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2024

Risk-and-return ranking

Residential investments in Germany

Risk-and-return ranking
Residential investments in Germany

2024

AACHEN ASCHAFFENBURG AUGSBURG BAMBERG BAYREUTH BERGISCH-GLADBACH BERLIN BIELEFELD BOCHUM BONN BOTTROP BRANDENBURG BRAUNSCHWEIG BREMEN BREMERHAVEN CHEMNITZ COLOGNE COTTBUS DARMSTADT DELMENHORST DESSAU-ROSSLAU DORTMUND DRESDEN DUSSELDORF DUISBURG ERFURT ERLANGEN ESSEN FLENSBURG FRANKFURT FRANKFURT/ODER FREIBURG FULDA FÜRTH GERA GIESSEN GREIFSWALD HALLE/SAALE HANAU HANNOVER GELSENKIRCHEN GÖTTINGEN GÜTERSLOH HAGEN HAMBURG HAMM HEIDELBERG HEILBRONN HERNE HILDESHEIM INGOLSTADT JENA KAISERSLAUTERN KARLSRUHE KASSEL KEMPTEN KIEL KOBLENZ KONSTANZ KREFELD LANDAU IN DER PFALZ LANDSHUT LEIPZIG LEVERKUSEN LÜBECK LUDWIGSBURG LUDWIGSHAFEN LÜNEBURG MAGDEBURG MAINZ MANNHEIM MARBURG MOERS MÖNCHENGLADBACH MÜLHEIM AN DER RUHR MUNICH MÜNSTER NEUMÜNSTER NEUSS NUREMBERG OBERHAUSEN OFFENBACH OLDENBURG OSNABRÜCK PADERBORN PASSAU PFORZHEIM POTSDAM RECKLINGHAUSEN REGENSBURG REMSCHEID REUTLINGEN ROSENHEIM ROSTOCK SAARBRÜCKEN SALZGITTER SCHWERIN SIEGEN SOLINGEN STUTTGART TRIER TÜBINGEN ULM WEIMAR WIESBADEN WILHELMSHAVEN WITTEN WOLFSBURG WORMS WUPPERTAL WÜRZBURG

Foreword

Mark Holz
HEAD OF RESEARCH
Phone +49 69 99991 314
mark.holz@luebke-kelber.de

Marc Sahling
CEO
Phone +49 69 99991 400
marc.sahling@luebke-kelber.de

We are proud and pleased to publish the anniversary edition of the Risk-and-return ranking. 2024 marks the tenth year of our analysis of the 111 most important residential property markets. During this time, our ranking has experienced a super cycle, an interest rate turnaround of unprecedented proportions, several black swans and profound structural changes in the market. Exciting times!

We are using the anniversary edition to give the risk-and-return ranking a makeover. Market and investment strategies have evolved and we want to explicitly reflect this in our analysis. This publication is the first to include **qualitative factors** – in other words, everything that makes cities worth living in. After all, this is the most important factor when choosing a place to live, alongside purely economic considerations.

As in previous years, the 2024 edition analyses the current economic situation and interest rate environment and derive implications for the current and future investment market.

The past year 2023 continued to be complex and multi-faceted. The capital market side remained in a **bottleneck** for investments. Despite some easing towards the end of the year, the interest rate environment was challenging and financing costs were high, which led to a reluctance on the buyers' side. As a result, property prices have continued to fall. However, after 18 months of falling multiples (rising initial yields →see conversion table on Page 10), the **bottom has now been reached.**

The residential property market is now in the starting blocks with a much more sustainable, perhaps even favourable price level. The interest rate situation is set to ease. And the extremely tight rental market with little construction activity is putting further pressure on rents. So times remain exciting.

It is therefore not surprising that, according to current surveys such as those conducted by ZIA or INREV, the investment allocation in the residential sector is set to increase even further in the future. The Risk-and-return ranking can provide **strategic clues** here as to where investments are attractive in the long run from a risk-adjusted perspective. In this anniversary edition, we, once more, evaluate the German regions and cities in terms of the balance of risk and return. The first-time consideration of qualitative factors has led to some movements in the ranking.

We hope you have a stimulating and entertaining read and look forward to a personal discussion.

Mark Holz Marc Sahling

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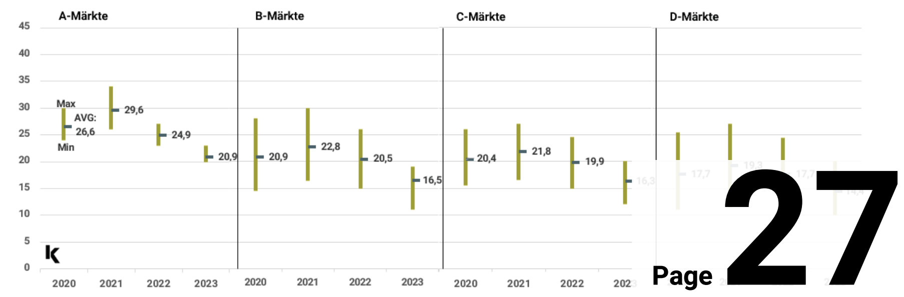

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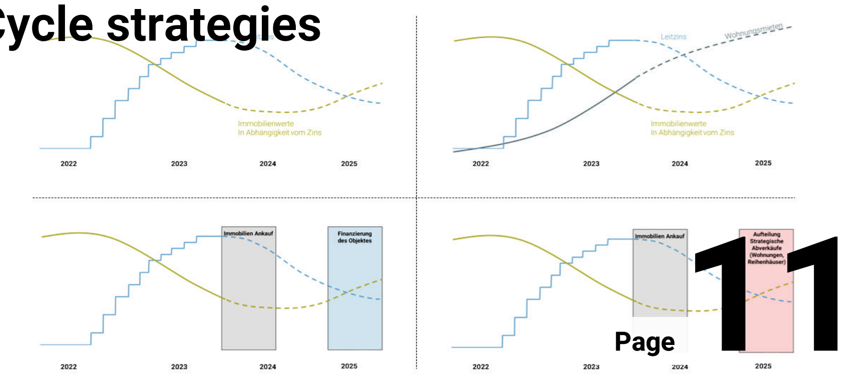

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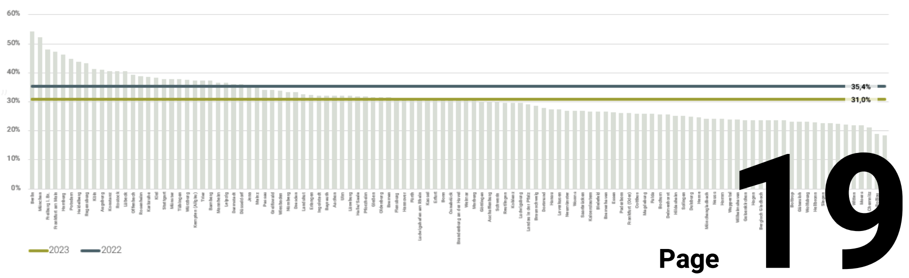

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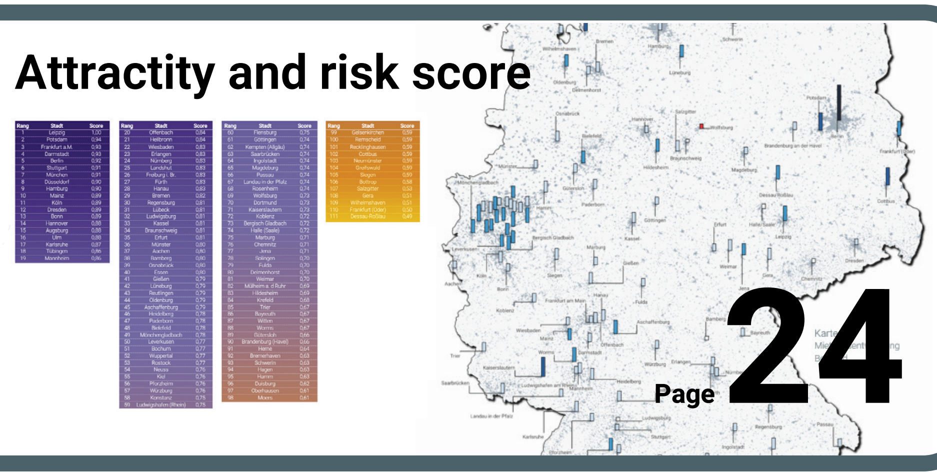

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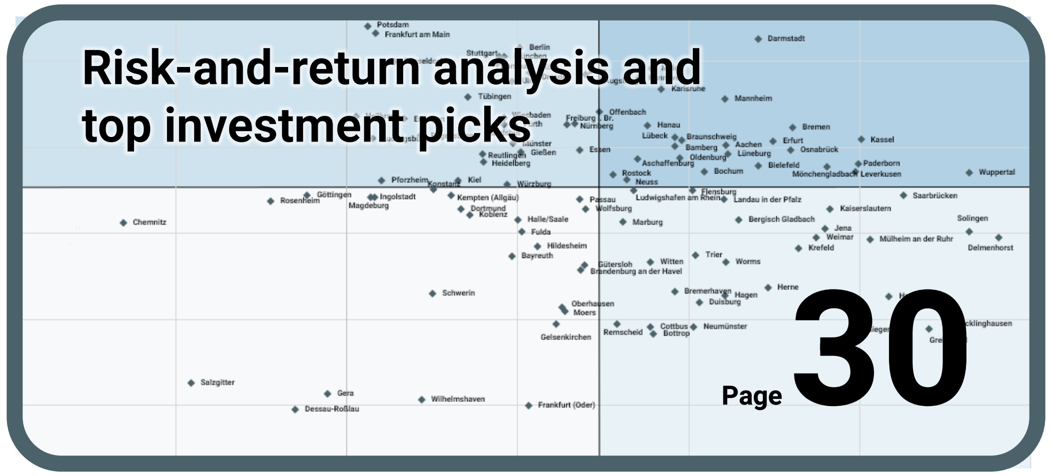

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10-years Risk-and-return ranking

Jürgen F. Kelber

SUPERVISORY BOARD
LÜBKE KELBER AG

Dear research team,

I have been active in the property sector for many years and I am responsible as a businessman for strategic decisions. An industry that is sometimes slow, but never stands still and is influenced by many factors at home and abroad, represents a constant challenge.

Living habits, city offers and job offers for people are changing. Where and how would we like to live? Or currently: where and how do we want to live and what can we afford? This is why locations and property types must be constantly analysed, questioned and rethought. Our research, combined with the direct impressions and experience of our transaction team, provides an invaluable decision-making tool for our company, our sellers and our buyers.

Our Lübke Kelber Risk-and-return ranking makes an important contribution here – to an unrivalled quality in Germany. A slow-moving industry is faced with the tension of ever faster changing markets. It has always been more important for the Lübke Kelber Group to combine gut feeling with experience and quality research. Our aim is for the research to provide us with a unbiased reflection of the facts and figures that influence our business and to use these to develop strategies and pricing with our customers.

I am proud of our research team's balanced and in-depth analyses. Good analyses are the be-all and end-all for well-thought-out investment decisions. That's why the ranking has always been an important basis for my own endeavours.

So to Mark and the research team, I say thank you for your work and the drive to always go one step further and get an ever better picture of our property sector.

Could cities away from the German metropolises be the better investment locations and even offer investors a more attractive risk-and-return profile?

In 2014, these questions formed the basis for a comprehensive analysis of 111 German cities in the form of a risk-and-return ranking. And the topic has not lost any of its topicality or relevance. To make a sustainable investment decision, it is essential to know a location's risk profile and to factor it into your own return expectations.

As the developer of the analysis model and the very first ranking, I am delighted that this annual analysis is now in its tenth year of publication and would like to congratulate Lübke Kelber on this success.

Sebastian Denker

SENIOR ASSOCIATE DIRECTOR,
BNP PARIBAS REAL ESTATE CONSULT

In my view, the Risk-and-return ranking for residential investments is a very helpful tool for objectifying investment decisions in the 111 cities.

The effects of political, socio-economic and financial market changes on the residential investment market can be measured on the basis of the long-term publications. A retrospective classification of your own residential investments in the risk-and-return ranking can be quantified and checked. The ranking also provides a very good basis for re-adjustments in portfolios and future decisions relating to property type and portfolio allocation. It is ideal for short-term value indications and the long-term review of the intrinsic value of investments.

Many thanks to the Lübke Kelber team for their many years of professional contribution to their usual high quality.

Birgit Hempel

GLOBAL GOVERNING COUNCIL RICS,
SENIOR DIRECTOR VALUATION
CORESTATE

10-year risk-and-return ranking

Prof Dr Thomas Beyerle

MANAGING DIRECTOR, CATELLA
PROFESSOR, UNIVERSITY OF APPLIED SCIENCES BIBERACH

There's no question: the first day of work "in the real world" after you graduation is something you never forget. 30 years ago, one day in September 1994, I started my journey in property research at Dr Lübke – at that time without "Kelber" but with "a lot of" Dresdner Bank. "Leiter des Referats Research" was the title at the time – important in a banking group.

Since then, "Sonder Afa" (special depreciations and amortisations) in eastern Germany, classic cycles, dynamic rallies and (supposedly) new, digital business models have come and gone. Well-founded analyses are the key to staying on track and looking ahead. If you consider that back then, 80% of primary data research, conducted with the Friday newspaper, was offset by 20% analysis, we have landed in a different universe today.

Despite all the justified wishes to become even more transparent. One such key is the Risk-and-return ranking, which was published for the first time ten years ago under the banner of Dr Lübke & Kelber and has been analysing the complex German residential property market ever since. It has not only identified the usual suspects (and underestimated) outperformers, such as Munich and Frankfurt, but also hidden champions, such as Potsdam and Freiburg.

Congratulations on this achievement and on the tenth anniversary.
Here's to many more years of excellent analyses!

Udo Cordts-Sanzenbacher

VICE PRESIDENT DEVELOPMENT & SALES, GROPYUS

To reach new highs and turn risks into opportunities, the cooperation of market participants and transparency are absolutely crucial. In my opinion, Lübke Kelber's risk-and-return ranking is a must-read for every property professional to get an overview of valuable KPIs and takeaways in this very turbulent market environment.

It is absolutely essential, especially under current market conditions, to know and thoroughly weigh up all factors when creating a risk profile for an investment location. I am delighted to have been able to use this ranking for 10 years now.

Congratulations to the entire team around Mark Holz on this fantastic milestone – I look forward to the next 10 years of enthralling reading and discussing views.

Dr Constantin Plenge

MANAGING DIRECTOR
TRISTAN CAPITAL

Congratulations on the tenth edition of the Risk-return ranking!
Since the first issue ten years ago, it has almost become an institution in the German residential property market.

Well-founded analyses such as these are essential for us to develop precise and forward-looking investment strategies. And this is particularly true in a polycentric and heterogeneous market such as "German Residential".

Our joint venture with Lübke Kelber to purchase of residential property in Germany is based not least on this in-depth understanding of the market and the quality of the research team's analyses. The first deal was in Leipzig for a reason.

I look forward to working with you for many more years and congratulate you on your anniversary issue.

Mark Holz

HEAD OF RESEARCH,
LÜBKE KELBER

With the Risk-and-return ranking we have created (and never fully tamed) a complex beast that can help to understand the equally complex German residential property market. We are proud that our analysis helps the property sector, developers and private individuals to identify trends, opportunities and risks and derive investment strategies from them. I am already eagerly looking forward to the next issue – and at the same time I'm just a little bit fearful too! Here's to the next ten years!

A big thank you to all our readers, critics and supporters!

