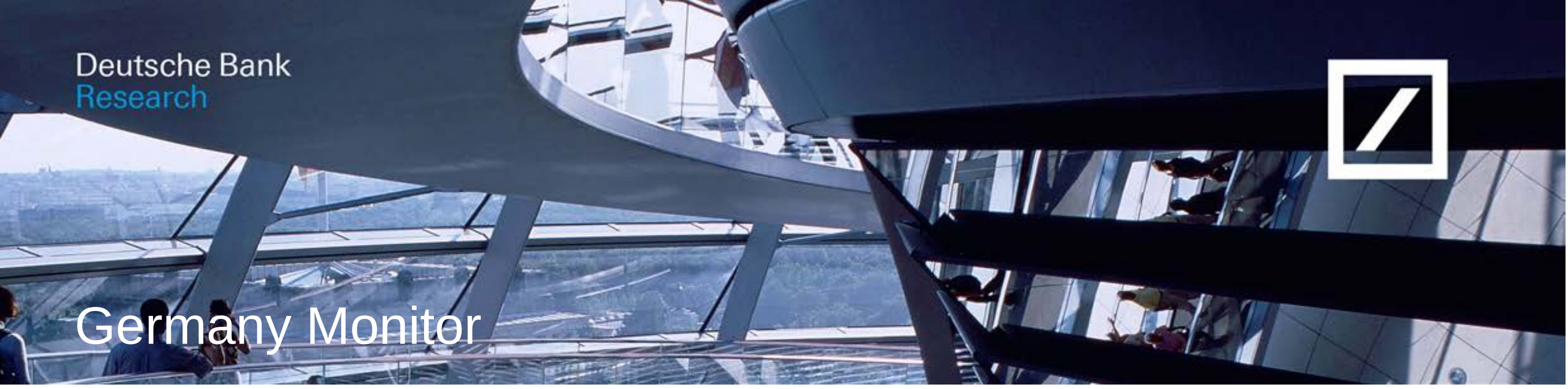


# Outlook on the German housing market in 2017

## Outlook for prices and rents in Berlin, Düsseldorf, Frankfurt, Hamburg and Munich

January 13, 2017

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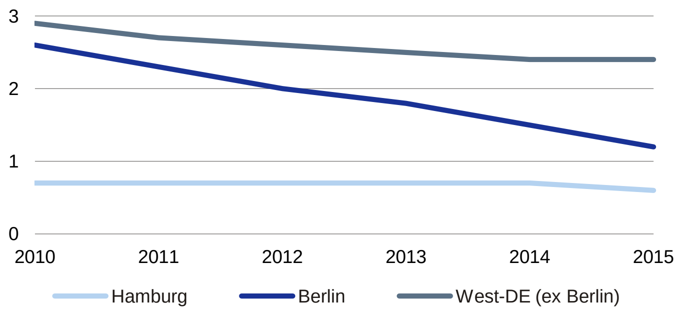
Original in German: January 10, 2017

Munich remains the most dynamic German city when it comes to property, with its fast-rising population and historically low vacancy rate likely to lead to further price increases for many years to come. Further price rises are also expected in Berlin, although the main factors at play here are the very buoyant labour market and the fact that prices and rents are still relatively low for a European capital city. Of the German cities that were analysed for this report, Frankfurt has shown the lowest increase in prices in the current cycle. However, we are now seeing a Brexit effect, which is driving up prices for family homes in particular. In Hamburg sluggish rent growth and a high level of construction activity are the most striking trends, which could make the city more sensitive to interest rate movements than other urban centres. The situation is similar in Düsseldorf, where the vacancy rate in the current cycle is relatively high for a large German city. For every city analysed here and for the overall German housing market we anticipate further price increases in the coming years. All the macroeconomic conditions that might signal an end to the cycle – such as a turnaround in interest rate policy, a massive expansion of supply and/or a slowdown in migration to Germany – are not yet fulfilled and it is likely to be several years before they materialise. Consequently, we expect rents and property prices in the major German cities and across the country to continue to rise sharply in 2017.

