

# Residential Markets in Germany

Current Developments, Prospects and Opportunities

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## Executive Summary

Germany has the largest housing stock of all European countries. The fundamentally investable stock for professional investors (apartment stock) includes some 3.1 million buildings comprising approx. 20.8 million apartments. This stock has a total floor area of approx. 1.4 billion square metres and an estimated value of more than 2 trillion Euros (Section 3.1).

Of the 20.8 million units in the apartment stock, some 3 million are in the hands of owner-occupiers while approximately 8.8 million units are owned by small, private landlords. The largest proportion is accounted for by professional commercial landlords with some 8.9 million apartments. This group is dominated by three types of owner; namely private housing companies (3.9 million apartments), municipal housing companies (2.4 million) and housing associations (2.1 million). In recent years, larger portfolios have been disposed of by the public sector to private-sector operators and it is to be expected that this trend will continue, albeit at a reduced rate (Section 3.2).

In the last 10 to 15 years, new construction activity in the German residential market has drastically reduced. Net growth over the last decade equated to fewer than 50,000 units per year almost without exception. At the end of the 1990s, the existing housing stock saw a net increase of more than 200,000 units per year. In some regions, the housing stock is growing more slowly than necessary in view of prevailing demand (Section 3.3).

The low levels of construction activity in recent years is also reflected in the age structure of the German housing stock. The proportion of residential units built from the year 2000 onwards is around just 2% of the total stock. More than 40% of all residential units are post-war constructions from the 1950s to 1970s while a further 13% are of slab construction (Section 3.4).



The socio-demographic conditions for the German residential market are, on the whole, challenging. The population in Germany has been on the decline for a number of years and this trend will accelerate in the coming decades. By 2060, the population is expected to decline by 14-21% compared with 2009. This is exacerbated by a drastic shift in the age structure of the German population. While 26% of all persons living in Germany today are aged 60 and above, by 2025 this proportion is expected to be 34%. This also presents a challenge for operators in the residential market. However, since these developments along with economic conditions show markedly different regional characteristics, it is insufficient to take a national view of the situation (Section 4.1).

The regional differences in conditions are also reflected in the respective residential markets. Rentals in cities with relatively favourable conditions, for example, have risen significantly in recent years, whereas rentals in some weaker regions have appreciably declined. Between 1995 and 2010, rentals increased by more than 80% in Greifswald and by more than 40% in Ingolstadt. In the same period, average residential rentals in Leipzig, Görlitz and Frankfurt (Oder) declined by more than 20%. The heterogeneous socio-demographic and economic conditions are also expressed in vacancy rates and figures showing rent as a proportion of net household income (Section 4.2).

In terms of prospects going forward, the residential markets are expected to grow yet further apart. Demand for residential property in one of the currently relatively economically under-developed cities is likely to continue to decline over the coming years, e.g. in Frankfurt (Oder), Dessau or Gera. Conversely, in other markets, the already strong demand for living accommodation is expected to show a continued increase. These markets include Ingolstadt, Munich and Freiburg (Breisgau), for example. In both scenarios, the developments pose specific challenges for local players in the residential market (Section 4.3).

Besides socio-demographic conditions, the attractiveness of the residential investment market is also influenced by financial and real economic key data and developments. The situation in Germany is on the whole favourable in these respects. The German economy has returned to pre-crisis levels much sooner than anticipated and is also expected to grow at an above-average rate in the coming years, although temporary setbacks cannot be ruled out. This has positive consequences for the labour market and, thus, income levels of the German population, facilitating an overall positive outlook for real economic stimuli affecting the German residential market. On the financial side, investors are benefiting from historically low interest rates, while the relatively low yields on government and corporate bonds also promote investment in residential property (Section 5.1).

It was in 2004, when financial and real economic conditions were similar to today's, that the German residential market first came into the focus of international investors. Between 2004 and 2007, more than 250,000 residential units per year changed hands in the form of larger residential portfolios with purchasers comprising predominantly Anglo-Saxon financial investors and, later, domestic private investors. Vendors of the portfolios were initially dominated by public sector bodies as well as non-property companies.

From 2005, the purchasers of previous years became increasingly prominent as resellers. With the outbreak of the global economic crisis, transaction volumes saw drastic declines in 2008 and, for the last two years, have remained below levels seen in the years prior to the boom (Section 5.2).

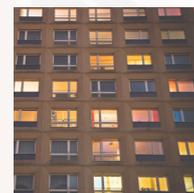
While present conditions are thoroughly comparable with those that prevailed at the start of the investment boom in the German residential market and investment in residential property in Germany consequently appears particularly lucrative, the market dynamics remain subdued. Large portfolios comprising several thousand residential units in particular have changed hands very rarely during the last two to three years. On the one hand, this is due to the more restrictive financing conditions for larger transactions, particularly outside of the core segment and, on the other hand, the supply of corresponding portfolios is lower today, not least because of a reduced willingness to sell from the public sector. In recent months, however, the market has been noticeably revitalised with particular demand for high-quality properties in the German conurbations and is significantly more fragmented than in recent years (Section 5.3).



In keeping with the occupational markets, the individual residential investment markets in Germany are also highly heterogeneous. Between 2000 and 2010 multipliers across the 127 largest residential markets fell on average by 80 basis points to 12. However, the spread ranged from an increase of 250 basis points in Friedrichshafen to a price fall of 450 basis points in Coburg. Multiplier levels are also highly diverse and range from an average of 19 in Munich to 8.5 in several German cities including Gelsenkirchen, Bremerhaven and Dessau (Section 5.4).

It is not only the price levels but also the structural risks that vary significantly in the 127 residential markets studied. The socio-demographic, economic and specific residential market risks were evaluated in all locations using a three-tier scoring system. The lowest macro-locational risk for investors was found in Munich, followed by Regensburg and Stuttgart. The highest risk among the sample studied was shown by Halberstadt, Gera and Frankfurt (Oder). As expected, the risk spectrum was overall very wide, meaning that the German residential market offers investment opportunities for both core and opportunistic investors (Section 2.1).

Across the entire risk spectrum, it is possible to identify markets that are relatively strongly over-valued or under-valued. The latter in particular merit close attention from investors as these are more likely to produce relatively favourable investment opportunities than over-valued markets. The markets where current prices are considerably below risk-appropriate levels include Mainz, Gelsenkirchen, Mannheim and Flensburg. Conversely, relatively expensive markets include Munich, Passau, Berlin and Konstanz (Section 2.2).



## 1 Introduction

The German residential market is currently held in very high regard by both domestic and international investors. This is not least attributable to the fact that the German economy has recovered quickly from the shock caused by the global financial crisis and that Germany's gross domestic product returned to pre-crisis levels as early as spring 2010. The 2010 GDP increase of 3.6% represented the strongest growth of the German economy since re-unification and last year's growth figure with 3.0% was also remarkable. Since the German labour market has also emerged from the crisis largely unscathed and is now benefiting from economic dynamism in the form of historically high employment levels and rising wages and salaries, the conditions for increases in residential rentals and property prices are better than they have been for a long time.

However, despite the favourable conditions, risk aversion from investors and banks remains relatively high. Consequently, it is primarily high-quality assets or project developments in prosperous conurbations that figure highly on the wish lists of most investors. However, with low supply in this particular segment, initial yields for core assets have hardened appreciably over the last two years. Meanwhile, with Euro-zone interest rates, which are too low for Germany, as well as the risk of inflation driving more and more investors towards so-called „concrete gold“, some of the prices paid are so high that the profitability of some investments must be called into question. Many investors, particularly those with a certain knowledge of the German residential market, are therefore increasingly shifting their attention to other locations.

Owing to its polycentric settlement structure, the German residential market offers numerous investment alternatives outside the major centres. Such diversity presents opportunities counter-balanced with corresponding investment risks. This is the focus of the present research. The first objective is to describe the principal features of the German residential market and its material conditions with regard to both the owner-occupier and investment market. The second objective is



to highlight the regional differences in terms of the socio-demographic and economic conditions that influence the current situation and development prospects of the individual locations.

The conditions of the 127 largest German residential markets have been evaluated using a scoring system to facilitate an analysis of the structural risk of the individual macro-locations and to make this transparent to potential investors. Thus, the markets can be divided into four groups - those with low, below-average, above-average and high investment risk. Furthermore, the calculated structural risk of the residential markets studied has been compared against their respective price levels in order to allow identification of locations as under-valued or over-valued by trend.

The analysis of the 127 largest German residential markets with regard to their structural risk as well as their risk/return ratio represents the focus of the present research. These results are therefore presented at the beginning (Chapter 2), even though their content is derived from the explanations in the other three chapters. For readers already familiar with the German residential market, it may suffice to read this results chapter. Readers who have had no previous dealings with the residential market in Germany are advised to also read the other chapters. The main thread begins in Chapter 3 (Housing Stock in Germany) and flows through Chapters 4 (Analysis of the Occupier Market) and 5 (Analysis of the Investment Market) into the results Chapter 2 (Analysis of the Attractiveness of the Residential Markets in Germany). However, the study has a modular structure in principle making it quite possible to skip individual chapters.

## 2 Analysis of the Attractiveness of the Residential Markets in Germany

The attractiveness of a residential market for an investor is essentially determined by the prevailing socio-economic conditions in the location. Along with the current situation and trends in the occupier market, these form the structural risk of a market. Markets with high structural risk are principally suited to opportunistic investors while markets with low structural risk are primarily target markets for core investors. This chapter highlights the structural risk in the largest German residential markets. The risks are then compared against prevailing price levels in these markets in order to be able to identify undervalued and overvalued markets.

### 2.1 Structural Risks

The risks associated with investing in residential property are essentially influenced by the current situation and prospects in the relevant occupier market as these can have a direct impact on the investor's returns (see Chapter 4 and in particular Fig. 17). The conditions with regard to socio-demographics, the economy and the residential market itself determine the attractiveness of a location from an investor's perspective or the level of risk associated with an investment in that location.

In order to make the conditions of a residential market and, thus, the investment risk associated with the quantum of these factors measurable, as well as to be able to compare different locations with each other, it is useful to implement a scoring model. To evaluate the structural risk of the German residential markets, a scoring model with the following three tiers was developed<sup>1</sup>:

- Socio-demographics
- Economy
- Residential market

The first two areas, both made up of six indicators, are intended to represent the general socio-demographic conditions and economic activity of a location and, thus, to evaluate the sustainability of the location. The third tier represents the supply-demand relationship in the relevant residential market as well as its general attractiveness. This part of the scoring comprises five indicators in total, whereby the 'market size' indicator also takes into account the liquidity aspect of a market (see chapter 5.4). All three tiers principally comprise indicators relating to the status quo but also feature a projection indicator. In the 'socio-demographics' area, this is the population projection, in the 'economy' area it is the GDP projection and in the 'residential market' area it is the households projection that acts as an indicator of future demand for residential property. An overview of the model with all individual indicators as well as the associated measured values and timeframes is provided in Fig. 1.

<sup>1</sup>The model is closely based upon the real estate analysis of the Association of German Public Sector Banks (Bundesverband Öffentlicher Banken Deutschlands, VÖB). Only a number of adjustments that were deemed sensible were made.

	Indicator	Measured Values	Time Frame
Socio-demographics	Fertility	Children per woman	Avg. 2006-2008
	Migration	Net migration per 1,000 inhabitants	Avg. 2006 - 2008
	Working population	Proportion of 20 to 64-year-olds among the total population in %	2008
	Population density	Inhabitants per km <sup>2</sup>	2008
	Education level <sup>2</sup>	Proportion of highly-skilled workers among employees subject to social insurance contributions	2008
	Population projection	Cumulative population change in %	2005 - 2025
Economy	Economic strength	GDP in Euros per inhabitant	2008
	Tax revenues	Trade tax receipts in Euros per inhabitant	2008
	Unemployment	Unemployment rate in %	Q3-2010
	Economic growth	Cumulative GDP change in %	2005 - 2020
	Insolvencies	Number of insolvencies per 1,000 inhabitants	2008
	Company formations	Net balance of company registrations and de-registrations per 1,000 inhabitants	2008
Residential Market	Vacancy rate	Vacancy rate in multiple dwellings in %	2009
	Rental level	Asking rentals for 1 to 4-bed dwellings in Euros per m <sup>2</sup>	2010
	Households projection	Cumulative trend in number of households in %	2005 - 2025
	Development land values	Values for development-ready land in Euros per m <sup>2</sup>	Avg. 2006 - 2008
	Market size	Apartment stock in bn Euros	2010

Figure 1: Residential markets scoring model<sup>3</sup>

<sup>2</sup> In the 'education level' indicator, a standard deduction of 20% for all cities located in federal states created from the former East Germany, as well as 10% for Berlin, has been allowed for to reflect the different classifications of school-leaving certificates in the former East Germany and the Federal Republic of Germany. In individual cases, this may cause distortions.

<sup>3</sup> The data used for the scoring has been taken from the following sources or data providers: German Federal Employment Office (Bundesagentur für Arbeit), German Federal Institute for Research on Building, Urban Affairs and Spatial Development (Bundesinstitut für Bau-, Stadt- und Raumforschung), BulwienGesa, Empirica Institut, immodaten.net, Oxford Economics, German Federal Statistical Office (Statistisches Bundesamt).