Also, a big "thank you" goes to the entire Lübke Kelber team for their support. To Marc, Steffen and Jürgen for their trust. To Ingo and Sarah from the marketing team, who conjured up an extraordinarily appealing and inviting document. And above all to Yannick and Manuel, my colleagues in the research team, without whom the production would be impossible.

Here's to you! Cheers!

1 Introduction

2023
No momentum but bottoming out

2024
Attractive investment opportunities

1. 2023 – No momentum but bottoming out

Despite many challenges, the environment for residential property investments improved in many respects in 2023.

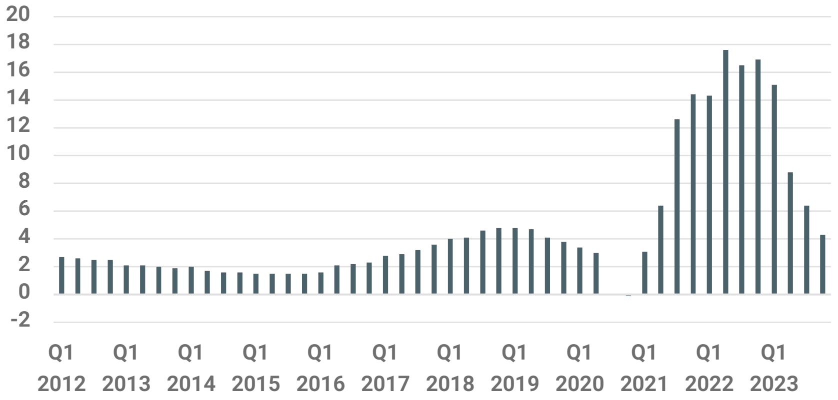
The **interest rate situation** eased in the second half of the year, as the key interest rate plateau of 4.5% since Q3 2024 led to falling financing costs. This will provide important impetus for the investment market in 2024.

Inflation has fallen significantly over the course of the year and most recently stood at 2.4% in Germany and 2.8% in the eurozone[1]. This is also well below the pre-war level at the end of 2021.

Figure 1:
Construction price index for residential property

Significant decline in construction costs since mid-2023

(In % compared to the previous year; source: Destatis, February 2024)



An analysis of the drivers behind the inflation shows that there is further downward potential here, as indicators such as import prices (-8.5%), wholesale prices (-2.6%) and producer prices (-8.6%) are in some cases clearly in deflationary territory[2]. On the other hand, wages are going up and build inflationary pressure.

Construction prices remain high, but there also was significant easing here in the second half of the year: While construction costs for residential buildings rose by 16.9% year-on-year in the fourth quarter of 2022, this figure was 4.3% at the end of 2023[3]. In fact, the first individual declines in construction prices can be observed.

Economy and labour market

In contrast, the overall economic situation deteriorated in the second half of the year. Although there was no technical recession, i.e. two consecutive quarters of negative GDP growth, German economic output fell by 0.3% in 2023. The decline was due to several factors. Both private and public consumption was weak, as was corporate investment in equipment as well as construction services.

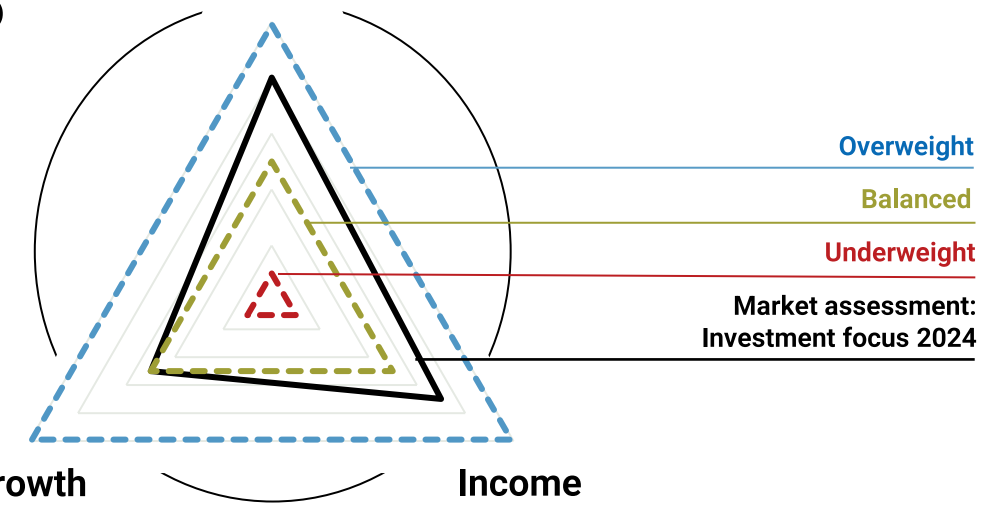
The outlook for 2024 remains cautious and was revised downwards by many analysts and institutes during the course of 2023. The German government and the IFO Institute expect slight growth of 0.2 % for the current year, whereas the IW Cologne (-0.5%) and Deutsche Bank (-0.2%) even expect GDP to fall again.

The economic development primarily allows conclusions to be drawn about the expected demand for commercial space, office space in particular, but also logistics and industrial space. The residential property sector is less directly affected by this.

Megatrend

Megatrend strategies (selection)

- Urban living
- Life science
- Senior living
- City quarters; large scale mixed use schemes
- Data centres



Growth

Growth strategies (selection)

- Value-add residential
- High street retail in tier 3 and 4 markets
- "Future proof" offices (value add)
- Manage-to-green strategies
- Distressed assets
- Development sites

Income

Income strategies (selection)

- Residential, especially in secondary cities
- Hotels with long leases
- Inflation hedge
- Sale-and-leasebacks of industrial and logistics assets
- Long-term income logistics and offices

Figure 2:
Lübke Kelber Investment Matrix

Income and megatrend strategies in focus 2024

(Source: Lübke Kelber Research)

The **labour market** remains solid despite the economic downturn. Although unemployment has slightly risen to 5.7% over the course of the year, this remains a low figure from a historical perspective[4]. The pressure on wages is correspondingly high – especially when taking the massive price increases in the last two years into account.

In December, nominal wages were 4% higher than a year earlier. With an inflation rate of 3.7% at the same time, this leads to real wage growth. If this trend continues, which is likely considering the current trade union negotiations, this could provide positive impetus in the area of consumption and increase the affordability of housing (renting and buying).

1 Eurostat
2 Dashboard Germany, Destatis
3 Destatis

4 Federal Employment Agency, December 2023

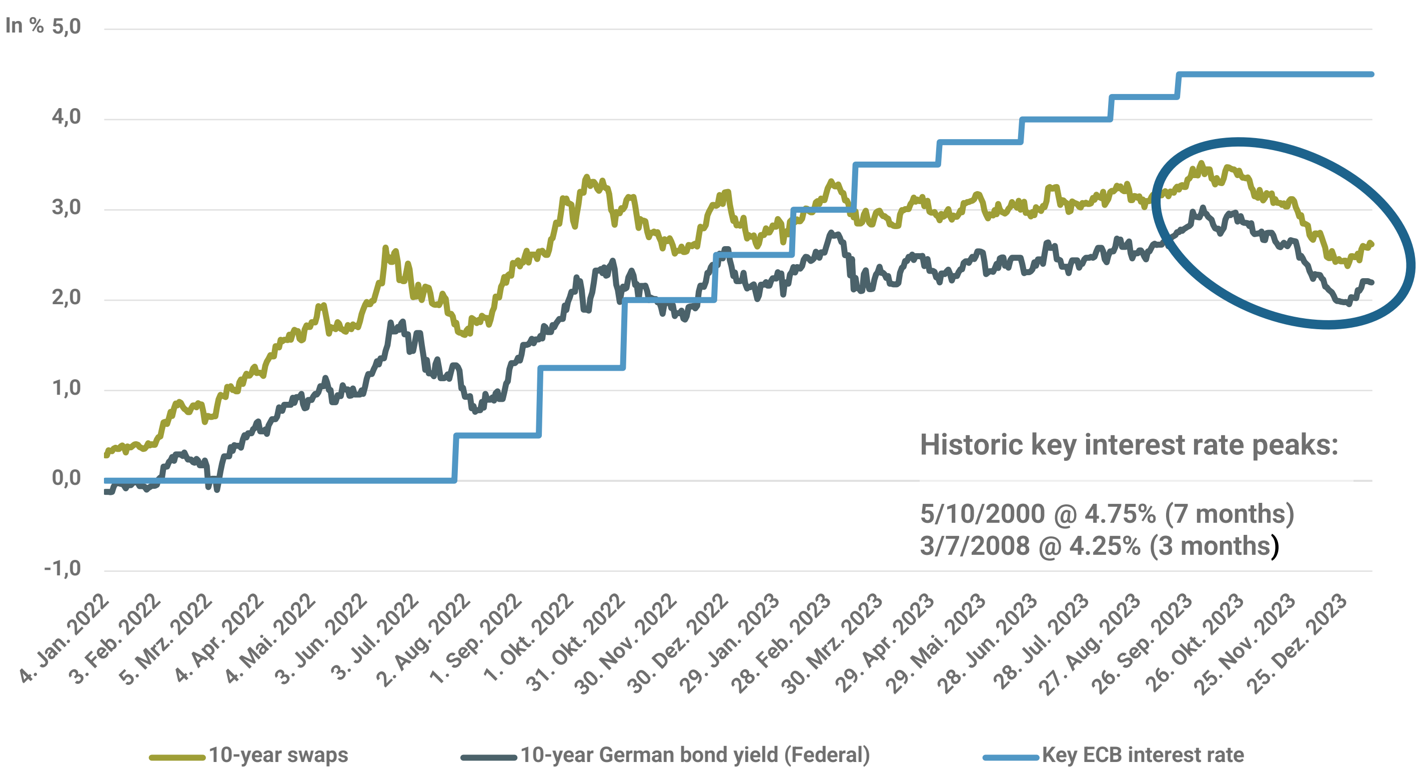


Figure 3:
Overview interest rate environment

Following the rapid and pronounced turnaround of interest rates, the situation has eased over the past month

(Sources: ECB, Eurostat, Investing.com)

Interest rate environment and derived strategies

The economic signals are mixed, but overall rather subdued. On the interest rate and capital market side, however, the situation is brightening and a rate cut by the ECB is now on the cards.

Against the backdrop of an economic slump – at least in Germany – and falling inflation, pressure is being taken off the ECB, paving the way for key interest rate cuts in the current year. A comment by Christine Lagarde from the ECB meeting in March points to a rate cut in June[5]. This is a factor that will boost property prices and the investment market. The levelling of interest rates at 4.5% since autumn 2023 has already had an easing effect on the financing environment, as shown in Figure 3.

The two highly important determinants for property markets, the 10-year government bond yield[6] and the swap rate as a proxy for financing costs, have fallen significantly since their peak in September.

As shown in the Lübke Kelber Investment Matrix (Figure 2), we expect demand to focus on income and megatrend-driven property investments. The uncertain economic situation in particular is likely to lead to more risk-averse and very long-term transactions. At the same time, the importance of IRR-driven growth strategies will continue to increase in importance over the course of the year. Above all, demand for value-add and manage-to-green investments in the residential property sector is high.

Investment focus on residential sector

The transaction volume for residential property totalled €6.1 billion in 2023, 48% less than in the already weak previous year. As in 2022, the past year was characterised by widely differing asking prices from buyers and sellers. While the sellers' view continued to reflect historic comparable transactions, the buyers' price expectations were based on forward-looking calculations. With increased financing costs, the high purchase prices of the past were no longer economically viable. As a result, we also had a pronounced buyer's market in 2023, in which transactions only materialised if sellers were prepared to sell at the price offered

However, this applies to all property sectors and not just residential property. In fact, "residential" remained the most sought-after property sector last year. In terms of the total transaction volume[7], the proportion of residential property was 33% – the second-highest figure in the last decade – making it the strongest sector in Germany for the first time. Residential property also plays an important role in the wider European context and accounted for 21% in 2023.

Around a quarter of the European transaction volume in the residential property sector was generated in Germany, putting it in second place in Europe behind the UK. Germany is likely to remain the focus of national and international investors. The reasons for this are complex.

On the one hand, just over half of the population in Germany (53.5%) live in rented accommodation, while the EU average is 30.9%[8]. This makes Germany a very large market for rental apartments and the built-to-rent (btr) sector. The country's polycentric structure additionally allows for geographic and structural diversification of investments – but makes the market complex at the same time. This is an important reason why the Risk-and-return ranking of 111 cities covers such a large number of markets.

Another important factor in Germany's popularity as a residential property investment location is the performance of the market in recent years and presumably also in the coming years. The market benefited from above-average growth in rents and values for more than a decade.

	Transaction volume in € billion	Traded apartments	Volume per transaction in € million	Price per square metre in €
Q1	2.0	6,949	51.4	3,363
Q2	1.7	7,431	32.9	3,202
Q3	1.1	4,217	28.5	3,239
Q4	1.3	6,880	24.7	3,256
2023	6.1	25,453	33.6	3,266

Table 1: Transaction volume residential property

Little transaction momentum in the residential property sector in 2023.

(Buildings > 20 units, no special forms of housing such as student residences, no M&A transactions; source: Lübke Kelber Research)

5 Christine Lagarde, ECB Meeting, 7/3/2024: "We clearly need more evidence and more data. We will know a little more in April, but we will know a lot more in June"
6 A now more attractive investment alternative to property

7 According to data from MSCI, Real Capital Analytics
8 Eurostat

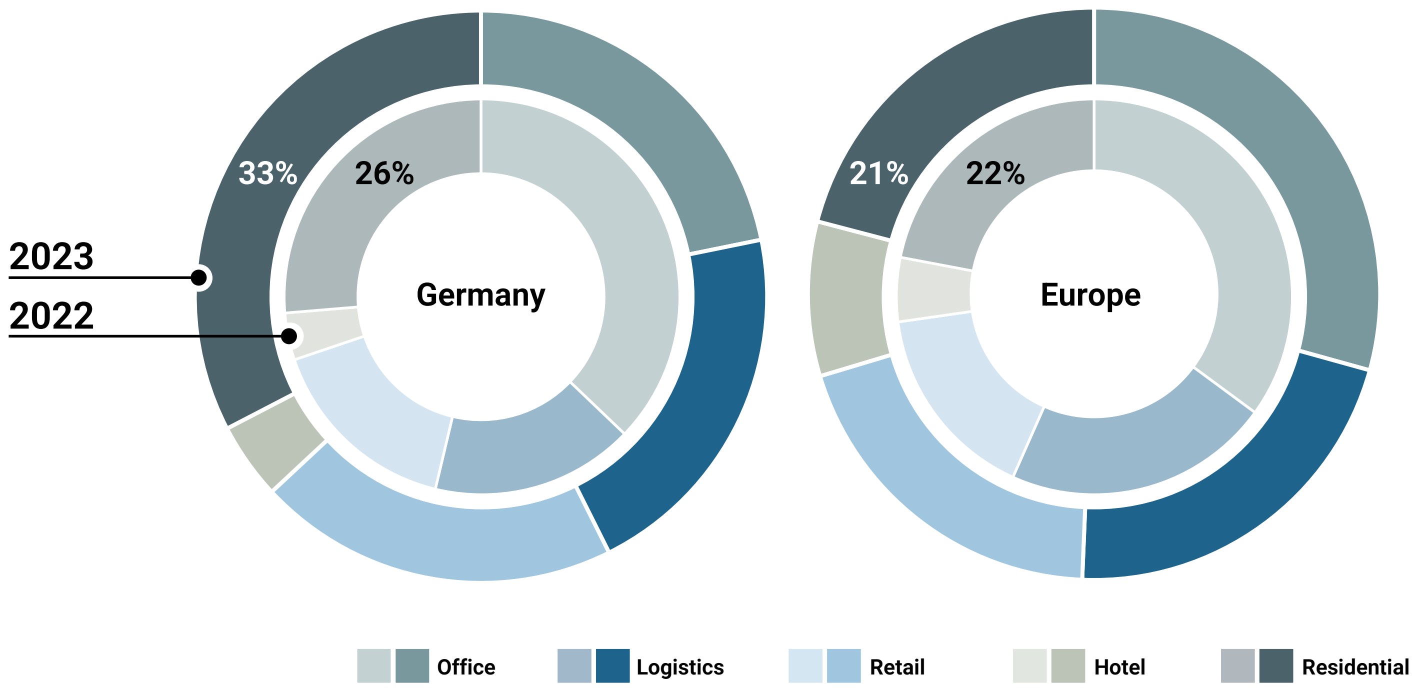


Figure 4:
Transaction volume Germany and Europe: Composition in %

In 2023, the residential property sector in Germany had the highest turnover.

