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# REAL ESTATE INSIGHTS ON MORTGAGE RATES, APARTMENT PRICES, AND RENTALS IN CZECH REPUBLIC

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## **Abstract:**

This study examines the complex dynamics of the Czech real estate market, focusing on the interaction between mortgage rates and residential property prices, the influence of dwelling size on market price trends, and the impact of regional economic disparities on property values. We find that lower mortgage rates paradoxically raise house prices through increased demand, calling into question the effectiveness of monetary policy in improving housing affordability. This counter-intuitive effect highlights the complex interplay between fiscal policy and market responses. In addition, the analysis reveals a significant shift towards smaller dwellings, increasingly favoured by single-person households, reflecting changing demographic trends. This shift has clear implications for price dynamics and market accessibility in both the sales and rental sectors, suggesting a nuanced response to consumer preferences across different market segments. In addition, the research highlights a strong correlation between regional economic vitality and property prices, underlining the profound influence of the broader economic landscape in shaping property values in different areas. By integrating these critical aspects, the study provides a comprehensive and nuanced understanding of the factors influencing the Czech property market, offering valuable insights for policy makers, property developers and investors seeking to navigate or influence this market effectively.

## **Keywords:**

Czech real estate market, mortgage rates, house prices, apartment size, real estate pricing, investment returns, housing affordability, economic analysis

**JEL Classification:** R21, R31, G21

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## 1 Introduction

The property market in the Czech Republic is a complex landscape shaped by various economic, regulatory and demographic factors. In recent years, changes in mortgage rates, housing policy and urban development have had a profound impact on the dynamics of the housing market, affecting affordability, investment returns and market accessibility for different demographic groups. This study aims to explore these multifaceted relationships by analysing statistical data and trends that span several key areas of real estate economics.

First, we examine the relationship between mortgage rates and residential property prices, particularly in the urban epicentre of Prague. The traditional economic expectation that lower interest rates would facilitate home ownership and thus improve housing affordability is challenged by the real-world outcome, where increased purchasing capacity paradoxically inflates property prices due to increased demand. This counter-intuitive result highlights the nuanced impact of monetary policy on housing markets and raises questions about the effectiveness of interest rate manipulation as a tool for housing market regulation.

In addition, the research examines the impact of dwelling size on the property pricing mechanism. Our analysis distinguishes between price trends for properties intended for sale and those intended for rental and shows that smaller dwellings - particularly favoured by the emerging demographic of single-person households - exhibit different economic dynamics than larger units. This segment of the study highlights changing consumer preferences and their impact on the property economy.

In addition, by extending our analysis to the various regions of the Czech Republic, we explore the regional differences in property prices and rental markets. The study reveals a strong correlation between the economic prosperity of a district and the level of property prices and rents, illustrating the role of the broader socio-economic environment in shaping local property markets.

Finally, the research examines the inverse relationship between property prices and potential investment returns, particularly in economically deprived areas. This section highlights the risks and rewards of property investment and provides insights into the socio-economic conditions that influence these dynamics.

By integrating these different dimensions, the research aims to provide a comprehensive understanding of how different factors interact to shape the Czech property market. The findings are intended to help policymakers, investors and stakeholders make informed decisions that take into account both the economic and social impacts of real estate developments.

## 2 Methodology

This study presents findings derived from data generated by the EVAL software. EVAL is a robust software tool developed for the systematic collection, analysis and evaluation of property price data from online property advertisements in the Czech Republic.

EVAL was developed and improved by the author of this study. The software has been in use since 2007 and has become indispensable in the compilation of data for academic and government research.

EVAL operates through an automated system that performs periodic data collection. Data is collected on a monthly basis, capturing intricate details of property listings such as location, price and property features.

The software consists of several interrelated modules:

- *Link collection module*: Collects web links from property websites to both sales and rental listings.
- *Full text download and data export module*: Pulls comprehensive information from listings for in-depth statistical analysis.
- *Data filtering module*: Filters out data anomalies or duplicates to ensure data accuracy and reliability.
- *Data Evaluation Module*: Provides the raw data for the production of statistical reports outlining trends in the property market.

EVAL provides in-depth analysis of property price trends over time for all municipalities in the Czech Republic. Its database had over 300,000 new entries in the first half of 2023 alone, demonstrating its significant data processing capacity. In addition, EVAL can perform detailed local analysis down to street level, if such details are provided in the listings.

