# THE 5% STUDY 2021

## WHERE IT STILL PAYS OFF TO INVEST

# Contents

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A Study by bulwiengesa AG

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# Forewords

It seems that nothing can shake the German property market. The investment volume will exceed 60 billion euros again in 2021 – dominated by housing, offices and logistics properties. As such, the coronavirus crisis is not reflected in the transaction figures, or is reflected only to a limited extent. Germany is and remains the place to be for investors.

But there are tangible uncertainties on the market. For example, the debate over the future of the office is well underway, some expect a fourth wave of the pandemic, and the Chinese property market is threatening to go off the rails.

What is the basis for the relatively good market performance? Firstly, Germany is once again proving to be the resilient major economy in Europe. According to the ifo Institute, growth of 5.1 % is forecast for next year. Its political stability also remains a big plus point. Whereas in France, for example, fears of a victory for the far-right RN in next year's elections are growing more acute, the results of Germany's parliamentary elections showed that, regardless of which exact government coalition comes together, Germany will continue to be led by the political centre. However, national regulations in the housing sector in particular will tend to increase rather than decrease. On a European level, the effects of the Green Deal have spread to our industry. The debate over the topic of ESG and taxonomy-compliant real estate products is all-pervasive. There are thus growing fears that it may no longer be possible to make good economic use of real estate.

And all of this is taking place in the context of structural change accelerated by the coronavirus. For example, the future of many retail businesses is uncertain, as is demand for hotel beds in the medium term. Although office properties are still being purchased, as described, they are being rented on a long-term basis to solvent tenants such as public authorities wherever possible. In some individual cases, buyers are even willing to pay higher prices for this than before the start of the pandemic.

The market is thus becoming increasingly differentiated and it is easy to lose track of the overview. We are therefore delighted to present you with an extensive overview of the yield potential on the German property market in our 5 % study. As usual, it is based on the motto: Where can I still generate an IRR of 5 %? I hope you are able to gain maximum insight from it.

*Sven Carstensen, Member of the board of bulwiengesa AG*

The coronavirus pandemic could not stop the development of property prices in Germany and beyond. The trend of rising prices is continuing in almost all segments apart from retail.
Following enormous government spending combined with a policy of cheap money, central banks will continue to keep interest rates low – even if just to keep down the interest payments on government debt. It can therefore be assumed that interest on real estate loans will also remain low in the long term, further adding to the appeal of investments.

However, the market is facing major challenges: Around the world and clearly also here in Germany, the risk of extreme weather events is increasingly affecting the property market. We are already seeing consequences such as flooding, landslides and forest fires. It remains to be seen how the development of the climate will affect investors' choice of locations and when there may by a shift in location assessments and thus also in yield targets in certain regions due to climate factors.

In addition, it can be observed that the attractiveness of a property is no longer defined solely by its yield expectations, but also increasingly includes ESG criteria. Environmental, social and governance aspects could in future play an even bigger role in defining the attractiveness and value of a property, with the main focus undoubtedly on the environment at present.

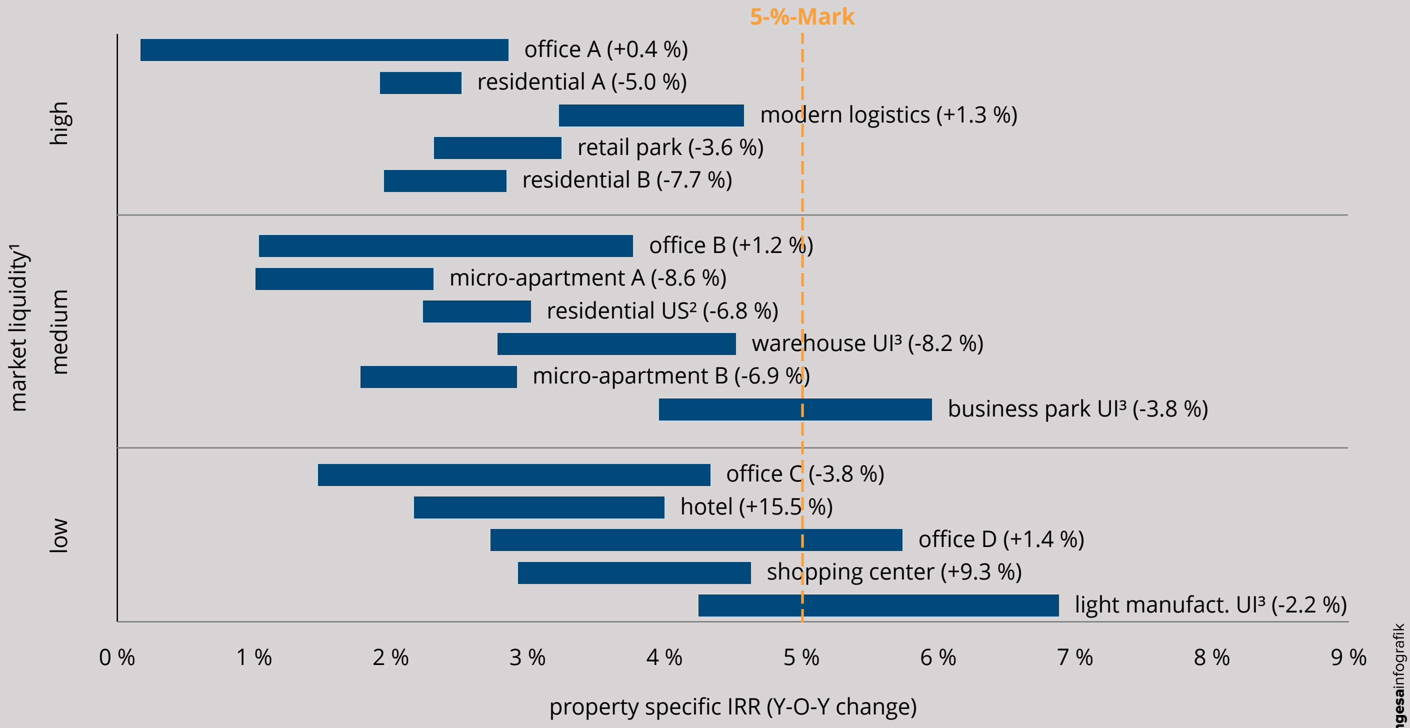
(Political) developments regarding the issue of expropriation and socialisation of housing companies must also continue to be observed, as a housing market geared towards public welfare quickly loses appeal for major investors. However, potential effects are generally to be expected in the medium to long term, as there are several legal questions that must first be resolved so that a potential law is not immediately annulled by the Federal Constitutional Court.

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.

*Dr. Detlef Koch,*
*ADVANT Beiten*

# 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

### » Core – sought after by everyone

The core range in the office segment is defined increasingly narrowly: Long lease terms, ideally with public-sector tenants, are at the top of investors' wish lists here. In such cases, they are also willing to invest with low or very low yield expectations – the range is 0.2 % to 2.9 %. Despite higher inflation expectations, which lead to a more dynamic development of rents for existing properties, hardly any increases can be seen here in comparison to the previous study.

The pressure on yields thus remains enormous – which is why smaller markets have not lost attractiveness. In D cities, for example, IRRs of 2.7 % up to 5.7 % can be achieved in the core range. Very good regional knowledge and good market penetration are needed here. Due to the smaller market sizes, the number of offers in each of these cities is generally low.

In between are the B and C markets, where yields of up to 3.8 % (B markets) and 4.3 % (C markets) can be achieved in the core range.

### » Logistics properties expected to see rent increases

Logistics properties remain a favourite among investors. Growing demand is expected here in the medium to long term, too, which is having a positive impact on the rent trend while supply remains limited. They have also become established as an asset class, resulting in high transaction demand even in weaker market phases. They are also demonstrating this robustness now.

In the performance assessment, increased inflation expectations and potential for rent increases are countered by falling initial yields. The attainable IRRs have thus remained stable in comparison to the previous study and come to between 3.2 % and 4.6 % in the core range.

### » Question mark over housing

The failure of the rent cap in Berlin brought a sigh of relief for some market participants. It was declared void by the Constitutional Court, as Berlin does not have the legal authority to set regulations for the level of rents on the privately financed housing market. Therefore, the possibility that a new federal government may add to or extend the existing federal laws to regulate the rental market further has certainly not been ruled out.

These IRR ranges were calculated on the basis of the existing legal conditions – if tighter regulations are introduced, these will have a negative impact on the attainable yields.
For housing in A markets, the range is thus 1.9 % to 2.5 %. The yield level is supported by positive expectations for the rent trend.

## » Retail investments still dominated by structural change

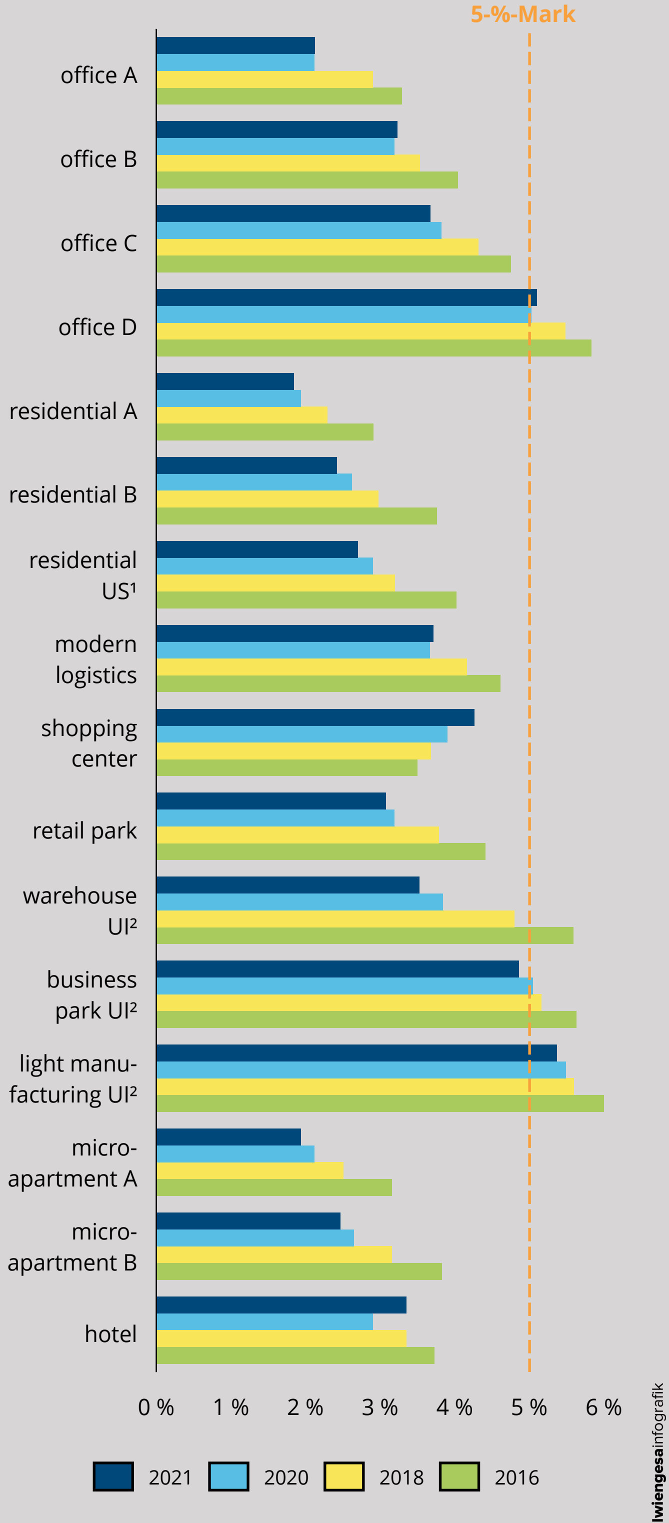
The growing divergence in investment demand for retail products is continuing: Products focussing on periodically required goods (such as food retail) are still very popular and their initial yields have fallen again. This asset class can boast stable or rising rent expectations, generally long-term rental agreements and consumer demand that has proven very robust, especially during the coronavirus lockdown. Secure yields of 2.3 % to 3.2 % can be achieved, although this represents another decline in comparison to the previous year's study.

On the other hand, demand for investments in shopping centres had already decreased significantly well before the coronavirus pandemic. In many properties, it is not yet clear whether there will be further negative rent adjustments – particularly also for space that is not located on the ground floor. Changes in use also play a relevant role for these properties (at least in partial sections). As the 5 % study assumes that the respective use will stay the same (i.e. it does not include project developments), such properties are not taken into account. The yield range for shopping centres is currently between 2.9 % and 4.6 %.

## » Warehouse properties still in high demand

The sub-classes of business properties still display very different yield levels. While production properties are still situated well above the 5-%-mark with a base value of 5.4 %, smaller warehouse properties are at around 3.5 %. This clearly reflects the strong demand for warehouse and logistics space, including in urban environments. At around 4.9 %, industrial parks are also still in the upper yield range among asset classes.

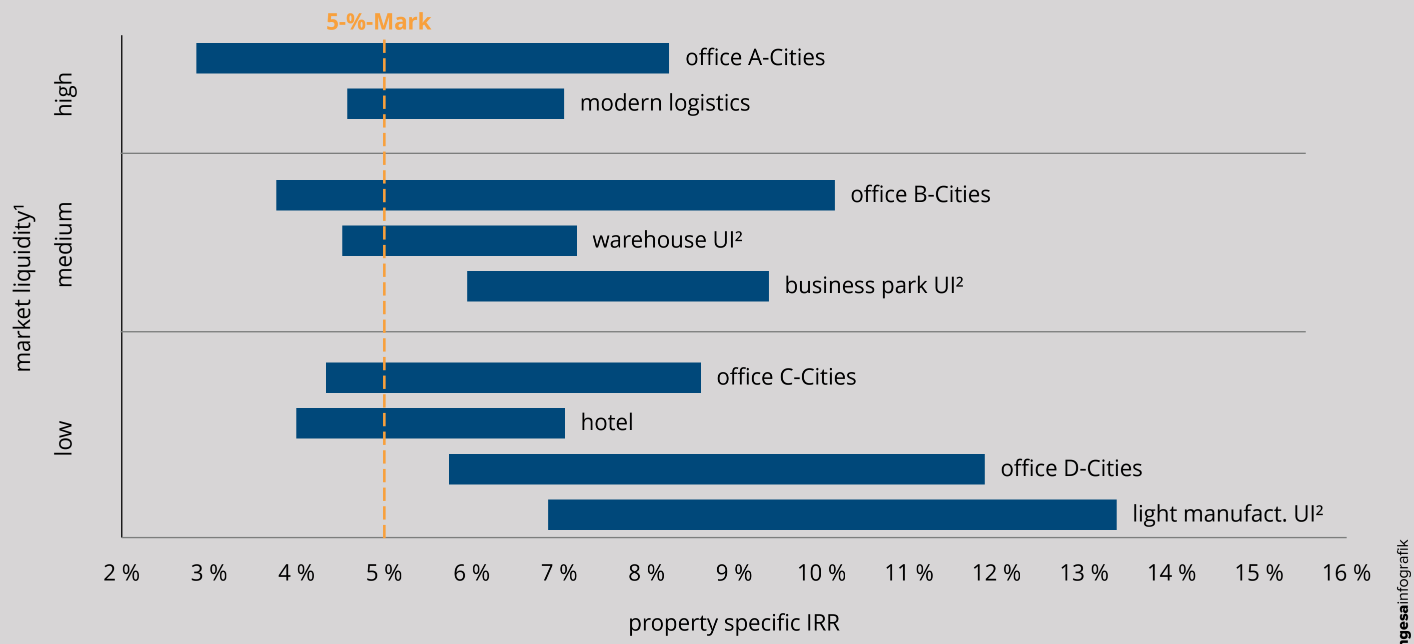
**Overview Core Properties**
IRR, 2016 to 2021




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. 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 currently not included in the non-core analysis, as they do not offer high enough yield potential for non-core investors in established markets. Similarly, modern shopping centres and specialist retail centres are not included.