Marketable vacancy rates

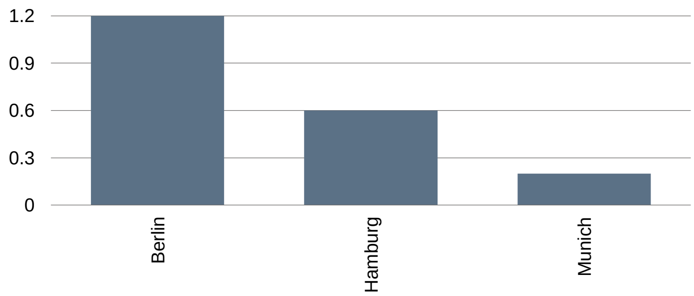
in % of the housing stock




Source: Empirica

2015 Marketable vacancy rates

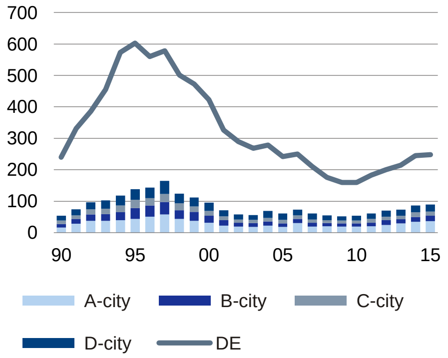
in % of the housing stock




Source: Empirica

Completions 1

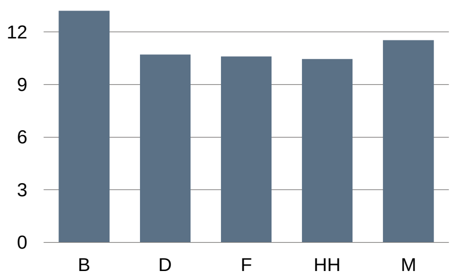
No. of dwellings in '000




Sources: riwis, National Statistical Office, Deutsche Bank Research

2016 apartment prices, existing 2

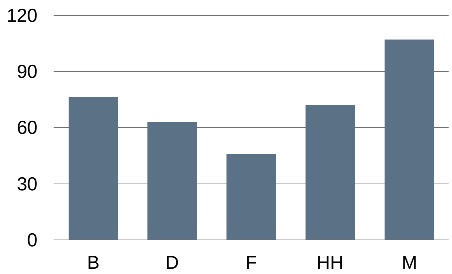
% yoy




Sources: riwis, Deutsche Bank Research

2009-2016 apartment prices, existing 3

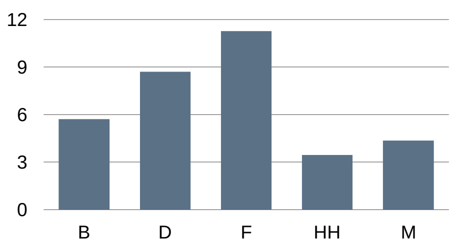
% yoy




Sources: riwis, Deutsche Bank Research

2016 prices of single-family houses 4

% yoy




Sources: riwis, Deutsche Bank Research

# German housing market in 2017 – outlook for Berlin, Düsseldorf, Frankfurt, Hamburg and Munich

— In the current property cycle from 2009 to 2016, prices have risen by 63% in the A cities and by more than 40% in the B and C cities. The number of completed homes is likely to exceed 300,000 for the first time in 2017. However, with an estimated requirement for at least 350,000 new homes, this would cause the gap between supply and demand to widen further still. This high level of demand will continue to put upward pressure on prices in the German housing market.

— Between 2011 and 2016, nearly 45,000 new homes were completed in Munich for approximately 90,000 people. Over the same period, the city's population rose by 200,000 to reach 1.55 million. It is therefore estimated that an additional 55,000 or so homes are needed simply to accommodate the new arrivals. What's more, the vacancy rate tends to hover around the zero mark and Munich, Germany's most expensive city, has seen property prices more than double in the current cycle, with further increases expected in the coming years.

— In 2016, prices for existing housing stock in Berlin rose by 13% year on year, a particularly sharp increase and a stronger rise than all other German cities. Property prices in Berlin are now twice as high as they were in 2005 and have reached the level of some of the major cities in western Germany. A shortage of dwellings and a lack of land for development are often cited as the main factors driving the price increases. But demand is also adding to the momentum, with high job growth and ever lower unemployment rates likely to put further upward pressure on prices in 2017.

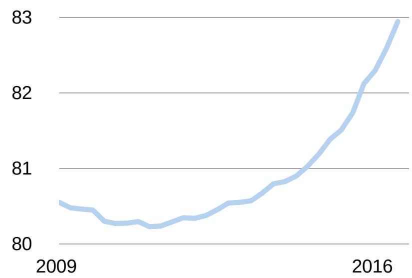
— Frankfurt's population stood at 724,500 at the end of 2015, an increase of 12% on 2005, and its healthy economy meant that the number of people in employment grew at a similarly strong rate. The resulting high demand for housing could not be met by the scarce supply, which was also the case in other cities. Consequently, property prices in Frankfurt increased by 'only' 40% from 2009 to 2016. The comparatively high baseline level and subdued job growth in the financial services industry due to the financial crisis and euro crisis were the probable reasons why price increases in Frankfurt have been relatively muted. Because of impetus from the Brexit vote, however, prices surged in 2016, particularly for family homes.