Since almost all of the measured values used were only available at an administrative district (Landkreis) level rather than a local authority (Gemeinde) level, it was necessary to limit the scoring to an administrative district level and to cities with district status. Theoretically, this meant that all German urban districts (Stadtkreis) and administrative districts could be evaluated in respect of their structural residential market risk. However, for the purposes of this study, only the 127 so-called Riwi cities<sup>4</sup> have been evaluated as these are the only cities for which usable real estate data exists that can be compared against the scoring results (see Section 2.2)<sup>5</sup>. The score for each of the 127 locations is calculated in four stages<sup>6</sup>:

1. The measured values for all 17 indicators are ranked in order of quantum. This stage produces 17 rankings, whereby the location with the most favourable measured value is given first place in the relevant ranking. In the case of the 'population projection' indicator, therefore, the location with the largest (expected) population growth is in first place while the city with the lowest value is ranked 127th. For those indicators where higher measured values are less favourable than lower ones, e.g. the unemployment indicator, the cities are ranked in the reverse order.

2. Using the rankings obtained in the first stage, for each of the three tiers, the average ranking of all indicators belonging to this tier is calculated. For the 'socio-demographics' and 'economy' tiers, therefore, an average value across six individual rankings per tier is calculated. For the 'residential market' tier, the average value of the individual rankings for five indicators is calculated. In all cases, the variables are given the same weighting when calculating the average values.

3. Based upon the average ranking calculated in the second stage, a sub-score is calculated for each of the three tiers. These can theoretically have a value between 1 and 10, where a value of 1 represents the best achievable result and a value of 10 represents the worst. However, these extreme values would only be achieved if a location was ranked in first or last place for

all indicators in a tier. This is not the case in the present scoring, so the actual scores achieved lie within a somewhat narrower range.

4. The three sub-scores for each of the tiers are used to calculate an average value, which represents the overall score. At this stage again, all three sub-scores are given the same weighting when calculating the average value.

As a result of these four stages, each of the 127 cities studied can be assigned a score that provides an indication of the investment risk in each residential market in relation to the overall sample. This takes into account exclusively the risk associated with the relevant macro-location. Investment risks associated with the micro-location of a property or the property itself are not accounted for in the present analysis. The higher the resulting score for a location, the higher the prevailing structural market risk.

<sup>4</sup> These are the 127 largest German office property markets according to the definition of BulwienGesa. For further explanation, see Section 4.2.

<sup>5</sup> Not all of the 127 cities evaluated are cities with district status. In these cases, the relevant district data has been used for the purposes of the scoring. This procedure should mean that these cities are marginally downgraded in the scoring compared with their equivalents having district status as many of the indicators used tend to exhibit more favourable characteristics in cities than in more rural areas (e.g. population density, economic strength and rental level). This applies to the following cities: Albstadt, Bergisch Gladbach, Dessau, Detmold, Düren, Friedrichshafen, Fulda, Gießen, Görlitz, Göttingen, Gütersloh, Halberstadt, Hanau, Hanover, Hildesheim, Konstanz, Lüdenscheid, Lüneburg, Marburg, Minden, Moers, Neuss, Offenburg, Paderborn, Plauen, Ratingen, Ravensburg, Recklinghausen, Reutlingen, Siegen, Tübingen, Villingen-Schwenningen, Witten and Zwickau.

<sup>6</sup> There are several alternatives to the procedure used here, which all have particular advantages and disadvantages. However, these alternatives are not explained here.



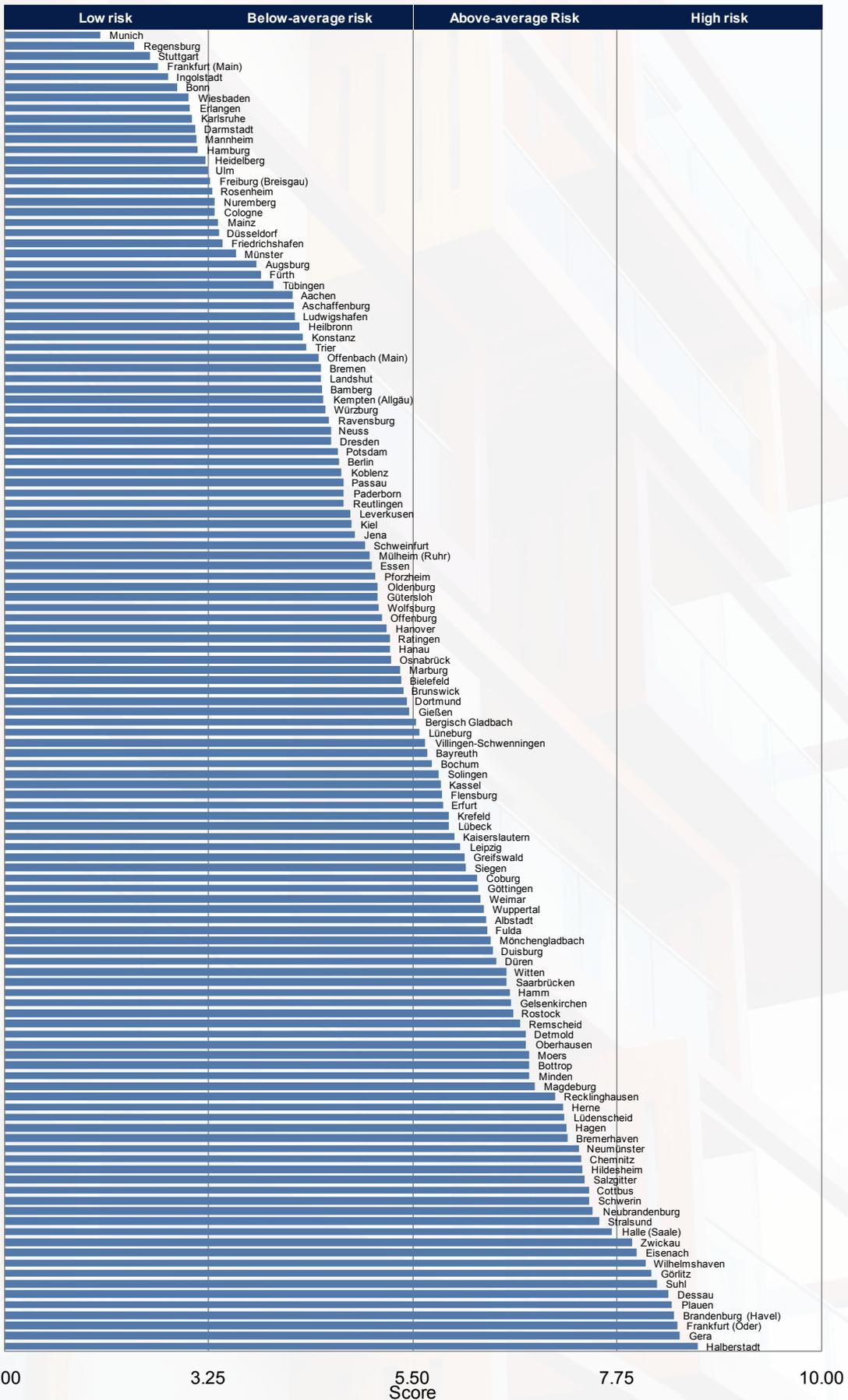


Figure 2: Scoring results

An overview of the results of the scoring is provided by Fig. 2. The Bavarian state capital of Munich shows the lowest score with a value of 2.1. The risks associated with an investment in this residential market are therefore lower than in all other cities studied according to the model used here. Conversely, the Saxony-Anhalt city of Halberstadt shows the highest score of all cities at 8.6 and therefore has the highest risk of all locations in the sample studied. The average score across all 127 markets is 5.5.

The scoring results can also be transferred into a rating system, which assigns the locations with similar scores to risk groups. In this case, the scoring scale has been divided into four segments of equal size<sup>7</sup>, producing four risk groups: Cities with low, below-average, above-average and high investment risk (see Fig. 2). Essentially, the picture emerged as expected: the cities with high risk are exclusively situated in eastern Germany, with the exception of Wilhelmshaven, while the cities with low risk are principally located in southern Germany. The scoring results reiterate that the German residential market is highly heterogeneous and consequently shows a wide range of different risk profiles. While investors focused on the core segment should primarily find purchase opportunities in those cities with low risk, it is sensible for opportunistically-oriented investors to focus their attention on those locations with above-average or high risk. These should produce the highest yield prospects, particularly for investors with local market knowledge, provided that the purchase price is in appropriate proportion to the risk.

## 2.2 Risk Return Ratio

In order to evaluate the attractiveness or yield prospects of a residential market for an investor, the market risk must be considered in conjunction with the price levels in that location. Even those markets showing a very low risk are not attractive per se - even when viewed from core-investor's perspective. The reason for this is that the price levels in these markets may be too high in relation to the risk. It is therefore revealing to consider the relationship between price levels and risk in order to identify over-valued and under-valued markets. This perspective is graphically represented in Fig. 3, which shows the average multipliers for multiple dwellings as well as the score for the relevant market. As a general observation, it can be seen that the players in the market have essentially priced in the risks in the German residential markets appropriately: there is a very strong correlation between the calculated score and the multiplier<sup>8</sup>. Most cities are consequently within a relatively narrow corridor around the plotted trend line, i.e. the price levels are in appropriate relation to the structural risk of the markets. Essentially, those markets above the line are rather over-valued compared with the other cities while those below the line are under-valued by trend. The greater the distance of a market from the trend line, the greater the deviation of the risk-return ratio from the average risk-return ratio of the 127 cities.

<sup>7</sup> The four risk categories represent the following four score ranges: Low – 1 to below 3.25; below average – 3.25 to below 5.5; above average – 5.5 to below 7.75; high – 7.75 to 10.

<sup>8</sup> The coefficient of determination is 0.71, i.e. 71% of the variation in the multipliers can be explained by the score variation between the individual cities. The regression equation is:  $y = -1.1175x + 18.115$ .



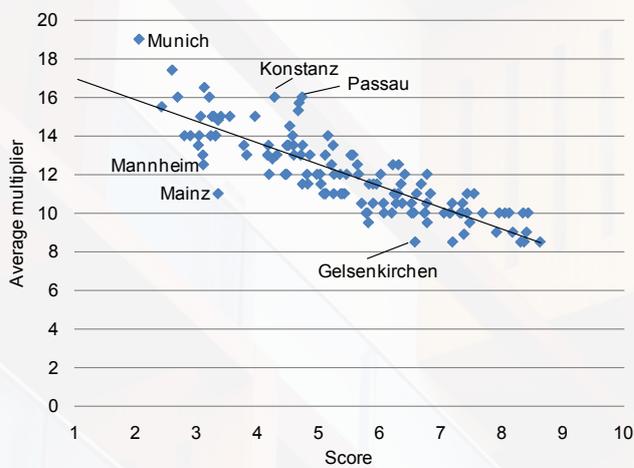


Figure 3: Risk-reward ratios of German residential markets

By trend, the distances of the markets from the trend line increase as the risk reduces, as seen in Fig. 3. There is a greater accumulation of 'outliers' above the line. Comparatively safe markets are therefore obviously over-valued by market participants by trend. These markets, including Munich, Konstanz and Passau, show significantly above-average price levels in relation to their score. The reasons for this cannot be clearly determined. However, it can be surmised that investor demand for residential property in markets regarded as relatively safe is very high in relation to supply, which results in upward price movement. On the other hand, Mainz and Mannheim are two examples of comparatively low-risk markets valued at very low levels. Gelsenkirchen, a market with above-average structural risk, is clearly below the trend line. With an only marginally above-average score of 6.6 and an average multiplier of 8.5 no other city shows lower price levels. It is possible that the city's relatively poor image has contributed to this outcome.