EVAL is an essential tool for analysing the real estate market in the Czech Republic. Its development has evolved with technological advances and changing market conditions, providing reliable, detailed and actionable data on the property market. This is essential for policy-making and economic analysis in the real estate sector and is crucial for both academic research and government operational strategies.

The EVAL software is owned by the author of the study, so the programme itself is not publicly available. However, the insights derived from EVAL's outputs, which shed light on property price movements and market dynamics, are made available for academic and research purposes. These results provide comprehensive data analyses that greatly enrich discussions and studies related to the real estate sector in the Czech Republic.

### **3 Literature Review**

Políková and Kameníková's (2023) in-depth analysis of the Slovak and Czech housing markets integrates well into the broader discourse on real estate price dynamics, shedding light on the distinctive regional and economic stimuli that shape market behaviour in these nations (Políková & Kameníková, 2023). By examining housing price indices, unemployment, and indebtedness, along with central bank interest rates, this study provides a comparative outlook that underscores the variance in real estate market responses to both internal and external economic shocks. Furthermore, their research enriches our understanding of the influence of recent global events, including the pandemic and geopolitical tensions, on the housing markets of both the Czech Republic and Slovakia.

Slavata's (2023) analysis on regional housing affordability in the Czech Republic complements the existing discourse on economic influences on the real estate market by exploring regional trends concerning housing ownership and affordability (Slavata, 2023). His investigation into regional variances provides a deeper insight into the dynamics of housing markets at a micro-level, specifically looking into affordability trends across different Czech regions. By utilizing current real estate market data and creating composite indices like SAI, Slavata's work not only contributes to assessing economic and social impacts on regional scales but also aids in understanding the broader implications of property market stability and growth.

Holcman's (2021) study on the correlation between real estate markets and stock markets during the coronavirus crisis in the Czech Republic provides a crucial insight into how major catastrophes can synchronously affect diverse financial sectors (Holcman, 2021). Their analysis, focusing on the impact of government policies and economic indices such as mortgage rates and unemployment on the House Price Index (HPI) and stock market indices, underscores the interconnectivity of real estate and stock markets during moments of crisis. This research not only explores the immediate impacts but also initiates a discussion on the long-term strategies needed to mitigate similar crises in the future, contributing significantly to both economic theory and practical financial resilience planning.

Táborský's (2022) exploration into the complexities of the Consumer Price Index (CPI) and its treatment of real estate prices offers a fresh perspective on economic indicators in the Czech Republic, particularly highlighting the profound influence of real estate valuation on monetary policies (Táborský, 2022). His work delves into the repercussions of recalibrating the weight of real estate prices within the CPI, illustrating how such changes could lead to dramatic shifts in inflation measurement and corresponding adjustments in interest rates. This nuanced study serves not only as a critical examination of existing CPI methodologies but also as a pivotal discussion point for policymakers considering the broader economic implications of data representation in financial indices.

Pacalajová and Kubinec (2021) delve into the complex legal terrain surrounding the statutory limitations on the right to exercise a mortgage in Slovakia compared to the Czech Republic, presenting a nuanced examination of both legal systems (Pacalajová & Kubinec, 2021). Their research critically assesses the absence of explicit provisions in Slovak law that allow for the deletion of a mortgage from public records even when the claim has become statute-barred, which starkly contrasts with Czech legal provisions. Notably, their findings underscore the imperative for legislative reform that would address the judicial inconsistencies and align with principles of justice, offering significant implications for legal practitioners, policymakers, and stakeholders in real estate and mortgage sectors.

Hejlová, Holub, and Plašil (2021) provide a compelling exploration into the calibration of borrower-based macroprudential measures specifically curated for mortgage exposures, showcasing their application within the Czech Republic (Hejlová, Holub, & Plašil, 2021). This study introduces a rigorous and methodically crafted approach, initially assessing potential financial instabilities directly linked to the housing market and subsequently crafting tailored macroprudential indicators for mortgage loans. By employing stress tests to determine high-risk mortgage lending values, this research not only demonstrates the vital role of precise calibration in macroprudential policy but also underscores the effectiveness of synchronized macroprudential tools in amplifying

financial stability without excessively constraining the mortgage market. Their approach serves as a significant model for policymakers aiming to balance financial safety nets with market fluidity.

