

ACCENTRO



HOUSING COST REPORT **2020** FOR GERMANY

IW Survey

An Analysis of Rents and Owner-Occupied-Housing Costs in 401 Districts

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SUMMARY

The user cost approach makes it possible to compare rental costs with the recurrent costs borne by homeowners. The approach is used to determine the relative economic benefit of owning your home outright versus renting your home.

The drop in interest rates on mortgage loans caused the running costs for homeowners to decline between 2018 and 2019. In nearly all German districts, the cost burden is lower for owner-occupiers than it is for tenants. The declining interest rates lowered not just the running costs of owners relative to those of tenants, but in many cases also reduced the annuities to be paid on real estate financing arrangements. Although selling prices for residential property have continued to go up, their upward growth was slower than the downtrend in interest, so that the financing volume associated with the acquisition of real property has been reduced, and often substantially so.

The economic implications of the coronavirus crisis and the associated threats to the housing market do not have the same relevance in every region. Especially in southern Germany, the risks that residential property prices will have to be adjusted seem very high, making it the first region where expectations may have to be revised. The exact opposite is true for eastern Germany, where rent hikes—and therefore price hikes—are likely.

Due to financial worries associated with the threat of collection losses for landlords, this year's survey will also take a look at private landlords in Germany. The percentage and number of private landlords has gone up significantly in recent years, making it safe to conclude that many German households took advantage of the favourable terms of financing in recent years. The analysis also shows that a large percentage of the private landlords generate only negligible rental income from letting their properties. Collection losses due to the coronavirus pandemic could expose this group, which is an important one for Germany's rental housing market, to severe financial hardships.

1 INTRODUCTION

The ACCENTRO Housing Cost Report is now out in its fifth edition. As in previous years, it seeks to answer the question what is more affordable in Germany: renting your home or owner-occupying it? The question is important not just from the perspective of the individual, but also permits conclusions concerning the future trend on the housing market.

The coronavirus pandemic and the economic crisis it has triggered make this question all the more pressing. Generally speaking, the user cost approach chosen for the survey illustrates that the market is anything but overvalued. Accordingly, the housing market's potential for setbacks is limited, and a crash along with a price drop by more than 20 percent, as predicted by some experts (Braun/Simons, 2020), appears unlikely. However, it is just as unlikely that the pre-crisis price boom on the housing market will simply resume. Rather, there is reason to believe that this year will more or less be characterised by stagnation. Just when business will pick up again depends essentially on the gravity of the economic crisis and the time it will take companies to recover. This year's survey includes a brief chapter dedicated to this subject.

Yet for private households, the question whether they are better off renting or buying has not lost in relevance in face of the ongoing crisis, and it remains as relevant as ever for investors, too. One again, this underscores the particularly crisis-proof nature of the housing market: Residential accommodation is something you cannot do without. Office workplaces may become redundant, and the demand for retail units and hotel rooms may contract in future, but every person needs a place to live. The dwelling size is admittedly subject to change as you move through life's stages—with children moving out, for instance—but the need for housing in some form is ultimately non-negotiable. With this in mind, the Housing Cost Report provides extensive decision guidance to help determine which form of use is more advantageous when everything is said and done. As a result, these observations are relevant to investors, too.

The report therefore includes a chapter dedicated to this type of investor or, by analogy, to private small-scale landlords. Private small-scale landlords are decidedly relevant for the German housing market, as they account for two out of three rental flats. Yet relatively little is known about this group, and especially in politics and the media you will often come across the naive notion that landlords in general are fabulously well to do. In truth, this group of landlords is highly heterogeneous, and includes a wide variety of social groups.

All things considered, these are challenging times, for households, for business and for society at large. However, the present analysis reveals that the housing market can act as a stabilising factor, the way it has done on occasion in the past, and in this role may actually steer clear of a drastic economic slump. Moreover, it continues to offer opportunities, even and especially for private households. Homeownership investments can not only be used to build wealth of a sort that is particularly resilient in times of crisis, but homeownership will also potentially lower your recurrent housing costs. All the more reason for the body politic to help people take the step into homeownership even in times of crisis.

2 IMPLICATIONS OF THE CORONAVIRUS PANDEMIC

So far, the media have considered the user cost approach applied here as a good way to check whether buying is cheaper than renting. There is principally nothing wrong with that, but as we have always pointed out, the user cost approach also enables you to identify over- and under-valuations. It is safe to say, after all, that the difference between owner-occupied housing costs and rental costs will eventually level out, because people relocating tend to choose whatever type of accommodation is more affordable. But due to the high transaction costs and the relatively low number of removals, these processes can take a relatively long period of time. So, whenever owner-occupied-housing costs exceed rental costs, it is reasonable to assume that prices will generally soften—as Himmelberg et al. (2005) predicted in the run-up to the financial crisis in the United States. If, by contrast, owner-occupied-housing costs undercut rental costs, prices can be expected to rise.

This is precisely the situation that has prevailed in Germany for a number of years now. The underlying cause is that interest rates fell quicker than prices increased. As the subsequent calculations show, the gap between rental costs and owner-occupied-housing costs actually kept widening in 2019 because interest rates continued to go down, and considerably so. This in itself is already an important message, as it makes an abrupt deterioration of prices unlikely since it would further widen the gap between rental costs and owner-occupied-housing costs. To expect prices to keep rising instead also seems to be oversimplifying things, given the severe economic crisis that is beginning to unfold at the moment.

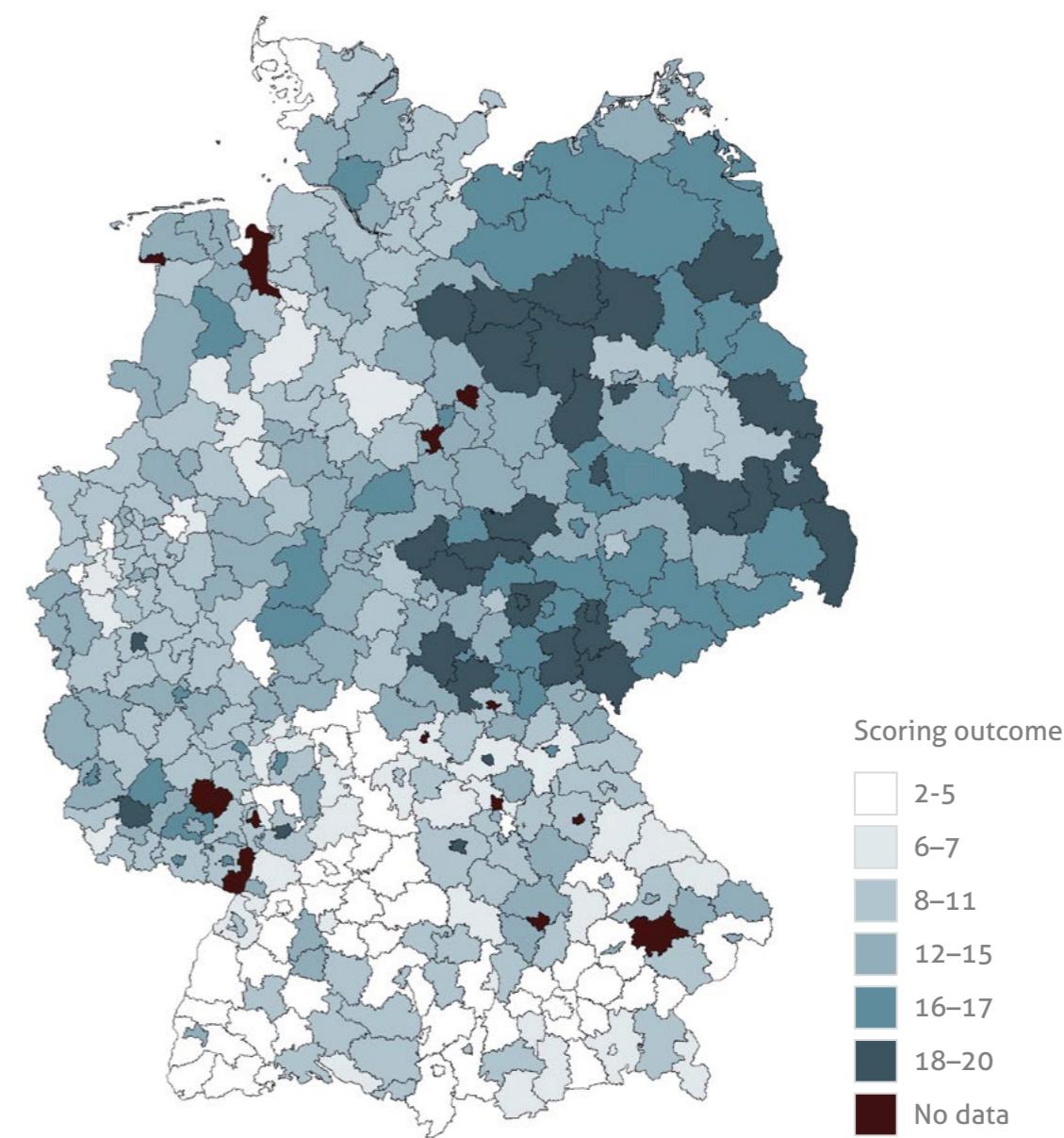
So, what is the best way to interpret the user cost approach in times of an economic crisis? In order to answer this question, we need to remember that adjustments to rental costs / owner-occupied-housing costs can also be triggered by factors other than prices. For one thing, we need to look at the development of rents. Re-letting rents have been going up in recent years, in some places more so than in others, as a result of the housing shortage, but have also driven up wage increases (Sagner/Voigtländer, 2018). In the wake of the economic crisis, wage growth will slow its pace, while unemployment and insolvencies will actually imply lower income levels for many people. Of course, it would be atypical for residential rents to soften, as landlords would seem more likely to accept temporary vacancies. If nothing else, however, it is reasonable to expect the rental growth to slow down or indeed flatline in many places. The longer rents stagnate, the more likely it would be for the gap between owner-occupied-housing costs and rental costs to close. Further adjustments could be tied to expectations regarding the future price trend. A key component of the owner-occupied-housing costs are the price expectations because owners participate in the price trend on the housing market. As an indicator for the price growth to be expected, we studied the average price increase between 2005 and 2019. The period covers both a stagnant cycle and a boom cycle. Moreover, price expectations above an upper limit of three percent are ignored to keep the fast price growth seen lately from weighing in too heavily.

Depending on how grave the ongoing economic crisis will turn out to be, it may become necessary to adjust these expectations. If, for instance, Germany were to descent into a structural crisis extending over years, this would call for a re-appraisal of long-term price expectations. But for the time being, the chances for a swift recovery remain very high (SVR German Council of Economic Experts, 2020) while historic pandemics such as the Spanish Flue of 1918 were matched by a remarkable resilience of market economies and a speedy return to pre-crisis growth dynamics (Garett, 2007). This suggests that the prospects of overcoming the crisis quickly are quite good, which in turn would make it seem premature to revise the long-term expectations just yet. It is also reasonable to assume that the interest rate development will help to stabilise the market, because interest rates are more likely to fall than to rise. This observation is based mainly on three arguments:

1. For demographic reasons, real interest rates have been falling in recent decades. Life expectancy has consistently gone up whereas Germany's state pension age has remained more or less the same. This results in a growing accumulation of savings. As the working population is shrinking at the same time (due to the low birth rate), investments are not growing at the same rate or, in some respects, actually declining. The growing imbalance between savings and investments keeps pushing down interest rates, so that negative real returns should be expected in many national economies in the long run (Demary/Voigtländer, 2018).
2. The ECB has announced extensive measures designed to stabilise markets. Bond purchases will increase by 750 billion euros before the end of 2020, bringing the total volume of such purchases up to 1.1 trillion euros. The experiences made during the financial crisis and the sovereign debt crisis show that interventions of this kind will put pressure on interest rates with both short and long fixed-interest periods. Again, though, their actual effect will depend on the expectations among market players.
3. Jordà et al. (2020) examined the long-term macroeconomic effects of pandemics. One of the key findings was this: Real interest falls in the wake of pandemics. Unlike in the case of war, where the postwar period sees a surge in investments, the capital stock remains intact in the case of pandemics, whereas demand for goods and services is down as a consequence of income losses. The situation is compounded by the fact that more people start saving their money, causing an increase in liquidity holdings as a precautionary measure.

Regardless of the overall effect of the crisis on the economic growth, a crisis of this magnitude may also cause shifts among the various regions and cities. Especially regions with strong dependence on a selected few industries, which have been harder hit by the crisis than others, could collectively fall behind, and this could in turn be reflected in the long-term development of condominium prices. Inversely, other regions could benefit from the situation, thereby improving their outlook. It is still too early to venture definitive assessments of such regional repercussions, because the degree of uncertainty is still too high. Nonetheless, the angles discussed below provide first clues indicative of the further developments. On the one hand, it is quite revealing to take a close look at the connection between wage growth and rental trend. Wherever rents outpaced wages in recent years, there is a chance that rental growth could pause for an extended period of time. By contrast, wherever rents have been rising at a markedly slower pace the wages, rents could actually keep pushing up despite the crisis. Another angle is provided when you study the industry structure of the various regions. Using the business surveys of the ifo Institute for Economic Research, Oberst/Voigtländer (2020) derived the number of social security-covered jobs in those industries that are particularly hard hit by the economic crisis (Sauer/Wohlrabe, 2020). In addition to tourism, the accommodation and food service sector, and the physical non-food retail sector, these are particularly the sectors of the manufacturing industry, which are suffering from supply chain disruptions. The two effects can easily be brought together in a scoring model. Applying both criteria, all of Germany's 401 districts were subjected to a ranking that returned point scores for each. A district, for instance, that counts among the 10 percent with the greatest difference between wage growth and rental growth between 2014 and 2018, scores 10 points, while districts included in the next 10-percent cohort still score 9 points. An analogous approach was taken to study the industry sectors, the top-scoring 10 percent of the districts being those that showed the lowest percentage of social security-covered jobs in exposed industries. The point scores were added up in the next step. For the outcome, see Figure 2.1. For 13 of the districts, no scores were posted because some of the employment data by industrial sectors on the level of the 410 districts and independent cities is only available in censored form. The evaluation therefore included only those districts where at least 75 percent of all social security-covered jobs in the respective district could be allocated to a specific industrial sector.

