



Berlin housing market

Rent cap may decouple real estate cycle from economic supercycle for a number of years

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The key message: If the rent cap is constitutional, the situation for investors will change dramatically. While initially limited to five years, the shape of future political majorities may result in the regulation being extended in 2025. Risk-averse, short-term oriented investors have incentives to leave the Berlin market. We believe Berlin remains an attractive market for long-term oriented investors.

A judicial review is expected to clarify whether the rent cap is constitutional. It is generally expected that a verdict will be reached in autumn 2020. Lawyers are divided over the anticipated verdict, leading to high legal uncertainty.

Previous regulatory approaches including rent brakes, revisions to the rent index, and a housing summit were footnotes in the German real estate boom. In view of the housing shortage, they had a slightly dampening effect on price rises at best. The realignment of housing policy in Berlin and the rent cap represents a radical attempt to sideline market-based mechanisms. Developments in Berlin are also likely to have a major influence on housing policy across Germany.

The city senate's main concern is freezing rents across the entire private residential market for five years. To this end, a "rent cap" was resolved in late January 2020, and it became effective at the end of February. The law freezes rents with retroactive effect to their level in June 2019.

This also legally prohibits rent increases until 2021. After that point, rent increases of 1.3% per year will be permitted. The rent cap does not tackle the core problem, namely a shortage of residential space. Quite the contrary – it will increase demand while reducing supply. The permits already slumped heavily in the second half of 2019. The number of potential loopholes is high and could foil the senate's efforts to create affordable housing.

The economic supercycle in Berlin marches on undiminished. The population is growing, the job market is booming, and real GDP has seen annual growth of almost 4% in recent years. In addition, Berlin is shielded from global risks by its strong high-skill services sector.

The negative effects of the rent cap on the housing market are likely to emerge clearly in the long run. We therefore do not expect the scheme to be extended beyond 2030 and believe that Berlin remains an attractive location for long-term oriented investors on account of the economic supercycle.



Berlin housing market

History and future of the rent cap

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Early 2019: Berlin policymakers discuss the rent cap on the initiative of the Social Democratic Party (SPD). Media reports suggest it was prompted by a November 2018 article in the legal journal Juristen-Zeitung.¹

Beginning of June 2019: The property owners' association, "Haus & Grund", advised landlords to raise rents to the average rent level for comparable units in the area, as it would not be possible to raise rents again after 18 June.

18 June: Berlin senate passes a resolution on the key points of the rent cap policy in accordance with the rent cap law.

11 December: Consultation in the city's Abgeordnetenhaus (house of representatives).

Final draft of law adopted in late January.

Law scheduled to take effect in late February 2020.

Judicial review likely to follow shortly thereafter.

The constitutional court is generally expected to reach a verdict in autumn 2020.

The rent cap will most likely also contain a paragraph regarding lowering excessive rents. This regulation is expected to take effect in December 2020, assuming it is constitutional and a verdict has been reached before this point.

Source: Deutsche Bank Research

Part 1: Berlin's political and regulatory environment

Current housing policy has historical roots

Many large cities are strongholds for leftist political parties. This is also the case in Berlin, both during the Weimar Republic era and in East Berlin before reunification. The governing mayor of West Berlin was usually a member of the SPD, with the exception of the decade prior to reunification. Excluding the decade after the fall of the Berlin Wall, the reunified city was ruled by the SPD, and the Linke's (the Left party) significance as a coalition partner grew rather than abated. Berlin was not a hotbed of prosperity and entrepreneurship during the long post-war decades, in contrast to many other major cities. As such, the reunified city was a low-income environment and economically sluggish during the 1990s. It is only in the last decade that the city took a U-turn. We believe that this success rested on four key pillars. First, Berlin is a world-famous city and a global brand on account of its dramatic and often unique history. Second, the decision made at the beginning of the 1990s to move the seat of government from Bonn to Berlin led to an enormous influx of politicians, officials, media representatives and lobbyists. Third, Berlin has always had a high level of cultural diversity and was regarded as having the same level of prestige as Paris and London back in the 1920s. Despite its economic weakness in the wake of reunification, Berlin still had a broad and high-quality cultural scene, which attracted a lot of creative talent to Berlin. Fourth, Berlin had an extraordinarily low level of rent, which is still well-below average in comparison with other major European cities. This huge differential in terms of rent offered young and dynamic individuals an excellent economic base, and was a key foundation for a new wave of entrepreneurship and the Berlin startup scene.

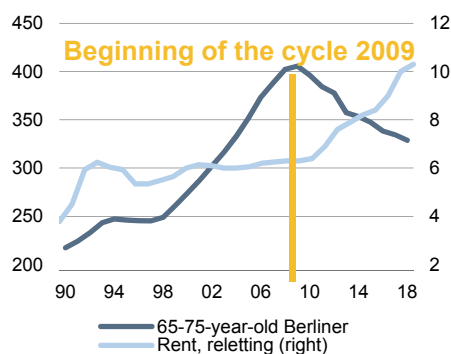
The boom has passed many Berliners by

These developments are not the result of a policy strategy. Indeed, the high labour surplus that followed reunification along with high levels of debt meant that Berlin had to swallow drastic job cuts among local public servants. The dawn of a new, more optimistic era was brought into the city from outside. Berlin's residents benefited from this development indirectly at best, and indeed were negatively affected by rising rents and gentrification. The popularity of politicians and parties that seek to preserve the status quo therefore comes as no surprise. The relatively high average age among the city's population plays a role in this defensive policy. This symbiosis between voters and politicians is likely to persist for some time to come, in our view. This background largely explains why Berliners rebelled against rising rents and how the housing policy originated in the city's senate, where a red-red-green coalition of the SPD, the Left and the Green party has been in power since 2016. According to current polling, this grouping may be re-elected in autumn 2021.

65-75-year-old Berliners and rents

2

left y-axis: in '000
right y-axis: in EUR/sqm



Sources: Deutsche Bank Research, Federal Statistical Office

Rent cap and expropriation are of national significance

The entire real estate sector is watching Berlin's regulatory wave closely. The senate's main objective is to limit rent increases through the rent cap. While housing falls under the remit of the individual federal states, rent law is a federal

¹ Tagesspiegel.de. Die Details des Berliner Mietendeckels. Accessed February 18, 2020.



matter under the German Civil Code. This is why a judicial review is on the cards to examine whether the rent cap is constitutional. Experts disagree about the expected verdict, and it is also unclear when such a verdict might be reached. However, the constitutional court is generally expected to reach a verdict in autumn 2020. The second half of the year could also see the calling of a city-wide referendum on “expropriation of private housing companies with more than 3,000 housing units”. However, the latest surveys show that Berliners are rather hostile to the expropriation project. For this reason, the referendum has lost some of its significance, at least for the moment. The realignment of Berlin’s housing policy has also increased the trend towards further market interventions in other parts of Germany. This has led to uncertainty among investors and throughout the construction sector, making the developments in Berlin highly significant for the German real estate cycle as a whole.

Comparison between the rent cap and the 2019 rent index

Upper rent limits based on the rent cap

3

| First-time occupancy of dwelling and equipment | Rent per sqm |
|---|--------------|
| with central heating and with bathroom | |
| to 1918 | 6.45 |
| 1919 to 1949 | 6.27 |
| 1950 to 1964 | 6.08 |
| 1965 to 1972 | 5.95 |
| 1973 to 1990 | 6.04 |
| 1991 to 2002 | 8.13 |
| 2003 to 2013 | 9.80 |
| with central heating or with bathroom | |
| to 1918 | 5.00 |
| 1919 to 1949 | 5.22 |
| 1950 to 1964 | 5.62 |
| without central heating and without bathroom | |
| to 1918 | 3.92 |
| 1919 to 1949 | 4.59 |

Modernisation surcharge up to EUR 1.00/qm

Source: Berlin Senate, Department for Urban Development and Housing

The rent cap will initially apply for five years. It is staggered by the year of construction and the fittings in the housing unit, and accounts for whether or not the unit has been modernised. Depending on the combination of these characteristics, the law stipulates an upper rent limit of EUR 3.92 to EUR 10.80 per square metre in residential buildings comprised of three or more units. This upper rent limit is 10% higher for houses intended for one or two families. The range of details that need to be considered means that this rent cap will have complex effects on the rental market, and these need to be looked at on a case-by-case basis. One initial reference point is the rent index, although it differs from the rules of the rent cap in several key respects. The rent index takes account not only of the construction year and fittings of a residential unit, but also its type, location and size. In addition, it is not based on current rent levels, but takes account of the last six years. The 2019 rent index indicates a very similar distribution of median rent levels for comparable units in the same area for the various categories. However, they are at a higher level, namely between EUR 5.23 and EUR 12.89 per square metre depending on the category.² For the most expensive residential units, the 75th percentile according to the rent index stand at EUR 14.83 per square metre, several euros above the upper rent limits. The rent cap thus also freezes the rents of high-income households. This means the rent cap is likely to affect the majority of the private housing market, as the senate intended.