(Source: MSCI, Real Capital Analytics)

It is likely that pressure on rents will persist as construction activity is limited while demand is high.

Residential property pricing – bottoming out

As part of the analyses for the Risk-and-return ranking, we examine the respective price level for the 111 underlying markets.

Determining the purchase factors (or initial yields, GIYs) remained challenging or in some cases theoretical as the markets remained illiquid. As we are still in a distinct buyers' market, i.e. the market prices are defined by the buyer, our view is explicitly reflecting this environment.

The purchase factors shown in Figure 5 describe the price level at which a transaction would realistically take place.

Given that key interest rates are unlikely to rise any further, but are more likely to fall in the coming months, we assume that we have reached the bottom in pricing for residential property. This is particularly likely because the momentum of rising rents should continue due to the excess demand.

Factor	GIY	Factor	GIY
8	12,5%	22	4,5%
9	11,1%	23	4,3%
10	10,0%	24	4,2%
11	9,1%	25	4,0%
12	8,3%	26	3,8%
13	7,7%	27	3,7%
14	7,1%	28	3,6%
15	6,7%	29	3,4%
16	6,3%	30	3,3%
17	5,9%	31	3,2%
18	5,6%	32	3,1%
19	5,3%	33	3,0%
20	5,0%	34	2,9%
21	4,8%	35	2,9%

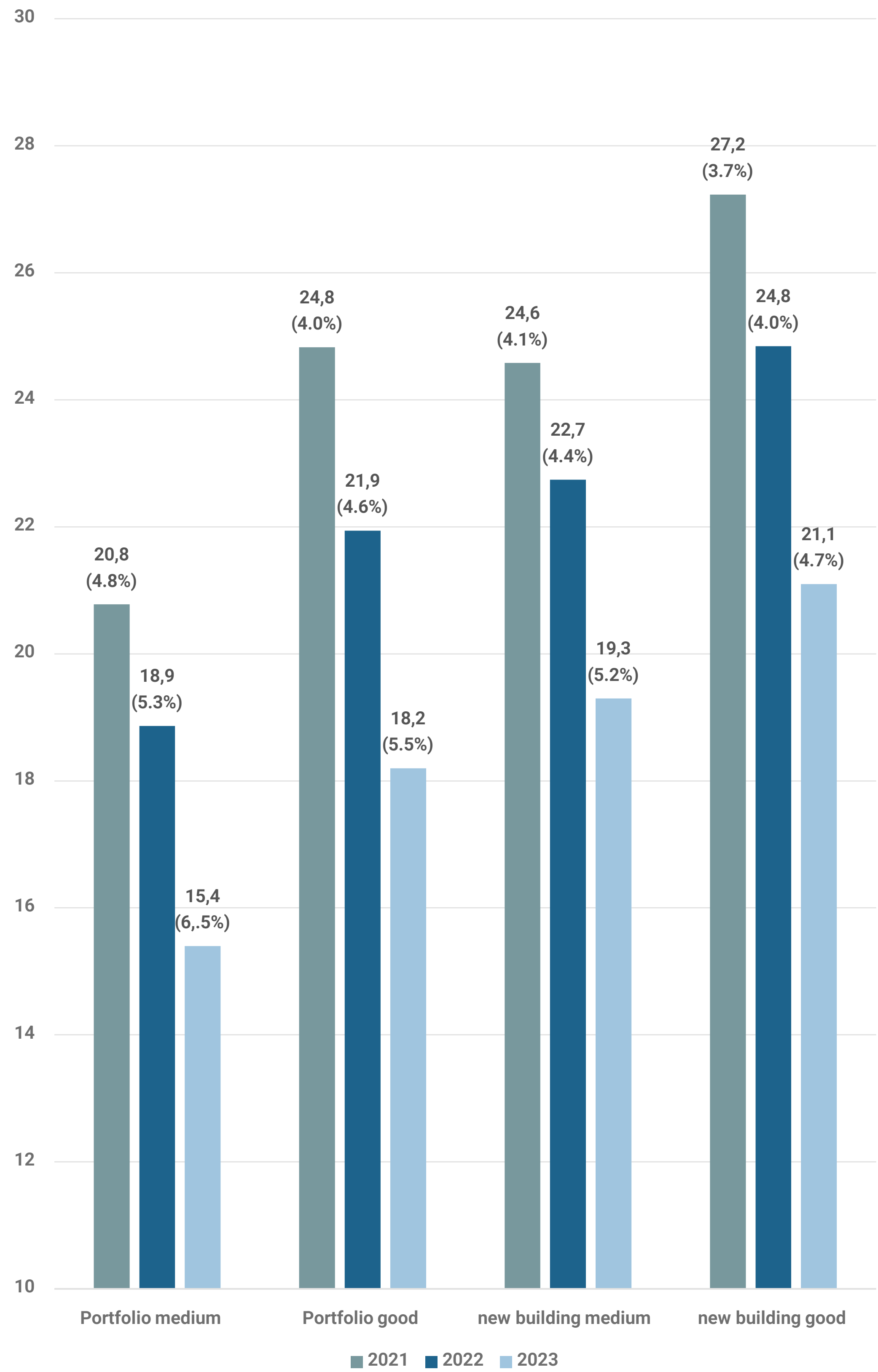


Figure 5: Average purchase factors (GIYs) for residential property

Factors bottom out in 2023

(Average purchase factors (multiple of annual gross rent) of the 111 analysed residential property markets; source: Lübke Kelber Research)

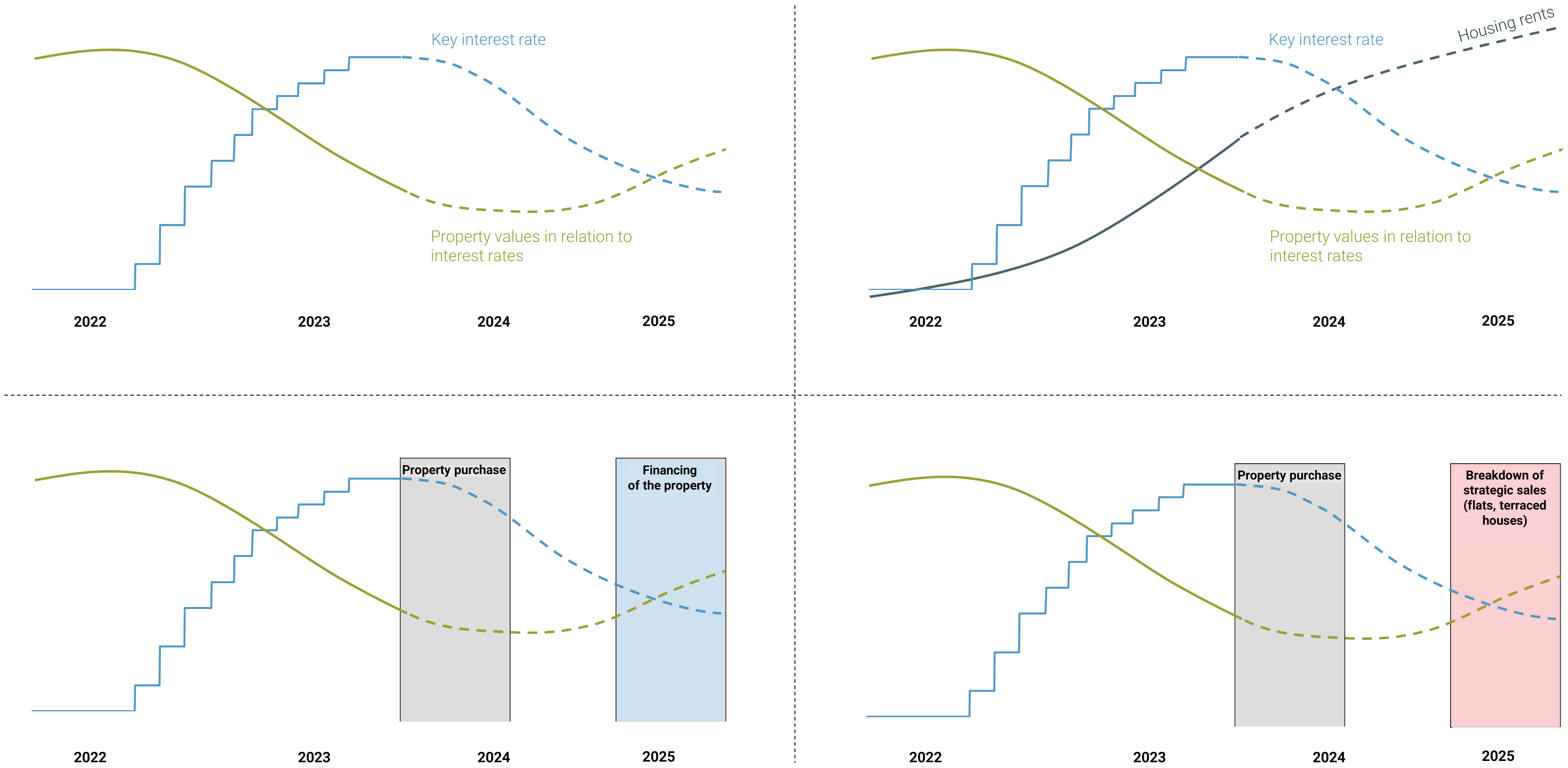


Figure 6:
Schematic illustration: Residential property investment strategies

Easing of the interest rate environment should lead to attractive investment opportunities

(Source: Lübke Kelber Research)

Outlook: Investment strategies

All things being equal, falling interest rates should strengthen property performance, as the cost of finance declines making higher property prices more viable. The continued upward pressure on residential rents is likely to be another value lever for residential property in the short to medium term.

The expected easing of interest rates generates opportunities for interesting investment strategies.

One approach would be buying properties with an attractive pricing level now using a high share of equity or all equity and to finance the acquisition later at better terms. This would not only result in rates-induced value gains, but this would also boost cashlows due to a more positive leverage effect.

If key interest rates and financing costs fell, the private condominium and housing market should also open up again. One possible strategy would be to acquire apartment blocks or terraced housing neighbourhoods now and, when the private investment market revives, to seek a strategic exit for individual apartments or houses to generate an additional return kicker.

The more pronounced the downward trend in interest rates, the more attractive these strategies should be. While falling rates in the short-term are very likely, to a certain extent, this is still a bet on the movement of interest rates.

2 Study design and methodology

Methodology

Indicators

Selection of cities

2. Study design and methodology

Study design

The basis of the evaluation is an analysis of socio-economic, demographic and housing market-related data, as well as supply and demand parameters and rent levels in the medium to long term.

We have included quality of life as an important new feature this year.

The Lübke Kelber Risk-and-return ranking analyses the 111 most relevant German residential property markets. It assesses 'each markets' attractiveness and risk and compares this with the achievable return. Doing so, investment opportunities can also be identified beyond the large metropolises in smaller second- and third-tier cities. A valuable exercise in Germany's highly polycentric city landscape.

The study is based on an in-depth analysis of socio-economic, demographic and housing market data, supply and demand metrics and rent levels in the medium to long term.

This year, 'quality of life' factors have been added as a new category, which allow an assessment about the liveability of the individual cities. This section analyses the availability and diversity of indicators such as retail (short-, medium- and long-term requirements), restaurants and bars, medical care and leisure.

The final scoring model compares the 111 cities in order to determine whether a residential investment in this city can generally be attractive. The better a city performs in this scoring (the more attractive it is), the lower should the residential investment risks be. In those markets that are leading the ranking, rents and rental growth prospects should therewith be highest.

However, such positive characteristics are usually reflected in higher purchase factors (lower initial yields). Therefore, it is crucial to analyse potential returns of each market and compare it to the individual risk and attractiveness-profiles. The second part of the study therefore compares the derived attractiveness and risk scores with the expected returns for a standardised residential investment in all 111 cities.

For both existing and new-built properties cashflow calculations over a theoretic holding period of ten years have been performed based on the parameters prevailing at the respective city and location quality. Therefore, market standard pricing, rents, rental growth potential, fluctuations, etc. were defined and used to determine each market's after return potential after leverage.

It is important that risk-return ratios are only determined at an overall market level, with a distinction made between medium and good locations. Therefore, differences at a micro-location level cannot be taken into account. This requires a thorough examination of the individual location and the subject property to be able to conclusively assess an investment in terms of its risk-adjusted yield potential.

Methodology

The study is based on a scoring model that determines an attractiveness profile for each of the 111 cities using a set of influencing factors.

The inverse attractiveness is considered the respective markets' risk profile in the second part of this paper. The five main categories reflect relevant factors for residency decisions and residential investment dynamics. They are defined as follows:

- Population
- Socio-economics
- Housing market
- Rental and purchase prices
- Quality of life factors

The categories are each divided into sub-categories that use empirically determined weightings. The overall result of the main categories helps to holistically assess the attractiveness of a city and to determine each markets' relative risk profile.

Why quality of life factors are an important addition

A combination of various factors prompted us to include the additional category and at the same time give it a relatively high weighting.

1. Unlike in the past, where companies located themselves where a) resources or b) consumers were, modern companies in the knowledge economy primarily need access to qualified labour. Subjective soft skills, such as the quality of life in a city, are becoming increasingly relevant in this "war of talents".
2. Amplified by remote working schemes, we are convinced that the attractiveness of a city will play an increasingly important role in future residency decisions.
3. The ever-increasing quality and availability of geodata is making evaluations and analyses easier. Now, we have reached a point where we are confident that we can quantify a subjective perception – namely how liveable a city is.