Figure 2.1: Scoring rent growth and wage growth¹⁾ as well as the economic resilience of the employees²⁾ in Germany's districts in the wake of the coronavirus pandemic



1) Difference of wage growth and rent growth on new tenancies between 2014 and 2018 (cf. Sagner/Voigtländer, 2020).
 2) Impact as percentage of social security-covered jobs in exposed economic sectors.

Source: IW Economic Institute

As Figure 2.1 illustrates, the risks were very unevenly spread. Especially in southern Germany, the risks appear to be very high, making it the first region where expectations may have to be revised. Things look quite different in eastern Germany. Here, rent hikes—and therefore price hikes—seem quite likely. The situation in western and northern Germany is generally more complex. While the map provides a first take on the risks of the economic crisis, that is ultimately all it does. Especially southern Germany with its many innovative and creative small and medium-sized enterprises could successfully master a possibly looming structural shift. In eastern Germany, by contrast, the short supply in skilled workers would compromise potential opportunities for growth. Accordingly it is too early to derive any conclusions concerning the housing market. But especially opportunistic investors should consider the regions in eastern Germany. The IW Economic Institute will carefully study the development and, if needed, adjust its projected long-term price expectations.

3 OWNER-OCCUPIED-HOUSING COSTS

3.1 Notes on the Methods Used

Operationalization

The user-cost-of-housing approach lets you compare the running costs of owning your home versus the running costs of renting it. The approach is based on the works of Poterba (1984) and Himmelberg et al. (2005) and permits a juxtaposition of running rental costs on the one hand, and the expenses associable with owner-occupying a property, on the other hand. In several important ways, the user cost approach differs from a simple comparison of the annual debt service—meaning the total amounts paid toward interest and redemption—with rent payments. One of the differences is that repayments of loan principals are not taken into account because they help to build personal wealth in a manner that is without analogy among tenants. Owner-occupied-housing costs can be broken down into five components. The approach can be represented in the following mathematical formula:

$$SNK_{k,t} = P_{k,t} \cdot (b \cdot i_{E,t}) + P_{k,t} \cdot (s + a) - P_{k,t} \cdot \widehat{\Delta P}_k + P_{k,t} \cdot (1 - \tau_t) \cdot (1 - b) \cdot i_{A,t} + P_{k,t} \cdot (m_{k,t} + g_{k,t} + n + e) \cdot (1 - \tau_t) \cdot i_{A,t}$$

The formula above shows the calculation of the owner-occupied-housing costs per year ("t") and district or independent city ("k"). The first term designates the interest costs accrued at the time ("t") to be paid toward the debt share ("b") of the purchase price ("P_{k,t}"). The higher the mortgage interest rate and the higher the equity stake, the higher this cost component will be. The next term itemises the refurbishments costs ("s") and amortisation ("a"). This cost item represents a percentage relative to the purchase price of the property, and is associable with an opportunity basis. Naturally, modernisation costs are not incurred every year, and they could, in principle, be avoided altogether throughout the occupancy period. However, skipping these capital expenditures exposes the property to depreciation. Moreover, the next term of the calculation takes the long-term performance ($\widehat{\Delta P}_k$) of the property into account. A positive performance of the property will bring down the owner-occupied-housing costs. A property acquisition is usually financed to some extent with equity capital. The equity stake "(1 - b)" could alternatively have been invested on the capital market. Such an investment would yield returns ("i_{A,t}") and would be taxed at a certain rate ("τ_t"). Not least, buying property incurs incidental acquisition costs. These break down into estate agent fees ("m_{k,t}"), real estate transfer tax ("g_{k,t}"), notarial charges ("n") and the entry into the land register ("e"). The incidental acquisition costs, just like the equity paid down, could have been invested into something else. The taxed earnings from this assumed alternative investment increase the owner-occupied-housing costs accordingly.

Data Sources

Representing the owner-occupied-housing costs subsequently on the level of Germany's 401 districts and independent cities presupposes regionally differentiated data for the property prices. The real estate prices are obtained from two data sources. For a direct comparison of rents with purchase prices, you need to make sure that the properties resemble each other in terms of fit-out level and residential location. But even if you find such matches, the actually bought or rented residential properties will differ over time and from one region to the next. In order to make the prices comparable across different regions and time periods nonetheless, we use hedonic prices. The data source we relied on to determine owner-occupied-housing costs and their economic benefit over rents is vdpResearch, a real estate market research firm that provided first-sale prices or resale prices and rents from thoroughly refurbished period buildings in good locations and with good specifications. For the expected long-term appreciation of the properties, we used the property price performance data available from the F+B research institute, which make it possible for us to derive an average annual price performance since 2005, up to and including 2019. The price performance includes the very modest price trends of the Zero Years and the accelerated growth rates during the decade just concluded. To avoid undue weighting of the price growth of the recent past, we limited annual price expectations to a maximum of +3 percent per year.

The average equity interest share in financing arrangements were sourced from publications by Dr. Klein (2020). To calculate the owner-occupied-housing costs, we imputed the average value across the observation period. On the whole, the equity stake, while having only a negligible effect on the amount of the running owner-occupied-housing costs, does influence the costs over the entire loan term because the repayment of the mortgage loan will take longer the smaller the down-payment is that a buyer made. On top of that, low equity stakes can prompt an interest mark-up.

The interest rates our calculations imputed for mortgage loans and alternative investments were obtained from the Bundesbank. The mortgage interest rate we imputed represents the mean effective interest rate that German banks charge for housing loans to private households with an initial fixed interest period of more than ten years (Deutsche Bundesbank, 2020a). The interests rate we applied to alternative investments represent the mean current yield rates on domestic bearer bonds (Deutsche Bundesbank, 2020b). Bearing in mind that income from alternative investments are taxable, we imputed the average tax rate as delineated in the fiscal statistics (BMF Federal Ministry of Finance, 2019).

The actual amount of the incidental acquisition costs depends on the notarial charges, the real estate transfer tax rate and the estate agent fees. The real estate transfer tax, a state level tax, can range from 3.5 to 6.5 percent of the selling price. The estate agent fees are normally split between buyer and seller, but on some markets are fully borne by the buyer. They normally range from 3.57 to 7.14 percent of the selling price.

Table 3.1: Variables and data sources

Variable	Explanation	Source
P_{kt}	Purchase price, in euros per sqm of dwelling floor area	vdpResearch (2020)
b	Debt capital share	Dr. Klein (2020)
$i_{E,t}$	Mortgage interest rate	Deutsche Bundesbank (2020a)
$i_{A,t}$	Current yield on bearer bonds	Deutsche Bundesbank (2020b)
τ_t	Tax rate	BMF (2019)
ΔP_k	Purchase price change	F+B (2020)

Source: IW Economic Institute

Model Calculation

This section will illustrate the calculation of the owner-occupied-housing costs by determining them for a model city as follows. Let us say that the purchase price per square metre of dwelling floor area is 4,000 euros. The incidental acquisition costs break down into the real estate transfer tax (in this case 6 percent), the agent's fee (in this case 3.57 percent), the costs of the land register entry and the notarial charges (in this case 1.525 percent), adding up to a sum total of 444 euros per square metre or about 11 percent of the purchase price. Let us assume the leverage is 78 percent and subject to an interest rate of 1.5 percent. To determine the opportunity interest that the investment of the amount paid down could earn on the capital market, an equity stake of 22 percent is assumed. Here, an interest rate of 2.5 percent is imputed, which represents the average current yield that German bearer bonds generated in 2019. Investment income of this sort is taxable, the imputed tax rate being 22.9 percent (average tax rate as delineated in the financial statistics for 2018 and adopted for 2019 as well). The expected annual price growth rate is imputed as 2.5 percent.

$$\text{SNK}_{(\text{noname city, 2019})} = 4000 \cdot (0.78 \cdot 0.015) + 4000 \cdot (0.01 + 0.02) - 4000 \cdot 0.025 + 4000 \cdot (1 - 0.229) \cdot (1 - 0.78) \cdot 0.025 + 4000 \cdot (0.0357 + 0.06 + 0.01525) \cdot (1 - 0.229) \cdot 0.025$$

The above assumptions return owner-occupied-housing costs in an amount of c. 92 euros per square metre of dwelling floor area and year, or 7.69 euros per square metre and month. Assuming a hypothetical rent level of 9 euros per square metre would put the owner-occupied-housing cost advantage at around 15 percent.

Delineation from Annuity Accounting

A conceivable alternative to the user cost approach would be to compare annuities—meaning the annual payments of interest and principal on a mortgage loan—with rental costs. For the purposes of interpreting the owner-occupied-housing costs, it makes sense to identify the differences in calculation methods and the assumptions underlying the user cost approach.

In the financing context, we need to distinguish between interest payments and repayments of the principal. Interest payments are the costs paid to the bank for lending the debt capital that was borrowed to buy a given property. Principal payments, on the other hand, describe that part of the loan that corresponds to the proportional value of the property acquired. Accordingly, these payments do not qualify as costs, because this share of a loan is fully reflected in the value of the property. The annuity is calculated to determine the recurring amount that a household must keep on hand during the phase of repaying interest and principal. So, this variable is relevant when you decide—based on your household budget—whether or not you can afford the financing arrangement for a given property.

The idea behind the user cost approach is another, as it is based on the premise that the costs of owner-occupancy will match the costs of renting your home in the long run. The approach therefore focuses on the costs to be paid on a recurring basis by an owner-occupier. In annuity accounting, only the interest payments to be paid on the borrowed capital portion are taken into account as costs, whereas the residential user cost approach also takes the opportunity costs into account. Opportunity costs are defined as those revenues that could hypothetically be generated if the capital used for the acquisition of real property were invested in an alternative (risk-free) investment product instead. No opportunity costs of this type are considered in classic annuity accounting. The latter also ignores costs such as depreciation or refurbishment losses as well as the appreciation of the property through long-term price growth. That being said, annuity accounting is by all means informative and shows the absolute cost trend over time. Findings obtained from this approach are therefore included in the survey as well.

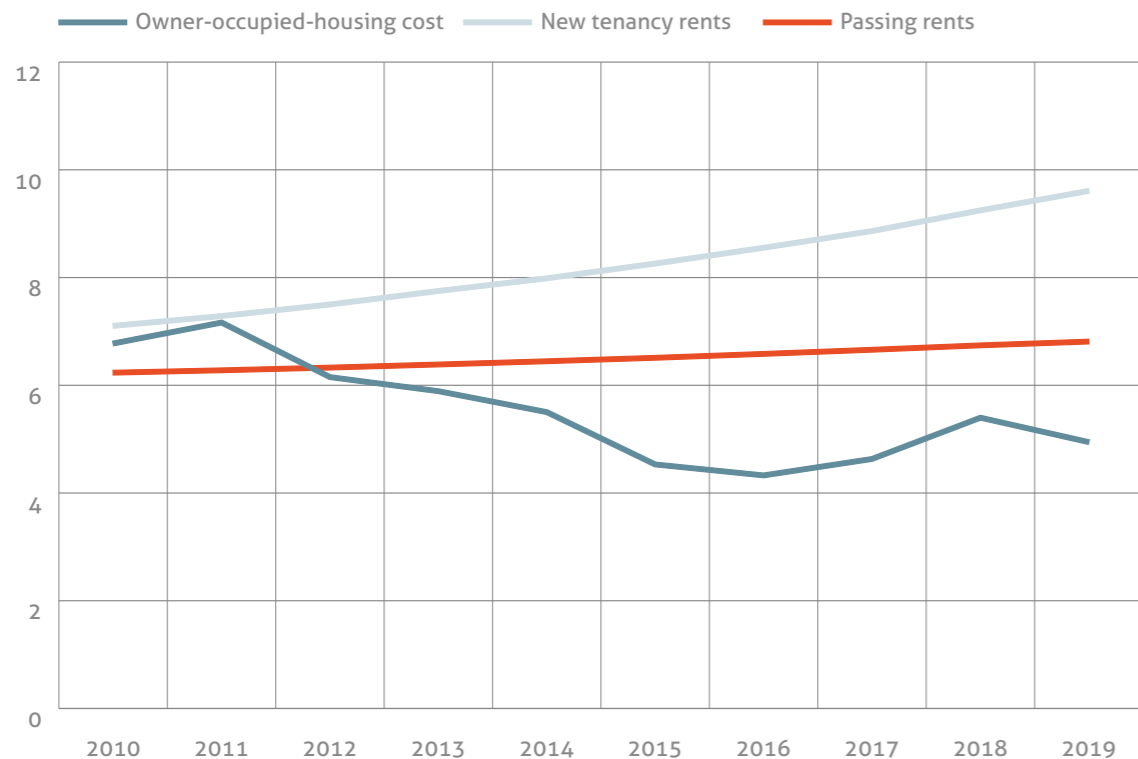
3.2 Findings for Germany

The average owner-occupied-housing costs in Germany undercut rental costs nationwide. The population-weighted average costs for owner-occupiers have lately stood at 4.94 euros per month. Compared to the rental costs for a comparable condominium, which are 9.61 euros a month, owner-occupiers have a cost advantage of 48.5 percent. As Figure 3.1 shows, owner-occupied-housing costs declined year on year.

