

Europe - Real Estate/Property

German house price tracker - Q4 2023

Industry Overview

German house prices decline starts slowing

According to Q4 2023 empirica data, German house prices declined 8% since their peak in June 2022, or by 9% if excluding new built. The pace of decline has decelerated QoQ (-1% quarterly decline). The fall has been particularly visible in A-cities (Germany's seven largest cities) at -11% peak to Dec.23, versus -9% for B-cities and -7% in C-cities (Exhibit 4). Prices for portfolios could have declined even more: Vonovia (VNA), LEG Immobilien (LEG) and Covivio's saw an 11% asset write down peak to June '23. We expect a further 8% decline ahead for the listed sector. We are currently in the fastest house price decline of the past 50 years. Yet, a return to price growth is probably not before 2026. Past down cycles have lasted very long: 7-13 years.

Not the right price yet: transactions at 13-year low

Price declines could be even greater than the above empirica data, which tracks advertised prices and not actual transactions. Discounts to advertised prices have become the norm and apartments stay advertised much longer, especially those with weak EPC/energy ratings, according to property brokers. Portfolios do not fare better: investment volumes dropped significantly. €5bn of residential properties have been traded in Germany in 2023, the lowest since 2010 and down 61% YoY (-75% vs. 2020). There remains 'a significant pricing gap between sellers and buyers': the few larger transactions (Exhibit 5) were priced at or above 4% cap rates, far from 2.7%-3.6% in the listed companies' book values. We expect a return to transactions and a convergence of bid-ask prices, given the €40bn refinancing gap over 2024-27 for German resi. portfolios owned by institutional investors.

Further 20-30% decline to reach past affordability levels

The time of 'buying is cheaper than renting' is over in Germany. According to empirica, to get back to past decade affordability levels, prices would have to fall by a further 20%-30%. A buyer signing a standard mortgage (20% equity, 2% amortisation) for a €400K purchase in Jan. 2022 paid a €800 monthly rate. With today's interest rates, the monthly payment is €1,500 for the same purchase according to property and financing comparison portal Immoscout. As buying becomes more expensive, more people rent.

Rental growth momentum accelerating

In 2023 rents grew 6% YoY (Exhibit 3), which should gradually blend into accelerating Ifl rent growth for the listed residential sector. We remind that market rent growth does not directly translate into landlords' rents, given regulation in place: rent increases capped at 'Mietspiegel' (see Glossary) for sitting tenants and most re-lets also capped at 15% over three years ('Kappungsgrenze'; Exhibit 12). Rents are further buoyed by low supply, with building permits down 30% YTD and, according to the IFO Institute, 17% of residential projects cancelled YTD (vs. 5% in 2021). On the other hand, Germany has its highest population ever, thanks to a positive 1.3m net immigration in 2022. This led to a cumulated 230k units housing deficit, which should take 5 years to be absorbed.

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c.: circa

k: thousand

Please see the Glossary at the end of the report for more abbreviations and definitions.

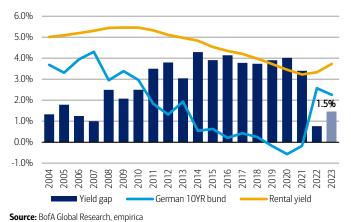
Q4 2023 prices and rents

Slowing asset value decline, but not the end yet

The rise in households' mortgage costs (for new purchases only, given that rates are fixed in Germany) is impacting the housing market after 12 years of nonstop rise. The gross yield for German residential at 3.7% is up 50bps since peak and 150bp above the current 10-year Bund yield, a spread in line with pre-GFC and pre-"free money" period (Exhibit 1). Accelerating rent growth in the coming years and further asset declines in 2024 should help regain a higher yield gap, alongside a stabilising Bund yield, and could prevent asset values from falling more than 15%-20%.

