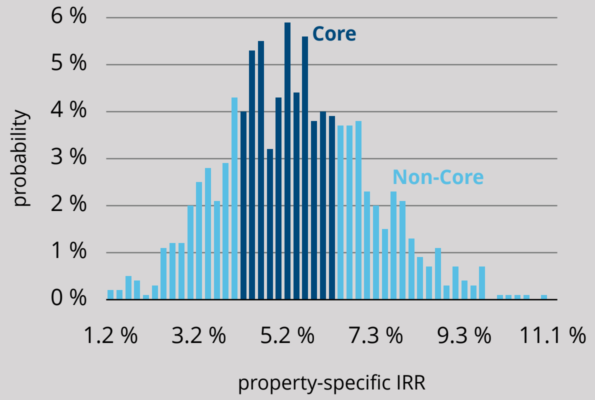
investment demand	regional to international
demand for space	local to national
liquidity	low
volatility	medium
marketable size	approx. 2 to 70 million euros

The 4.50- to 5.49-Percenters

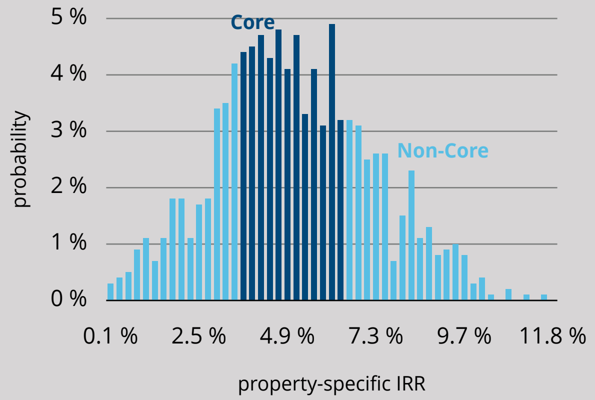
Property-Specific IRR

The Market for Hotel Properties

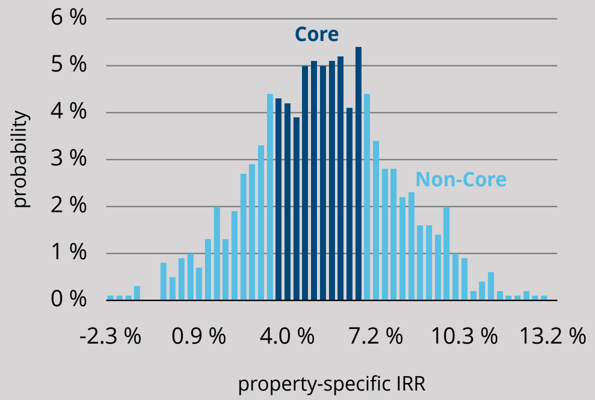
IRR Range Economy Hotel



IRR Range Midscale Hotel



IRR Range Upscale Hotel



Results Range

IRR base value	4.42 - 4.74 %
performace expectation	**Who should invest?**
3.4 - 6.8 %	**Core-Investors**
2.0 - 5.2 %	previous year
up to 13.2 %	**Non-Core-Investors**
up to 11.5 %	previous year

Conclusion

In terms of income, hotels have made a brilliant comeback following the coronavirus crisis and the related lockdowns. Many city hotels are performing very well in terms of both room prices and occupancy. On the other hand, the industry faces the challenges of high cost blocks and staff shortages. Provided the operators are chosen selectively, hotels represent an interesting investment alternative.

Market Environment

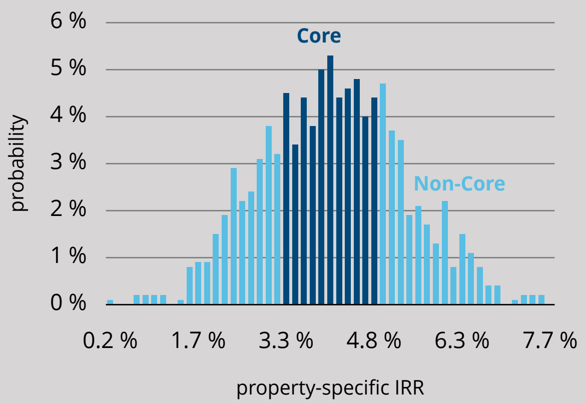
type of market	hotels in former „magic cities“
investment demand	national to international
demand for space	national to international
liquidity	low
volatility	high
marketable size	approx. 5 to 100 million euros

The 4.50- to 5.49-Percenters

Property-Specific IRR

The Market for Modern Logistics Properties

IRR Range Modern Logistics



Results Range

IRR base value	4.62 %
performace expectation	Who should invest?
3.1 - 4.8 %	**Core-Investors**
2.9 - 4.3 %	previous year
up to 7.7 %	**Non-Core-Investors**
up to 6.6 %	previous year

Conclusion

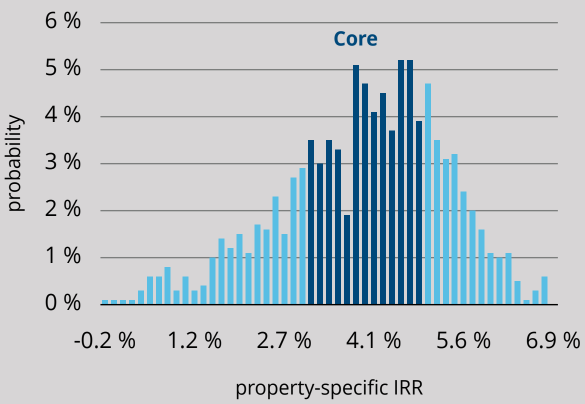
Despite a decline in demand for online retail, there is still rental demand – particularly from industrial users. In the case of older properties, their capacity for alternative uses may be dependent on high capex costs, particularly when re-purposing buildings that were built for a specific user.

Market Environment

investment demand	national to international
demand for space	regional to international
liquidity	medium to high
volatility	low
marketable size	from approx. 10 million euros

The Market for Shopping Centers

IRR Range Shopping Center



Results Range

IRR base value	4.59 %
performace expectation	Who should invest?
3.1 - 4.9 %	**Core-Investors**
3.5 - 5.3 %	previous year
up to 6.9 %	
up to 8.4 %	previous year

Conclusion

For many investments in shopping centres, re-purposing scenarios should be priced in. The rent adjustments of the past few years are probably over for the most part.

Market Environment

investment demand	national to international
demand for space	national to international
liquidity	low
volatility	high
marketable size	approx. 80 to 500 mill. euros

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The 4-Percenters

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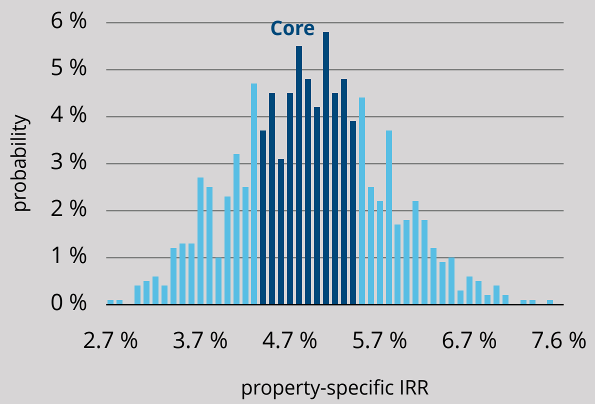
The 3.50- to 4.49-Percenters

Property-Specific IRR

The Market for Specialist Retail Parks

IRR Range Specialist Retail Parks



Results Range

IRR base value	4.28 %
performace expectation	Who should invest?
4.4 - 5.5 %	Core-Investors
3.0 - 4.1 %	previous year
up to 7.6 %	
up to 5.7 %	previous year

Conclusion

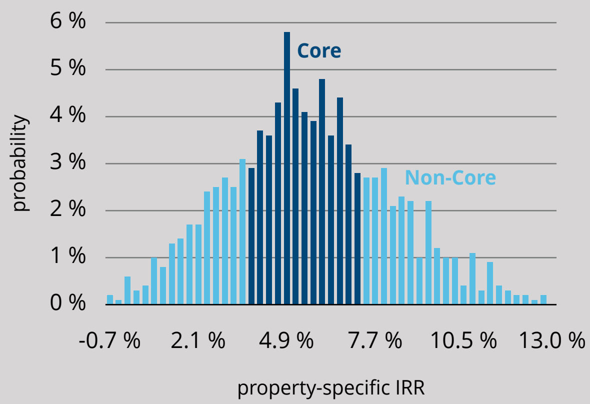
Stores offering periodically required goods and particularly food retail are still in high demand among users. The latest portfolio transactions indicate a high level of interest on the part of investors.