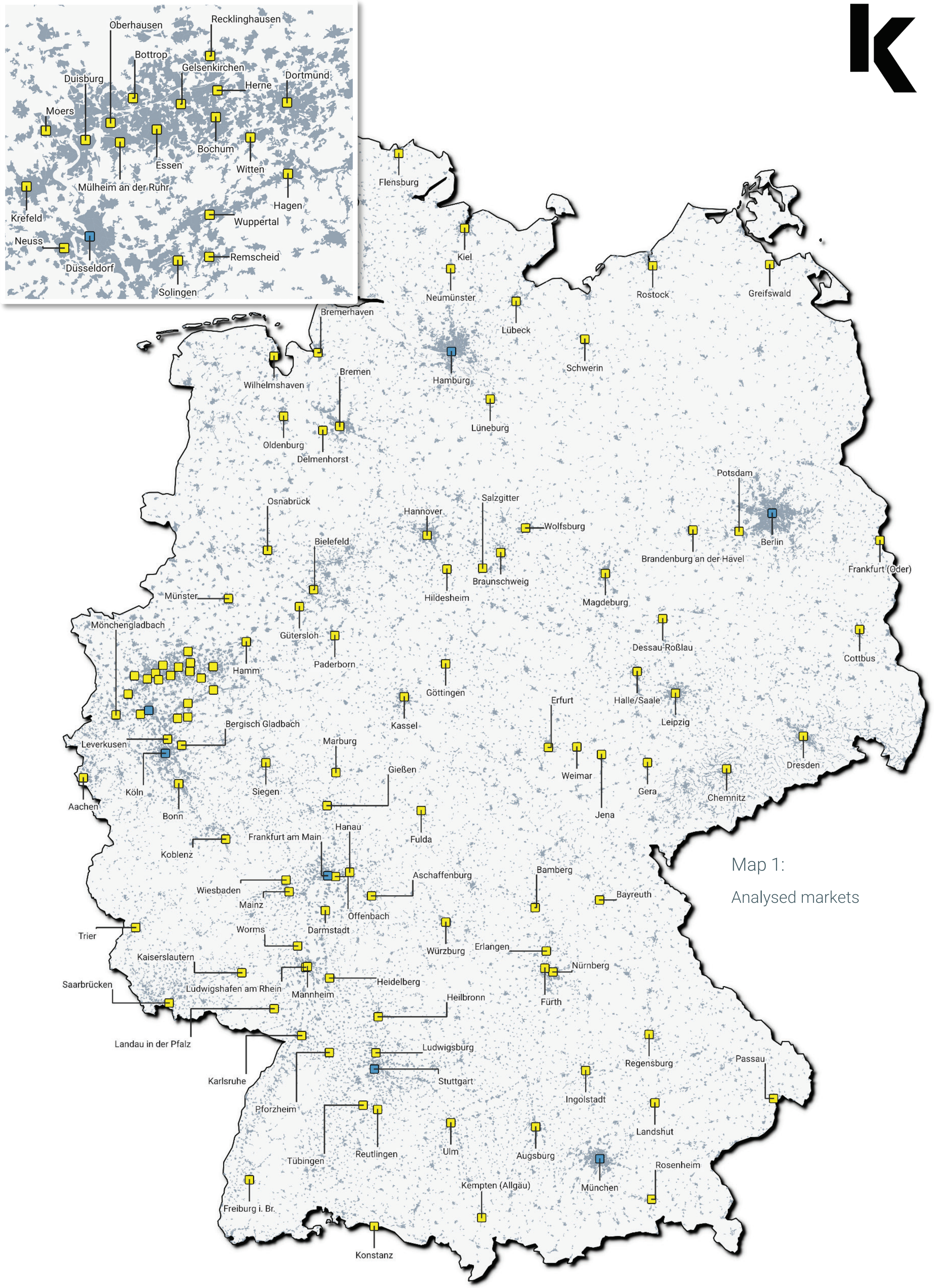
Despite constantly improving data availability and quality, differences in POI (points of interest) coverage can still exist at city level. So, the data is by no means perfect. However, we consider the margin of error to be "similar" for different cities on the one hand and "acceptable" in the overall context on the other.

Main category	Weighting	Subcategory
Population	17.5%	Long-term population trend 2013-2022
		Short-term population trend 2021-2022
		LK forecast population development up to 2035
		LK forecast for households up to 2035
Socio-economics	17.5%	Purchasing power 2023
		Unemployment rate 2023
		GDP development 2012-2021
		GDP development 2020-2021
		GDP/capita 2021
		Proportion of highly qualified residents in 2021
		High-income households 2021
		Debtor ratio 2023
Housing market	20%	Vacancy rate 2022
		Delta development of high-rise buildings & existing residential properties 2012-2021
		LK forecast housing demand/inhabitants up to 2035
		Market liquidity 2018-2023
Rental and purchase prices	25%	Rental price trend for new builds
		Rental price development for existing properties
		Exposure ratio for new-build rents
		Rental portfolio exposure ratio
		Purchase price trend for new-built
		Purchase price trend for existing properties
		Burden ratios of new built property
		Burden ratios of existing property
		Absolute rent level
Quality of life	20%	Health & medical care
		Leisure
		Short-term retail
		Medium and long-term retail
		Culture and entertainment
		Gastronomy
		Green spaces
		Proximity to dominant cities

Table 2:
Attractiveness scoring indicators

The selection of the 111 cities is intended to be as representative as possible for the whole of Germany and was determined according to the following criteria:

- Cities with more than 95,000 inhabitants
- Cities with a population of 60,000 or more
- Selected university cities with a population of 40,000 or more



Map 1:
Analysed markets

3 Market analyses: Attractiveness and risk

3. Market analyses: Attractiveness and risk

3.1 Population

In the past two years, Germany has experienced a population dynamic similar to the developments around 2015 due to the influx of refugees, particularly from Ukraine. In 2022 and 2023, the population increased by a total of almost 1.5 million to 84.7 million. This is also reflected in the 111 markets analysed, which also experienced an increase in population. This further exacerbated the housing shortage, particularly in the major cities.

Trend

Immigration was another reason why all of the cities under observation grew in population

In the long run, economically and culturally attractive markets as well as university cities and their surrounding areas recorded above-average population growth. In contrast, cities in structurally weak regions were experiencing a decline in population. In this context, the increasing spread of remote working and the associated flexibility in terms of place of residence, coupled with rising rental prices, are leading to a geographical redistribution of the population. Affordable and attractive second and third-tier cities are likely to benefit here. The "quality of life" indicator introduced this year takes this into account.

Forecast

The overall German population forecast up to 2035 is stagnant to slightly positive, but also depends on further immigration and emigration

The population forecast for Germany up to 2035 projects a stagnating or slightly positive development to 85.1 million inhabitants [9]. There are differences at a regional level: the analysis of the 111 markets in the Risk-and-return ranking shows that population growth is expected to remain positive in 43 markets. However, these underlying forecasts refer to the base year 2022, which means that they do not take into account the population growth of the previous year.

Two scenarios can be set out here: On the one hand, refugee immigrants could emigrate again if the war ended; on the other hand, a substantial proportion of the population that has immigrated in recent years could chose to remain in Germany in the long term– irrespective of the geopolitical situation.

The forecast for household development is also positive, with 72 of the 111 markets analysed assuming an increase in the number of households. This is primarily due to the further reduction in the average number of people per household, which is forecast to fall from the current 1.92 to 1.86 people per household in 2035.

Main category result

In the main category 'population', the larger metropolises such as Frankfurt am Main, Berlin and Leipzig as well as secondary cities on the outskirts of large metropolises, including Potsdam, Offenbach, Darmstadt, Tübingen and Hanau, are particularly well placed.

Primarily eastern German cities and markets in the Ruhr region are at the lower end of the scale, with Dessau-Rosslau, Gera and Cottbus bringing up the rear.

9 Destatis, 2022: 15th coordinated population projection

3.2 Socioeconomics

The "socio-economics" category compares various indicators of economic development and the labour market. This is an important component of the housing market, because economic and innovative strength attracts people on the one hand and a high purchasing power strengthens the potential rental level. Indicators include, for example, gross domestic product (GDP), the unemployment rate and the purchasing power of households. In addition to the major metropolises such as Munich and Frankfurt am Main, locations such as Wolfsburg, Ingolstadt and Erlangen, which are heavily dependent on single industries or even companies, achieve very good results in this category. Crises in these markets can lead to a considerable slump in economic output and, in the long term, in the labour market – or, conversely, a boom in a particular industry can have a positive effect on the city.

A look at the long-term development of the GDP [10] shows that the eastern German markets in particular are catching up. Cities such as Leipzig, Berlin, Potsdam, Jena, Neumünster, Rostock, Greifswald and Schwerin perform particularly well here.

In the short term, Mainz shines as an absolute outperformer. The research and development of COVID-19 vaccines led to an increase in GDP of 80% compared to 2020. The extent to which the city of Mainz will benefit in the long term from the additional income and players such as BioNTech remains to be seen.

Economic growth improved in almost all of the markets analysed compared to the previous year 2020. This is also reflected in the economic impact of the pandemic in 2020.

In 2021, only Wolfsburg GDP growth was negative, albeit significantly less than in the previous year. Compared to 2019, GDP declined by 19%, meaning that Wolfsburg suffered significant losses in this category.

Purchasing power, an important factor when assessing a market rent potential, is typically high in cities that also have a high GDP per capita. Accordingly, markets such as Munich, Düsseldorf, Stuttgart and Frankfurt, including the cities in the immediate vicinity, and also Heilbronn [11] lead the way.

The labour market has eased slightly compared to the previous year. The unemployment rate in the 111 cities rose by an average of 0.3 percentage points. Nevertheless, given the uncertainties and headwinds that 2023 brought with it, the labour market proved to be robust. The lowest unemployment rates are predominantly found in southern Germany, with higher unemployment rates in cities in structurally weak regions such as Gelsenkirchen, Bremerhaven and Duisburg.

Strength

The large metropolises, above all Frankfurt and Munich, are the economically strongest cities.

Growth

The strongest economic growth was also recorded in medium-sized cities such as Leipzig, Potsdam or Jena. Mainz also joined the group.

10 Destatis; 2021 is the last year available at regional level
11 This is partly due to a special factor, the purchasing power of Dieter Schwarz; see also Süddeutsche Zeitung, 23/10/2015: This man is so rich that statistics on his place of residence are worthless.

In the past, locations in the automotive industry, Wolfsburg and Ingolstadt as well as the southern German regional centres of Munich and Stuttgart and their suburbs, have scored outstandingly well in the socio-economic category. The market fell noticeably compared to the previous year due to ongoing negative growth in Wolfsburg. The city of Mainz achieved a top position in this category due to its strong GDP growth.

3.3 Housing market

The housing market category plays an important role in our ranking. This includes indicators such as vacancy rates, the development of the housing stock and households, including their forecasts, as well as the liquidity of the investment market. To estimate the future housing demand in the 111 cities analysed, a forecast model is used that takes the development of the housing stock, the market-active vacancy rate and expected household sizes into account.

Many cities that are expecting a significant increase in population already have a low vacancy rate. Construction of new housing is necessary in order to meet the increasing demand for housing, particularly in A-cities, in the vicinity of metropolises and in growing university cities. In contrast, cities with already high vacancy rates and negative development dynamics have sufficient living space, with only a little demand stemming from replacements.

High demand for living space is forecast in large metropolises in particular, as well as in surrounding – often more affordable – markets such as Offenbach, Augsburg or Darmstadt, and in university cities such as Heidelberg, Münster or Tübingen. However, there is a risk that markets with very high rents and therefore lower affordability will see weaker population growth, while growth in affordable cities will increase.

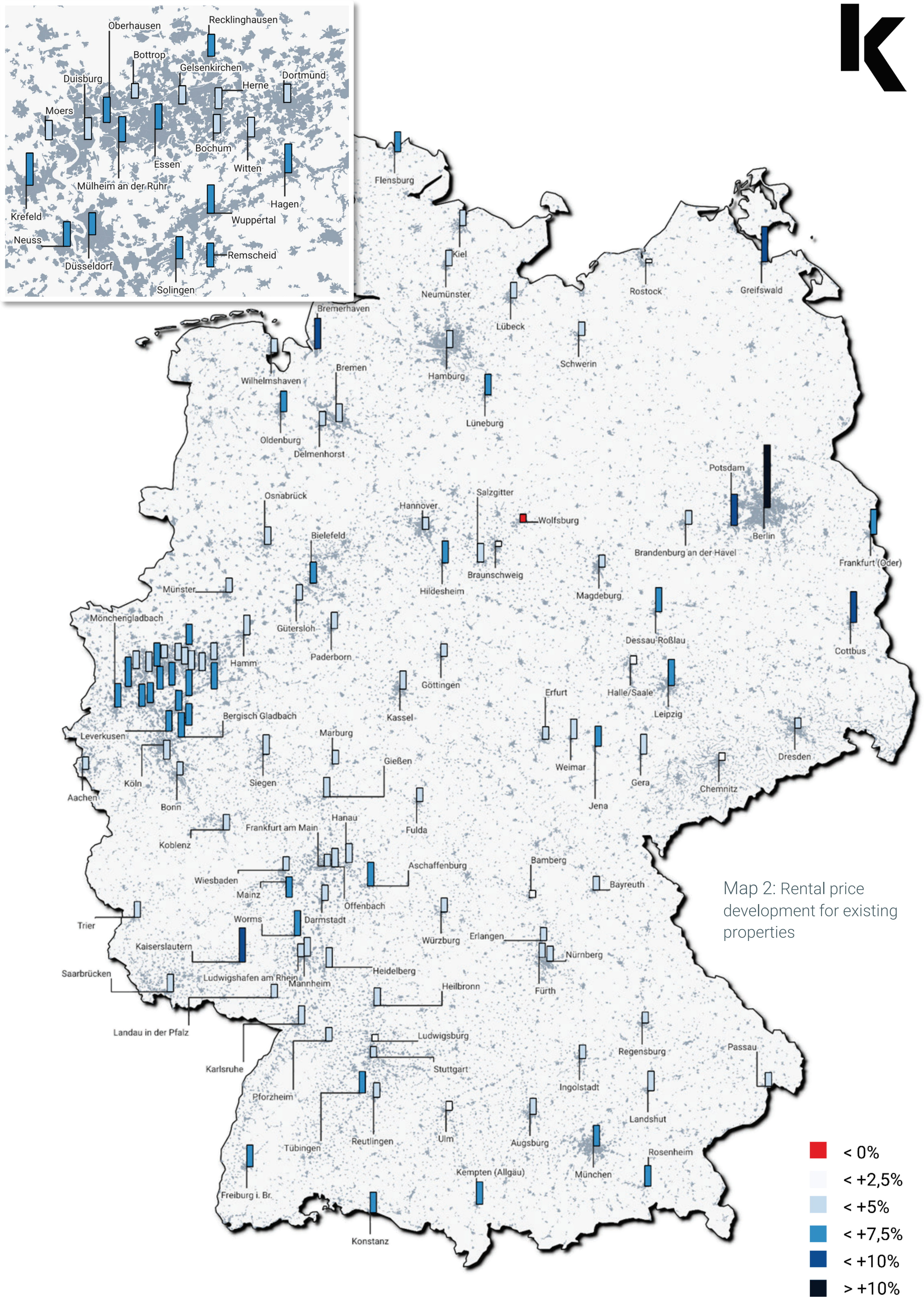
Market investment liquidity is particularly high in large metropolises and second-tier cities such as Leipzig, Dresden, Duisburg and Essen. Against the background of the current and future fungibility of investments, this is a heavily weighted indicator.

3.4 Rental and purchase prices

The category of rents and purchase prices analyses both the development of market rents and prices and, in particular, affordability or exposure ratios. The development of the affordability ratio is more volatile than in the past due to the inflation and interest rate environment. The higher level of inflation is offset by higher nominal wages. For the first time in two years, real wages rose again, albeit only slightly by 0.1% for the entire year. At the same time, asking prices and actual purchase prices of condominiums fell significantly in 2023. This is a reaction to the higher financing costs and the resulting fall in demand.

Outlook

The large metropolises, as well as more affordable cities in the surrounding area and university cities, are likely to continue to see high demand for residential space



Map 2: Rental price development for existing properties

Rents

Compared to the previous year, rental values for existing residential buildings rose by 4.9% on average[12], 0.4 percentage points higher than a year earlier. At 5.2%, rents in the good locations increased stronger than in the medium locations. Similar to 2022, Berlin stands out in particular. At 16.9%, it has seen the strongest rental growth of all markets. It is followed by Greifswald with 11.1% and Kaiserslautern with 9.4%. Wolfsburg is the only market in which rents have fallen slightly. In absolute terms, Munich remains by far the most expensive rental market at over €20.00 per sqm. ahead of Frankfurt am Main at just under €14.90.

Rents for new buildings in the 111 cities rose by 5.8% on average, which is higher than for existing properties. Rents in the good locations, showing growth of 6%, rose more than in the medium locations at 5.6%.