Historical context of the rent cap and short-term consequences

The Berlin rent cap (MietenWoG Bln) came into effect in February 2020. The law calls for rents to be frozen retroactively at their level on 18 June 2019, and it will not be possible to raise rents again until the end of 2021. The economic literature defines this type of intervention in the overall market as “first generation rent controls”.³ Such interventions have typically taken place in the

² EUR 5.23 per year = apartments in the east of the city, built between 1973 and 1990, 90 m² or more, central heating or with a bathroom, with a toilet in the apartment. EUR 12.89 per year = apartments built between 2003 and 2017, 60 m² to less than 90 m², central heating or with a bathroom, with a toilet in the apartment.

³ In contrast to the second generation, which simply regulates rent increases and usually applies only to sub-markets. One example is the German national rent brake introduced in June 2015. It was applied to regional markets with a tight supply of rental property as selected by the federal states. In contrast to the rent cap, this regulation only applies to new leases. That is why the rent brake is classed as second generation rent control. The rent brake applies in Berlin until the end of May 2020. It can be assumed that it will be extended for another five years. This would be relevant if, for example, the rent cap was ruled unconstitutional in autumn 2020. In addition, the new rent brake regulation would enable tenants to receive repayment of excessive rents going back up to two and a half years.



western world during wartime. Today, they are typically found in developing economies and some emerging markets. Empirical studies⁴ show that freezing rents can, in fact, work. But these studies also documented undesired side effects which could be catastrophic, particularly in the long term. We look at these in further detail below. The key question is therefore likely to be whether the realignment of Berlin housing policy represents modern leftist politics or a permanent reversion to an antiquated concept.

Indications of a modern leftist housing policy

Legal practice on “hardship provisions in individual cases” could become interesting

4

Key questions: How is “in individual cases” defined? One thousand landlords? One percent of all landlords? Is there a principle of equality where many people could ultimately make use of the individual case provision?

Undesired interpretation: the ruling in the legal text reads like a financial hedge (put option). This could drive investors to take on risk.

Source: Deutsche Bank Research

Some legal details feed the hope that this is the implementation of a modern leftist policy. Firstly, the draft law provides for rent increases in line with inflationary adjustment at 1.3% per annum starting in 2022. It can be assumed that lawmakers added this provision with the intention of reducing the long term adverse consequences of a rent cap. This provision may also relate to consultations with the city’s public housing corporations, which guarantee the majority of Berlin’s social housing provision. These associations have also implemented rent increases of 1.4% across their housing stock in recent years, and may also require such increases to maintain their properties and invest in expanding their portfolios. The planned “hardship provisions in individual cases” is a second indication. It permits higher rents in cases where landlords face a substantial threat. Thirdly, the fact that new buildings finished since 1 January 2014 are excluded from the cap can be regarded as a positive indication, at least a priori. In this context, a new building has to actually create new residential space – extensive modernisation or renovation undertaken since that time do not count.

Indications of an antiquated concept

However, the rent cap also applies when re-letting new housing units. This creates incentives for developers to turn their backs on the rental market and build more single-family and terraced housing.⁵ This could counteract the main objective of creating affordable housing – especially for the ruling parties’ own voters. In addition to this negative development, there are two further details in the law that suggest the potential highly negative experiences with first generation rent control will be ignored. For one thing, the law stipulates that rents above the upper limit are to be lowered to the limit itself if the property is re-let. Rents for existing contracts are also to be lowered, if the rent is 20% above the upper limit specified in the rent cap. Many lawyers regard this encroachment on existing contracts in particular to be unconstitutional. This may also be a source of major concern to the senate, as this provision comes into force towards the end of the year rather than in March 2020. In addition, media reports⁶ suggest that the senate advised tenants to save the difference between their old rent and the new lower rents, as it may be necessary to pay it back to the landlord depending on the verdict given by the judicial review. This brings with it the risk of political trouble. What happens if tenants spend the money gained from the rent reduction and do not have savings? Will they have to

4 Interestingly, the literature is still in its infancy regarding the significance of “housing” as a good, and many research questions remain open. See Richard Arnott (1994). Time for Revisionism on Rent Control? *Journal of Economic Perspectives* - Volume 9, Number 1 - Winter 1995 - pp. 99-120. See Andreas Mense, Claus Michelsen and Konstantin A. Kholodilin (2019). Rent Control, Market Segmentation, and Misallocation: Causal Evidence from a Large-Scale Policy Intervention. German Institute for Economic Research.

5 In the section “2020: Rent cap leads to future housing shortages”, we state that it appears that these developments will indeed come to pass.

6 Tagesspiegel.de. Lompscher rät, gesparte Miete zurückzulegen. Accessed on January 31, 2020.



accumulate debt to pay their landlord? If they don't pay, can the landlord terminate the lease, or will the city of Berlin ultimately intervene?

The big question: What happens in 2025?

Regulatory arbitrage and diversion effects 5

Construction industry increasingly investing in single-family and terraced houses and less in multi-unit buildings.

Tenants are becoming owners.

Tenants and landlords will de jure adhere to the rent cap, but will de facto circumvent it.

Prices for additional services related to "housing" as a commodity are rising.

Investment in maintenance is falling, as is the quality of the buildings and that of the indoor environment.

Aggressive investors are buying up housing stock and leaving residential units vacant in order to drive up the pressure on prices.

Increased use of residential space for tourism.

Investments in Berlin's commercial real estate market.

Investments in the housing market in Berlin's surrounding area (no rent cap in the state of Brandenburg).

Source: Deutsche Bank Research

In 2021, an election year, the red-red-green coalition may receive a second term in office. At least, that will be the case if current poll results continue and both the Greens and the SPD favour a continued coalition with the Left party (based on recent polling, a coalition of the Greens, the CDU and the FDP is also likely, as is a coalition of the Greens, the CDU and the SPD). This would probably lead to an extension of the rent cap in 2025. That is because, as we outline below, the coming years will see very few changes to the fundamental shortages that the rent cap may exacerbate. In view of the indications described above, the senate may then tend towards renewing the rent cap or even tightening it. In particular given the heated atmosphere and the hardened political fault lines – all opposition parties oppose the rent cap – the senate may find it difficult to explain any U-turn towards a balanced housing policy with fewer market interventions to its voters.

Regulatory arbitrage is likely to grow more important

People are inventive creatures, and this also applies to circumventing regulations. The rent cap is likely to lead to a broad array of evasive manoeuvres. We have already alluded to the risk that the law will strengthen investors with a high risk appetite and that investors will use the hardship clause as a put option. Below we discuss nine further possible scenarios that could thwart the original goal of creating affordable housing. In addition, any tightening of the rent cap or additional market intervention, such as further laws on the level of rent or measures to drive residential space, could put the original goal of creating affordable housing into even greater jeopardy.

First, in order to avoid the negative consequences of the rent cap as much as possible, the construction industry could begin to invest less in multi-unit buildings and more in single-family and terraced housing. As overall housing demand becomes concentrated on fewer new properties, housing and land prices will experience a steep rise. As we outline below, there are initial indications that this will be the case.

Second, the rent cap does nothing to alleviate the shortage of housing and may indeed exacerbate it. People who move to Berlin from outside as well as Berlin residents who are searching for a new place to live will continue to face high search costs on account of low housing supply. As a result, owner-occupied units will become more attractive, particularly given the low-interest-rate environment. This will be an option primarily for wealthy households and those with high incomes on account of the high ancillary costs.

Third, high search costs may increasingly tempt low-income and low-wealth households to practice regulatory arbitrage. For instance, tenants could increasingly signal to landlords that they are willing to pay additional costs. Landlords could also view the new legal environment as overreach with regard to their property rights and accept the tenants' offers or actively demand them.

Risk of market segmentation on the double

The second and third factors could increase segmentation among both tenants and landlords. If well-off tenants leave the rental market, renting will become increasingly stigmatised as a way of living. Berlin has a very low level of



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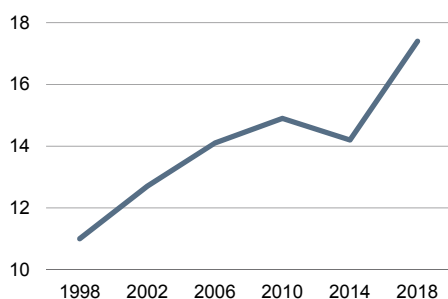
ownership at just 17.4% as of 2018 (1998: 11%). Historical studies suggest that after first generation rent control is introduced into a free market, the rate of ownership tends to rise by about 0.5 to 1 percentage point per year.⁷ As Berlin has already seen a rise of almost 1 percentage point annually since 2014 without a rent cap, the ownership rate could rise even more steeply in future. This is even more applicable in this case, as market segmentation could generate on the landlord side as well. For risk-averse landlords, the incentives to disinvest in Berlin are increasing.