Exhibit 1: Rental yield gap

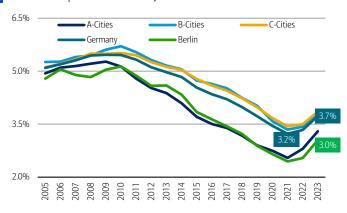
German residential rental yield gap still positive and supported by accelerating rent growth



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Exhibit 2: Rental yield

3.7% gross rental yield* for German residential; low-yielding A-cities have seen harsher price declines since June 2022



Source: BofA Global Research, empirica. Based on 'cold rent'.

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The increasing demand for scarce affordable housing and constrained new supply should push rents to grow further over the next five years. We see risk on the upside as the already-tight supply (rising construction and financing costs) is exacerbated by the recent refugee crisis, with about 1.3m Ukrainians and others having moved to Germany in 2022.

Exhibit 3: German residential rent growth (YoY)

Rent growth continues (+6% in 2023)

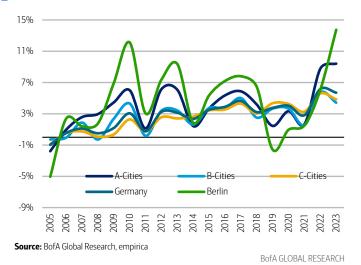
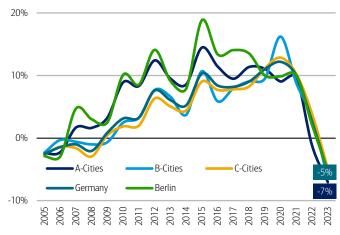


Exhibit 4: German residential Price growth (YoY)

7% decline in FY23, with -7% for A cities



Source: BofA Global Research, empirica

Recent portfolio transactions

Investment volumes dropped significantly in 2022 (c.€14bn) versus 2021, a much lower level even after adjusting for big transactions, such as Vonovia taking over Deutsche Wohnen in 2021. There is no revival of the market in 2023 either. Around €5bn of residential properties have been traded in Germany (-61% YoY), the lowest since 2010. Getting back to market normalisation might take a while – it took three to four years during the 2008 Global Financial Crisis (GFC) before the market recovered.

Exhibit 5: Selected recent portfolio transactions

Pricing of the few transactions above 1,000 units were at or above 4% cap rates, far from the 2.7%-3.2% net initial yield in the listed companies' books in Q2

				Acquisitio	n price	Rent	Net yield	Gross yield		
	City	Date	units	(€ million)	(€/m²)	(€/m²/mth)	(%)	(%)	Buyer	Seller
Wasserstadt Mitte Quartier	Berlin (Europaquartier)	Sep-2023	711	350	7,091	21.8	3.3%-3.5%*	3.7%	unknown	Adler Real Estate AG
TAG		May-2023	1,638	163	1,993	7.8	4.0%	4.7%		TAG Immobilien
CBRE - VNA	Berlin, Munich, FFM	May-2023	1,350	535	5,828	19.5	3.6%*	4.0%	CBRE	Vonovia
Südewo	Baden-Württemberg	Apr-2023	6,300	1,000	2,476	8.5	5%-6%	6%-7%	Apollo	Vonovia
S IMMO AG	Berlin	Mar-2023	1,300	300	3,000	10.0	4.0%	4.6%	UK Fund (all equity)	S IMMO AG
Brandenburger Straße, Nauen	Greater Berlin	Jan-2023	106	38	4,419	-			MPC Capital	Vastbau
residential portfolio from BCP	Leipzig	Jan-2023	2,700	240	1,643	6.5	4.8%	5.5%	Tristan Capital Partners	Brack Capital Properties (Adler)
Cinthia	Nordhausen	Jan-2023	252		-	-			CINTHIA Real Estate	MIDEWO
Graff deal	Walsrode	Jan-2023	100		-	-			Graff Immobilien	
Stuttgart transaction Dewag & Indig	o Stuttgart	Jan-2023	331		-	-			Dewag, Indigo (JV)	