Overall, the A-cities performed better this year than last year with Cologne and Berlin being the top performers. But Aachen, Heilbronn, Potsdam, Worms, Flensburg and Karlsruhe also achieved above-average growth.

Repricing

Due to higher cost of finance, asking prices for existing condos fell by an average of 8% in 2023.

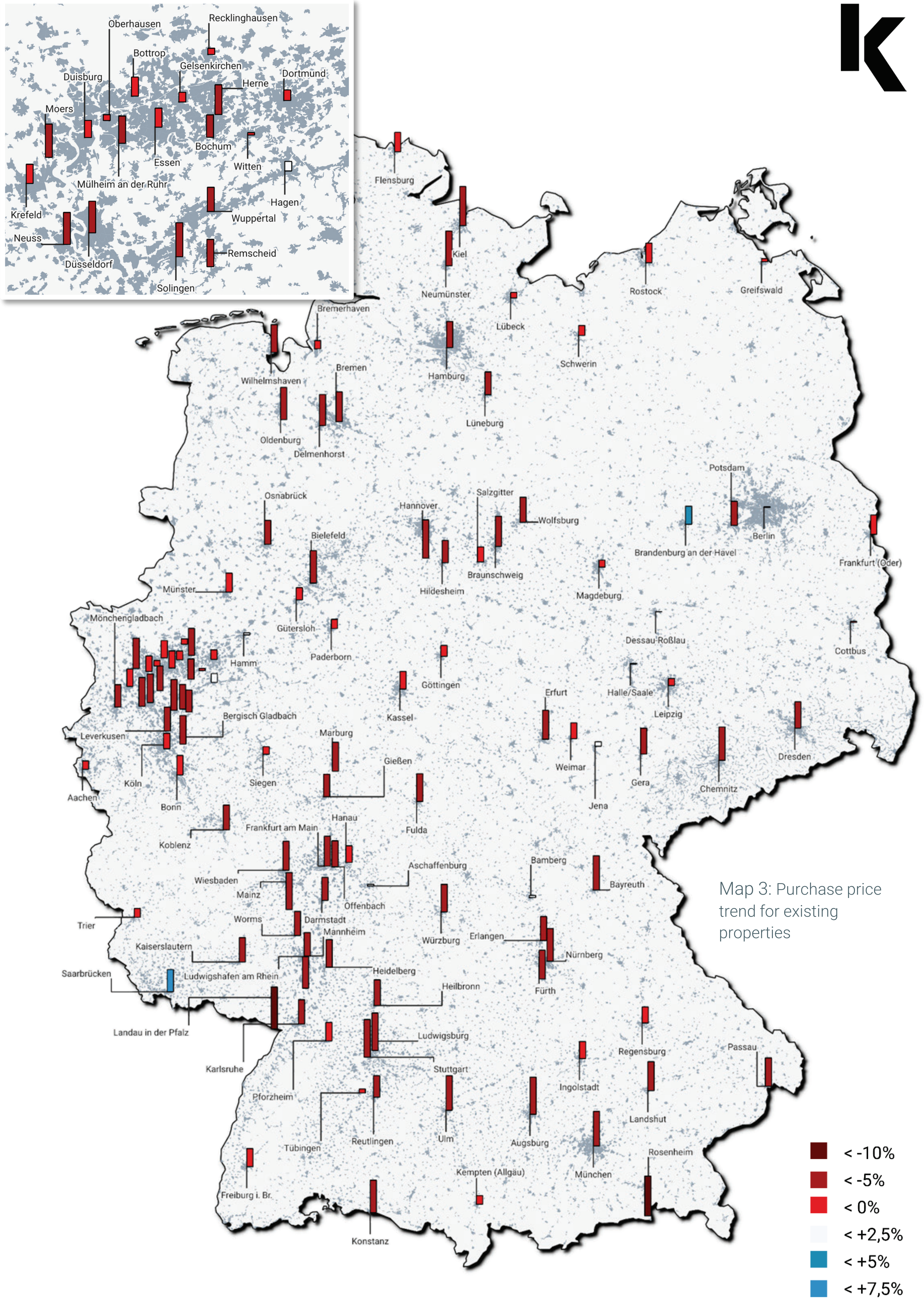
Purchase prices

Similar to the institutional market, the high cost of finance led to a decline in private investor demand for condos as well as a decline in owner occupier demand. In consequence, purchase prices fell considerably. On average, prices for existing properties fell by 8%[13]. Good locations held up a little better, falling by 7.2%. Berlin proved to be the most robust with a decline of only 2%. Cologne was slightly better than the average at -5.6%, while Munich and Stuttgart suffered the biggest losses at -12% and -13% respectively.

For new built properties, the picture is more diverse. While cities such as Aachen, Mannheim, Regensburg and Erfurt saw significant increases, prices fell sharply in Nuremberg, Giessen, Fürth, Darmstadt and Rostock. The A-cities are stagnating or losing ground moderately. The range is between +1.2% in Cologne and -4.4% in Munich. On average, prices for new-built apartments rose by 3%.

The result suggests that a price correction process for new-built properties is difficult for project developers as construction costs and cost of finance remain high. Therefore developers stick to higher prices to avoid a loss. A further downward adjustment for new built condos is likely to materialise in many markets in 2024. However, the individual quality of the flats on offer could also have kept prices high in some markets. Individual projects can have a strong influence on the average, particularly in an environment with little new-built activity.

12 Value market data, 1/1/2023 to 31/12/2023
13 Ibid.



Map 3: Purchase price trend for existing properties

Burden ratios

The burden ratios for existing properties, measured as a percentage of the household income spent for renting or owning a condo, were slightly down on the previous year, both on the rental side and when buying a home. On average, 25.3% of household income must be spent on renting an existing apartment (2022: 28.3%) and 31% when buying a condo with an 80% loan to value ratio (2022: 35.4%).

There are various reasons for this. On the one hand, disposable incomes have risen. At the same time, the increase in headline rents were offset by reduced ancillary costs.

At the buying side, cost of finance remained stable[14], while price reductions became apparent.

Despite the rise in rents and the falling price level for existing properties, renting remains the lesser expensive alternative in almost all markets. However, the gap was closing in 2023 slightly after years of widening.

This could point to an increase of individual sales of apartments, rather than selling them on block. The focus here is more likely to be on existing properties due to the low level of new-build activity.

The highest rent burden was calculated in Berlin at 38.5% and the lowest at 18.6% in Witten in the Ruhrgebiet.

In cities that had particularly high rent burdens in previous years, such as Berlin, Freiburg, Munich and Frankfurt am Main, the rent burden stagnated or even continued to rise. This is a factor that is making more affordable communities in the surrounding area increasingly attractive. In the new-built segment, the average burden ratios will fell to 31.5% (2022: 33.9%) for renting and 46.1% for buying an apartment (at 80% LTV, 2022: 46.7%). Compared to the existing stock, the gap of rental and purchase burdens is closing slower. In the case of acquisitions, this is due to the continuing high construction costs and the consequential high asking prices, in combination with high financing costs.

Assumptions for determining the burden ratios

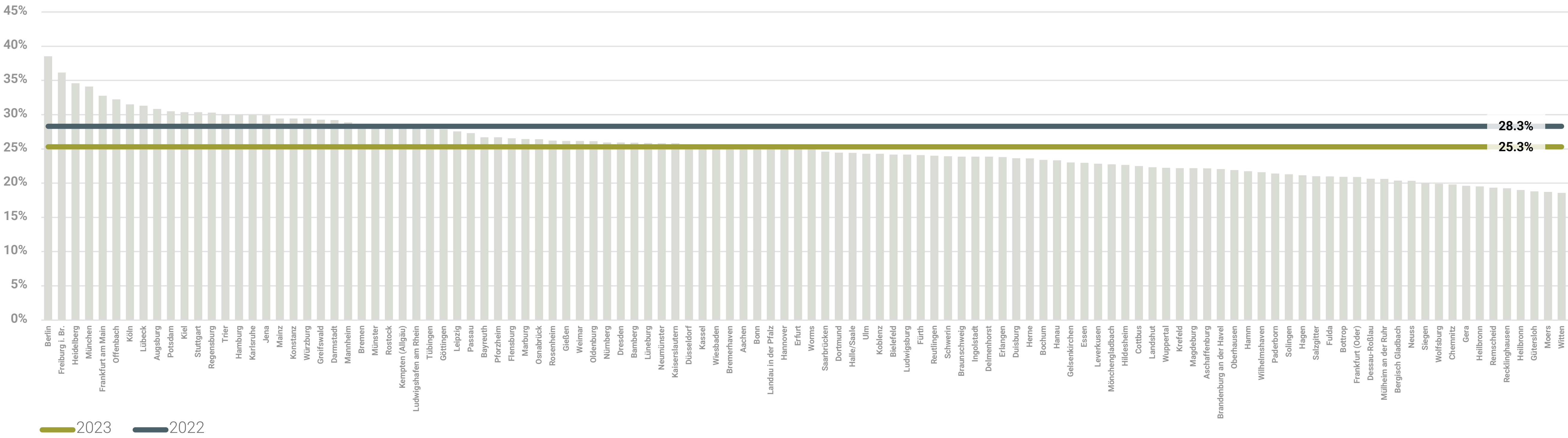
- 3-room apartment with 70 square metres
- Financing with 80% LTV
- 5.0% annuity with 1.5% amortisation
- Consideration of other running costs (e.g. electricity, facility management and maintenance)
- Current asking rents and asking purchase prices

Figure 7:
Rent burden ratio

The rent burden fell for German households last year.

(current annual charge to tenants as a % of average household income.

Source: Lübke Kelber Research)



[14] This relates to financing costs at the end of 2023; interest rate discounts were sometimes significantly higher over the course of the year

For 2024, many indicators point to a continuing price correction for the private condominium market. If that was the case, the gap between buyer and seller expectations would narrow and the market would gain momentum.

Project developers who have come under pressure but stuck to the former price levels could be forced to take a hit on their margin in order to generate liquidity.

At the same time, new-built properties are becoming an increasingly rare commodity. Previously cautious, well-off buyers could therefore revitalise the market as interest rates are easing gradually.

Potentially higher burden due to ancillary costs

Ancillary costs could lead to a higher burden in 2024 again. The Federal Network Agency expects electricity prices to remain high and probably rise[15]. One reason for this is the cuts made by the federal government, e.g. in supporting final grid fees.

€5.5 billion had been budgeted for this, which was cancelled due to the government's austerity measures. The Network Agency, as well as comparison portals such as Check24, expect the municipal utilities' network charges to rise significantly. Check24 expects an increase of 32%[16].

Another cost driver is the expiry at the beginning of the year both of the electricity and gas "price brakes" and the temporary reduction in VAT to 7% for gas and district heating. In addition, there is an increasing CO_2 levy on gas.

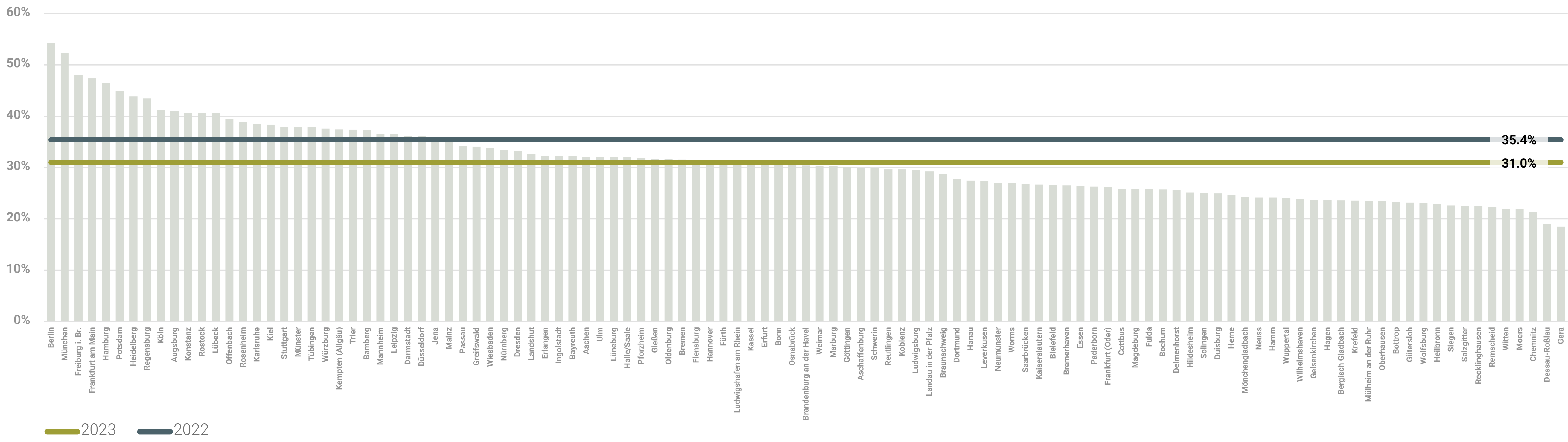
Even if the factors mentioned above do not necessarily lead to an immediate increase in prices, there are many indications that ancillary costs will rise. The Association of Municipal Enterprises (VKU) also expects electricity and gas prices to double for consumers in the medium term[17].

Figure 8: Burden ratio: apartment acquisitions

Although the burden of buying a home has fallen compared to the previous year, it remains at a high level.

(current annual exposure of buyers as a % of average household income.

Source: Lübke Kelber Research)



15 https://www.tagesschau.de/wirtschaft/verbraucher/strom-gas-bundesnetzagentur-wegfall-subventionen-100.html
16 https://www.check24.de/strom/news/strompreis-hohe-strompreise-in-2024-verbraucher-muessen-mit-weiteren-cost-increases-calculate-71383/
17 https://www.handelsblatt.com/unternehmen/energie/strompreisentwicklung-wird-der-strom-2024-noch-billiger-/28741584.html

Rental burden compared to purchase burden

The relative attractiveness of buying an apartment has increased compared to the previous year. Nevertheless, when looking at the monthly household burdens, renting remains more favourable than buying in almost all markets. Only Dessau-Rosslau and Gera are exceptions to this.

The contrast between the rental burden and the purchase burden is even more pronounced in the new-built sector, so that in no market it is more favourable to buy than to rent[18].