Regulatory arbitrage on the part of investors with high risk appetites

Berlin: Ownership rate

6

in % of total dwellings



Source: Federal Statistical Office

As a fourth factor, the rent cap relates to the base rent including all surcharges and fittings. The rent cap does not prohibit the sale of the fittings. New potential tenants – and there are likely to be more rather than fewer of them as a result of the rent cap – may be prepared to buy the fittings at high prices to maintain an advantage in the fight for housing units in Berlin, even though this cannot be quantified. Prices for parking spaces and other additional services related to “housing” as a commodity could also experience a sharp rise as a result of stricter rental laws.

Fifth, investors with high risk appetites – in other words those with an incentive to stay in the market – could also increasingly seek to increase their returns through making minimal investments in maintenance. Through this mechanism, a long lasting first generation rent control would considerably reduce the quality of the buildings and the indoor environment. In a way, the rent cap will then strengthen the hand of those very landlords that the red-red-green coalition wants to regulate.

The sixth factor is that the regulations could have the undesired side effect of an increased non-market active vacancy rate. If rents do not cover vacancy costs, then the incentives to leave residential units vacant increase. In other cities, there is a wealth of anecdotal evidence for this phenomenon. Aggressive investors could therefore interpret the low market-active vacancy rate as an investment opportunity, buy up further housing stock and thereby artificially curtail the availability of existing residential space. This could lead to a massive increase in price pressure, particularly in a zero-interest-rate environment.

Ban on change of use only successful to a limited extent

The seventh factor is that owners could endeavour to convert residential space into hotels or other types of tourist facilities. As explained at the beginning of this document, Berlin is a global brand and is likely to remain a sought-after travel destination for overseas tourists. Overnight stays have increased successively over the last ten years, and the number of guests has almost doubled. Renting residential space to tourists is becoming more significant as a result of stricter rental laws. Like other cities, Berlin too is trying to prohibit the use of residential space for tourism purposes. For example, there has been a ban on change of use in effect since 2014, and this was further strengthened in 2018. According to press reports⁸, the city estimates that more than 9,000 residential units have been added to the regular rental market since 2014. In addition, fines averaging EUR 6,000 were levied against several hundred non-compliant landlords within twelve months. This success is likely to be limited, as very few landlords identify

⁷ See Kholodilin and Kohl (2019). Housing Market Regulation Has Contributed to the Worldwide Triumph of Home Ownership. DIW Weekly Report.

⁸ Morgenpost.de. Zweckentfremdung adé: 9300 Wohnungen wieder vermietet. Accessed on February 1, 2020.



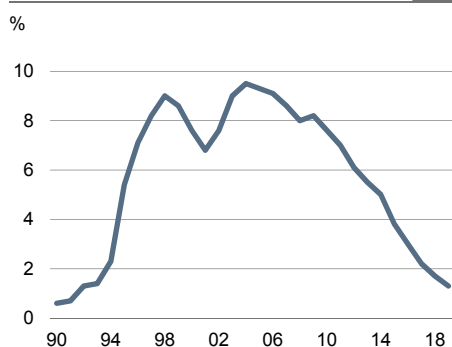
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themselves as registered landlords on the websites even though it is mandatory. Although the political climate makes it much more likely that they will be discovered, the economic risk appears to be relatively low on account of the amount of the fine and the likelihood that the change of use will be discovered. Many landlords are likely to attempt to raise rents, using rent mark-ups as a corresponding risk premium when letting space to tourists. As there are several shortages in the Berlin real estate market, landlords have the negotiation power to do so.

Investing in alternative markets

Office market: Vacancies

7



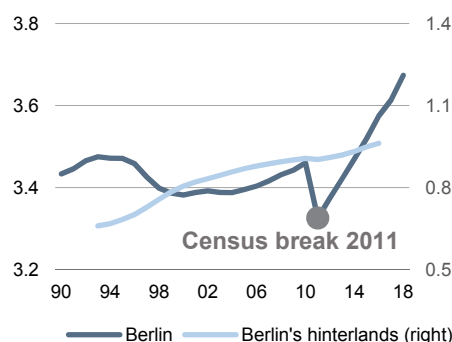
Source: bulwiengesa

As an eighth factor, Berlin-based investors could switch track to Berlin's commercial real estate market. If the rent cap works, the low rents will attract even more people to the city, at least in the short term, which will benefit all commercial sub-markets. In the last ten years, the vacancy rate in the office market has gradually fallen from over 8% to its current level of 1.3%. In light of these shortages and the city's booming economy, it would be justifiable to say that there is an office crisis. Switching and diversifying into this market is an attractive alternative indeed. However, Berlin's senate would also like to introduce a rent cap in this sector, though this would require legislation at the federal level. This is not likely to be on the agenda in the near future. In addition, it is not expected that a majority would be in favour of this proposal.

Number of inhabitants

8

both y-axes: in m



Source: Statistical Office Berlin-Brandenburg

The ninth factor is that investments in Berlin's hinterlands, which are located in the federal state of Brandenburg, could represent a rent cap-free alternative. The population of Berlin's surroundings has grown over the last 25 years from around 660,000 to almost 1 million, a rise of around 50% (Berlin: ~5%). Although we are unaware of any existing studies in this regard, we presume that this high level of growth will also significantly curb the vacancy rates in this region. With the exception of Potsdam, the state capital of Brandenburg with a population of some 178,400 residents, the city's environs consist of many smaller communities. The average rent and, in particular, the prices of houses and apartments are well below the corresponding levels in Berlin. Due to the shortages in Berlin, the city's surroundings are likely to remain attractive. In addition, tighter rental laws and market interventions over the coming years are not on the agenda, or are only being considered to a very limited extent. Brandenburg has been governed by a coalition of the CDU, the SPD and the Green party since 2019. The coalition agreement does not stipulate strengthening rental laws, but merely a "more effective regulation of rents". In addition, a residential space campaign is planned for the region. Investments in this region may be particularly attractive if Germany's immigration boom continues apace and the slowdown in net inward migration in the summer months of 2019 turns out to be nothing more than a dip.⁹ Housing units in the surrounding area are likely to be only half as expensive as those in Berlin on average. As a result of this differential, the shortage of residential space in the capital and the strong population growth in both regions, rents and prices on Berlin's outskirts are likely to continue rising.

Long-term social and economic consequences beyond the housing market

The consequences of first generation rent controls have been documented not only in relation to the housing market, but also for other markets. Tenant mobility declines when supply experiences a structural reduction. As a consequence,

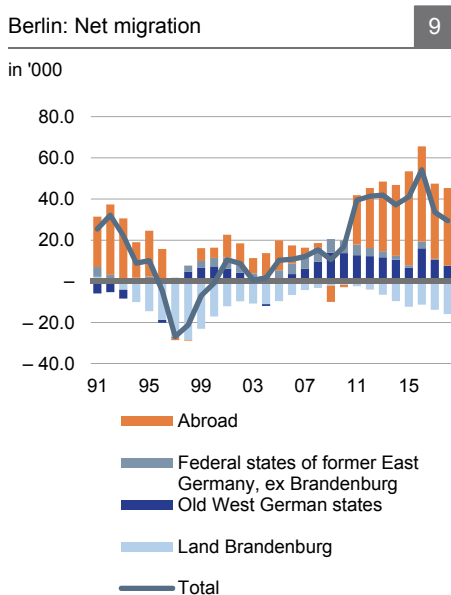
⁹ See our economic outlook for 2020. Outlook 2020: Fragile – handle with care. Deutsche Bank Research, December 2019.



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commuting times and costs tend to rise as people cease to move to better-situated housing units. Alternatively, the labour market experiences a misallocation that is presumably even more damaging as employees have fewer employers to choose from and vice versa. Together with declining construction and indoor environment quality, this can significantly curb a city's productivity and economic momentum, which is all the more applicable considering that a boom in home prices and harsh regulatory countermeasures not only imply massive economic misallocations, but also social misallocations. The first is the anger and frustration of tenants and landlords, whereby there may be plenty of rogue actors on all sides, resulting in often lengthy and expensive legal disputes. A second issue is the time and political energy devoted to discussions, protests, campaigns against investors, police deployment, and regulatory measures such as the rent cap and expropriation debate. A third consequence is the regulatory arbitrage described above. In turn, legislators try to close existing loopholes while the executive and judicial branches try to manage the situation. Media reports suggest that the city of Berlin plans to deploy 48 inspectors to enforce the rent cap.¹⁰ Recruitment costs could be high. The city has had many job vacancies for some time now. The sequence of measures and countermeasures described here is the vicious circle that ultimately ties up more and more economic and social resources for monitoring not only the rent cap, but also the prohibition on changes of use, non-compliance with the rent index, the calculation of real estate taxes, and more. The costs and opportunity costs of these developments are hard to estimate, but are likely to be considerable and to drain the joy of creating and developing new things, first from entrepreneurs and then from an entire society. In our view, these misallocations resulting from state failure are just as detrimental to social harmony as the misallocation and market failure that follow a housing bubble.