Source: BofA Global Research estimates, company reports, press releases

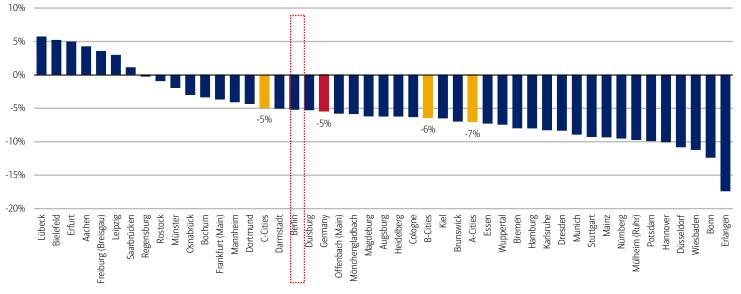
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Rent and price growth by city in 2023

Q4 2023 property prices declined 1% QoQ (decelerating vs. Q3). This leads to a cumulative 8% house price decline since the peak in June 2022. House price decline is highest in big cities (-11% peak to now for A-cities versus -9% and -7% In B- and C-cities). These declines are biased as apartments transacted are mainly prime, energy-efficient assets, which makes price declines look like decelerating in some cities. Rent growth momentum continues to accelerate (+6% annualized, versus +6% last year).

Exhibit 6: German residential price growth by major city - 2023

House price growth was +3% in 2022 but with 5% growth in H1, followed by a 3% decline in H2. Prices continued to decline by 5% in 2023. Cities with the lowest rental yields (A-cities) seem to see the highest pressure on prices and highest declines.



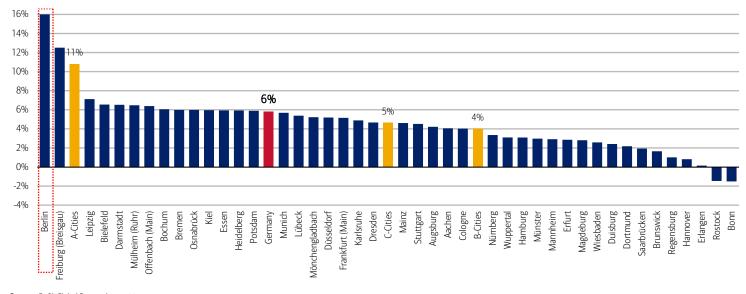
Source: BofA Global Research, empirica



^{*} New built

Exhibit 7: German residential rent growth by major city - 9M 2023 annualized

A-cities saw the highest rent growth, as in 2022, after underperforming in the previous four years; B-and C-cities seem to attract less demand and saw lower – yet historically high – rent growth



Source: BofA Global Research, empirica

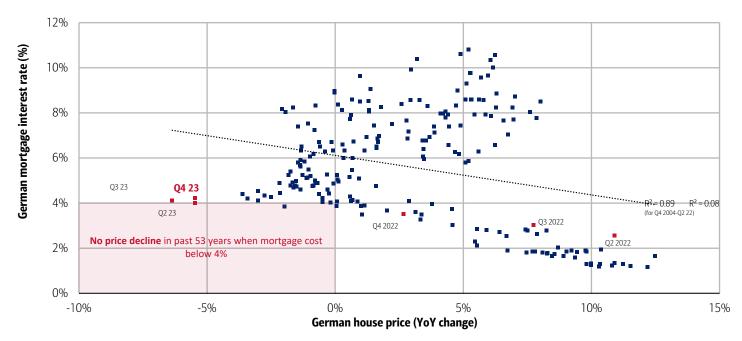
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House prices fall due to higher mortgages

Q1 2023 was the first time in 52 years that we saw German house prices decline when mortgage rates were below 4%. In Q4, mortgage costs were 4.2% (latest ECB data available and based on mortgage comparison websites).

Exhibit 8: House prices never declined YoY with mortgage rate below 4%

German house price YoY change correlation with German mortgage rates between Q4 1970 and Q4 2022



Source: BofA Global Research, empirica, Deutsche Bundesbank; OECD; Institut der deutschen Wirtschaft Köln, European Central Bank (composite cost-of-borrowing indicator for new loans to households for house purchase (percentages per annum, rates on new business). Based on quarterly data (year-on-year changes in house price and same quarter end mortgage rate).

