Rent Control Ripple: How the Mietpreisbremse Shapes Housing Supply in Germany's Cities

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Abstract

The Mietpreisbremse (rent brake), introduced in 2015, was designed to address rising rental costs and improve affordability in Germany's major cities. However, its implications for housing supply remain unclear. This thesis investigates the policy's impact on new housing construction using a difference-indifferences methodology applied to data from 20 German cities between 2013 and 2022. While the Mietpreisbremse aimed to protect tenants by capping rental price increases, results indicate that the policy did not have a statistically significant effect on new housing completions. These findings may be influenced by confounding factors, such as broader economic conditions, regional enforcement variations, or limitations in the dataset. The analysis underscores the need for caution in interpreting the results and highlights the importance of further research to refine data collection methods and evaluate potential hidden effects of the policy on housing supply.

Key words: Mietpreisbremse, difference-in-difference, Germany, Housing supply

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1. Introduction

As cities worldwide battle growing populations and housing shortages increase, the pressure to provide affordable and accessible housing is becoming challenging. Governments worldwide have implemented regulatory measures to stabilise markets and address housing affordability. However, such interventions often come with consequences. Rent controls, widely regarded as a means to protect tenants, can unintentionally discourage investment in housing development and reduce overall supply (Diamond et al., 2019). These tensions highlight the balance policymakers must navigate: protecting tenants while ensuring housing development keeps up with demand. Germany's Mietpreisbremse (rent cap) allows us to examine the interaction between regulation, investment, and housing demand and supply.

The housing market in Germany has long been central to many policy debates, significantly influencing housing regulation across Europe and the world, as Germany is often seen as a leader in implementing impactful policies and regulations (Aggestam & Hyde-Price, 2019). Demand for affordable housing has increased with a high proportion of renters and increasing urbanisation (Bentzien et al., 2012). In response, regulatory measures were introduced to stabilise rental markets and limit rent increases. While these policies aim to protect tenants (Henger & Voigtländer, 2019; Kholodilin, 2016), they may backfire as concerns about the housing market grow.

The Mietspiegel, a benchmark for fair rental prices, and the Mietpreisbremse (MPB), which caps rents in tight housing markets to no more than 10% above the local rent index, are policies implemented to make housing more affordable. Critics argue that such measures reduce the profitability of rental investments, discouraging developers from building new housing units and prompting property owners to sell their rental properties or shift to other markets (Arnott, 1995), thereby shrinking the rental housing supply and intensifying pressure on the housing market.

The Mietpreisbremse has been extensively researched for its effects on rent levels and tenant protections, but its impact on housing supply has received less attention. Existing studies, such as Thomschke (2019), focus on price fluctuations after implementing the MPB. While this analysis provides valuable insights into the policy's short-term effects, its three-year data window cannot capture longer-term consequences. Evidence from Thomschke (2019) suggests that although the MPB successfully curbed rent increases in regulated units, it simultaneously contributed to a decline in rental property availability, particularly in high-demand areas like Berlin.

While the Mietpreisbremse is exempt from newly constructed or renovated apartments to sustain some levels of investment, the uncertainty surrounding rent controls may still discourage significant scale developments. The resulting shortage in housing supply could have implications, particularly in larger cities where demand consistently outpaces supply.

This thesis investigates the effects of the Mietpreisbremse, introduced in 2015, on the housing supply in Germany's major cities. It hereby introduces the research question: Has the Mietpreisbremse affected the rate of housing supply in German cities?

This study aims to deepen our understanding of how rent control policies shape investment decisions and influence housing supply by using an empirical analysis using a difference-in-difference approach. The findings can contribute to the ongoing debate about the trade-offs in housing regulations.

The following chapters are organised as follows: First, they analyse the regulatory framework surrounding rent control policies, focusing on their economic and structural implications for the housing supply. Thereafter, they discuss the empirical data and the methodological approach employed in this study, followed by an in-depth discussion of the results and their broader implications.

2. Literature Review

Several studies have looked at the impact of rent control policies, often focusing on whether such measures can effectively stabilise rental prices. Research from cities like San Francisco, New York, and Boston has concluded that rent control tends to lower rents in the short term (Autor et al., 2014; Diamond et al., 2019). Diamond et al. (2019) exploited a 1994 law change in San Francisco, which expanded rent control to small multi-family buildings built before 1980. They found that rent control reduced tenant mobility by 20% and helped prevent displacement, particularly among racial minorities. However, the study also emphasised the complexity of rent control's long-term effects. It revealed that while rent control benefited tenants by keeping rents lower and preventing displacement in the short term, landlords responded by reducing the availability of rental properties, either by converting buildings to owner-occupied condos or redeveloping them. This resulted in a long-term reduction in the rental housing supply and an increase in rents, undermining the intended goals of the policy.