Part 2: Economic situation surrounding the housing market



Sources: Statistical Office Berlin-Brandenburg, Deutsche Bank Research

Population increase up to 2018, due primarily to migration from abroad

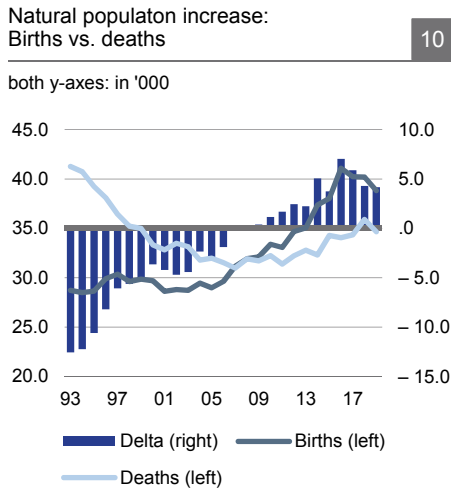
Berlin's population has grown in recent years, primarily due to inward migration. From 2011 to 2016, net migration stood at an average of around 40,000 new inhabitants each year. The proportion of inward migration dropped to approximately 30,000 in 2017 and 2018, possibly due to rising rents. Population growth averaged around 1% annually. For ten years, Berlin has had positive natural population growth accompanied by a rising trend. Both 2018 and 2019 saw over 4,000 new inhabitants entering the city. As is also the case for other cities, Berlin has negative net migration compared to the surrounding region. In contrast, the migration rate from the federal states of former East Germany, excluding Brandenburg, is almost nil. Inward migration is primarily from western Germany and, more significantly, from abroad. In contrast to Berlin which had a falling population until well into the 2000s, the city's surroundings has experienced continuous growth of 12,000 inhabitants per year on average. In recent years, the percentage population growth of Berlin's hinterlands has been similar to that of the city itself.

¹⁰ tagesspiegel.de. Berlins Behörden brauchen rasch mehr Personal. Accessed on January 31, 2020.



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Berlin likely to reach 4 million inhabitants by 2030 despite dip in growth in 2019

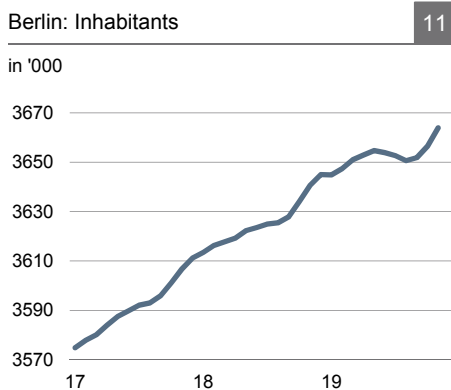


Sources: Statistical Office Berlin-Brandenburg, Deutsche Bank Research

Since 2011, Berlin's population has risen by around 10% to almost 3.7 million, the strongest percentage growth among German cities after Frankfurt am Main and Leipzig. The number of households has risen more sharply than the number of inhabitants on account of the increase in one-person and especially two-person households. In its medium-term projections, the city assumes that the population will gradually continue to grow to over 3.8 million by 2030. Considering the growth of recent years, this is a highly conservative estimate. This projection will only become reality if the 2019 slowdown in growth were to continue. We estimate that the number of new inhabitants in 2019 was just over 10,000.

The population even declined by approximately 4,000 between May and July 2019. This was due to a rise in outward migration, while inward migration exhibited relatively normal development. The increase in outward migration has at least three possible causes: (1) a high number of asylum seekers returning to their home countries; (2) rising rents and subsequently a higher cost of living in Berlin; (3) – and this may be the most important factor – lower demand for labour in the context of temporary contract staffing. Germany experienced a dip in inward migration in 2019, and where contract staffing was concerned, there were hefty job cuts of 10% compared to 2018. The most recent monthly national inward migration figures indicate a return to the high inward migration figures seen in previous years. This dip may therefore constitute a temporary event, and Berlin may see high net inward migration once again in future. That is why we expect a higher population figure by 2030 than the city itself does. If that comes to pass, Berlin's population may grow to more than 4 million inhabitants over the course of the decade.

Berlin's inward migration goes global



Source: Statistical Office Berlin-Brandenburg

Around 20% of Berlin residents have a foreign passport, and a further 14% are German citizens with a migrant background. The number of non-nationals has been growing at an average of 8.3% since 2011. The strongest inward migration cohort (excluding the influx of refugees) is constituted of the approximately 10,000 immigrants per year from eastern Europe, primarily Bulgaria, Romania and Poland. In 2015 and 2016, net inward migration from north Africa along with Arabic and Persian countries rose by around 45,200 when spread across all three regions and the two years in question. In 2017 and 2018, inward migration from across these three regions became less significant and fell to below 5,000 per year, bringing it to the same level as inward migration from southern Europe, western Europe and North America as well as East Asia and Australia (see chart). Looking at individual countries reveals interesting patterns. The Brexit referendum in June 2016 roughly tripled the number of immigrants from the UK between 2016 and 2018 to an average of around 1,900 (from a previous figure of well under 1,000). The high level of immigration from the USA is surprising – from 2014 to 2018, it ranked ninth on the list of inward migration countries at around 1,200 per year, above Turkey which placed tenth at around 1,000 people. An even more unexpected fact is that India was the top country of origin in 2018 at around 2,000 immigrants (net). Along with India, Brazil, China and Russia are also becoming more significant, each contributing over 1,000 immigrants in 2018. Berlin is evidently becoming more attractive to non-EU citizens as well. Future inward migration potential is correspondingly high and lasting.



Berlin housing market

High growth in employment is not just a passing phase ...

Migration by region

12

Net migration by year



Sources: Statistical Office Berlin-Brandenburg, Deutsche Bank Research

The key reasons for the inward migration are low rents and the booming job market, which has shown continuous improvement. In 2003, the unemployment rate in Berlin was still 20%, whereas it is currently around 7.5%. Development of the youth unemployment figure was just as positive and is currently around 8%, and the unemployment rate among non-nationals improved markedly with a fall from over 40% to its current level of around 16%. In spite of these changes, Berlin still has a high level of unemployment compared to other German cities. On the other hand, Berlin leads the pack when it comes to job growth. Since 2009, more than 420,000 additional jobs subject to social insurance contributions were created, a rise of almost 40% to 1.52 million (in a working population of approximately 2 million). In 2019, the growth rate remained at 3.5%, slightly above the average annual growth rate over the preceding ten years. There are several reasons to believe that this positive development will last for years, if not decades:

(1) The employment rate in Berlin, defined here as the ratio of employed persons subject to social insurance contributions to the population as a whole, is extremely low at just under 42%. Other German cities have an average ratio of 66%. Berlin's low rate is undoubtedly a consequence of its historical background. Decades of a highly subsidised or socialist economy meant that the city lacked distinctive entrepreneurial activity. Recent years saw successive increases in the employment rate by 1 percentage point. In view of the current economic momentum and declining unemployment figures, this trend is likely to continue. An annual increase in the employment rate by 1 percentage point implies employment growth of around 2.5 percentage points.

(2) The employment rate is also likely to rise on account of Berlin's high old-age dependency ratio (the ratio of over-60s to those aged 20–60). This may also be

(3) a consequence of Berlin's low rents, which may have prompted many over-65s to choose Berlin as a place to retire. This is suggested by the rapid rise in the old-age dependency ratio in the years prior to 2014, which subsequently stabilised. By contrast, the old-age dependency ratio of other German cities has shown a declining trend in recent years. Due to the high momentum of Berlin's overall economy and in particular based on the boom in the digital sector, Berlin is also likely to become younger. The employment rate would effectively rise automatically in this case.

(4) Berlin's jobs are crisis-proof. Employment figures showed continued strong growth in 2019. In Germany, employment growth lost momentum following the realignment of US trade policy. As was the case during the 2008/09 financial crisis, Berlin's lower reliance on the manufacturing sector and its consequent low level of exposure to global trade proved to be an advantage. The significance of the services sector once again had a positive effect, and is likely to increase even further on account of the rising importance of knowledge-intensive and digital services.