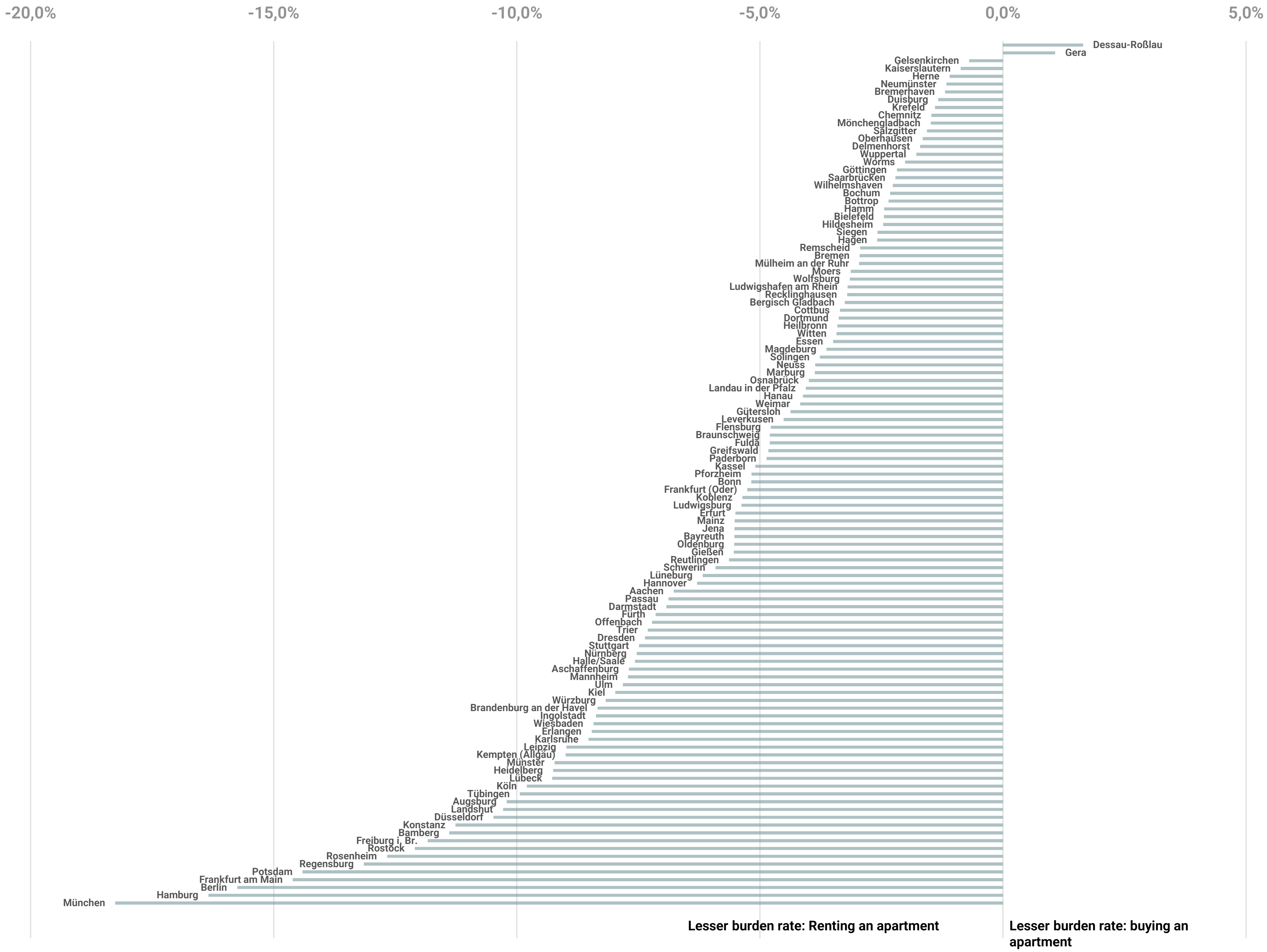


Figure 9:
Comparison: Rent and purchase burden ratios

(Source: Lübke Kelber Research)

18 This statement only takes into account the amortisation period and does not take into account any price increases. Buying a flat can nevertheless be more attractive in the long term – also in terms of asset building.

New

3.5 Quality of life factors

As a new major category, we include a number of qualitative factors that describe the "quality of life" of the individual cities. The weighting of 20% in the overall ranking reflects the high relevance that we attribute to this parameter. Similar to the overall demographic category, quality of life is a relatively static factor that only adjusts slowly over the course of time.

The category is made up of various indicators, which are primarily derived from GIS analyses[19] but also fed from official statistics. These include the number of shops for daily, medium- and long-term needs, the number of restaurants, theatres and museums as well as the proportion of green space in the entire urban area.

A distinction is made here between the POI availability per inhabitant, e.g. in grocery retail or medical care, and the total number, e.g. in restaurants or shops for long-term needs, in order to assess the variety of offers. The attractivity of the neighbouring metropolis is also taken into account for cities in the immediate vicinity of large cities, such as Offenbach, Ludwigsburg, Mönchengladbach or Fürth, in addition to their own attractiveness. This is graded according to attractivity and distance to the metropolis.

In principle, only the quantitative component of the respective POIs can be evaluated in such an analysis. What cannot be included in the evaluation is a qualification of the individual POIs [20].

The large metropolises in particular are establishing themselves as the markets with the highest quality of life. Munich, Berlin and Dresden make up the top 3, followed by Stuttgart, Düsseldorf, Leipzig, Cologne, Karlsruhe, Augsburg and – a litte surprise – Saarbrücken in 7th place. At the lower end of the scale are the cities of Neumünster, Gütersloh, Salzgitter, Bottrop and Moers.

Almost useless knowledge

In addition to the tables on the right, below are a few snippets of analysis from the "**nice-but-useless-to-know**" category:

The city of Berlin has the most bars, but the "density per inhabitant" is outstanding in Mannheim and Ludwigshafen.

Family friendly: Schwerin, Frankfurt (Oder) and Cottbus have the most playgrounds per person.

Cologne has more kiosks than Berlin.

The city of Erfurt has the most pasture and farmland in percentage terms. Berlin and Offenbach have the least.

Student life: Heidelberg, Bamberg, Passau Erlangen and Marburg have the most cafés per inhabitant.

Fashion capital: Düsseldorf is the tier 1 city with the most clothing shops per inhabitant.

"Cultural philistines": The city of Kaiserslautern has the least museums and theatres per inhabitant – Bamberg, Weimar and Marburg have the most.

Trend

Size matters: The large metropolises in particular are establishing themselves as the cities with the high quality of life.

Health

Rank	City
No. 1	Göttingen
No. 2	Bamberg
No. 3	Giessen
No. 4	Brandenburg a. d. Havel
No. 5	Mannheim

Leisure

Rank	City
No. 1	Munich
No. 2	Berlin
No. 3	Dresden
No. 4	Göttingen
No. 5	Karlsruhe

Short-term retail

Rank	City
No. 1	Dessau-Rosslau
No. 2	Aschaffenburg
No. 3	Göttingen
No. 4	Lübeck
No. 5	Düsseldorf

Medium- and long-term retail

Rank	City
No. 1	Berlin
No. 2	Munich
No. 3	Cologne
No. 4	Hamburg
No. 5	Düsseldorf

Culture and entertainment

Rank	City
No. 1	Berlin
No. 2	Munich
No. 3	Hamburg
No. 4	Leipzig
No. 5	Frankfurt am Main

Gastronomy

Rank	City
No. 1	Berlin
No. 2	Munich
No. 3	Hamburg
No. 4	Cologne
No. 5	Frankfurt am Main

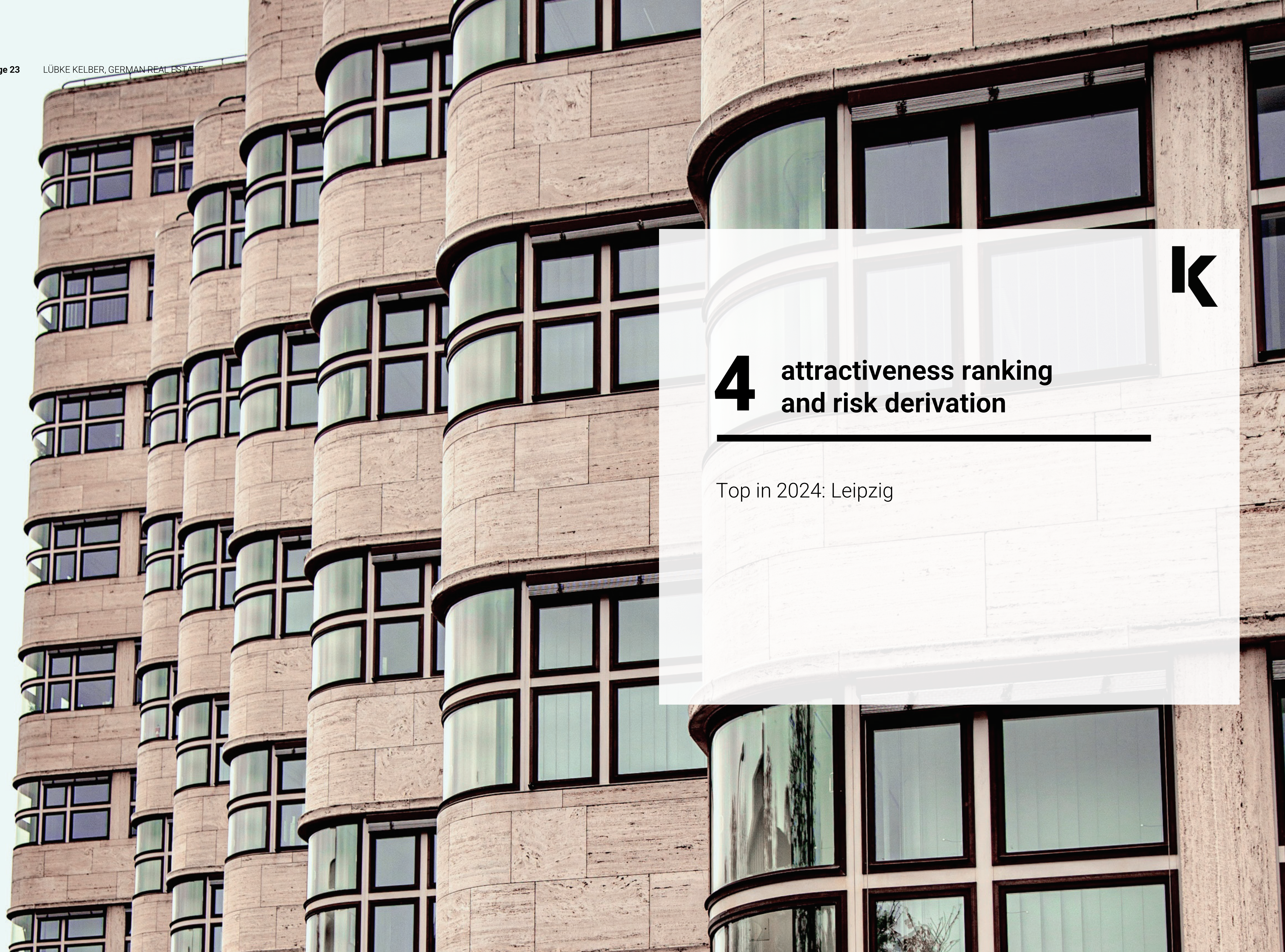
Green spaces

Rank	City
No. 1	Karlsruhe
No. 2	Berlin
No. 3	Bochum
No. 4	Stuttgart
No. 5	Essen

Table 3:
Quality of life subcategories: Top markets

(Source: Lübke Kelber Research)

19 Especially on the basis of OpenStreetMap data
20 This means that a fast-food restaurant has the same value as a Michelin-starred restaurant and a 20-seat cinema has the same value as a multiplex cinema with 5,000 seats



4 attractiveness ranking and risk derivation

Top in 2024: Leipzig

4. Attractiveness ranking and risk derivation

Attractiveness and risk

Leipzig, Potsdam and Frankfurt top the Lübke Kelber attractiveness ranking and are the markets with the lowest investment risk.

In Lübke Kelber's risk-and-return ranking, we define market risk as the inverse result of the market attractiveness – the result from the previous chapter.

The attractiveness of the location and the inherent market risks for residential investments can be derived from the overall scoring. The higher the score, the lower the location risk.

Due to the new category of quality of life, the current ranking is only comparable with the previous years' results to a limited extent. Nevertheless, Leipzig remains at the top of the 111 markets in the evaluation.

As described in **Chapter 3.5**, the consideration of qualitative factors was particularly positive in the larger metropolises. As a result, markets such as Berlin (+14), Düsseldorf (+14), Dresden (+27), Bremen (+32) and Essen (+20) made up significant ground. On the other hand, smaller cities such as Reutlingen (-16), Heilbronn (-16) and Pforzheim (-36) lost ground.

Unlike in previous years, all of the "top 7" markets (or top 8 including Leipzig) are among the 15 highest ranked markets in the attractiveness ranking. As in previous years, the lower part of the analysis includes cities from structurally weak regions, particularly in the east and in the Ruhr region.

There is a very wide middle ground between these categories.

Here, the scoring of the individual markets is sometimes very close to each other, but they are still separated by many ranks. Although there are certainly differences between markets such as Offenbach and Heilbronn or Duisburg and Oberhausen. However, Bochum is ranking 51st with a score of 0.77 is 19 places ahead of Dortmund with a score of 0.73, while in fact, the differences are marginal.

For this reason, we have decided to discontinue the rigid categorisation of previous years (A++, A+, A, A-) and instead to successively grade the markets.

Rank	City	Score
1	Leipzig	1.00
2	Potsdam	0.94
3	Frankfurt a.M.	0.93
4	Darmstadt	0.93
5	Berlin	0.92
6	Stuttgart	0.91
7	Munich	0.91
8	Düsseldorf	0.90
9	Hamburg	0.90
10	Mainz	0.89
11	Cologne	0.89
12	Dresden	0.89
13	Bonn	0.89
14	Hanover	0.88
15	Augsburg	0.88
16	Ulm	0.88
17	Karlsruhe	0.87
18	Tübingen	0.86
19	Mannheim	0.86

Rank	City	Score
20	Offenbach	0.84
21	Heilbronn	0.84
22	Wiesbaden	0.83
23	Erlangen	0.83
24	Nuremberg	0.83
25	Landshut	0.83
26	Freiburg i. Br.	0.83
27	Fürth	0.83
28	Hanau	0.83
29	Bremen	0.82
30	Regensburg	0.81
31	Lübeck	0.81
32	Ludwigsburg	0.81
33	Kassel	0.81
34	Braunschweig	0.81
35	Erfurt	0.81
36	Münster	0.80
37	Aachen	0.80
38	Bamberg	0.80
39	Osnabrück	0.80
40	Essen	0.80
41	Giessen	0.79
42	Lüneburg	0.79
43	Reutlingen	0.79
44	Oldenburg	0.79
45	Aschaffenburg	0.79
46	Heidelberg	0.78
47	Paderborn	0.78
48	Bielefeld	0.78
49	Mönchengladbach	0.78
50	Leverkusen	0.77
51	Bochum	0.77
52	Wuppertal	0.77
53	Rostock	0.77
54	Neuss	0.76
55	Kiel	0.76
56	Pforzheim	0.76
57	Würzburg	0.76
58	Konstanz	0.75
59	Ludwigshafen (Rhine)	0.75

Rank	City	Score
60	Flensburg	0.75
61	Göttingen	0.74
62	Kempten (Allgäu)	0.74
63	Saarbrücken	0.74
64	Ingolstadt	0.74
65	Magdeburg	0.74
66	Passau	0.74
67	Landau in der Pfalz	0.74
68	Rosenheim	0.74
69	Wolfsburg	0.73
70	Dortmund	0.73
71	Kaiserslautern	0.73
72	Koblenz	0.72
73	Bergisch Gladbach	0.72
74	Halle (Saale)	0.72
75	Marburg	0.71
76	Chemnitz	0.71
77	Jena	0.71
78	Solingen	0.70
79	Fulda	0.70
80	Delmenhorst	0.70
81	Weimar	0.70
82	Mülheim a. d Ruhr	0.69
83	Hildesheim	0.69
84	Krefeld	0.68
85	Trier	0.67
86	Bayreuth	0.67
87	Witten	0.67
88	Worms	0.67
89	Gütersloh	0.66
90	Brandenburg (Havel)	0.66
91	Herne	0.64
92	Bremerhaven	0.63
93	Schwerin	0.63
94	Hagen	0.63
95	Hamm	0.63
96	Duisburg	0.62
97	Oberhausen	0.61
98	Moers	0.61