In an ideal housing market, equilibrium prices are supposed to be determined by the free interaction between supply and demand. However, the reality is far from ideal. Construction delays often lead to a lag in supply relative to demand, and the availability of land suitable for development is limited by geographic, legal, or environmental constraints (Malpezzi, 1996). On the demand side, renters face financial constraints, employment ties, and social factors that limit their ability to respond to rising housing costs. Furthermore, information asymmetries in the market, where "market participants have more or better information than others" (Arnott, 1995), exacerbate inefficiencies, making the housing market unstable.

To address these inefficiencies, policymakers have implemented regulatory measures such as rent controls and housing incentives to align supply and demand more effectively. Breidenbach et al. (2019) utilised a difference-in-differences approach to analyse the impact of Germany's 2015 rent control policy, which sought to slow the growth of rental prices. Despite high expectations, the policy had a relatively modest impact, reducing rental price growth by just 2.5%. This suggests that while rent control can have

positive effects, it may fall short of achieving broader political goals of affordability and long-term stability in the housing market.

One unintended consequence of rent control is the reduction in rental property maintenance. Landlords facing capped rental income may reduce investment in upkeep, leading to a gradual decline in the quality of the regulated housing stock (Diamond et al., 2019). Moreover, the housing supply may shift toward unregulated or newly constructed units, which typically cater to wealthier segments of the population. This shift can worsen inequality between the regulated and unregulated markets. For instance, strict rent control measures in Sweden have been linked to housing shortages, as developers prioritise luxury or commercial projects due to better profit margins (Lind, 2001).

Thomschke (2019) and Breidenbach et al. (2019) find that rent control tends to substantially impact lower quality, lower priced units, which are more likely to be occupied by low-income renters, the intended beneficiaries of such policies. However, these effects tend to diminish over time, with Breidenbach et al. (2019) noting that the impact fades after about one year. However, Arnott (1995), in his study conducted in North America, found that regulatory measures often fail to target the populations they intend to assist. In his case, rent controls subsidise middle and upper-income households occupying regulated units, undermining the policy's effectiveness in helping low-income renters.

While interventions are necessary to address inefficiencies and improve affordability, poorly designed or implemented measures can exacerbate existing problems. The experiences in Germany, the U.S., and Sweden emphasise the need for a balanced approach that considers both short-term affordability and longterm market sustainability. This concludes with the hypothesis that the Mietpreisbremse has slowed the housing supply (new construction) in German cities.

3. Institutional Background

Germany's housing market has faced increasing pressure over the past decade due to demographic growth, urban migration, immigration and economic forces. Between 2013 and 2022, a net migration gain of 3.59 million people primarily flocked to centres like Berlin, Munich, and Frankfurt, intensifying housing shortages (Destatis, 2023). The average household size is also decreasing, which has further amplified demand. Immigration significantly impacts housing demand in Germany, particularly for flats. An increase in immigration of 1% of a district's population leads to a 2.5-3% rise in flat prices and a 1% increase in rents (Sinning, 2009). This effect is more substantial at the lower end of the market, where demand for affordable housing is higher. Immigrants tend to settle in areas with slower price increases, yet their presence still drives higher demand. Despite some crowding, there is no significant migration of the native Germans, indicating that immigration contributes to the growing pressure on the housing supply, as found by Sinning (2009).

The strong rental culture of Germany, with an average homeownership rate of 51.31% over the past 20 years, is one of the lowest in Europe (Eurostat, 2024). Renting remains a cultural norm, yet affordability has become a rising issue, with rental costs rising faster than incomes. Borrowing constraints, such as strict loan-to-value (LTV) and debt-to-income (DTI) ratios, coupled with higher mortgage rates, have pushed more people toward renting, exacerbating demand for rental housing (Bundesbank, 2023). Additionally, rental market preferences among younger generations tend to prioritize flexibility over long-term homeownership, further sustaining high demand for rentals (Andrews et al., 2024).

Despite government targets of constructing 400,000 new apartments annually, only 294,400 were completed in 2022, far below what is required to meet the population's needs (Destatis, 2024). High construction costs, a shortage of skilled labour, and regulatory constraints, such as strict land use, environmental regulations, and energy efficiency standards, have all contributed to delays in construction projects, ultimately decreasing the housing supply (Dahl & Goralczyk, 2017). At the same time, tenants tend to stay in their homes longer, reducing turnover and further tightening the already constrained market. Landlords, facing limited financial returns due to these pressures, often opt to sell or repurpose their properties (Thomschke, 2019), reducing the overall number of rental units available.

3.1 Mietspiegel

The Mietspiegel, or "rent mirror," is a foundational element of Germany's housing policy, introduced in the 1970s. It provides transparent guidelines for fair rental prices based on size, location, construction year, and amenities (Kholodilin, 2016). Updated every two years by local municipalities (Voigtländer, 2016), the Mietspiegel serves as a reference point in disputes over rent increases, playing a central role in shaping Germany's rental market.