City	1	2	3	City	1	2	3
Mainz	3.36	11.0	-3.36	Gießen	5.46	12.0	-0.01
Gelsenkirchen	6.59	8.5	-2.26	Dresden	4.60	13.0	0.03
Mannheim	3.12	12.5	-2.13	Suhl	8.19	9.0	0.03
Flensburg	5.82	9.5	-2.11	Halberstadt	8.63	8.5	0.03
Solingen	5.79	10.0	-1.65	Kaiserslautern	5.96	11.5	0.04
Darmstadt	3.11	13.0	-1.64	Aschaffenburg	4.18	13.5	0.06
Kassel	5.80	10.0	-1.63	Neumünster	7.33	10.0	0.07
Bremerhaven	7.20	8.5	-1.57	Chemnitz	7.35	10.0	0.10
Pforzheim	5.09	11.0	-1.43	Regensburg	2.43	15.5	0.10
Ludwigshafen	4.19	12.0	-1.43	Koblenz	4.71	13.0	0.15
Gütersloh	5.11	11.0	-1.40	Cottbus	7.44	10.0	0.19
Wolfsburg	5.12	11.0	-1.39	Bayreuth	5.66	12.0	0.21
Siegen	6.08	10.0	-1.32	Hanover	5.22	12.5	0.21
Paderborn	4.74	11.5	-1.32	Rostock	6.61	11.0	0.27
Hanau	5.25	11.0	-1.25	Frankfurt (Oder)	8.41	9.0	0.28
Bochum	5.71	10.5	-1.24	Karlsruhe	3.07	15.0	0.32
Wiesbaden	3.03	13.5	-1.23	Jena	4.86	13.0	0.32
Kiel	4.83	11.5	-1.22	Landshut	4.49	13.5	0.40
Coburg	6.21	10.0	-1.18	Bamberg	4.49	13.5	0.41
Offenbach (Main)	4.46	12.0	-1.13	Hagen	7.19	10.5	0.42
Bielefeld	5.37	11.0	-1.12	Kempten (Allgäu)	4.52	13.5	0.43
Bremen	4.48	12.0	-1.11	Düsseldorf	3.36	14.8	0.44
Braunschweig	5.40	11.0	-1.09	Halle (Saale)	7.69	10.0	0.48
Dortmund	5.43	11.0	-1.05	Mönchengladbach	6.35	11.5	0.49
Minden	6.78	9.5	-1.03	Neuss	4.59	13.5	0.52
Krefeld	5.90	10.5	-1.03	Magdeburg	6.84	11.0	0.53
Essen	5.04	11.5	-0.98	Freiburg (Breisgau)	3.26	15.0	0.53
Ingolstadt	2.81	14.0	-0.98	Rosenheim	3.29	15.0	0.56
Salzgitter	7.39	8.9	-0.96	Oldenburg	5.11	13.0	0.60
Bonn	2.90	14.0	-0.87	Leipzig	6.02	12.0	0.61
Fürth	3.83	13.0	-0.84	Hildesheim	7.36	10.5	0.61
Greifswald	6.07	10.5	-0.83	Reutlingen	4.74	13.5	0.68
Saarbrücken	6.53	10.0	-0.82	Friedrichshafen	3.40	15.0	0.69
Hamm	6.56	10.0	-0.78	Villingen-Schw.	5.64	12.5	0.69
Leverkusen	4.81	12.0	-0.74	Eisenach	7.96	10.0	0.79
Erlangen	3.05	14.0	-0.71	Münster	3.55	15.0	0.85
Wuppertal	6.28	10.5	-0.60	Remscheid	6.69	11.5	0.86
Detmold	6.74	10.0	-0.58	Wilhelmshaven	8.06	10.0	0.89
Oberhausen	6.75	10.0	-0.58	Frankfurt (Main)	2.70	16.0	0.90
Heilbronn	4.25	12.8	-0.56	Görlitz	8.13	10.0	0.97
Schweinfurt	4.98	12.0	-0.55	Ravensburg	4.58	14.0	1.00
Ulm	3.24	14.0	-0.50	Düren	6.42	12.0	1.06
Mülheim (Ruhr)	5.03	12.0	-0.50	Bergisch Gladbach	5.53	13.0	1.07
Duisburg	6.38	10.5	-0.49	Lüneburg	5.57	13.0	1.11
Aachen	4.17	13.0	-0.46	Schwerin	7.44	11.0	1.20
Nuremberg	3.32	14.0	-0.41	Plauen	8.36	10.0	1.22
Cologne	3.32	14.0	-0.41	Ratingen	5.24	13.5	1.24
Augsburg	3.78	13.5	-0.39	Gera	8.44	10.0	1.31
Witten	6.53	10.5	-0.32	Tübingen	3.96	15.0	1.31
Dessau	8.32	8.5	-0.32	Stralsund	7.55	11.0	1.32
Trier	4.32	13.0	-0.29	Göttingen	6.22	12.5	1.34
Zwickau	7.92	9.0	-0.26	Fulda	6.31	12.5	1.44
Brandenburg (Havel)	8.37	8.5	-0.26	Würzburg	4.53	14.5	1.45
Neubrandenburg	7.48	9.5	-0.25	Bottrop	6.78	12.0	1.46
Osnabrück	5.26	12.0	-0.24	Heidelberg	3.21	16.0	1.48
Recklinghausen	7.06	10.0	-0.22	Offenburg	5.16	14.0	1.65
Weimar	6.24	11.0	-0.14	Hamburg	3.13	16.5	1.88
Marburg	5.36	12.0	-0.13	Stuttgart	2.60	17.4	2.19
Herne	7.15	10.0	-0.12	Potsdam	4.67	15.3	2.41
Lüdenscheid	7.17	10.0	-0.11	Konstanz	4.28	16.0	2.67
Erfurt	5.83	11.5	-0.10	Berlin	4.69	15.7	2.82
Albstadt	6.31	11.0	-0.07	Passau	4.73	16.0	3.17
Moers	6.78	10.5	-0.04	Munich	2.06	19.0	3.19
Lübeck	5.90	11.5	-0.02	Avg. 127 cities	5.50	12.0	0.00

1 - Score 2 - Multiplier 3 - Difference between actual and risk-appropriate multiplier

Figure 4: Difference between actual and risk-appropriate price levels

Fig. 4 summarises the risk-return ratios of the German residential markets in table form. As well as the scores and multipliers of the individual markets, the deviation of the individual cities from the trend line in Fig. 3 is also expressed as a figure. This figure can be interpreted as follows: The trend line shown in Fig. 3 indicates how investors, on average, value the structural risks of the residential markets studied. Its slope is  $-1.12$ , i.e. a score which is lower by 1 point is worth an average price increase of 112 basis points to the investors. This allows a hypothetical multiplier to be calculated for each of the 127 markets. If it is assumed that the market participants have, on average, valued the structural risk of all markets appropriately, then this calculated multiplier indicates the risk-appropriate price level of a market. The value in Fig. 4 in turn indicates the size of the difference between the actual multiplier and the risk-appropriate multiplier. Consequently, negative figures mean that the actual price level in a city is lower than appropriate in respect of the structural risk of this market. Conversely, positive values mean that the price level in a city is too high in respect of the structural market risk in that location.

It can be seen from the table, for example, that the average multiplier paid in Mainz for multiple dwellings is 336 basis points lower than the risk-appropriate multiplier. According to this, the residential market in Mainz is significantly under-valued. The opposite is the case in Munich, where the actual price level is 319 basis points above the risk-appropriate price level. This allows investors to assess whether values in each market are unusually high or low or appropriate compared with the other markets. Fig. 4 divides the markets into three categories: 'under-valued', 'appropriately valued' and 'over-valued'. The category boundaries are ultimately arbitrary and should also not be regarded as hard boundaries.

However, the classification can be helpful for identifying potential target markets for investors as it shows which cities are most likely to offer relatively favourable investment prospects. However, this does not mean that the markets classified as over-valued should be excluded as potential target markets from the outset. Firstly, the analysis conducted here is an isolated study of the macro-locations, which merely looks at the average price levels. The characteristics of the micro-location as well as the property itself can significantly influence the overall risk of an investment either positively or negatively. Furthermore, the price of an individual property may well deviate considerably from the average price levels in the relevant market. In addition, when calculating the risk-appropriate multipliers, a linear risk evaluation has been assumed, i.e. score shift of 1 to 2 is treated in the same way as a shift from 9 to 10. In contrast, it would be equally plausible to assume that a decreasing score in the low-risk area would justify greater price increases than a score decreasing by the same amount in the high-risk area. In such case, for example, the difference between the actual and risk-appropriate price levels in Munich would be lower than calculated here.



**3 Housing Stock in Germany**

With a housing stock of some 40.2 million units, Germany is the largest residential market in Europe (excluding Russia). This chapter provides a concise view of the existing housing stock in Germany according to selected criteria. The emphasis is on the investable housing stock, i.e. that part of the overall housing stock which is relevant from an institutional investor’s perspective. Having delineated this portion of the housing stock, we look at its ownership and age structure as well as its dynamics.

**3.1 Scope and Value of the Investable Housing Stock**

The majority of the forty million-plus residential units in Germany are situated within approximately 18 million residential buildings. With around 800,000 units, only a small proportion of the total stock is situated within non-residential buildings. Of the approx. 39.4 million units in residential buildings, some 18.5 million are located within single-family or two-family houses. The remaining approx. 20.8 million units (apartments) can, in simple terms, be assumed to represent the relevant housing stock in Germany for institutional investors.<sup>9</sup>

The housing stock delineated here, subsequently referred to as the ‘investable housing stock’, covers a living space of just under 1.4 billion square metres divided across some 3.1 million residential buildings. Mathematically, these properties comprise 6.8 apartments per building, with an average area of 67 square metres per apartment. Both values have remained practically unchanged in recent years. As far back as 1995, a residential building mathematically comprised 6.8 apartments with an average area of approx. 66 square metres.<sup>10</sup>



Although the value of the investable housing stock can only be estimated very crudely, it is possible to calculate an approximate figure. Based upon average prices per square metre for freehold apartments, the total housing stock in Germany has an approximate value of some 4.1 trillion Euros<sup>11</sup>. This calculated value broadly corresponds with the results of a joint study of the Cologne Institute for Economic Research (Institut für Wirtschaft Köln), the Centre for European Economic Research (ZEW) and the University of Mannheim<sup>12</sup>. In that study, the total net fixed assets in German residential property are valued at a replacement cost of approx. 3.9 trillion Euros. This figure does not include the value of the land. The value of the investable housing stock, whose price per square metre should be on average higher than that for the total stock, is therefore conservatively estimated at at least two trillion Euros. By way of comparison, the gross domestic product for the whole of Germany in 2010 was around 2.5 trillion Euros.

<sup>9</sup>German Federal Statistical Office, date: 31.12.2009

<sup>10</sup>German Federal Statistical Office

<sup>11</sup>The data used in the calculations was taken from BulwienGesa’s Riwis database.

<sup>12</sup>German Association for Housing, Urban and Spatial Development (Deutscher Verband für Wohnungswesen Städtebau und Raumordnung e.V.) / German Society for Real Estate Research (Gesellschaft für Immobilienwirtschaftliche Forschung e.V.) (ed.) (2009): Wirtschaftsfaktor Immobilien. Die Immobilienmärkte aus gesamtwirtschaftlicher Perspektive (Real estate as an economic factor - the real estate markets viewed as part of the overall economy). Berlin.

Number of buildings	3.1 million
Number of residential units	20.8 million
Living space	1.4 billion square metres
Value	> 2 trillion Euros

Figure 5: Key data for the investable housing stock in Germany

### 3.2 Ownership Structure of the Housing Stock

Based upon the number of residential units, German residential property assets are currently 43% owned by professional commercial landlords and small, private landlords each while the remaining 14% of residential units belong to owner-occupiers (see Fig. 6). The dominant group within professional commercial landlords are private companies, who own approximately 4 million residential units. The second largest housing stock is held by municipal housing companies (approx. 2.4 million), followed by housing associations (approx. 2.1 million). Other groups of professional commercial landlords hold smaller portfolios with a combined total of approximately half a million residential units. These figures are based upon 2006 data, as no more recent data is available.



However, it is doubtful that any structural shift has occurred in the intervening years. Accordingly, the overall picture provided should still apply today. The most marked change has occurred within the professional commercial landlords group: Between 2007 and 2010, municipal housing companies and other public-sector landlords disposed of a net balance of some 100,000 to 150,000 residential units to the private-sector landlords group<sup>13</sup>. Although this trend has slowed noticeably during the worldwide financial and economic crisis from 2008, it can be assumed that the trend will continue in the coming years.

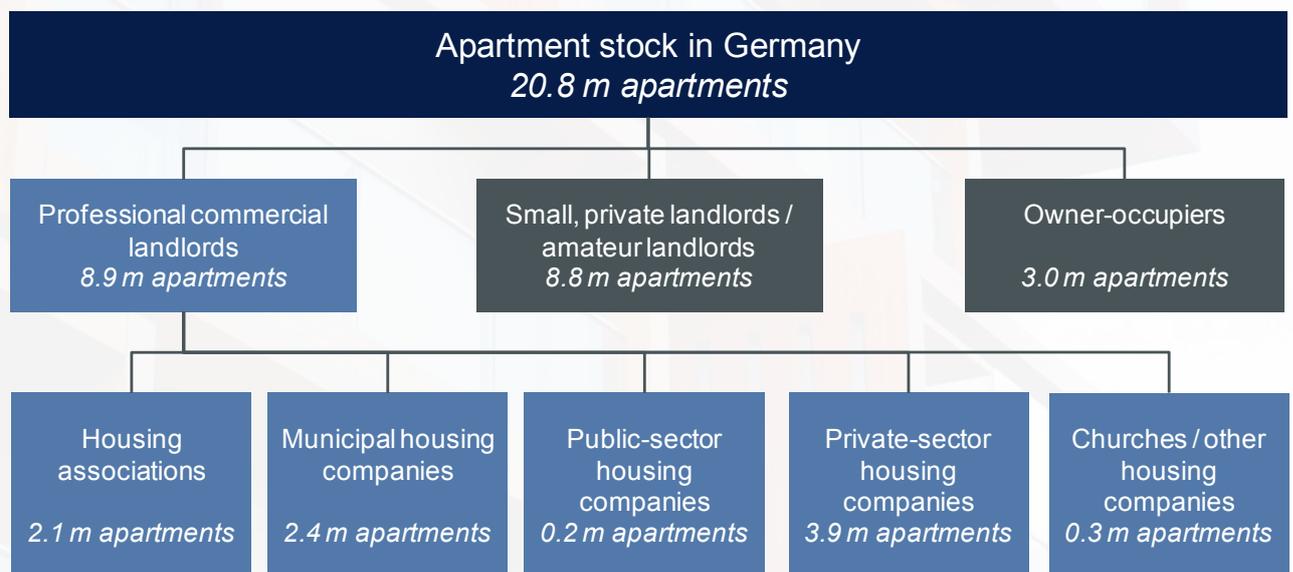


Figure 6: Ownership structure of the German housing stock<sup>14</sup>

Going forward, a general further shift from the public sector to private landlords is to be expected. This expectation is principally based upon the financial constraints in the public sector. At the end of 2009, public debt stood at over 1.7 trillion Euros. By far the largest proportion of this was owed by the federal government (approx. 61%), while the federal states owed 32% and local authorities just under 7%. Overall debt increased by some 8% on the previous year. In order to remain capable of acting, the public sector will be required to limit borrowing. This has now been legally formalised for the federal government and federal states with the introduction of a so-called 'debt brake', which limits net borrowing from this year. However, local authorities, who own by far the largest proportion of the public-sector housing stock, must also take action. The sale of a portion of the housing stock is a realistic option to reduce the debt, which will probably be reviewed (again) in many cases despite difficult political feasibility.