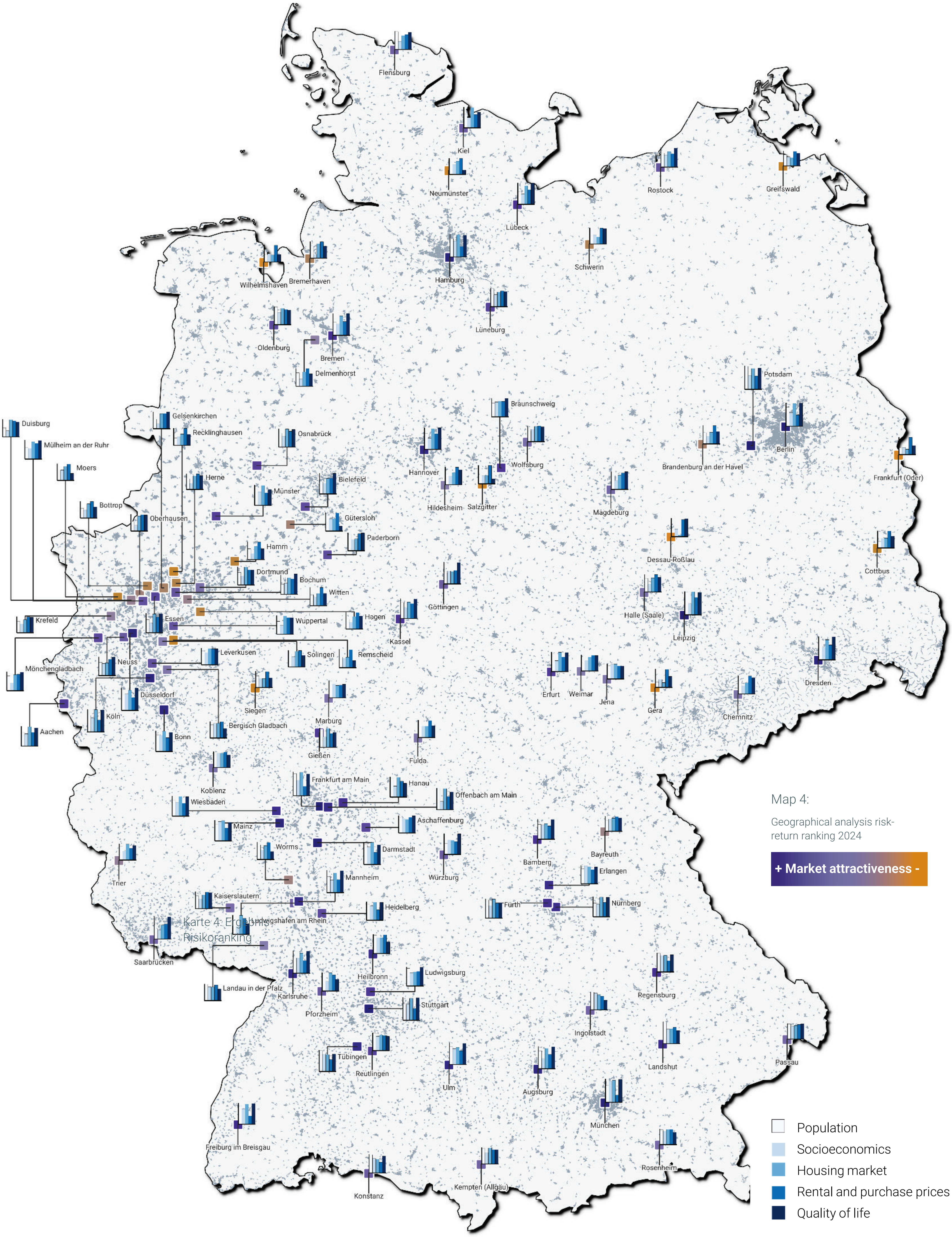
Rank	City	Score
99	Gelsenkirchen	0.59
100	Remscheid	0.59
101	Recklinghausen	0.59
102	Cottbus	0.59
103	Neumünster	0.59
104	Greifswald	0.59
105	Siegen	0.59
106	Bottrop	0.58
107	Salzgitter	0.53
108	Gera	0.51
109	Wilhelmshaven	0.51
110	Frankfurt (Oder)	0.50
111	Dessau-Rosslau	0.49

Table 4:
Attractiveness ranking 2024

(Source: Lübke Kelber Research)

Map 4:

Geographical analysis risk-return ranking 2024



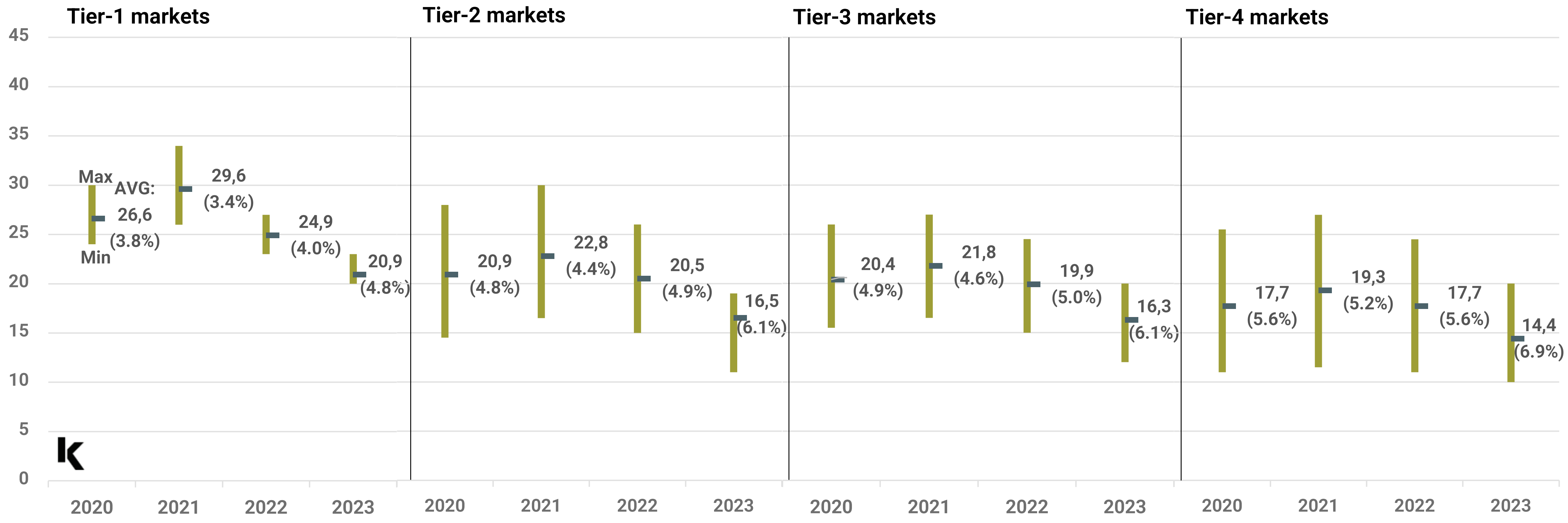
5 Risk-and-return analysis

5. Risk-return analysis

Figure 10:
Purchase price factors compared over time
Existing properties, medium location

(Factors indicate the multiples on the annual gross rent; (GIY in brackets)

Source: Lübke Kelber Research; market-tiers are based on bulwiengesa's definitions)



The get a holistic view concerning the viability of residential investments, we compare the respective locations' risks with the achievable returns.

We define a fair value return for the 111 markets analysed for this analysis, which can be used as a guideline for a risk-adjusted return in each market.

This analysis is based on the yield of the ten-year German government bond, a general risk premium for property and, above all, the risk premium of the individual locations[21]. The defined fair value yields range from 4.7% in Leipzig to 6.8% in Dessau-Rosslau.

5.1 Purchase price multiples and returns on equity

In order to show which cities have the best risk-return ratios, the fair value return is compared with the actually expected returns on equity. For this purpose, cash-flow calculations over a ten-year holding period to have been performed for the 111 cities to determine each market's IRR.

The initial yields and purchase price multiples were established on the basis of market databases, transactions and, above all, the expertise of Lübke Kelber's local consultants. The result clearly reflects the change in market conditions.

We have explicitly taken market evolvements into account in our multiplier analysis and use a purchase factor at which buyers and sellers would agree to a transaction according to our qualified assessment.

On average, these multipliers are 5.4 and 5.3 factors below the 2021 level for existing and new-build construction in medium locations, and 6.6 and 6.1 factors below the 2021 level in good locations. In some cases, there are significant corrections compared to the zero-rates environment. Price adjustments were particularly pronounced in markets where pricing was very high at the beginning of 2022. In some cases, we saw price adjustments of ten or more factors.

This is also due to the fact that the leverage effect of favourable financing from 2021 for high-priced markets and assets has reversed and is now having a disproportionately negative impact on cash flows. By contrast, markets with lower purchase multiples, where running cash flows tend to be higher, were less affected by price adjustments.

21 It should be noted here that the respective risk premiums are not 100% comparable with the previous years due to the adjustment of the methodology

5.2 Determination of the return on equity

In order to calculate the internal rate of return (IRRs) over an assumed holding period of ten years, we performed cash-flow calculations for each of the 111 markets based on the following assumptions.

- Average buildings in line with each market's standard
- No maintenance backlog
- No vacancies
- Good and average locations
- Rental growth in line with market conditions
- Standard fluctuation and indexation
- Debt ratio of 45%
- Interest rate of 3.75% with 1% amortisation

The same assumptions were used for new-built properties, with the difference that there is a higher fluctuation rate and more inflation-linked rental agreements. Standard market property costs were assumed and an exit multiplier that is 10% above the current factor (existing property) or equal to the purchase factor (new-builts).

Results for existing properties

Over a holding period of ten years, the IRR for existing buildings is between 3.85% and 7.5% in good locations and 5.3% and 9.4% in medium locations. These results are quite positive given the current interest rate environment and particularly reflect the now more attractive entry pricing.

During the boom in the low rates environment between 2014 and 2021, total returns for residential property were 13.8% p.a. according to INREV [22]. This was the result of rental growth combined with strong, also interest-rate-driven, yield compression.

A comparison of the expected return with the fair value yields shows that the market has become more attractive again. In many markets, the expected return on equity is once again above the risk-adjusted fair value return.

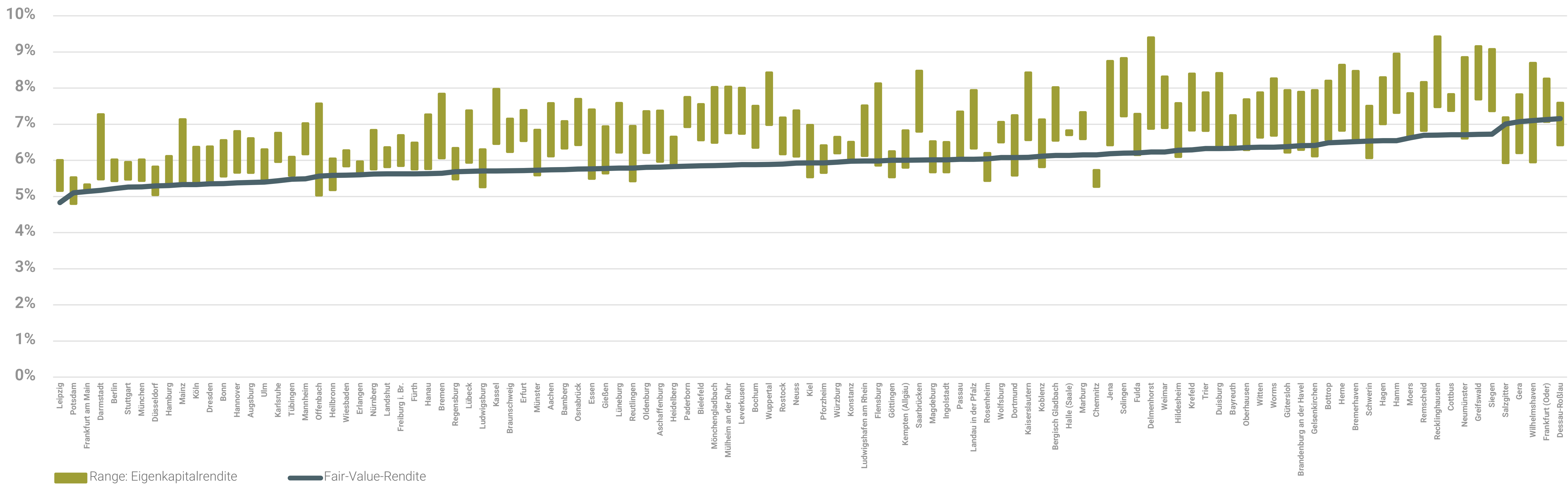
On average across all markets, the fair value yield for existing properties is 5.75%. The range of expected returns by market averages 5.4% for the lower end and 7.3% for the upper end, significantly above the fair value yield.

For investors, this means that the markets in general have become much more attractive again. At the same time,

Figure 11:
Fair value return and expected IRRs, existing stock

Compared to the previous year, residential property investments are once again significantly more attractive

(Source: Lübke Kelber Research)



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however, an in-depth fundamental property analysis is still crucial for investment success when making purchases.

Dedicated local market knowledge, intensive technical and ecological due diligence, realistic assessment of the respective market development (rental market and investment market) and intensive professional advice are key parameters for a successful asset selection.

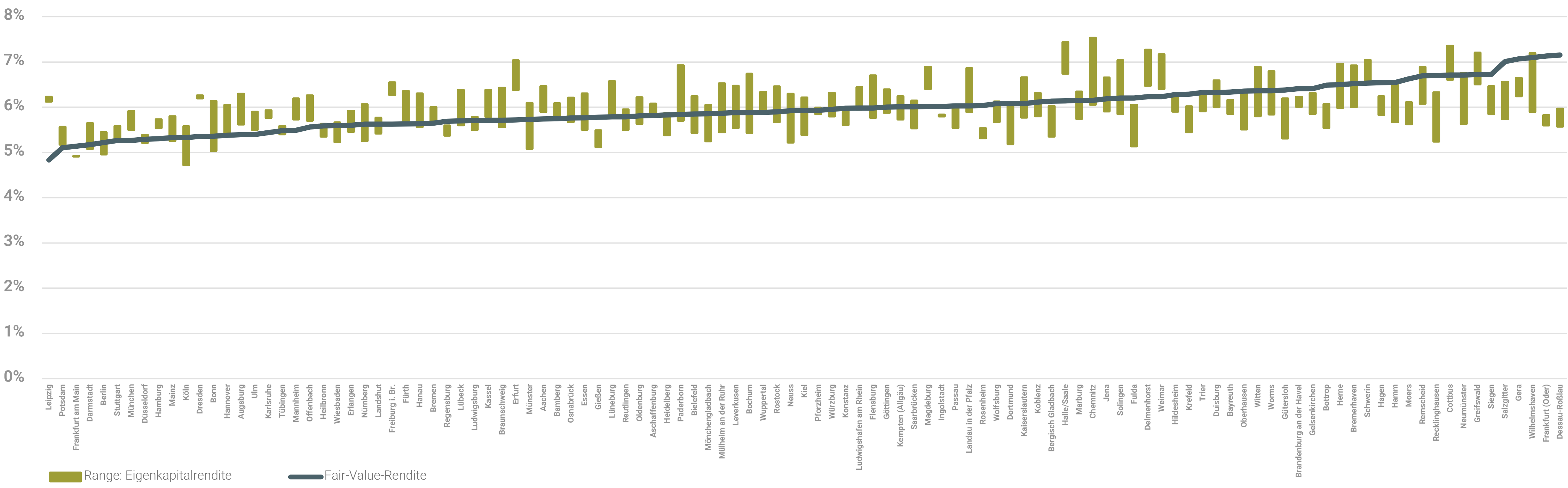
New-built properties

A very similar picture emerges for the new-built segment. However, the expected returns are slightly higher than those for existing properties, despite higher purchase factors. The average of the 111 markets is 5.7% for good locations and 6.3% for medium locations. This is due in particular to the fact that we assume a higher proportion of inflation-linked leases for new-built properties, which has a positive impact on both the cash flow and the exit price.