A key aspect underlying this outcome is the interest rate development. The interest rate charged by German banks for housing loans to private households with an initial fixed-interest period of more than ten years averaged 1.96 percent in 2018 and 1.54 percent in 2019 after another significant drop. This drastic reduction in interest rates, combined with a virtually stable level of interest rates for alternative investments—in this case the current yields of domestic bearer bonds—has caused a decline in owner-occupied-housing costs. The lower mortgage interest rates reduce the interest payments for debt financing, while the opportunity costs of an alternative investment of the equity share and ancillary acquisition costs on the capital market have failed to increase due to the virtually unchanged current yields.

Overall, the convergence process of owner-occupier and rental costs, which seemed to be imminent between 2016 and 2018, is stalled for the time being. During this phase, mortgage interest rates remained largely stable, while the increase in purchase prices, especially in metropolitan regions and conurbations, gained considerable momentum during the same phase. But even in Germany's metropolises, the interest rate drop has checked this trend lately.

Figure 3.1: Trend in owner-occupied-housing costs and rents¹⁾
Population-weighted German²⁾ average, in euros per square metre of dwelling floor area and month



1) Passing rents (F+B, 2020) refer to a dwelling of standard fit-out specifications and state of repair. Rents on new leases (vdpResearch, 2020) and selling price are based on transaction data and refer either to first-sale prices or to resale prices of fully refurbished flats in good locations and with good specification.
2) With no population data for 2019 available yet, the population weightings of 2018 were adopted for 2019, too. To do the census reset of 2011 justice, retrograde calculation was used for 2010 as defined by the BBSR Federal Institute for Research on Building, Urban Affairs and Spatial Development (2018).

Source: IW Economic Institute, vdpResearch (2020); F+B (2020)

3.3 Findings for the “Big Seven” Cities

The economic benefit of owner-occupied-housing costs varies strongly among the districts and independent cities – the same being true for Germany’s seven largest cities, which we will dwell on here because of their population size and their relatively high share of tenants.

Figure 3.2 shows the trends of owner-occupied housing costs and rental costs in euros per square metre of dwelling floor area and month for the seven largest German cities. These major German cities show stark differences in housing costs. According to transaction data provided by vdpResearch (2020), new tenancy rents or rents for thoroughly refurbished period flats with good specification on new leases in Munich averaged 21.50 euros in 2019, whereas the selling price was 7,784 euros for a comparable flat, making Munich the most expensive among the seven metropolises or “Big Seven.”

Still most affordable within this group is the German capital. In Berlin, a rental flat with the same characteristics as described above was renting out for an average of 12.70 euros in a new tenancy in 2019, compared to a price tag of 5,180 euros per square metre of dwelling floor area. In addition to the trend in new tenancy rents, Figure 3.2 shows the level and developments of the average passing rents for flats in multi-dwelling units with average specifications in normal locations (F+B, 2020).

Figure 3.2: Owner-occupied-housing costs and rents in Germany’s metropolises
in euros per square metre of dwelling floor area and month



Source: IW Economic Institute, vdpResearch (2020); F+B (2020)

Figure 3.2 shows a trend in owner-occupied-housing costs in the metropolises that is very similar to that of the population-weighted average for Germany as a whole (Figure 3.1). Due to their high population weightings, the trends in rents and prices in the major cities definitively influence the findings on the national level. Since the imputed interest rate is the same for every district within a given period, the relation of owner-occupied-housing costs to rents at a given point in time will also reflect on the relation of selling prices and rents. A divergent trend in owner-occupied-housing costs from one region to the next over time should therefore be attributed to a shifting relation of rents to selling prices.

In 2019, the interest rate drop caused owner-occupied-housing costs to decline in all of Germany's metropolises year on year. However, the pace of the one-year drop in owner-occupied-housing costs differed from one metropolis to the next, being fastest in Munich at minus 10.6 percent and slowest in Berlin at minus 7.8 percent. The figures reflect the differences in the year-on-year changes in selling prices and rents: In Munich, rents went up by 3 percent compared to their 2018 levels and selling prices by 5.6 percent, whereas in Berlin, rents rose by 3.4 percent and selling prices by 7.8 percent, so that the interest rate drop was less effective in cushioning the rise in the price-rent ratio than it was in Munich.

Table 3.2 captures the interconnectedness of the cost advantage of owner-occupancy, gross initial yield and gross rent multiplier for the seven largest German cities. A high cost advantage of owner occupancy correlates with relatively high gross initial yields and low gross rent multipliers. Berlin showed the lowest cost advantage of owner occupancy relative to that of the other metropolises in 2019 at 35.1 percent, which coincided with the lowest gross initial yield at 2.9 percent and a gross rent multiplier of 34. Inversely, the greatest cost advantage of owner occupancy over renting among the "Big Seven" cities was reported from Cologne with 59.5 percent, the gross initial yield here being 4.6 percent and the gross rent multiplier 21.9.

Table 3.2: Relation of cost advantage of owner occupancy, gross initial yield and gross rent multiplier in German metropolises in 2019

City	Cost advantage of owner occupancy	Gross initial yield	Gross rent multiplier
Berlin	35.1 %	2.9 %	34.0
Düsseldorf	58.7 %	4.5 %	22.3
Frankfurt am Main	55.6 %	4.2 %	23.6
Hamburg	43.1 %	3.3 %	30.6
Cologne	59.5 %	4.6 %	21.9
Munich	45.9 %	3.3 %	30.2
Stuttgart	51.0 %	3.7 %	26.9

Source: IW Economic Institute, data source: vdpResearch

The findings illustrate that nothing suggests a serious potential for setbacks in major German cities; and this although the most recent interest rate cut has not even been priced in. Even though the economic crisis could cause the price growth to stall this year, the values clearly suggest that prices could start rallying again, at least in the medium term.

3.4 Digression: Berlin's Rent Cap

The calculations for the Berlin market shown here apply principally to flats built in 2014 or thereafter only. The reason for this is the rent cap ("Berliner Mietendeckel") introduced in early 2020. The rent cap legislation stipulates not only that the rents of all flats built prior to 2014 be frozen for a five year period but moreover that rents be lowered. In case the lease is renewed, the rent rate must not exceed the level of the 2013 rent rolls, allowing for the real wage performance since but ignoring differences in location. In about 70 percent of the flats listed in 2019, the rents would have to be reduced by 25 percent (cf. Sagner/Voigtländer, 2019a). Rent reductions are expected to be particularly drastic in central districts such as Friedrichshain, Mitte or Prenzlauer Berg. Moreover, rents on unexpired leases must be lowered if they are more than 20 percent above the local reference rent of 2013. This, too, applies to roughly half of all flats, and thus to a significant share of the market. The rent cuts will make renting more attractive and therefore stimulate demand for rental flats. But the problem is that the demand for rental accommodation cannot be met. Landlords will probably respond to the changed situation by selling flats to owner-occupiers because the sales proceeds can be expected to exceed the cash value of the regulated rent revenues. Maennig (20/03/2020) shows that the percentage of flats that are earmarked for sale has visibly increased in relation to the percentage of rental flats. So, although rental flats are principally more affordable, they are simply unavailable, rendering the user cost approach inapplicable for an analysis of this market.

A highly relevant question in this context is how prices for condominiums completed before 2014 will develop. Based on a cash-flow analysis, Sagner/Voigtländer (2019b) argued that prices could drop by around 40 percent. Such massive price reductions could primarily affect those landlords who do not have the option to sell to owner-occupiers, for instance because their flats are located in areas subject to preservation statutes. In other cases, the price discounts are likely to be more moderate as long as demand among prospective owner-occupiers remains high. It is still too early to venture a conclusive assessment as to which way the market will actually be trending. Another definitive factor will be how market players interpret the political situation. If the majority of market players were to assume that the rent cap will be scrapped before long, for instance because it is unconstitutional, the discounts will be much more modest than they would be if market players had reason to believe that the rent cap will be extended by another five years.

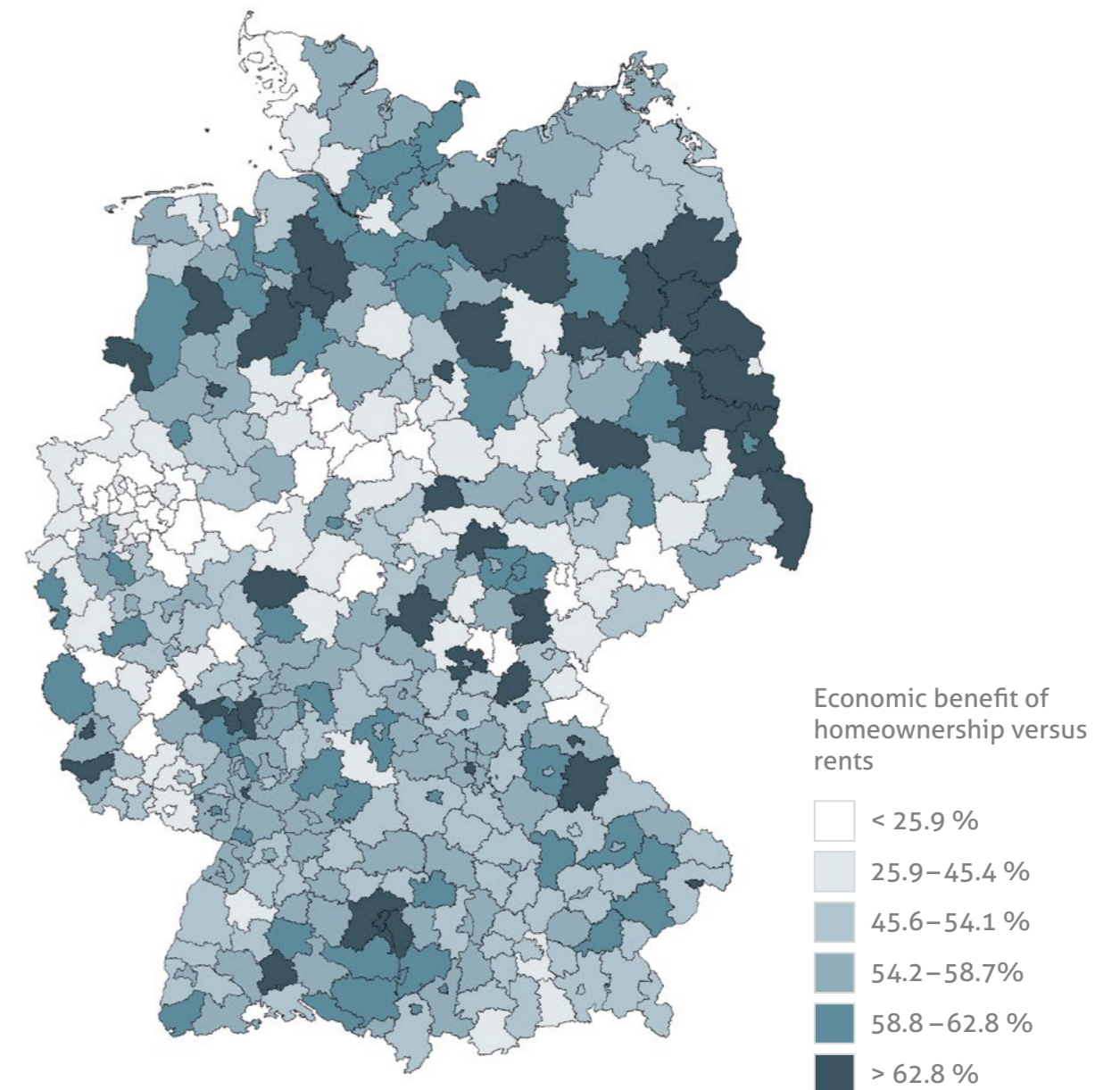
That being said, the current regulatory situation could offer opportunities for investors with very long-term horizons to enter the market. In its role as the national capital, Berlin remains principally attractive, and such a far-reaching price regulation is highly unlikely to remain in place permanently in a market economy. After all, the rent cap constitutes a massive infringement on the right of ownership. So, for those investors who are playing the long game, a market entry at this point could be worthwhile despite all the red tape.

3.5 Findings for Germany's Counties and Independent Cities

In virtually all of Germany's districts and independent cities, owner-occupied-housing costs are lower than rental costs for a comparable dwelling. In 393 of 401 districts, the owner-occupied-housing costs undercut the rental costs of a comparable flat. The cost advantages range from plus 75 percent in the district of Sömmerda all the way to minus 17 percent in the independent city of Hagen. This means that in eight districts renting your home is more advantageous than owning it. The fact is explained by the sluggish price growth for condominiums in existing properties in these districts in the years 2005 through 2019. The price growth, which is based on data provided by F+B (2020), shows a more or less stable price level in these districts and cities since 2005. If the anticipated price increases, which are based on the long-term price expectations of recent years, remain on such a low level, you can arguably impute high owner-occupied-housing costs, since owner-occupiers do not benefit from increases in value, whereas the costs for interest payments, depreciation and maintenance as well as the opportunity costs of missed alternative investments accrue nonetheless. This finding illustrates the relevance of future price trends for the level of owner-occupied-housing costs. If price developments in those regions where owner-occupied-housing costs exceed rents turn out to be higher than they were expected to be (based on past trends), then the picture would be more favourable, including for said regions. That is why the long-term price increase was set at an annual maximum of 3 percent (in nominal terms), as discussed above, in order not to give excessive weight to the price rally of recent years.