**3.3 New Construction Activity in the German Residential Market**

In contrast to the stock of single and two-family houses, the investable housing stock has only grown marginally in recent years. The 10 years from 2000 to 2009, show a net balance of some 590,000 units equating to an addition of some 59,000 units per year. In the same period, the number of residential units in single and two-family houses increased by around 155,000 per year. More recently, the net increase in the multiple dwelling segment has shown a declining trend and came in below 40,000 residential units for the years 2007-2009 (see Fig. 7).

From a regional perspective, there are clear differences with regard to the net increase in apartments. In Bavaria, for example, the stock increased by some 23,600 units in the period from 2000 to 2009, more than in any other federal state. Significant increases in apartment numbers were also seen in North Rhine-Westphalia (approx. 19,900) and Baden-Württemberg (approx. 18,300) during the same period. In contrast, the apartment stock in the eastern (non-city) federal states decreased by several thousand units, with the exception of Mecklenburg-West Pomerania. Overall, the stock in Brandenburg, Saxony, Saxony-Anhalt and Thuringia decreased by more than 13,000 units. This trend is primarily a result of the urban regeneration programme for the former East Germany (Stadtumbau Ost), which has involved the demolition of thousands of residential units against a backdrop of high vacancy rates in urban areas. These principally comprise apartments of slab construction.

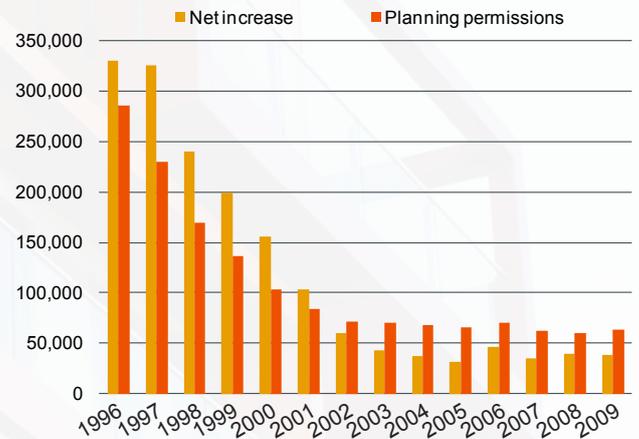


Figure 7: New construction activity in the apartment segment<sup>15</sup>

<sup>15</sup>BBSR (German Federal Institute for Research on Building, Urban Affairs and Spatial Development)

<sup>16</sup>Own calculations based upon data from the German Federal Statistical Office as well as the Federal Association of German Housing and Real Estate Enterprises (GdW Bundesverbands deutscher Wohnungs- und Immobilienunternehmen e.V.).

Planning permission figures from recent years also illustrate that the investable housing stock will only grow marginally in the coming years. In 2009, just under 63,700 apartments were approved; more than 8,000 units below the average over the last 10 years (see Fig. 7). In addition, due to comprehensive demolition measures as part of ‚Stadtumbau Ost‘, the net increases have been regularly lower than the number of planning permissions.

### 3.4 Age Structure of the German Housing Stock

The comparatively low figures for new-builds in recent years is also reflected in the age structure of the German stock of multiple dwellings. The proportion of residential units built since the year 2000 within the overall housing stock stood at some 2% in 2006 (again, no more recent data is available), while residential units from the Wilhelmine era accounted for approx. 13% of the total housing stock (see Fig. 8). For historical reasons, by far the largest proportion of the housing stock is of post-war construction, which accounts for some 42 % of all residential units. In the federal states of the former West Germany, more than half of all existing housing is of this building type (approx. 51%).

The proportion of such housing in the federal states created from the former East Germany is considerably lower at 20%, since residential buildings from the late 1960s onwards were built almost exclusively in slab construction. Consequently, slab constructions account for a third of the total housing stock in the former East Germany, while, in Germany as a whole, this proportion stands at approx. 13 %. This proportion had already decreased by 2006 as a result of ‚Stadtumbau Ost‘ and the associated demolition measures, and should have decreased further over the last four years for the same reason. Nevertheless, this housing continues to represent a significant proportion of the overall market and will continue to do so for the foreseeable future.

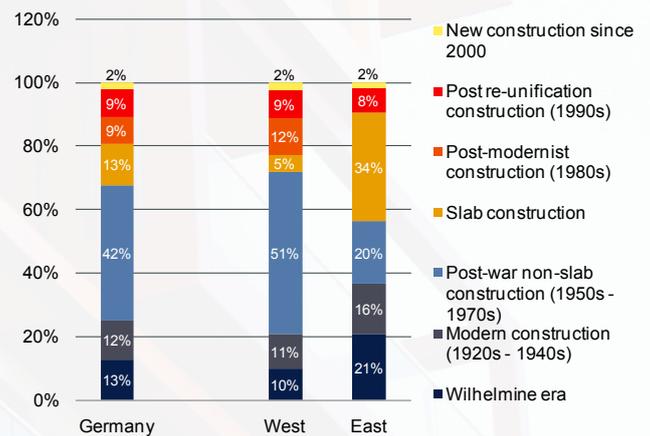


Figure 8: Age structure of the German housing stock<sup>17</sup>

<sup>15</sup>German Federal Statistical Office

<sup>16</sup>German Federal Statistical Office

<sup>17</sup>Own calculation based upon data from the German Federal Statistical Office and BBSR



**4 Analysis of the Occupier Market**

Trends in the population and households play a decisive role in demand for living space. Along with disposable income, these two factors are the most important parameters for the residential market. Consequently, this chapter discusses these factors for Germany as a whole as well as for the individual cities and regions, with a particular focus on the very different spatial conditions and development. This is followed by an illustration of the most important key figures for the residential market, namely rentals and vacancy rates. Against this background, the chapter also looks at the relationships between socio-demographic and economic conditions on the one hand and the residential market sizes on the other. Finally, we discuss the likely prospects for the occupier market over the next decades.

**4.1 Socio-demographic and Economic Conditions**

The socio-demographic conditions for the German residential market have been challenging for a number of years. The number of people living in Germany is already in decline and fell below the 82-million mark in 2009 for the first time since 1995. It can be taken as fact that this contraction will continue over the coming years. The baseline scenario of the German Federal Statistical Office assumes a population decline to 78.8-79.9 million people by 2025, which would represent a 3% decrease compared with 2009. From today's perspective, this trend will even accelerate in subsequent years. In 2060, the baseline scenario predicts that between 64.7 and 70.1 million will be living in Germany (see Fig. 9). This would equate to a decline of approx. 14-21% compared with 2009.

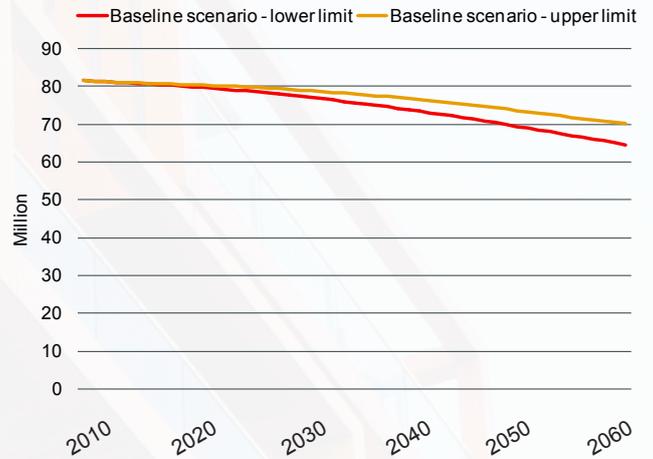


Figure 9: Population projection for Germany<sup>18</sup>

<sup>18</sup>German Federal Statistical Office



However, compared with the anticipated population decline, the shift in age structure will have significantly more serious consequences for the German residential market. The number of people living in Germany between 1991 and 2009 increased overall by 1.9%. However, this growth was distributed extremely unevenly across the different age groups. The number of under 30s decreased by more than 17% while the number of those aged 60 and older increased by more than 29%. The 30 to 59-year-olds age group increased by just under 6%. As a result of these trends, the average age of the German population has increased from 38.9 to 43 years<sup>19</sup>. This ageing process will also continue in the coming years. While today some 31% of all people living in Germany are below 30, approx. 43% are between 30 and 60 and 26% are at least 60 years old<sup>20</sup>, these proportions will shift significantly towards the oldest age group in the coming years (see Fig. 10). It is assumed that, by 2025, one in three Germans will be at least 60 years old while the under 30s population will shrink to 27%<sup>21</sup>. Overall, it is expected that the qualitative dimension of the demographic change will have far greater consequences for the residential market than the pure quantitative trends.

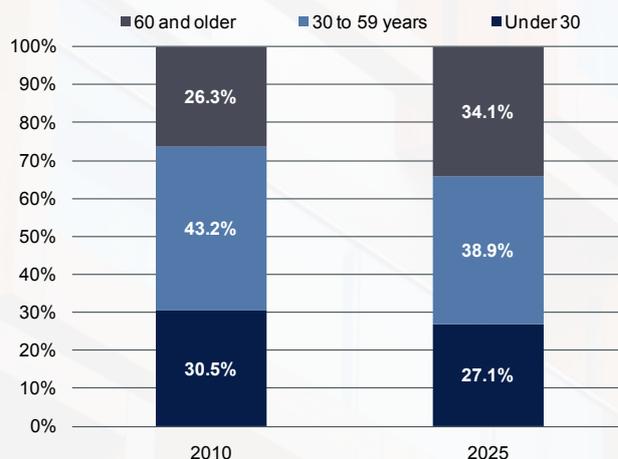


Figure 10: Change in age structure in Germany<sup>22</sup>

Although the demographic trends will impact the German residential markets, the number of people is less relevant for residential demand than the number of households. The analysis below therefore focuses on the trends in households, which are significantly more favourable. Between 1991 and 2009, the number of German households increased by just under 12% to approx. 39.6 million. This trend is primarily a result of the increase in one and two-person households. The proportion of these among the total number of households increased from approx. 64% to over 73% between 1991 and 2009. By 2020, this proportion is expected to reach just under 76%. Consequently, the number of households in Germany will continue to increase over the coming years, although the rate of increase will be considerably slower than in previous years. By 2025, the number of households is expected to increase further by a good 2%<sup>23</sup>, before declining in the subsequent years. Against this background, residential demand should show a further moderate increase over the coming 10 to 15 years when viewing Germany as a whole.

However, it is insufficient to view the situation in Germany as a whole since the two trends discussed, those of the population and household numbers, show a stark regional disparity. For example, the population in Suhl (Thuringia) decreased by more than 30% between 1991 and 2009, the greatest decline of any German district, while the number of inhabitants in the administrative district of Erding (Bavaria) showed the greatest increase of over 30%. These discrepancies will diminish by 2025, albeit only because the trends for all regions will become less favourable throughout this period. The district with the least favourable population projection, once again Suhl, will also lose more than 30% of its inhabitants between 2009 and 2025, while the administrative district of Vechta (Lower Saxony) has the most favourable demographic prospects of all districts over the same period, with a projected increase of 15%. The trends in households show a similarly wide distribution.

<sup>19</sup>Own calculations based upon information from the German Federal Statistical Office

<sup>20</sup>German Federal Statistical Office

<sup>21</sup>BBSR

<sup>22</sup>German Federal Statistical Office

<sup>23</sup>German Federal Statistical Office

Between 1991 and 2009, the number of households in the administrative district of Bad Doberan (Mecklenburg-West Pomerania) increased by more than 60%, while Frankfurt (Oder) (Brandenburg) lost just under 23% of its households in the same period. By 2020, it is projected that the administrative district of Demmin (Mecklenburg-West Pomerania) will lose more than 15% of its households - more than any other German district. Conversely, the district of Vechta is expected to show an increase in households of just under 15%. Fig. 11 shows the 10 German districts with the most favourable or unfavourable projections for household numbers for the period of 2009 to 2020.



Top 10		Bottom 10	
Vechta	+ 14.6 %	Demmin	- 15.4 %
Erding	+ 12.8 %	Suhl	- 15.4 %
Lüneburg	+ 12.6 %	Mansfeld-Südharz	- 13.2 %
Ammerland	+ 12.1 %	Mecklenburg-Strelitz	- 13.0 %
Landsberg (Lech)	+ 11.9 %	Anhalt-Bitterfeld	- 12.7 %
Freising	+ 11.7 %	Wittenberg	- 12.7 %
Landshut	+ 11.4 %	Salzlandkreis	- 12.4 %
Cloppenburg	+ 11.0 %	Gera	- 11.8 %
Munich (administrative district)	+ 11.0 %	Burgenlandkreis	- 11.5 %
Oldenburg (administrative district)	+ 10.4 %	Altenburger Land	- 11.2 %

Figure 11: Trends in household numbers in German districts from 2009 to 2020<sup>24</sup>

Another important criterion for the residential market is the disposable income of the population. Here again, there are significant regional disparities. Currently, the lowest disposable household income per person is in Weimar (Thuringia) with approx. 13,700 Euros, while the highest is in the administrative district of Starnberg (Bavaria) with approx. 29,900 Euros (see Fig. 12)<sup>25</sup>.