The evolution of property valuation methodologies has seen significant advancements with new approaches such as those proposed by Endel, Teichmann, and Kutá (2020). Their research investigates the efficacy of a simplified, yet effective valuation method for single-family detached houses in the Czech Republic. This methodology, which separates the value of land from the structure itself, reflects the modern market conditions more accurately than traditional methods. Such up-to-date assessments are crucial for accurately determining tax amounts and for advising stakeholders in real estate transactions (Endel, Teichmann, & Kutá, 2020).

Building upon the exploration of cost management in real estate, Holcman and Kozel (2020) detail the importance of comprehensive financial planning and the assessment of all associated costs when purchasing properties, specifically apartments, in urban areas like Prague. They emphasize that beyond just the purchase price, potential buyers should consider ongoing operational expenses to make informed decisions. Their approach aligns with the current trends of transparency and effectiveness in real estate transactions to prevent market distortions and ensure economic sustainability in property investments (Holcman & Kozel, 2020).

In recent studies like the one conducted by Pozdílková, Nedvědová, and Marek (2019), a sophisticated approach to analysing apartment prices in the Czech Republic is presented. The researchers utilized a Python script to automatically download and parse advertisements from srealty.cz, providing a unique dataset not typically accessible through traditional real estate channels. This method reflects an innovative way of capturing real-time market trends and price fluctuations, which can complement the theoretical frameworks and cost management strategies outlined by Holcman and Kozel (2020) in their exploration of cost management in real estate purchases.

Continuing with the analysis of real estate and urban planning, Wittmann, Kopacik, and Leitmannova (2019) delve into the comparison between closed urban blocks and open housing estates in Brno, assessing their impact on sustainable urban development. Their findings underscore the significant benefits of green, closed urban blocks which enhance ecological stability, and provide better conditions for privacy and community engagement. This emphasis on sustainable urban forms aligns with broader discussions on cost management and effective space utilization in real estate practices.

Čermáková and Jašová (2019) analyse specific features of the recent financial crisis in the Czech Republic from 2008 to 2016, comparing it with previous financial crises, particularly those of the 1990s. Their research highlights the unique aspects of the Czech economic environment where the real estate and construction markets did not initially experience a downturn, unlike other Central European economies. This differential response provided a buffer that delayed the full impact of the crisis in the Czech Republic, allowing the construction sector index to maintain growth throughout 2009. This nuanced analysis adds a valuable perspective on how local factors can influence the severity and timeline of financial crises.

Durica, Guttenova, Pinda, and Svabova (2018) explore the application of the real options valuation approach to real estate investments, specifically focusing on a project in Prague. They introduce a nuanced method that integrates the flexibility of real options with traditional valuation

techniques, such as discounted cash flows, to provide a more comprehensive analysis of investment value in an unpredictable market environment. Utilizing binomial trees and a real options framework, their study not only addresses the direct financial implications but also considers broader economic forces and their potential impacts on real estate investments. This methodology enables investors to make more informed decisions by providing mechanisms to adapt to market changes - enhancing both the sustainability and profitability of projects.

Korytářová and Hromádka (2010) examine the financial implications of flood damages on real estate properties in the Czech Republic. They developed a method that integrates a territorial property valuation and the subsequent assessment of damage caused by floods. Their innovative approach calculates potential losses on immovable property and compares these with the investment costs required for flood protection measures. This research not only provides valuable insights for mitigating financial losses from floods but also enhances the preparedness and response strategies for future hydrological events.

Vavra's (2022) study on the burgeoning demand for recreational real estate in Slovakia and the Czech Republic during and post the coronavirus pandemic sector offers significant insights into shifting consumer preferences and market dynamics (Vavra, 2022). This paper meticulously documents the substantial price adjustments observed during this period, with remarkable increases noted particularly in 2021. Vavra's work zeroes in on the consumer decision-making process, highlighting the critical influence of both internal and external factors in purchasing recreational properties. His findings shed light on a notable trend in the real estate sector caused by altered lifestyle choices during the pandemic, crucial for stakeholders aiming to understand or predict future market behaviours in similar crises.

Čermáková and Kadeřábková (2018) explore financial crises and speculative bubbles, with a focused analysis on their development and impact in the Czech Republic. They discuss the unique economic characteristics of the Czech market, notably the low cost of labor and very low property prices inherited from the nation's transformation era. This backdrop is crucial for understanding the dynamics of the real estate market in the Czech Republic, where speculative bubbles might not manifest as dramatically as in other economies with higher property values. Their insights are particularly relevant for stakeholders in the Czech real estate market, providing a deeper understanding of how these economic phenomena can influence property markets and investment decisions.