Figure 3.3 represents a regional drilldown of economic benefit levels of owner-occupied-housing costs versus rental costs. It shows a particularly favourable relation of owner-occupied-housing costs to rental costs in some regions of Brandenburg: 8 of the 20 districts and independent cities with the greatest cost advantage are located in Brandenburg. In the unweighted median of the 401 districts and independent cities, the economic benefit equals 54 percent. The tenth percentile, which divides the districts into the 10 percent with the lowest economic benefit and the remaining 90 percent, shows 25 percent. The other figures are 45 percent for the 25th percentile, 59 percent for the 75th percentile and 63 percent for the 90th percentile, which delimits the 10 percent among the districts with the greatest economic benefit. This breakdown corresponds with the group shadings in Figure 3.3.

Figure 3.3: Comparative view of owner-occupied-housing costs and rents¹⁾
2019, in percent



1) New-tenancy rents

Source: IW Economic Institute, vdpResearch (2020); F+B (2020)

3.6 Interest Rate Sensitivity

The development over time and the level of owner-occupied-housing costs is definitively influenced by the level of interest on mortgage loans. But the development of opportunity interest rates for an alternative investment of equity capital and incidental acquisition costs must also be taken into account.

Summarised once more in Table 3.3 is the development of effective interest rates that German banks charge households for new lendings, depending on the initial fixed-interest period. The table also shows the trend in current yields for domestic corporate bonds issued by non-bank lenders. Since 2010, the average interest rate with an initial fixed-interest period of more than ten years dropped by 2.44 percentage points, from 3.98 to 1.54 percent in 2019. Interest rates on loans with a shorter initial fixed-interest period declined at a similar pace. Returns on domestic corporate bonds have also been in long-term decline. Although yields developed briskly between mid-year 2017 and early 2019, they slumped again in the course of 2019, keeping the annual average between 2018 and 2019 to a modest increase of 5 basis points for current yields. At the same time, mortgage interest rates dropped by 42 basis points, more than eight times as fast, which had a positive effect on owner-occupied-housing costs (by reducing them).

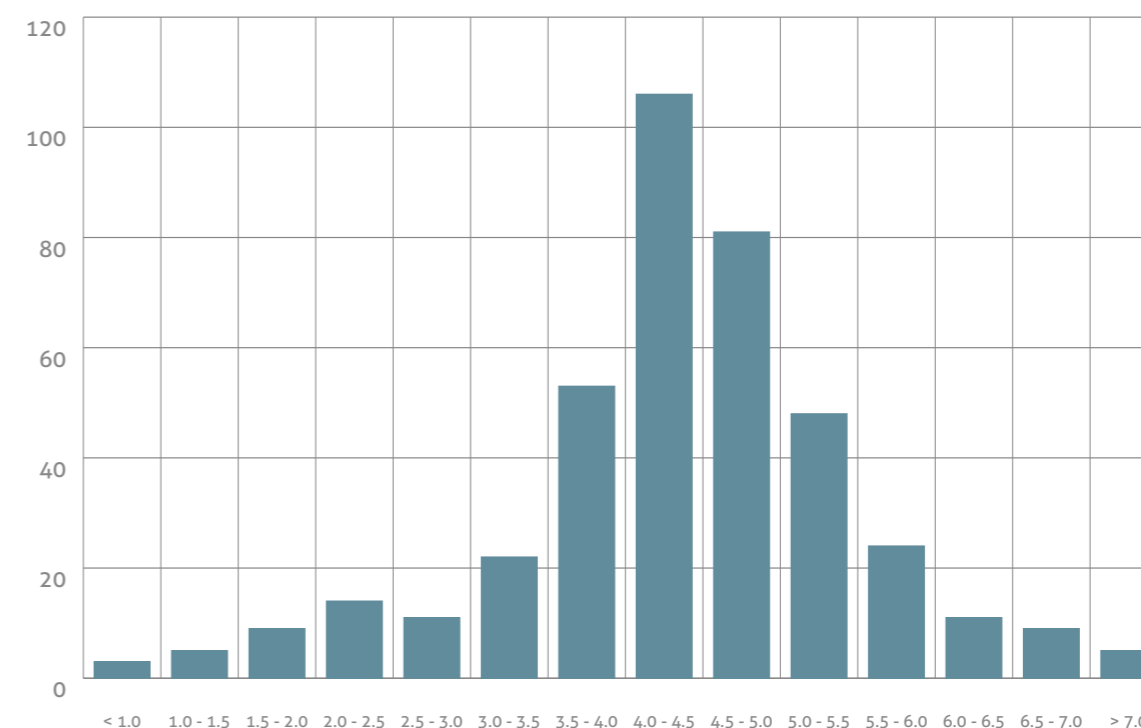
Table 3.3: Interest rate trend for mortgage loans by length of initial fixed-interest period, and current yields on domestic bearer bonds (corporate bonds)

	2010	2013	2016	2018	2019
Over ten years	3.98	2.95	1.80	1.96	1.54
Five to ten years	3.90	2.75	1.60	1.72	1.37
One to five years	3.42	2.44	1.78	1.72	1.46
Variable or less than one year	3.11	2.71	2.10	2.08	1.96
Domestic bearer bonds	4.03	3.38	2.08	2.48	2.53

Source: Deutsche Bundesbank; IW Economic Institute

Owner-occupied-housing costs are lower than rents in virtually every German district. This implies that—even assuming all other parameters remain in place—even a rise in interest rates on mortgage loans would not reverse the economic benefit relation. Each district has an identifiable neutral interest rate level at which interest on mortgage loans would create an equilibrium between owner-occupier housing costs and rental costs on new tenancies in 2019. A look at these figures shows that a moderate rise in interest rates would not reverse the economic benefit of owner-occupied-housing costs versus rental costs, except in very few districts. Figure 3.4 shows the bandwidths of neutral interest rates in corresponding groups among Germany's 401 districts and independent cities. For more than 280 of these 401 districts, the neutral interest rate for mortgage loans exceeded 4 percent, while for another 100 districts it was between 2 and 4 percent. The level of the neutral interest rate increases apace with the level of the cost advantage of owner occupancy, so that the regional distribution of the neutral interest rate is proportionate to the cost advantage of owner occupancy listed in Figure 3.3.

Figure 3.4: Neutral interest rate¹⁾ on the district level
2019, in percent



1) Mortgage rate at which the owner-occupied-housing costs match the rental costs (new tenancy)

Source: IW Economic Institute based on data by vdpResearch

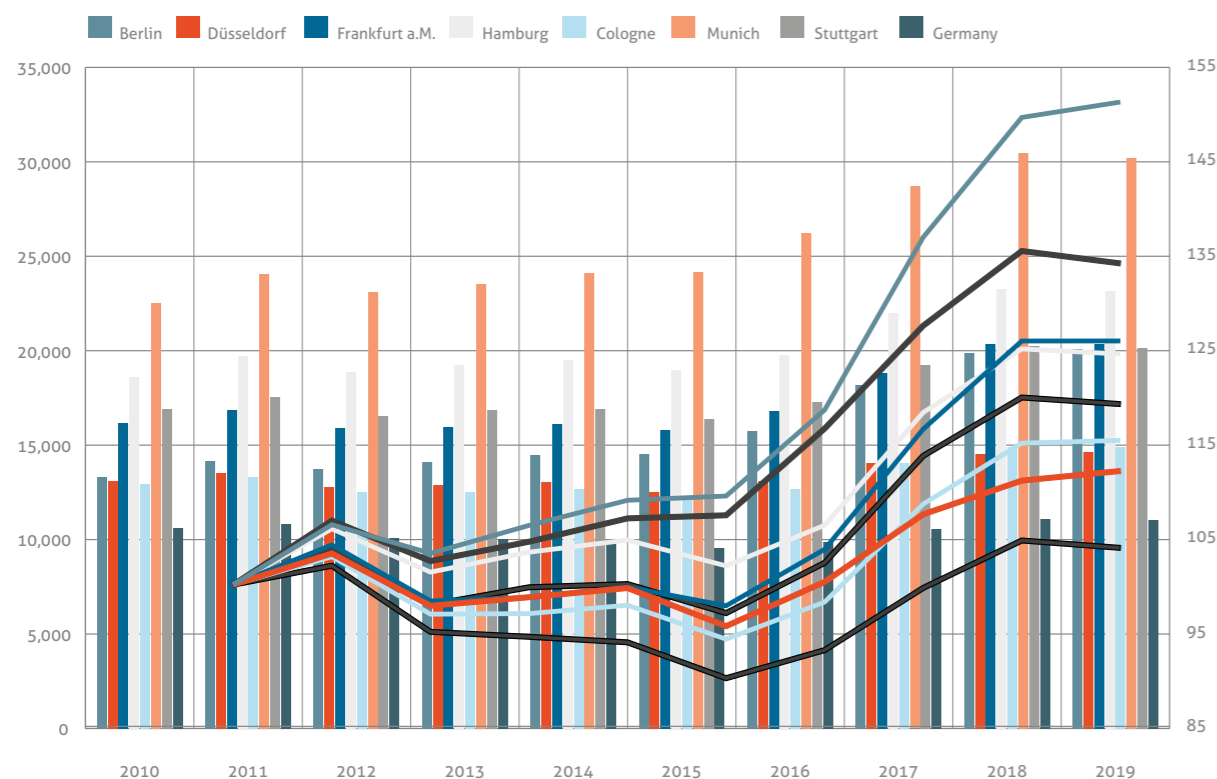
3.7 Annuity Trend and Level

Mortgage interest rates also play a decisive role for the annuity level in real estate financing. Assuming otherwise unchanged conditions, a lower interest rate means that the total costs of real estate financing will fall. Reduced total costs could, for example, permit a larger capital repayment component and thereby shorten the loan term. If the loan term is left unchanged, the reduced total costs would bring down the annuity, meaning the sum of interest and redemption payments, and thus reduce the current financial burden.

For the first time since 2016, the average annuity to be paid for the acquisition of a condominium registered a year-on-year decline in 2019. Nationwide, annuities softened slightly even when adjusted for inflation. For the purpose of calculating the annuity, the acquisition of a 100-square-metre condominium was assumed, to be paid off within 25 years on a full repayment loan, the assumed equity stake being 20 percent. The figures were price-adjusted using the harmonised index of consumer prices, and are quoted in 2019 prices.

As Figure 3.5 shows, the growth in annuities has lately slowed down compared to prior years, even in Germany's "Big Seven" cities, and noticeably so. Between 2018 and 2019, selling prices in the major cities continued to rise swiftly, but the sharp fall in interest rates largely offset this development, so that payments of interest and principal more or less flatlined. In Stuttgart, Munich and Hamburg, annuities have slowly gone down, whereas they have been rising slowly in Berlin, Düsseldorf and Cologne. By far the priciest major city is Munich with an annuity of 30,181 euros, whereas the annuity level in Düsseldorf is roughly half as high at 14,653 euros. Figure 3.6 shows a regional drilldown of annuity levels for 2019. The price differences among the regional real estate markets are clearly evident, with the relatively expensive south of the country and the high-priced cluster in the Munich metro area standing out. In addition, the situation in major cities differs from that in their surrounding districts.

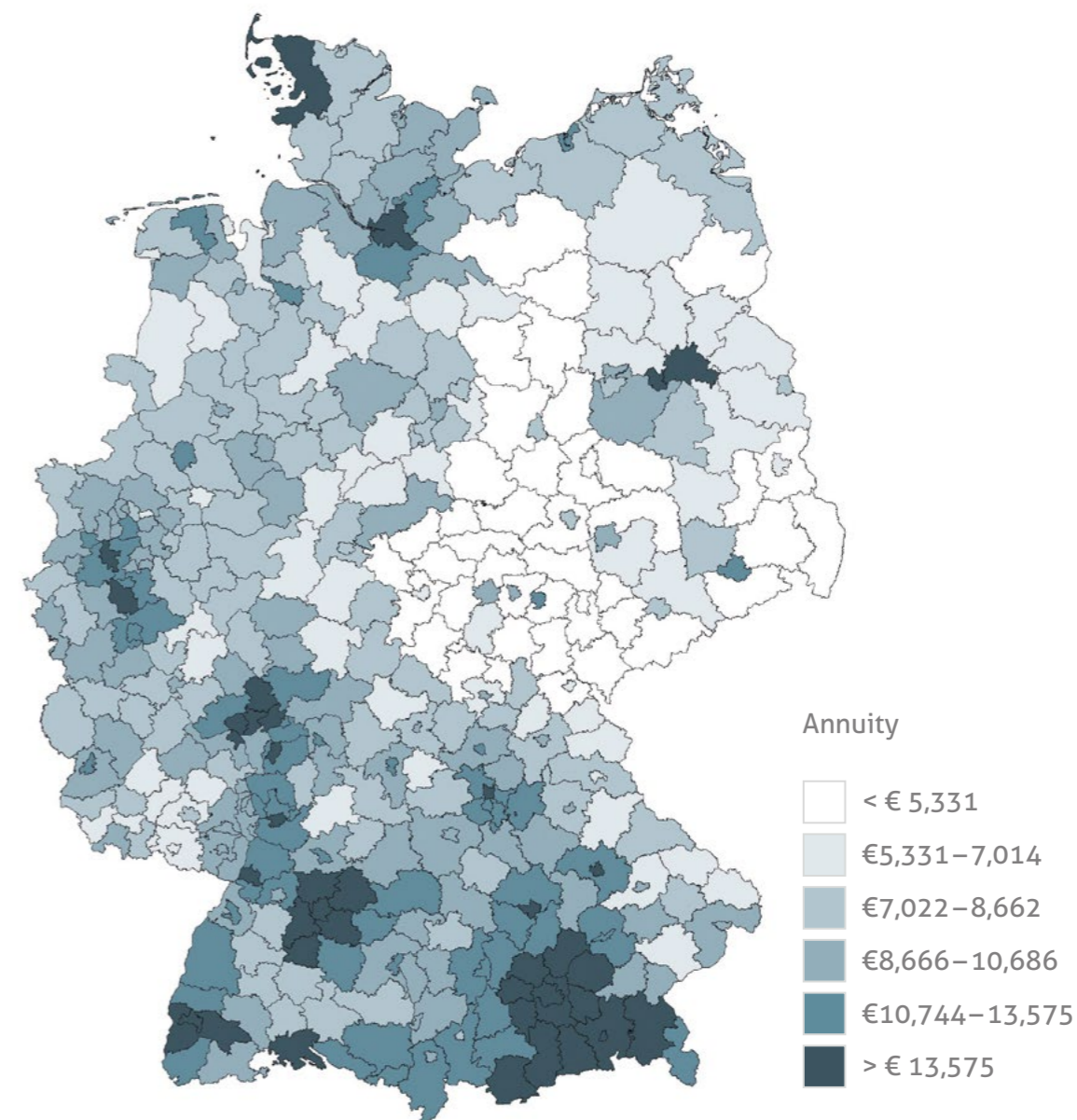
Figure 3.5: Trend¹⁾ and level²⁾ of the annuity³⁾



