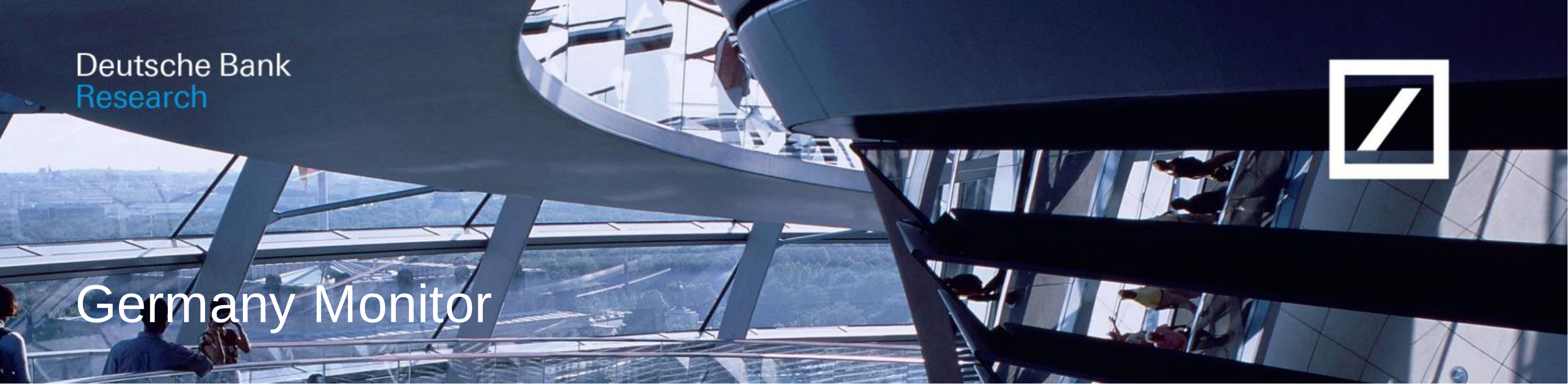

Outlook for the German housing market 2024/2025

Regulatory uncertainty eases. First price rises. Pricing soon to be completed

July 17, 2024

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The big question in the German housing market is when will the price correction end? The current market situation is unclear. Some price indices have continued to decline in Q1 2024. However, the Europace index has been rising again since the beginning of 2024. This housing market outlook provides arguments in favor of both lower and higher prices.

Our fair value prices based on a net present value model indicate that a further price correction may be necessary. This means that substantial rent and / or price increases are required to cover the financing costs.

However, numerous factors suggest that all price indices will soon rise. Key interest rates are already falling. The interest rate peak for long-term mortgage rates is probably also behind us, although we only expect a sideways movement until the end of 2025.

At the same time, inflation is high. This contributes to the market correction through a loss of purchasing power, it helps with repayments, makes loans cheaper and tends to increase rents. Existing and new rents have recently risen sharply. Over long periods of time, house prices tend to rise faster than inflation.

Probably the most important reason in favor of prices rising again is the continuing high fundamental shortage of supply. Our projections show that this trend will persist in many cities well into the next decade and beyond. In some metropolitan regions and large cities, shortages are continuing to increase, in some cases even rapidly.

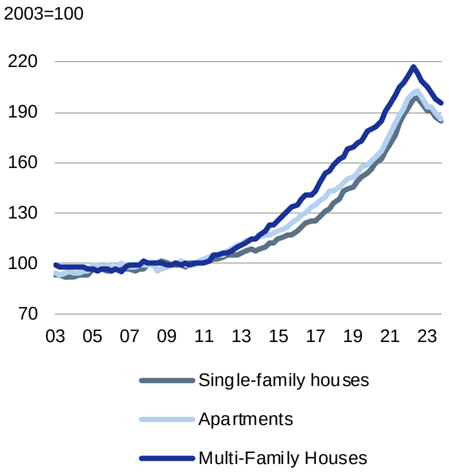
However, there are no bottlenecks either nationwide or in Germany's eleven metropolitan regions on the whole. There is great heterogeneity between the typically economically strong and less dynamic regions. This is likely to increase further in the coming years.

Furthermore, the regulatory uncertainty that contributed to investor restraint in 2023 is decreasing. The Heating Act is likely to be less strict than initially assumed because it will ultimately have to be implemented at local level.

In addition, CO_2 emissions fell more sharply than expected in 2022 and 2023. Consumption savings may well be an important component in meeting climate targets. The rule of generating 65% of heat with renewable energies could therefore de facto become less important.

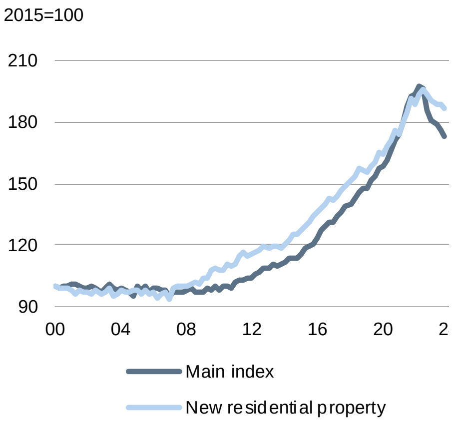
Cost pressure due to higher interest rates and regulation has awakened the spirit of innovation and entrepreneurship. Investors are optimizing their portfolios in terms of energy consumption, rent increases, tax and financing. This could also be part of the solution and herald the end of the pricing phase. House prices are likely to grow faster than inflation over the coming years.