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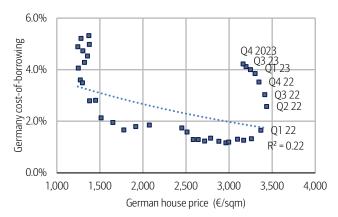
Since 1970, German house price growth turned negative only in the 1980s and after reunification when the country faced a large oversupply of nearly 1m houses. Prices



declined by 15% in 1995-08 and not in a straight line: -4% over Q3'95-Q3'98, -2% over Q2'01-Q4'02 and -10% over Q1'04-Q4'08.

Exhibit 9: Cost of borrowing now >4% has instantly stopped house price growth

Quarterly house prices and household cost of borrowing for house purchase since Q1 2003

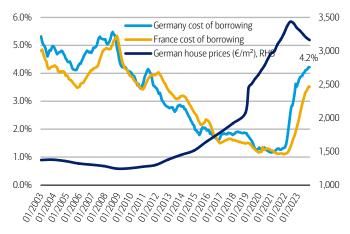


Source: BofA Global Research, empirica, Deutsche Bundesbank

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Exhibit 10: Cost of borrowing and residential prices

Germany has seen a faster rise in mortgage rates than France, where rates are regulated



Source: BofA Global Research, empirica, Deutsche Bundesbank, ECB

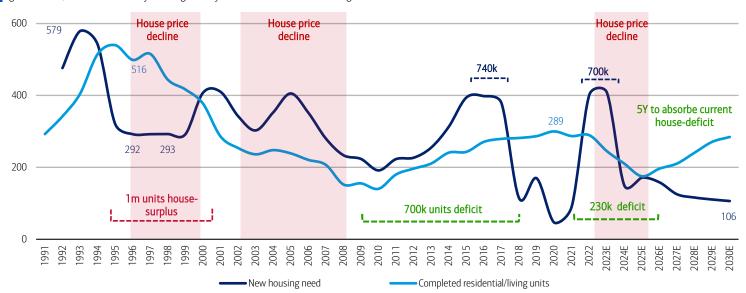
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Supply demand imbalance supportive thanks to immigration

Residential property values are driven by supply and demand. Demand derives from demographics and mortgage costs. The rise in households' mortgage costs (for new purchases only, given that rates are fixed in Germany) should continue to impact the housing market after 12 years of uninterrupted rises. House price growth stopped in Q2 2022, despite a new housing deficit spike triggered by the current refugee crisis.

Exhibit 11: Germany new housing needs and new residential construction completions

We forecast housing needs at c.125k units per annum (p.a.) over the next 10 years (300k p.a. over 2013-22), with a spike at 700k (cumulated 2022 and 2023) due to the immigration influx of 2022. With new construction estimated to reduce in the short term, then to progressively approach 400k p.a. as targeted by the federal government, it would take five years to gradually absorb the 230k-unit housing deficit accumulated over 2022-23.



Source: Destatis, BofA Global Research estimates, World Bank, IFO



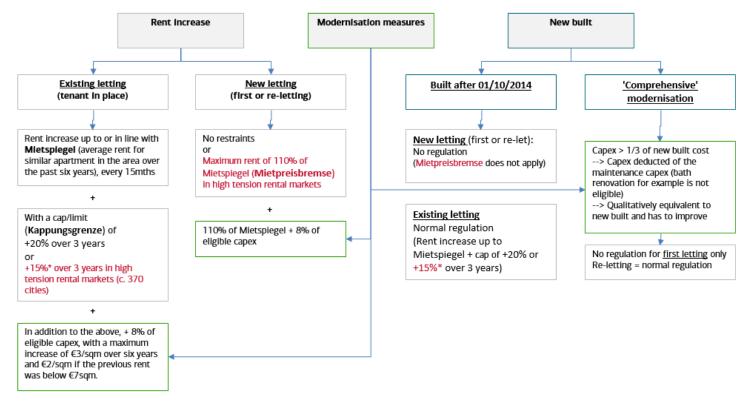
100 years of rent control explained

Current regulation

German regulation for residential rents is similar to that for most other western European countries and is tenant-protective.