However, it is not only the amount of income but also income trends that show a wide regional disparity. Between 1995 and 2008, Berlin showed the lowest cumulative income growth of all German districts with just over 10%, while the administrative district of Sankt Wendel (Saarland) showed the highest income growth with just under 86%.

Since cumulative inflation in this period stood at over 20%, real-terms income growth in some regions of Germany was therefore actually negative. Besides Berlin, the inhabitants of 21 other districts saw a real-terms loss in income on average.

It can therefore be seen that both socio-demographic and economic conditions vary widely across Germany. The same applies for development prospects, meaning that the regional residential markets in Germany are subject to highly disparate parameters, which should also be reflected in the key figures for the respective property markets.

<sup>24</sup>BulwienGesa

<sup>25</sup>German Federal Statistical Office, data as at 2008.

Top 10		Bottom 10	
Starnberg	€29,911	Weimar	€13,714
Hochtaunuskreis	€26,938	Uecker-Randow	€13,856
Olpe	€26,726	Ostvorpommern	€14,175
Sankt Wendel	€26,217	Kyffhäuserkreis	€14,256
Heilbronn	€25,889	Jena	€14,423
Munich (administrative district)	€25,492	Demmin	€14,504
Baden-Baden	€25,058	Wismar	€14,533
Rosenheim	€23,784	Rostock	€14,550
Miesbach	€23,605	Stralsund	€14,592
Märkischer Kreis	€23,557	Halle (Saale)	€14,600

Figure 12: Household income per capita in German districts in 2008<sup>26</sup>

## 4.2 Characteristics of the German Residential Rental Market

The German residential market is characterised by a strong rental market, with just 42% of the total stock held by owner-occupiers<sup>27</sup>. Taking the apartment market in isolation, the proportion of rental properties is considerably higher as is to be expected. Two thirds of all apartments are occupied by tenants and only around a third are owner-occupied. Against the background of this ownership rate, which is extremely low compared with the rest of Europe, it has often been argued in the past that the proportion of owner-occupiers would increase appreciably in the medium term. However, this trend has yet to materialise, or at least there is no empirical evidence of such a trend. Not least because tenancy law in Germany is very tenant-friendly in comparison with other European countries, the German residential market is likely to remain a rental market for the foreseeable future. Accession to ownership is primarily seen in the single and two-family house segment while, in the apartment segment, no significant increase in the proportion of owner-occupiers is expected if legal conditions remain constant.

The most important determining factors for demand in the residential rental market are the socio-demographic conditions discussed in the previous section, particularly disposable income and trends in population and household numbers. These have a significant influence on rental levels and trends.

On the whole, rentals in Germany have risen constantly over the last twenty years, albeit only at a very moderate rate of approx. 1.5% per annum. In the seven so-called A cities<sup>28</sup> of Berlin, Düsseldorf, Frankfurt, Hamburg, Cologne, Munich and Stuttgart, nominal average rentals on re-lettings saw a good 13% cumulative increase between 1995 and 2010. The average monthly net cold rent in these cities increased from approx. €7.20/m<sup>2</sup> in 1995 to approx. €8.20/m<sup>2</sup> in 2010. The C cities<sup>29</sup> have benefited from even stronger rental growth, showing an increase of just under 15% to approx. €6.40/m<sup>2</sup> in the same period. B cities<sup>30</sup> saw rental growth of more than 8% to approx. €6.30/m<sup>2</sup>, while those in the D category<sup>31</sup> also saw increases of a little over 8% to reach approx. €5.60/m<sup>2</sup> (see Fig. 13)<sup>32</sup>.

<sup>26</sup>BulwienGesa

<sup>27</sup>German Federal Statistical Office

<sup>28</sup>The classification of cities by BulwienGesa into A, B, C and D cities arranges the 127 largest German office markets according to their functional importance (e.g. based upon floor space and take-up). Since the various property market sectors (office, retail, residential etc.) are closely related, the classification is also helpful with regard to the residential property market. A cities are property markets with national and, to a certain extent, international importance. B cities are those of national or trans-regional relevance. The significance of C cities principally extends to the surrounding region and relevant federal state. D cities are primarily relevant for their immediate surrounding area and generally have no further significance in terms of the property industry.

<sup>29</sup>C cities include Aachen, Augsburg, Bielefeld, Brunswick, Darmstadt, Erfurt, Erlangen, Freiburg (Breisgau), Heidelberg, Kiel, Lübeck, Magdeburg, Mainz, Mülheim (Ruhr), Mönchengladbach, Offenbach (Main), Osnabrück, Potsdam, Regensburg, Rostock, Saarbrücken and Wuppertal.

<sup>30</sup>The B cities are Bochum, Bonn, Bremen, Dortmund, Dresden, Duisburg, Essen, Hanover, Karlsruhe, Leipzig, Mannheim, Münster, Nuremberg and Wiesbaden.

<sup>31</sup>Cities in the D category include Albstadt, Aschaffenburg, Bamberg, Bayreuth, Bergisch Gladbach, Bottrop, Brandenburg (Havel), Bremerhaven, Chemnitz, Coburg, Cottbus, Dessau, Detmold, Düren, Eisenach, Flensburg, Frankfurt (Oder), Friedrichshafen, Fulda, Fürth, Gelsenkirchen, Gera, Gießen, Greifswald, Gütersloh, Görlitz, Göttingen, Hagen, Halberstadt, Halle (Saale), Hamm, Hanau, Heilbronn, Herne, Hildesheim, Ingolstadt, Jena, Kaiserslautern, Kassel, Kempten (Allgäu), Koblenz, Konstanz, Krefeld, Landshut, Leverkusen, Ludwigshafen, Lüdenscheid, Lüneburg, Marburg, Minden, Moers, Neubrandenburg, Neumünster, Neuss, Oberhausen, Offenburg, Oldenburg, Paderborn, Passau, Pforzheim, Plauen, Ratingen, Ravensburg, Recklinghausen, Remscheid, Reutlingen, Rosenheim, Salzgitter, Schweinfurt, Schwerin, Siegen, Solingen, Stralsund, Suhl, Trier, Tübingen, Ulm, Villingen-Schwenningen, Weimar, Wilhelmshaven, Witten, Wolfsburg, Würzburg and Zwickau.

<sup>32</sup>BulwienGesa

However, with rental trends again, the aggregated perspective obscures the considerable regional disparities which are apparent upon closer examination. Greifswald, for example, showed the highest rental growth of all 127 cities studied over the cited period (see Fig. 14). The city in eastern Mecklenburg-West Pomerania saw rentals almost double (+ 86.8%), while those in Leipzig (Saxony) decreased by almost 28% over the same period, the strongest decline over any city analysed.

Note that this figure is based upon net cold rents and does not reflect service charges. The proportion of net household income spent on rent in the nearly 100 cities studied ranges between approx. 11% in Coburg (Bavaria) and 24% in Frankfurt am Main and Munich (see Fig. 15), approx. €5.60/m<sup>2</sup> (see Fig. 13).

Top 10		Bottom 10	
Greifswald	+ 86.8 %	Leipzig	- 27.8 %
Cottbus	+ 72.6 %	Görlitz	- 25.6 %
Rostock	+ 69.7 %	Frankfurt (Oder)	- 24.8 %
Ulm	+ 63.0 %	Weimar	- 24.6 %
Schwerin	+ 59.2 %	Halberstadt	- 21.7 %
Ingolstadt	+ 44.0 %	Magdeburg	- 16.7 %
Marburg	+ 43.5 %	Zwickau	- 16.7 %
Reutlingen	+ 38.9 %	Herne	- 15.9 %
Nuremberg	+ 37.0 %	Remscheid	- 14.6 %
Mainz	+ 36.1 %	Suhl	- 12.8 %

Figure 14: Rental trends in German cities 1995 - 2010<sup>34</sup>

By looking at both income and rental levels, it is possible to calculate the proportion of income spent by the population on accommodation<sup>35</sup>. This figure can be interpreted as a scarcity indicator for the residential market. Regions where people have to spend an above-average proportion of their income on rent will tend to have a shortage of housing. Conversely, regions where people spend a below-average proportion of income on rent will tend to have over-supply in the residential market. If it is assumed, in simple terms, that the required living space per capita is just under 43 m<sup>2</sup> (the statistical average in Germany), based upon the average re-letting rentals for the analysed sample of cities<sup>36</sup>, this produces an average proportion of 16.6% of disposable income that must be spent on rent.

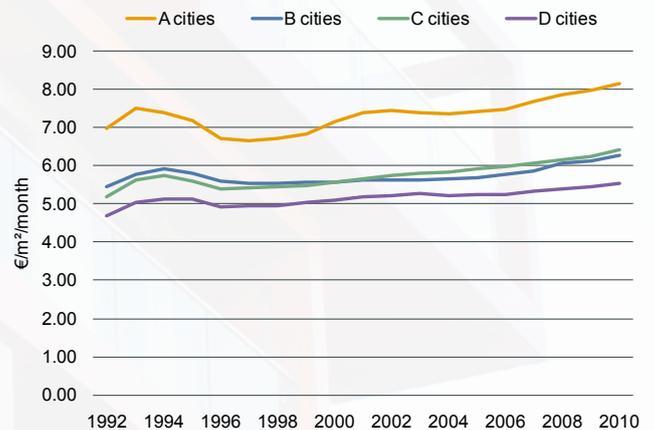


Figure 13: Rental trends in German cities<sup>33</sup>

<sup>33</sup>BulwienGesa

<sup>34</sup>BulwienGesa

<sup>35</sup>Evidently, this proportion relates primarily to rental households. However, inferences can also be made with regard to the repayment burden of homeowners who have not fully repaid the loan used to purchase their property.

<sup>36</sup>Since appropriate data was not available for all 127 A, B, C and D cities, only 94 cities were analysed.

Top 10		Bottom 10	
Frankfurt (Main)	24.0 %	Coburg	10.6 %
Munich	24.0 %	Heilbronn	10.9 %
Mainz	22.7 %	Remscheid	11.1 %
Jena	22.1 %	Solingen	12.6 %
Rostock	21.9 %	Landshut	12.7 %
Heidelberg	21.7 %	Hagen	12.8 %
Freiburg (Breisgau)	21.6 %	Wilhelmshaven	12.9 %
Greifswald	21.4 %	Bremerhaven	13.3 %
Darmstadt	21.2 %	Wuppertal	13.3 %
Kiel	21.1 %	Herne	13.4 %

Figure 15: Proportion of income spent rent in German<sup>37</sup>

As a rule, it can be assumed that markets where an above-average proportion of income is spent on rent will have a comparatively low supply of living space appropriate for the target group, while those regions where a very low proportion of income is spent on rent are likely to have an adequate supply of living space. A further indicator for evaluating the relationship between supply and demand is the vacancy rate. This also provides information as to whether there is over-supply or under-supply in a residential market. The overall vacancy rate for apartments in Germany stands at approx. 3.7%<sup>38</sup>. The data is provided at district level and ranges from 0.7%<sup>39</sup> in Rosenheim (Bavaria) to 11.3% in Salzgitter (Lower Saxony) (see Fig. 16). It is not possible to make generalisations as to when a market can be described as having an under-supply or shortage because the amount of supply required in reserve is relative to the level of tenant turnover. As a rule, however, it can be

assumed that a vacancy rate below 2% is indicative of an under-supply of housing. In 2009 (most recent data available), this was the case in 65 out of a total of 413 German districts. On the whole, it can be observed that regional differences with regard to socio-demographic and economic conditions and trends are very clearly reflected in the characteristics of the respective residential markets, such as rental trends and vacancy rates. A snapshot of these inter-relationships is provided by Fig. 17, which illustrates the correlation between household trends and rental trends. It is evident that trends in household numbers in a city are a significant determining factor for rental trends and that increasing household numbers tend to coincide with corresponding rental growth. At the same time, it is also evident that other factors influence rental trends and a simple linear correlation does not, therefore, provide an adequate explanation.