1) Index 2010 = 100, right axis showing scale; lines in chart
 2) Euros in real money terms (2018), inflation-adjusted using the harmonised consumer price index (Federal Statistical Office, 2019)
 3) Annual costs of interest and repayment for a condominium of 100 square metres and assuming a 25-year loan maturity, full repayment loan, 20 percent equity capital

Source: IW Economic Institute, based on data by vdpResearch (2020)

Figure 3.6: Differences in annuity level in real estate financing 2019



1) Annual costs of interest and repayment for a condominium of 100 square metres and assuming a 25-year loan maturity, full repayment loan, 20 percent equity capital

Source: IW Economic Institute

The fall in interest rates between 2018 and 2019 even succeeded in stalling the rise in annuities in the largest German cities. It should come as no surprise therefore that this finding applies to most German districts and independent cities, because the price dynamics in most German regions is far slower than in the country's metropolises. In 364 out of 401 districts, the annuity in 2019 went down in real money terms, making the acquisition of property actually more affordable even in absolute values.

If you consider in addition that real rents on new tenancies did not soften in any of Germany's districts between 2018 and 2019, according to data by vdpResearch, annuities present an even more favourable picture. The distribution of changes in annuities and rents is summarised in Table 3.4. As far as the median among all German districts goes, the annuity fell by 2.3 percent year on year, while the median rent change over the same period equalled 2.5 percent. Only ten percent of the districts registered a change in annuity by more than -0.4 percent. In short, the positive development of financing conditions in sync with further growth in new tenancy rents between 2018 and 2019 have further enhanced the appeal of homeownership anywhere in Germany.

Table 3.4: Real change in annuities and rents in Germany's districts and independent cities between 2018 and 2019

Change 2018-2019	P10	P25	Median	P75	P90
Change in annuity	-5.7 %	-3.4 %	-2.3 %	-1.1 %	-0.4 %
Change in rent	0.9 %	1.6 %	2.5 %	3.1 %	3.6 %

Legend:
 P10 refers to the tenth percentile of Germany's 401 districts and independent cities. In ten percent of the districts (i.e. in 40 of them), the annuity declined by more than 5.7 percent between 2018 and 2019. In 50 percent of the districts (median), the change in annuity was more than -2.3 percent, and less in the other 50 percent.

Source: IW Economic Institute

4 PRIVATE LANDLORDS

4.1 Relevance of Private Landlords for the German Rental Housing Market

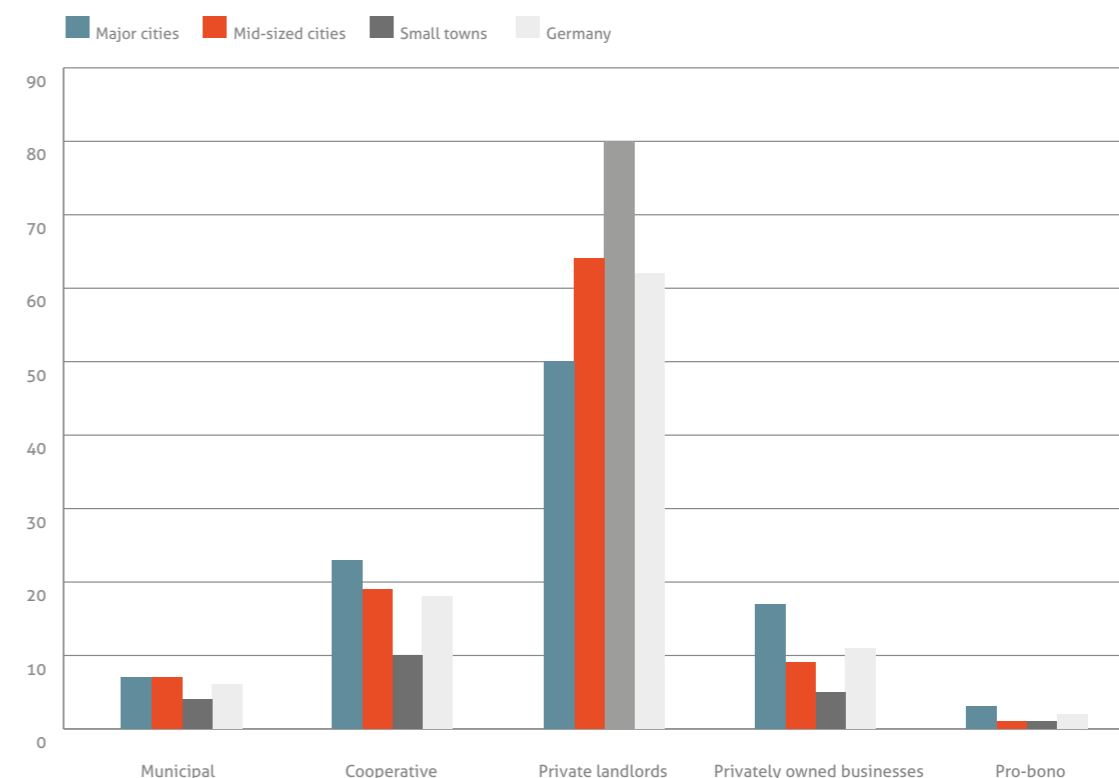
The section below will discuss a group of people that are highly relevant for the German housing market, meaning private buyers who acquired condominiums with the intention of letting them. Private landlords of this type account for the bulk of the residential accommodation available on the German rental housing market. After discussing the composition of the German rental housing market, we will take a closer look at the financial resources of private landlords.

As suggested above, private landlords play an important role on the German housing market. Figure 4.1 shows a breakdown of the German rental housing market by types of landlords or by owners of the rented flats; the chart represents the percentages of private households that inhabit flats owned by a member of the respective group. As far as owners go, it differentiates between municipal housing companies, housing cooperatives, private owners, privately-owned businesses, and charities (churches, foundations, etc.). In addition, the different types of landlord are represented in relation to municipal size.

By far the largest group of private households in Germany rent their flats from private landlords, their average share being slightly over 60 percent nationwide, which translates into around 14 million households. Four out of five tenant households in small towns with populations of 20,000 or less, or five million households, rent their flats from private owners, while the share in mid-size cities with populations of 20,000 to 100,000 residents is 64 percent of the households (4 million). Private landlords also account for the majority of rental flats in major cities of 100,000 residents or more. Here, 50 percent of the tenant households (or 5 million in absolute terms) inhabit flats of this type.

The next-largest category of landlords is composed of cooperative housing associations. Roughly 18 percent (4 million) of the tenant households in Germany live in rental flats managed by housing cooperatives. Their share equals 23 percent in major cities, 19 percent in mid-size cities and 10 percent in small towns. The third-largest type of landlords are privately owned businesses – which let about 11 percent of the flats occupied by tenant households (2.5 million). At 17 percent of all private households, their share is larger in major cities than in mid-size cities (9 percent) and small towns (5 percent). Municipal and pro-bono landlords complete the rental housing supply.

Figure 4.1: Landlord drilldown for 2018, by municipal size¹⁾ in percent



1) Small towns: 20.000 or fewer residents, mid-size cities: 20,000 to 100,000 residents, major cities: 100,000 residents or more

Source: SOEP v35; IW Economic Institute

4.2 Percentage and Number of Private Landlords

Given the favourable financing conditions and running costs mentioned in conjunction with the survey findings for owner-occupied-housing costs, and considering the appreciation of the properties, it seems reasonable to assume that buy-to-let investments have also gained in appeal. After all, the owner-occupied-housing cost approach can also be applied to the landlord side: If the owner-occupied-housing costs undercut rental costs, then rental income exceeds the costs incurred by the payments of interest and principal of a mortgage loan until maturity. Assuming sufficient financial liquidity to meet the capital adequacy requirements, the incentives for a buy-to-let property investment certainly made it look like a rewarding proposition over the past years.

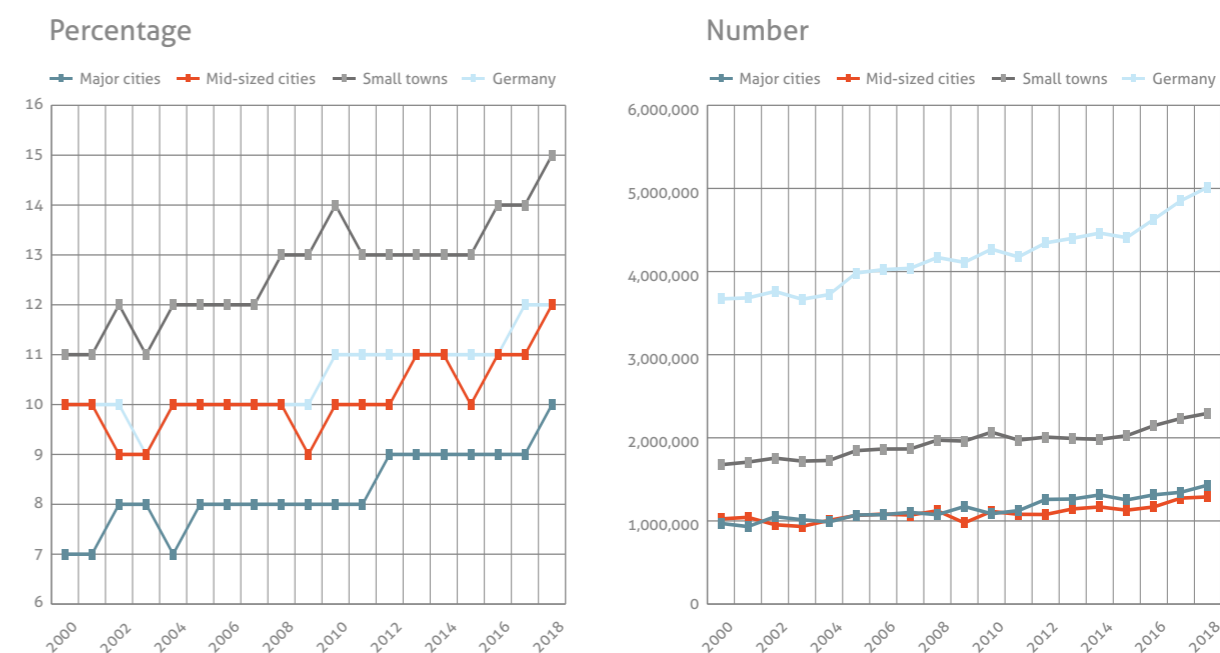
Indeed, many private investors appear to have taken advantage of the favourable conditions to move ahead with a property acquisition. The number and percentage of households deriving income from letting and leasing has, in any case, increased since 2010. Covering the years 2000 through 2018, Figure 4.2 shows the development of the percentage and number of households who stated in the respective year that they had derived income from letting or leasing land or houses the year before; the figures shown representing Germany as a whole. It also distinguishes between landlord households residing in small towns, mid-sized cities and major cities.

The percentage of private landlords among all households is highest in small towns – according to the most recent figures, around 15 percent of households in municipalities with 20,000 residents or less (about 2.3 million) had income from letting and leasing, ahead of 12 percent in mid-sized cities (about 1.3 million) and 10 percent in major cities (1.4 million). This means the percentages therefore correspond with the proportions in the landlord structure represented in Figure 4.1, above. This connection suggests that private landlords may increasingly let property in the same regions where they have their own place of residence. This would make sense because proximity to the let property and familiarity with the local housing market are important criteria when opting for an investment property, especially when managing the let property on your own. However, the data are not qualified to derive a definitive connection because the SOEP (Socio-Economic Panel) does not query the region where the rent and leasehold income are generated. The latest statistics for Germany show that 12 percent of all households derive income from letting and leasing, which translates into about 5 million households.

The number and percentage of German households who generate income by letting and leasing has gone up in recent years, specifically by 2 percentage points since 2010 or by roughly another 750,000 households as of 2018. This would break down into around 100,000 new households per year. The number of private landlords living in major cities has been fastest to rise since 2010, growing by around 32 percent or 350,000 households. But the number of landlord households also showed significant growth in mid-sized cities (up 16 percent or 175,000 households) and small towns (up 11 percent or 230,000 households).

Against the background of an increased proportion of private landlords in the overall population, we will subsequently consider the extent to which their financial situation is affected by income from letting and leasing, and by the financial burden of maintaining the property.