— In Hamburg, prices for existing housing stock have gone up by around 70% since 2009. Price momentum in the city's rental market is sluggish, however. From 2012 to 2016, rent growth did not even reach half the level of the other major cities. The relatively high level of construction activity is probably a key factor in this and means the gap between supply and demand is likely to be narrower than in Berlin and Munich. All this suggests that low interest rates are the main reason why property prices are increasing in Hamburg. Consequently, Hamburg may have a relatively high sensitivity to any future normalisation of interest rates. Any normalisation of interest rates is probably still several years away, however, which leads us to expect further price increases in the interim.

— In Düsseldorf, the population has risen by 'only' 5% since 2009. Other drivers of demand have also been less buoyant than in other major cities. Consequently, the price of housing has tended to increase in line with or below the average. Düsseldorf's property market could be even more sensitive to interest rates than Hamburg, although price increases are also anticipated here over the coming years.

Population 5

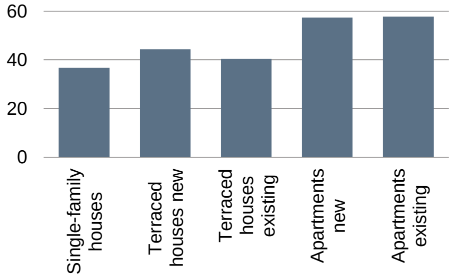
in m




Source: National Statistical Office

2009-2016 house and apartment prices 6

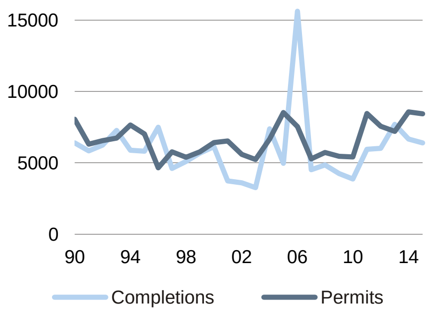
%




Sources: riwis, Deutsche Bank Research

Munich: Housing market 7

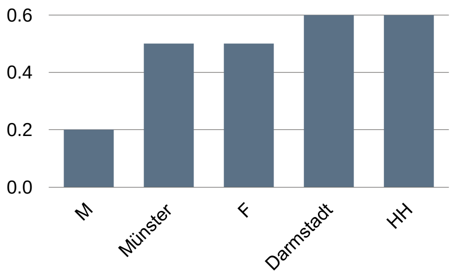
No. of dwellings




Sources: riwis, National Statistical Office, Deutsche Bank Research

2015 Empirica vacancies: City rankings: Lowest rates 8

in % of the housing stock




Source: CBRE-Empirica

## Price pressure in the German housing market likely to remain high

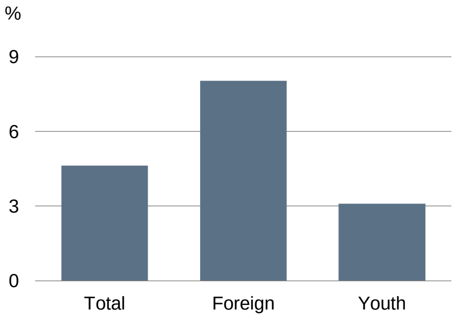
Because of economic migration and the influx of refugees, Germany's population has now risen to 83 million, which is almost three million more than at the start of the current property cycle in 2009. A large amount of the influx was distributed across the B and C category of cities (half a million people) and the A cities (also half a million). The resultant demand is coming up against extremely inelastic supply, which has created a nationwide shortage of up to 1 million homes. This surplus demand caused prices in the A cities to surge by 63% between 2009 and 2016, with prices in B and C cities going up by 45% over the same period. Because of the deficit in supply, which could now lead to a relaxation of building regulations and environmental constraints, the number of new homes completed is set to reach 300,000 for the first time in 2017. However, at least 350,000 new homes are required according to estimates by the German government, so this would not prevent a further widening of the gap between supply and demand. A rise in capital market interest rates of around 30 basis points since October 2016 means that demand-related pressure on prices is also likely to remain high. Consequently, prices look set to rise again in 2017. Although some analysts were talking about a property bubble early on in the current cycle, overvaluations – relative to historical price ratios at the national level (income to property prices) – will only come about when these further price increases take effect. However, because it will take a number of years for the excess demand to be satisfied, we believe that the risk of a bubble forming remains high. Germany's major cities are therefore likely to remain the focus of attention, which is why we are analysing the five major housing markets (Berlin, Düsseldorf, Frankfurt, Hamburg and Munich) in this report.