Market Environment

investment demand	international
demand for space	regional to national
liquidity	medium
volatility	medium
marketable size	approx. 5 to 50 million euros

The Market for Assisted Living for Seniors

IRR Range Assisted Living for Seniors



Results Range

IRR base value	4.20 %
performace expectation	Who should invest?
3.7 - 7.2 %	Core-Investors
2.4 - 5.5 %	previous year
up to 13.0 %	Non-Core-Investors
up to 13.2 %	previous year

Conclusion

The recent operator bankruptcies have led to great caution and restraint on the part of investors. Nevertheless, assisted living is still a niche segment based on the megatrend of an ageing society. User demand is therefore generally guaranteed.

Market Environment

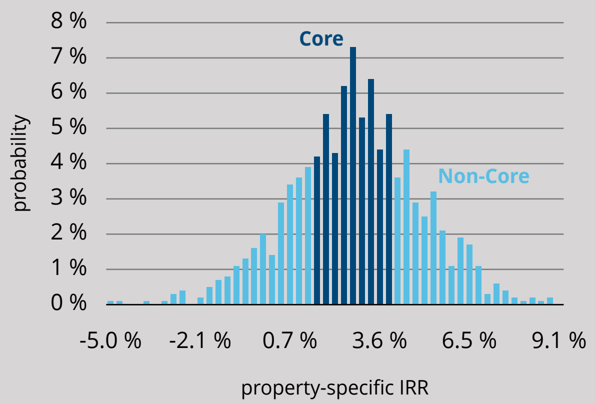
investment demand	national
demand for space	regional to national
liquidity	medium to low
volatility	medium to low
marketable size	from 10 million euros

The 3.50- to 4.49-Percenters

Property-Specific IRR

The Market for Office Properties in C Cities

IRR Range Office C Cities



Results Range

IRR base value	4.12 %
performace expectation	**Who should invest?**
1.4 - 4.0 %	**Core-Investors**
1.5 - 4.0 %	previous year
up to 9.1 %	**Non-Core-Investors**
up to 9.0 %	previous year

Conclusion

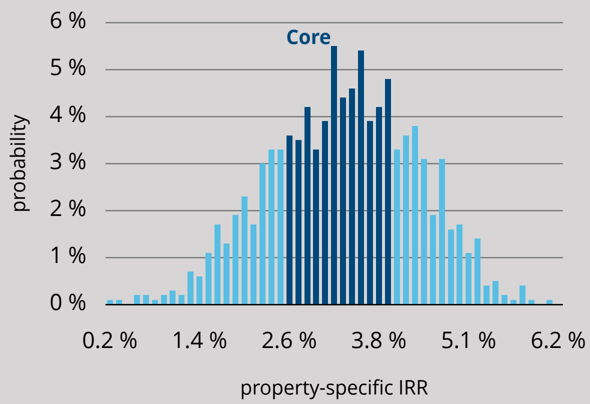
In many C markets, too, the necessary energy-efficiency renovations are probably hardly economically viable in many buildings. Interest from institutional investors is therefore likely to be very selective here in the medium term, too.

Market Environment

investment demand	regional to international
demand for space	regional to national
liquidity	low
volatility	low
marketable size	approx. 10 to 40 million euros

The Market for Micro-Apartments in B Cities

IRR Range Micro-Apartments B Cities



Results Range

IRR base value	4.02 %
performace expectation	**Who should invest?**
2.6 - 4.0 %	**Core-Investors**
1.8 - 3.4 %	previous year
up to 6.2 %	
up to 5.9 %	previous year

Conclusion

Demand for furnished apartments comes firstly from students and secondly from commuters. In the second group in particular, changes in the world of work have given rise to shifts that must be taken into account when potentially making an investment.

Market Environment

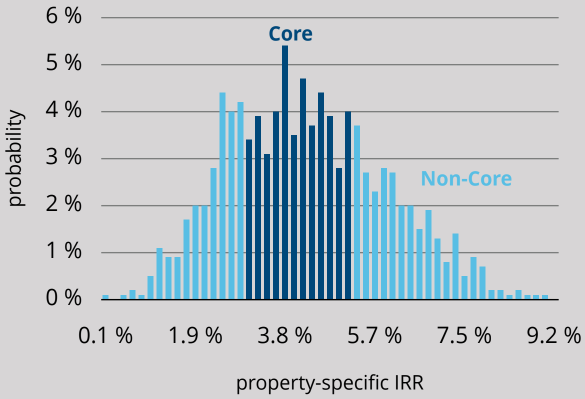
investment demand	regional to international
demand for space	national
liquidity	medium
volatility	medium
marketable size	up to approx. 20 million euros

The 3.50- to 4.49-Percenters

Property-Specific IRR

The Market for Warehouse Properties (UI)

IRR Range UI Warehouse



Results Range

IRR base value	3.92 %
performace expectation	**Who should invest?**
2.9 - 5.3 %	**Core-Investors**
3.2 - 5.1 %	previous year
up to 9.2 %	**Non-Core-Investors**
up to 7.9 %	previous year

Conclusion

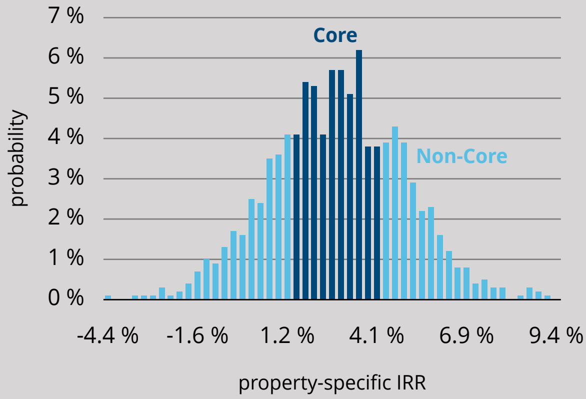
Demand for urban warehouse space remains high, while supply is low. Despite the reduction of capacity in online retail, further increases in rents can generally be expected.

Market Environment

investment demand	regional to international
demand for space	local to national
liquidity	medium
volatility	medium
marketable size	approx. 1 to 10 million euros

The Market for Office Properties in B Cities

IRR Range Office B Cities



Results Range

IRR base value	3.75 %
performace expectation	**Who should invest?**
1.3 - 4.1 %	**Core-Investors**
1.3 - 3.8 %	previous year
up to 9.4 %	**Non-Core-Investors**
up to 9.9 %	previous year

Conclusion

Owing to the question mark still hanging over future demand for office space as a result of new workplace concepts, investors are generally restrained and very selective when it comes to office investments.