Figure 4.2: Percentage and number of households with income from letting and leasing, by municipal size (place of residence)¹⁾



1) Small towns: 20,000 or fewer residents, mid-size cities: 20,000 to 100,000 residents, major cities: 100,000 residents or more

Source: SOEP v35; IW Economic Institute

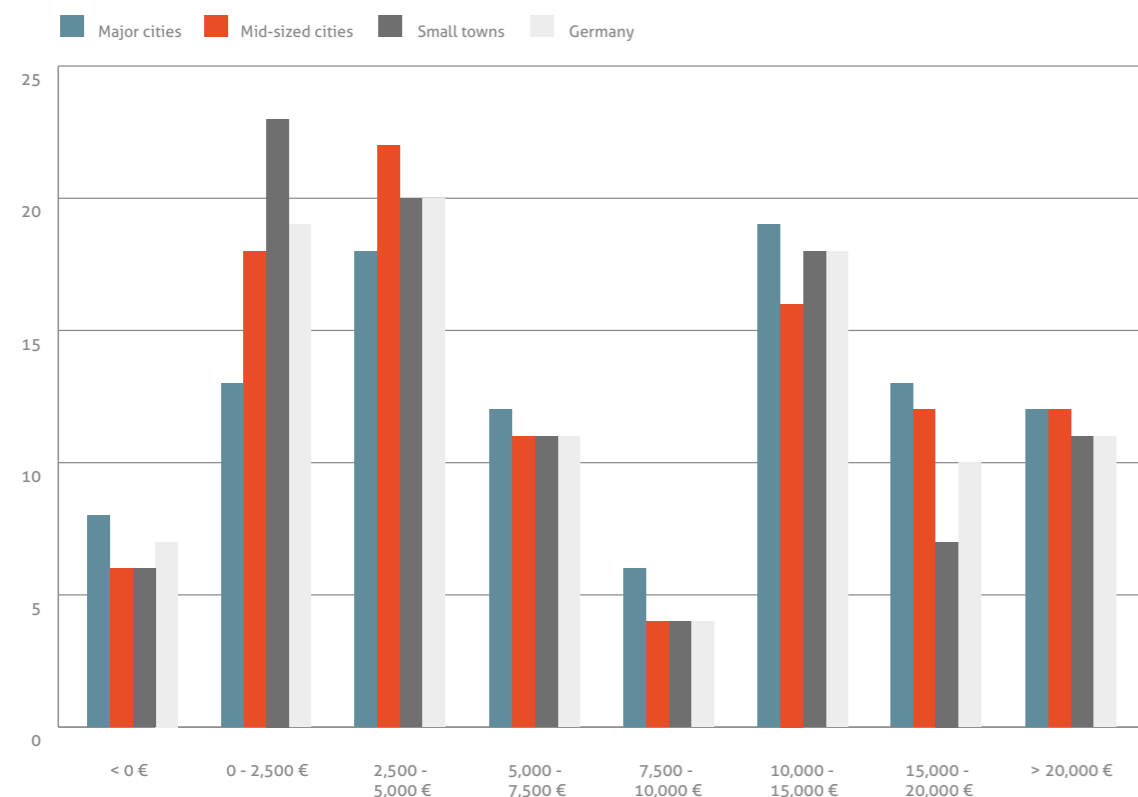
4.3 Financial Situation of the Private Landlords

The earnings of private landlords depend on the number of rented properties and the respective rent level. Costs incurred for renovation or maintenance works should be deducted from the cash flow. The difference represents the net cash flow, albeit before taxes.

The distribution of income from letting and leasing for 2017 is captured in Figure 4.3. The results date back to the survey of 2018, which polled the revenues and expenses for maintenance and modernisation during the previous year. The results are represented once again for Germany as a whole and by municipal size of the landlord's home town.

In 2017, a negative income from letting and leasing was reported by 7 percent of landlord households, as the expenditures toward maintenance and modernisation exceeded their gross rental income. Most of these cases involved extensive refurbishment works, and the additional costs had to be financed from provisions or current income generated in some other way. At the last count, nearly 20 percent of landlord households had a positive annual income of less than 2,500 euros from letting and leasing, while another 20 percent had an income between 2,500 and 5,000 euros. Only 10 percent of the private landlords had annual incomes of more than 20,000 euros. The distribution of income only differs slightly among the places of residence, the starkest differences being registered in the lowest and highest income brackets. In smaller municipalities, the proportion of landlords with lower income levels is slightly higher than in large cities, while in large cities the proportion of private landlords with higher income levels is higher.

Figure 4.3: Income from letting or leasing, by municipal size (place of residence)¹⁾ 2017, in percent



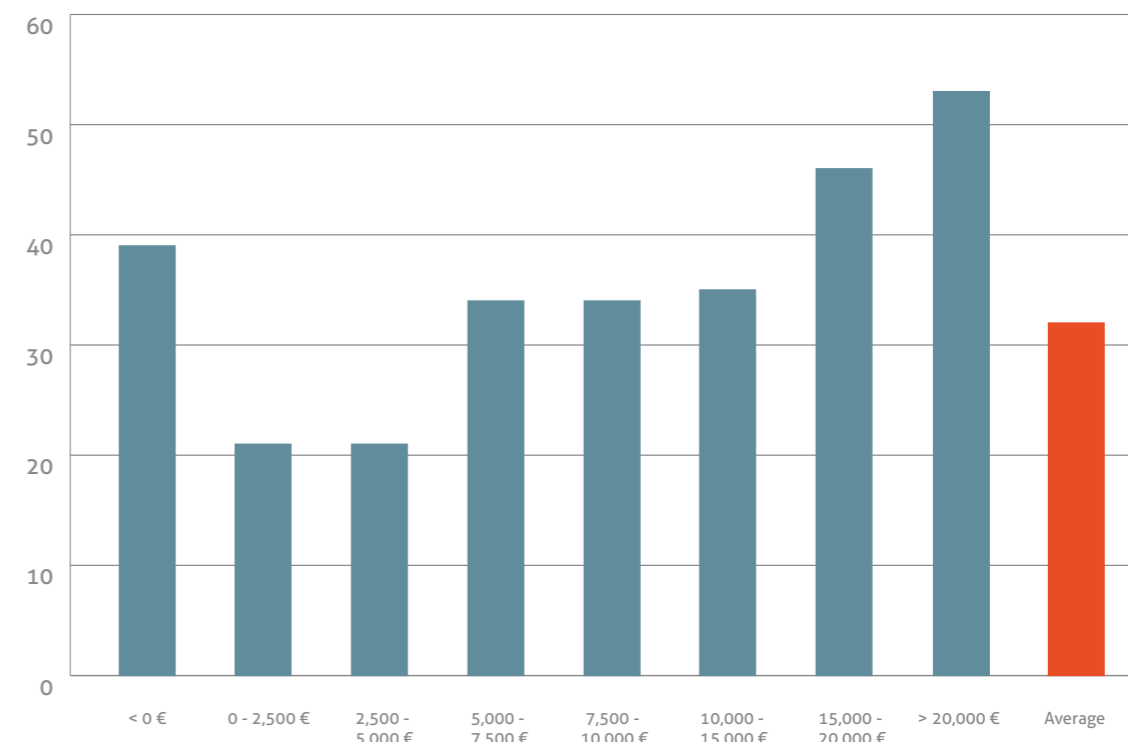
1) Small towns: 20.000 or fewer residents, mid-size cities: 20,000 to 100,000 residents, major cities: 100,000 residents or more

Source: SOEP v35; IW Economic Institute

Although the number of let units is not captured in the data, it is safe to assume that an annual income of less than 20,000 euros from letting and leasing is generated from just a few rental units in each case. Wherever a landlord lets only one unit, a default on the rent payments would stall the cash flow, and directly precipitate an almost complete collection loss. As a result, that landlord may no longer have the financial means to cover the refurbishment works on tenant-occupied properties, so that capital expenditures would either have to be postponed or shelved altogether.

Defaults of this type would hit small-scale private landlords hard as far as the repayment of mortgage loans goes, where applicable, and it would hit them even harder if they had to cover modernisation and maintenance costs at the same time. Figure 4.4 illustrates the situation. One in three private small-scale landlords is burdened with payments of interest and principal. The proportion of landlords with negative net income (difference between rental income and modernisation costs) is above average, and with this in mind it seems like a good idea to take care of modernisation measures right after buying a property. Even in the group of those with relatively high rental income, the proportion of those burdened with payments of interest and principal is at an above-average level. However, the income level suggest that they may be more diversified, because the revenues come from several sources

Figure 4.4: Percentage of landlords burdened with debt, by rental income¹⁾ before payments of interest and principal 2017, in percent



1) Rental income as gross rental income net of expenditures on maintenance and modernisation.

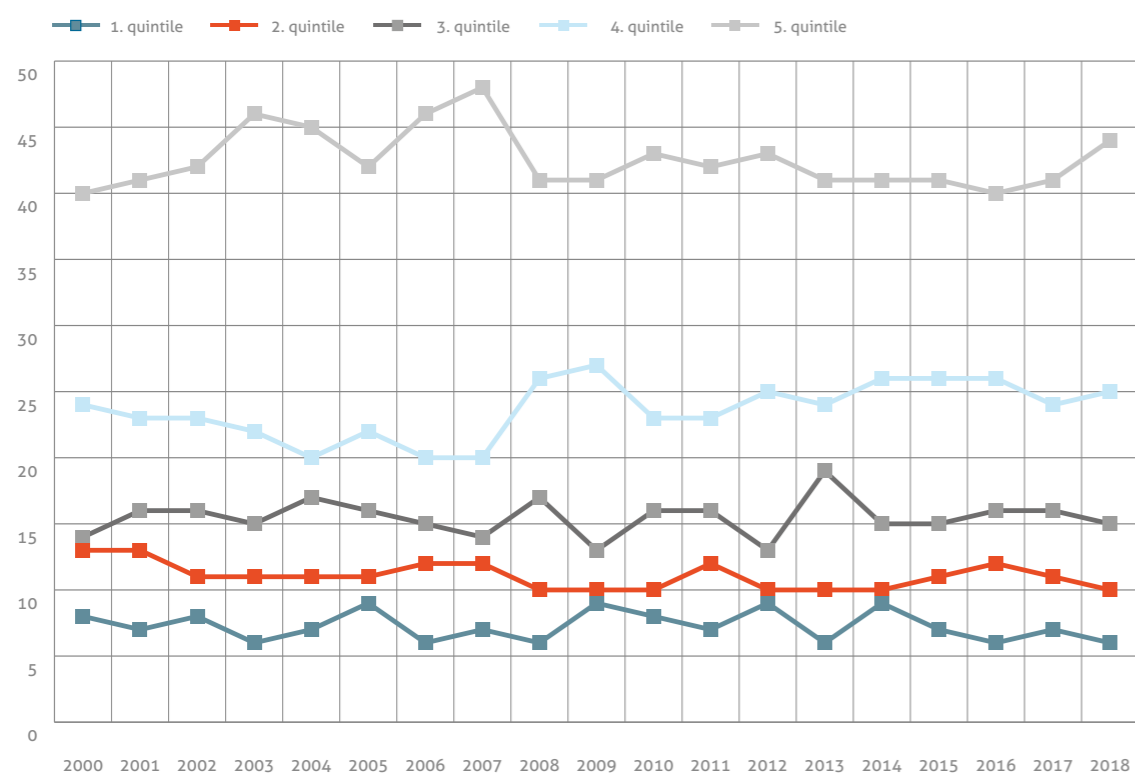
Source: SOEP v35; IW Economic Institute

Finally, let us see where households with income from letting and leasing fit into the distribution of all private German households in terms of their earnings. To this end, we divided private households into five equal groups according to their monthly net equivalent income. The first quintile includes the 20 percent with the lowest-earning households, the fifth quintile the 20 percent with the highest-earning households.

In 2018, about 44 percent of the private landlords were among the 20 percent of the highest-earning households, while a quarter belonged in the fourth quintile. Accordingly, households with rental income generally rank among the higher-earning households. However, there is also a sizeable group of private landlords who belong in the lower-earning households: 15 percent were grouped with the third income quintile, 10 percent with the second and 6 percent with the lowest-earning 20 percent of German households. Figure 4.5 shows that this distribution has largely been stable in its development.

There are at least two reasons why the distribution represented above is unsurprising. The earnings of households who report rental income exceed the earnings of non-letting households at least by the amount of this rental income, which places them in a higher income group under otherwise identical conditions. Moreover, private lettings presuppose that the respective household met the capital adequacy requirements necessary to buy the let property in the first place, which in turn implies a monthly income ample enough to set aside adequate funds. Apart from this, earning a relatively high income is generally helpful in reducing the financial, entrepreneurial risk to which private lettings will expose their owners. Such risks include, without being limited to, collection losses and (unforeseen) capital expenditures toward improvements or maintenance.

Figure 4.5: Breakdown of landlords in terms of their monthly net equivalent income, relative to the total number of households¹⁾ in percent



1) Legend:
Six percent of the landlords count among the lowest-earning 20 percent of German households in 2018.

Source: SOEP v35; IW Economic Institute

5 CONCLUSION

The gap between the costs of owner-occupiers and the costs of tenants continued to widen last year. As a result, owner-occupying your home became even more attractive, especially because the interest rates declined faster than the pace of upward price growth. Two important implications derive from this, especially with a view to the economic crisis triggered by the coronavirus pandemic.

For one thing, the relatively auspicious assessments of the condominium market make it safe to assume that prices will not crash. Although it is true that prices have gone up in recent years, and in some places very much so, the trends in interest rates and rents could plausibly have driven an even steeper price growth. This is by no means to suggest that the price trends of the past years will simply resume, but neither does it suggest there will be a price crash. Rather, we should expect prices to flatline because the losses in income will cool off the demand for residential accommodation in general. But as early as next year, assuming the economy will be en route to recovery by then, prices could see significant price growth.