vdp Residential property price indices 1



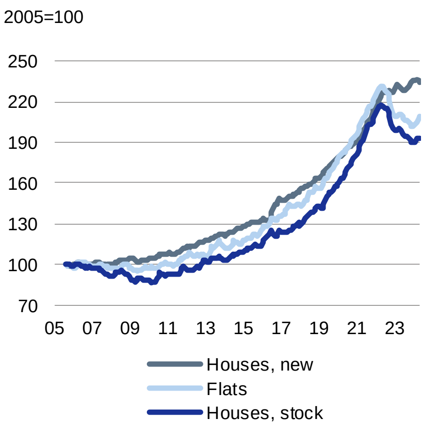
Sources: Deutsche Bank Research, vdp

Destatis price index for residential 2



Sources: Deutsche Bank Research, Statistical Office Federal Office

Europace: Hedonic house and house prices 3



Sources: Hypoport, Deutsche Bank Research

1. Looking back to 2023

The housing market was characterized by an interest rate shock of historic proportions. In addition, many investors were surprised by the potential refurbishment obligation in the Building Energy Act, which we had already pointed out in our 2021 Housing Market Outlook. This double shock paralyzed the housing market. The transaction volume plummeted. In 2023, the number of purchases of building land and new lending was around 60% lower than in 2021. But 2023 was also a challenging year for us. We expected key house prices to bottom out as early as summer 2023, based on five key arguments: A strong inflation-adjusted price correction, negative real interest rates, long-term inflation protection provided by real estate, accelerating rental growth and, above all, a high fundamental supply shortage. However, prices continued to fall in the second half of 2023. Our forecast may have been too optimistic due to the following three factors. Firstly, the weak economy in 2022 and 2023 probably played a role. The rising unemployment rate weighed on the outlook. Some investors expected an even greater deterioration in the labor market due to the recession, which would have a negative impact on demand for housing. Secondly, economic policy uncertainty and the public disagreement within the coalition of traffic lights also caused uncertainty. As the heating law also focused on the housing market, many investors took a wait-and-see approach. Thirdly, and probably most importantly, interest rates at the short end rose more sharply than expected. The interest rate peak was not reached until September 2023. These factors probably explain the further fall in prices in the second half of 2023.

2. Historical and national, absolute and relative price comparisons

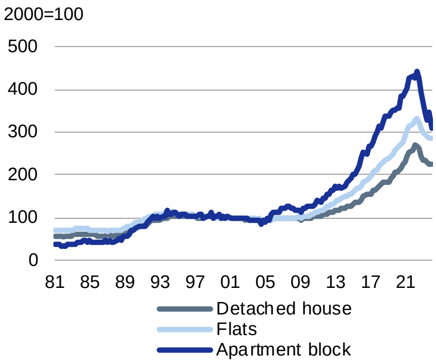
National price indices indicate unclear situation in 2024

Prices have been falling since reaching their all-time high in spring 2022. However, it is unclear how much. From the all-time high in 2022 to the low point, the nationwide index of the Federal Statistical Office fell by 14%, the vdp index by around 8% and the Hypoport index by 7%. The Hypoport index bottomed out in December 2023, but prices have since risen again, by 2%. During the market correction, the prices of newer properties fell significantly less than older properties or even rose. This additional discrepancy is probably a consequence of the Heating Act. We describe details and recent developments in the third section. There were also varying degrees of price declines between the individual asset classes. For example, prices have typically fallen somewhat more sharply for flats than for houses. The vdp index shows a fall of just over 8% for multi-family houses. There are therefore considerable and unusually large differences between the indices. These probably also reflect the high level of uncertainty over the last two years.

There are even greater differences between the price indices for large cities. The vdp index shows the smallest fall, with a drop of 8-9% for all asset classes including multi-family houses. For houses and flats, Hypoport shows a drop of 10% and 13% and the Federal Statistical Office of 16% and 12%. The Greix shows the strongest price correction. It has been calculated for 19 cities since May 2023. According to this, prices for houses fell by 17% and for flats by 13%. The Greix even shows a substantial 30% drop for multi-family houses.

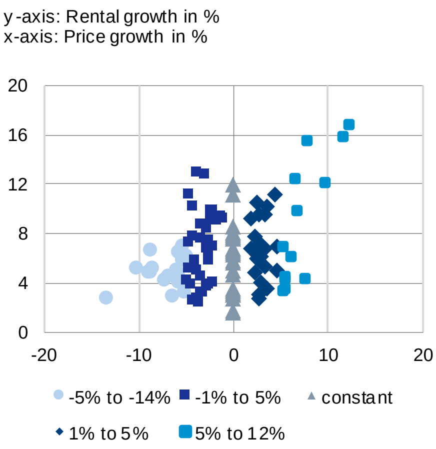
What can explain the differences? Our analysis shows that the quality correction is less successful with data from appraisal committees than with mortgage

Greix price indices 4



Sources: Deutsche Bank Research, Greix

2021-2023 Apartment prices vs. Existing rents for five price development groups 5



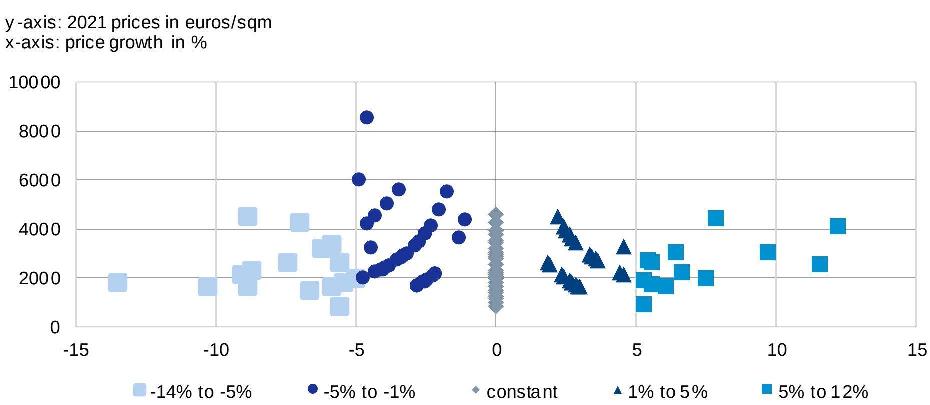
Sources: bulwiengesa, Deutsche Bank Research

data.[1] This could explain why the indices from the Federal Statistical Office and Greix tend to show sharper price falls than the indices from Hypoport and the vdp, which are based on mortgage data. This is particularly true in light of the Heating Act and the revaluation of properties with high CO_2 emissions. In addition to the different data quality, the high level of uncertainty about the current and future market situation and the significantly lower number of transactions could also contribute to the different developments in the price indices. For those who consider the Greix to be adequate, the question also arises as to why this index shows particularly strong price increases during the boom. For example, prices for multi-family houses quadrupled from 2009 to the peak in 2022.