Market Environment

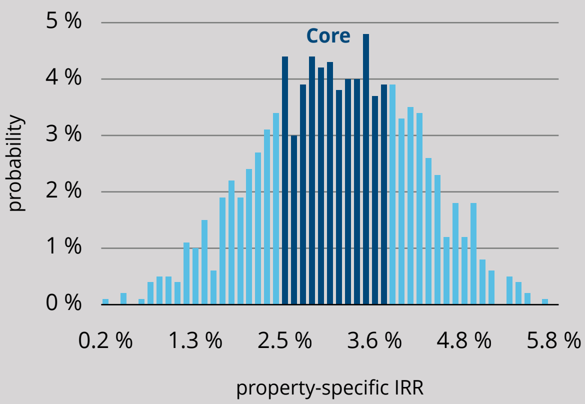
investment demand	national to international
demand for space	national to international
liquidity	medium
volatility	medium
marketable size	up to approx. 70 million euros

The 3.50- to 4.49-Percenters

Property-Specific IRR

The Market for Micro-Apartments in A Cities

IRR Range Micro-Apartments A Cities



Results Range

IRR base value	**3.61 %**

performace expectation	Who should invest?
2.4 - 3.8 %	**Core-Investors**
1.8 - 3.4 %	previous year
up to 5.8 %	
up to 5.4 %	previous year

Conclusion

The shortage of housing in major cities is still leading to brisk demand for furnished apartments. This is likely to continue in the medium term, too.

Market Environment

investment demand	national to international
demand for space	national to international
liquidity	medium
volatility	medium
marketable size	up to approx. 60 million euros

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4

The 3-Percenters

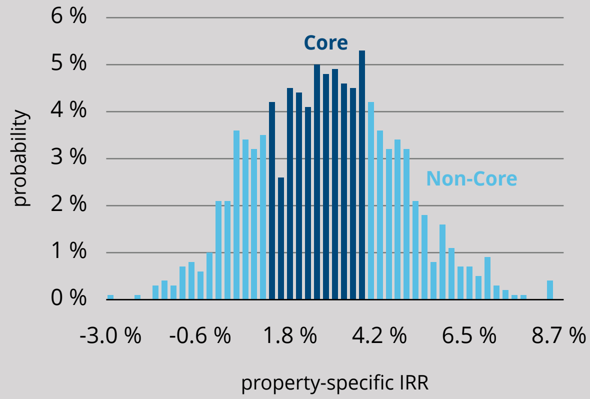
2

The 2.50- to 3.49-Percenters

Property-Specific IRR

The Market for Office Properties in A Cities

IRR Range Office A Cities



Results Range

IRR base value	**3.22 %**
performace expectation	Who should invest?
1.2 - 3.9 %	**Core-Investors**
0.7 - 3.3 %	previous year
up to 8.7 %	**Non-Core-Investors**
up to 8.4 %	previous year

Conclusion

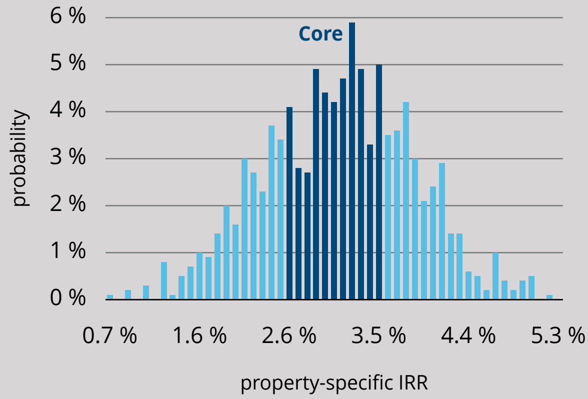
The gap in rents between high-quality offices in central locations and offices in secondary locations will widen further. This reflects changes in office tenants' demand preferences.

Market Environment

investment demand	national to international
demand for space	regional to international
liquidity	medium to high
volatility	high
marketable size	approx. 3 to 500 million euros

The Market for Residential Properties (US) in University Cities

IRR Range Residential University Cities



Results Range

IRR base value	**3.01 %**
performace expectation	Who should invest?
2.5 - 3.6 %	**Core-Investors**
2.0 - 3.1 %	previous year
up to 5.3 %	
up to 5.0 %	previous year

Conclusion

The market situation in many university towns is characterised by a shortage of housing and a decline or absence of new construction. Reliable cash flows are therefore mostly available on the income side, but uncertainties exist in the future need to refurbish existing buildings.

Market Environment

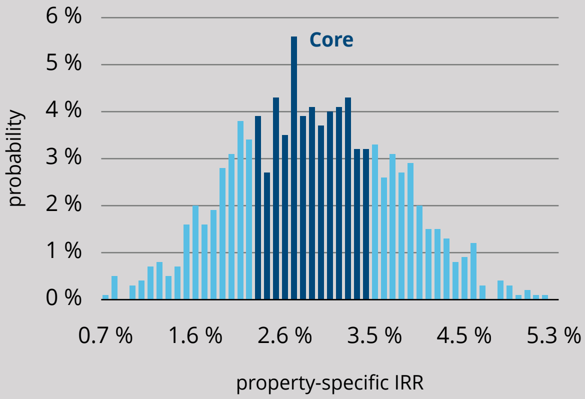
investment demand	regional to international
demand for space	regional to national
liquidity	medium
volatility	low
marketable size	up to approx. 50 million euros

The 2.50- to 3.49-Percenters

Property-Specific IRR

The Market for Residential Properties in B Cities

IRR Range Residential B Cities



Results Range

IRR base value	2.79 %

performace expectation	Who should invest?
2.2 - 3.5 %	**Core-Investors**
1.9 - 3.1 %	previous year

up to 5.3 %	
up to 5.2 %	previous year

Conclusion

The residential property investment market is driven by portfolio adjustments – as Vonovia has already implemented and is probably currently planning. Individual investors remain uncertain due to the future need for upgrades of existing buildings.

Market Environment

investment demand	national to international
demand for space	regional
liquidity	medium
volatility	medium
marketable size	approx. 3 to 50 million euros

6

5

4

3

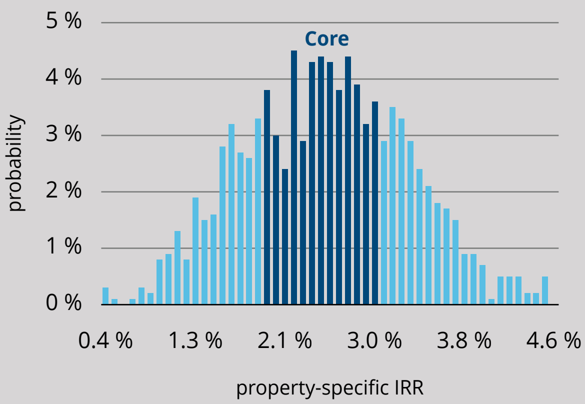
The 2-Percenters

The 1.50- to 2.49-Percenters

Property-Specific IRR

The Market for Residential Properties in A Cities

IRR Range Residential A Cities



Results Range

IRR base value	2.44 %
performace expectation	**Who should invest?**
1.9 - 3.0 %	**Core-Investors**
1.6 - 2.8 %	previous year
up to 4.6 %	
up to 4.5 %	previous year

Conclusion

Despite rising yields, the performance of residential properties in the major cities remains far below the level of inflation. Buyers have high equity and are not strongly focussed on yields. Further price adjustments are therefore likely.