Secondly, the findings demonstrate once more how attractive homeownership actually is, and that the body politic should do more to ease the transition into homeownership. For many people, buying a condominium would not only bolster their retirement plan, but would also lower their running-cost overhead. In many places in Germany, the annuity costs just went down again. Yet the problem is that many people lack the equity capital they need to opt for homeownership. Even if banks were prepared to fully debt-finance a given property acquisition, the costs of real estate transfer tax, notary, land register and usually an estate agent, would yet be left to pay. Depending what German state you live in, you would be looking at 8 to 15 percent of the purchase price, which would exceed the capacity of many households. After all, the downside of low level borrowing rates is that interest on savings is just a slow, making it particularly hard to set aside enough funds for a down-payment. An economic crisis is obviously not a good time to be hoping for generous allowances, but they would be neither sensible nor necessary anyway. Rather, the threshold to homeownership could be lowered, for instance, by providing government-guaranteed subordinated loans, which would cost the government very little, or by reforming the real estate transfer tax. Particularly well suited to preserve this source of revenue for the states and to facilitate the access to homeownership substantially, especially for low- and middle-income households, would be to combine an allowance with a graduated tax rate (Hentze/Voigtländer, 2017). The ongoing crisis underscores the potential significance of homeownership as additional security. After all, homeownership also creates the option to borrow additional funds in order to acquire liquidity on short notice. On top of that, residential real estate is very likely to emerge once more as safe haven for investors, which ought to encourage German policymakers to level the field in regard to homeownership for all segments of the population.

The housing market as integral component of the macro-economy will not be able to steer entirely clear of the crisis, but it will probably have a much easier time weathering it than other asset markets. Accordingly, the market also offers opportunities, and as many people as possible should be able to seize this chance. This makes it all the more important for the body politic to stop ignoring the need for an adequate housing policy and to pursue it vigorously instead.

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ANNEX

	Region	Owner-occupied-housing costs 2019 in euro per sqm	Cost advantage over renting in percent, 2019	Neutral interest rate, in percent
Schleswig-Holstein				
01001	Flensburg	3.26	54.3	4.3
01002	Kiel	4.11	57.3	4.7
01003	Lübeck	3.93	61.6	5.3
01004	Neumünster	3.69	49.0	4.0
01051	Dithmarschen district	4.08	41.2	3.5
01053	Herzogtum Lauenburg district	3.90	56.9	4.6
01054	Nordfriesland district	5.80	25.4	2.3
01055	Ostholstein district	4.19	58.9	4.9
01056	Pinneberg district	4.23	60.4	5.1
01057	Plön district	3.64	55.4	4.4
01058	Rendsburg-Eckernförde district	3.39	58.5	4.8
01059	Schleswig-Flensburg district	3.14	57.1	4.6
01060	Segeberg district	3.90	62.5	5.4
01061	Steinburg district	4.38	42.3	3.9
01062	Stormarn district	4.55	59.0	4.9
Hamburg				
02000	Hamburg	9.26	43.1	3.3
Lower Saxony				
03101	Braunschweig	3.94	57.3	4.6
03102	Salzgitter	5.69	11.1	2.1
03103	Wolfsburg	3.37	64.9	5.8
03151	Gifhorn district	3.34	53.9	4.2
03153	Goslar district	6.19	1.6	1.6
03154	Helmstedt district	3.62	43.3	4.0
03155	Northeim district	4.55	24.2	2.9
03157	Peine district	3.35	52.1	4.5
03158	Wolfenbüttel district	4.83	34.9	3.3
03159	Göttingen district	4.98	44.3	3.9
03241	Hanover district	4.09	56.7	4.5
03251	Diepholz district	3.03	64.4	5.7
03252	Hamel-Pyrmont district	5.20	19.0	2.5
03254	Hildesheim district	4.09	42.2	4.0
03255	Holzwinden district	5.52	2.7	1.7

	Region	Owner-occupied-housing costs 2019 in euro per sqm	Cost advantage over renting in percent, 2019	Neutral interest rate, in percent
03256	Nienburg (Weser) district	2.36	61.9	5.3
03257	Schaumburg district	5.45	16.8	2.4
03351	Celle district	4.58	40.2	3.7
03352	Cuxhaven district	3.69	53.0	4.1
03353	Harburg district	4.33	59.5	4.9
03354	Lüchow-Dannenberg district	2.35	55.0	4.3
03355	Lüneburg district	4.01	61.7	5.2
03356	Osterholz district	3.24	59.3	5.3
03357	Rotenburg (Wümme) district	2.38	68.5	6.5
03358	Soltau-Fallingb. district	3.08	54.8	4.9
03359	Stade district	3.78	61.0	5.1
03360	Uelzen district	2.55	61.2	5.2
03361	Verden district	3.14	63.5	5.5
03401	Delmenhorst	3.50	54.1	4.6
03402	Emden	3.73	58.4	5.9
03403	Oldenburg	4.17	58.1	4.7
03404	Osnabrück	3.44	63.6	5.5
03405	Wilhelmshaven	3.54	42.6	3.7
03451	Ammerland district	3.42	57.0	4.6
03452	Aurich district	3.31	56.4	4.5
03453	Cloppenburg district	2.45	67.8	6.4
03454	Emsland district	2.71	62.7	5.4
03455	Friesland district	3.61	47.6	3.6
03456	Grafschaft Bentheim district	3.02	64.0	5.6
03457	Leer district	3.79	52.6	4.1
03458	Oldenburg district	3.35	61.0	5.1
03459	Osnabrück district	2.99	58.5	4.8
03460	Vechta district	3.35	54.4	4.3
03461	Wesermarsch district	2.79	59.5	4.9
03462	Wittmund district	4.71	28.4	2.4
Bremen				
04011	Bremen	4.46	58.0	4.8
04012	Bremerhaven	3.62	38.8	3.6
North Rhine-Westphalia				
05111	Düsseldorf	5.82	58.7	4.9
05112	Duisburg	7.63	-3.3	1.4
05113	Essen	8.25	3.9	1.7

	Region	Owner-occupied-housing costs 2019 in euro per sqm	Cost advantage over renting in percent, 2019	Neutral interest rate, in percent
05114	Krefeld	8.06	6.9	1.9
05116	Mönchengladbach	6.25	20.1	2.6
05117	Mülheim an der Ruhr	7.38	19.7	2.5
05119	Oberhausen	7.03	8.2	2.0
05120	Remscheid	7.52	-5.9	1.3
05122	Solingen	5.21	38.5	3.4
05124	Wuppertal	8.85	-12.8	0.9
05154	Kleve district	5.22	31.7	3.3
05158	Mettmann district	5.82	43.9	3.8
05162	Rhein-Kreis Neuss district	4.87	53.4	4.2
05166	Viersen district	6.30	26.3	2.8
05170	Wesel district	6.53	23.6	2.8
05314	Bonn	5.34	58.4	4.8
05315	Cologne	5.92	59.5	5.0
05316	Leverkusen	5.72	42.0	3.6
05334	Städteregion Aachen district	4.17	60.3	5.1
05358	Düren district	4.95	32.5	3.2
05362	Rhein-Erft-Kreis district	4.68	56.0	5.0
05366	Euskirchen district	5.35	33.5	3.3
05370	Heinsberg district	4.25	44.3	4.2
05374	Oberbergischer Kreis district	6.73	8.8	2.0
05378	Rheinisch-Bergischer Kreis district	5.44	47.0	4.0
05382	Rhein-Sieg-Kreis district	4.70	51.9	4.1
05512	Bottrop	5.49	32.8	3.3
05513	Gelsenkirchen	7.34	-12.8	0.9
05515	Münster	5.18	60.2	5.1
05554	Borken district	4.39	41.3	3.7
05558	Coesfeld district	4.19	44.9	3.9
05562	Recklinghausen district	7.51	-1.3	1.5
05566	Steinfurt district	3.22	56.2	4.5
05570	Warendorf district	3.67	52.0	4.6
05711	Bielefeld	4.40	51.9	4.3
05754	Gütersloh district	3.81	52.4	4.3
05758	Herford district	4.40	38.1	3.7
05762	Höxter district	4.92	3.1	1.7
05766	Lippe district	4.97	32.4	3.4
05770	Minden-Lübbecke district	4.09	42.7	3.9

	Region	Owner-occupied-housing costs 2019 in euro per sqm	Cost advantage over renting in percent, 2019	Neutral interest rate, in percent
05774	Paderborn district	3.57	55.7	4.5
05911	Bochum	7.45	10.1	2.0
05913	Dortmund	5.17	39.8	3.8
05914	Hagen	7.92	-17.0	0.7
05915	Hamm	3.88	41.4	3.8
05916	Herne	6.54	1.4	1.6
05954	Ennepe-Ruhr-Kreis district	6.11	18.1	2.4
05958	Hochsauerlandkreis district	5.72	10.4	2.0
05962	Märkischer Kreis district	7.17	-3.2	1.4
05966	Olpe district	5.69	30.7	3.3
05970	Siegen-Wittgenstein district	4.42	48.8	4.6
05974	Soest district	3.77	48.4	4.2
05978	Unna district	6.26	11.2	2.1
Hesse				
06411	Darmstadt	5.83	58.0	4.8
06412	Frankfurt am Main	8.24	55.6	4.5
06413	Offenbach am Main	5.24	56.6	4.6
06414	Wiesbaden	6.37	53.8	4.3
06431	Bergstrasse district	4.44	54.9	4.4
06432	Darmstadt-Dieburg district	4.66	56.4	4.6
06433	Gross-Gerau district	4.15	64.7	6.0
06434	Hochtaunuskreis district	6.77	51.0	4.0
06435	Main-Kinzig-Kreis district	4.40	55.5	4.6
06436	Main-Taunus-Kreis district	6.17	53.9	4.3
06437	Odenwaldkreis district	3.55	54.1	4.9
06438	Offenbach district	4.97	58.1	4.8
06439	Rheingau-Taunus-Kreis district	5.36	48.5	3.8
06440	Wetteraukreis district	4.62	56.6	4.7
06531	Giessen district	3.89	59.7	5.1
06532	Lahn-Dill-Kreis district	3.67	49.5	4.2
06533	Limburg-Weilburg district	6.03	19.1	2.4
06534	Marburg-Biedenkopf district	3.68	64.2	5.8
06535	Vogelsbergkreis district	3.22	45.4	4.4
06611	Kassel	3.38	61.4	5.3
06631	Fulda district	3.15	54.5	4.4
06632	Hersfeld-Rotenburg district	5.04	22.6	2.7
06633	Kassel district	3.12	56.2	4.6

	Region	Owner-occupied-housing costs 2019 in euro per sqm	Cost advantage over renting in percent, 2019	Neutral interest rate, in percent
06634	Schwalm-Eder-Kreis district	3.55	43.2	3.8
06635	Waldeck-Frankenberg district	4.42	30.3	3.3
06636	Werra-Meißner-Kreis district	2.82	52.0	5.3
Rhineland-Palatinate				
07111	Koblenz	4.11	57.1	4.6
07131	Ahrweiler district	3.43	58.9	4.8
07132	Altenkirchen (Westerwald) district	3.25	54.5	5.6
07133	Bad Kreuznach district	3.50	55.2	4.4
07134	Birkenfeld district	4.31	24.0	3.0
07135	Cochem-Zell district	3.18	43.5	3.3
07137	Mayen-Koblenz district	3.53	48.8	4.0
07138	Neuwied district	3.19	53.3	4.2
07140	Rhein-Hunsrück-Kreis district	4.91	18.9	2.5
07141	Rhein-Lahn-Kreis district	4.23	38.3	3.5
07143	Westerwaldkreis district	3.22	50.6	4.6
07211	Trier	4.20	65.2	5.9
07231	Bernkastel-Wittlich district	3.57	49.5	3.8
07232	Eifelkreis Bitburg-Prüm district	3.29	62.1	5.3
07233	Vulkaneifel district	5.54	7.4	1.9
07235	Trier-Saarburg district	4.10	54.8	4.3
07311	Frankenthal (Pfalz)	3.89	55.4	4.4
07312	Kaiserslautern	3.88	50.9	4.5
07313	Landau in der Pfalz	3.49	62.8	5.4
07314	Ludwigshafen am Rhein	4.00	57.1	4.6
07315	Mainz	5.52	60.9	5.1
07316	Neustadt an der Weinstrasse	4.06	53.2	4.2
07317	Pirmasens	4.32	17.7	2.5
07318	Speyer	3.76	63.5	5.5
07319	Worms	3.66	58.8	4.8
07320	Zweibrücken	4.30	38.1	3.8
07331	Alzey-Worms district	2.97	61.2	5.2
07332	Bad Dürkheim district	3.71	56.1	4.5
07333	Donnersbergkreis district	2.99	53.9	4.9
07334	Germersheim district	3.57	56.5	4.5
07335	Kaiserslautern district	4.28	39.7	4.2
07336	Kusel district	3.58	41.1	4.0
07337	Südliche Weinstrasse district	3.76	54.7	4.3