Exhibit 12: German federal rental laws

Rent growth is possible under German regulation. It is most regulated for sitting tenants (growth in line with/up to Mietspiegel, with a 3-year cumulated growth limit, to which can be added modernization-related rent rises. For new/re-lettings, there are no constraints (except in 'high-tension markets' where a cap applies). For new builds, re-lettings fall outside the regulation.



Source: BofA Global Research, Bürgerliches Gesetzbuch (BGB)

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Rent increases for existing lettings

There are limited ways to evict tenants, especially if the aim is to increase rents after eviction by re-letting. As compensation, German law allows for regular **rent increases** (every 15 months) to catch up with or move in line with market rents. Rent increases for existing lettings have to respect two restrictions:

- The maximum increase is the local comparable rent/reference rent (Mietspiegel, § 558 BGB) – average rent for a similar apartment in the area over the past six years.
- The maximum allowed rent increase/cap over 3 years (*Kappungsgrenze*, § 558 Abs. 3 BGB) is +20% (+15% in high-tension rental markets, 385 cities). If the cap is reached, landlords have to wait three years before the next rent increase.

Rent increases for new lettings

There are no constraints on **new lettings**, except in 'high-tension rental markets', which have also been subject to a rent cap ('Mietpreisbremse') since 2015. New lettings here can be no higher than 10% above the prevailing market rent ('Mietspiegel'). Rent increases for the first letting linked to modernisation capex (§ 556f Satz 2 BGB) and new builds (§ 556f Satz 1 BGB) are outside of the Mietpreisbremse, as are short-term leases and flat sharing.



^{*} Cap to be reduced to 11% over three years, as of current federal coalition agreement

Modernisation capital expenditure

To prevent landlords from withholding investment in existing and new housing, the legislator has set exemptions for new construction where rents are freely set and for **modernisation** investments (major modernisations for energy efficiency or to improve living conditions). For the latter, for the first re-let after modernisation, the rent can be set at a maximum of 10% above the Mietspiegel, to which the landlord can add 8% of the total capital expenditure. For running contracts, the increase has been limited since 2019 to the lower of 8% of the capex or to a rise of a maximum €3/square metre (sqm) over six years and €2/sqm if the previous rent was below €7sqm.

Only modernisation capital expenditure that improves the "value" of the apartment can be passed on to tenants through rent increases (§ 559 BGB) of up to 8% of the total capital expenditure (minus public subvention received). The following are permissible:

- Energy-efficiency renovation (insulation of facades) is always seen as improving the value of the residential unit. The actual energy cost savings are not relevant to the rent increase calculation.
- Modernisation work has to be extensive (addition of a balcony, for example) and not 'normal' maintenance that would be expected by a tenant.

Exhibit 13: Theoretical example of a possible rent increase for an in-place tenant under German law

Mietspiegel indexation and modernization rent increase can be combined. Example of possible rent increase between 2018 and 2020 for an average 65sqm flat in Frankfurt, built post World War II (WWII), in a good but not central location, with €7,000 modernisation capex. Mietspiegel was up 3.6%, and after non-eligible deductions, the modernization allows for an additional 4.7% increase – i.e., 8.5% in total. This would give an annualized average rent growth of c.3% (2% from Mietspiegel and 1% from modernization), as Mietspiegel is, in this example, a 2-year index, and capex increases would not be possible for the next 5 years.