<sup>37</sup>BulwienGesa, data as at 2008<sup>38</sup>Empirica, data as at 2009<sup>39</sup>Owing to the very small sample, this figure has a relatively low degree of reliability. The next lowest „reliable“ figure is shown by the Bodenseekreis district with a vacancy rate of 0.8%.<sup>40</sup>Empirica, data as at 2009; figures marked with \* are deemed to have low reliability

Top 10		Bottom 10	
Rosenheim (city)	0.7 %*	Salzgitter	11.3 %
Bodenseekreis	0.8 %	Hochsauerlandkreis	11.2 %
Ingolstadt	0.8 %	Prignitz	10.9 %
Germersheim	1.0 %	Schwerin	10.8 %
Erlangen	1.1 %	Chemnitz	10.5 %
Oldenburg (city)	1.2 %	Halle (Saale)	10.5 %
Landau (Pfalz)	1.2 %*	Nordsachsen	10.4 %
Pfaffenhofen (Ilm)	1.2 %	Kyffhäuserkreis	10.4 %
Nuremberg	1.2 %	Zwickau	10.3 %
Schwabach	1.2 %*	Greiz	10.3 %

Figure 16: Vacancy rates in German districts<sup>40</sup>

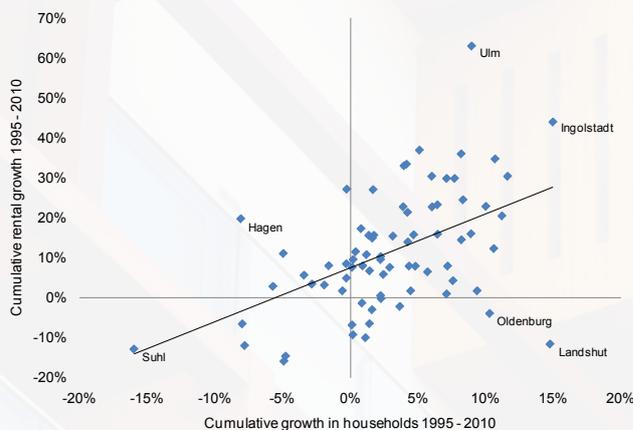


Figure 17: Correlation between household trends and rental trends<sup>41</sup>

For a general evaluation of the current situation and development prospects of a residential market, an analysis of the principal socio-demographic determining factors and the most important key figures for the residential market are very revealing, as discussed in the previous sections. However, it must also be considered that such an evaluation is superficial insofar as the structural particularities of a residential market initially remain unconsidered as identical interdependencies are implicitly assumed for all markets. However, an analysis of these key figures can point towards the existence of particular features in a residential market. The markets in Fig. 17 which are significantly above or below the plotted trend line merit closer inspection, for example, as the correlation between household trends and rental trends in these cities is not expressed as expected or could be termed atypical in comparison with the other cities analysed. These include the Bavarian city of Landshut, for example, where average rentals declined between 1995 and 2010 despite a significant increase in the number of households over the same period. A closer analysis of this residential market reveals that it is strongly characterised by owner-occupation. The proportion of owner-occupied homes is very high and also shows an upward trend. Over the period studied, the proportion of residential units in single and two-family houses increased from just below 34% to approx. 36%. Overall, more residential units were created in this segment of the residential market between 1995 and 2009 (approx. 1,800) than in the apartment segment (approx. 1,600).

Against this background, it can be assumed that a large portion of the residential demand in Landshut does not apply to the residential rental market at all as the demand is concentrated on the owner-occupation sector. This local particularity can, at least to a certain extent, explain the apparent contradiction between increasing household numbers on the one hand and declining rentals on the other. Such structural specifics may also explain the initially apparently implausible position of other cities in Fig. 17, such as Oldenburg and Hagen.

### 4.3 Prospects in the Occupier Market

Compared with the projections for other key figures, such as GDP or share prices, projections for population and household numbers stand out as having a comparatively high degree of reliability. In that respect, the general parameters for demand for living space in Germany over the coming decades are largely sketched out. However, the projections become increasingly blurred as the level of aggregation decreases, particularly in geographical terms. In terms of trends in population and household numbers in individual regions or cities, migration or regional economic development, for example, play a significantly more important role than when considering Germany as a whole. The actual developments in individual regions may, therefore, differ considerably from those currently projected, which is why it is essential to monitor the individual markets on an ongoing basis despite the present projections. Furthermore, there are additional factors that impact demand for residential property, which can only be projected to a limited extent or cannot be projected at all. These include, for example, required living space per capita, which is currently just under 43 m<sup>2</sup> having increased slightly in recent years. In 1999 the required living space per capita was approx. 39 square metres<sup>42</sup>. Trends going forward depend on various factors, such as the average household size, people's attitudes to accommodation in Germany and not least trends in house prices.

<sup>41</sup>Only cities in the former West Germany and Berlin were analysed since the relationship between household trends and rental trends in the federal states created from the former East Germany were distorted by the effects of re-unification in the 1990s (there was no functioning residential market in the former East Germany and rents were heavily subsidised). Data source: BulwienGesa

<sup>42</sup>German Federal Statistical Office

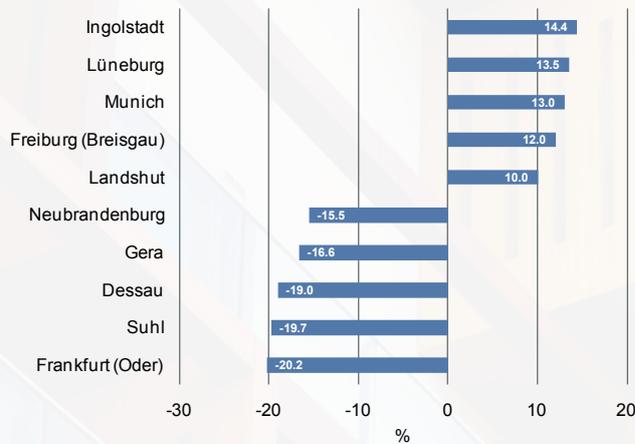


Figure 18: Changes in demand for living accommodation from 2006 to 2025: top 5 and bottom 5<sup>43</sup>

Fig. 18 highlights how drastic the differences can be while also illustrating that socio-demographic development prospects are reflected very clearly in demand for living accommodation: While demand for living accommodation in the cities of Frankfurt (Oder), Suhl and Dessau is projected to decrease by approx. one fifth between 2006 and 2025, double-digit growth is expected in Ingolstadt, Lüneburg, Munich, Freiburg (Breisgau) and Landshut. Both scenarios pose significant challenges for players in the residential market even though they could scarcely be more different. This underlines again how important it is to take a regionally discriminating view of the residential markets.

Although the localised projections for socio-demographic parameters are, therefore, subject to a certain degree of unreliability, they nevertheless provide indications of the very different trends in the individual cities and regions in Germany. In that respect, it would be misleading to assign generally applicable prospects to the German residential market. Overall, however, the latter will be more characterised over the coming 15 to 20 years by an excess of demand rather than supply and the bottom line is that demand for living accommodation will increase. Yet the elaborations of the previous sections demonstrate that conditions within Germany are highly disparate and will continue to develop highly heterogeneously and above all divergently going forward, meaning that only a discriminating view of the individual regions will be helpful in evaluating both the status quo and development prospects.

<sup>43</sup>Cologne Institute for Economic Research. The 125 largest cities in Germany were analysed.



## 5 Analysis of the Investment Market

Events in the investment market for residential property are influenced not only by the attractiveness of the occupier market but also by relevant economic and financial conditions. The current status of these in Germany is therefore analysed at the start of this chapter. We then highlight developments in the German residential investment market, particularly with regard to trade in residential portfolios, as well as the current market situation. After outlining the market in Germany as a whole, we then focus on the individual cities and regions to draw out the different market characteristics and trends.

### 5.1 General Financial and Real Economic Conditions

For its size alone, Germany's residential market is of interest for investors. It has also already been seen in Chapter 3 that the German housing stock is principally in the hands of professional landlords and that the proportion of owner-occupiers is low compared with the rest of Europe. This makes the market all the more appealing to institutional investors. Besides the socio-demographic conditions and prospects discussed in the previous chapter, which make the occupier market attractive, activity in the investment market is principally influenced by general financial and real economic conditions. These consist primarily of the overall economic situation and the medium to long-term growth prospects, as well as interest rates, yields on alternative asset classes and expectations regarding inflation.

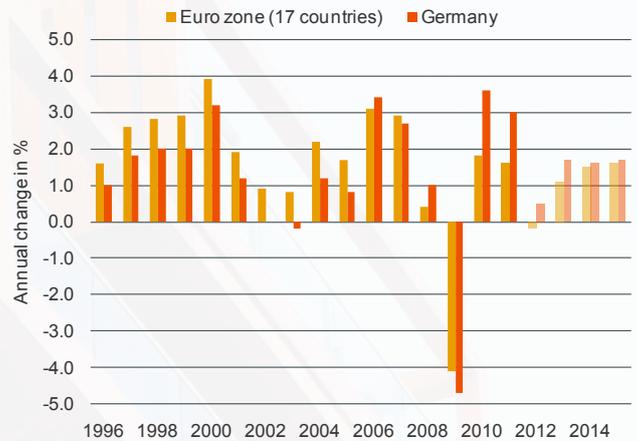


Figure 19: GDP growth in Germany and the Euro zone<sup>44</sup>

<sup>44</sup>Eurostat, Focus Economics

With an annual gross domestic product of approx. 2.5 trillion Euros, Germany is one of the largest economies in the world and the largest in Europe. In global terms, it is also a highly mature economy, meaning that annual GDP growth is significantly lower than in emerging nations such as Brazil, China or India. Over the last 15 years, German GDP has risen by an average of 1.3% per annum, which is even below the average growth rate in the Euro zone, where national economies have shown an average GDP growth of 1.7% per annum (see Fig. 19). However, that picture is likely to change in the coming years. Germany has recovered more quickly than many other European nations from the recession caused by the financial crisis and the growth of 3.6% in 2010 was the highest of any year since re-unification. For the period between 2012 to 2016, it is projected that Germany will see average annual growth of 1.5%. This is both higher than the average growth rate in recent years and in excess of expected growth in the Euro zone, for which current projections stand at 1.2% per annum. While it can be assumed that current projections may be downgraded over the coming months against the background of deteriorating prospects in the European sovereign debt crisis, the German economy can still be regarded as more competitive than many other European nations and should therefore show above-average growth compared with Europe as a whole. Since it can also be assumed that unemployment in Germany will markedly reduce over this period (some experts are even assuming full employment over the coming years), it is expected that incomes of the German population will generally improve in the next few years. In addition, the GDP will be generated by fewer and fewer people meaning that GDP growth per capita will be disproportionately high. This development should be reflected in the residential market, supporting growth in house prices and rentals. The bottom line is that the outlook for the real economic stimuli affecting the residential market is overall positive both in terms of their current status quo and their projected development over the coming years.

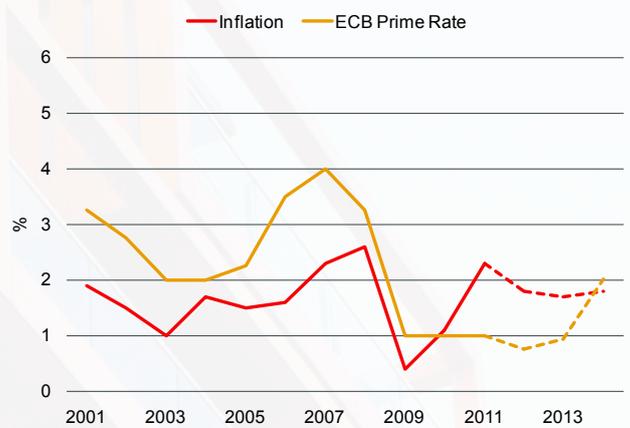


Figure 20: Base rates in the Euro zone and inflation in Germany<sup>45</sup>

The consequences of the sub-prime crisis of 2007-2008 remain evident on the global financial markets although, despite the global debt problems, there has been a certain sense of returning to normal in the intervening period. This is particularly true in Europe where several countries, including Greece and Ireland, have only been saved from the threat of insolvency with the assistance of other nations. Base rates in the Euro zone, which were reduced dramatically by the European Central Bank (ECB) in response to the financial crisis, still remain at historically low levels. Having been held at its lowest ever rate of 1% for almost two years, the main refinancing rate saw its first increase of 25 basis points in April 2011 with a second 25-basis-point rise to 1.5% following in July (see Fig. 20). These actions were necessary as the inflation rate in the Euro zone was already in excess of the ECB's 2% target by the turn of the year from 2010-2011. However, against the backdrop of slowing economic growth, the ECB decreased the prime rate twice in last November and December by 25 basis points to the current rate of 1.0%. The consensus for the predicted base rate by the end of 2012 is currently 0.75%<sup>46</sup>.

<sup>45</sup>European Central Bank, German Federal Statistical Office, Focus Economics

<sup>46</sup>Focus Economics

Hence, the base rate is expected to remain at a relatively low level in the medium term and is unlikely to return in the coming years to the levels seen before the financial crisis (when the main refinancing rate stood at 4.25%). These expectations are founded not least on the concern that excessively sharp increases in interest rates would plunge some of the more highly indebted member states of the European Union into difficulties and thus jeopardise the existence of the Euro and the European Union as a whole. It is, therefore, expected that the rate of inflation will remain above the 2% target and that average price increases over the next five years will exceed those of the previous five years.

Capital market players in the Euro zone are currently predicting average interest on debt capital of around 2% for the next five years (see Fig. 21). After a little peak in mid 2011, where the Euro swap rate was some 140 basis points above its low of autumn 2010, it currently fell back to this point again. Compared to the level reached before the outbreak of the financial crisis and the peak of the previous five years the current level represents a gap of some 300 basis points and more than 340 basis points respectively. In long-term comparison, therefore, interest rates remain low, which represents favourable conditions for financing. Although bank lending has become significantly more restrictive since the financial crisis and risk premiums have increased, the low interest rates are still having a relieving effect.