2021-2023 High heterogeneity for rents and flat prices in 126 cities

The bulwiengesa data shows just how differently the interest rate and uncertainty shock affected different regions. Existing rents rose sharply in all 126 cities between 2021 and 2023. On average, an increase of around 7% was recorded, slightly more in the A and B cities and slightly less in the C and D cities. Double-digit rent increases were recorded in Potsdam and Leipzig and the lowest in Plauen and Neubrandenburg. Higher rents also tended to lead to higher prices for flats or lower price declines. However, there is great regional heterogeneity here. For example, prices for flats in Neumünster, Ingolstadt, Siegen, Bremerhaven and Witten fell by around 10% over this two-year period. In contrast, prices in Potsdam, Leipzig, Aschaffenburg, Berlin and Brandenburg an der Havel rose by around 10%. Overall, prices continued to rise in 39 cities. It is also interesting to note that in the expensive cities with high prices per square metre and typically a high fundamental shortage of supply, there were only small percentage price changes, both upwards and downwards. In locations with lower prices per square metre, the percentage price falls and rises were significantly greater. We suspect that regional factors as well as sentiment explain this divergence given the complexity of the market situation.

2021-2023 Growth in prices for flats vs. 2021 prices 6

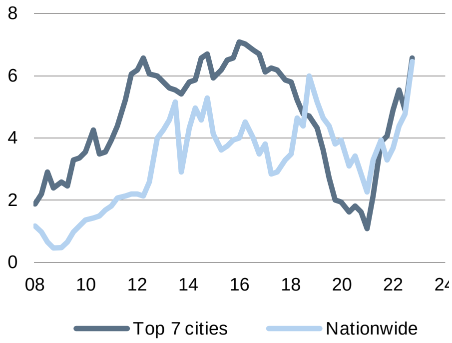


Sources: bulwiengesa, Deutsche Bank Research

[1] A detailed analysis of these indices can be found in "Price slump or dip on the German housing market? Analysis of different price indices", Deutsche Bank Research, April 2024.

New contract rents from Apartment blocks 7

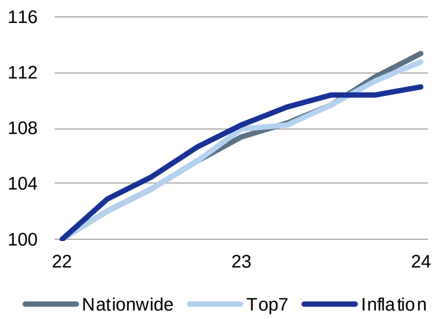
in % compared to previous year



Sources: Deutsche Bank Research, vdp

New contract rents vs. inflation 8

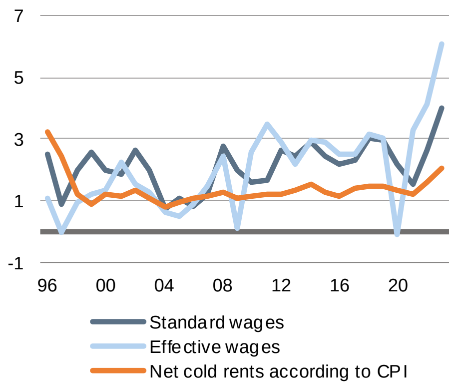
2022=100



Sources: Deutsche Bank Research, Statistical Office Federal Office, vdp

1996-2023: Wages vs. rents 9

in % compared to previous year



Sources: Deutsche Bank Research, Federal Statistical Office

Rents should continue to rise despite the strict regulatory environment

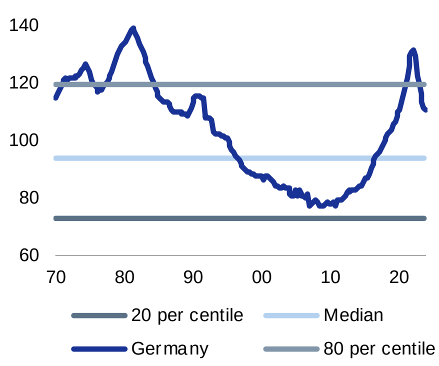
The fundamental supply shortage and the interest rate shock boosted demand on the rental flat market in 2022 and 2023. According to the vdp, new leases for multi-family houses increased by around 13% from Q1 2022 to Q1 2024, both in the major cities and nationwide. The sharp rise in inflation probably also had an impact here. However, inflation has slowed since summer 2023, while new leases have continued to rise. Rents are therefore likely to largely reflect the structural supply shortages, which argues in favor of permanently higher rental growth. If they continue their trend, they will grow by 4-5% per year. Rents of existing contracts are also rising. During the boom years, there was a significant divergence between new and existing rents, which is likely to be reflected arithmetically in higher existing rents in the future. Stronger wage growth and inflation above the target rate could also boost rental growth in the coming years. Net rents in the consumer price basket stood at 2.3% in April 2024. Other factors that could increase rents include a higher proportion of index-linked leases, which are likely to be agreed more frequently than in the past in the current situation on the rental housing market and in view of the recent surge in inflation. In addition, our perception is that the proportion of short-term rentals and furnished rentals is increasing in large cities and conurbations. As predicted last year, we believe it is likely that existing rents will continue to rise. This means that the social issue is likely to remain at the centre of housing policy. However, it should be noted that growth in collectively agreed and effective wages has typically exceeded rental growth by one percentage point per year in recent decades. In 2023, the difference was even several percentage points. In addition, 46 million people are currently in employment, a new record high. The rent burden ratio of private households has therefore changed relatively little on average. According to the 2018 and 2022 micro-census, this ratio, defined as gross rent to net household income, averaged 28.6% and 27.9% respectively. According to the OECD, the housing expenditure of German households in relation to disposable annual household income tends to be in the lower midfield in an international comparison. However, the coalition saw a further need to regulate rents, particularly in markets with a housing shortage. As provided for in the 2021 coalition agreement, it was decided to extend both the rent freeze and the observation period. The implementation of the reduction of the rent cap from 15% to 11% agreed in the coalition agreement and other measures are currently the subject of intense debate within the coalition. We assume that they will not be implemented.