## Munich's vacancy rate at a record low

According to the city's own statistics, 36,000 new homes were completed in Munich between 2011 and 2015. Factoring in estimates for 2016 puts the figure up to almost 45,000, which is equivalent to 7,500 homes a year. This means that new housing has been provided for around 90,000 people. Over the past six years, however, the city's population has gone up by around 200,000 (based on the 2011 census) to reach 1.55 million in 2016. It is therefore estimated that at least 55,000 homes are needed in Munich simply to accommodate the new arrivals. Munich's extremely buoyant job market is also likely to have further boosted demand for housing. The number of people in employment in the city rose by 3% in 2016 and job growth for the cycle as a whole was, at nearly 18%, particularly high compared with other cities. Equally notable are the low average unemployment rates for 2016, with overall unemployment at 4.6%, unemployment among foreign nationals at 8.0%, and youth unemployment at 3.1%. In line with the shortages that already existed, the Empirica research consultancy puts the vacancy rate for the end of 2015 at 0.2% (2011: 0.6%). The vacancy rate is since likely to have fallen further, adding to the upward pressure on prices. By international comparison, prices in Munich, Germany's most expensive city, are certainly nothing out of the ordinary. According to data portal Numbeo, the price per square metre for property outside the city centre is, at EUR 5,340, the 14th most expensive in Europe (London, Paris, Stockholm, Luxembourg and a number of Swiss cities are more expensive). In 2015, the City of Munich's property market report put the price per square metre for buying property in the city at EUR 6,300, for rental of existing stock at EUR 14.50 and for new build rents at around EUR 16.60. Given the current rate of new development, an end to rent and price increases seems unlikely in the short term. The significant upward pressure on prices could even persist into the medium and long term. According to the City of Munich's latest planning forecast, which was published in May 2015, the population will increase to more

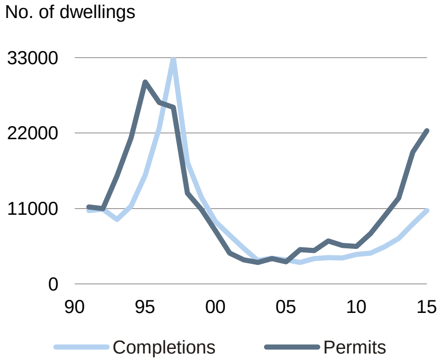
# Outlook on the German housing market in 2017

2016 Munich: Unemployment rates 9



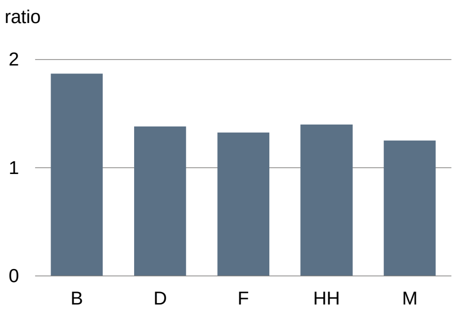

Sources: Federal Labour Office, Deutsche Bank Research

Berlin housing market 10



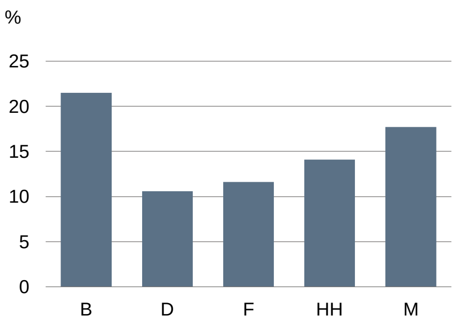

Sources: riwis, National Statistical Office, Deutsche Bank Research

Permits-to-completions ratio 11




Sources: riwis, Deutsche Bank Research

2009-2016 employment growth 12



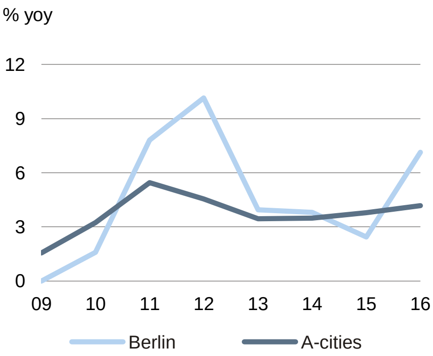

Sources: Federal Labour Office, Deutsche Bank Research

than 1.7 million by 2030, which would equate to 150,000 new residents and demand for 75,000 new homes. Factoring in today's shortage of at least 55,000 homes, that would mean that 130,000 homes would have to be completed by 2030. The current completion rate is only 7,500 homes per year, however, so there would continue to be a shortage of homes right through to the end of the next decade. If the projections pan out as expected, Munich, more than any other city, will be forced to rethink its current urban development policies. The city can at least point to the fact that it previously succeeded in realigning its urban development strategy in the 1960s under Mayor Hans-Jochen Vogel. Back then the building of new urban districts and the suburban and underground train systems made a big difference to the quality of life in Munich – and came in spite of the high population growth at the time. Similar large-scale projects are probably now needed in order to maintain this quality of life and prevent a continuation of inflated prices.