### » Non-core still modest

The situation already described in the previous study, with demand currently increasingly focussing on core products, has not changed significantly in the office sector. Particularly for properties with location and property shortcomings, the purchase price expectations on the buyer and the seller side are still far apart in many cases.

Making use of all levers, such as vacancy reduction and rent adjustment, up to 8.3 % can be achieved in the A cities – the potential here has remained stable in comparison to the previous study. Smaller markets display even higher non-core potential, with up to 12 % attainable in D markets. The increased risks should also be mentioned in this context. Particularly when market vacancy rates are rising, marketing of properties with lower-quality features will be possible only with significant concessions on rent levels. Size risks must also be taken into account for investments in smaller markets.

As described, this study does not include project development activities. Hotels in the non-core range are currently being acquired chiefly as repurposing projects and are not included in this study. The modelled yield potential of 7 % can therefore be achieved only in individual cases, e.g. when there is a change in operator after the acquisition.

Investments in business properties in the non-core range still offer high yield opportunities, with the maximum attainable yields for production properties estimated at up to 13.4 % in individual cases. The figure for industrial parks comes to 9.4 %, while for warehouse properties it is 7.2 %.

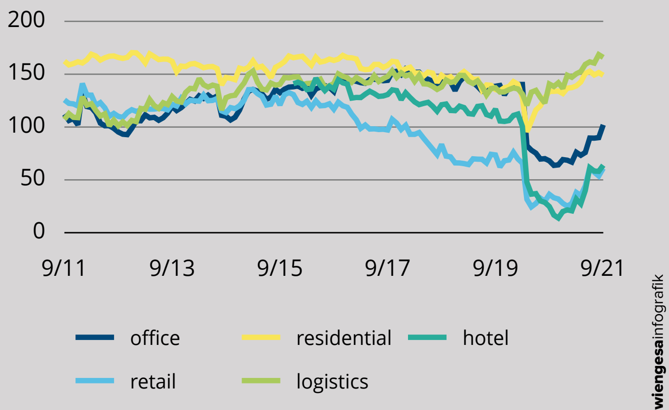
# The Market Environment

After a historically unparalleled slump in the global economy in 2020 and a third wave of infections in spring 2021, which thwarted an economic recovery as governments imposed restrictive containment measures again, there are currently signs of a slight growth path for the domestic economy, although the virus and vaccination rates in the respective countries are key factors for the future economic development.
These upheavals were reflected only to a minor degree on the commercial investment market. The ten-year average of 48.2 billion euros was thus exceeded last year with a volume of around 59.6 billion euros. The year 2021 is also proving very robust, with a volume of 50 billion to 60 billion euros likely to be generated again in 2021.

These figures are influencing sentiment in the sector. After a positive trend in January already, evaluations of the real estate climate in September 2021 show a new high for the year. In the 165th monthly survey, the real estate climate continued to climb after a slight increase in August and posted a rise of 6.9 % to 101.4 points. This strong rise in the real estate climate is primarily due to the income climate with an increase of 10.4 %, whereas the investment climate only recorded an increase of 3.7 % to 105.4 points.

Looking at the individual asset classes, however, a different development becomes clear. Although the logistics and residential climate, driven by growing demand pressure, are still ranked in the two top spots, both asset classes fell by 1.7 % in September to 165.6 points and 149.0 points respectively.

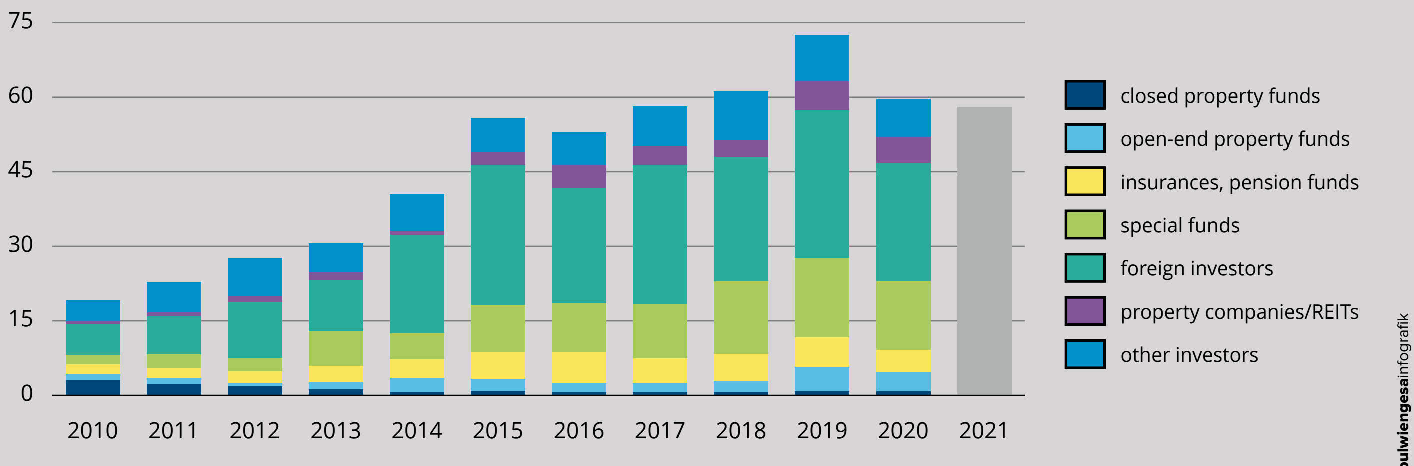
**Deutsche Hypo Real Estate Economic Index**
by Segments, September 2011 to September 2021




Source: bulwiengesa AG, Deutsche Hypo

By contrast, the real estate climate for retail and hotel properties, which had been hit hard by the coronavirus crisis, display a positive dynamic development in September (up 13.5 % to 61.0 points and up 9.9 % to 63.9 points). The office climate managed to top the 100-point mark again for the first time since the beginning of the coronavirus crisis in March 2020 with an increase of 13.4 % to 102.1 points.

**New Investments by Institutional Investors in Commercial Real Estate**
in Germany, billion euros, 2010 to 2021, 2021 estimation




Source: bulwiengesa AG calculations

# The Market for Residential Properties

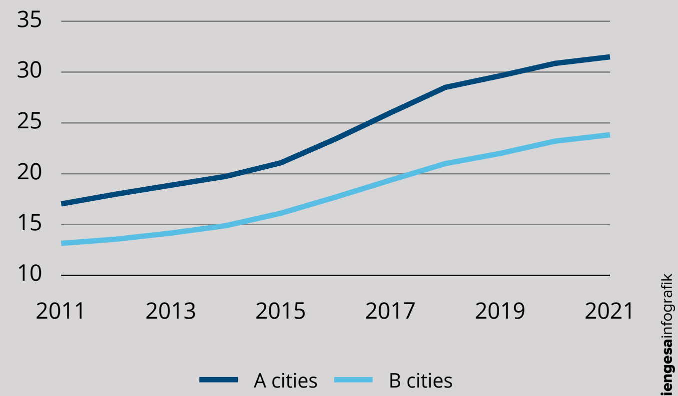
In 2021, the trend on the residential property market is still pointing in one direction only: up. Despite economic uncertainties, many households stepped up their search for a plot of land or a new apartment or house as a result of the increased time spent in their own four walls.

The areas surrounding metropolises are becoming increasingly important here. In addition to rising rents and purchase prices in the major cities and the desire for a green, quiet and child-friendly environment, the teleworking factor is also driving demand. Although working from home is not expected to be the sole solution, a partial teleworking solution seems to be becoming established. As a result of the increase in working from home, there is firstly a growing need for residential space, and secondly the number of days on site in the office is decreasing and longer commutes are therefore accepted. The trend of moving into the surrounding region will therefore continue, with cities and municipalities with good rail connections benefiting in particular. Rents and prices therefore increased significantly in the surrounding markets, too, in 2020.

The main factor driving up prices, although growth rates will decrease in the coming years, is the continued low mortgage rates when compared to historical levels. Although these have risen since February 2021, loans with ten-year fixed interest are still available for well below 1.5 % p.a., provided the credit quality is good.

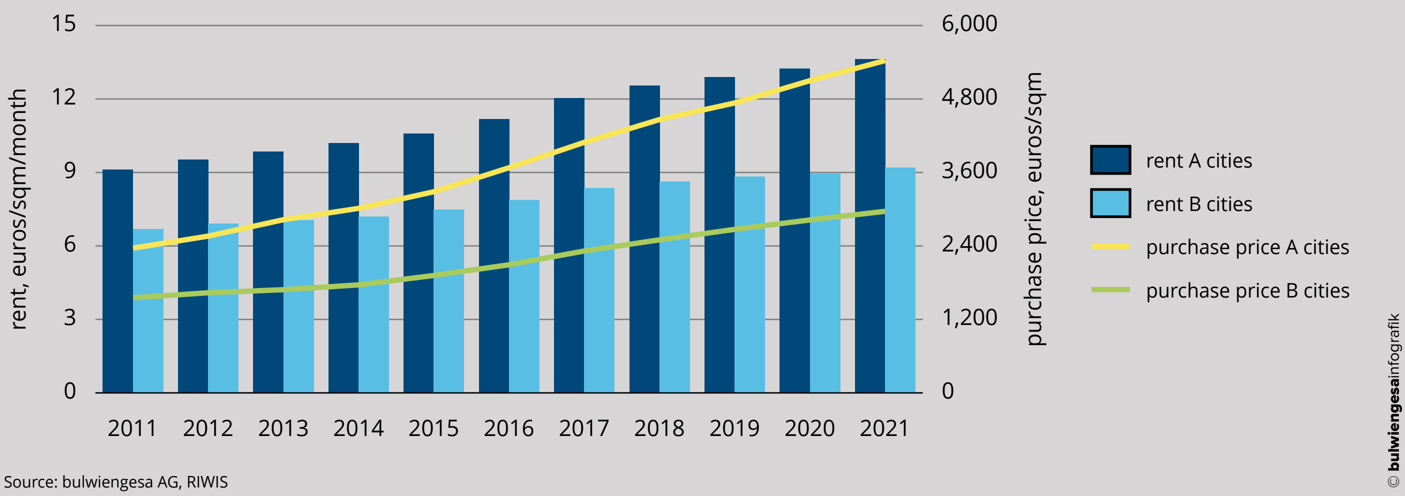
However, a turnaround in interest rates can be expected in the medium term. Despite high investment demand, bulwiengesa therefore anticipates a slight decrease in the purchase price factors for existing apartment buildings due to rising interest rates. They will nonetheless not fall below the levels from 2018, so the market will remain very lively. However, the risks for residential property are estimated to be somewhat higher in the medium term in view of rising yields for alternative investments. The potential for rent increases has also shrunk. This is partly attributable to regulatory interventions, such as the decrease in the modernisation allocation, restrictions on converting rental apartments into owner-occupied apartments, and the expected division of the CO2 allocation.

**Multipliers in A and B Cities**
multifamily housing stock, Ø, 2011 to 2021, 2021 forecast




Source: bulwiengesa AG, RIWIS

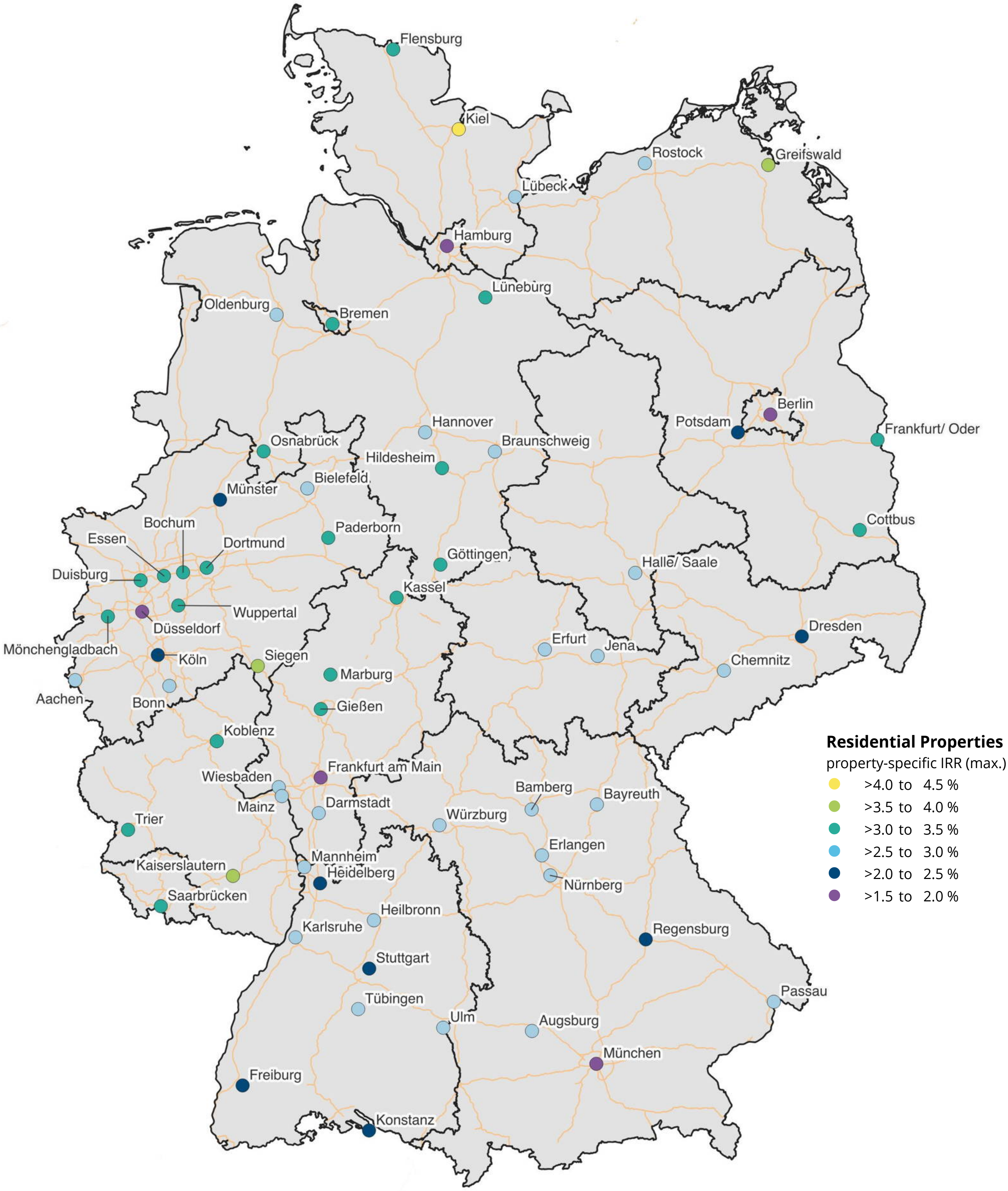
**Residential Market in A and B Cities**
stock, Ø, 2011 to 2021, 2021 forecast




Source: bulwiengesa AG, RIWIS

# The Residential Market – Overview

**Maximal Obtainable Property-Specific IRR for Core-Investors**



# Excursus: The ESG Challenge

Environmental, social and governance aspects are increasingly coming to the fore throughout the property sector. Alongside demographic change and the growing need for housing due to immigration alone, ESG is the big challenge for the real estate industry.
The German Federal Climate Protection Act (KSG), which was amended in the summer, forms an important national ESG framework together with the Building Energy Act (GEG) and the Renewable Energies Act (EEG). But the reality sometimes (still) looks gloomy. Care for an example? The municipal housing company ABG, which provides almost a quarter of Frankfurt's population with housing according to its own figures, has equipped only 150 of its parking spaces with charging stations for electric cars. That is not even 1 % of the parking spaces that the company rents to its customers. Climate goals and the transition in transportation are coming up against a lack of infrastructure.