	Region	Owner-occupied-housing costs 2019 in euro per sqm	Cost advantage over renting in percent, 2019	Neutral interest rate, in percent
07338	Rhein-Pfalz-Kreis district	3.78	57.1	4.6
07339	Mainz-Bingen district	3.55	64.6	5.7
07340	Südwestpfalz district	3.80	42.1	4.1
Baden-Württemberg				
08111	Stuttgart	7.87	51.0	3.9
08115	Böblingen district	6.03	51.4	4.0
08116	Esslingen district	5.77	54.5	4.3
08117	Göppingen district	4.72	53.2	4.1
08118	Ludwigsburg district	5.68	54.9	4.3
08119	Rems-Murr-Kreis district	5.66	51.3	4.0
08121	Heilbronn	4.74	54.5	4.3
08125	Heilbronn district	4.04	57.3	4.6
08126	Hohenlohekreis district	3.38	59.0	4.8
08127	Schwäbisch Hall district	3.63	54.0	4.2
08128	Main-Tauber-Kreis district	3.84	43.5	3.6
08135	Heidenheim district	3.69	52.5	4.1
08136	Ostalbkreis district	4.12	54.7	4.3
08211	Baden-Baden	4.90	58.5	4.8
08212	Karlsruhe	5.38	59.4	4.9
08215	Karlsruhe district	4.32	55.9	4.4
08216	Rastatt district	4.04	56.5	4.5
08221	Heidelberg	7.94	50.5	3.9
08222	Mannheim	4.81	59.7	4.9
08225	Neckar-Odenwald-Kreis district	2.61	61.8	5.3
08226	Rhein-Neckar-Kreis district	4.38	57.5	4.7
08231	Pforzheim	3.93	57.7	4.7
08235	Calw district	3.88	52.9	4.5
08236	Enz district	4.44	50.0	3.8
08237	Freudenstadt district	5.13	34.4	3.4
08311	Freiburg im Breisgau	6.74	56.2	4.5
08315	Breisgau-Hochschwarzwald district	5.42	49.9	3.8
08316	Emmendingen district	4.69	51.8	4.0
08317	Ortenaukreis district	4.30	49.7	3.8
08325	Rottweil district	3.85	50.7	4.4
08326	Schwarzwald-Baar-Kreis district	3.73	54.5	4.3
08327	Tuttlingen district	3.05	64.4	5.7
08335	Konstanz district	6.01	52.8	4.1

	Region	Owner-occupied-housing costs 2019 in euro per sqm	Cost advantage over renting in percent, 2019	Neutral interest rate, in percent
08336	Lörrach district	4.61	59.2	4.9
08337	Waldshut district	3.85	55.0	4.4
08415	Reutlingen district	4.88	56.1	4.5
08416	Tübingen district	5.42	57.9	4.7
08417	Zollernalbkreis district	3.09	60.9	5.1
08421	Ulm	4.53	64.0	5.6
08425	Alb-Donau-Kreis district	3.39	63.1	5.5
08426	Biberach district	3.31	62.0	5.3
08435	Bodenseekreis district	4.98	61.9	5.3
08436	Ravensburg district	4.18	60.3	5.0
08437	Sigmaringen district	3.31	56.7	4.5
Bavaria				
09161	Ingolstadt	5.96	57.9	4.6
09162	Munich	11.60	45.9	3.5
09163	Rosenheim	5.84	53.3	4.1
09171	Altötting district	3.73	53.4	4.1
09172	Berchtesgadener Land district	4.87	50.9	3.9
09173	Bad Tölz-Wolfratshausen district	6.58	51.1	3.9
09174	Dachau district	6.95	51.1	3.9
09175	Ebersberg district	6.85	53.6	4.2
09176	Eichstätt district	4.92	50.8	3.9
09177	Erding district	5.89	54.3	4.2
09178	Freising district	6.61	53.3	4.1
09179	Fürstenfeldbruck district	7.14	52.5	4.0
09180	Garmisch-Partenkirchen district	7.28	41.7	3.2
09181	Landsberg am Lech district	5.13	56.2	4.4
09182	Miesbach district	7.78	45.1	3.4
09183	Mühlendorf am Inn district	3.43	58.9	4.8
09184	Munich district	10.01	41.9	3.2
09185	Neuburg-Schrobenhausen district	4.17	53.2	4.1
09186	Pfaffenhofen an der Ilm district	4.58	53.2	4.1
09187	Rosenheim district	5.30	53.7	4.2
09188	Starnberg district	8.13	51.3	3.9
09189	Traunstein district	5.45	46.4	3.5
09190	Weilheim-Schongau district	5.22	53.4	4.1
09261	Landshut	5.13	54.6	4.3
09262	Passau	3.48	65.4	5.8

	Region	Owner-occupied-housing costs 2019 in euro per sqm	Cost advantage over renting in percent, 2019	Neutral interest rate, in percent
09263	Straubing	3.56	58.5	4.7
09271	Deggendorf district	3.27	59.2	4.8
09272	Freyung-Grafenau district	3.21	50.1	4.4
09273	Kelheim district	3.54	60.8	5.1
09274	Landshut district	4.41	49.3	3.7
09275	Passau district	3.44	53.5	4.1
09276	Regen district	2.65	58.4	5.5
09277	Rottal-Inn district	2.70	60.7	5.0
09278	Straubing-Bogen district	2.57	62.8	5.4
09279	Dingolfing-Landau district	3.35	53.0	4.1
09361	Amberg	3.64	54.9	4.3
09362	Regensburg	7.24	48.0	3.6
09363	Weiden in der Oberpfalz	2.64	65.3	5.8
09371	Amberg-Sulzbach district	2.68	60.5	5.0
09372	Cham district	3.03	47.9	3.6
09373	Neumarkt in der Oberpfalz district	3.69	55.9	4.4
09374	Neustadt an der Waldnaab district	2.92	54.8	4.3
09375	Regensburg district	4.40	51.3	3.9
09376	Schwandorf district	2.63	63.3	5.4
09377	Tirschenreuth district	3.66	23.6	2.6
09461	Bamberg	4.67	59.8	4.9
09462	Bayreuth	3.94	59.1	4.8
09463	Coburg	3.33	57.1	4.6
09464	Hof	2.82	53.9	4.9
09471	Bamberg district	3.49	49.0	3.7
09472	Bayreuth district	3.15	52.8	4.1
09473	Coburg district	2.50	63.3	5.4
09474	Forchheim district	3.49	56.8	4.5
09475	Hof district	2.84	45.6	4.4
09476	Kronach district	5.59	11.8	2.1
09477	Kulmbach district	2.32	66.7	6.1
09478	Lichtenfels district	3.12	50.4	3.9
09479	Wunsiedel im Fichtelgebirge district	2.87	41.9	3.6
09561	Ansbach	3.80	59.7	4.9
09562	Erlangen	6.13	54.7	4.3
09563	Fürth	4.32	63.2	5.4
09564	Nuremberg	5.07	58.5	4.7

	Region	Owner-occupied-housing costs 2019 in euro per sqm	Cost advantage over renting in percent, 2019	Neutral interest rate, in percent
09565	Schwabach	4.56	55.9	4.4
09571	Ansbach district	3.51	52.8	4.1
09572	Erlangen-Höchstadt district	4.45	54.4	4.2
09573	Fürth district	4.33	54.7	4.3
09574	Nürnberger Land district	4.33	53.8	4.2
09575	Neustadt an der Aisch-Bad Windsheim district	3.07	55.1	4.3
09576	Roth district	3.80	53.0	4.1
09577	Weissenburg-Gunzenhausen district	3.12	52.1	4.0
09661	Aschaffenburg	4.94	53.8	4.2
09662	Schweinfurt	3.63	55.6	4.4
09663	Würzburg	4.93	55.9	4.4
09671	Aschaffenburg district	3.78	58.8	4.8
09672	Bad Kissingen district	3.62	48.3	4.4
09673	Rhön-Grabfeld district	2.72	55.3	4.3
09674	Hassberge district	2.73	49.7	3.8
09675	Kitzingen district	2.70	58.0	4.7
09676	Miltenberg district	3.97	48.8	4.0
09677	Main-Spessart district	3.28	53.6	4.1
09678	Schweinfurt district	2.94	54.8	4.3
09679	Würzburg district	3.49	60.7	5.0
09761	Augsburg	5.09	56.3	4.4
09762	Kaufbeuren	3.08	62.2	5.3
09763	Kempten (Allgäu)	3.86	60.7	5.0
09764	Memmingen	4.06	61.2	5.1
09771	Aichach-Friedberg district	4.36	54.3	4.2
09772	Augsburg district	4.49	54.0	4.2
09773	Dillingen an der Donau district	2.92	59.0	4.8
09774	Günzburg district	3.51	58.1	4.7
09775	Neu-Ulm district	4.03	62.9	5.4
09776	Lindau (Bodensee) district	5.16	55.9	4.4
09777	Ostallgäu district	4.48	54.2	4.2
09778	Unterallgäu district	3.39	60.8	5.0
09779	Donau-Ries district	3.48	56.6	4.5
09780	Oberallgäu district	4.98	51.0	3.9
Saarland				
10041	Stadtverband Saarbrücken district	4.36	46.7	3.9

	Region	Owner-occupied-housing costs 2019 in euro per sqm	Cost advantage over renting in percent, 2019	Neutral interest rate, in percent
10042	Merzig-Wadern district	3.31	64.4	5.8
10043	Neunkirchen district	4.32	33.5	3.6
10044	Saarlouis district	3.45	56.0	5.3
10045	Saarpfalz district	3.84	48.0	4.3
10046	Sankt Wendel district	3.55	48.5	4.3
Berlin				
11000	Berlin	8.23	35.1	2.8
Brandenburg				
12051	Brandenburg an der Havel	3.29	45.9	3.6
12052	Cottbus	2.72	59.0	5.2
12053	Frankfurt (Oder)	4.70	31.0	3.1
12054	Potsdam	5.76	53.7	4.4
12060	Barnim district	2.62	65.3	6.1
12061	Dahme-Spreewald district	2.82	66.7	6.4
12062	Elbe-Elster district	2.68	50.6	4.3
12063	Havelland district	2.84	65.4	6.1
12064	Märkisch-Oderland district	2.83	64.3	5.9
12065	Oberhavel district	2.92	66.8	6.4
12066	Oberspreewald-Lausitz district	3.36	42.5	5.0
12067	Oder-Spree district	2.52	69.3	7.0
12068	Ostprignitz-Ruppin district	2.31	60.6	5.3
12069	Potsdam-Mittelmark district	4.31	55.8	4.6
12070	Prignitz district	1.81	69.7	7.1
12071	Spree-Neisse district	1.91	67.2	6.5
12072	Teltow-Fläming district	3.17	60.2	5.2
12073	Uckermark district	2.01	66.0	6.8
Mecklenburg-Western Pomerania				
13003	Rostock	4.62	52.0	4.0
13004	Schwerin	3.08	60.7	5.1
13071	Mecklenburgische Seenplatte district	3.01	52.5	5.1
13072	Rostock district	3.08	57.9	4.7
13073	Vorpommern-Rügen district	3.33	56.1	4.5
13074	Nordwestmecklenburg district	3.23	55.2	4.4
13075	Vorpommern-Greifswald district	4.07	48.7	4.2
13076	Ludwigslust-Parchim district	2.15	66.5	6.1
Saxony				
14511	Chemnitz	6.81	-9.7	1.0

	Region	Owner-occupied-housing costs 2019 in euro per sqm	Cost advantage over renting in percent, 2019	Neutral interest rate, in percent
14521	Erzgebirgskreis district	2.98	47.3	5.3
14522	Mittelsachsen district	5.17	10.0	2.1
14523	Vogtlandkreis district	3.94	26.0	3.4
14524	Zwickau district	4.42	25.9	3.5
14612	Dresden	4.49	47.3	3.6
14625	Bautzen district	2.73	56.3	6.4
14626	Görlitz district	1.70	69.2	7.7
14627	Meissen district	3.89	42.0	3.9
14628	Sächsische Schweiz-Osterzgebirge district	2.77	56.1	5.4
14713	Leipzig	3.70	53.3	4.1
14729	Leipzig district	3.22	49.5	4.6
14730	Nordsachsen district	2.43	61.3	6.1
Saxony-Anhalt				
15001	Dessau-Rosslau district	3.15	48.4	4.9
15002	Halle/Saale district	2.99	59.9	5.0
15003	Magdeburg	3.14	52.2	4.1
15081	Altmarkkreis Salzwedel district	1.84	65.6	6.7
15082	Anhalt-Bitterfeld district	3.94	37.1	4.3
15083	Börde district	2.08	62.6	6.6
15084	Burgenlandkreis district	3.83	35.5	4.5
15085	Harz district	3.36	42.5	4.8
15086	Jerichower Land district	2.93	48.3	5.6
15087	Mansfeld-Südharz district	2.38	56.2	5.7
15088	Saalekreis district	2.81	54.4	6.5
15089	Salzlandkreis district	3.33	41.8	4.5
15090	Stendal district	3.19	44.4	5.0
15091	Wittenberg district	1.66	69.2	6.7
Thuringia				
16051	Erfurt	3.86	54.3	4.3
16052	Gera	4.33	23.3	3.0
16053	Jena	4.32	61.0	5.2
16054	Suhl	2.86	56.0	5.8
16055	Weimar	3.65	56.0	4.5
16056	Eisenach	5.36	18.1	2.6
16061	Eichsfeld district	2.41	53.3	4.6
16062	Nordhausen district	1.75	68.5	6.6

	Region	Owner-occupied-housing costs 2019 in euro per sqm	Cost advantage over renting in percent, 2019	Neutral interest rate, in percent
16063	Wartburgkreis district	2.62	53.2	5.7
16064	Unstrut-Hainich district	3.76	32.9	4.1
16065	Kyffhäuserkreis district	2.99	42.4	4.6
16066	Schmalkalden-Meiningen district	2.00	65.6	6.9
16067	Gotha district	2.84	54.5	5.7
16068	Sömmerda district	1.61	74.7	9.7
16069	Hildburghausen district	4.07	33.9	4.2
16070	Ilm-Kreis district	4.45	32.2	3.8
16071	Weimarer Land district	2.30	60.6	6.0
16072	Sonneberg district	4.35	20.7	2.9
16073	Saalfeld-Rudolstadt district	2.68	55.4	5.5
16074	Saale-Holzland district	2.61	60.5	5.9
16075	Saale-Orla district	1.88	68.3	7.8
16076	Greiz district	4.33	21.3	3.1
16077	Altenburger Land district	3.70	34.2	3.9

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