Market Environment

investment demand	regional to international
demand for space	regional to international
liquidity	medium to high
volatility	low
marketable size	up to approx. 150 mill. euros

The Results in Detail

Detailed overview

Property-Specific IRR

Office A, B, C and D Cities in Detail – Property Specific IRR

type	city	Core-I. from	Core-I. to	Non-Core-I. up to	type	city	Core-I. from	Core-I. to	Non-Core-I. up to	type	city	Core-I. from	Core-I. to	Non-Core-I. up to
A	Berlin	1.1 %	4.2 %	10.5 %	C	Wuppertal	1.3 %	4.3 %	8.9 %	D	Krefeld	1.1 %	4.5 %	9.7 %
A	Düsseldorf	1.1 %	3.5 %	7.4 %						D	Landshut	1.7 %	4.7 %	10.0 %
A	Frankfurt (Main)	1.2 %	3.4 %	8.5 %	D	Albstadt	-0.2 %	4.5 %	10.7 %	D	Leverkusen	1.2 %	4.2 %	10.5 %
A	Hamburg	1.5 %	4.1 %	9.8 %	D	Aschaffenburg	1.5 %	4.4 %	9.9 %	D	Lüdenscheid	0.9 %	4.3 %	11.4 %
A	Köln	1.1 %	3.9 %	9.4 %	D	Bamberg	1.4 %	5.0 %	10.7 %	D	Ludwigshafen	2.4 %	5.3 %	10.9 %
A	München	1.6 %	4.0 %	9.2 %	D	Bayreuth	1.9 %	5.2 %	11.2 %	D	Lüneburg (Stadt)	2.2 %	5.0 %	11.3 %
A	Stuttgart	1.2 %	3.7 %	8.4 %	D	Bergisch Gladbach	0.8 %	4.1 %	9.6 %	D	Marburg	2.8 %	5.4 %	10.9 %
					D	Bottrop	1.2 %	4.9 %	11.4 %	D	Minden	1.5 %	5.3 %	11.3 %
B	Bochum	2.0 %	4.9 %	11.2 %	D	Brandenburg (Hav.)	-1.1 %	3.9 %	11.2 %	D	Moers	1.7 %	5.3 %	11.5 %
B	Bonn	1.2 %	4.0 %	9.0 %	D	Bremerhaven	-1.2 %	3.4 %	10.7 %	D	Neubrandenburg	2.0 %	5.6 %	11.2 %
B	Bremen	1.2 %	4.2 %	9.1 %	D	Chemnitz	1.7 %	5.0 %	12.8 %	D	Neumünster	1.2 %	4.5 %	9.7 %
B	Dortmund	1.4 %	3.9 %	8.9 %	D	Coburg	0.8 %	4.7 %	11.9 %	D	Neuss (Stadt)	0.7 %	3.7 %	8.4 %
B	Dresden	0.7 %	3.5 %	9.8 %	D	Cottbus	0.5 %	4.3 %	11.8 %	D	Oberhausen	-0.3 %	3.3 %	8.9 %
B	Duisburg	1.7 %	4.5 %	9.3 %	D	Dessau	-1.0 %	4.4 %	12.0 %	D	Offenburg	1.6 %	4.9 %	10.5 %
B	Essen	1.5 %	4.3 %	9.9 %	D	Detmold	-0.1 %	4.3 %	10.3 %	D	Oldenburg	1.7 %	4.7 %	9.6 %
B	Hannover	1.2 %	4.2 %	9.0 %	D	Düren (Stadt)	0.3 %	4.0 %	10.4 %	D	Paderborn (Stadt)	0.4 %	3.9 %	11.0 %
B	Karlsruhe	1.2 %	3.9 %	8.8 %	D	Eisenach	-0.3 %	4.3 %	11.7 %	D	Passau	1.1 %	4.3 %	10.7 %
B	Leipzig	0.9 %	3.7 %	8.7 %	D	Flensburg	1.5 %	5.0 %	11.7 %	D	Pforzheim	0.1 %	3.3 %	9.0 %
B	Mannheim	1.3 %	3.8 %	8.6 %	D	Frankfurt (Oder)	-0.3 %	3.7 %	10.5 %	D	Plauen	-3.4 %	3.6 %	13.9 %
B	Münster	1.2 %	4.0 %	10.3 %	D	Friedrichshafen	2.3 %	4.9 %	11.4 %	D	Ratingen	1.4 %	4.1 %	9.4 %
B	Nürnberg	0.8 %	3.7 %	8.8 %	D	Fulda (Stadt)	1.5 %	4.8 %	10.9 %	D	Ravensburg (Stadt)	1.7 %	4.6 %	10.6 %
B	Wiesbaden	1.1 %	3.8 %	8.1 %	D	Fürth	1.7 %	4.8 %	10.1 %	D	Recklinghausen (S.)	1.7 %	5.2 %	11.6 %
					D	Gelsenkirchen	-0.1 %	3.9 %	11.3 %	D	Remscheid	0.9 %	4.5 %	10.1 %
C	Aachen	1.1 %	3.8 %	9.3 %	D	Gera	-0.2 %	4.8 %	13.9 %	D	Reutlingen (Stadt)	1.6 %	4.3 %	9.2 %
C	Augsburg	0.7 %	3.7 %	8.7 %	D	Gießen (Stadt)	1.5 %	4.4 %	9.0 %	D	Rosenheim	2.0 %	4.8 %	9.6 %
C	Bielefeld	1.6 %	4.8 %	13.0 %	D	Görlitz	-1.7 %	3.5 %	13.7 %	D	Salzgitter	-0.7 %	3.7 %	12.1 %
C	Braunschweig	1.2 %	4.6 %	11.0 %	D	Göttingen (Stadt)	2.8 %	5.7 %	11.2 %	D	Schweinfurt	1.0 %	4.8 %	12.1 %
C	Darmstadt	1.3 %	3.9 %	8.3 %	D	Greifswald	1.7 %	5.4 %	12.7 %	D	Schwerin	0.8 %	4.1 %	10.6 %
C	Erfurt	1.5 %	4.5 %	9.3 %	D	Gütersloh (Stadt)	0.5 %	4.0 %	11.2 %	D	Siegen (Stadt)	1.2 %	4.7 %	11.4 %
C	Erlangen	1.5 %	4.4 %	8.9 %	D	Hagen	1.7 %	5.3 %	10.3 %	D	Solingen	0.8 %	5.1 %	10.8 %
C	Freiburg (Breisgau)	1.1 %	3.6 %	8.3 %	D	Halberstadt (Stadt)	-2.7 %	3.8 %	12.4 %	D	Stralsund	0.4 %	4.3 %	10.5 %
C	Heidelberg	1.3 %	3.6 %	8.7 %	D	Halle (Saale)	0.8 %	4.4 %	9.8 %	D	Suhl	-1.1 %	4.9 %	12.8 %
C	Kiel	0.8 %	3.7 %	8.9 %	D	Hamm	1.4 %	4.8 %	10.7 %	D	Trier	1.3 %	4.5 %	9.4 %
C	Lübeck	1.0 %	4.0 %	9.2 %	D	Hanau	1.0 %	4.1 %	9.5 %	D	Tübingen (Stadt)	1.7 %	4.5 %	9.4 %
C	Magdeburg	1.7 %	4.6 %	9.2 %	D	Heilbronn	1.7 %	4.4 %	8.8 %	D	Ulm	1.8 %	4.3 %	9.2 %
C	Mainz	1.2 %	3.8 %	8.7 %	D	Herne	1.7 %	5.1 %	13.6 %	D	Villingen-Schwenn.	1.7 %	5.5 %	11.0 %
C	Mönchengladbach	1.5 %	4.3 %	8.7 %	D	Hildesheim (Stadt)	0.8 %	4.5 %	10.5 %	D	Weimar	1.0 %	4.9 %	12.4 %
C	Mülheim (Ruhr)	1.3 %	4.4 %	10.4 %	D	Ingolstadt	1.4 %	4.2 %	8.7 %	D	Wilhelmshaven	0.6 %	4.9 %	12.1 %
C	Offenbach (Main)	1.0 %	3.8 %	8.6 %	D	Jena	2.4 %	5.5 %	10.5 %	D	Witten	0.7 %	4.3 %	10.5 %
C	Osnabrück	0.9 %	3.8 %	9.4 %	D	Kaiserslautern	0.4 %	4.1 %	9.9 %	D	Wolfsburg	1.5 %	4.1 %	8.2 %
C	Potsdam	1.0 %	3.7 %	8.5 %	D	Kassel	1.0 %	4.4 %	9.6 %	D	Würzburg	1.8 %	4.8 %	9.1 %
C	Regensburg	1.3 %	3.9 %	9.9 %	D	Kempten (Allgäu)	1.7 %	4.7 %	9.8 %	D	Zwickau	0.2 %	4.7 %	14.5 %
C	Rostock	1.4 %	4.3 %	9.4 %	D	Koblenz	1.3 %	4.3 %	9.5 %					
C	Saarbrücken (Stadt)	1.0 %	4.3 %	12.3 %	D	Konstanz (Stadt)	1.7 %	4.4 %	9.3 %					