According to the Federal Environment Agency, the building sector was the only one of the seven defined sectors that failed to meet the emissions targets. Political measures seem more actionistic than well-planned. It remains to be seen whether consumers are actually able to finance minimum efficiency standards, despite the federal subsidy for efficient buildings (BEG). There is a huge renovation backlog of 16 million detached and semi-detached houses in Germany. According to studies by the Federation of German Consumer Organisations, from a purely economical perspective it is not worth upgrading the existing buildings (12 million out of 19 million) constructed before the first Thermal Insulation Regulation. The energy turnaround in the building sector is meeting with resistance from many people because the communication is not extensive or good enough. In order to meet the climate targets, the annual rate for the energy renovation of buildings would quickly have to rise to 3 % of existing buildings; it is currently at just 1 %.

### » 36 % of CO2 emissions in the EU caused by the building sector

Given that buildings are responsible for around 40 % of energy consumption and 36 % of CO2 emissions in the EU, the relevance for the property sector is immense. Regulatory authorities, investors, stakeholders and the public are increasingly holding property companies responsible for meeting ESG targets.
An amendment to the German Federal Building Code suggests itself: Measures and space that serve to adapt the climate must be designated in all land-use plans. And urban land-use planning needs clear guidelines as a legal argumentation aid for how exactly climate adaptation measures are to be taken into account.
Governance and social factors will also gain more relevance in the property industry than they currently have. Specifically, this will include investments (with which conditions in which sustainable companies and projects), due diligence in supply chains (law is to come into force in 2023) and social responsibility towards people who required affordable housing, for example. Other keywords include diversity, transparency, stakeholder focus and whistle-blowing systems.

### » Flagship building renovation programme

With the aim of reducing net greenhouse gas emissions by at least 55 % by 2030 as compared to 1990, the European Commission presented specific proposals for a new climate, energy, transport and tax policy („Fit for 55") on 14 July 2021. Only if we start tackling these reductions this decade will Europe be able to become the first climate-neutral (carbon-neutral) continent by 2050 and implement the European Green Deal. The Green Deal's flagship programme is building renovation.

On the subject of investment, it is worth taking a look at the Netherlands, where major changes can be seen on the property market. Energy labels have been introduced. If a building does not meet the requirements, it can no longer be used as an office from 1 January 2023 onward. Starting from 2030, Energy Label A will be a prerequisite for continued use. ESG has long since found its way into M&A business, too.

### » Climate lawsuits

Another highlight: Only by drastically reducing the CO2 emissions of all industries can the 1.5°C target set by the Paris Climate Agreement still be achieved. Climate-related lawsuits are therefore likely to end up in court more often in the future. Examples include Greenpeace versus Volkswagen and Environmental Action Germany versus BMW, Mercedes and Wintershall. Success in court will particularly depend on the extent to which illegal damage to protected legal positions can successfully be claimed and on whether the courts find a causal contribution by the companies. However, the business world should be warned and prepared, and the property sector is under particular scrutiny in view of its consumption and emissions.

*Klaus Beine*
*ADVANT Beiten*

# The Market for Micro-Apartments

The market for micro-apartments had seen increasing demand in recent years. In addition to demographic and structural change processes, this was attributable to a growing number of single-person households. Whereas ten years ago the trend was still for larger apartments, now the focus in A cities is on apartments with one or two rooms. At 58 %, the largest proportion of these apartments is located in German A cities.

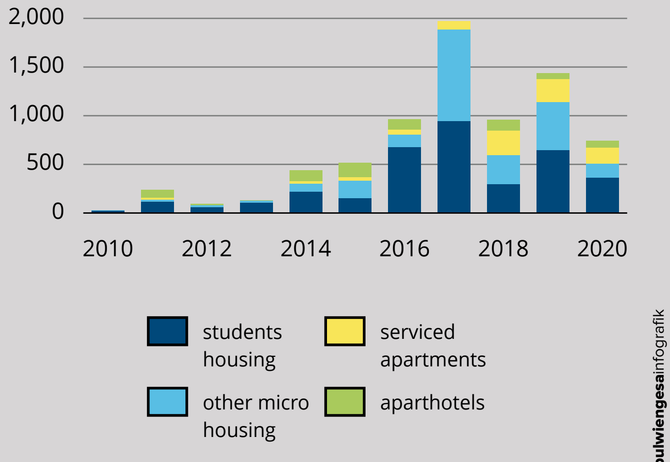
The microliving initiative was launched by bulwiengesa AG in 2020. It is a new, innovative association of companies operating in the „apartments“ property segment as owners, operators and/or property managers.
The aim of the initiative is to improve market transparency by establishing a reporting system in which the participants' property and letting data are analysed. In this way, investors and market observers are regularly informed about current market trends. Members of the initiative also receive a benchmark report that analyses their portfolio in relation to all other members. In addition to general information on the location of the property and the number of apartments, its fixtures and fittings and letting data such as target rents, the occupancy rate and operating costs are also requested.

In the third market report, operating data on around 23,475 residential units in 122 apartment buildings were analysed. A survey on the effects of the coronavirus crisis showed growing challenges over time and increased expenses for marketing in order to achieve sufficient occupancy and rental income. Most of those surveyed do not expect the pre-coronavirus level to be reached until 2022 at the earliest.

With an occupancy rate averaging 86 %, the asset class is proving stable in the crisis. However, a wider range of occupancy rates for each apartment building also indicates that success is heavily dependent on the concept and the location. But it can also be observed that the range of occupancy rates for each apartment building has widened significantly, indicating that not every apartment building in every location is getting through the crisis well. Students represent a major target group for apartments, accounting for roughly 48 % of all tenants. Compared to autumn 2020, the share of students among the members has even increased slightly.

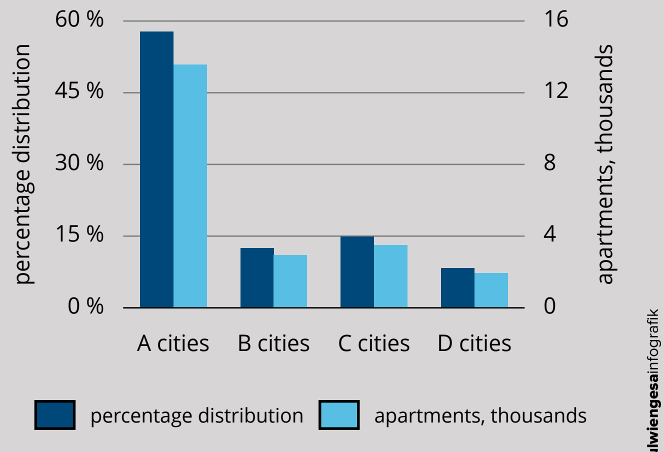
After displaying a dynamic performance, particularly since 2016, the year 2020 marked a break for the investment market. Following a good first quarter, the transaction volume in the second and third quarters came to less than 100 million euros in each case and was thus back at its 2016 level. Only in the fourth quarter was considerably more lively market activity be observed at around 400 million euros. In the temporary accommodation segment, residential apartment buildings were traded in particular in 2020, more so than commercial concepts. Over the course of 2021 to date, around 500 euros has been invested throughout Germany in the temporary accommodation segment, which gives grounds for optimism and raises the prospect of a figure above 1 billion euros again by the end of the year.

**Transaction volume Micro-Apartments**
Germany, million euros, 2010 to 2020




Source: bulwiengesa AG, Savills

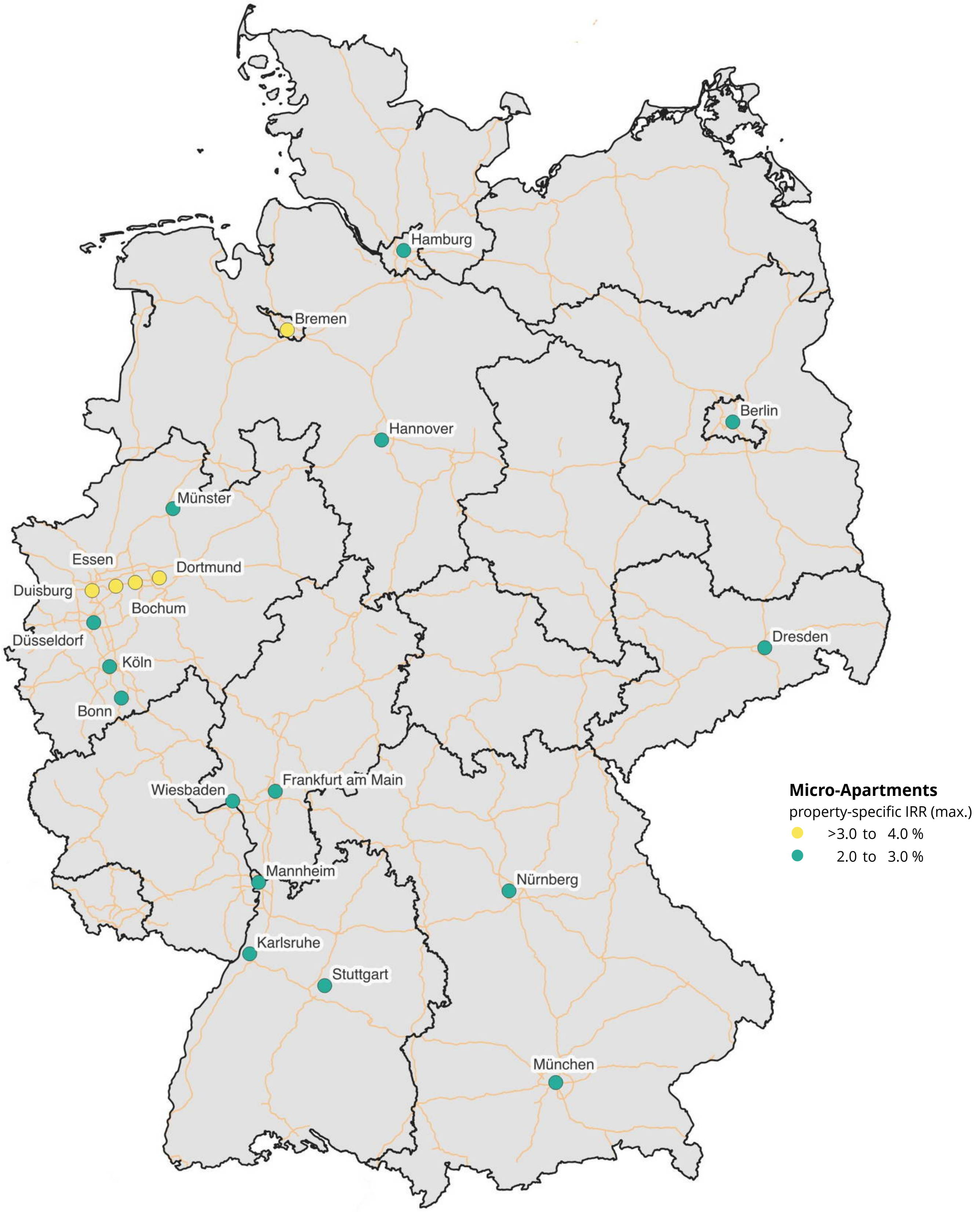
**Regional Distribution of Micro-Apartments**
by city categories




Source: bulwiengesa AG

# The Market for Micro-Apartments – Overview

**Maximal Obtainable Property-Specific IRR for Core-Investors**



# The Market for Office Properties

Regardless of the coronavirus pandemic, there were already signs of slowing momentum in the yield compression in A cities. The price level was already extremely high, meaning that only slight increases were still possible.

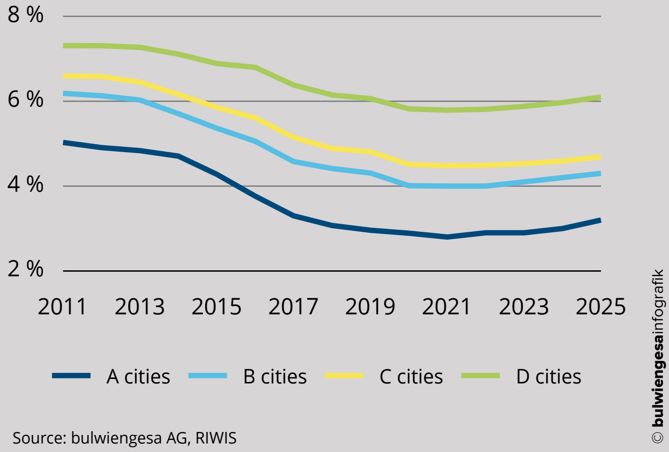
Despite the crisis, the commercial investment market proven robust, with offices generally remaining in demand as an asset class. The weighted average initial net yield across all A cities came to 2.8 % again. In view of the good general conditions on the capital and investment markets and on the office markets, it can be assumed that yields will remain under pressure in 2021.

Properties with a secured risk profile in the form of long lease terms and highly creditworthy and crisis-proof tenants with low probabilities of default are still in particularly high demand, meaning that the price spiral is likely to continue. By contrast, opportunistic investments, which have become increasingly important in recent years due to their yield expectations, can generally expect to see price reductions. In addition, the Disclosure Regulation adopted by the EU in March this year to increase transparency on sustainability issues will increase the requirements for ESG-compliant buildings, processes and owners.

A comparable development to the previous year's is anticipated for 2021. Combined with a lockdown, the first half of 2021 was still dominated by the coronavirus. Nonetheless, a significant decline in rents is not expected, as the general conditions with largely moderate vacancy rates and increasing numbers of office workers in the metropolises have not changed despite rising completion figures.

**Net Initial Yield**

central locations, 2011 to 2025, forecast from 2021

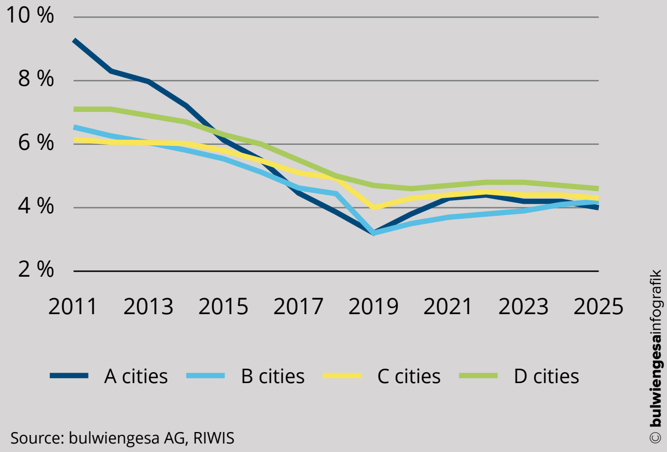



Source: bulwiengesa AG, RIWIS

In this context, a sidewards trend can be expected on the whole, with individual locations possibly showing a varied picture. Due to the limited supply of office space in central locations, prospective tenants have increasingly switched to the outskirts in recent years, thus boosting the status of secondary locations. However, it can currently be assumed that the combination of location and micro-location quality will be reflected more clearly in rent levels again.