Existing tenant

Previous rent (€/sqm/month)	9.52	
Sqm	65	
Old rent (€/month)	619	
Mietspiegel 2018	9.52	€/sqm/month for a 65sqm flat in Frankfurt, built 1949-1977, in good non central location, with lift and kitchen
Mietspiegel 2020	9.86	i.e. a +3.6% increase, or +1.8% annualised
Modernisation capex spent by tenant	7,000	
State subsidy	-500	
	6,500	
Capex classified as maintenance	-1,950	30% for capex < €10K
Eligible maintenance capex	4,550	
Modernisation pass-through of 8% (€/month)	30	
New rent (€/month)	671	
Increase	8.5%	
o/w Mietspiegel indexation	3.6%	Max 15% increase over 3 years
o/w Modernisation impact	4.7%	Max €3/qm/month

Source: BofA Global Research, Bürgerliches Gesetzbuch (BGB), City of Frankfurt, Conny GmbH

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What the German Constitution says about housing

Art.14 on Private Property:

Maintaining affordable housing for all social layers of the population is a legitimate legislative purpose (according to Art. 14 Abs. 2 GG: Sozialpflichtigkeit des Eigentums), and rent restrictions are one of the recognised legislative tools. Landlords have a right to be remunerated, but this right is not protected constitutionally. And the use of shortages in the housing market to achieve higher rents is also not constitutionally protected. Rent control (Mietpreisbindung) has to be applied when no other more moderate solution is available. The social bond of private property, especially in areas where a larger part of the population has to rely on foreign private property, such as housing, justifies stricter restrictions on private ownership/property. Rent control has to offer a reasonable weighting of the tenant (common) and landlord interests, according to article 42.



Rent restrictions in 'tense markets' (as defined by Länder) can be stricter. However, this is only allowed if, as the market is tense, any intervention on rents does not violate the substance (*Substanzverletzung*) of private ownership. Private ownership is deemed not to have been violated even if you are not maximising profit for your property. However, the increasing cost of ownership (maintenance, capex) is allowed to have an impact on rents.

Tightening rent controls are nothing new

Germany has a shortage of available affordable housing and has seen a significant increase in rents and prices, along with a growing sense of inequality and mounting political pressure. Metropolitan area rents have been outpacing wages. As social and political tensions worsen, particularly in large cities and around elections, where the political environment is becoming more adversarial, we expect rental legislation to become more restrictive. But this is nothing new and has been the case, year on year, for the past 58 years.

We believe that the main outcome will be a further increase in the cost/capital intensity of rental growth for landlords (lower growth from pure indexation, lower rent increase pass-through from modernisation, to be compensated by higher capex volumes).

Exhibit 14: 100 years of German rental legislation - endless quest for equilibrium

German rent regulation has existed since 1917, when rent caps were introduced. The first 'Mietspiegel' concept appeared in 1922, and the term as a reference to a regulated database was established in a 1974 law (BGB §558). Since the 1960s, rent regulation has been gradually tightening (more tenant-friendly), to limit rental growth.

Year	Regulation
1917	First rent cap on new and existing lettings. No rent increase allowed for war veterans and eviction protection.
1918	Rent increases have to be made public and local authorities can limit increase if it appears to high
1922	Rent control laws (Mietpreisbindung): Rent increases shall be based on comparable local rent change compared to 1914 levels
1942	Rent freeze and full eviction protection
1946	West Germany: Government allocates living space and rent terms
1340	East Germany: Rent freeze sustained by Soviet Military Administration and GDR Government until 1990
1951	Liberalisation of housing market: new build outside of rent restrictions, easing of rent freeze for existing stock
1963	Maximum rent increase eased to 25% (uncapped for old buildings)
1971	New rent controls: rent increase limited to local comparison rents for existing lettings. Evictions for rent increase-no longer allowed
	Mietspiegel: Local comparison rents officially set as benchmark for rent increases. Legislation of Mietspiegel calculation
1974	No rent increase in first 12 months
	Rent increase cap of 30% over three years
1988	West Berlin: Ending of the 1922 and 1918 rent control law
	Unification of rent laws
1990-9	6 Rent cap of 20% above Mietspiegel for new lettings and at Mietspiegel for existing letting
	Rent increase cap of 30% over three years (20% in Berlin, first for rents above €4/sqm and later for all)
2001	Law sets "qualified" Mietspiegel methodology
2013	Possibility for German federal states to adopt a three year rent rise cap of 15% in high rent tension cities.
	Cap (Mietpreisbremse) for high tension rental markets at 10% above Mietspiegel.
2015	Regional government can regulate rental markets on top of federal laws
	11% pass through for modernisation capex
2019	Obligation for landlords to quote previous tenant's rent
	Prolongation of Cap (Mietpreisbremse) until end 2025
	Tenants can claim back overpaid rents
	Modernization capex: reduction of pass through to 8%
	now applying to all regions
	Cap for new let after modernisation at €3 or €2/sqm
2020	Mietspiegel: Calculation changed and now based on past six years (vs. four before)
2021	Increase of rent subsidies, including now heating costs subsidies