Detailed overview

Property-Specific IRR

Residential A, B and University Cities (US) in Detail – Property-Specific IRR

type	city	Core-I. from	Core-I. to	Non-Core-I. up to	type	city	Core-I. from	Core-I. to	Non-Core-I. up to	type	city	Core-I. from	Core-I. to	Non-Core-I. up to
A	Berlin	1.4 %	3.1 %	5.8 %	US	Bamberg	2.4 %	3.4 %	5.5 %	US	Koblenz	2.8 %	3.9 %	5.6 %
A	Düsseldorf	1.9 %	2.7 %	4.0 %	US	Bayreuth	2.3 %	3.5 %	5.5 %	US	Konstanz (Stadt)	2.3 %	3.3 %	5.1 %
A	Frankfurt (Main)	2.2 %	3.0 %	4.2 %	US	Bielefeld	2.3 %	3.5 %	5.8 %	US	Lübeck	2.3 %	3.5 %	5.4 %
A	Hamburg	2.0 %	3.0 %	4.3 %	US	Braunschweig	2.3 %	3.5 %	5.5 %	US	Lüneburg (Stadt)	2.5 %	3.8 %	5.9 %
A	Köln	1.7 %	3.2 %	5.0 %	US	Chemnitz	1.3 %	2.8 %	5.0 %	US	Magdeburg	1.6 %	2.8 %	4.6 %
A	München	1.9 %	3.0 %	4.5 %	US	Cottbus	3.6 %	4.9 %	6.9 %	US	Mainz	2.6 %	3.6 %	5.2 %
A	Stuttgart	2.2 %	3.1 %	4.8 %	US	Darmstadt	2.6 %	3.4 %	4.7 %	US	Marburg	2.7 %	3.8 %	5.2 %
B	Bochum	2.3 %	3.9 %	6.2 %	US	Erfurt	2.1 %	3.3 %	5.0 %	US	Mönchengladbach	2.4 %	3.8 %	6.1 %
B	Bonn	2.3 %	3.1 %	5.0 %	US	Erlangen	2.3 %	3.2 %	4.6 %	US	Oldenburg	2.3 %	3.5 %	5.3 %
B	Bremen	2.5 %	3.7 %	5.7 %	US	Flensburg	2.1 %	3.3 %	4.9 %	US	Osnabrück	2.3 %	3.4 %	5.3 %
B	Dortmund	2.2 %	3.5 %	5.4 %	US	Frankfurt (Oder)	2.0 %	3.5 %	5.7 %	US	Paderborn (Stadt)	2.4 %	3.6 %	5.7 %
B	Dresden	1.9 %	3.0 %	4.5 %	US	Freiburg (Breisgau)	2.3 %	3.1 %	4.7 %	US	Passau	2.4 %	3.4 %	5.3 %
B	Duisburg	1.9 %	3.5 %	5.9 %	US	Gießen (Stadt)	2.3 %	3.3 %	4.5 %	US	Potsdam	1.9 %	2.6 %	3.6 %
B	Essen	2.2 %	3.5 %	5.4 %	US	Göttingen (Stadt)	2.8 %	4.1 %	6.4 %	US	Regensburg	2.1 %	3.0 %	4.3 %
B	Hannover	2.1 %	3.4 %	5.7 %	US	Greifswald	2.8 %	4.0 %	5.8 %	US	Rostock	2.5 %	3.6 %	5.6 %
B	Karlsruhe	2.4 %	3.6 %	5.4 %	US	Halle (Saale)	1.7 %	3.0 %	4.9 %	US	Saarbrücken (S.)	2.4 %	3.6 %	5.6 %
B	Leipzig	1.8 %	3.0 %	5.0 %	US	Heidelberg	2.3 %	3.0 %	4.7 %	US	Siegen (Stadt)	2.5 %	3.8 %	5.6 %
B	Mannheim	2.6 %	3.7 %	5.8 %	US	Heilbronn	2.9 %	3.7 %	4.8 %	US	Trier	2.9 %	4.0 %	5.6 %
B	Münster	2.2 %	3.1 %	4.6 %	US	Hildesheim (Stadt)	2.1 %	3.5 %	5.4 %	US	Tübingen (Stadt)	2.4 %	3.3 %	4.5 %
B	Nürnberg	2.5 %	3.7 %	5.9 %	US	Jena	2.6 %	3.9 %	6.0 %	US	Ulm	2.2 %	2.9 %	4.4 %
B	Wiesbaden	2.4 %	3.3 %	5.1 %	US	Kaiserslautern	2.5 %	4.0 %	6.3 %	US	Wuppertal	2.0 %	3.3 %	5.2 %
US	Aachen	2.2 %	3.3 %	5.1 %	US	Kassel	2.2 %	3.3 %	5.3 %	US	Würzburg	2.3 %	3.3 %	4.9 %
US	Augsburg	2.2 %	3.3 %	5.0 %	US	Kiel	2.5 %	3.6 %	5.6 %					

Micro-Apartments A and B Cities in Detail – Property-Specific IRR

type	city	Core-I. from	Core-I. to	Non-Core-I. up to	type	city	Core-I. from	Core-I. to	Non-Core-I. up to	type	city	Core-I. from	Core-I. to	Non-Core-I. up to
A	Berlin	1.9 %	3.7 %	6.5 %	B	Bochum	2.6 %	4.2 %	7.0 %	B	Hannover	2.5 %	3.9 %	6.2 %
A	Düsseldorf	2.3 %	3.5 %	5.7 %	B	Bonn	2.6 %	3.7 %	5.6 %	B	Karlsruhe	2.8 %	4.2 %	7.0 %
A	Frankfurt (Main)	2.6 %	3.8 %	5.5 %	B	Bremen	2.8 %	4.1 %	6.3 %	B	Leipzig	2.0 %	3.3 %	5.3 %
A	Hamburg	2.4 %	3.8 %	5.5 %	B	Dortmund	2.5 %	3.9 %	6.2 %	B	Mannheim	2.9 %	4.3 %	6.5 %
A	Köln	2.4 %	4.0 %	6.1 %	B	Dresden	2.1 %	3.4 %	5.5 %	B	Münster	2.6 %	3.6 %	5.7 %
A	München	2.4 %	3.8 %	5.8 %	B	Duisburg	2.0 %	3.5 %	6.2 %	B	Nürnberg	2.8 %	4.3 %	6.8 %
A	Stuttgart	2.6 %	3.9 %	5.5 %	B	Essen	2.5 %	4.0 %	6.3 %	B	Wiesbaden	2.8 %	4.0 %	6.3 %