**Office Space Vacancy**

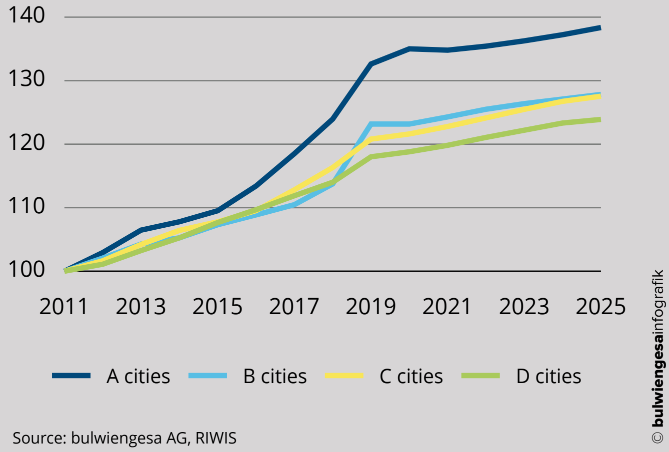
rate, 2011 to 2025, forecast from 2021




Source: bulwiengesa AG, RIWIS

**Prime Office Rents**

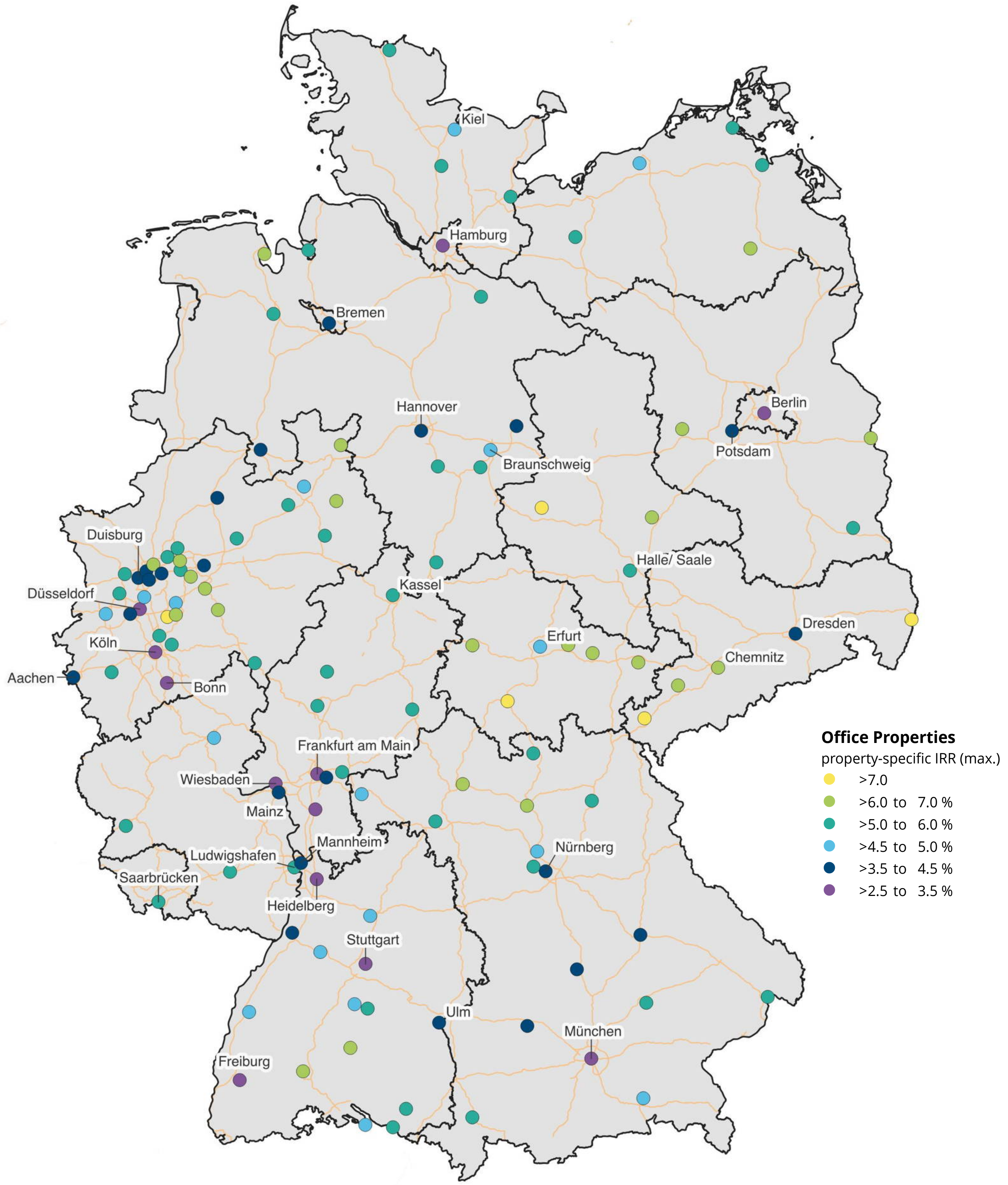
index 2011 = 100, 2011 to 2025, forecast from 2021




Source: bulwiengesa AG, RIWIS

# The Market for Office Properties – Overview

**Maximal Obtainable Property-Specific IRR for Core-Investors**



# The Market for Logistics Properties

No other asset class has benefited from the technical and social changes of the past decade as much as logistics properties. New, globalised supply chains and booming online retail – not least due to the coronavirus pandemic – have led to huge demand for modern warehouse and transshipment properties. Despite a completion volume of around 23.5 million sqm in the past five years, the growing demand often is not met with sufficient supply.

Lively construction activity is still anticipated in the future, as the coronavirus pandemic in particular showed how indispensable logistics is, firstly in our economy and secondly to supply our population with its needs. The possibility of re-shoring/near-shoring and increased storage of inventories in production and retail is being considered in depth. E-commerce, which was given an additional boost by the pandemic, will further increase the already high demand for logistics space.

The shortage of space in highly sought-after logistics regions is showing a significant impact. Accordingly, many new building developments are having to switch to „secondary“ locations where suitable building land can still be found. After Rhine-Main/Frankfurt, Berlin is the logistics region with the highest completion rates.

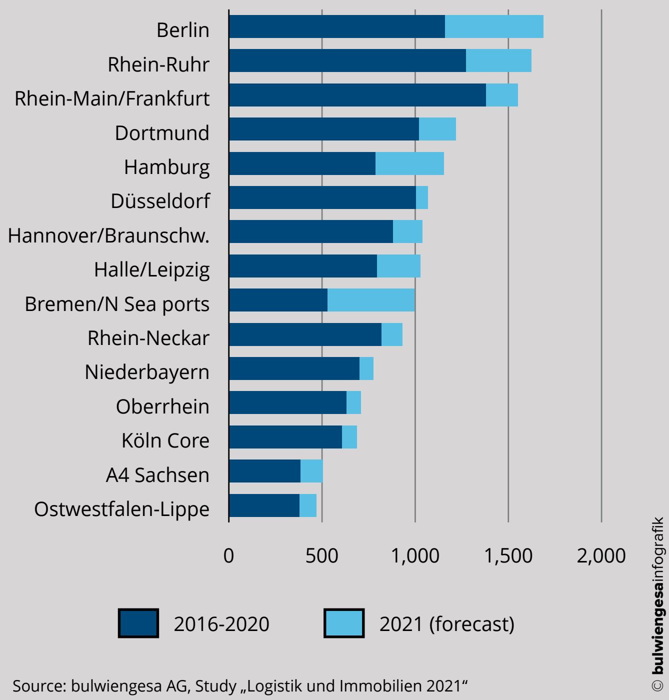
The discrepancy between supply and demand is leading to rising rents, although the level of the increase varies depending on the state of the regional market. In the medium-term forecast up to 2025, further rent increases are anticipated in all city categories. However, the strongest growth will take place in the top logistics regions around Germany's A cities. Rents for central, urban locations in particular will increasingly diverge from large-scale logistics outside the "gates of the cities".

Investment activity under the influence of the coronavirus pandemic has shown that among commercial property types it is primarily logistics and business properties that are meeting with continued high demand. In contrast to retail or hotel properties, logistics properties were characterised by their resilience to the crisis and were thus among the few winners from the pandemic.

However, yield compression took place not only in the A markets, but in all logistics regions. The Nuremberg and Rhine-Ruhr regions recorded the most significant declines.

**Selected Completions**

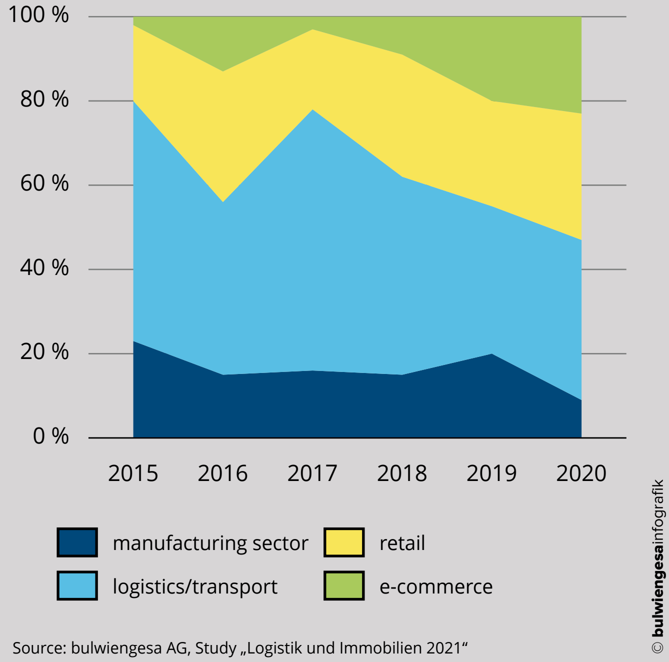
top 15 logistics regions, thousands sqm, 2016 to 2021, 2021 forecast




Source: bulwiengesa AG, Study „Logistik und Immobilien 2021“

**Demand for Logistics Space**

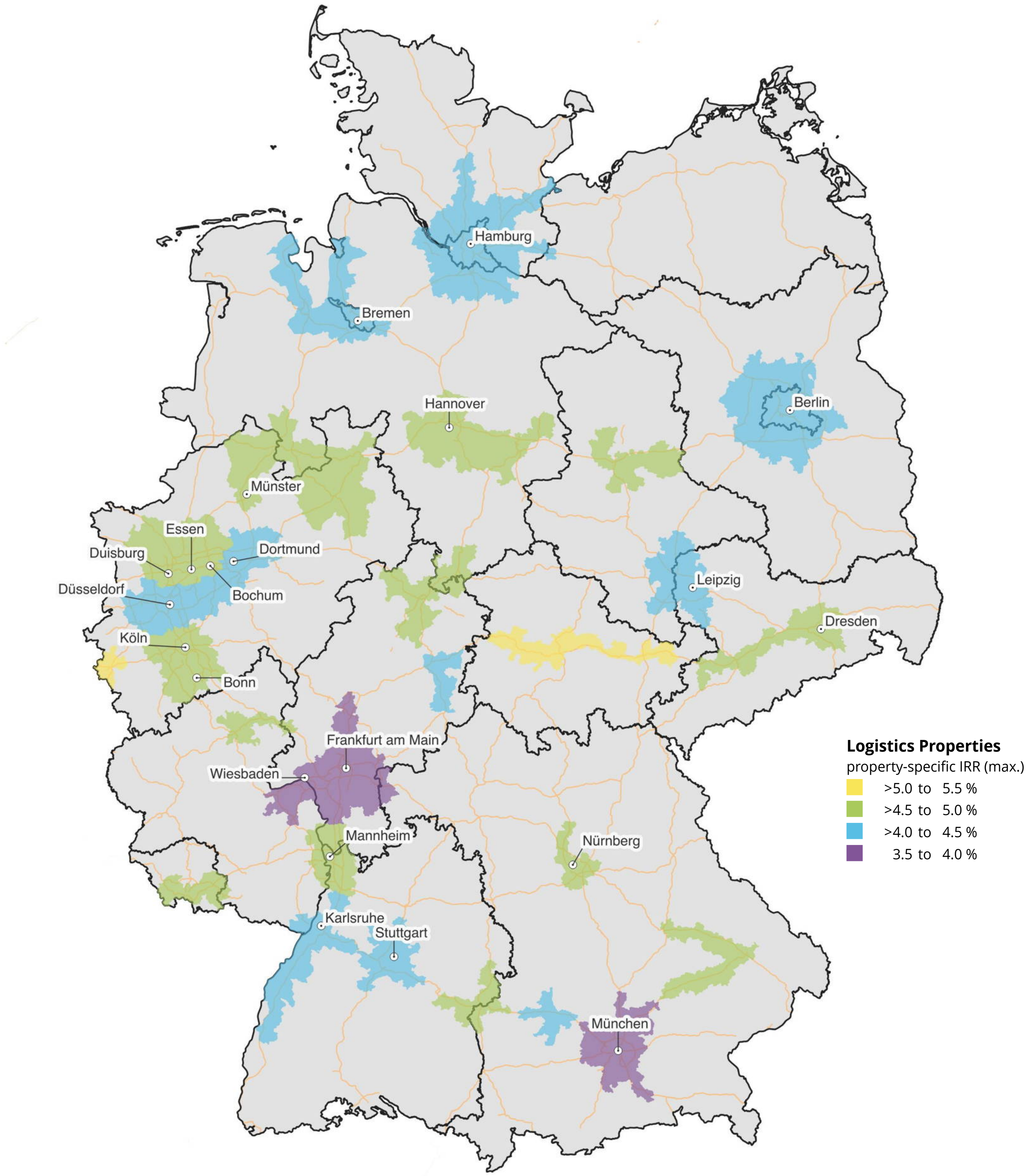
of the major tenant groups, Germany, 2015 to 2020, percentage of the total floorspace of new rentals




Source: bulwiengesa AG, Study „Logistik und Immobilien 2021“

# The Market for Logistics Properties – Overview

**Maximal Obtainable Property-Specific IRR for Core-Investors**



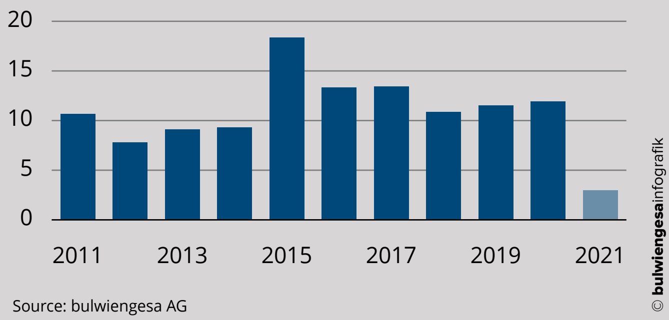
# The Market for Large-Scale Retail Properties

After the previous year had been a challenging one for bricks-and-mortar retail, 2021 also started off with initial difficulties. Although the „click and collect“ option turned out to be a „survival aid“ for owner-managed retail businesses in particular, the revenue situation in high-street locations remained tense. As a result of vaccination progress and the associated easing of pandemic restrictions, bricks-and-mortar retail posted an increase in revenue of 30 % for the first time in the first two weeks of June.