Figure 21: 5-year Euro swap rate<sup>47</sup>

<sup>47</sup>Thomson Reuters  
<sup>48</sup>Thomson Reuters

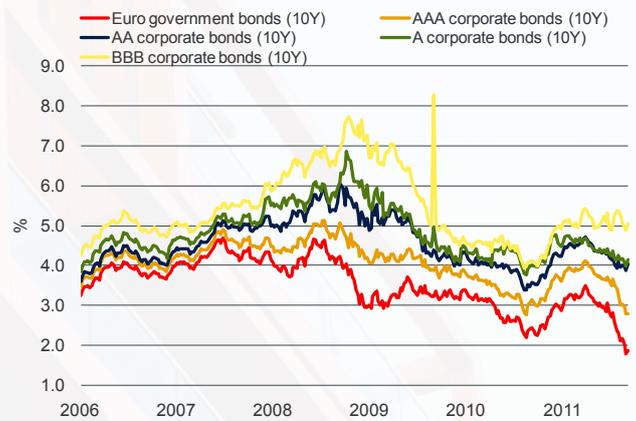


Figure 22: Bond yields in the Euro zone<sup>48</sup>

The continued low interest rates are also reflected in the bond markets. After the insolvency of Lehman Brothers, bond yields in Europe saw a marked short-term increase before entering a continual decline that bottomed out at the turn of the year 2010-2011 (see Fig. 22). Eurobonds with a 10-year term were yielding just above 2% at that time, while bonds for European companies with a AAA rating also fell below the 3% mark. After yield curves have resumed an upward trend, yields dropped again to historically low levels, particularly for bonds with a good rating and all the more since real rates of return are diminishing against a background of rising inflation.

Besides the decline in yields, the period following the financial crisis also saw a spread in yield curves. The spread between yields on bonds with a good credit rating and those with a poorer rating increased significantly. Although yield differences have since declined again, they remain considerably above pre-crisis levels. For bonds with a BBB rating, investors are demanding a risk premium of approx. 125 basis points compared with bonds with the best credit rating. In mid-2007, before the general market had realised the risks associated with the impending sub-prime crisis, the spread was approx. 60 basis points. Against this background, if it is assumed that the rating criteria have not changed in the mean time, then investors are pricing the same risks significantly differently today than before the financial crisis. The risk aversion of the capital market players has, therefore, markedly increased.

Overall, financial and real economic conditions are currently in favour of investment in German residential property. Firstly, the economic prospects for Germany are favourable, particularly when compared with the rest of Europe. Secondly, interest rates are low in relation to historic levels, which, on the one hand, has a positive influence on conditions for raising debt capital from the investor's perspective and, on the other hand, diminishes yield prospects in the bond markets. Yields above 5% in the bond market can currently only be achieved by accepting high risks and the global equity markets, despite their drastic correction in the summer of 2011, remain confronted with a range of significant risk factors including the still unresolved government debt problems of many countries. Thirdly, the expectation of rising inflation is likely to drive investment in residential property, regardless of whether residential property actually hedges against inflation.

## 5.2 Residential Investment Market in Germany - a Retrospective

For a long time, events in the German residential market were essentially dominated by domestic players, who were active on a national or even regional level. International investors largely had a blind spot for Germany. Although no reliable statistics are available, it is likely that transaction volumes resulting from the involvement of institutional investors in the German residential market before the turn of the millennium were in the low single-figure billions. In terms of the total investable stock then, the annual proportion transacted was in the realms of tenths of one per cent. At this time, international players were virtually inactive in the German residential market. Only in the years that followed did Germany's residential investment market re-appear on the agenda of international investors, with predominantly Anglo-Saxon players beginning to turn their focus towards Germany.

A number of factors were decisive in putting the German residential market back on the investors' map. The bursting of the new economy bubble at the turn of the millennium triggered dramatic falls in global equity markets leaving large amounts of capital seeking alternative asset classes. At the same time, interest rates were extremely low (Fig. 20) meaning that, in terms of financing, large volumes of cheap capital was available. Many investors were eager to exploit these circumstances to make large investments using relatively little equity capital both to benefit from the leverage effect and to boost their return on equity. In addition, and this is why Germany in particular came into focus, in 2004 the German economy appeared to be on the brink of an economic upturn after two years of recession and, moreover, German residential property was considered undervalued both in comparison with the rest of Europe and internationally. In contrast to many other European nations, prices for residential property in Germany had not increased in previous years and, against the background of improving economic conditions and rising income expectations, many market players anticipated a corresponding catch-up effect. Another factor in the equation was that the proportion of owner-occupiers in Germany was extremely low by international standards, leading many investors to see considerable potential for privatisation. The impending introduction of real estate investment trusts (REITs) in Germany also played a not inconsiderable role in the formulation of exit strategies. Since, on the supply side, many landlords were interested in selling their residential portfolios at the same time, the market gained significant momentum. Particularly industrial and other non-property companies, some of which had considerable (workers') housing stocks and wanted to dispose of these to focus on their core business activities, were among the most active players on the vendors' side at the beginning of the incipient boom (e.g. Deutsche Bahn, RWE and ThyssenKrupp).

Against this background, a market for residential portfolios developed in Germany at the turn of the millennium in such a form that had never existed before. By and large, the events of the year 2000 to 2007-2008 can be divided into two market phases. The first phase, which lasted until around mid-2004, primarily saw the disposal of residential portfolios by private-sector non-property companies to Anglo-Saxon financial investors. Between 2000 and 2003, larger residential portfolios with combined totals of approx. 100,000 units changed hands each year (see Fig. 23). The largest transactions in these years included the sale of the Gagfah housing association, including 82,000 units, to Fortress, the disposal of some 64,000 rail workers' homes from Deutsche Bahn to Terra Firma and the sale of 48,000 ThyssenKrupp homes to a consortium of Morgan Stanley and Corpus-Immobilien-gruppe. These three transactions alone totalled a volume of just below 10 billion Euros. Numerous additional portfolios totalling billions of Euros also changed hands.

The investment horizon of many of these pioneering purchasers was generally three to five years and exit strategies mostly consisted of re-selling the purchased stocks in the form of smaller portfolios. This was the basis for the residential portfolio market entering a new phase in the second half of 2004. This phase was characterised not only by a significant increase in the number of residential units transacted, but also above all by the inception of a wave of re-sales. Between 2004 and 2007, over 300,000 residential units per annum were transacted in total; approximately three times as many as in the four previous years. The proportion of those units that had changed hands at least twice since the year 2000 reached more than a third of all units transacted during this period. Moreover, the trend was rising significantly. The proportion of re-sold units stood at only approx. 12% in 2004, climbing to 36% in 2005 and, during 2006 and 2007, fewer than half of all units transacted were first-time sales<sup>49</sup>. Many units changed hands more than twice, normally where portfolios were broken down into smaller packages for re-sale.

This trend was reflected in an increase in the number of transacted residential portfolios comprising fewer than 10,000 residential units (see Fig. 23). In many cases, the second purchasers were listed property companies or REITs from abroad, while third and fourth purchasers were often domestic listed property companies or housing companies.

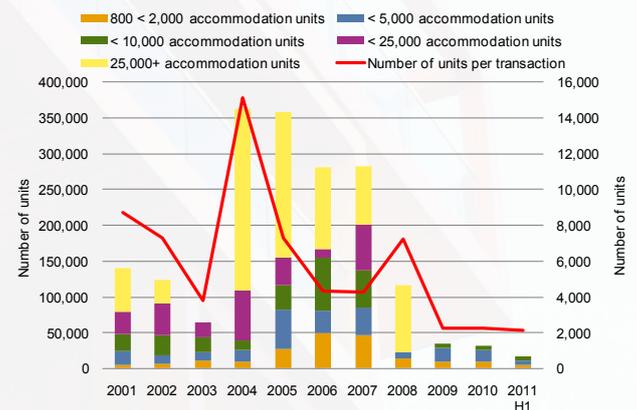


Figure 23: Residential portfolio transactions by size<sup>50</sup>

As previously, very large residential portfolios comprising more than 25,000 units were also transacted during this second market phase. However, vendors of these portfolios were no longer primarily private-sector industrial or service companies but increasingly public-sector bodies who discovered the sale of their own housing stocks as a means of raising funds against a background of strained budgets. The sale of Niedersächsische Landesentwicklungsgesellschaft (NILEG) comprising over 27,000 residential units in July 2005 and the sale of Dresdner Wohnungsbaugesellschaft (Woba) including just below 50,000 units in February 2006 were two such transactions during this period. In total, the federal government, federal states and local authorities disposed of portfolios comprising over 850,000 residential units between 2000 and 2008, accounting for almost half of the 1.8 million units transacted during this period.

The most recent and also the largest disposal of a residential portfolio from the public sector was completed in June 2008 when Landesentwicklungsgesellschaft North Rhine-Westphalia (LEG NRW), comprising approx. 93,000 units, was sold to a Goldman Sachs fund. By this time, however, real economic and above all financial conditions had already considerably

<sup>49</sup>BBSR

<sup>50</sup>BBSR (to 2008), Savills Research (from 2009)

deteriorated. On the one hand, interest rates had significantly increased and, on the other hand, the risks resulting from the sub-prime crisis were becoming increasingly manifest. These two factors combined jeopardised the financial viability of larger property transactions. The situation on the supply side had also changed. Many of the large portfolios in the hands of the public sector or non-property companies had already been sold meaning that the supply of previous years from these two principal vendor groups had considerably decreased. In addition, social and political resistance to the sale of public-sector housing was on the increase, causing some local authorities to shelve their disposal plans (initially). In that respect, trade in residential portfolios in Germany almost came to a standstill from the second half of 2008. Larger portfolios of at least 5,000 units were initially no longer transacted.

Overall, 280 residential portfolios comprising at least 800 units amounting to over 1.8 million units in total changed hands between 2000 and 2008 (see Fig. 24). The cumulative transaction volume from this period stood at approx. 78 billion Euros. In terms of the number of residential units, approx. 9% of the total German apartment stock was transacted during these nine years. In terms of value, transaction volumes during this period equated to significantly less than 5% of the investable housing stock in Germany. These percentages illustrate that the properties transacted via portfolio sales during this period were predominantly of below-average quality and location. By far the largest numbers of units were transacted in North Rhine-Westphalia (approx. 500,000) and Berlin (approx. 400,000). In general, the regional emphasis was on the northern half of Germany while transaction volumes in the Saarland, Rheinland-Pfalz, Baden-Württemberg and Bavaria were relatively low. The average price of units sold between 2000 and 2008 was approx. 42,500 Euros, equating to approx. 650 Euros per square metre. Over time, price levels show a significant upward trend, which is primarily attributable to increasing competition on the demand side. The average price paid per unit was just under 34,000 Euros between 2000 and 2003, increasing to over 53,000 Euros in 2007. Against a background of diminishing supply, particularly of larger portfolios, the prices paid generally reflected portfolio premiums compared with the individual property prices.

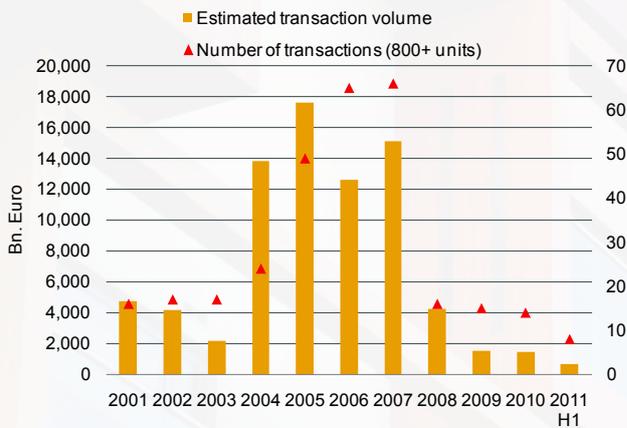


Figure 24: Residential portfolio transactions of at least 800 units<sup>51</sup>

<sup>49</sup>BBSR  
<sup>50</sup>BBSR (to 2008), Savills Research (from 2009)  
<sup>51</sup>BBSR (to 2008), Savills Research (from 2009)  
<sup>51</sup>BBSR (to 2008), Savills Research (from 2009)



From the perspective of those investors who had purchased German residential portfolios at the beginning of the boom, speculation on rising residential values in Germany ultimately bore fruit. However, values had neither risen across the board nor sustainably. Rather, the price increases were limited to the residential portfolio segment and, therefore, only lasted as long as the investor demand for the portfolios was greater than the supply. Values of multiple dwellings or properties on the retail housing market did not increase in this period and overall values in Germany even showed a slight decrease (see Fig. 26). With the widespread crash of the market, prices for portfolios also began to decline again from mid-2008. Later investors in particular had, therefore, paid prices significantly above today's levels and that are unlikely to be reached again for the foreseeable future. The individual privatisation plans pursued by many investors also failed to bear fruit and planned exit options in the form of REITs could not be realised. While the vehicle was introduced in Germany in 2007, residential property built before 2007 cannot be introduced into a REIT.