The debate around the Mietspiegel highlights its dual impact on the housing market. Critics argue that capping potential rental income could discourage property owners from investing in maintenance or improving rental units, possibly affecting housing quality or supply (Sagner & Voigtländer, 2022). On the other hand, its predictability fosters a stable investment environment for long-term institutional investors (Andrews et al., 2024). The Mietspiegel also provides tenants with a clear understanding of their rental costs, which helps maintain transparency and stability in the housing market.

The Mietspiegel's adaptability and acceptance have made it an easy model to test for the consequences of rental market regulation, influencing international housing policies. Comparisons with similar frameworks in Sweden (Priemus & Dieleman, 2002) and the Netherlands (Haffner & Boumeester, 2014) emphasise this approach.

3.2 Mietpreisbremse

The Mietpreisbremse, or "rent brake," introduced in 2015, was designed to combat the increasing rental prices in Germany's larger cities, where housing demand significantly exceeds supply. This policy aimed to

cap rent increases for new leases in designated tight housing markets by limiting rents to no more than 10% above the local benchmark, as defined by the Mietspiegel (Dustmann et al., 2021). While initially slowing rent increases in regulated units, specific challenges have reduced its effectiveness. Many landlords find loopholes (Thomschke, 2019), such as charging additional fees or setting rents just below the cap, limiting their ability to improve rental affordability.

Critics argue that the Mietpreisbremse has inadvertently reduced the attractiveness of rental investments. Private landlords, who form the backbone of Germany's rental sector, have been affected. Many have chosen to sell properties or convert them into owner-occupied homes, thereby shrinking the rental stock in cities with high demand (Henger & Voigtländer, 2019). Longer tenant durations further constrain supply, as tenants benefiting from regulated rents are less likely to move (Andrews et al., 2024).

This dual-market structure has widened inequalities between tenants. Regulated units see stable rents, while unregulated properties experience sharp increases as landlords attempt to offset income losses.

Developers face reduced profitability due to capped rental returns, particularly in cities like Munich and Frankfurt, where high land and construction costs already narrow margins (Henger & Voigtländer, 2019). Kholodilin (2016) highlights that the policy, combined with regulatory hurdles such as zoning restrictions and lengthy permitting processes, creates significant barriers to housing development.

While the MPB effectively lowered rents in regulated units, the longer-term implications for housing supply and new construction remain underexplored. Most research has focused on the policy's immediate effects, leaving questions about how it influences housing development over time. This gap is critical to understanding the full scope of its impact on the broader housing market and addressing unintended consequences.

4. Empirical Analysis

A comprehensive evaluation of the Mietpreisbremse (MPB) and its impact on housing supply ideally requires a counterfactual scenario: observing the same housing markets with and without the MPB implemented under otherwise identical conditions. This would allow for precisely identifying the policy's causal effects on the housing supply. However, such a scenario does not exist, introducing challenges in determining whether changes in housing supply can be directly attributed to the MPB or if other market dynamics are influencing the observed outcomes.

For example, an observed increase in housing supply coinciding with the introduction of the MPB might not be directly related to the policy itself. Broader economic factors, such as new construction incentives or immigration trend shifts, could lead to higher supply regardless of the MPB. Similarly, a

decline in housing supply might occur due to external factors like rising construction costs or changes in market demand, independent of the MPB's influence.

The analysis examines whether the MPB has had any noticeable effects on new housing construction.

While the lack of a perfect counterfactual remains a limitation, using robust empirical methods ensures that the analysis provides meaningful insights into the MPB's impact on housing supply. By addressing potential confounding factors and exploring regional heterogeneity, the study can contribute to a deeper understanding of how the MPB has shaped housing markets in Germany.

4.1 Methodology

The data for the regression analysis was collected from 20 cities spanning from 2013 to 2022, where Berlin, Hamburg, Munich, Cologne, Frankfurt, Stuttgart, Düsseldorf, Dortmund, Essen and Leipzig were the treated cities and Magdeburg, Kiel, Rostock, Chemnitz, Erfurt, Saarbrücken, Bremen, Braunschweig, Potsdam, and Oldenburg the non-treated cities. These cities were selected based on their relevance to the Mietpreisbremse (MPB) policy, with the treatment group consisting of the 10 largest cities where the MPB was implemented and the control group comprising the 10 largest cities where the policy was not applied.

In observational settings where the interchangeability between a treated group and a control group cannot be assumed, empirical social research offers robust methods to estimate the effects of policy measures, such as the MPB. One such method is the difference-in-differences (DiD) approach, as Angrist and Pischke (2010) described. This technique compares changes over time in the treated segment, where the MPB is implemented, with changes in a control segment that remains unaffected by the policy. By leveraging this method, the analysis isolates the causal effects of the MPB on housing supply, accounting for broader trends affecting all cities.