2018: Top 10 key inward migration countries - immigrants (net) by country

13

| | |
|------------|------|
| 1 India | 2080 |
| 2 Poland | 1889 |
| 3 UK | 1783 |
| 4 Italy | 1780 |
| 5 USA | 1694 |
| 6 Turkey | 1620 |
| 7 Bulgaria | 1543 |
| 8 Romania | 1476 |
| 9 Syria | 1412 |
| 10 France | 1186 |

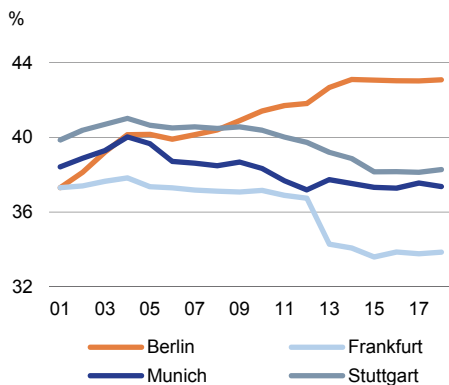
Sources: Statistical Office Berlin-Brandenburg, Deutsche Bank Research



Berlin housing market

Old-age dependency: Over 60-year-olds to 20-60-year-olds

14



Sources: bulwiengesa, Deutsche Bank Research

Characteristics of Berlin startups

15

Approximately 40% of all startup jobs in Germany are located in Berlin

It is home to the greatest number of serial entrepreneurs

More than half of them received at least EUR 1 million

Berlin has Germany's highest number of women company founders

Source: Berlin Startup Monitor 2018

World University Ranking 2020

16

| National | Global | University |
|----------|--------|-----------------------------------|
| 1 | 32 | LMU Munich |
| 2 | 43 | Technical University of Munich |
| 3 | 44 | Heidelberg University |
| 4 | 74 | HU Berlin |
| 5 | 80 | Charité - Berlin |
| 6 | 86 | University of Freiburg |
| 7 | 91 | University of Tübingen |
| 8 | 99 | RWTH Aachen University |
| 9 | 105 | University of Bonn |
| 10 | 117 | FU Berlin |
| 11 | 125 | University of Göttingen |
| 12 | 141 | Ulm University |
| 13 | 149 | University of Hamburg |
| 14 | 149 | TU Berlin |
| 15 | 157 | University of Cologne |
| 16 | 157 | University of Mannheim |
| 17 | 157 | TU Dresden |
| 18 | 163 | University of Würzburg |
| 19 | 166 | Bielefeld University |
| 20 | 175 | Karlsruhe Institute of Technology |
| 21 | 183 | University of Erlangen-Nuremberg |
| 22 | 189 | University of Münster |
| 23 | 194 | University of Duisburg-Essen |

Source: www.timeshighereducation.com

... and the quality of the new jobs is outstanding

The last ten years have seen a build-up of high-quality jobs. This is particularly true of knowledge-intensive corporate service providers¹¹, which account for almost half of the new jobs. All of these sectors recorded high double-digit growth, with the information and communications sector even recording growth of over 100%. This reflects Berlin's role as a startup capital. According to the industry association Bundesverband Deutsche Startups, Berlin startups are more dynamic and successful than startups elsewhere in Germany in many respects. As a result, 40% of all German startup jobs have been created in Berlin. In addition, Berlin startups have better access to risk capital and an international customer base.¹² The characteristics of founders themselves also indicate a high level of dynamism. Berlin has a particularly high number of serial entrepreneurs and of women founders. The city also boasts a top-class academic environment on a national level, with universities that are well positioned in the Times' global rankings. Humboldt Universität, Charité and Freie Universität Berlin are among the top 10 in Germany. Together with TU Berlin, which ranks 14th, these four universities have 100,000 students and 20,000 educators and researchers. In addition, the city is home to more than 40 institutes of higher education and more than 70 non-university research institutions. All in all, more than 250,000 people work, research and study in Berlin. Eurostat's Regional Innovation Scoreboard attests to the city's high quality compared to elsewhere in Europe. In 2011, Berlin held 20th place, and six German regions were more innovative at the time. In 2019, Berlin came in 9th behind five Swiss and three Scandinavian regions out of a total of 239 European regions. If this trend continues, Berlin could become an outstanding European hub for cutting-edge research just within the next decade. As a logical corollary, increasing numbers of major national and international corporations are considering investing in Berlin and surrounding areas. As a result, it would be no surprise if, in the long term, Berlin's job market not only caught up with job markets in western German cities but overtook them.

Strong growth increases salaries and income

Aggregate income reveals the scale of the current transformation. In contrast to the pattern seen in almost all other countries, the rest of Germany has a higher average income per capita than its capital. In 2017, the average Berliner earned around EUR 26,000 per year, which was EUR 3,000 less than the average German and EUR 10,000 less than the average Hamburg resident.¹³ However, this low level of income is likely to gradually disappear in future. Between 2009 and 2017, Berlin incomes grew by 34%, a higher figure than in most other German regions (Germany: 31%; Hamburg 25%). Wages also saw strong rises in the following years. Alongside the nationwide collective agreements, which rose in particular in 2018 by approximately 3%, public servants in Berlin received a pay rise over 4% for both 2019 and 2020. The high collective wage agreements are likely to remain in place for several years, meaning that incomes will continue to see dynamic growth. These very generous collective agreements stem from Berlin's great economic momentum, illustrated not only by the digital sector and startup companies, but also by overall growth. As a

¹¹ Based on the Classification of Economic Activities, issue 2008: The top ranking goes to freelance scientific and technical services, including real estate sector services, followed by other business services and then the information and communication sector.

¹² Bundesverband Deutsche Startups (2019). Startup Trendreport – Finanzierung & Kapital 2018". November 2019.

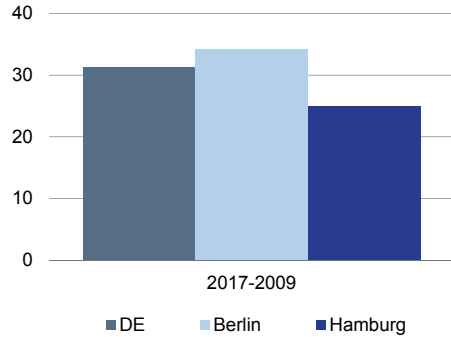
¹³ Income data at city level is not available for all German cities, but only for the federal city states, which is why we chose to compare Berlin with Hamburg, the country's second most populous city.



Berlin housing market

2009-2017 Disposable income (gross earned and investment income) **17**

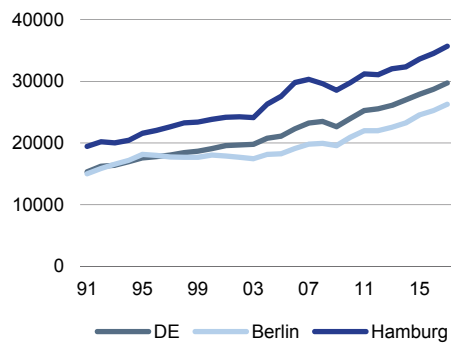
Rise over the period in %



Sources: Statistical Office Berlin-Brandenburg, Deutsche Bank Research

2009-2017 Disposable income (gross earned and investment income) **18**

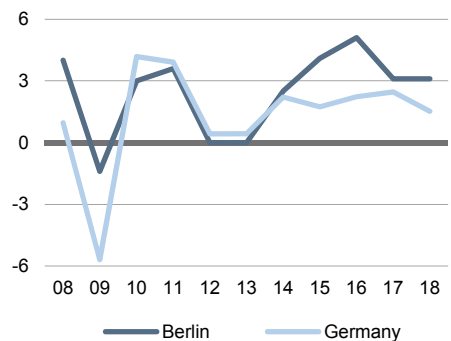
EUR per inhabitant per annum



Sources: Statistical Office Berlin-Brandenburg, Deutsche Bank Research

Real GDP: Germany vs. Berlin **19**

% yoy



Sources: Statistical Office Berlin-Brandenburg, Deutsche Bank Research, Federal Statistical Office

result, nominal GDP has risen by an average of 5.6% annually over the last four years, with real growth at just under 4%.¹⁴

New builds and rent increases from the housing corporations

More than 1.6 million of the almost 2 million residential units in Berlin are rental units, of which 12% are subject to fixed prices. The rent cap does not apply to these units, but probably applies to the rest of the private rental accommodation market and thus to 1.4 million residential units. This applies regardless of whether the units are owned by the city, by a housing association or by a private landlord. Most of the fixed-price units are managed by six municipal housing corporations (degewo, GESOBAU, Gewobag, HOWOGE, STADT UND LAND, WBM). As of 2016, these associations owned around 300,000 units (fixed-price and non-fixed-price). As part of a cooperation agreement concluded in early 2017 with the red-red-green senate, they undertook to take the general public good into greater consideration. Perhaps the most important agreements concerned a new-build target and a ceiling on rent increases. As a result, they agreed to build at least 30,000 new residential units between 2017 and 2021. The figures available to us¹⁵ suggest a clear failure to meet the targets. Accounting for all projects to date, from those that have been started to completed units, we have calculated the number of new units to be approximately 22,000. However, the number of completions across the five-year period is likely to be well under 20,000, as only slightly more than 3,000 units were completed in 2017 and again in 2018. What is clear is that city-owned construction projects are becoming more and more important. In 2017 and 2018, the proportion of all completed housing units that were city-owned new buildings amounted to around 20%. Ten years ago, the municipal housing corporations did not build any residential units. The cooperation agreement also stipulated that rent increases on existing leases could not exceed 2% per year. So far, the associations have adhered to this provision. In 2018, existing rents were increased by just 1.4% year-on-year, according to the cooperation agreement report, and stood at EUR 6.09 per square metre, well below the average rent level for comparable units in the area.