However, the recovery of city centres that occurred in the summer cannot hide the fact that rents in bricks-and-mortar retail remain under pressure for providers of goods in occasional demand, particular due to the increased revenue in online retail. While nominally decreasing prime rents are expected in 2021, a slight rise in prime rents is forecast again for A and B cities by the end of the forecast period in 2025. With regard to the attractiveness of city centres for retail, the gap between cities with rising and falling prime rents is expected to widen further. Whereas in 2019 prime rents for specialist retail centres and for shopping centres were both close to 4 %, an increasingly divergent trend can be seen in 2021 with 3.7 % and 4.9 % respectively.

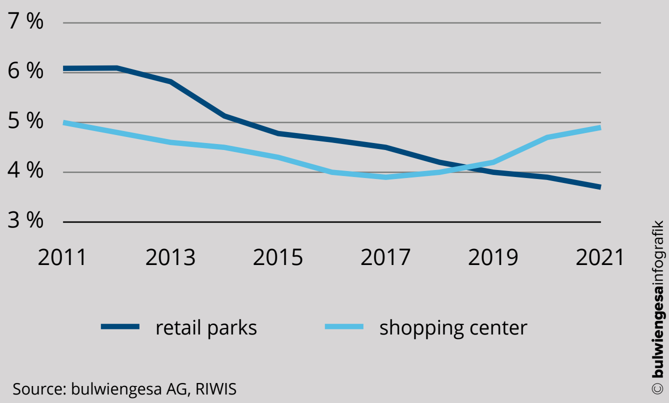
With the closure of many department stores, large multi-story retail properties are becoming a focus of politicians, local administrations and city society, and are seen as predestined for the implementation of mixed-use concepts. As part of vertical mixing, retail is increasingly retreating to the ground floors and/or first floors of high-street properties.

**Transaction Volume Retail Real Estate**
billion euros, 2011 to 2021, 2021 first half year



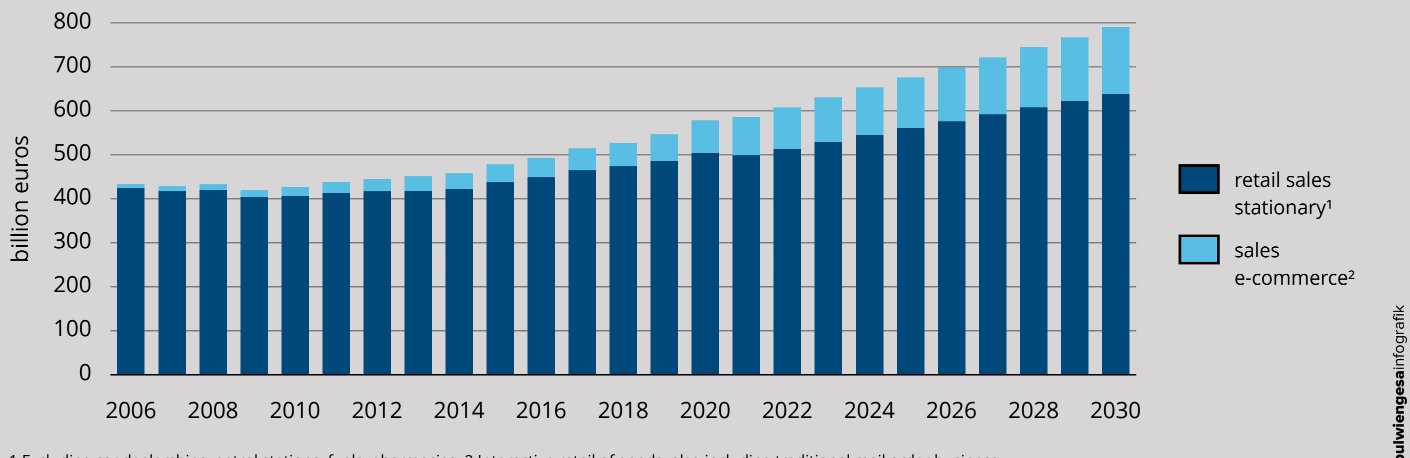

Source: bulwiengesa AG

**Prime Yields**
2011 to 2021




Source: bulwiengesa AG, RIWIS

**Retail Sales**
dynamic scenario, billion euros, 2006 to 2030, from 2021 preliminary or 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

Hardly any other sector in Germany was hit as hard by the coronavirus as the hotel industry. After ten years of growth and a good start to 2020, tourism in Germany slumped, in some cases dramatically, in the following months. During the lockdown months, the number of overnight stays decreased by more than 90 % in many places. And in the summer months, at best the leisure hotel sector achieved good occupancy rates, whereas beds in city hotels mostly remained empty.

Many hotel businesses are in dire straits economically. In cases where it was still possible, such project developments were halted. The first operators started to give up and various investors are distancing themselves from hotel and leisure investments, despite slightly returning optimism. The transaction volume for hotel investments in Germany thus fell by around 60 % to approximately 2 billion euros in 2020.

The sharp decline in demand resulted in an average room occupancy rate of less than 38 % in Germany. Hotel occupancy was thus down by around 40 % compared to the previous year. The occupancy rate fell below 30 % in some major German cities, and even below 25 % in Munich, Frankfurt and Düsseldorf.

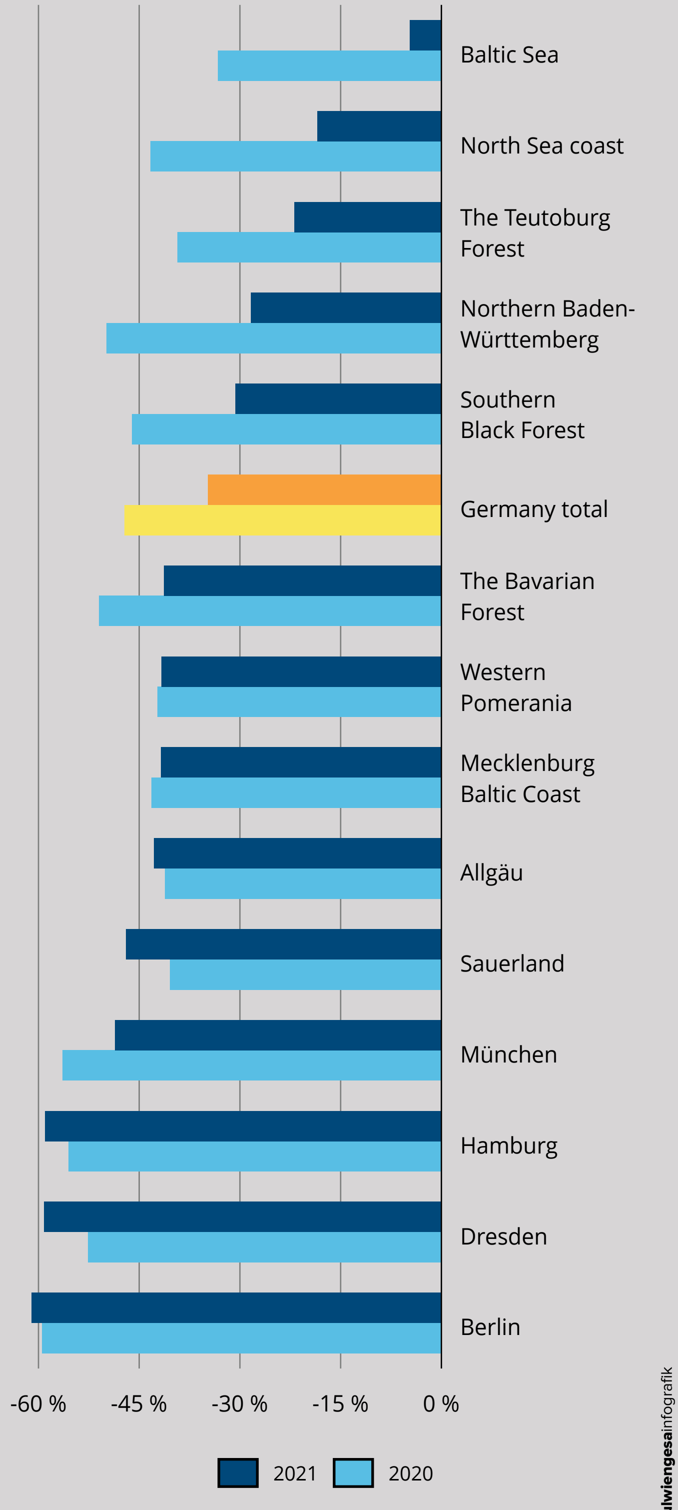
In the first half of 2021, the number of overnight stays decreased further. It was primarily accommodation providers in major German cities that suffered, recording larger than average declines in demand. This particularly reflects the absence of foreign tourists and the still significantly curbed business travel.

In Germany's holiday regions, the situation in the first six months of this year was somewhat better than in 2020, but generally not quite rosy. Germany's coastal regions were practically the only place where the situation was good.

In addition to the lack of tourists, growing competitive pressure also caused difficulties for businesses. This was particularly high in 2021 as a result of working off the backlog of projects in 2020.

It can only be speculated how long it will take the hotel market to recover. The leisure hotel sector will bounce back faster. But caution should be exercised by investors here, too, despite the high quality of supply and the growing importance of sustainability in tourism. In addition, tourism in Germany benefits not only the hospitality industry, but also other economic sectors such as retail, manual trades, culture and leisure, which were also heavily impacted by the coronavirus.

**Overnight Stay Development**
first half year 2021 compared to previous year




Source: bulwiengesa AG

# The Market for Unternehmensimmobilien (UI)

Unternehmensimmobilien (business properties) are regularly analysed by the Initiative Unternehmensimmobilien[1]. They can be broken down into:

- business parks
- warehouse properties
- light manufacturing properties
- transformation properties

Because no project developments are analysed in this study, there is no separate focus on transformation properties.

The study by the Initiative Unternehmensimmobilien[1] shows a decline in take-up figures despite growing demand. In the first half of 2021, take-up still remained weak, reaching a new low of around 240,000 sqm.

It was thus around 39 % below the five-year average. At around 116,000 square metres in the first half of the year, roughly 48 % of the total volume was attributable to business parks. However, a continued low level of take-up is currently anticipated due to the lack of additional rental space. The project developments in the pipeline indicate a slight increase in take-up again in the medium term, however.

With regard to the rent trend, the first half 2021 remained stable, with average rents for office space even posting an increase and rising above the 10 euros/sqm mark for the first time to 10.10 euros/sqm. Flex space also saw an increase in rents of 0.6 % to 8.20 euros/sqm.

Following a long phase of uncertainty in the wake of the pandemic, the average rent for light manufacturing space remained unchanged at 6.40 euros/sqm.

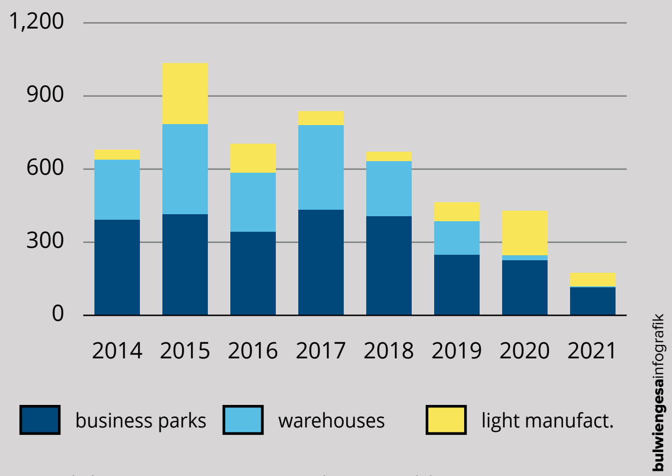
Unternehmensimmobilien have proven crisis-proof and stable in value in the recent past. Their increased popularity on the market brought about rising purchase prices and falling yields.

After a more modest year on the investment market in 2020 due to the coronavirus pandemic, increased activity could be observed again in the first half of 2021. A new record investment volume of around 2.9 billion euros was achieved in the first half of the year, corresponding to an increase of 87 % as against the previous half-year period. This undoubtedly also reflects a kind of catch-up effect of investments postponed from the previous year.

Looking at the types of property, a slightly divergent picture can be observed. While an increased transaction volume was recorded for warehouse properties at around 350 million euros (up 48 %) and for light manufacturing properties at around 922 million euros (up 68 %), a decline of around 23 % to approximately 490 million euros could be observed for business parks. However, this is generally due to the lack of available products rather than to low demand.

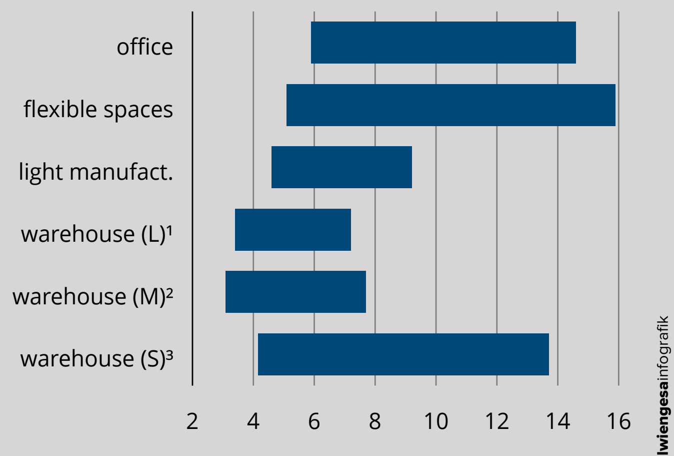
[1] www.unternehmens-immobilien.net (Veröffentlichung November 2021)

**Take-up of Business Properties**
thousand sqm, 2014 to 2021, 2021 first half year




Source: bulwiengesa AG, Initiative Unternehmensimmobilien

**Rent level of Business Properties**
rent euros/sqm/month, first half year 2021




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

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# The 5-Percenters

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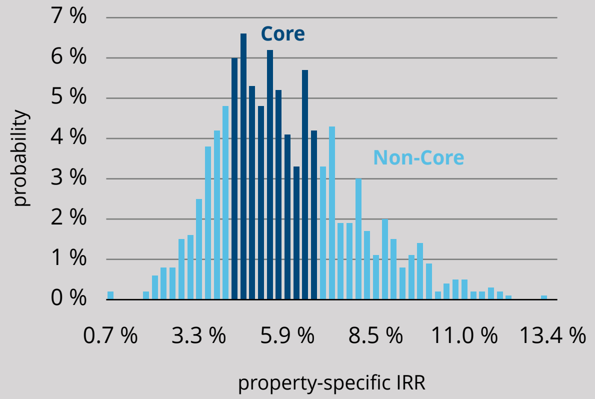
# The 4.50- to 5.49-Percenters

**Property-Specific IRR**

## The Market for Light Manufacturing (UI)

### IRR Range UI Light Manufacturing




### Results Range

| IRR base value | 5.37 % |
|---|---|
| **performace expectation** | **Who should invest?** |
| **4.2 - 6.9 %** | **Core-Investors** |
| 4.5 - 6.6 % | previous year |
| **up to 13.4 %** | **Non-Core-Investors** |
| up to 11.3 % | previous year |

### Conclusion

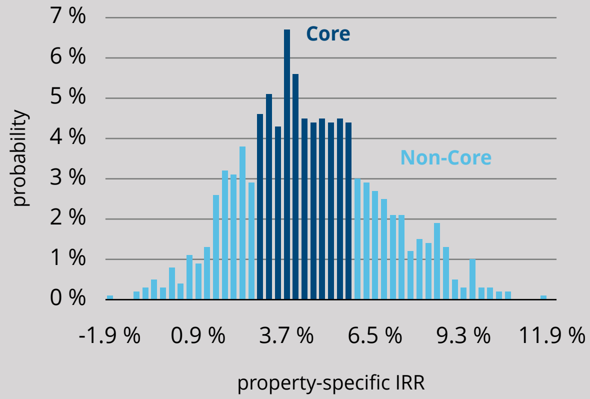
Light manufacturing properties still represent a niche product with high potential to establish itself. The attainable yields in the core segment are comparatively high. They are often designed in a very user-specific way and therefore have limited capacity for alternative uses.