## Rents and property prices in Berlin on a sharp upward trend

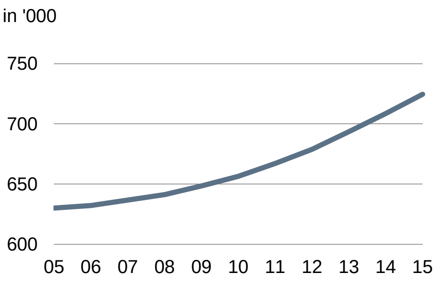
In Berlin, according to property data portal RIWIS, prices for existing townhouse stock went up by 4% year on year in 2016, while prices for detached family houses rose by 5.75%. These strong growth rates were comparable with other cities; however, the overall level of house prices in Berlin remains quite low. The difference in prices is particularly pronounced when compared with Munich. You can buy three houses in Berlin for the price of one detached family house in Munich, and the price ratio is the same for townhouses. However, property prices for existing stock have almost doubled since 2005 and are reaching the level of certain major cities in western Germany. According to Numbeo, the price per square metre for property outside the city centre stood at EUR 2,800 at the end of 2016. Property prices increased by 13% year on year in 2016, a particularly sharp increase that was higher than in all other major German cities. In Berlin, too, the rapid acceleration in prices is being caused by an acute shortage of homes, with a lack of development land often cited as one of the main reasons for the deficit. According to the latest Berlin property market barometer, there is a particular shortage of affordable housing in the lower price segment. There is no likelihood of a quick remedy, as the number of building permits and housing completions are increasingly diverging. For example, 82,500 permits were issued between 2009 and 2015, but only 44,000 homes were completed. In no other major German city is there a greater disparity between approved property developments and completions, with 1.9 permits issued for every completed development in Berlin compared with 1.4 in Hamburg and Düsseldorf and 1.3 in Frankfurt and Munich. At the same time, the city's population has risen by approximately 150,000 and the number of households by around 75,000. Despite the boom cycle which has persisted since 2009, demand for housing is still rising at a faster rate than supply. This demand is in part due to the strong Berlin labour market, with job growth of 4% in 2016 and more than 20% since 2009 – both impressive statistics. Consequently, Berlin's unemployment rate has been on a downward trajectory for a number of years and in 2016 fell to below 10% – its lowest level for a quarter of a century. The sharp fall in the number of people receiving housing benefit (down by 21% year on year) provides further evidence of the broader health of the labour market. The proportion of all households receiving housing benefit now stands at 0.9%, which is below the national average of 1.1%. Economic growth in Berlin is likely to remain strong in the future and the city expects its population to go up by more than 250,000 by 2030. The continually rising demand for housing that this causes will probably come up against further inelastic supply for a number of years to come. For Berlin, in particular, with its very low home ownership rate (2011 census: 15.6%; other major cities: over 20%; Germany as a whole: 45.9%), there are therefore strong incentives for

2009-2016 Berlin vs. A-cities: Reletting 13



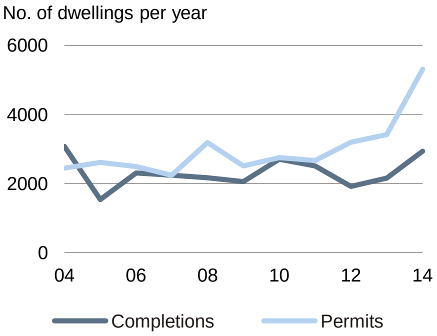

Sources: riwis, Deutsche Bank Research

Frankfurt: Population 14




Sources: Stadt Frankfurt, Deutsche Bank Research

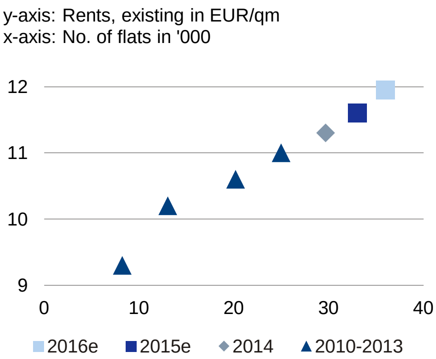
Frankfurt: Permits and completions 15




as of 2014 (latest data)

Sources: Frankfurter Wohnungsmarktberichte, Deutsche Bank Research

Rent vs. flat deficit 16



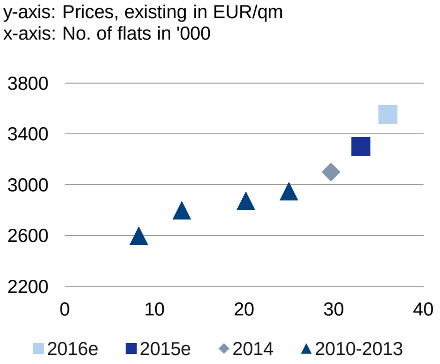

Sources: Wohnungsmarktberichte, Riwis, Deutsche Bank Research

many renters to purchase their own property. The rate of rent increases, which has been high in Berlin throughout the current cycle, is making these incentives greater. In 2016, rents jumped by 7% compared with the prior year, which ran counter to the trend in other cities (chart 13). A number of factors are thus at play in Berlin's 'super cycle' and they could persist well beyond 2020. The current trend could lead to Berlin becoming one of the most expensive cities in Germany, whereas it is currently ranked 13th for prices of existing housing stock.