Source: BofA Global Research

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German residential rental regulation is 100 years old and highly protective. The main laws are set at the federal level, and the regional Bundesländer have the power to add more restrictive laws and to categorise their markets as 'high-tension rental markets', where rental restrictions are the most severe. Modernisation capex is also challenged by Tenant Associations because it has been used aggressively, is independent of the tenant's will, and has a double beneficial effect for the landlord, as it increases both rents and asset value.



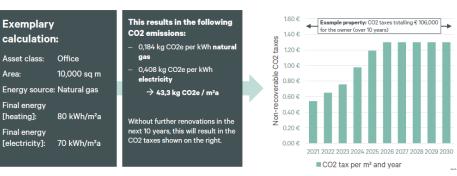
ESG another challenge

Banks are taking ESG into more consideration (modernisation capex, for example) before agreeing to lending, and they are more cautious about large-scale portfolios. Costs for inefficient buildings – CO2 pricing is now costing 0.2%-0.5% of cashflow p.a., but the figure is expected to rise significantly if no proper renovation is made. Experts believe that now the government should focus more on keeping landlords incentivised for modernisation efforts instead of imposing more regulation.

Exhibit 15: CO2 pricing in Germany

According to CBRE, the cost for inefficient buildings will rise significantly in the coming years. Residential is expected to see costs of 0.50-0.50 per sqm or 0.2%-0.5% of annual cash flow.

CO2 pricing in Germany CO2 pricing has been introduced on Jan 1st 2021 for greenhouse gas emissions in the heating and transport sectors Gradual increase from 25€ to 55€ per ton of CO2 by 2025 The CO2 levy will probably be divided between tenant and landlord depending on the condition of the building. A finished cost model is expected on 01.07.22, being effective 01/01/2023. Neighbouring European countries are much more ambitious with CO2 pricing (FR: 45€, NOR: 65€, SWE 120€)



Source: CBRE, February 2022

Glossary

A-, B-, and C-cities: The classification by market type of the 125 RIWIS (comprehensive market and property data) cities by bulwiengesa AG is based on the influence and reach on international, national, regional or local markets. Four groups are defined:

- A-cities Major cities in Germany of national and international importance, larger property markets in all segments – e.g., office stock (gross) over 7mn sqm, average take-up above 150,000 sqm, prime office rents of 16 Euro/sqm and over.
- **B-cities** Bigger cities of national and regional importance e.g., with office stock of 2-5mn sqm, average take-up usually above 35,000 sqm, prime office rents of 12 Euro/sqm and over.
- C-cities Larger cities of limited national importance but with broad regional influence, with medium market activity.
- **D-cities** Smaller cities, with regional or local focus, central functions for direct hinterland, in general lower market activity.

Cap rate, net initial yield (NIY): Current annualised rent, net of costs, expressed as a percentage of capital value, after adding notional purchaser's costs.

Maintenance: Maintenance covers the measures that are necessary to ensure that the property can continue to be used as intended over its useful life and that eliminate structural and other defects caused by wear and tear, age and weathering effects.