Affordability indices close to the historical average

The average nationwide price decline also led to lower economic valuation ratios over the last two years. The OECD calculates affordability indices for 21 countries from 1980 to 2024, with the historical averages of the national indices standardized to 100. From the price peak in 2022, the price-to-rent ratio fell from almost 132 points to 123 at the end of 2022 and to 110 points in Q1 2024. This index thus also fell well below the threshold of 121 points that we identified as a reference point for overvaluations in the 2021 housing market outlook. The price-to-income ratio also declined. The index fell from 115 points to just over 100 points in 2022 and then further to 91 points in Q1 2024. This means that, as before the pandemic, German house prices in relation to income are once again below their historical average. However, these national indices do neither reflect the bottlenecks in the large cities nor the relatively relaxed fundamental situation in regions with a weak infrastructure.

1970-2024 Price-to-rent percentile based on OECD countries 10

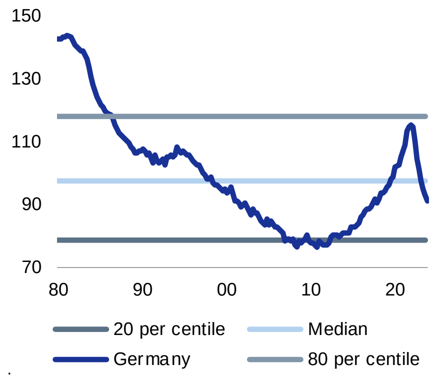
dimensionless



Sources: Deutsche Bank Research, OECD

1980-2024 Price-to-income ratio percentile based on OECD countries 11

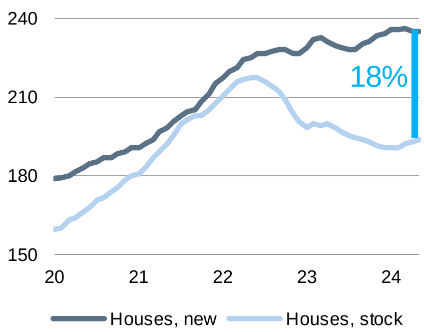
dimensionless



Sources: Deutsche Bank Research, OECD

Hedonic house price indices 12

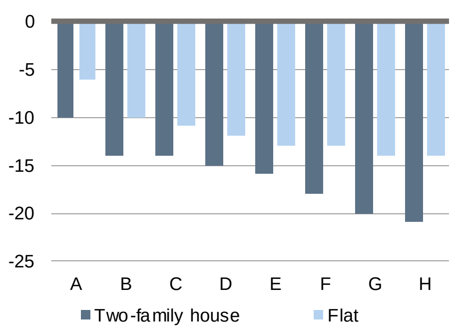
2005=100



Sources: Deutsche Bank Research, Hypoport

2023: Price reductions compared to Final energy efficiency class A+ 13

in %



Sources: Deutsche Bank Research, vdp

3. The influence of climate policy on the German housing market

The Heating Act unsettled investors and the higher refurbishment costs dampened prices. As a result, prices for newer and older properties diverged. According to the Federal Statistical Office, prices for new residential properties fell by 5% between spring 2022 and Q1 2024, while prices for existing properties fell by 15%. According to Hypoport, prices for older homes fell by around 13% between spring 2022 and December 2023, while new homes actually became 4% more expensive. The sharp price declines in 2022 and 2023 for older buildings with potential refurbishment obligations may explain why, according to the OECD database, prices fell more sharply in Germany than in the other 33 countries analyzed, despite a very similar interest rate shock.[2] A vdp study, which calculates price discounts by energy end-use efficiency class relative to efficiency class A+ for 2023, supports this assumption. According to the study, the discount for efficiency class A was -10% for two-family houses and -6% for flats, while efficiency class H saw a drop of 21% and 14% respectively. For 2022, the HWWI calculated square meter prices for flats with and without mandatory refurbishment. Here, too, properties subject to mandatory refurbishment will see substantial discounts of between 11% and 20%, depending on the large cities. In our estimation, a large part of the refurbishment costs has probably been priced in. If, as in the last two years, energy and CO_2 consumption falls systematically – even without a massive expansion of renewable energies in existing buildings – this could lead to an amendment of the Heating Act and the 65% target. In this case, buildings with low efficiency classes could also be undervalued, as refurbishments would not have to be carried out until much later. It is possible that, due to the many current experiments, the innovations will have matured into series products and the conversion to a low-emission building stock will be significantly more cost and energy efficient than it is today.

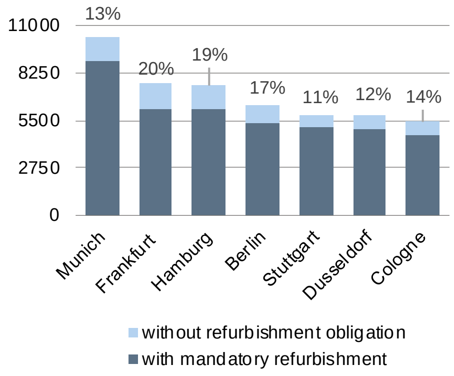
Positive surprise for CO_2 emissions in the building sector

In 2020 and 2021, emissions were significantly higher than the target path set out in the Climate Protection Act. However, there was a significant reduction in 2022 and 2023. Emissions fell by around 7% in both years compared to the previous year. Both the higher energy prices and the high level of media

[2] See "An interest rate shock disaster? No, absolutely not", February 2024, Deutsche Bank Research.

2022: Average price differences of condominiums with and without refurbishment obligation 14

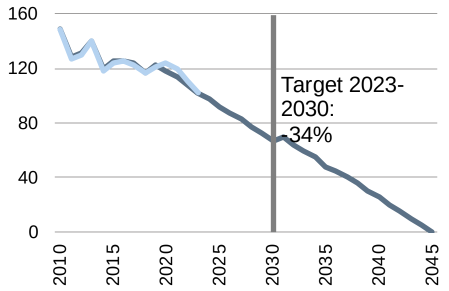
Bar: EUR per square metre. Refurbishment costs to price without refurbishment in %



Sources: Value AG Marktdatenbank, HWWI

2010-2045 Greenhouse gas emissions: Actuals and targets in the building sector 15

in million tonnes of CO_2 equivalent



Source: Federal Environment Agency

attention during the energy crisis in 2022/23 are likely to have contributed significantly to this. The Heating Costs regulation, which obliges landlords to inform tenants about energy prices, consumption and emissions, could also play a role. In addition, the regulatory uncertainty caused by the Heating Act and the European Buildings Directive may have been significant.