## Brexit is driving up prices for family homes in Frankfurt

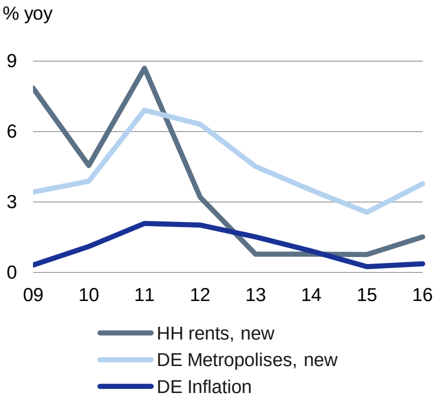
Frankfurt's population was 724,500 at the end of 2015, an increase of 76,000, or 12%, on a decade earlier. And the number of people living there is likely to rise further over the coming years. At present, the City of Frankfurt's official population projections for the period until 2020 expect the number of residents to increase by 40,000 to 764,000 – with current projections of a long-term increase to as much as 830,000 by 2040. Together with the growing number of residents and a dynamic economic environment, the number of people working in Frankfurt has also risen by almost 12% since 2009. Compared with other major German cities, Frankfurt has low unemployment rates (total unemployment: 6.4%; unemployment among foreign nationals: 10.7%; youth unemployment: 6.1%; respective averages across major cities: 7.6%, 14.4%, 5.6%), whereby the employment rate among foreign nationals is well below the national average of 15% (November 2016). Frankfurt's migrants possibly have an above-average education, which would also explain the relatively high and increasing proportion of people with academic qualifications working in the city. The rapid rate of population and job growth has bolstered demand for housing, demand that was already being fuelled by low interest rates, strong growth in incomes and, at least at the start of the current cycle, relatively low property prices per square metre. Consequently, annual building permits have almost doubled in the period since 2009 to 5,000 homes in 2013 and to around 4,600 in 2014. However, completions are growing at a much slower pace and in recent years have never amounted to more than 3,000 homes (substantially less than 1% of the existing housing stock). Furthermore, in recent years, many thousands of homes have been created from the conversion of public sector and commercial properties. New urban districts have also been created. Although all of these efforts are keeping the housing shortage in check, they will not likely remedy it. Several reasons explain the low price elasticity of Frankfurt's housing supply, the main one being a shortage of land for development. In many districts, the City of Frankfurt is building right up to its municipal boundaries. In addition, large-scale construction projects in Frankfurt, as in other places, often involve lengthy and contentious disputes at the local political level. This restricted building activity has created a housing deficit, defined as the ratio of households to the number of homes available. The most recent figures available from the City of Frankfurt show a housing shortage of around 30,000 homes in 2014. This figure is likely to have continued to increase in 2015 and 2016; our rather conservative projections here are a shortage of 33,000 homes for 2015 and 36,000 for 2016. As the shortage of housing has increased steadily since 2009, satisfying the excess demand will take a number of years, possibly even significantly beyond the end of this decade. In Frankfurt, the scarcity of housing is the main reason for the approximately 40% increase in house prices from 2009 to 2016. The financial crisis and euro crisis, because of their negative impact on financial services, slowed price growth more in Frankfurt than in other major cities. However, impetus from the Brexit vote caused prices to surge in 2016. Probably in anticipation of wealthy London bankers moving to the city, prices for family homes rose particularly sharply, going up by 11.75% year on year in Frankfurt compared with a 6% increase