A key assumption of the DiD method is that the control group provides a valid counterfactual for how the treated group would have evolved without the MPB. The unregulated cities serve as proxies for general market trends, capturing dynamics unrelated to the MPB. For example, if housing completions decline across both groups during the same period, the change can be attributed to broader economic or demographic factors rather than the policy. Conversely, a significant trend divergence between the treatment and control groups following the MPB's introduction would suggest a policy-driven impact.

To analyze the MPB's influence, housing supply is measured as the annual number of completed housing units in each city. The regression analysis employs the following DiD model:

$$Y_{it}=\beta 0+\beta 1 rent\_policy\_binary_i+\beta 2 post\_policy_t+\beta 3(did_{it})+X_{it}\gamma+\epsilon_{it}$$

Y_{it} is the dependent variable, representing the number of housing units completed in city i at time t. The interaction term did_{it} captures the difference-in-differences effect, with its coefficient β3 indicating whether the MPB led to a reduction (β3<0) or increase (β3>0) in housing supply after 2015. The variables $rent\_policy\_binary_i$ and $post\_policy_t$ respectively denote whether a city is in the treatment group and whether the observation is in the post-policy period. Control variables (X_{it}), such as population size,

unemployment rates, average rent per square meter, average yearly salary, are included to account for other factors influencing housing supply.

The data, sourced from the Federal Statistical Office of Germany (Statistisches Bundesamt, 2019), BNP Paribas's yearly Residential Reports (2020, 2024), and Ahlfeldt et al.'s (2023) interactive property price tool, was collected and analysed using STATA. This process ensures consistency in variables such as housing completions, rental and sale prices, and demographic characteristics. The analysis identifies how the MPB influenced housing development trends by comparing treatment and control cities before and after the policy's implementation.

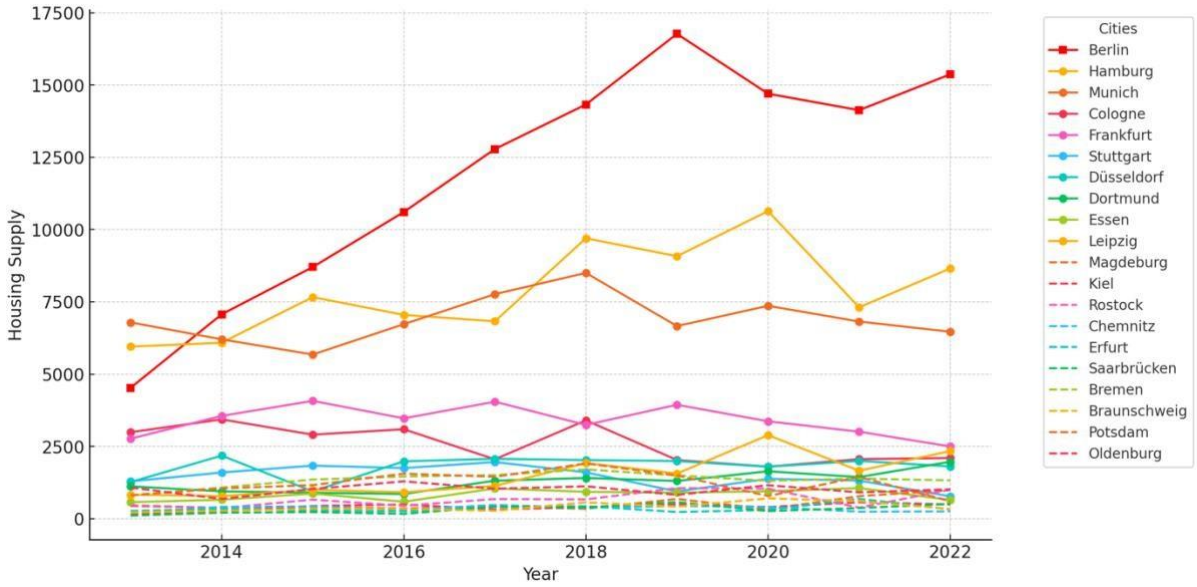
When interpreting the results of the Difference-in-Differences (DiD) analysis, the parallel trends assumption is the idea that, in the absence of the Mietpreisbremse (MPB), the treated cities would have followed the same trend in housing supply as the control cities. While the treatment and control groups can differ in characteristics (Angrist & Pischke, 2010), the key assumption is that any observed trends after the policy result from the MPB rather than pre-existing differences in trends.

The plausibility of this assumption is tested using a graphical approach. This involves plotting the average housing supply over time for treated and controlled cities, focusing on the period before the MPB implementation in 2015. By comparing the trends in housing supply for both groups during this pretreatment period, we can visually inspect whether the treatment and control cities followed similar trends before the policy was introduced.