Construction backlog likely to have declined in 2019

These completion figures look quite sluggish when measured against the almost 2 million total rental units. From 2009 to 2018, an average of just 0.5% of the housing stock comprised new unit completions (as a reminder, this is in an environment with annual population growth of roughly 1%). However, there is a clear upward trend where completions in Berlin are concerned. In 2018, the share of total housing stock accounted for by new units was almost 0.9%, equivalent to 16,700 additional new units. As the average residential unit in Berlin is home to 1.9 people, 2018 saw the creation of new residential space for 31,700 people. This means 2018 was the first year of this cycle in which the number of people in a new build exceeded population growth, which stood at 31,300. In light of the constant development of completion figures, the number of new units in 2019 is likely to be similar to the 2018 figure. Based on the presumably temporary slowdown in population growth in 2019, the construction backlog (cumulative unfinished housing units) may fall substantially for the first time in the current cycle. However, Berlin will probably have to wait a long time for the backlog to be fully cleared, lowering pressure on rents. The vacancy rate, which was 3.5% on the basis of the 2011 census, has since dropped to roughly

¹⁴ The most recent available data for nominal GDP relates to the 2014–2017 period, while the real GDP data refers to 2015–2018.

¹⁵ Bericht zur Kooperationsvereinbarung 2018, August 2019.



Berlin housing market

Owner groups and type of occupancy commitment

20

| Owner | 2018 in '000 | Share in % |
|---------------------------------------|----------------|--------------|
| Rent- and occupancy controlled | 191.5 | 11.6 |
| Municipal apartments | 91.3 | 5.6 |
| Cooperative apartments | 26.9 | 1.6 |
| Private apartments | 73.3 | 4.5 |
| Free market | 1,452.9 | 88.4 |
| Municipal apartments | 216.3 | 13.2 |
| Cooperative apartments | 161.5 | 9.8 |
| Private apartments | 1075.1 | 65.4 |
| Rental apartments in total | 1,644.4 | 100.0 |

Source: Berlin Department for Urban Development and Housing

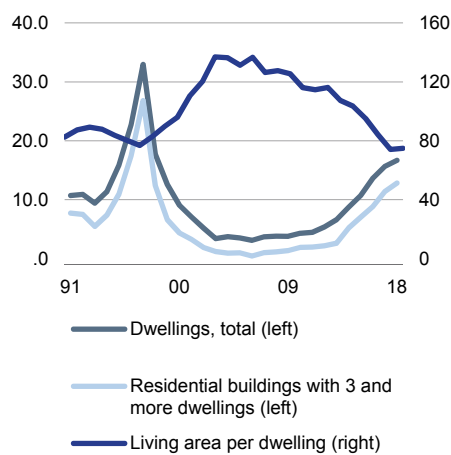
1%. A large share of the vacancy rate is likely to be down to changes of tenants and modernisation work. These housing market shortages have significantly altered new construction. In the past, many more housing units were added in large residential buildings on account of the steep price and rent increases. Unit size also declined. The size of the average housing unit fell from around 120 square metres to 75 square metres between the start of the cycle in 2009 and 2018. The number of rooms per unit fell from 4.8 in autumn 2010 to less than 2.4 in early 2019.

2020: Rent cap leads to future housing shortages

Berlin: New construction

21

left y-axis: No. of dwellings in '000 per annum
right y-axis: Living area in qm per dwelling



The introduction of the rent cap will change the supply of new residential space. Based on the six-month average – monthly data is highly volatile – the number of building permits issued for the construction of new buildings fell from over 2,000 a month in June 2019 to 1,180 in November 2019 (most recent available data). This is the lowest number of building permits since January 2015. Over the same period, the number of rooms per unit rose from 2.5 in June to 2.8 in October. This is a rapid development and the strongest increase in a four-month period since 2010. It is clear that the developers are responding to the wave of regulations by building larger housing units that are unlikely to be intended for the rental accommodation market. Both developments – the strong decline in building permits and the construction of larger residential units – serve to counteract the Berlin senate's original objective. If this is more than just a short-lived phase, then even less new residential space will be created in future. It is worth noting that this has happened in the very same year in which the construction backlog has been reduced for the first time in this cycle, which began in 2009.

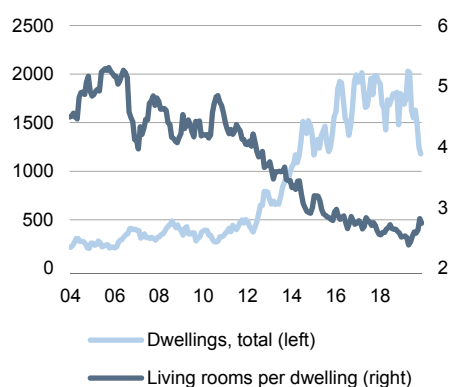
Sources: Statistical Office Berlin-Brandenburg, Deutsche Bank Research

Rents: Haus & Grund's call has no measurable impact

Building permits: Dwellings and living rooms

22

Monthly data, 6MMA



Sources: Deutsche Bank Research, Federal Statistical Office

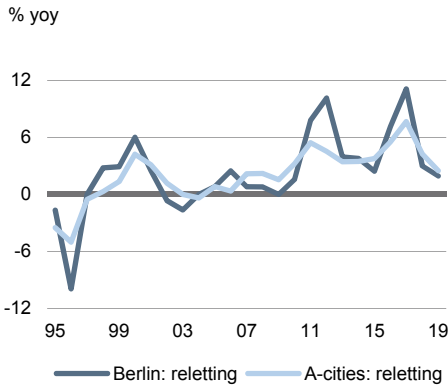
The shortage of residential space increased rents for existing rental units by more than 65% between 2009 and 2019, while rents for new units rose by almost 75%. Throughout the cycle, price rises have been at a very similar level to those in other major cities. However, rents for existing rental units increased about 13% more steeply than in other cities, probably due to the very low starting level. It is interesting to note that Berlin has always recorded steep rises in rents whenever there is no political intervention to control the price of rent. Between 2013 and 2015, when the rent brake was high on the agenda, and in 2018/19, when the Berlin rent cap was making headlines, Berlin rents were increasing in line with the development of the rent price in other major cities. Before this point and in the years between these two policy initiatives (2011, 2012, 2016 and 2017), rents in Berlin were rising by an average of over 3 percentage points more than in other cities. On the one hand, this shows that the red-red-green coalition's strategy of increasing investor uncertainty has the desired effects in the short term and curbs rent price increases. This is all the more relevant as data from bulwiengesa shows – contrary to numerous news reports – that there were no unusual rent increases during the year (either for existing rentals or new properties). This came in spite of the fact that property owners' association Haus & Grund advised landlords to raise rents sharply before 18 June 2019, the day from which the rent cap is to apply, in order to mitigate the cap's negative effects. On the other hand, however, this phase of uncertainty will be followed by strong catch-up activity. If the rent cap as a whole, rather than only parts of it, is found to be unconstitutional, then there will subsequently be a great deal of catch-up potential.