There is probably even greater potential for savings. In our opinion, the construction industry is currently in an experimental phase. We are hearing about low-CO_2 building materials, including low-CO_2 cement, heat pumps with high annual performance factors of over 4, landlords who can offer their tenants cheap electricity and heat thanks to PV, batteries and infrared heating, landlords who operate local combined heat and power plants as a neighborhood solution, and many other examples. Intensive research is also being carried out to improve existing and new battery technologies. As in the past with electrical appliances, computers and cars, we can expect storage capacities to continue to improve significantly for home storage systems in the coming years.

The most significant development is probably smart home solutions in large multi-family houses. They may be able to significantly reduce consumption thanks to intelligent windows and heating systems. The greatest savings could be made by installing intelligent valves to control heating systems. These are not installed in the flats, but in the corridors. This seems possible without the consent of the tenants, which saves time and money. If the heating systems are then controlled with AI solutions depending on building utilization, weather, time of year and holidays and other factors, consumption could be substantially reduced. Several investors told us about consumption reductions of 30-50%.

According to KSG, we previously believed that the emissions targets for 2030 were unattainable. Now, however, due to the surprisingly strong decline in emissions in our view, and the numerous process and product innovations described, we no longer rule this out. By 2030, emissions only need to fall by a cumulative 34%, i.e. around 5% p.a., which is less than in 2022 and 2023. This is undoubtedly still a major challenge. However, if this could be achieved to a large extent via smart home solutions and not by replacing heating systems, the high investment costs and shortages of skilled labor that have prevented many projects to date will become less significant.

This could lead to a regulatory paradox. This is because the main political objective of reducing emissions and complying with the Climate Protection Act would be fulfilled. At the same time, however, the Heating Act and in particular the regulation that 65% of heating systems must be operated with renewable energies could become obsolete. This regulation could in fact only become necessary once the reduction in consumption of existing heating systems has been exhausted. The legislator could then amend the Heating Act to allow the regulations to take effect at a later date.

At European level, too, the initially very restrictive regulations were ultimately not incorporated into the Buildings Directive. In particular, the directive adopted in April 2024 does not include any refurbishment obligations for buildings with high CO_2 emissions by 2030 and 2033. This would have tended to place a burden on low-income tenants and owners. Now, the average primary energy consumption in the housing stock must be reduced overall by 16% by 2030 and by at least 20% by 2035. The realization of these targets appears possible, particularly after the savings in 2022 and 2023. Overall, the adopted directive is also less detailed than the first draft. On the contrary, it is very forward-looking. It calls on each country to develop long-term renovation strategies, building certificates and a building database. So not only have achievable targets been adopted, but the information basis for customized regulation may also have been created.

4. Determination of fair prices using a present value model

Basic assumptions for the present value model 16

in % p.a. exceptions are marked

Prices and rents	
Price growth	4.2%
Rental growth	2.0%
Auxiliary costs in %*	10%
Asset management variables	
Administrative costs	2%
Maintenance costs	10%
Rent losses	2%
Apartment	
Plot in sqm	600
Living area in sqm	75
No. of units in MFH	9
Total area in sqm	675
Mortgage	
Equity in %**	20%
Mortgage rate	1.19%
Repayment	2.00%
Tax and depreciation	
Tax write-offs	2%
Tax rate	25%
Discounting factor	
Bund yields	0.50%
Risk premium in basis points	367 Bp

*of net purchase price
**of gross purchase price
MFH=multi-family house

Source: Deutsche Bank Research

Here we calculate fair prices for average flats in 126 cities. As in the Housing Market Outlook 2022, we assume the purchase of a flat in an apartment building with 675 square meters, in which there are 9 flats of 75 square meters each. The plot size is 600 square meters. The purchase is made in each of the 126 cities at the market price per square meter per year. The ancillary purchase costs amount to 10% of the net purchase price. We assume a holding period of 50 years. The property is then sold at market value, with annual price growth increasing the market price. The gross purchase price is financed with an equity share of 20%; the interest rate is the ECB's current benchmark interest rate for 5-10-year mortgage loans. We assume an annual growth rate of 3.8% for the entire investment period of our forecast for the end of 2024 and 2025. We also assume an amortization rate of 2% per year. Consequently, the loan is paid off after 50 years. The rent is at the level of new contract rents in 2023 and we assume constant annual growth. Operating and administrative costs, maintenance costs and rent losses reduce the gross annual rent by a total of 14%. The net rents must cover interest, amortization and taxes. What remains of this – the annual cash flow – flows to the owner. Interest on loans and tax depreciation reduce the tax burden. We assume a tax rate of 25% for capital gains tax, which is higher than the 15% corporation tax for funds but is regularly lower than income tax rates. For tax depreciation, we calculate the book value of the flat excluding the land value and depreciate this using the declining balance method at 2% per year. We have left the discount factor for discounting future cash flows at 4.2%, as in 2022. The interest rate shock favors a higher discount factor, but the expected return on equity is likely to have fallen significantly. Using a weighted average cost of capital (WACC) approach[3] to determine the discount factor and assuming borrowing costs of 3.8%, the return on equity halves from 17% in 2022 to 9% in 2024. We consider this to be a reasonable approach given the changed market situation. Methodological details are set out in the Housing Market Outlook 2022.

Based on this model, we calculate the price decline due to the interest rate shock and possible adjustments that increase the fair prices again. The starting point is the basic assumptions from the Housing Market Outlook 2022, according to which the fair price was around EUR 2,800 and thus exactly the average price per square meter of the 126 cities in 2021. The fair price then fell in several stages. It only falls to EUR 2,100 as a result of the jump in mortgage interest rates to 3.8%. Due to the end of the boom, we also reduce the future assumed growth in house prices. We reduce it from 4.2% to 3.7%, which corresponds to the historical average of the last five decades. As a result, the fair price falls to EUR 1,600.