### Market Environment

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

## The Market for Office Properties in D Cities

### IRR Range Office D Cities




### Results Range

| IRR base value | 5.10 % |
|---|---|
| **performace expectation** | **Who should invest?** |
| **2.7 - 5.7 %** | **Core-Investors** |
| 2.8 - 5.8 % | previous year |
| **up to 11.9 %** | **Non-Core-Investors** |
| up to 12.8 % | previous year |

### Conclusion

The amounts of space in D cities are very limited. Office properties in these markets are suitable for buyers with a high level of local expertise. Liquidity, i.e. the ability to generate investment demand across cycles, is comparatively low.

### Market Environment

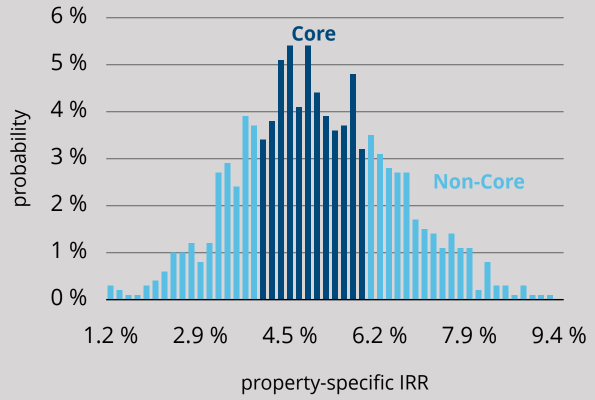
| | |
|---|---|
| investment demand | national to international |
| demand for space | regional to national |
| liquidity | low |
| volatility | low |
| marketable size | approx. 3 to 18 million euros |

# The 4.50- to 5.49-Percenters

**Property-Specific IRR**

## The Market for Business Parks (UI)

### IRR Range UI Business Park




### Results Range

| | |
|---|---|
| **IRR base value** | **4.86 %** |

| performace expectation | Who should invest? |
|---|---|
| **4.0 - 6.0 %** | **Core-Investors** |
| 4.2 - 6.0 % | previous year |
| **up to 9.4 %** | **Non-Core-Investors** |
| up to 9.0 % | previous year |

### Conclusion

business parks have proven to be a resilient asset class in the context of the coronavirus pandemic, too. However, the current offers on the investment market are very limited.

### Market Environment

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

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# The 4-Percenters

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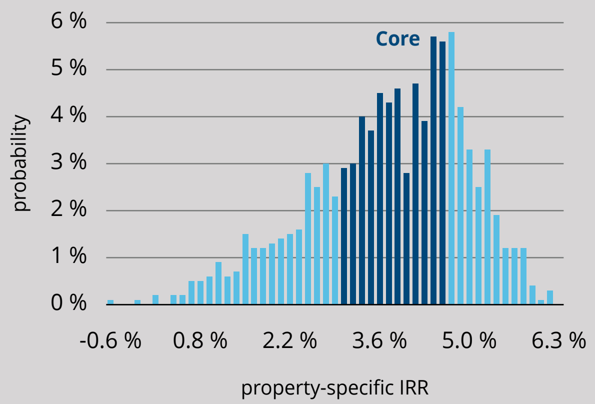
# The 3.50- to 4.49-Percenters

**Property-Specific IRR**

## The Market for Shopping Center

### IRR Range Shopping Center




### Results Range

| IRR base value | 4.26 % |
|---|---|
| performace expectation | Who should invest? |
| 2.9 - 4.6 % | Core-Investors |
| 2.5 - 4.3 % | previous year |
| up to 6.3 % | |
| up to 6.2 % | previous year |

### Conclusion

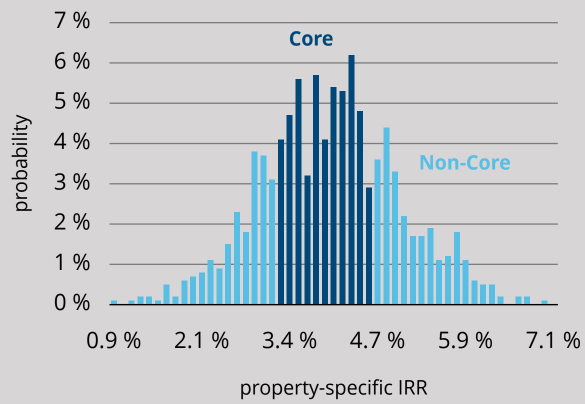
Investment demand for shopping center is still characterised by uncertainty. There are restructuring plans for some properties, as there is a lack of rental demand on upper floors in particular. Further adjustments in rents and yields are likely.

### Market Environment

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

## The Market for Modern Logistics Properties

### IRR Range Modern Logistics




### Results Range

| IRR base value | 3.72 % |
|---|---|
| performace expectation | Who should invest? |
| 3.2 - 4.6 % | Core-Investors |
| 3.2 - 4.4 % | previous year |
| up to 7.1 % | Non-Core-Investors |
| up to 6.8 % | previous year |

### Conclusion

Logistics properties are among the asset classes that were able to benefit significantly from the coronavirus crisis and changing consumer habits. Initial yields are still falling – while rent expectations are rising. The IRR potential is therefore comparatively high.

### Market Environment

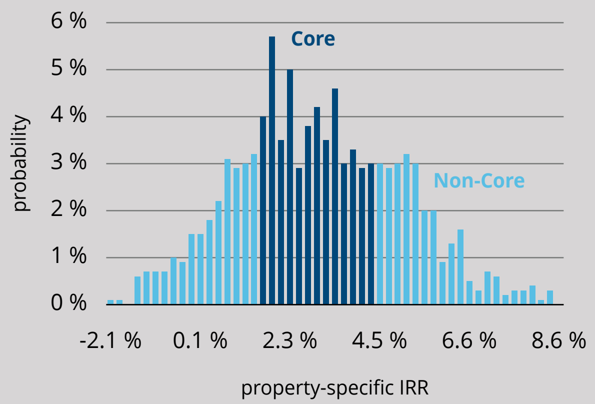
| | |
|---|---|
| investment demand | national to international |
| demand for space | regional to international |
| liquidity | high |
| volatility | low |
| marketable size | from approx. 10 million euros |

# 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 | 3.67 % |
|---|---|
| performace expectation | Who should invest? |
| 1.5 - 4.3 % | Core-Investors |
| 1.5 - 4.3 % | previous year |
| up to 8.6 % | Non-Core-Investors |
| up to 10.2 % | previous year |

### Conclusion

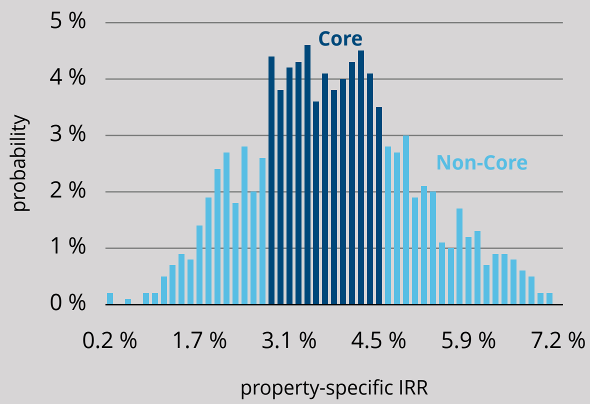
The yields in C cities have stabilised at a low level. A side-wards trend is generally expected here in the medium term, too. They represent an alternative to the big markets, with demand for space mostly coming from regional and national players.

### 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 Warehouse Properties (UI)

### IRR Range UI Warehouse




### Results Range

| IRR base value | 3.53 % |
|---|---|
| performace expectation | Who should invest? |
| 2.8 - 4.5 % | Core-Investors |
| 3.0 - 4.9 % | previous year |
| up to 7.2 % | Non-Core-Investors |
| up to 7.5 % | previous year |

### Conclusion

The market for warehouse space is characterised by growing demand for urban logistics space. This often comes into competition with other types of use (such as housing) – with supply thus limited, rents will continue to rise and yields to fall in the medium term, too.

### Market Environment

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

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# The 3-Percenters

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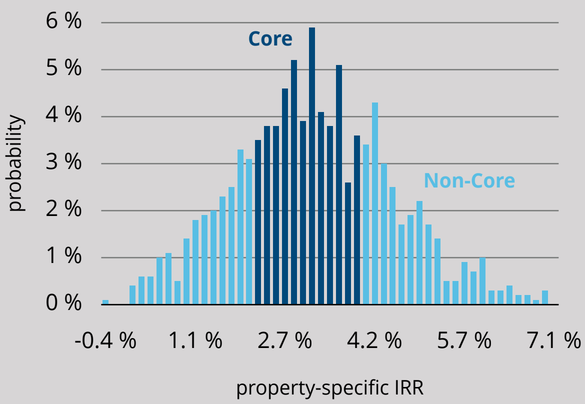
# The 2.50- to 3.49-Percenters

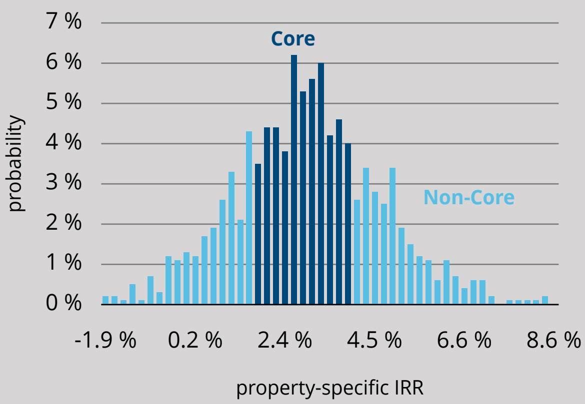
**Property-Specific IRR**

## The Market for Hotel Properties

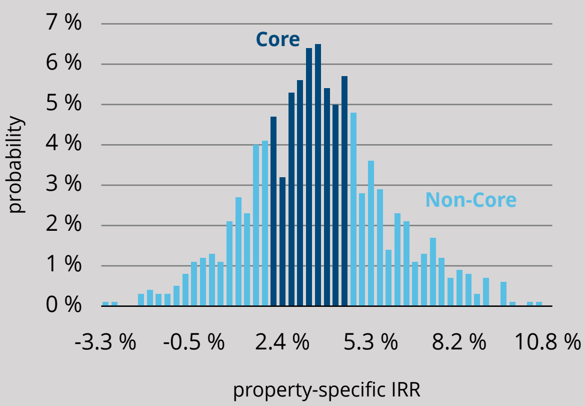
### IRR Range Economy Hotel




### IRR Range Midscale Hotel




### IRR Range Upscale Hotel




### Results Range

| IRR base value | 3.34 - 3.41 % |
|---|---|
| performace expectation | Who should invest? |
| 1.7 - 4.7 %<br>1.6 - 4.4 % | Core-Investors<br>previous year |
| up to 10.8 %<br>up to 10.9 % | Non-Core-Investors<br>previous year |

### Conclusion

The coronavirus crisis has hit the hotel market hard. The resulting wave of consolidation, particularly in the urban and conference hotel sectors, is continuing. Nonetheless, well-positioned hotels with liquid operators may represent an investment alternative.

### Market Environment

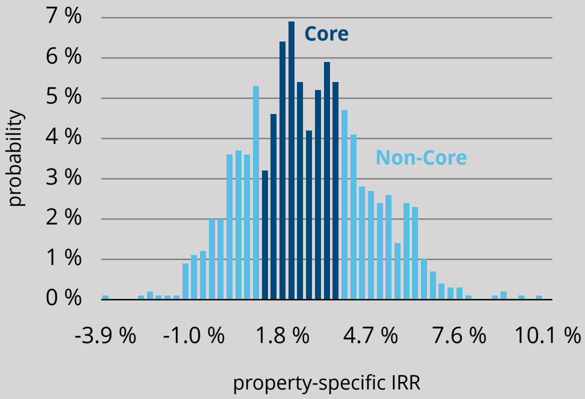
| | |
|---|---|
| type of market | hotels in former „magic cities“ |
| investment demand | national to international |
| demand for space | national to international |
| liquidity | falling/low |
| volatility | high |
| marketable size | approx. 5 to 100 million euros |

# The 2.50- to 3.49-Percenters

**Property-Specific IRR**

## The Market for Office Properties in B Cities

### IRR Range Office B Cities




### Results Range

| IRR base value | 3.23 % |
|---|---|
| **performace expectation** | **Who should invest?** |
| **1.0 - 3.8 %** | **Core-Investors** |
| 1.1 - 3.8 % | previous year |
| **up to 10.1 %** | **Non-Core-Investors** |
| up to 8.7 % | previous year |

### Conclusion

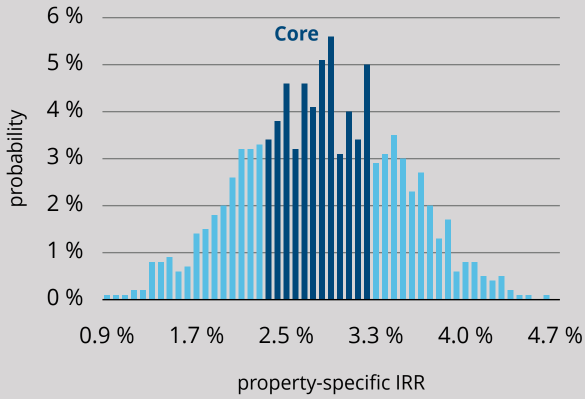
B cities still offer a generally stable market environment. So far, the effects of the coronavirus pandemic have been relatively minor. The yield level has remained stable year-on-year.

### 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 Market for Specialist Retail Parks

### IRR Range Specialist Retail Parks




### Results Range

| IRR base value | 3.07 % |
|---|---|
| **performace expectation** | **Who should invest?** |
| **2.3 - 3.2 %** | **Core-Investors** |
| 2.4 - 3.3 % | previous year |
| **up to 4.7 %** | |
| up to 5.2 % | previous year |

### Conclusion

As a result of the coronavirus pandemic, the importance of specialist retail parks with a high share of food offers has increased further. Yields are continuing to fall.