If the analysis reveals a significant decline in housing completions in the treatment group relative to the control group, this would indicate a decreasing effect of the MPB on new construction. Alternatively, no significant difference might suggest that other factors, such as continued demand, stable rents, and developments, counteracted the policy's influence.

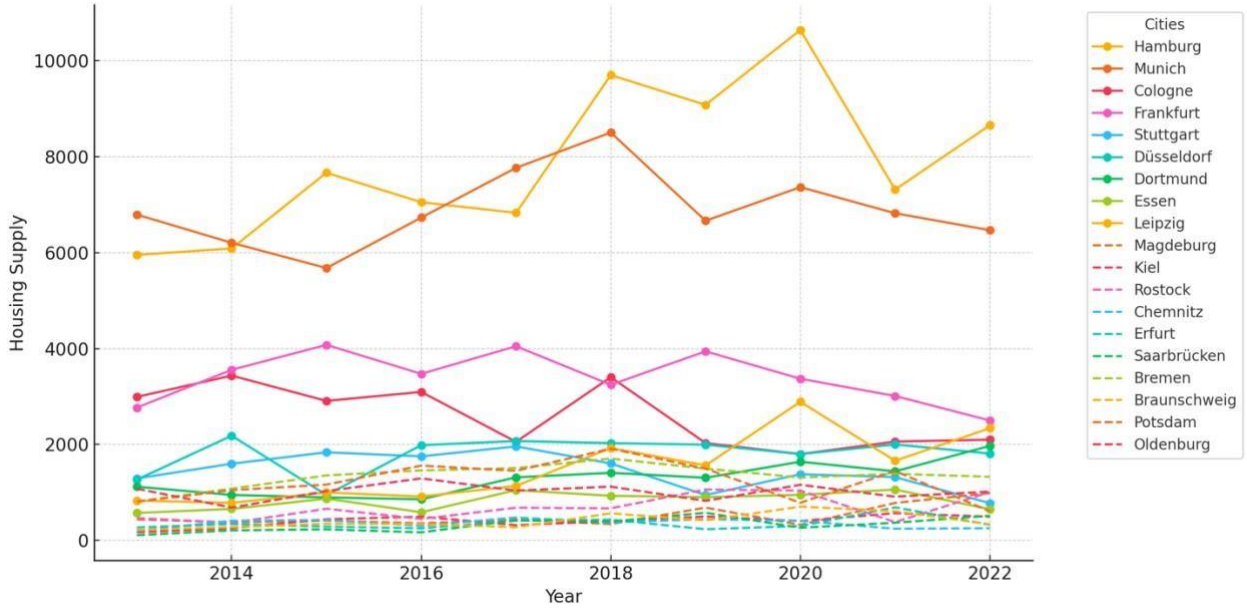
Population, economic conditions, and pre-existing housing stock could also influence how the treatment affects the housing supply. For example, cities with higher populations or more well-developed economic conditions might maintain housing demand and construction even with regulatory interventions like the MPB. This will be considered when interpreting the results, even if the assumption of parallel trends holds.

Figure 1: Housing Supply per city including Berlin



In *Figure 1* (with the dotted lines being non-treated cities), Berlin is the only city whose pre-treatment trend in housing supply is distinctly different from the trends in treated and controlled cities. However, in *Figure 2*, which shows the trends with Berlin excluded, the remaining treated cities (Hamburg, Munich, Cologne, etc.) and the control cities appear to follow more parallel trends, especially in the pre-treatment period. Despite this improvement, the assumption of parallel trends still does not hold perfectly, as the magnitude of growth in the treated cities is notably higher than in the control cities before 2015. Additionally, after 2015, a divergence occurred, with the treated cities experiencing stagnation or decline, while the control cities remained relatively stable or showed slight increases. Therefore, although excluding Berlin makes the pre-trends look more parallel, the assumption is not fully satisfied, as the rate of change and post-2015 divergence complicate the causal interpretation.

Figure 2: Housing supply per city excluding Berlin



4.2 Data descriptives

The dataset contains 130 observations, and 14 variables related to demographics, housing, and economic indicators.

Table 1: Descriptive Statistics

Variable	Treatment	Control
Avg. Rent (€/sqm)	11.64 (4.53)	8.76 (1.98)
Avg. House Price (€/sqm)	4450.75 (2604.14)	2525.23 (924.56)
New Buildings completed	3072.63 (2541.12)	662.83 (426.05)
Unemployment Rate (%)	6.73 (1.95)	8.24 (1.46)

Note: Standard deviations are reported in parentheses.