Logistics Regions in Detail – Property-Specific IRR

logistics region	Core-I. from	Core-I. to	Non-Core-I. up to	logistics region	Core-I. from	Core-I. to	Non-Core-I. up to	logistics region	Core-I. from	Core-I. to	Non-Core-I. up to
A 4 Sachsen	3.4 %	5.2 %	8.0 %	Hamburg	3.2 %	4.7 %	7.5 %	Oberrhein	3.5 %	5.4 %	8.4 %
A 4 Thüringen	3.3 %	5.1 %	7.9 %	Hannover/Braunschweig	3.3 %	4.9 %	8.7 %	Ostwestfalen-Lippe	3.5 %	5.3 %	8.3 %
Aachen	3.8 %	5.5 %	8.1 %	Kassel/Göttingen	3.3 %	4.9 %	8.1 %	Rhein-Main/Frankfurt	3.1 %	4.8 %	7.3 %
Augsburg	3.5 %	5.2 %	7.7 %	Koblenz	3.6 %	5.2 %	8.1 %	Rhein-Neckar	3.3 %	5.0 %	7.9 %
Bad Hersfeld	2.8 %	4.6 %	7.5 %	Köln	3.0 %	4.8 %	7.4 %	Rhein-Ruhr	3.1 %	4.7 %	7.7 %
Berlin	3.2 %	5.0 %	8.2 %	Magdeburg	2.9 %	4.7 %	7.8 %	Saarbrücken	3.2 %	4.9 %	8.2 %
Bremen und Nordseehafen	2.9 %	4.5 %	7.4 %	München	3.3 %	5.0 %	8.1 %	Stuttgart	3.2 %	4.8 %	7.8 %
Dortmund	3.1 %	4.7 %	7.5 %	Münster/Osnabrück	3.2 %	5.1 %	7.9 %	Ulm	3.3 %	4.9 %	7.4 %
Düsseldorf	3.3 %	4.8 %	7.3 %	Niederbayern	3.5 %	5.3 %	8.4 %				
Halle/Leipzig	2.8 %	4.4 %	7.6 %	Nürnberg	3.6 %	5.3 %	8.1 %				

Content and Methodology

» Content of the Study

Using dynamic performance measurement, the 5 % study provides a new approach for describing property markets. The yield prospects of various asset classes are presented on the basis of an analysis of the internal rate of return on an investment. In light of the recognition that a single data point can reflect the complexity of a market only to a very limited extent, this study also highlights the range of investment profitability. Descriptions of property markets in market reports are usually based on top properties that generate prime rents and are accordingly traded at prime yields. However, this does not take account of the high diversification of the investor landscape, where extremely security-focussed investors increasingly find themselves alongside players seeking to identify and take advantage of market opportunities. This study also offers these players an overview of the market.

The subject matter analysed in this 5 % study is the performance expectations in the asset classes that currently dominate the German investment market. These include:

- office
- residential
- shopping centres and specialist retail centres
- hotels
- modern logistics properties

as well as the newer property types:

- micro-apartments and business properties (Unternehmensimmobilien UI)

» Basic Concept

The study uses a dynamic model to determine the probable internal rate of return (IRR) on an investment, assuming a holding period of ten years. It is assumed that the investment takes place at typical parameters for the market in question. A cash flow approach was applied, describing the anticipated future cash flows (purchase, rental income, property and operating costs, sale). The internal interest rate on these cash flows represents the IRR.

» No Financing Effects

In addition to the success of the properties themselves, successful real estate investments are also dependent on financing strategies (e.g. taking advantage of interest leverage through increased borrowing). There is typically a very wide range of variants on the market in this respect.

To allow for clear statements regarding the property performance, these effects and investor-specific adjustments were not included in the model.

» No Project Developments

This model assumes that the investment is made in buildings that do not require renovation or restructuring. Project developments as part of asset management strategies are therefore not included in the analysis.

» Procedure

It was assumed that the success of the investment may be influenced by various different determinants such as management performance and market fluctuations. Accordingly, a simulation (Monte Carlo) of possible results was performed on the basis of changing parameters. To this end, the relevant characteristics affecting the success of the investment were assigned fluctuation ranges that were derived in advance based on consideration and analysis of the respective market. Using Monte Carlo simulation, the probability of occurrence of the individual results was also calculated on the basis of 1,000 draws.

» Monte Carlo Simulation

Monte Carlo Simulation is a stochastic model for the projection of a forecast or base value. Put simply, this statistical method is a sort of limited random number generator that operates within framework conditions and values defined by the user. To map these parameters realistically and in line with market conditions as far as possible, a base value can also be defined in addition to a value range. After the simulation has been performed, the user receives a large number of results (depending on the number of draws) taking account of the predefined conditions. The modelling calculates probabilities of occurrence for the individual results within this range. The value range itself has a probability of occurrence of 100 %.

For the performance of the simulation, base values and ranges were defined – depending on the asset class under review – for groups of variables including the rent, vacancy rate, property costs and operating costs. The internal rate of return on the investment resulting from the cash flow calculation was set as the forecast value or IRR base value.

» Core Versus Non-Core

Core and Non-Core have become established as terms for investment strategies on the market, but there are no fixed definitions for them (at property level). Instead, there are a wide range of attempts at definitions, most of which are suggested by the respective investors themselves.

This study does not aim to add a further suggestion to these definitions. The division into core and non-core investors is therefore made at a purely statistical level. In the study, the corridor for core and non-core investors was delimited based on the assumption that core investors assume less risk and accept lower yields while non-core investors are less risk-averse but have higher yield targets.

Accordingly, the Monte Carlo results/IRRs between the 25 % quantile and the 75 % quantile (corresponding to a 50 % probability) are defined as the range within which core investors operate. The rest of the range – starting from an attainable rate of return of 6.49 % as the IRR base value – is seen as being for non-core investors. Here, there is a probability of 25 % that internal rates of return beyond the core range will be achieved. However, non-core investors may also fall below the attainable rate of return for core investors and in some cases may even generate negative IRRs.

» Parameters and Fluctuation Ranges

bulwiengesa's data system (RIWIS) was generally used as the source for rental, vacancy and yield information. For business properties, information from the Business Properties Initiative was selected as the basis. The data for hotels and retail properties were also checked for plausibility using analyses of investment transactions and other secondary sources (e.g. data from HypZert).

The cost data were calculated using primary analyses (where possible) and on the basis of typical market assumptions.

The fluctuation ranges for costs and income were defined individually for each type of use and are based on typical market parameters. Extreme values were excluded in this context.

» The Internal Rate of Return Method

The internal rate of return method shows the rate of return for which the net cash flows/the net present value is exactly zero. It thus represents the average rate of return on an investment. The internal rate of return method is not to be recommended as the sole basis for an investment decision, since it has a number of methodological shortcomings – the reinvestment assumption is criticised, for example. However, calculating the internal rate of return offers the advantage that this represents the success of a certain investment period (in the case of this study, ten years). This differentiates it from the static yield assessments that are typical on the market. In addition, the internal rate of return method is used by many investors and thus enjoys widespread acceptance.

» Die Performancemessung – Lesehilfe

In view of the complex subject matter, guidance for readers is provided below for better understanding of the results. This guidance relates to the sections on the 5-, 4-, 3- and 2-Percenters.
In general, all calculations in the study are based on property sizes and parameters in line with the market.
The „Selected Model Assumptions" table on page 37 shows the key parameters incorporated in the cash flow calculation and simulation.
The results columns present/summarise the results of the Monte Carlo simulation.
In the diagram, the x-axis shows the projected IRRs based on the Monte Carlo simulation, while the y-axis shows the probability of occurrence for each projected IRR.
The dark blue bars represent the IRR range relevant to core investors as defined by the study. This has a 50 % probability of occurrence and is delimited by the 25 % and 75 % quantiles. In line with this, the top results box shows the core range with values.
The rest of the range – relevant to non-core investors according to the study's definition – is marked in light blue. This is above the core range in 25 % of cases, but may also be below this range. The maximum attainable IRR according to the simulation is specified in the bottom results box below the core range.
The internal rate of return on the investment (IRR), calculated using the base values in line with the cash flow method, also corresponds to the base value of the simulation.