At a market level, expected IRRs are between 4.9% and 8.7% in good locations and between 4.7% and 8.9% in medium locations. The top 7 markets rank at the lower end of the scale with an average return of 5.5%, which is due in particular to the higher entry factors (lower initial yields).

Figure 12:
Fair value return and expected IRRs, new built properties

(Source: Lübke Kelber Research)



5.3 Results of the risk-and-return analysis

A comparison of the expected returns with the fair value returns allows conclusions concerning the investment prospects of the individual markets. The charts on pages 31 and 32 compare each markets' **over- or underperformance** to the fair value return with the markets' **attract-tiveness**.

The majority of the 111 analysed cities are in a positive return territory, which suggests an above-average overall performance in relation to the risk. On average, this over-performance is 0.8% points.

Winner: Attractive B-markets

The markets with the best risk-adjusted performance are smaller cities with above-average expected IRRs and manageable risk.

As in previous years, the markets with the best risk-adjusted performances are smaller cities that have an above-average expected IRR with average or slightly below-average attractiveness, i.e. higher risk. The performance is primarily due to the relatively low purchase factors (high initial yields), which lead to relatively high total return.

Top 7

Despite very high market attractiveness, the risk-adjusted performance remains below average.

Although the seven top markets are – in some cases significantly – behind the smaller markets in this analysis, they generally have a very high market attract-tiveness. In addition to the A-markets, the upper left cluster primarily contains other markets with relatively high factors (low initial yields), which are often located in the vicinity of the major metropolises.

A number of hidden champions can be identified in this analysis, particularly with regard to risk-adjusted returns. Kassel, Wuppertal, Solingen, Recklinghausen, Saarbrücken and Leverkusen should be emphasised here.

New builds

The distribution of the markets is similar for new-built properties, although the risk-adjusted return is generally somewhat higher. Leipzig is an outstanding market in this respect, with its high attractiveness and top performance.

Similar to the analysis of the portfolio, it is primarily smaller eastern German cities that are less attractive and have a lower expected risk-adjusted return.

Investment highlights

Table 5 highlights the markets with the highest outperformance above the fair value return. The analysis is categorised according to different risk profiles: from low to high risk tolerance for individual investors. The higher the risk appetite or risk tolerance, the more markets tend to come into question as investment locations – and those can potentially deliver a higher return.

It may well be that markets that are attractive to investors with a low risk tolerance also appear as investment picks for investors with a higher risk tolerance. This is the case when the excess return is particularly pronounced. In the analysis, we have divided the markets into "Top 7" (in **bold**) and hidden champions (with an asterisk*), with the latter being classified as tier 3 or tier 4 markets.

Investor risk profile: **Low**
Focuses on market attractiveness and high liquidity

Existing stock	New-built
Darmstadt*	Leipzig
Leipzig	**Munich**
Berlin	Potsdam*
Munich	Darmstadt*
Stuttgart	**Stuttgart**

Investor risk profile: **Average**
Balanced risk/return profile

Existing stock	New-built
Darmstadt*	Leipzig
Mannheim	Dresden
Karlsruhe	Augsburg*
Mainz*	Mannheim
Hanover	Karlsruhe

Investor risk profile: **Pronounced**
Focus on returns at the expense of quality and liquidity

Existing stock	New-built
Wuppertal*	Leipzig
Kassel*	Erfurt
Paderborn*	Dresden
Leverkusen*	Freiburg*
Mönchengladbach*	Augsburg*

Investor risk profile: **High**
Mostly yield driven

Existing stock	New-built
Delmenhorst*	Leipzig
Wuppertal*	Erfurt*
Solingen*	Halle (Saale)*
Recklinghausen*	Dresden
Greifswald*	Freiburg*

Table 5:
Investment highlights: top picks by risk profile

The investment highlights vary according to risk appetite. There are hidden champions in every category.

(Source: Lübke Kelber Research)

Residential investment matrix: Existing stock

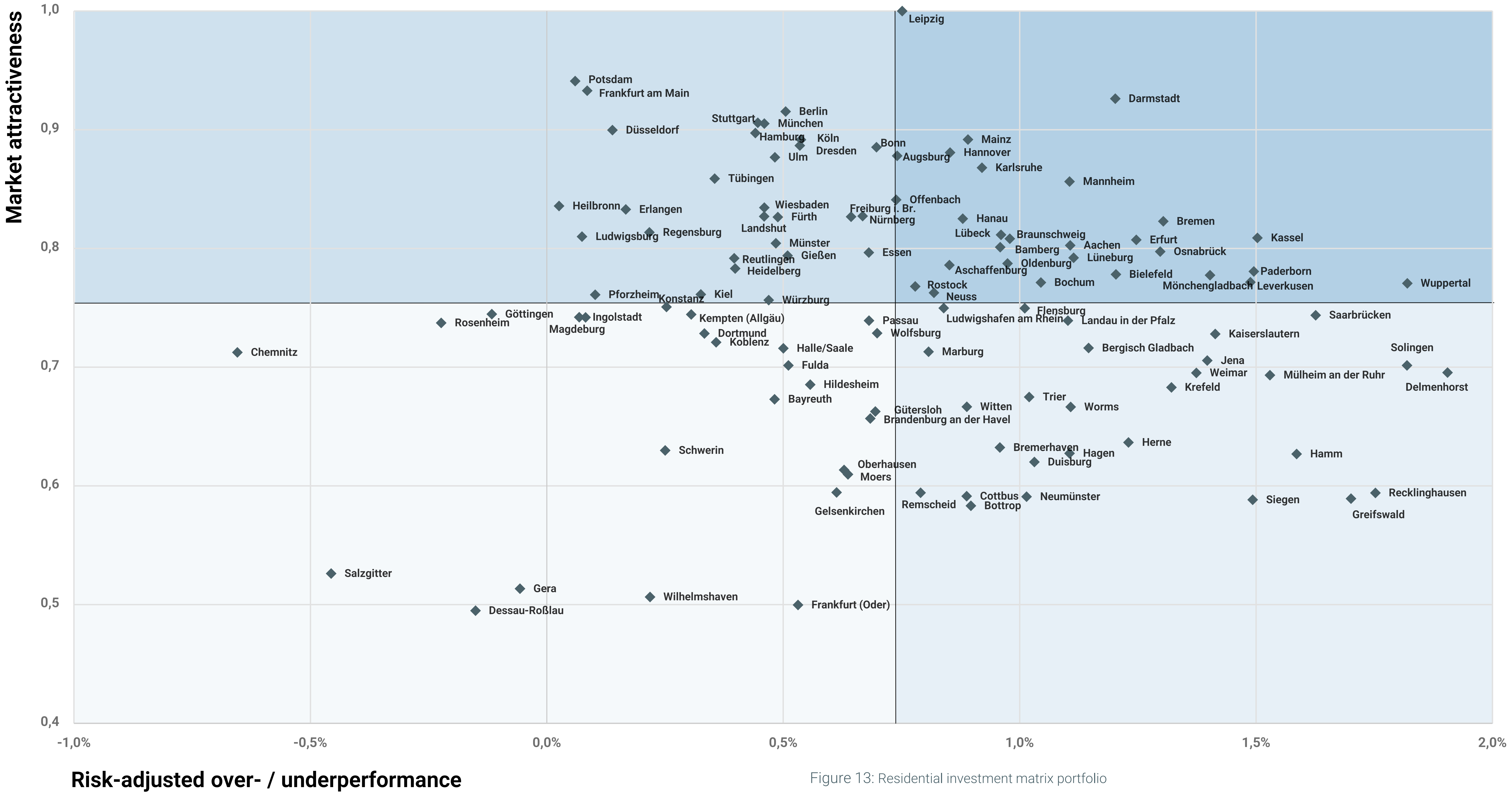


Figure 13: Residential investment matrix portfolio

Comparison of market attractiveness and risk-adjusted over- and underperformance
(Source: Lübke Kelber Research)

Residential investment matrix: new-built

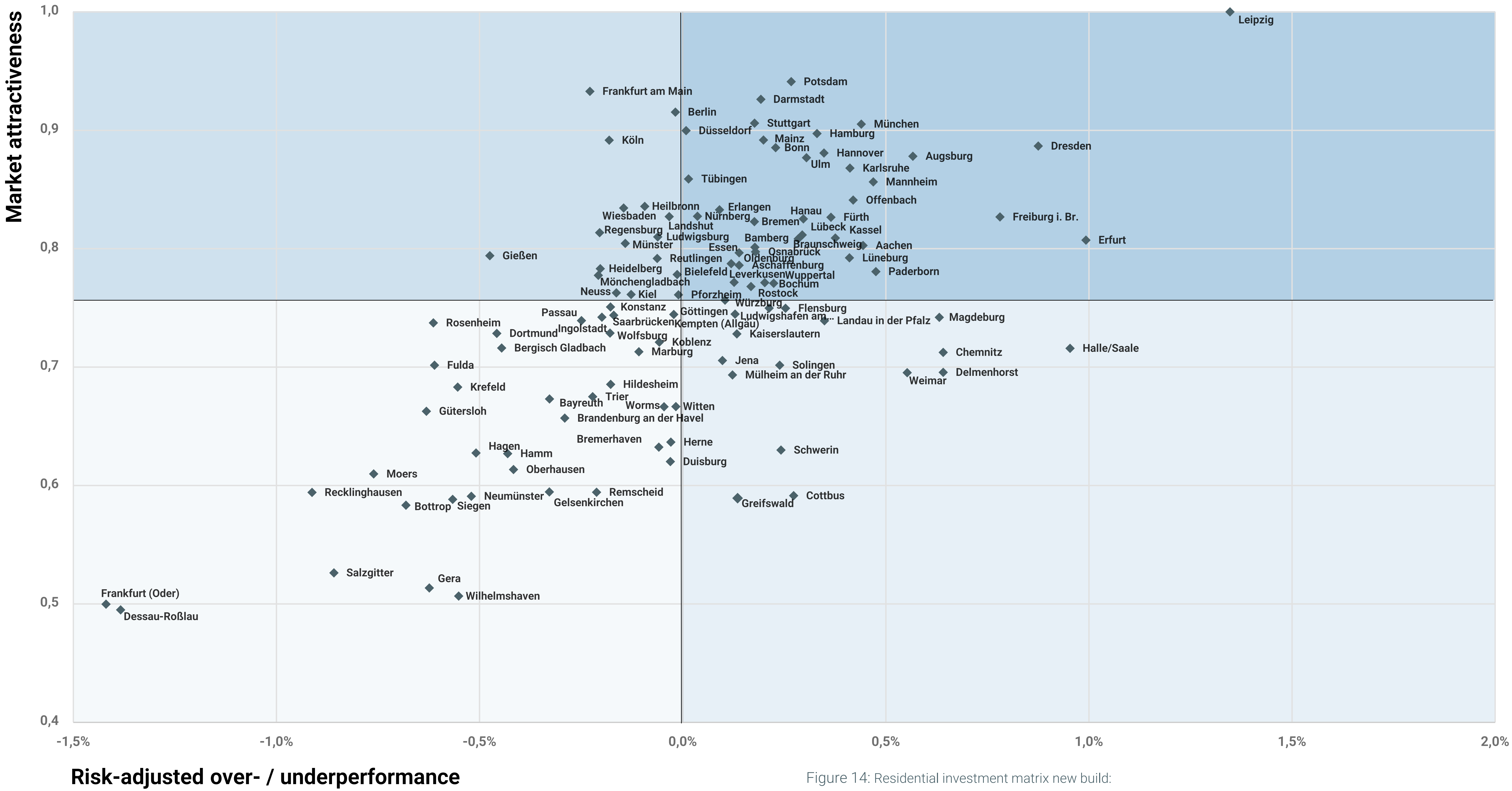


Figure 14: Residential investment matrix new build:

Comparison of market attractiveness and risk-adjusted over- and underperformance (Source: Lübke Kelber Research)

6 Summary and outlook

6. Summary and outlook

Following the massive repricing of residential property in 2022 and 2023, Germany's large and medium-sized cities now have an above-average appeal. With interest rates expected to ease and pressure on residential rents set to continue, the now more sustainable price level represents an attractive entry window – especially if one can operate with little debt financing. We expect that this overall picture will increasingly prompt investors to return from the sidelines and that market momentum will increase noticeably in 2024.

This development is also reflected in the Lübke Kelber Risk-and-return ranking 2024. The order of the markets in the attractiveness and risk scoring of the 111 cities analysed has changed due to the introduction of the "quality of life" indicator. Larger cities in particular have become more attractive. However, there have been no major shifts in the assessment. Last year's top markets remained top markets this year.

Notably though, there have been significant changes on the performance side. Following the steep decline in purchase multipliers over the past two years, the expected overall performance has risen in almost all markets. Most markets are showing an expected total return above the risk-adjusted fair value return for both existing and new-built properties – a buying signal.

The analysis is generally based on certain market standards in terms of property quality and other factors. This means that property-specific risks, for example due to ESG issues, cannot systematically be taken into account.

Overall, we believe that there will be an increasing number of attractive residential property investments on the market in 2024. However, in-depth fundamental analysis is still required in order to correctly assess property and market-specific risks. We also recommend to investors to look for opportunities outside their comfort zone, because markets aside the large metropolises seem increasingly attractive.

There are good arguments why attractive and affordable markets from the second and third row will see increased population and rental growth in the future. Continuing a trend that began in the late 2010s aspects like, affordability issues, a higher flexibility in terms of the choice of residence due to remote work and a environmental aspirations point to stronger growth outside the large metropolises. Tier 2, tier-3 and tier-4 markets are therefore poised to be outperforming investment targets.

Risk-and-return ranking 2024

Contact us

Research team

MARK HOLZ
HEAD OF RESEARCH

Frankfurt
Phone +49 69 99991-314
mark.holz@luebke-kelber.de

MANUEL LINGG
GIS-SPECIALIST |
RESEARCH ANALYST

Frankfurt
Phone +49 69 99991-406
manuel.lingg@luebke-kelber.de

YANNICK SCHMIDT
TRANSACTION AND
RESEARCH ANALYST

Düsseldorf
Phone +49 211 16700 46
yannick.schmidt@luebke-kelber.de

International Desk

SEBASTIAN DORN
EXECUTIVE DIRECTOR

Frankfurt / London
Phone +49 1514 0660098
sebastian.dorn@luebke-kelber.de

c/o Gerald Eve LLP | One Fitzroy,
6 Mortimer Street | W1T 3JJ London
United Kingdom

Residential team

Marc Sahling
CEO | Frankfurt

Christian Dillenberger
Senior Director |
Düsseldorf

Boris Groth
Head of Transaction
Residential | Frankfurt

Laura Grönmeyer
Transaction Manager |
Berlin

Philipp Heckschen
Transaction Manager |
Düsseldorf

André Heinrich
Branch Manager |
Dresden

Kai Hessberger
Branch Manager |
Düsseldorf

Kreso Jerkic
Director Residential
Investments | Düsseldorf

Brigitta Mühlhans
Head of Residential
Transaction | Berlin

Julian Petri
Project Manager |
Frankfurt

Stephan Scheibe
Head of Living | Stuttgart

Jasmin Schuberth
Transaction Analyst |
Stuttgart

Peter Stoffels
Senior Transaction
Manager | Düsseldorf

Stephan Stühler
Senior Transaction
Manager | Stuttgart

Yasmin Tischer
Transaction Analyst |
Dresden

Steffen Wurst
Head of Transaction |
Stuttgart

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GERMAN REAL ESTATE lübke kelber

Dr Lübke & Kelber GmbH

Taunusstrasse 6, SKYPER Carré,
60329 Frankfurt

T. +49 69 99991401-0.
zentrale@luebke-kelber.de

luebke-kelber.de

Frankfurt am Main, Berlin, Dresden,
Düsseldorf, Munich, Stuttgart, London