The dataset includes several key variables that provide a comprehensive view of major German cities' housing market and economic conditions. The year variable, an integer, represents the observation time from 2013 to 2022. The City variable is a string that indicates the name of each city under observation. To capture the demographic characteristics of each city, the population variable, an integer reflecting the total population of the city, is used.

To assess the economic conditions, the unemployment rate is recorded as a float, reflecting the unemployment rate within the city. The Average Rent (€/sqm) is a numeric variable that shows the rental price per square meter, directly measuring the rental market's affordability. Additionally, an integer, the New Buildings variable, represents the number of new housing units built annually, shedding light on housing supply dynamics. Lastly, the yearly salary (€) variable, an integer, provides the average salary in euros, reflecting the income levels within each city and helping contextualise housing affordability relative to wages. These variables are crucial for understanding the broader economic context in which housing demand and supply dynamics occur, particularly those influenced by rent controls. 2013 and Berlin will be used as the reference year and cities, eliminating omitted variable bias.

Figure 3: Average rental price per city

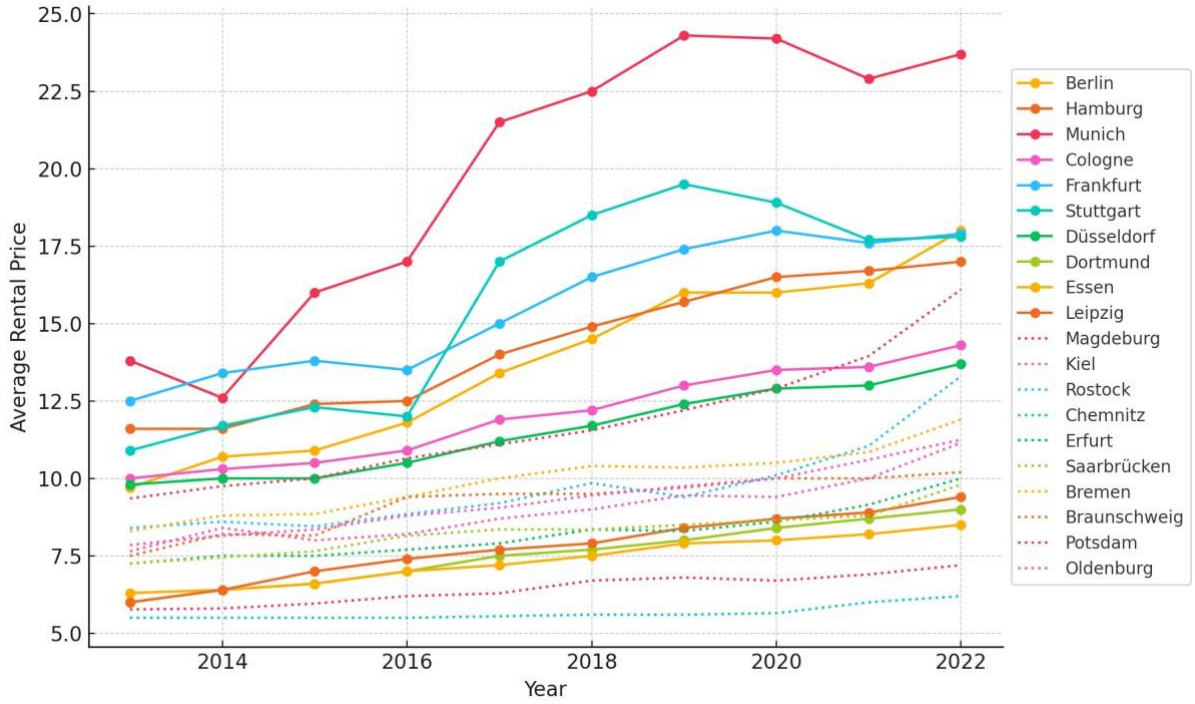


Figure 3 reveals a general upward trend in rental prices across several cities, with cities like Munich and Frankfurt seeing particularly notable increases. The rental price growth seems to be relatively parallel across the cities. Cities such as Munich, where demand for housing has traditionally been strong, have seen higher average rental prices compared to other cities like Berlin and Cologne. The parallel trends assumption, which suggests that in the absence of interventions of the MPB, these cities would have followed similar price trajectories, appears reasonable. This analysis specifically focuses on the rental price trends to assess whether the core idea behind the MPB which is to slow the increase in rents in highdemand areas actually holds. While the trend indicates rising rental prices, it does not necessarily confirm nor deny that the MPB is achieving its intended effect, as the observed increases in rental prices are seen across all cities, which could be due to other factors.

Table 2: Correlation Matrix for Key Variables

Variable	Avg Rental Price	Population	Housing Supply	Yearly Salary	Unemployment Rate
Avg Rental Price	1.00	0.66***	0.40**	0.85***	- 0.66
Population		1.00	0.67***	0.44***	- 0.45
Housing Supply			1.00	- 0.07	- 0.01
Yearly Salary				1.00	- 0.79
Unemployment Rate					1.00

Note. r-values are Pearson correlation coefficients. *** p<.001, ** p<.01.