Definitions and Comments

Overview A, B, C, D and University-Cities (US)

city	category	city	category	city	category	city	category
Berlin	A	Lübeck	C/US	Gelsenkirchen	D	Neuss	D
Düsseldorf	A	Magdeburg	C/US	Gera	D	Oberhausen	D
Frankfurt (Main)	A	Mainz	C/US	Gießen	D/US	Offenburg	D
Hamburg	A	Mönchengladbach	C/US	Görlitz	D	Oldenburg	D/US
Köln	A	Mülheim (Ruhr)	C	Göttingen	D/US	Paderborn	D/US
München	A	Offenbach (Main)	C	Greifswald	D/US	Passau	D/US
Stuttgart	A	Osnabrück	C	Gütersloh	D	Pforzheim	D
		Potsdam	C/US	Hagen	D	Plauen	D
Bochum	B	Regensburg	C/US	Halberstadt	D	Ratingen	D
Bonn	B	Rostock	C/US	Halle (Saale)	D/US	Ravensburg	D
Bremen	B	Saarbrücken	C/US	Hamm	D	Recklinghausen	D
Dortmund	B	Wuppertal	C/US	Hanau	D	Remscheid	D
Dresden	B			Heilbronn	D/US	Reutlingen	D
Duisburg	B	Albstadt	D	Herne	D	Rosenheim	D
Essen	B	Aschaffenburg	D	Hildesheim	D/US	Salzgitter	D
Hannover	B	Bamberg	D/US	Ingolstadt	D	Schweinfurt	D
Karlsruhe	B	Bayreuth	D/US	Jena	D/US	Schwerin	D
Leipzig	B	Bergisch Gladbach	D	Kaiserslautern	D/US	Siegen	D/US
Mannheim	B	Bottrop	D	Kassel	D/US	Solingen	D
Münster	B	Brandenburg (Hl.)	D	Kempten (Allgäu)	D	Stralsund	D
Nürnberg	B	Bremerhaven	D	Koblenz	D/US	Suhl	D
Wiesbaden	B	Chemnitz	D/US	Konstanz	D/US	Trier	D/US
		Coburg	D/US	Krefeld	D	Tübingen	D/US
Aachen	C/US	Cottbus	D	Landshut	D	Ulm	D/US
Augsburg	C/US	Dessau	D	Leverkusen	D	Villingen-Schwenn.	D
Bielefeld	C/US	Detmold	D	Lüdenscheid	D	Weimar	D
Braunschweig	C/US	Düren	D	Ludwigshafen	D	Wilhelmshaven	D
Darmstadt	C/US	Eisenach	D	Lüneburg	D/US	Witten	D
Erfurt	C/US	Flensburg	D/US	Marburg	D/US	Wolfsburg	D
Erlangen	C/US	Frankfurt (Oder)	D/US	Minden	D	Würzburg	D/US
Freiburg	C/US	Friedrichshafen	D	Moers	D	Zwickau	D
Heidelberg	C/US	Fulda	D	Neubrandenburg	D		
Kiel	C/US	Fürth	D	Neumünster	D		

» General Classification of cities

Classification as A, B, C and D cities was used to categorise the German real estate market. This was based on the functional significance of the cities for the international, national and regional or local real estate market:

A Cities
The most important centres in Germany with national and sometimes international significance. Large, well-functioning markets in all segments.

B Cities
Large cities with national and regional significance.

C Cities
Major German cities with regional and limited national significance and an important impact on the surrounding region.

D Cities
Small, regionally focussed locations with a central role for their direct surroundings; lower market volume and sales.

University cities (US)
47 cities with at least 7,000 students are classified as university cities in this study, not including A- and B-cities since these are analysed separately.

» Yields/Multipliers

(source: gif e. V.)

Gross initial yield
The gross initial yield is a simple comparison of the contractual rent to the purchase price, not including incidental acquisition costs. The gross initial yield is equivalent to the reciprocal of the multiplier that is typically used in the market (e.g. 12.5 times the contractual rent = 8 % p.a. gross initial yield).

Gross initial yield = contractual rent / net purchase price

Net initial yield
The net initial yield represents net rental income in relation to the purchase price plus property-specific incidental acquisition costs. For the sake of clarification, please note that other non-recurring costs and revenue losses/risks are not deducted from the net rental income.
However, calculatory items (e.g. maintenance costs) are also taken into account in the operating costs or in the gross purchase price. The valuations used for this must be in line with the market standard and must be reported separately when stating the net initial yield. They can be disclosed either individually for each item or for the cost block as a whole, in which case they can be referred to „operating costs“ and „incidental acquisition costs“ as a simplification (e.g. „net initial yield x.x % p.a. including y % operating costs and z % incidental acquisition costs“).

Net initial yield = net rental income / gross purchase price

» Short Glossary for Office Property

Vacancy
Vacancy refers to vacant office space at the end of the respective year. It takes account of marketable properties only; structural vacancy therefore is not included.
The vacancy rate shows the ratio of vacancy to total space.

Take-up
Take-up is defined as an annual amount. It describes mostly office space taken up for rent, but also includes project developments focussing on owner-occupiers. The take-up date is the conclusion of the contract in the case of letting and the start of construction in the case of owner-occupiers.

Rents
Office rents are reported in euros per sqm rentable area according to gif e.V. (RA-C) and apply to office space in a marketable (technical/spatial) condition with good fixtures and fittings and small to medium-sized rental units. The reported rents are nominal values. The nominal rent is the initial rent shown in the contract, not including incentives, ancillary costs or local taxes.
The prime rent relates the top price segment – in relation to the respective market area – with a market share of between 3 % and 5 % of rental revenues (not including owner-occupiers) in the past twelve months and represents a median value. At least three concluded contracts should be included. It does not correspond to the absolute top rent (defined as outliers). To calculate the average rent, the individual rents for all new rental agreements concluded in the defined period are weighted according to the space rented in each case and an average is calculated.

» Short Glossary for Residential Properties/ Micro-Apartments

Residential rents
Residential rents for re-letting are reported in euros per sqm of residential space and ideally apply to an apartment with three rooms, around 65 to 95 sqm of residential space and standard fixtures and fittings. Because the fixtures and fittings and the sizes are standardised, the degree of variation shown in the rent range is influenced mainly by the location and the micro-location. The reported rents are nominal values.
The rents are stated without including ancillary costs or taking account of other benefits. Average rents represent the average value across the whole of the defined market.
The stated rents are average values intended to map a typical or usual level. They do not represent the strict arithmetic mean, the mode (most frequent value) or the median (central value) in a mathematical sense

Micro-apartments
Micro-apartments or business apartments are generally found in larger complexes with 100 to 300 units. They are offered as partly or fully furnished one-room apartments measuring between 18 and around 35 sqm, with a small kitchen and a separate bathroom. Optional services often include a concierge service, fitness facilities and laundry service. In terms of tax law, micro-apartments represent private-sector letting rather than operator-managed properties, meaning that rental agreements are concluded directly between the investor and the tenant.

» Short Glossary for Retail Property

Specialist retail parks
Specialist retail park are defined as follows: They have:
- gross lettable area (GLA) of 10,000 sqm or more
- locations on the city outskirts with good transport con nections, they are generally easy to reach, including for the wider surroundings
- ground-level floor space and extensive parking space, usually also at ground level
- simple functionality in terms of their appearance
- discount retailers with aggressive price strategies that have a crowd-pulling effect and are supplemented by retailers and service providers with small amounts of space.

Shopping centers
Shopping centers are large-scale facilities that are constructed on the basis central planning and cover short-, medium- and long-term requirements.
They are characterised by:
- a spatial focus on retail, catering and service businesses of different sizes
- a generous supply of parking spaces
- central management/administration
- joint performance of certain functions by all tenants (e.g. advertising)
- and generally have sales space of at least 10,000 sqm.