Berlin housing market

1995-2019 Rents, reletting

23



Sources: riwis, Deutsche Bank Research

1995-2019 Residential prices

24



Sources: riwis, Deutsche Bank Research

Rental expenditure in Berlin, 2019

25

| | |
|----------------------------------|-------|
| No. of dwellings | 1.5 m |
| Living space per dwelling in sqm | 73.2 |
| Rent per sqm | 6.50 |
| Months | 12 |

Rent expenses in 2019 in million **8,564,4**

Sources: Statistical Office Berlin-Brandenburg, bulwiengesa, Deutsche Bank Research

Rental expenditure and saving, 2020-2025

26

| m | Year | Rent expenses | Savings p.a. |
|---|------|---------------|--------------|
| | 2020 | 8,564 | 445 |
| | 2021 | 9,009 | 469 |
| | 2022 | 9,478 | 493 |
| | 2023 | 9,971 | 518 |
| | 2024 | 10,489 | 545 |
| | 2025 | 11,035 | 574 |

2020-2025 Total saving 3,045

Sources: Statistical Office Berlin-Brandenburg, bulwiengesa, Deutsche Bank Research

Rent cap will lead to divergent apartment and house prices

Between 2009 and 2019, prices for newly built and existing apartments increased by over 120%. Prices for new and existing terraced homes increased by roughly 80% and 70% for new and existing builds respectively, while single-family homes increased by around 50%. The rent cap probably already had a major impact on price developments in 2019. The cost of land and the prices of single-family and terraced houses increased by about 10% year on year in 2019, which represented the strongest increase for most time series since reunification. At the same time, the growth of apartment prices declined compared to 2018 for both existing and new builds, reaching only about 6.5%. From 2015 to 2018, prices for owner-occupied apartments, both new builds and existing stock, rose by approximately 10%.

General fiscal situation is constantly improving

After reunification, Berlin had to implement high levels of public sector job cuts. In addition, Berlin's finances were negatively impacted by a local banking crisis in 2001 which resulted in the debt level increasing to almost EUR 63 billion by 2011. The strained budgetary situation means that Berlin is by far the largest beneficiary of the financial equalisation scheme between the federal government and the individual states. In 2019, Berlin received EUR 4.3 billion from the states with surpluses: Bavaria, Baden-Württemberg, Hesse and Hamburg. Berlin also received an additional EUR 1.5 billion from the federal budget. In total, this was roughly equivalent to one-fifth of the city's total income. The population increase and the economic boom increased the tax take, allowing Berlin to generate budget surpluses. After 2011, the debt level decreased gradually to a level of EUR 57.6 billion in 2018, while per-capita debt improved from roughly EUR 18,000 to approximately EUR 15,000, giving Berlin a lower per-capita debt figure than Germany's other city states, Bremen and Hamburg. This improvement also helps the city to adhere to the debt brake rules which are mandatory for all federal states for the first time from 2020 onwards. Thus, only the per-capita debt level exceeds the debt brake threshold. However, Berlin's senate plans to fulfil this aspect of the debt brake as well starting in 2021. These projections from the city of Berlin end in 2023 and so far do not take into account any additional burden resulting from the potential referendum on expropriation from private housing companies. Simply realising very low compensation payments well under market rates may indeed increase per-capita debt for the whole decade well beyond the stipulations of the debt brake. However, recent survey results show that Berliners tend to oppose the expropriation proposal, which makes this scenario unlikely. Berlin has already been meeting the other key criteria concerning adherence to the debt brake for years, such as the structural net lending/borrowing, the portion of the budget which is funded through loans, and the ratio of interest to taxes.

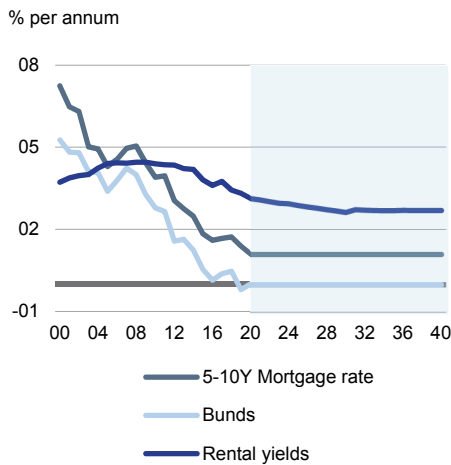
Effects of the rent cap on Berlin's budget unclear

The rent cap alters both the expenditure and income side. It is difficult to carry out a detailed analysis, as there is very little publicly available information. We are not aware of any available statistics concerning the earnings of tradespeople, real estate firms or construction companies. Their tax payments may fall as a result of the rent cap. In contrast, expenditure on social housing may be lower because of the rent cap. The effect on the available budget income may be positive. The city quantifies the gain at EUR 2.5 billion, which is within reason and is presumably based on a calculation similar to those featured in the adjacent tables. This gross effect is equivalent to GDP growth of around



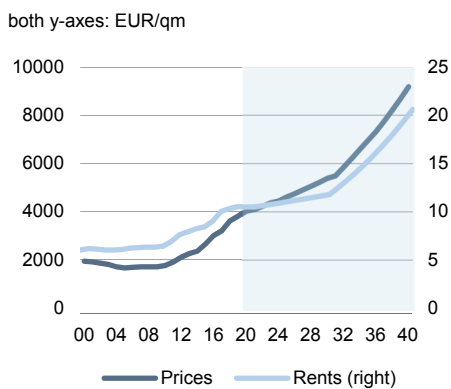
Berlin housing market

Scenario 1: Rental yield and interest rates 27



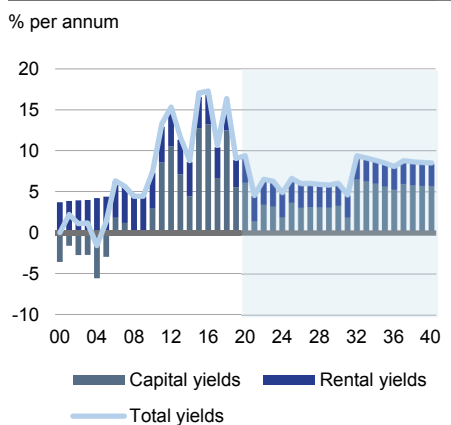
Sources: bulwiengesa, Deutsche Bundesbank, Deutsche Bank Research

Scenario 1: Prices and rents 28



Source: Deutsche Bank Research

Scenario 1: Capital and rental yields 29



Source: Deutsche Bank Research

0.3 percentage points in 2020, making it thoroughly conceivable that the rent cap would inject a little positive economic momentum into the city. However, this depends on the extent to which households (compared to the companies and the city, which currently have a lower income) increase their tendency to spend their income in Berlin and on Berlin-based products and how this impacts income from trade tax. In view of average annual nominal GDP growth of almost 5%, however, this economic momentum has been negligible over the past ten years. If population growth, the booming job market and the entrepreneurial momentum develop as we expect them to, they will be far more significant. Regardless of the effects of the rent cap, the room for manoeuvre is therefore likely to expand further.

Part 3: Scenarios and recommendations from now until 2040

Scenarios for prices, rents and the housing market as a whole

Here, we discuss potential future paths with the aid of scenarios. These paths of development are not forecasts, but rather general conjectures about future political developments and their economic consequences. The regulatory and economic factors acting as headwind are at the core of our analysis. However, we also take a range of interest rate developments into consideration. In spite of regulatory shocks, interest rates still dominate future price developments. That is, unless one assumes permanent new socialist measures and with it an increasingly restrictive regulatory environment. However, we regard this as extremely unlikely. We also assume that landlords will adhere to the regulations and do not account for any additional income from regulatory arbitrage. The returns are defined as the ratio between the rents and the purchase prices excluding transaction costs, raising capital, taxes and maintenance.¹⁶

Scenario 1: Rent cap lasts until 2030

To begin with, the rent cap takes effect, meaning that rents will remain stable until the end of 2021, after which they will rise by 1.3% annually. Second, we regard the re-election of the red-red-green coalition in the autumn 2021 senate election to be the most likely outcome given the hardened political fault lines and current polling, and because all effects that might have negative effects, such as declining construction activity, can be reasoned away in the run-up to the senate election. The negative effects of regulatory arbitrage and the decline in housing quality are also unlikely to affect political outcomes for a few years. The re-election is followed by an extension of the rent cap in 2025 for another five years, up to 2030. The dark side of the wave of regulations will become clearer in the second half of the decade in particular. Third, we assume a change of government in 2030, which may at least partially scale back the market interventions. We accordingly expect price and rent momentum to remain as it has over the last ten years (both around +5.5% annually). As the rent cap increases the volume of demand but depresses new builds, particularly for the rental accommodation market, the shortages on the Berlin housing market are likely to have persisted or even grown more severe by 2030. There are also likely to be strong increases in prices and rents, as there will be no end

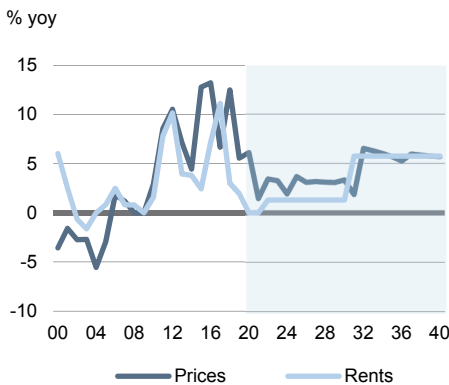
¹⁶ This constitutes a macro perspective. In relation to the effects that the rent cap will have on companies, see Markus Scheufler, Rob Jones, Nithin Devaraj (2019). No 2020 guidance. Berlin rent freeze impact remains uncertain. Deutsche Bank Research. November 2019.