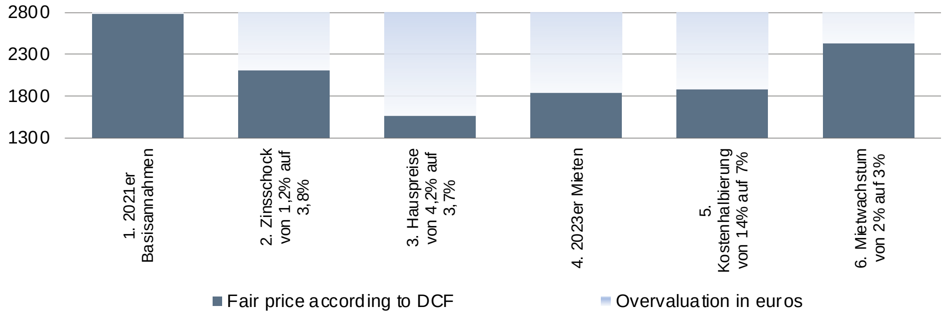
According to bulwiengesa, after the all-time high of almost EUR 3,000 in 2022, the average price in 2023 will again be EUR 2,800. This means that the market would still be massively overvalued despite the price decline. We now describe a series of measures to fill the gap. With the increase in rent levels from 2021 to 2023, the fair price rises to EUR 1,800. Many investors are now likely to enforce much greater cost discipline. Assuming a halving of operating, administration and maintenance costs and also a halving of rent losses, the total cost share falls from 14% to 7%. The fair price therefore increases to EUR 1,900. Last but not least, we believe that strong rental growth is likely. We increase it from 2% to 3%. This increases the fair price to EUR 2,400.

[3] Weighted average cost of capital = equity ratio* return on equity + debt ratio* borrowing costs * (1 - tax rate)

2021-2024 Successive valuation changes: 1st to 6th stage

17

y-axis: in EUR/sqm
x-axis: levels of change



Source: Deutsche Bank Research

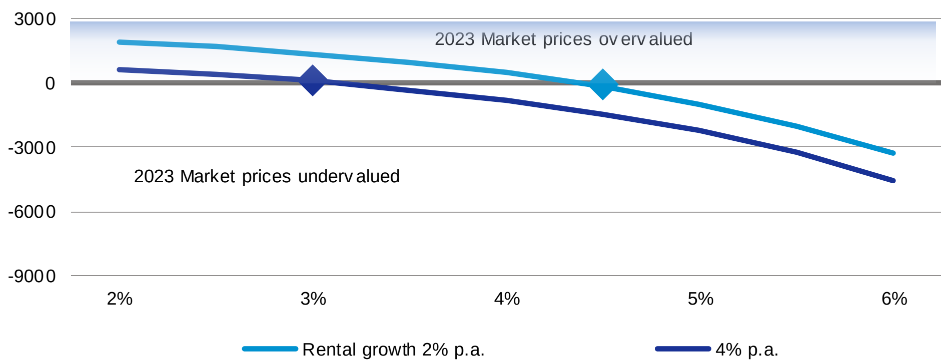
Even under these assumptions, there would currently be an overvaluation and the correction of market prices would have to continue. The gap that exists under our assumptions may be closed by entrepreneurial activities. We see many investors who are now managing their portfolios much more actively than during the low-interest phase. Energy consumption is being reduced in order to reduce CO_2 emissions and make the buildings fit for the future, as well as with the aim of being able to charge a higher net cold rent. Existing properties are being examined with regard to the potential for rent increases and tax optimization measures are increasingly being used. These entrepreneurial approaches could help to further close the valuation gap calculated here.

In addition to the step-by-step analysis, chart 18 shows the combinations of price and rental growth that led to fair prices as well as overvaluations and undervaluations. The valuation is plotted on the y-axis and price growth on the x-axis. The curves show the valuations for constant rental growth of 2% and 4% per year. Fair valuations are available at the intersections with the x-axis. With rental growth of 2%, this applies to price growth of 4.5%. With rental growth of 4%, the intersection point is at a price growth of approximately 3%. Negative values imply overvaluations and positive values imply undervaluations.

Modelled fair price vs. market price in 2023 for 126 cities

18

y-axis: overvaluation in EUR per square metre, x-axis: price growth in % p.a.

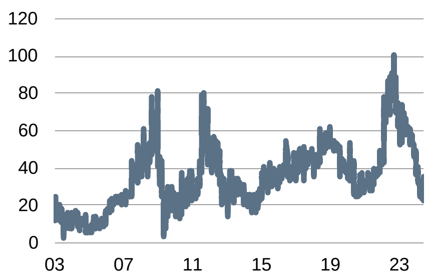


Sources: bulwiengesa, Deutsche Bank Research

Note: Diamonds are mentioned in the text.

10-year swap spreads 19

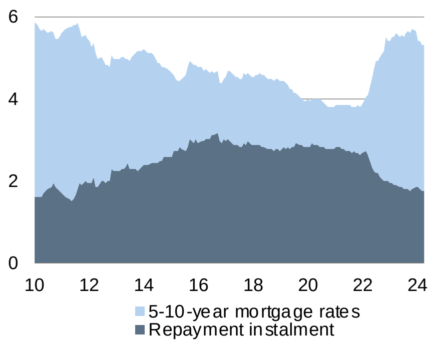
Basis points



Sources: ECB, Deutsche Bank Research

Repayment and mortgage interest 20

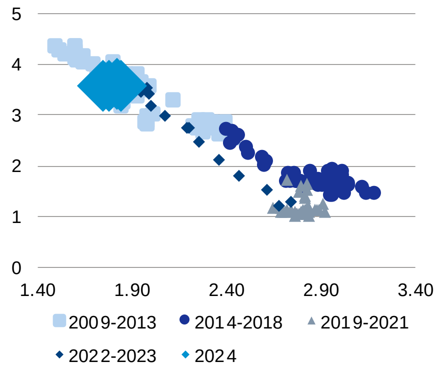
in % p.a.



Sources: ECB, Dr Klein, Deutsche Bank Research

Repayment vs. mortgage interest 21

in % per year



Sources: ECB, Dr Klein, Deutsche Bank Research

Census 2022: Massive reduction in the number of inhabitants for the year 2022 22

Following the publication of our article "Population forecast and housing market until 2040" on June 25, the Federal Statistical Office has published a new estimate of the population. Based on the 2022 census, there were only 82.7 million people living in Germany in 2022, 1.4 million fewer than previously estimated. Contrary to our calculations, these new figures mean that there are unlikely to be any shortages on the housing market in some districts. In almost all economically strong metropolises and metropolitan regions, this lower population figure is likely to only alleviate, but not eliminate, the bottlenecks.