### Market Environment

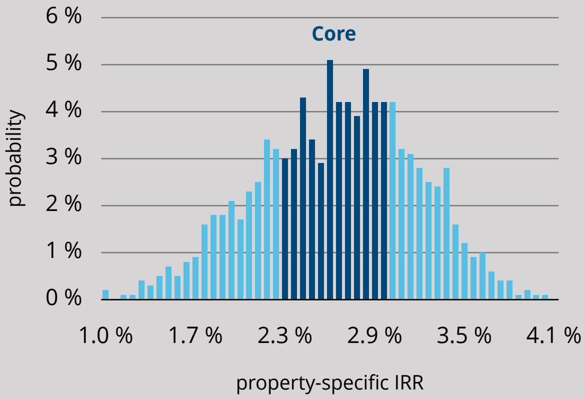
| | |
|---|---|
| investment demand | international |
| demand for space | regional to national |
| liquidity | high |
| volatility | medium |
| marketable size | approx. 5 to 50 million euros |

# The 2.50- to 3.49-Percenters

**Property-Specific IRR**

## The Market for Residential Properties (US) in University Cities

### IRR Range Residential University Cities




### Results Range

| IRR base value | 2.70 % |
|---|---|
| **performace expectation** | **Who should invest?** |
| **2.2 - 3.0 %** | **Core-Investors** |
| 2.5 - 3.3 % | previous year |
| **up to 4.1 %** | |
| up to 4.3 % | previous year |

### Conclusion

There is still demand for micro-apartments in university cities – often with a limited supply. Investors are looking for residential products in particular.

### 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 |

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3

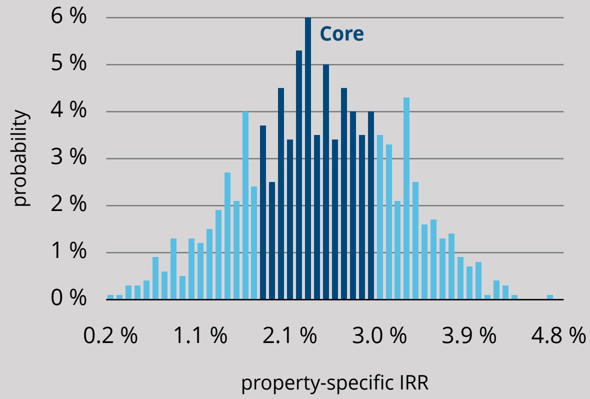
# The 2-Percenters

# The 1.50- to 2.49-Percenters

**Property-Specific IRR**

## The Market for Micro-Apartments in B Cities

### IRR Range Micro-Apartments B Cities




### Results Range

| IRR base value | 2.47 % |
| --- | --- |
| performace expectation | Who should invest? |
| **1.8 - 2.9 %** | **Core-Investors** |
| 1.9 - 3.2 % | previous year |

| **up to 4.8 %** | |
| --- | --- |
| up to 5.1 % | previous year |

### Conclusion

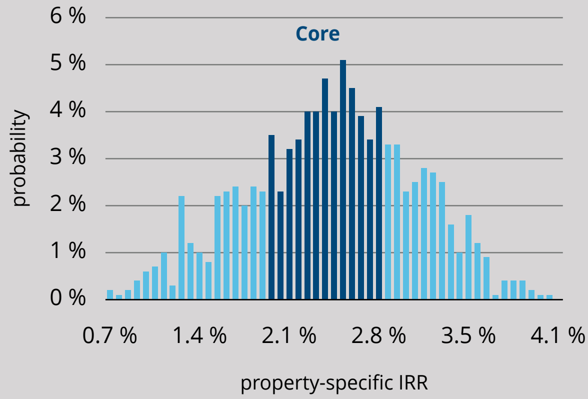
Due to a continued dynamic housing market, the market for residential micro-apartment products in B markets also remains positive. Yield compression is continuing.

### Market Environment

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

## The Market for Residential Properties in B Cities

### IRR Range Residential B Cities




### Results Range

| IRR base value | 2.42 % |
| --- | --- |
| performace expectation | Who should invest? |
| **1.9 - 2.8 %** | **Core-Investors** |
| 2.3 - 3.2 % | previous year |

| **up to 4.1 %** | |
| --- | --- |
| up to 4.6 % | previous year |

### Conclusion

The development of residential property markets in most B cities is still positive. The risks are very limited and particularly relate to regulatory factors.

### Market Environment

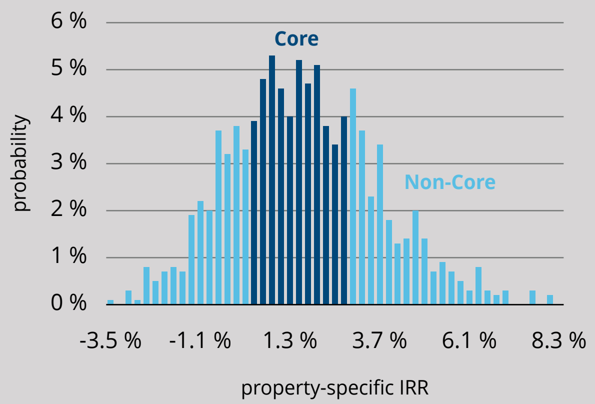
| | |
| --- | --- |
| investment demand | national to international |
| demand for space | regional |
| liquidity | medium/high |
| volatility | medium |
| marketable size | approx. 3 to 50 million euros |

# The 1.50- to 2.49-Percenters

**Property-Specific IRR**

## The Market for Office Properties in A Cities

### IRR Range Office A Cities




### Results Range

| IRR base value | 2.13 % |
|---|---|
| performace expectation | Who should invest? |
| 0.2 - 2.9 % | Core-Investors |
| 0.0 - 2.8 % | previous year |
| up to 8.3 % | Non-Core-Investors |
| up to 8.3 % | previous year |

### Conclusion

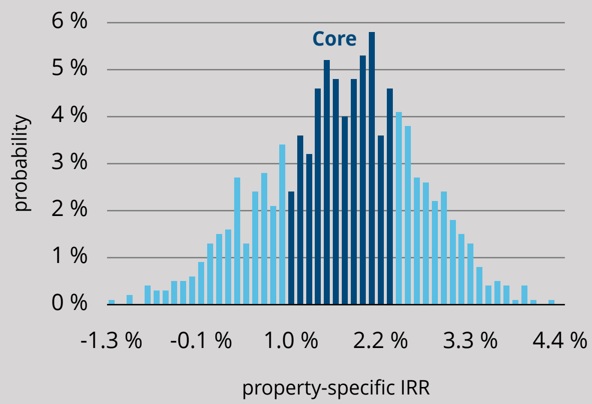
As in other asset classes, sustainability aspects must be taken into account when investing in offices in the core range. The yields remain at a low level.

### Market Environment

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

## The Market for Micro-Apartments in A-Cities

### IRR Range Micro-Apartments A Cities




### Results Range

| IRR base value | 1.94 % |
|---|---|
| performace expectation | Who should invest? |
| 1.0 - 2.3 % | Core-Investors |
| 1.4 - 2.7 % | previous year |
| up to 4.4 % | |
| up to 4.3 % | previous year |

### Conclusion

Due to the broad target group – from professionals to students – micro-apartments remain in demand. Following a slump in 2020 due to the pandemic, the investment market is more dynamic again this year.

### Market Environment

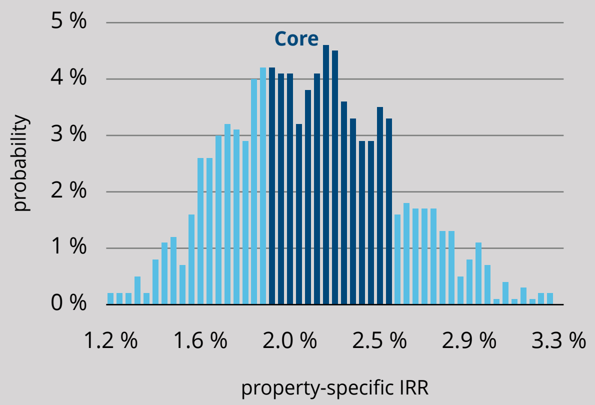
| | |
|---|---|
| investment demand | national to international |
| demand for space | national to international |
| liquidity | medium/high |
| volatility | medium |
| marketable size | up to approx. 60 million euros |

# 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 | 1.84 % |
|---|---|
| **performace expectation** | **Who should invest?** |
| **1.9 - 2.5 %** | **Core-Investors** |
| 1.5 - 2.5 % | previous year |

**up to 3.3 %**

| | |
|---|---|
| up to 3.8 % | previous year |

### Conclusion

The residential property market remains stable, with positive yield expectations. The risks relate to a regulatory environment that is likely to become stricter.

### Market Environment

| | |
|---|---|
| investment demand | regional to international |
| demand for space | regional to international |
| liquidity | 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. | | Non-Core-I. | type | city | Core-I. | | Non-Core-I. | type | city | Core-I. | | Non-Core-I. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | from | to | up to | | | from | to | up to | | | from | to | up to |
| A | Berlin | -0.6 % | 2.4 % | 10.5 % | C | Wuppertal | 2.0 % | 4.7 % | 11.1 % | D | Krefeld | 2.4 % | 5.3 % | 11.1 % |
| A | Düsseldorf | 0.4 % | 2.7 % | 7.6 % | | | | | | D | Landshut | 2.7 % | 5.3 % | 9.9 % |
| A | Frankfurt (Main) | 0.2 % | 2.4 % | 7.1 % | D | Albstadt | 3.8 % | 6.8 % | 13.6 % | D | Leverkusen | 2.2 % | 5.2 % | 10.2 % |
| A | Hamburg | 0.3 % | 3.1 % | 8.8 % | D | Aschaffenburg | 2.1 % | 5.0 % | 11.2 % | D | Lüdenscheid | 3.3 % | 6.4 % | 11.4 % |
| A | Köln | 0.5 % | 3.3 % | 10.2 % | D | Bamberg | 2.8 % | 6.1 % | 13.2 % | D | Ludwigshafen | 2.5 % | 5.3 % | 10.8 % |
| A | München | 0.2 % | 2.8 % | 9.6 % | D | Bayreuth | 2.5 % | 5.5 % | 11.6 % | D | Lüneburg | 3.0 % | 5.8 % | 12.2 % |
| A | Stuttgart | 0.3 % | 2.7 % | 8.9 % | D | Bergisch Gladbach | 2.3 % | 5.1 % | 9.7 % | D | Marburg | 3.1 % | 5.6 % | 10.0 % |
| | | | | | D | Bottrop | 3.3 % | 6.1 % | 12.1 % | D | Minden | 3.2 % | 6.6 % | 13.1 % |
| B | Bochum | 1.9 % | 5.1 % | 12.7 % | D | Brandenburg (Hl.) | 2.7 % | 6.2 % | 13.0 % | D | Moers | 3.2 % | 6.0 % | 12.3 % |
| B | Bonn | 0.8 % | 3.1 % | 8.1 % | D | Bremerhaven | 1.8 % | 5.5 % | 14.2 % | D | Neubrandenburg | 3.8 % | 6.9 % | 12.9 % |
| B | Bremen | 1.1 % | 4.0 % | 10.5 % | D | Chemnitz | 3.2 % | 6.2 % | 12.3 % | D | Neumünster | 2.7 % | 5.5 % | 11.7 % |
| B | Dortmund | 1.5 % | 4.1 % | 9.8 % | D | Coburg | 2.6 % | 5.7 % | 12.7 % | D | Neuss | 1.7 % | 4.3 % | 8.6 % |
| B | Dresden | 1.0 % | 4.0 % | 11.0 % | D | Cottbus | 2.8 % | 5.9 % | 11.3 % | D | Oberhausen | 1.6 % | 4.4 % | 10.5 % |
| B | Duisburg | 1.8 % | 4.4 % | 9.7 % | D | Dessau | 3.2 % | 6.8 % | 12.6 % | D | Offenburg | 2.1 % | 5.0 % | 11.0 % |
| B | Essen | 1.2 % | 4.0 % | 9.7 % | D | Detmold | 2.9 % | 6.3 % | 13.1 % | D | Oldenburg | 2.3 % | 5.1 % | 12.7 % |
| B | Hannover | 0.9 % | 3.6 % | 10.2 % | D | Düren | 2.4 % | 5.5 % | 11.4 % | D | Paderborn | 2.1 % | 5.2 % | 12.2 % |
| B | Karlsruhe | 1.0 % | 3.8 % | 9.3 % | D | Eisenach | 3.1 % | 6.3 % | 11.9 % | D | Passau | 1.9 % | 5.1 % | 13.1 % |
| B | Leipzig | 0.8 % | 3.9 % | 9.6 % | D | Flensburg | 2.8 % | 5.7 % | 11.7 % | D | Pforzheim | 1.7 % | 4.8 % | 11.0 % |
| B | Mannheim | 1.1 % | 3.7 % | 8.3 % | D | Frankfurt (Oder) | 3.2 % | 6.4 % | 12.9 % | D | Plauen | 3.9 % | 7.5 % | 14.7 % |
| B | Münster | 0.8 % | 3.7 % | 8.7 % | D | Friedrichshafen | 2.5 % | 5.1 % | 10.7 % | D | Ratingen | 2.3 % | 4.7 % | 9.0 % |
| B | Nürnberg | 0.9 % | 3.7 % | 10.6 % | D | Fulda | 2.6 % | 5.5 % | 11.8 % | D | Ravensburg | 2.8 % | 5.6 % | 11.0 % |
| B | Wiesbaden | 0.7 % | 3.2 % | 8.8 % | D | Fürth | 2.2 % | 5.5 % | 11.7 % | D | Recklinghausen | 3.1 % | 6.0 % | 12.3 % |
| | | | | | D | Gelsenkirchen | 2.3 % | 5.4 % | 11.1 % | D | Remscheid | 3.4 % | 6.5 % | 11.9 % |
| C | Aachen | 1.2 % | 3.9 % | 10.0 % | D | Gera | 3.3 % | 6.8 % | 15.8 % | D | Reutlingen | 2.5 % | 5.2 % | 10.4 % |
| C | Augsburg | 0.9 % | 3.7 % | 9.7 % | D | Gießen | 2.4 % | 5.2 % | 11.0 % | D | Rosenheim | 2.2 % | 5.0 % | 10.1 % |
| C | Bielefeld | 1.8 % | 5.0 % | 10.6 % | D | Görlitz | 3.3 % | 7.3 % | 16.0 % | D | Salzgitter | 2.6 % | 6.0 % | 13.1 % |
| C | Braunschweig | 4.5 % | 4.8 % | 11.8 % | D | Göttingen | 2.8 % | 5.5 % | 11.9 % | D | Schweinfurt | 3.1 % | 6.4 % | 12.0 % |
| C | Darmstadt | 1.1 % | 3.5 % | 8.4 % | D | Greifswald | 2.7 % | 5.4 % | 12.0 % | D | Schwerin | 2.4 % | 5.2 % | 11.2 % |
| C | Erfurt | 2.1 % | 4.9 % | 9.9 % | D | Gütersloh | 2.9 % | 6.0 % | 12.0 % | D | Siegen | 3.3 % | 6.0 % | 12.7 % |
| C | Erlangen | 1.5 % | 4.6 % | 11.2 % | D | Hagen | 3.7 % | 6.9 % | 13.3 % | D | Solingen | 3.8 % | 7.1 % | 14.8 % |
| C | Freiburg | 0.6 % | 3.0 % | 7.8 % | D | Halberstadt | 3.9 % | 7.7 % | 16.4 % | D | Stralsund | 2.7 % | 5.7 % | 10.7 % |
| C | Heidelberg | 0.9 % | 3.3 % | 7.5 % | D | Halle (Saale) | 2.7 % | 5.6 % | 11.8 % | D | Suhl | 4.3 % | 8.0 % | 15.7 % |
| C | Kiel | 1.9 % | 4.7 % | 10.5 % | D | Hamm | 3.0 % | 5.9 % | 12.7 % | D | Trier | 2.4 % | 5.1 % | 10.4 % |
| C | Lübeck | 2.2 % | 5.5 % | 11.5 % | D | Hanau | 2.4 % | 5.3 % | 10.9 % | D | Tübingen | 2.2 % | 4.8 % | 10.0 % |
| C | Magdeburg | 2.1 % | 4.9 % | 10.8 % | D | Heilbronn | 2.0 % | 4.7 % | 11.2 % | D | Ulm | 1.7 % | 4.1 % | 8.7 % |
| C | Mainz | 1.0 % | 3.8 % | 10.1 % | D | Herne | 3.3 % | 6.3 % | 13.4 % | D | Villingen-Schwenn. | 3.5 % | 6.4 % | 12.6 % |
| C | Mönchengladbach | 2.5 % | 4.9 % | 10.0 % | D | Hildesheim | 2.2 % | 5.3 % | 11.1 % | D | Weimar | 3.2 % | 6.2 % | 13.1 % |
| C | Mülheim (Ruhr) | 1.5 % | 4.4 % | 9.4 % | D | Ingolstadt | 1.7 % | 4.5 % | 10.1 % | D | Wilhelmshaven | 3.2 % | 6.4 % | 15.1 % |
| C | Offenbach (Main) | 1.2 % | 3.8 % | 9.3 % | D | Jena | 2.9 % | 6.1 % | 12.9 % | D | Witten | 2.7 % | 6.1 % | 13.4 % |
| C | Osnabrück | 1.3 % | 4.1 % | 8.4 % | D | Kaiserslautern | 2.1 % | 5.5 % | 11.9 % | D | Wolfsburg | 1.8 % | 4.5 % | 9.6 % |
| C | Potsdam | 0.9 % | 3.8 % | 10.4 % | D | Kassel | 2.1 % | 5.2 % | 10.5 % | D | Würzburg | 2.8 % | 5.6 % | 11.0 % |
| C | Regensburg | 1.7 % | 4.3 % | 10.6 % | D | Kempten (Allgäu) | 2.7 % | 5.6 % | 10.6 % | D | Zwickau | 3.3 % | 6.8 % | 14.6 % |
| C | Rostock | 2.1 % | 4.9 % | 10.1 % | D | Koblenz | 2.1 % | 4.8 % | 10.6 % | | | | | |
| C | Saarbrücken | 2.0 % | 5.2 % | 10.8 % | D | Konstanz | 2.4 % | 5.0 % | 10.0 % | | | | | |