Berlin housing market

Scenario 1: Prices and rents

30



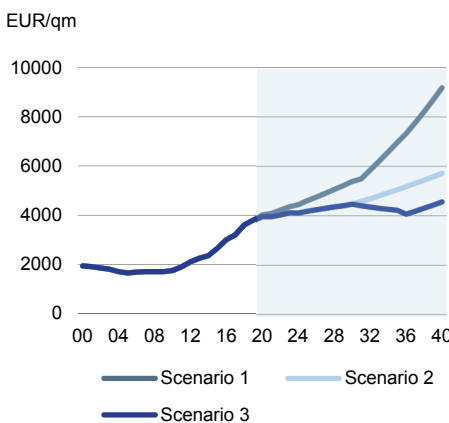
Source: Deutsche Bank Research

in sight to the economic supercycle we have been describing for years. Berlin is likely to keep playing economic catch-up for many years to come on account of its low income levels. In addition, the capital is already well on its way to becoming one of Europe's top locations for cutting-edge research. In 2030, Berlin may have established itself as the continent's key innovation and research hub. This means the city is still a highly attractive business location. As a result, the population will rise to over 4 million thanks to high-quality inward migration. Fourth, the euro area is likely to continue to face several challenges (new competitors, trade, demographics, digitalisation, geopolitics, migration management, political risks). That is why we have projected today's zero-interest environment forward over the next two decades – admittedly, this is an extreme scenario. A warning to aid understanding: even moderate interest-rate increases will massively change the future course of prices.

Scenario 2: Rent cap lasts until 2030, after which housing crisis is over

Scenario 1, 2 and 3: Prices

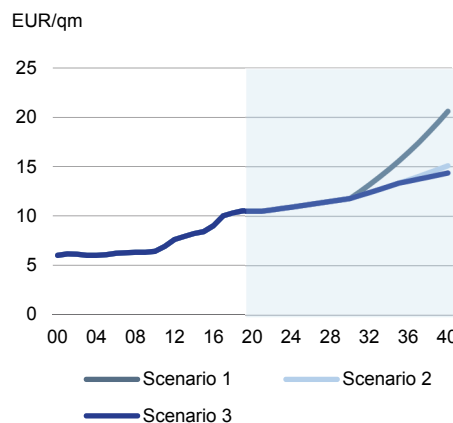
31



Source: Deutsche Bank Research

Scenario 1, 2 and 3: Rents

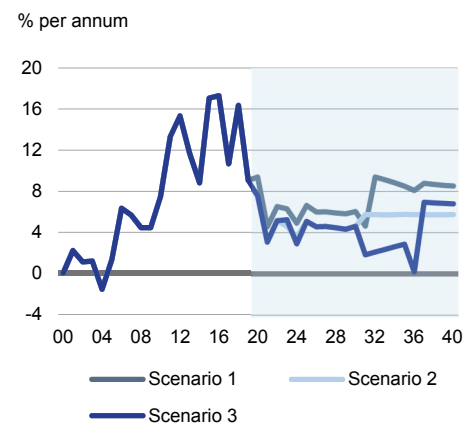
32



Source: Deutsche Bank Research

Scenario 1, 2 und 3: Total yields

33



Source: Deutsche Bank Research

The second scenario builds upon the first. However, we assume that the housing crisis will end once the rent cap is discontinued in 2030. In a positive scenario, new construction activity will be greatly stimulated, which will create vacancies and break the price and rent spiral. Prices and rents will grow only slightly faster than inflation. In the negative scenario, which we regard as unlikely, the supercycle will be broken. Berlin will lose its economic momentum, and either inward migration to Berlin will stagnate or outward migration will become predominant.

Scenario 3: Scenario 2 plus moderate interest rate increases

The third scenario builds on the second (though only the positive scenario) and assumes a moderate rise in interest rates, with German government bond yields rising gradually from 0% to 2% between 2030 and 2040. In this scenario, rents will continue to rise modestly, while prices fall by almost 10% between 2030 and 2035 on account of the interest rate shock. This decoupling of prices and rents is only likely to last for a short time, and will then be superseded by average long-term price growth of almost 3%. In theory, falling rates could also put an end to the decoupling. However, we believe that Berlin's economic supercycle is likely to continue as-is, which is why our average price of under EUR 4,000 per square metre appears too low for a major European city. The interplay between



Berlin housing market

the rent cap and a potential interest-rate shock is an interesting point to consider. The later the interest-rate shock sets in, the more substantial the price reaction, as prices are likely to continue rising until that point. In this sense, the rent cap will pre-empt the negative effects of an interest-rate shock and mitigate it. At least, this applies if one assumes that the rent cap will not last for a long period of time.

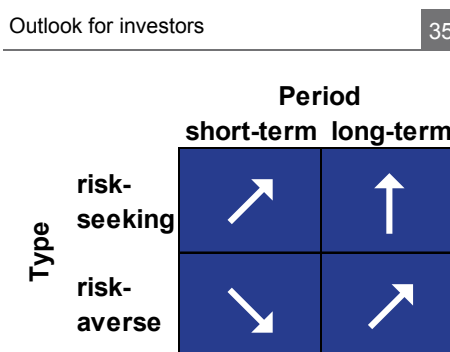
Recommendation for Berlin's senate: What should happen?



Sources: Deutsche Bank Research, riwis, City Berlin/BBU

We understand where the Berlin senate is coming from. A real estate boom in a relatively poor city brings a lot of downsides. The expropriation/rent cap shock could work. However, this requires the positive (from the Berlin senate's point of view) communication's shock to be followed by a modern leftist housing policy, which implies a focus on new construction pursued with the very same vigour as the rent cap. According to a report by an association of Berlin and Brandenburg housing corporations¹⁷, construction costs for municipal housing corporations are well below the selling prices for newly-constructed residential space. The city's incentives to expand its new construction activities are accordingly high. New residential space must be constructed until the market-active vacancy rate rises. We would regard a U-turn of this type as a desirable move. Otherwise, if the senate in fact ignores historical experience where rent caps are concerned, the long-term consequences are likely to be very sobering. The lower level of maintenance investments in particular are likely to provoke political dissatisfaction in the long term. However, adverse consequences may also arise in the short term, as described above. There are initial indications that fewer building permits are being issued, particularly for smaller residential units. A potential wave of regulatory arbitrage also looms, which could in part counteract the senate's intention of creating affordable residential space. The academic literature clearly illustrates the severe negative long-term consequences. This should be enough motivation to expedite new construction.

Based on scenario 1: Advice for investors



Source: Deutsche Bank Research

We do not believe there will be a huge expansion of new construction activity. The heated atmosphere and subsequent political momentum are likely to obstruct any focus on new construction, particularly in the new construction of rental accommodation. In addition, the last ten years have seen too much talk and too little action – not only in Berlin, but also nationwide. Other topics, such as the energy transition and European cohesion were and are more significant than housing policy. In our view, the political fronts in Berlin are likely to become more entrenched. Accordingly, our base scenario assumes that the rent cap will be extended until 2030. Even in this cautious scenario, investments in Berlin's housing market remain attractive. Our bird's eye view suggests that investors be categorised into four groups based on two criteria: (1) high vs low risk appetite, and (2) short vs long-term orientation. Investors with a long-term orientation, whose investment horizons last more than ten years, would only be negatively affected if the rent cap were to become a long-lasting fixture. Based on historical experiences with first-generation rent controls, we regard this as unlikely. As a result, we expect that Berlin will continue to harbour good investment opportunities for investors with a long-term orientation regardless of their risk appetite due to the economic supercycle in Berlin. This is all the more applicable the more provisions of the rent cap are found to be unconstitutional. Furthermore, there are opportunities to acquire properties at favourable starting prices as long as the legal situation is uncertain. Investors with a short-term

¹⁷ Final report on developing a scientific comparative study of new construction costs borne by Berlin's municipal housing corporations and by other housing companies.



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orientation but a high risk appetite can also benefit from this, though we regard this approach to be too speculative given the unclear legal situation – after all, there are a wide range of estimates from prominent lawyers regarding the outcome of the judicial review. Risk-averse investors with a short-term orientation have the greatest incentives to reduce and diversify their Berlin portfolios.

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