Source: Deutsche Bank Research

5. Interest rate and credit outlook: New lending business picks up again

In Germany, loans with a term of five years or more account for around 75% of new lending business. The focus is therefore traditionally on long-term interest rates. There has been some positive momentum here recently. For example, the spread between 10-year swap rates and 10-year Bund yields fell almost steadily from over 90 bp in the winter of 2022/23 to the current historical average of around 30 bp. In addition, 10-year Bund yields initially reached their cyclical high of almost 3% in Q4 2023, only to fall to well below 2% just a few weeks later. As a result, 5-10-year mortgage rates fell from almost 4% in Q4 2024 to 3.6% in Q2 2024 and credit growth shifted up a gear again. It increased by 12% in Q1 compared to the previous quarter and reached its highest level since Q3 2022 with more than EUR 44 billion in new lending business. In April, it developed dynamically again. If this volume is repeated in May and June, the new lending business will increase to over EUR 50 billion in Q2 (all-time high Q1 2022: EUR 84 billion). Demand is also likely to have been further boosted by the decline in repayment instalments. According to Dr Klein, the repayment rate fell from 2.7% before the interest rate shock to 1.7% in May 2024, the lowest value since 2011. This means that interest and repayment in a classic annuity loan fell from 5.8% at the end of 2023 to 5.3% in 2024. These developments have supported the mortgage market.

However, further impetus is likely to be limited. Firstly, there has historically been a close correlation between interest rates and amortization. The rule of thumb is: if mortgage interest rates are up by 2%-points means repayment instalments will decline by 1%. Before the boom in 2009, amortization rates were around 1.5% per year. They are therefore unlikely to fall any further. For 10-year interest rates, we expect Bund yields to move sideways at 2.7% and swap rates at 3% until mid-2025. We therefore continue to expect 5-10-year mortgage rates to be at 3.8% at the end of 2024 (as we forecast since April 2023). Interest rates are also likely to remain relatively stable at this level thereafter. A fall would probably require an end to high inflation. However, we forecast inflation rates of 2.2% and 2.1% for 2024 and 2025. On the other hand, the potential for interest rate hikes is likely to be limited by an otherwise potentially sharp increase in macroprudential risks.

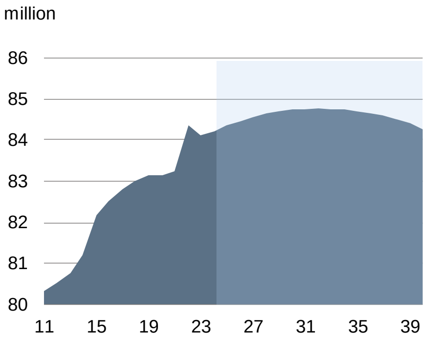
6. Regional and nationwide fundamental supply shortage

The following results summarize the study "Population Forecast and Housing Market to 2040", in which we calculate detailed supply and demand trends both nationwide and for all 400 districts.

The national population will grow by 2032

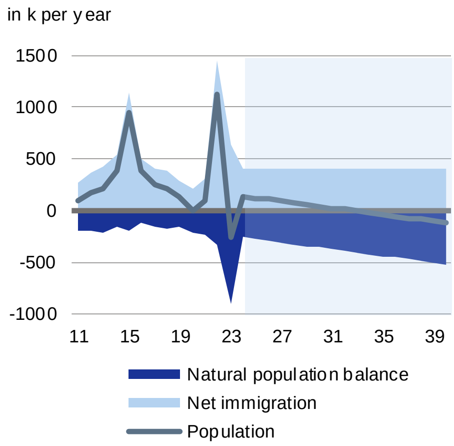
A key driver of housing demand is the number of people. In particular, immigration increased the population in 2023 from 84.4 million to 84.7 million. In view of the geopolitical tensions and the strong immigration over the last 15 years, which has averaged well over 400,000 people per year, we are raising our forecast from around 320,000 to 400,000 people. Natural population growth was particularly negative in 2023. The number of births fell to around 690,000, while in previous years there were always more than 700,000, in some cases almost 800,000 babies born. On the other hand, the higher average age and probably also the pandemic increased the number of deaths. As a result of both developments, the natural population balance fell to less than -300,000 people in 2023, a record low. Before the pandemic, the balance was typically around -170,000 people. This decline is likely due in part to the high level of uncertainty surrounding the pandemic and the start of the war in February 2022. We therefore expect a slightly higher natural population balance of -260,000 people again in 2024. According to our forecast, it will then gradually decrease to less than -500,000 people in 2040. As a result of immigration and natural development, the population initially rises to 85.4 million inhabitants by 2032. The population subsequently decreases and falls below 85 million again for the first time in 2040. The average household size fell from 2.3 people in the 1990s to around 2 people in 2023. We expect a further decline to below 1.9 people in 2040. As a result of these developments, our projection shows that demand for housing will increase from 42.9 million to 45.5 million homes between now and 2040.

2011-2040: Inhabitants 23



Sources: Deutsche Bank Research, Statistical Office Federal Office

2011-2040 Development of inhabitants
Natural balance and net immigration 24



Sources: Deutsche Bank Research, Federal Statistical Office

2024 and 2025: Slump in new construction followed by recovery

The interest rate shock and the high level of uncertainty led to significantly lower construction activity. Building permits fell by 7% in 2022 and by a further 27% in 2023 compared to the previous year. We expected a sharp slump in new construction in 2023 and 2024 to just 214,000 and 212,000 completed flats respectively. Our previously relatively accurate forecast model was based on building permits and interest rate elasticity. However, the number of completed flats in 2023 was 294,000 and therefore similar to 2022. The reason for the exceptionally large forecasting error is likely to be the construction overhang. This fell for the first time since 2008 and stood at just 827,000 flats at the end of the year. In addition, 176,000 flats were already under construction and the shell construction of a further 215,000 flats had already been completed. Statistically, the construction backlog had no impact on completions in the past. Due to the poorer order situation, it is likely to be relevant for the coming years. In addition, tax concessions under the Growth Opportunities Act and subsidization measures for social housing construction are likely to provide impetus. We have therefore raised our forecast. We now expect 260,000 and 265,000 completed flats for 2024 and 2025 respectively. We also expect a further increase in the following years. The recently adopted new municipal housing benefit scheme could also provide impetus here. We expect just under 300,000 completed flats in the long term. As a result, the housing supply will increase from 43.6 million to 48 million between 2023 and 2040, meaning that it will continue to exceed demand. On a nationwide basis, there is therefore no shortage either today or in 2040.