A strong positive correlation is observed between average rent per square meter and population *(r = 0.661, p < 0.001),* suggesting that cities with higher population tend to have higher rental prices. There is also a significant positive correlation between average rent per square meter and yearly salary *(r = 0.853, p < 0.001),* indicating that cities with higher average rents also tend to have higher average salaries. Population positively correlates with housing supply *(r = 0.669, p < 0.001),* highlighting that cities with higher populations tend to have more housing completions. In contrast, a significant negative correlation exists between average rent per square meter and unemployment rate *(r = -0.664, p < 0.001),* suggesting that cities with higher unemployment rates tend to have lower rental prices. Additionally, yearly salary negatively correlates with the unemployment rate *(r = -0.786, p < 0.001),* indicating that cities with higher salaries tend to have lower unemployment rates.

Table 3: DiD Regression for Housing Supply

Predictor	Coefficient (β)	Std. Error	*t*	*p*	95% CI (Lower, Upper)
Interaction term (did)	-313.77	610.58	-0.51	0.620	(-1694.99, 1067.46)
Population	0.0438***	0.0055	8.02	0.000	(0.0315, 0.0562)
Avg rent	214.27	87.77	2.44	0.016	(40.98, 387.56)
Yearly Salary	0.5177	0.6128	0.84	0.420	(-0.8686, 1.9040)
Unemployment rate	-811.17	233.33	-3.48	0.001	(-1271.82, -350.52)
2014	-22.15	300.18	-0.07	0.941	(-614.8, 570.49)
2015	2103.68	655.08	3.21	0.002	(810.37, 3396.99)
2016	1880.64	580.08	3.24	0.001	(735.41, 3025.88)

2017	1368.81	453.43	3.02	0.003	(473.62, 2264.0)
2018	1054.74	355.91	2.96	0.003	(352.09, 1757.4)
2019	458.42	324.76	1.41	0.160	(-182.75, 1099.59)
2020	999.08	351.65	2.84	0.005	(304.82, 1693.34)
2021	430.57	317.03	1.36	0.176	(-195.33, 1056.47)
2022	460.68	322.78	1.46	0.180	(-184.65, 1089.39)
Braunschweig	-10718.08	594.17	-18.04	0.000	(-11891.13, -9545.02)
Bremen	-7873.73	710.22	-11.09	0.000	(-9275.9, -6471.55)
Chemnitz	-9263.57	704.18	-13.16	0.000	(-10653.81, -7873.32)
Cologne	-9834.87	528.26	-18.62	0.000	(-10877.8, -8791.94)
Dortmund	-8115.95	732.91	-11.07	0.000	(-9562.9, -6668.99)
Düsseldorf	-12170.47	847.86	-14.35	0.000	(-13844.38, -10496.56)
Erfurt	-10929.61	648.53	-16.85	0.000	(-12209.98, -9649.25)
Essen	-9443.51	673.25	-14.03	0.000	(-10772.69, -8114.33)
Frankfurt	-11292.71	841.30	-13.42	0.000	(-12953.67, -9631.75)
Hamburg	-5006.08	502.13	-9.97	0.000	(-5997.43, -4014.73)
Kiel	-9485.96	594.58	-15.95	0.000	(-10659.83, -8312.1)
Leipzig	-9521.65	614.07	-15.51	0.000	(-10733.98, -8309.31)
Magdeburg	-8093.35	763.59	-10.60	0.000	(-9600.88, -6585.81)
Munich	-10424.47	1349.78	-7.72	0.000	(-13089.3, -7759.64)
Oldenburg	-9987.68	562.89	-17.74	0.000	(-11098.97, -8876.38)
Potsdam	-10840.85	777.07	-13.95	0.000	(-12375.0, -9306.7)
Rostock	-9541.73	543.69	-17.55	0.000	(-10615.13, -8468.34)
Constant (_cons)	16010.99	2246.48	7.13	0.000	(11575.83, 20446.15)

Note: $p < 0.05$ *; $p < 0.01$; $p < 0.001$*

4.3 Results

The results from the DiD regression provide insights into the factors influencing new building completions. The interaction variable *(did_{it})* showed a negative coefficient *($\beta=-313.77$),* and is not statistically significant therefore showing that after the MPB was implemented, it had no effect compared to non-treated cities. The effect did however go into the expected direction, reducing the housing supply in the treated cities albeit being insignificant.

Population had a significant positive effect *($\beta=0.0438$, $p<0.001$),* implying that higher population levels are strongly associated with increased new building completions. The unemployment rate was negatively associated and significant *(*$\beta=-811.17$, $p < 0.01$*),* indicating that higher unemployment rates correlate with fewer new buildings being constructed.