# 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 | 1.5 % | 1.8 % | 2.2 % | US | Bamberg | 2.1 % | 2.9 % | 3.8 % | US | Koblenz | 2.5 % | 3.2 % | 4.3 % |
| A | Düsseldorf | 1.7 % | 2.0 % | 2.4 % | US | Bayreuth | 2.4 % | 2.7 % | 3.3 % | US | Konstanz | 1.5 % | 2.5 % | 3.6 % |
| A | Frankfurt (Main) | 1.8 % | 2.0 % | 2.5 % | US | Bielefeld | 2.2 % | 2.9 % | 4.0 % | US | Lübeck | 2.0 % | 2.8 % | 3.8 % |
| A | Hamburg | 1.7 % | 1.9 % | 2.5 % | US | Braunschweig | 2.1 % | 3.0 % | 3.9 % | US | Lüneburg | 2.3 % | 3.2 % | 4.3 % |
| A | Köln | 1.9 % | 2.2 % | 2.7 % | US | Chemnitz | 2.5 % | 2.8 % | 3.6 % | US | Magdeburg | 2.2 % | 2.8 % | 3.6 % |
| A | München | 1.2 % | 1.5 % | 2.0 % | US | Cottbus | 2.5 % | 3.3 % | 4.3 % | US | Mainz | 2.0 % | 2.8 % | 3.8 % |
| A | Stuttgart | 1.9 % | 2.2 % | 2.7 % | US | Darmstadt | 2.0 % | 2.9 % | 4.2 % | US | Marburg | 2.4 % | 3.2 % | 4.5 % |
| B | Bochum | 2.8 % | 3.4 % | 4.3 % | US | Erfurt | 2.2 % | 2.9 % | 4.1 % | US | Mönchengladbach | 2.6 % | 3.1 % | 3.9 % |
| B | Bonn | 1.9 % | 2.7 % | 4.0 % | US | Erlangen | 2.0 % | 2.7 % | 3.5 % | US | Oldenburg | 2.0 % | 2.8 % | 3.9 % |
| B | Bremen | 2.6 % | 3.1 % | 4.6 % | US | Flensburg | 2.7 % | 3.4 % | 4.6 % | US | Osnabrück | 2.5 % | 3.2 % | 4.2 % |
| B | Dortmund | 2.5 % | 3.1 % | 4.0 % | US | Frankfurt (Oder) | 3.0 % | 3.5 % | 4.2 % | US | Paderborn | 2.3 % | 3.1 % | 4.1 % |
| B | Dresden | 1.7 % | 2.5 % | 4.0 % | US | Freiburg | 1.5 % | 2.5 % | 3.8 % | US | Passau | 2.1 % | 2.7 % | 3.6 % |
| B | Duisburg | 2.9 % | 3.4 % | 4.3 % | US | Gießen | 2.2 % | 3.1 % | 4.0 % | US | Potsdam | 1.2 % | 2.4 % | 3.9 % |
| B | Essen | 2.6 % | 3.1 % | 4.1 % | US | Göttingen | 2.4 % | 3.1 % | 3.8 % | US | Regensburg | 1.7 % | 2.5 % | 3.5 % |
| B | Hannover | 1.8 % | 2.6 % | 4.0 % | US | Greifswald | 3.1 % | 3.7 % | 4.5 % | US | Rostock | 2.2 % | 3.0 % | 4.1 % |
| B | Karlsruhe | 1.8 % | 2.7 % | 4.2 % | US | Halle (Saale) | 2.2 % | 2.7 % | 3.6 % | US | Saarbrücken | 2.6 % | 3.3 % | 4.2 % |
| B | Leipzig | 1.6 % | 2.3 % | 3.6 % | US | Heidelberg | 1.8 % | 2.5 % | 3.4 % | US | Siegen | 3.2 % | 3.8 % | 4.8 % |
| B | Mannheim | 1.9 % | 2.7 % | 4.0 % | US | Heilbronn | 2.2 % | 2.9 % | 3.9 % | US | Trier | 2.4 % | 3.1 % | 4.4 % |
| B | Münster | 1.5 % | 2.4 % | 3.5 % | US | Hildesheim | 2.8 % | 3.5 % | 4.4 % | US | Tübingen | 1.8 % | 2.9 % | 4.3 % |
| B | Nürnberg | 1.9 % | 2.8 % | 4.1 % | US | Jena | 2.1 % | 2.7 % | 3.7 % | US | Ulm | 1.6 % | 2.7 % | 4.0 % |
| B | Wiesbaden | 1.7 % | 2.6 % | 3.9 % | US | Kaiserslautern | 3.2 % | 3.7 % | 4.5 % | US | Wuppertal | 2.8 % | 3.3 % | 4.0 % |
| US | Aachen | 1.9 % | 2.8 % | 4.0 % | US | Kassel | 2.4 % | 3.2 % | 4.4 % | US | Würzburg | 1.9 % | 2.6 % | 3.6 % |
| US | Augsburg | 1.7 % | 2.6 % | 3.8 % | US | Kiel | 3.2 % | 4.1 % | 5.2 % | | | | | |

## 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 | 1.0 % | 2.3 % | 4.3 % | B | Bochum | 2.4 % | 3.3 % | 4.8 % | B | Hannover | 1.5 % | 2.6 % | 4.5 % |
| A | Düsseldorf | 1.4 % | 2.5 % | 4.2 % | B | Bonn | 1.6 % | 2.8 % | 4.6 % | B | Karlsruhe | 1.5 % | 2.8 % | 4.6 % |
| A | Frankfurt (Main) | 1.4 % | 2.4 % | 4.0 % | B | Bremen | 1.9 % | 3.1 % | 4.6 % | B | Leipzig | 1.2 % | 2.2 % | 4.0 % |
| A | Hamburg | 1.3 % | 2.6 % | 4.3 % | B | Dortmund | 2.1 % | 3.1 % | 5.0 % | B | Mannheim | 1.6 % | 2.7 % | 4.3 % |
| A | Köln | 1.5 % | 2.5 % | 4.3 % | B | Dresden | 1.4 % | 2.5 % | 4.1 % | B | Münster | 1.3 % | 2.4 % | 3.8 % |
| A | München | 1.0 % | 2.2 % | 3.9 % | B | Duisburg | 2.4 % | 3.4 % | 4.7 % | B | Nürnberg | 1.6 % | 2.9 % | 4.7 % |
| A | Stuttgart | 1.4 % | 2.1 % | 4.6 % | B | Essen | 2.2 % | 3.1 % | 4.4 % | B | Wiesbaden | 1.5 % | 2.6 % | 4.4 % |

## 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 | 3.6 % | 5.0 % | 7.8 % | Hamburg | 4.1 % | 4.3 % | 5.6 % | Oberrhein | 3.1 % | 4.5 % | 6.4 % |
| A 4 Thüringen | 3.8 % | 5.1 % | 7.9 % | Hannover/Braunschweig | 3.5 % | 4.8 % | 6.6 % | Ostwestfalen-Lippe | 3.7 % | 5.0 % | 7.5 % |
| Aachen | 3.7 % | 5.1 % | 7.7 % | Kassel/Göttingen | 3.6 % | 4.9 % | 7.4 % | Rhein-Main/Frankfurt | 2.9 % | 3.7 % | 4.8 % |
| Augsburg | 3.1 % | 4.5 % | 7.0 % | Koblenz | 3.7 % | 4.9 % | 7.5 % | Rhein-Neckar | 3.8 % | 4.8 % | 6.7 % |
| Bad Hersfeld | 3.0 % | 4.2 % | 6.6 % | Köln | 3.6 % | 4.6 % | 6.6 % | Rhein-Ruhr | 3.6 % | 4.6 % | 6.6 % |
| Berlin | 3.2 % | 4.1 % | 5.8 % | Magdeburg | 3.4 % | 4.7 % | 6.8 % | Saarbrücken | 3.2 % | 4.8 % | 8.5 % |
| Bremen und Nordseehafen | 3.3 % | 4.4 % | 6.0 % | München | 2.9 % | 4.0 % | 6.3 % | Stuttgart | 3.5 % | 4.5 % | 6.3 % |
| Dortmund | 3.3 % | 4.3 % | 6.0 % | Münster/Osnabrück | 3.3 % | 4.6 % | 6.7 % | Ulm | 3.4 % | 4.7 % | 7.0 % |
| Düsseldorf | 3.3 % | 4.4 % | 6.9 % | Niederbayern | 3.6 % | 4.8 % | 7.0 % | | | | |
| Halle/Leipzig | 3.4 % | 4.1 % | 5.2 % | Nürnberg | 3.6 % | 5.0 % | 7.8 % | | | | |

# 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.

# Selected Model Assumptions

## Office Markets

| | A Cities | B Cities | C Cities | D Cities |
|---|---|---|---|---|
| type | | existing building | | |
| typical property size | 28,400 sqm | 10,400 sqm | 6,400 sqm | 4,300 sqm |
| net initial yield | 2.8 % | 4.0 % | 4.5 % | 5.8 % |
| market vacancy | 4.0 % | 3.7 % | 4.4 % | 4.7 % |
| market rent acq. date | 22.80 euros/sqm | 11.40 euros/sqm | 9.90 euros/sqm | 7.90 euros/sqm |
| avg. term of lease | 3 years | 3 years | 3 years | 3 years |

## Residential Markets

| | A Cities | B Cities | University Cities |
|---|---|---|---|
| type | | multi-family house, existing building | |
| typical property size | 4,000 sqm | 4,000 sqm | 4,000 sqm |
| no. of apartment units | 55 units | 55 units | 55 units |
| net initial yield | 2.3 % | 3.0 % | 3.1 % |
| market vacancy | 200 sqm (1 month) | 100 sqm (1 month) | 200 sqm (1 month) |
| market rent acq. date | 13.60 euros/sqm | 9.20 euros/sqm | 9.40 euros/sqm |

## Unternehmensimmobilien (UI) and Modern Logistics

| | UI Light Manufact. | UI Warehouse | UI Business Park* | Modern Logistics |
|---|---|---|---|---|
| type | | existing building | | |
| typical property size | 10,000 sqm | 10,000 sqm | 12,000 sqm | 20,000 sqm |
| net initial yield | 5.5 % | 4.0 % | 5.5 % | 4.3 % |
| market vacancy | 2,500 sqm (3 months) | 2,500 sqm (3 months) | 1,700 sqm (3 months) | 5,000 sqm (3 months) |
| market rent acq. date | 6.40 euros/sqm | 5.20 euros/sqm | 0 euros/sqm | 4.70 euros/sqm |
| avg. term of lease | 5 years | 3 years | 2 years | 3 years |

* ratio office (o) zu warehouse (w) 30 : 70

## Retail

| | Shopping Center |
|---|---|
| type | stock, three-floor* |
| typical property size | 47,000 sqm / 75 shops |
| net initial yield | 5.5 % |
| range of rent (p. m.) | 10.00 - 60.00 euros/sqm |

* inner-city location, no revitalisation

## Retail

| | Specialist Retail Parks |
|---|---|
| type | existing building* |
| typical property size | approx. 20,000 sqm |
| net initial yield | 3.7 % |
| range of rent (p. m.) | 8.00 - 15.00 euros/sqm |

* no restructuring, good condition

## Micro-Apartments

| | A Cities | B Cities |
|---|---|---|
| type | existing building | |
| typical property size | 4,000 sqm (200 apt. units) | |
| net initial yield | 2.4 % | 2.9 % |
| market rent acq. date | 27.20 euros/sqm | 18.80 euros/sqm |
| avg. term of lease | max. 2 years | |

## Hotel

| | |
|---|---|
| building | existing building* |
| typical property size | 2,600 - 9,000 sqm |
| net initial yield | 3.5 % |
| range of lease economy | 300 - 400 euros/room/month |
| range of lease midscale | 400 - 500 euros/room/month |
| range of lease upscale | 600 - 850 euros/room/month |
| lease term | 5 - 25 years |

* no restructuring

# 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 nec-tions, they are generally easy to reach, including for the wider surroundings
- ground-level floor space and extensive parking space, usu-ally 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 centres**
Shopping centres 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 Unterneh-mensimmobilien published in its Market Reports No. 10. According to these data, UI are mixed-use commercial pro-perties, 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 suita-bility 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 bet-ween 20 % and 50 %)
- Usually located on the outskirts of cities and easily acces-sible

**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 loca-tion

**Warehouse properties**
- Predominantly existing properties with mainly basic sto-rage 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 corre-spond to the absolute top rent (defined as outliers). Average rents represent the average value across the whole of the defi-ned 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.

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