Fundamental supply shortage in metropolitan regions and districts 25

Projections for 2040	Supply shortage will end	Shortages increase or decrease
Metropolitan region		
Berlin/Brandenburg	2038	↓
Rhine-Ruhr	2019	↓
Rhine-Main	2035	↓
Hamburg	2017	↓
Munich	2040	↑
Stuttgart	2040	→
HBGW	2016	↓
Nuremberg	2011	↓
Nordwest	2011	↓
Central Germany	2016	↓
Rhine-Neckar	2025	↓
Top 30 Large cities		
Berlin	2040	↑
Hamburg	2040	↑
Munich	2040	↑
Cologne	2040	↑
Frankfurt	2040	↑
Stuttgart	2040	↑
Düsseldorf	2032	↓
Leipzig	2040	↑
Dortmund	2020	↓
Essen	2024	↓
Bremen	2020	↓
Dresden	2040	↑
Hanover	2029	↓
Nuremberg	2034	↓
Duisburg	2026	↓
Bochum	2011	↓
Wuppertal	2039	↓
Bielefeld	2016	↓
Bonn	2040	↑
Münster	2025	↓
Mannheim	2040	↑
Karlsruhe	2024	↓
Augsburg	2040	↑
Wiesbaden	2020	↓
Mönchengladbach	2028	↓
Gelsenkirchen	2023	↓
Aachen	2040	↑
Braunschweig	2018	↓
Chemnitz	2028	↓
Kiel	2040	↓

Note: HBGW = Metropolregion Hanover, Braunschweig, Göttingen und Wolfsburg. Top 30 by inhabitants.

Source: Deutsche Bank Research: „Population forecast and housing market until 2040"

The fundamental shortage of supply is increasing in some metropolitan regions

According to our calculations, the number of inhabitants in Germany's eleven metropolitan regions will increase from 56.2 million to 57.7 million between 2023 and 2040. Demand will increase from 28.6 million to 31.1 million flats, whereby we have extrapolated the trends of recent years at district level and at the same time calibrated the regional projections so that they are in line with our national forecast overall. We calculate supply in a similar way. The number of flats increases from 28.8 million to 31.7 million between 2023 and 2040. The aggregate supply is therefore slightly higher than demand in each case. Overall, there is therefore also sufficient living space in the metropolitan regions. However, there are major differences. Both today and in 2040, the metropolitan regions of Munich and Stuttgart still have a high fundamental shortage of supply. Other metropolises will also still have shortages in 2040. This applies to Berlin, Frankfurt, Hamburg, Heidelberg, Cologne, Leipzig, Mannheim and Stuttgart. In Düsseldorf, Hanover and Nuremberg, the shortage phase will end around 2030, while the housing market in Bremen is already relatively balanced today. Shortages are also increasing in other cities and districts in the metropolitan regions. The most populous cities outside the metropolitan regions are Aachen, Bielefeld, Dresden, Kiel and Münster, with Dresden having the most inhabitants at 560,000. Only Bielefeld has no bottlenecks today or in 2040. According to our projections, the housing market will remain tight in the other four cities.[4]

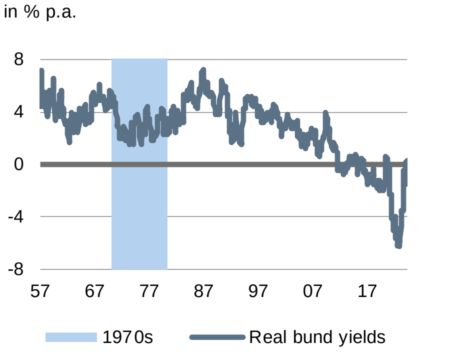
7. Summary and outlook

The housing market was in a correction phase in 2022 and 2023. Due to the interest rate and regulatory shock, many investors kept their feet still. Transaction figures fell sharply. However, there were major regional differences. The market picked up again in 2024. The first price indices are pointing upwards, the new lending business and probably also the transaction volume are increasing. Regulatory uncertainty has decreased significantly. In the end, national and European legislation was more constructive than the first draft laws in 2023. In addition, the high cost pressure has awakened the entrepreneurial spirit. Investors are beginning to optimize their portfolios in many respects. In view of these developments, the current market discovery phase should soon be over. Even if the current situation regarding the price indices is particularly unclear, we expect all price indices to show a bottoming out or rising prices again in Q3 at the latest. Last year, we often described ourselves as the last optimists in the second half of the year. This year, the market seems to be turning in our direction.

In view of the high fundamental supply shortage, which is likely to persist in many regions and cities over the next few years, we expect average rent increases of 3%. In the past, prices have typically risen faster than inflation in phases with high inflation rates and could therefore increase by slightly more than 3% over the next few years. Even if we expect prices to rise again, we do not believe that the boom will revive. For this to happen, inflation would have to fall below 2%, which is unlikely to happen in the long term in 2024 and 2025. The rule for the last 10 years or so has been that inflation is equal to or higher than 10-year Bund yields. This rule of thumb is likely to remain in place.

[4] Our methodology indicates the end of the supply shortage for Münster in 2025. This means that the supply-demand ratio of 2011 will be restored. Almost all cities had no shortages in 2011. Münster already had low vacancy rates in 2011, which is why the market is likely to remain tight here.

1957-2024: Inflation adjusted Bund yields 26



Sources: Deutsche Bank Research, IMF

At the same time, the market structure may have changed permanently. During the boom, many institutional and international investors were often the marginal buyers. Today, they are more cautious, while private investors are, in our perception, much more active again. Investors with regional roots may have advantages in their dealings with the authorities as well as cost advantages over tradespeople and the construction industry. They may also be able to organize rent increases more flexibly. In this market phase, entrepreneurs who optimize their portfolios in many respects are also likely to benefit. This is now likely to be a much more significant contribution to success than during the boom years. This factor should contribute to a new market equilibrium being found again.

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