Apartment prices vs. flat deficit 17



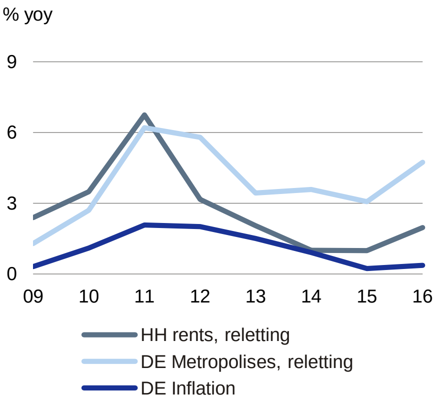

Sources: Wohnungsmarktberichte, riwis, Deutsche Bank Research

Hamburg: Rents vs. benchmarks 18




Sources: riwis, National Statistical Office, Deutsche Bank Research

Hamburg: Rents vs. benchmarks 19




Sources: riwis, National Statistical Office, Deutsche Bank Research

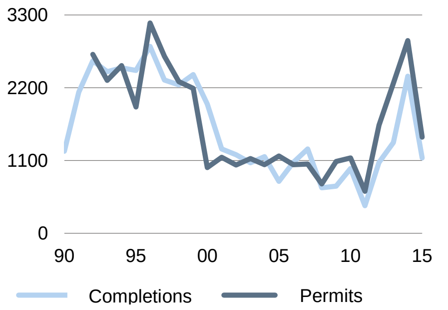
across the major cities. Prices for apartments rose slightly less strongly, at around 10%, and rents increased by only 3.5%. Because of the high level of migration to Frankfurt, rents and prices are expected to continue to rise rapidly over the coming years. And if Brexit has a major impact, Frankfurt's property market could even see substantial price rises. In our Brexit study, however, we present a baseline scenario in which Frankfurt's working population increases by just 5,000 people, which would see Brexit have a somewhat smaller effect on the housing market (see: Crumbs or pie? How much will Frankfurt's property market benefit from BREXIT?)

## Price and rent growth in Hamburg: a mixed picture

Hamburg's property prices, which are the highest in Germany after Munich, increased by around 10% year on year in 2016. Prices for townhouses grew just as strongly, with only detached family houses lagging behind with growth of just 3.5%. Relative to the major cities, price growth in Hamburg was in line with the average in 2016, as it has been for the cycle as a whole. Prices for existing housing stock in Hamburg have risen by around 70% since 2009, which is the same as the average for all major cities. The latest property market report reveals that the average price per square metre for an owner-occupied apartment built in the year 2000 in a prime location is now above EUR 4,000. According to Numbeo, the price per square metre for properties outside the city centre stood at EUR 2,800 at the end of 2016. However, rent increases in Hamburg have been particularly low relative to the major cities. The average annual increase in rents was under 3% for both new and existing homes (major German cities: 4%). It is particularly noteworthy that at the start of the current cycle, rents in Hamburg grew at a much faster rate than in other cities. Between 2009 and 2011, rents for existing housing stock went up by 4% a year, while rents for new builds went up by 7% (major German cities: up by 3.5% and 4.75% respectively). From 2012 to 2016, however, rent growth in Hamburg did not even reach half the level of the other major cities (rents for existing housing stock up by 1.75%; rents for new builds up by 1.5%; both up by 4% in major German cities). The introduction of a cap on rent increases in 2015 is not enough to explain this trend, as rent growth was already slowing before this. It is rather the case that Hamburg has the lowest population growth of the major German cities, and so there is less pressure on demand. In addition, the number of building permits issued has increased sharply since 2012, and one year later the number of completions doubled, while at the same time rent growth has slowed substantially. Because of the lower level of excess demand, the vacancy rate fell only marginally, albeit from an already low level, and now stands at 0.6% (2010–2014: 0.7%) – which is unusual for a major German city in the current cycle. Lastly, there is a general tendency for Hamburg's landlords to be slightly more reluctant in putting up rents. In the boom cycle of 1990 to 1994, rent growth in Hamburg was below average at 3.5% per year compared with 6% across the other major German cities. In 1990, average rents in Hamburg, at EUR 6.5 per square metre, were the second highest among German cities after Munich. Currently, rents in Hamburg are a little over EUR 10 per square metre, which puts it in 7th place overall. If this long-term underperformance continues in the coming years, rents in Hamburg could be outstripped by those in many smaller cities such as Constance, Heidelberg, Ingolstadt, Tübingen, Darmstadt and Freiburg – all in southern Germany. The City of Hamburg's population projection, which anticipates only a small increase of 35,000 people by 2030, also leads us to expect that rent rises will remain low. There is also likely to be less demand-side pressure than in other cities. All this suggests that low interest rates are the main reason why property prices are increasing in Hamburg and, as such, that Hamburg could have a relatively high level of sensitivity to any future normalisation of interest rates. However, despite the recent hike in US

Dusseldorf: Housing market 20

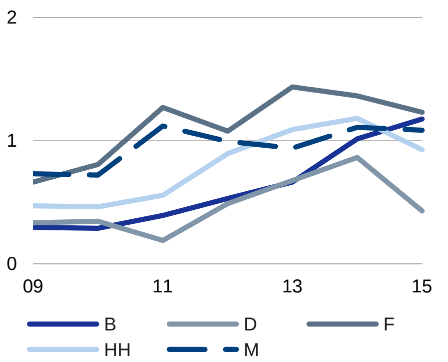
No. of dwellings




Sources: riwis, National Statistical Office, Deutsche Bank Research

Permits 21

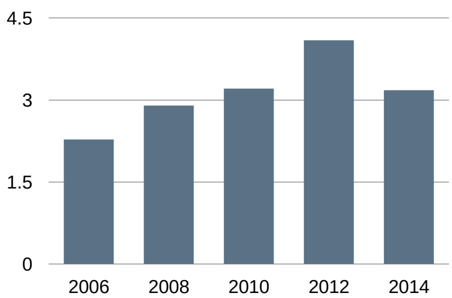
in % of the housing stock




Sources: riwis, Deutsche Bank Research

Düsseldorf: Vacancy rate
as of 1st Sept in each year (>3 months) 22

in % of the housing stock




Source: Wohnungsmarktberichte Düsseldorf

interest rates, the ongoing expansionary monetary policy of the ECB means that rate rises in the eurozone are still probably a long way off.