Mietspiegel: In the German Real Estate sector, an index of rents actually paid by tenants is called Mietspiegel. It is published by local government and broken down into size, age, locations and other standard categories. The table does not include 'asking rents', only actual net rents i.e. it ignores the additional cost of heating and furnishing. Mietspiegel not only acts as a guideline for tenants and landlords for base rent in local districts but also helps to identify where the potential for rent increase exists.

Local rent index by building age is established according to a poll by local authorities. It includes a low-/mid-rental value and premium/discount adjustment factor (€/sqm) for premium location, small or large units (usually discounts for units above 120sqm), and energy-efficiency renovation. The index must be quoted by the tenant to justify a rent increase. If there is no local rent index, a tenant has to justify a rent increase by quoting three comparable apartments with rents at the level of the new requested increased rent. No further rent increases are possible should a rent be at 120% of the local rent index.

Landlords are supposed to use the local reference rent (for similar buildings and apartment features) to set their rent and not exceed it by more than 10% (rent cap for new lettings). In theory, rent increases are possible above the 10%, if justified by three comparable apartments with rents at the level of the new requested increased rent and some additional administrative burden. Going outside the Mietspiegel can be contested in court by the tenant and judges have tended to rule in favour of the Mietspiegel, but not always.

Mietpreisbremse: Adopted in 2015, the Mietpreisbremse measure allows the government of 16 German states to cap landlords' rental price increase beyond a particular level by way of regulation. The main motive is to prevent landlords from significantly increasing rent following a change in tenant. Currently the law states that the rental price in a new residential contract should not exceed 10% of local comparable rent.



Modernisation capital expenditure: Modernisation capital expenditure, which improves the "value" of the apartment, can be passed on to tenants through rent increases (§ 559 BGB) of up to 8% of the total capital expenditure (minus public subvention received). The following are permissible:

- Energy-efficiency renovation (insulation of facades, double glazed windows, etc.) is always seen as improving the value of the residential unit. The actual energy cost savings are not relevant for the rent increase calculation.
- Modernisation work has to be extensive (addition of a balcony, for example) and not 'normal' maintenance that would be expected by a tenant.

Modernisation measures: Modernisation measures are long-term and sustainable value-enhancing investments in housing and building stocks. Energy-efficient refurbishments generally involve improvements to the building shell and communal areas as well as the heat and electricity supply systems. Typical examples are the installation of heating systems, the renovation of balconies and the retrofitting of prefabricated balconies, as well as the implementation of energy-saving projects, such as the installation of double-glazed windows and heat insulation.

Rent increases for existing lettings: Rent increases for existing lettings in Germany are possible but have to respect, in theory, two restrictions for existing tenants: the local reference rent and the cap limit.

- The maximum increase is the local comparable rent/reference rent (Mietspiegel, § 558 BGB) – average rent for similar apartment in the area over the past four years.
- The maximum allowed rent increase/cap limit over 3 years (Kappungsgrenze, § 558 Abs. 3 BGB) is +20% (+15% in high-tension rental markets, 385 cities). If the cap limit is reached, landlords have to wait three years before the next rent increase.

LfL, **like-for-like rental growth**: It describes the operating rental growth of the residential holdings which was managed continuously throughout the comparison period.

Loan to value (LTV): It is the ratio of principal value of gross debt less cash, short term deposits and liquid investments to the aggregate value of properties and investments.

QoQ: Quarter on quarter

Rent increases for new lettings: Rent increases for new lettings (*Mietpreisbremse*) apply to very tight rental markets only, where landlords have to respect a rent cap for new lettings of a maximum of 10% above local reference rent (Mietspiegel). Rent increases of the first letting linked to modernisation capex (§ 556f Satz 2 BGB) and new builds (§ 556f Satz 1 BGB) are outside of the *Mietpreisbremse*, as are short-term refurbished flats and flat sharing.

YoY: Year on year



Disclosures

Important Disclosures

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Investment rating Total return expectation (within 12-month period of date of initial rating) Ratings dispersion guidelines for coverage cluster^{R1}

Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

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