**5.3 Residential Market in Germany - Current Market Situation**

Some of the prevailing conditions today are wholly comparable with those at the start of the millennium. Interest rates and therefore yields on government bonds or bonds in general are very low in long-term comparison. Against this background, (residential) property investments appear particularly lucrative as they promise considerably higher yields than bonds. However, in terms of the quantity of transacted residential portfolios and units, market activity in recent years has remained at the low levels seen in the second half of 2008. The market remains significantly less dynamic than it was between 2000 and 2007. The number of transactions completed in 2009 and 2010 was comparable with 2000-2003 levels but the portfolios involved were considerably smaller. was comparable with 2000-2003 levels but the portfolios involved were considerably smaller. No portfolios with 10,000 or more units

were transacted in the previous three years. Consequently, the number of residential units sold per annum in 2009 and 2010 was significantly below the levels seen in previous years at 30,000 to 35,000 units. Correspondingly, transaction volumes also decreased significantly to less than 2 billion Euros per year (based upon portfolios of 800 units or larger) (see Fig. 24). This sustained low level of dynamism despite improved conditions can be attributed to two principal factors. Firstly, bank lending has become significantly more restrictive than ten years ago despite the more favourable conditions. The banks are particularly cautious with regard to financing larger property investments outside of the core segment. Secondly, the supply of residential portfolios is lower today than at the start of the millennium. Resistance to the sale of public-sector residential portfolios remains high and pressure to sell is less than acute in view of the good economic situation and associated higher tax revenues. The non-property companies have largely disposed of their portfolios, meaning that no stimulus is expected from that part of the market. In that respect, potential for first sales is very limited. Consequently, the proportion of residential units sold for the first time has been low in recent years: In 2009, almost half of all units transacted were re-sales. In 2010, this was the case with almost all units sold<sup>52</sup>. Even most active vendors of recent years are currently reluctant to sell as the prices achievable are often below the prices the investors originally paid. Since the banks also have little interest in taking portfolios onto their own books, provided that borrowers can service their interest payments, the supply here is also limited.

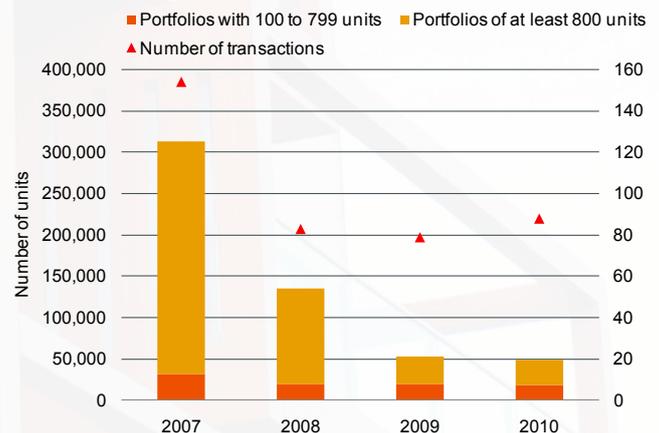


Figure 25: Residential portfolio transactions of at least 100 units<sup>53</sup>

<sup>52</sup>BBSR

<sup>53</sup>BBSR (to 2008), Savills Research (from 2009)

However, a more discriminating view of current market events illustrates that the German residential investment market has reached a turning point. Fig. 25 shows that transactions of residential portfolios have stabilised at a low level over the last two years. It is also evident that transactions of portfolios of fewer than 800 units have decreased far less markedly than transactions of larger portfolios. Activity in this smaller segment has remained largely stable with just under 20,000 units sold each year between 2008 and 2010. The number of transactions also remained largely unchanged at approx. 80 sales per year. 2010 even saw an increase in activity, which has continued into the current year. In the first half of 2011 alone, more than 60 residential portfolios of at least 100 units changed hands. The average portfolio size has decreased further during this period. While just over 2,000 units were sold per transaction in 2007, this figure decreased to a little over 1,600 units in 2008. In 2010, fewer than 600 units were sold on average in each transaction. This trend is also primarily a manifestation of current financing restrictions.

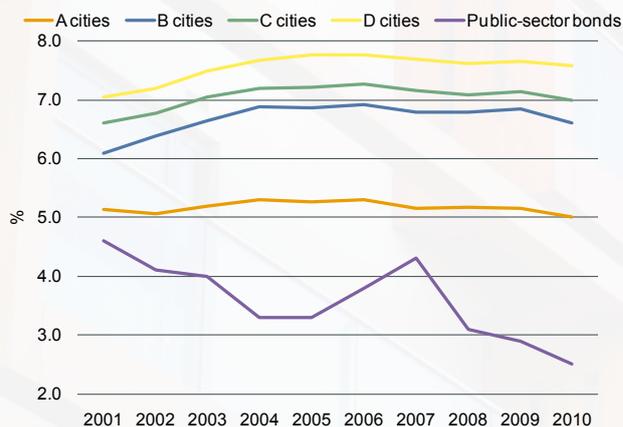


Figure 26: Average gross initial yields for multiple dwellings and yields on public-sector bonds<sup>54</sup>

<sup>54</sup>BulwienGesa, German Federal Bank (Deutsche Bundesbank)

The causes of the comparably low transaction volumes over the last two years, therefore, principally lie on the supply and financing side. In turn, demand for German residential property has increased markedly since mid-2009. Particular demand, reflecting the sustained risk aversion of investors, exists for high-quality assets or project developments in prosperous conurbations, such as Düsseldorf, Hamburg, Cologne and Munich. The previous two years have seen a relatively high volume of transactions in this segment, with short supply again the principal limiting factor. A not inconsiderable proportion of available capital, accumulated principally by closed-end and special funds, cannot be invested for lack of suitable supply. The successful flotation of Berlin housing association GSW and the acquisition of Colonia Real Estate AG by TAG Immobilien AG also demonstrate the current high demand for residential property in Germany. This is also reflected in price trends. Average yields for multiple dwellings, which increased slightly at the start of the millennium and remained unchanged in the years that followed, hardened again for the first time in 2010 (see Fig. 26). This trend is also uniform across all city categories. In A cities, the gross initial yield even fell to an average of 6.2% for the first time in 10 years. Average yield compression across all cities stood at 17 basis points. This took yields below their 10-year average in A, B and C cities last year, while D cities at least reached this level. However, since demand is focused on those cities with promising future prospects, regional price trends show marked differences.

#### 5.4 Regional View of Residential Investment Markets in Germany

Trends in average multipliers achieved on multiple dwellings vary widely for the individual cities. Between 2000 and 2010, multipliers across all cities fell by 80 basis points to an average of 12. German multiple dwellings were, therefore, more than 6% cheaper last year than 10 years previously. However, the spread ranged from an increase of 20% or 250 basis points in Friedrichshafen to a price fall of more than 30% or 450 basis points in Coburg (see Fig. 27).

As with yield trends, the average multipliers paid also show a marked differentiation. The spread ranges from 8.5 in Brandenburg an der Havel, Bremerhaven, Dessau, Gelsenkirchen and Halberstadt to 19 in Munich (see Fig. 28). Looking beyond the average levels to the spreads within the individual cities reveals even greater differences. However, even the limited view of average values highlights the considerable regional differences in yields for multiple dwellings, which are not surprising in view of the very different trends in the occupier markets (see Chapter 4).

Top 10		Bottom 10	
Friedrichshafen	+ 2.5	Coburg	- 4.5
Passau	+ 2.5	Hamm	- 3.5
Potsdam	+ 2.3	Bielefeld	- 3.0
Kempten (Allgäu)	+ 2.0	Gütersloh	- 3.0
Offenburg	+ 2.0	Herne	- 3.0
Ravensburg	+ 2.0	Moers	- 3.0
Tübingen	+ 2.0	Neumünster	- 3.0
Berlin	+ 1.7	Oberhausen	- 3.0
Munich	+ 1.5	Recklinghausen	- 3.0
Münster	+ 1.5	Salzgitter	- 2.6

Figure 27: Trends in average multipliers for multiple dwellings from 2000 to 2010<sup>55</sup>

Top 10		Bottom 10	
Munich	19.0	Gelsenkirchen	8.5
Stuttgart	17.4	Bremerhaven	8.5
Hamburg	16.5	Dessau	8.5
Frankfurt (Main)	16.0	Brandenburg a. d. Havel	8.5
Heidelberg	16.0	Halberstadt	8.5
Konstanz	16.0	Salzgitter	8.9
Passau	16.0	Zwickau	9.0
Berlin	15.7	Frankfurt (Oder)	9.0
Regensburg	15.5	Suhl	9.0
Potsdam	15.3	Flensburg	9.5

Figure 28: Average multipliers for multiple dwellings<sup>56</sup>

<sup>55</sup>BulwienGesa

<sup>56</sup>BulwienGesa; data as at 2010

Significant differences in yields are also found within the individual city categories. In the seven A-cities, multipliers range from 14 in Cologne to 19 in Munich, with an average of 16.2 (see Fig. 29). In other categories, the spread of multipliers is similar or larger, which is also attributable to the greater number of cities in these categories. While average multipliers reduce moving from the A to the D category, values for the B, C and D categories are very close on account of the similar yield spreads and range from 12.6 to 11.5. This analysis alone, which exclusively reflects the differences in the macro-locations, illustrates that the German stock of multiple dwellings facilitates investment across the entire risk-return spectrum. The German residential market, therefore, presents opportunities both for absolute core investments as well as opportunistic investments.

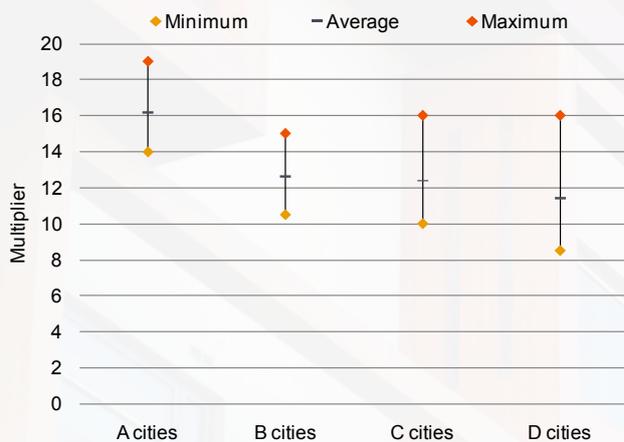


Figure 29: Spread of average multipliers for multiple dwellings<sup>57</sup>

<sup>57</sup>BulwienGesa; data as at 2010

The core markets primarily include the established top 7 locations or A cities of Berlin, Düsseldorf, Frankfurt, Hamburg, Cologne, Munich and Stuttgart. Consequently, these are also the most expensive German residential markets and the largest investment locations. With an investable housing stock of approx. 140 bn Euros, Berlin is the largest residential market in Germany, followed by Munich with approx. 110 bn Euros and Hamburg with approx. 80 bn Euros (see Fig. 30). The remaining four A markets are significantly smaller with housing stocks ranging from approx. 25 bn Euros (Düsseldorf) to approx. 40 bn Euros (Frankfurt). All other markets have an investable housing stock of less than 20 bn Euros and 111 out of the total of 127 Riwis cities have a stock worth less than 10 bn Euros. The total volume of these 127 markets is conservatively estimated at just below 1 trillion Euros, i.e. half of the total investable housing stock in Germany (see Chapter 3).<sup>58</sup>

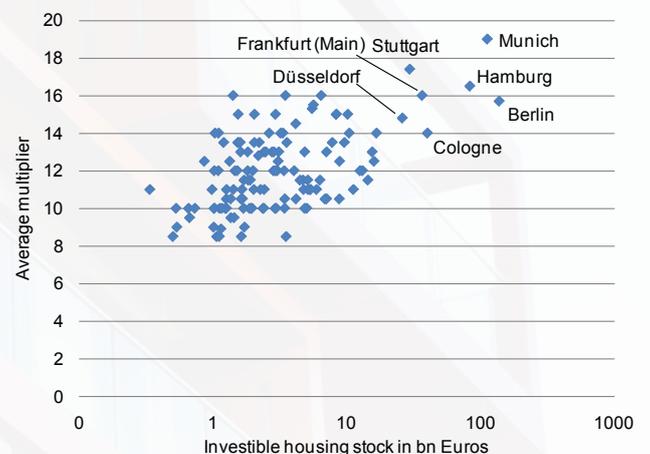


Figure 30: German residential markets - market sizes and price levels<sup>59</sup>

<sup>58</sup>As the two values are estimated differently (sale prices for freehold residential units in one case and capital values for multiple dwellings in the other), they are not directly comparable.

<sup>59</sup>Database: BulwienGesa; data as at: 2009/10

Fig. 30 illustrates that the larger markets tend to produce higher multipliers and are, therefore, more expensive than the smaller markets. None of the 10 largest markets has an average multiplier below 12.5 and none of the 10 smallest markets has a multiplier above 12.5. This relationship, which is quite weak, is attributable to two factors. Firstly, investors primarily focus on the large markets meaning that demand is comparatively high in these locations. This, in turn, contributes to the fact that the larger markets are normally the more liquid markets. This reduces the risk for potential investors as they can calculate their exit more reliably. In other words: the probability that the investor will not be able to achieve an exit is lower in larger markets than in smaller markets. This can mean that very small markets are not regarded as investable locations by some investors as the liquidity risk in these markets is too high. Albstadt, for example, is the smallest of the 127 Riwi cities with an investable housing stock worth around just 300 million Euros. For many institutional residential property investors, this is likely to be too small a market as it is possible that, in purchasing a residential portfolio, they would no longer be acting as price-takers but would be influencing price levels in that location. The same would apply in the event of a potential sale.

Besides the liquidity risk, the attractiveness of a residential market as an investment location is influenced by a range of other factors, all of which originate from the occupier market. The positions of the cities of Frankfurt and Cologne in Fig. 30, for example, indicate that the risks arising from these factors are greater in Cologne than in Frankfurt, since the size or liquidity of the two markets is very similar. A similar situation applies in Düsseldorf and Stuttgart. The average multiplier in Düsseldorf is 260 basis points lower than in Stuttgart, despite the two markets being of similar size. For investors, closer inspection is warranted here to assess whether these yield differences are actually explained by structural market risks or whether, despite the risks being equal in the two cities, one market is valued less highly by market players and therefore presents a lucrative investment opportunity.



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Eurostat

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