## Relatively high vacancy rate in Düsseldorf

In Düsseldorf, the population has gone up by only around 5% since 2009, with the number of households increasing at an even slower rate. Other drivers of demand in Düsseldorf have also underperformed the average of the other major German cities – for example job growth (2009–2016: 10.5%; major German cities: 15%). The unemployment rate, at 8%, is around half a percentage point higher than the average for the other cities. Based on these strong but not particularly buoyant conditions, the vacancy rate is probably well over 1% at present. (In its most recent property market report the City of Düsseldorf put its vacancy rate for 2014 at 3.2%). Building activity has been modest in recent years, which tallies with the relatively high vacancy rate. In contrast with the other major cities, the number of homes approved for construction did not exceed 1% of the existing stock in any one year. It therefore comes as no surprise that building permits and completions fell sharply in 2015, each dropping by 50% on the prior year. Because of the slowdown in construction activity, both price and rent levels and price and rent growth tended to be in line with or below the average across the other cities. Property prices in Düsseldorf rose by 65% from 2009 to 2016 (other major German cities: 78%), while rents went up by around 33% (other major German cities: 33%). According to a projection by NRW-Bank, the number of households in the city will increase from today's level of around 330,000 to approximately 380,000 by 2040, an increase of 50,000. Because of the relatively high vacancy rate, this higher level of demand looks likely, at least in the coming years, to result in fewer shortages and less price pressure than in other cities. This slightly less pronounced growth in demand could make Düsseldorf's housing market even more sensitive to interest rate movements than Hamburg. However, until an interest rate turnaround actually occurs, prices and rents in Düsseldorf too are likely to demonstrate further potential for increase over the coming years.

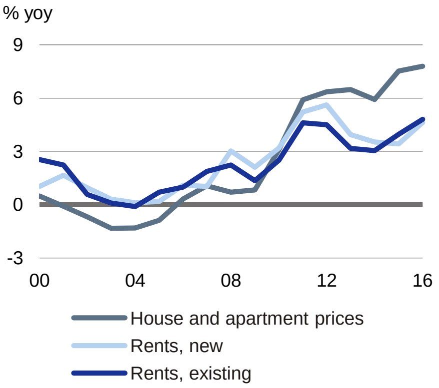
## Summary and outlook for the German housing market

Munich remains the most dynamic German city when it comes to property, with its fast-rising population and historically low vacancy rate, estimated at under 0.2%, likely to lead to further price increases for many years to come. Further price hikes are also expected in Berlin, although the main factors at play here are the very buoyant labour market and the fact that prices and rents are still relatively low for a European capital city. Of the German cities that were analysed for this report, Frankfurt has shown the lowest increase in prices in the current cycle. However, we are now seeing a Brexit effect, which is driving up prices for family homes in particular. Frankfurt, like the other cities, has high excess demand, which suggests that prices will continue to rise in the coming years. Sluggish rent growth and a high level of construction activity are the most striking trends in Hamburg, which could make the city more sensitive to interest rate movements than other urban centres. The situation is similar in Düsseldorf, where the vacancy rate in the current cycle is relatively high for a German city, which is why building activity could be particularly muted there. For all the cities analysed here we anticipate further price increases in the coming years that will only come to an end if

1. supply is massively expanded and vacancies start to emerge. We appear to be a number of years away from this. And so the housing deficit will probably increase further in 2017, despite the anticipated increase in building activity.

# Outlook on the German housing market in 2017

German residential property:
Prices and rents 23




Sources: riwis, Deutsche Bank Research

2. there are significant hikes in interest rates. Note that in December 2016 the ECB extended its expansionary monetary policy to at least the end of 2017.
3. demand for housing falls, for example because economic migration to Germany comes to an end and/or the macroeconomic imbalances in the eurozone are eradicated. However, the election calendar for 2017 points to further political difficulties in Europe. In many southern European countries, hardly any progress has so far been made with urgently needed reforms.
4. prices increase to such an extent that the decision as to whether to rent or buy will begin to fall in favour of renting again. In 2016, however, rents went up by 4.8%, which was the highest year-on-year increase for 20 years. Because of the housing shortage it is likely – regardless of political efforts to regulate rents – that rent growth will remain high in 2017.

In conclusion, all four conditions that would signal an end to the cycle are not yet fulfilled and it is likely to be several years before they materialise. In 2017, we therefore expect rents and property prices in the major German cities, and across the country as a whole, to rise substantially once again.

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