» Short Glossary for Unternehmensimmobilien

(Source: Initiative Unternehmensimmobilien)

The statements on Unternehmensimmobilien (UI) in this study are based on the market data of the Initiative Unternehmensimmobilien published in its Market Reports No. 10. According to these data, UI are mixed-use commercial properties, typically with a SME-dominated tenant structure. The mix includes office, warehouse, production, research, service and/or wholesale space as well as open space.
Unternehmensimmobilien comprise four different property categories:
- Converted properties (not included in the study due to their very high degree of variation)
- Business parks
- Light manufacturing properties
- Warehouse properties

All four categories are characterised by the features of capacity for alternative uses, use reversibility and fundamental suitability for multi-party structures. This means that the strengths of Unternehmensimmobilien lie in their flexibility with regard to not only the use but also the users.

Business parks
- Usually planned and constructed specifically to be let out to companies
- Consist of several individual buildings forming a complex
- Management and infrastructure are organised uniformly
- Have all types of space (share of office space generally between 20 % and 50 %)
- Usually located on the outskirts of cities and easily accessible

Light manufacturing properties
- Predominantly individual hall properties with a moderate office share
- Suitable for a variety of types of production
- In principle, hall space can also be used for other purposes such as storage, research, services, wholesale and retail
- Capacity for alternative uses depends primarily on the location

Warehouse properties
- Predominantly existing properties with mainly basic storage facilities and in some cases service space
- Within Unternehmensimmobilien, distinguished from modern logistics halls by a maximum size of 10,000 sqm
- Varying fit-out and quality standards
- Flexible and inexpensive types of space
- Generally reversible and suitable for higher-value uses (e.g. through retrofitting of ramps and gates)

» Short Glossary for Logistics Properties

The study relates to a modern logistics property with hall space of more than 10,000 sqm.
Rents for warehouse/logistics space are reported in euros per sqm of hall space and apply to a heatable hall with standard fixtures and fittings, not including high-bay warehouses or similar, that are located in a conventional industrial area with good connections. The reported rents are nominal values.

The rents are stated without including ancillary costs or taking account of other benefits. Maximum and average values are shown. The maximum rents represent an average value for the top 3 to 5 % of the market. They do not correspond to the absolute top rent (defined as outliers). Average rents represent the average value across the whole of the defined market.

The stated rents are average values intended to map a typical or usual level. They do not represent the strict arithmetic mean, the mode (most frequent value) or the median (central value) in a mathematical sense

» Short Glossary for Hotels

„Magic Cities“
This term refers to the former city alliance Magic Cities e. V., which included the following cities as its members: Berlin, Cologne, Dresden, Düsseldorf, Frankfurt am Main, Hamburg, Hanover, Leipzig, Munich, Nuremberg and Stuttgart. These cities are characterised by above-average tourist demand and a corresponding diverse offering for tourists.

Classification
This study is based on the following breakdown:
Economy: 1 or 2 stars
(Upper) midscale: 3 stars (3+ stars)
(Upper) upscale: 4 stars (4+ stars)
Luxury: 5 stars
The breakdown is based on the hotel classification used by DEHOGA (German Hotel and Restaurant Association), while the number of stars is taken from the online portals expedia.de and booking.com.

» List of abbreviations

Overview of abbreviations used in the study

ECB	European Central Bank
GDP	Gross Domestic Product
gif e. V.	gif Gesellschaft für immobilienwirtschaftliche Forschung e. V.
IRR	Internal Rate of Return
(Non-)Core-I.	(Non-)Core-Investors
RA-C	Rentable Area according to gif e. V.
sqm	square metres
UI	Unternehmensimmobilien
US	University Cities

» Notes on the Model

In general, renovations and project developments are not included. All calculations in the study are based on data, forecasts and analyses by bulwiengesa AG and its knowledge of the market. In addition to rent loss risk, vacancy risk is also taken into account in the cash flow calculation.

Terminology
Market liquidity is defined as investment demand irrespective of economic cycles.
Fluctuation refers to changes in tenants assumed at predefined dates – depending on the asset class.

Office
The study presents 127 office markets, broken down into A, B, C and D cities. A notional existing office property with average-quality space is assumed. The property size varies depending on the volume of the office market and the average take-up over the past ten years. The model also assumes annual fluctuation of 10 % of the property size and a three-year term for newly concluded rental agreements. The office rents are index-linked. The market rent in the year of the respective contract conclusion corresponds to the company's own forecast, while the ageing process of the property is taken into account with a rent discount. The purchase yield (net initial yield) in the model corresponds to the exit yield, so as to avoid distortions.

Residential
The study presents 68 residential markets, broken down into A, B and (other) university cities. The calculation is based on the assumption of an existing apartment building with 4,000 sqm of residential space and 55 residential units and with average fixtures and fittings. Annual fluctuation of 200 sqm is assumed. The fluctuation corresponds to the respective newly let space and a one-month vacancy p.a. For existing rental agreement space, rent adjustments to the market level every three years are assumed. The purchase yield (gross initial yield) in the model corresponds to the exit yield, so as to avoid distortions.

Micro-Apartments
A, B and (other) university cities – a total of 68 cities – are analysed. The calculation is based on the assumption of a property with 4,000 sqm of residential space and 200 fully furnished residential units of 20 sqm each. The base scenario assumes annual fluctuation of two-thirds of the total residential space, but the simulation also includes fluctuation of 0 % and 100 %. The purchase yield (gross initial yield) in the model corresponds to the exit yield, so as to avoid distortions. An operator model is not assumed.

Specialist Retail Parks
The model is based on an ideal specialist retail centre with floor space of around 20,000 sqm. The user structure consists of several retail spaces. Two anchor tenants and a use mix in line with the market are assumed.

Shopping Centres
The model is based on a three-storey shopping centre (including a basement level). It assumes one anchor tenant, a total of 78 retail spaces and sales space of 48,000 sqm.

Modern Logistics Properties
The model assumes an existing modern distribution/handling centre. Good divisibility and capacity for alternative uses are assumed. The hall space totals 20,000 sqm. Office space accounts for less than 10 % of the hall space, meaning that it can be assumed that the amount of space for administration of the logistics hall is in line with demand. For reasons of simplification, office space therefore is not taken into account separately in the model.

Business Parks (UI)
An existing business park with rental space of 12,000 sqm is assumed, with office use accounting for 30 % and warehouse use accounting for 70 %. All assumptions and data are based on information from the Initiative Unternehmensimmobilien and its Market Report No. 10.

Warehouses (UI)
A simple existing warehouse with 10,000 sqm of warehouse space is assumed. In contrast to modern logistics space, there is only limited divisibility and capacity for alternative uses and the property quality is lower (including with regard to hall height, floor load capacity etc.). All assumptions and data are based on information from the Initiative Unternehmensimmobilien and its Market Report No. 10.

Light manufacturing (UI)
A light manufacturing hall with 10,000 sqm of production space is assumed. In view of the high level of user specificity, longer lease terms (five years) are assumed than for the other types of described Unternehmensimmobilien. All assumptions and data are based on information from the Initiative Unternehmensimmobilien and its Market Report No. 10.

Hotels
The calculations in this study relate to chain hotel businesses, defined as businesses with four or more individual hotels.
In addition, the analysis is based on fundamental assumptions that reflect only part of the market. For example, it was assumed that a lease contract is concluded; operator contacts and hybrid forms were not included in the analysis. Another fundamental assumption is that the contract has a long term. The presentation of short-term contracts in the case of yield-focussed investments with additional capex requirements on expiry of the lease contract (generally two to three annual rents) was ensured by means of risk premiums and yield mark-ups. The model is based on city hotels with business customers and city tourists as their target groups. A high level of tourist demand is also assumed.

Assisted Living for Seniors
As with other operator-managed properties, long-term leasing is assumed. The model relates to leases with predominantly assisted living residences. Care services were not included.

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Published in September, 2023

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Picture Credits

white-studio/photocase.de