Yearly salary ($\beta=0.5177$, $p=0.420$) did not significantly influence new building completions. Avg rent displays a positive and significant effect ($\beta=214.27$, $p < 0.05$*),* meaning that higher rents per square meter are associated with more supply of housing.

The city fixed effects reveal significance but consistent negative coefficients across most cities, with cities such as Braunschweig *($\beta=-10718.08$, $p < 0.01$)* and Stuttgart *($\beta=-14755.40$, $p < 0.01$)* suggesting that regional factors, including local housing market demand and supply contribute to differences in the volume of new buildings compared to Berlin. The inclusion of year and city fixed effects helps control for unobserved factors that may influence the construction of new buildings across different time periods and locations. Overall, the model was robust with an R2=0.9529, explaining 95.29% of the variation in new building completions. These findings underscore the importance of population and economic conditions while highlighting regional differences and temporal declines in construction activity.

5. Discussion and Recommendations

The findings of this study indicate that the introduction of the Mietpreisbremse (MPB) did not have a statistically significant effect on housing supply in German cities.

As the MPB is exempted from newly constructed or renovated apartments this may have contributed to the lack of measurable impact on housing supply, as developers continued to invest in constructing new units that remained outside the policy's scope. Moreover, policy enforcement varied significantly across cities, potentially diluting its effectiveness. Cities with weaker enforcement mechanisms might have experienced higher non-compliance rates, allowing landlords to circumvent the intended restrictions.

Another critical factor to consider is the potential for spillover effects. The DiD methodology assumes that treated and untreated cities are independent; however, economic and policy-driven changes in treated cities may influence nearby untreated areas. For example, developers and landlords may have shifted their

focus to cities where the MPB was not implemented, thereby amplifying the policy impact that is estimated.

The findings also suggest that broader market conditions might overshadow the effects of the MPB. The strong positive correlation between population and rental prices and between yearly salaries and rents reflects the enduring demand pressures in densely populated urban centres. These demand-side factors may sustain construction activity regardless of regulatory measures like the MPB. Furthermore, cities with higher unemployment rates were associated with fewer housing completions, underscoring the significant role of economic conditions in shaping housing market outcomes.

From a methodological perspective, the DiD approach should provide a robust framework for assessing policy effect if the parallel trends assumption holds. The relatively short post-policy period analyzed may not fully capture the long-term effects of the MPB on the supply of housing supply. The housing market, particularly in the context of new construction, often involves lagged responses to policy changes. Extending the analysis to include a longer post-policy period could provide a more comprehensive understanding of the policy's impact. Incorporating heterogeneity into the model, such as variations in enforcement levels, could help uncover minor effects that may not be apparent in the aggregate analysis.

Future analyses should also consider including variables reflecting construction costs, permitting delays, and zoning restrictions, which are critical factors influencing housing supply. These supply-side constraints could interact with rent control measures, amplifying or mitigating their effects. High construction costs and regulatory hurdles already limit housing development, rendering the MPB's impact marginal. Including these variables in the analysis would help disentangle the specific contribution of rent control policies to housing supply dynamics.

The MPB may have achieved its primary objective of curbing rental price increases without directly influencing new construction. However, the broader implications for housing availability, market turnover, and affordability require further investigation.

Policymakers must consider complementary measures to address these challenges. Rent control policies should be paired with incentives for developers to construct affordable housing units, such as tax breaks or subsidies. Additionally, targeted interventions that focus on specific rental market segments, such as lowincome households, could help achieve affordability goals without distorting overall market dynamics. Strengthening enforcement mechanisms to ensure compliance with the MPB is also essential to maximize its effectiveness.

6. Conclusion

Based on the data analysed in this study, Mietpreisbremse appears to have not demonstrated a significant impact on new housing supply within the scope of this analysis. It is important to emphasize that this does not imply that Mietpreisbremse has not affected the housing supply; instead, it means that no measurable impact could be identified using the data and methods employed in this study.

The findings suggest that broader economic factors, such as population growth, unemployment rates, and regional housing demands, may overshadow the policy's observable influence. Furthermore, potential data limitations, including measurement inaccuracies and unobserved confounding factors, warrant caution in interpreting the results. This study underscores the challenges inherent in using observational data to assess policy effects in dynamic urban housing markets.

The lack of measurable effects on housing supply may stem from the complexity of urban housing dynamics or the limitations of the available data and methodology. Future research should address these challenges by incorporating more granular datasets, exploring longer-term trends, and refining analytical approaches to better account for potential confounding variables.

Further investigation is needed to discern whether the observed outcomes reflect genuine policy impacts or are artefacts of analytical constraints. By addressing these uncertainties, future studies can provide more precise insights into the broader implications of rent control measures.

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