Čermáková, Bejček, Vorlíček, and Mitwallyová (2021) present a unique perspective on business cycles, focusing on the impact of individual strategic behaviours within the economy. Their study offers significant implications for understanding economic fluctuations in the Czech real estate market. By employing game theory to simulate economic behaviours, this research suggests that strategic decisions by individual investors and developers can influence the real estate sector's cyclical nature, potentially leading to speculative bubbles or stabilizing effects depending on the prevailing strategies. Such insights are crucial for stakeholders in the Czech real estate market, as they highlight the importance of strategic behaviour in forecasting and managing economic and property market fluctuations.

Matoušková's (2023) research on the development of the Capital Value Index for commercial real estate in the Czech market offers a critical analysis of market trends and their diversifications during different economic circumstances, including the comparison of the impacts between the

global financial crisis and the COVID-19 pandemic (Matoušková, 2023). This detailed exploration into commercial real estate dynamics not only enriches our understanding of sector-specific shifts but also enhances comparative studies by focusing on an often-underrepresented area in real estate analysis. Her findings present significant insights into how commercial markets react uniquely to global events and stress the need for robust financial models that can predict and withstand such economic shocks.

Recent studies have highlighted the significant influence of economic sustainability analysis on the maintenance and restoration decisions regarding cultural heritage buildings. Pojar et al. (2022) emphasizes the importance of life cycle cost analysis for immovable cultural heritage, which directly impacts the valuation of construction works and economic consequences in the long term (Pojar, Macek, Heralová, & Vitásek, 2022). This methodology not only aids in preserving the historical and cultural value of the structures but also plays a crucial role in the real estate market by maintaining the viability and value of these properties. As the demand for housing and commercial spaces in historic buildings continues to rise in the Czech Republic, the insights from this analysis play a pivotal role in influencing housing prices and availability.

In the context of advancements in digital modelling techniques and their implications on the real estate market, the research by Macek (2023) demonstrates that Building Information Modelling (BIM) can significantly enhance the tendering process for facility management services. This is particularly pertinent in scenarios requiring detailed project management and long-term maintenance strategies (Macek, 2023). By integrating BIM effectively, the transparency and efficiency of the tendering process are improved, leading to more accurate cost estimations and optimized project lifecycles. Such advancements are crucial for the Czech real estate market, as they likely influence the cost and quality of housing construction projects, thereby affecting overall housing affordability and availability.

Building on the pivotal role of financial strategies in the real estate ecosystem, Heralova's 2017 study underscores the importance of life cycle costing (LCC) in enhancing the efficacy of feasibility studies in construction projects, especially within the public sector. This integration of LCC aims not only to optimize costs but also to ensure the economic sustainment of construction projects over their lifetime, as outlined by Heralova et al. (2017). Given the Czech Republic's increasing reliance on these methodologies for public tender decisions, the implications for the national real estate market are profound, directly influencing housing project costs, sustainability, and long-term affordability.

In recent developments, Dobrucká et al. (2024) introduced an illuminating perspective on the strategic management of urban real estate portfolios, emphasizing the necessity for a comprehensive methodology to assist local authorities in optimizing their real estate assets (Dobrucká, Maštálka, & Šilhánková, 2024). This research complements existing literature by highlighting the overlooked areas of asset management within public sectors, shedding light on the importance of aligning real estate management with broader public administration objectives. Interestingly, their findings incorporate a qualitative analysis of existing research within this field, suggesting an urgent need for standardized practices that can enhance the efficacy of public real estate management.

Building upon the existing discourse, Pozdílková and Pozdílek (2023) investigate the application of multi-criteria decision-making tools in solving optimization tasks in the real estate market, an

approach that aligns with the strategic development of real estate portfolios discussed earlier (Pozdílková & Pozdílek, 2023). Their work highlights how the synthesis of various decision-making criteria can significantly enhance strategic real estate management, particularly in optimizing and prioritizing investment decisions. This research not only provides a methodological extension to the real estate management framework but also offers practical implications for policymakers and stakeholders within the sector.

In a complementary study, Krajňák (2024) examines the fluctuations in tax burdens following real estate tax reforms in the Czech Republic, highlighting the complexities and unintended outcomes such reforms can precipitate, especially when juxtaposed with inflation adjustments in legislative frameworks (Krajňák, 2024). His research, based on regression and correlation analysis, reveals insights into the dynamic shifts in tax revenue as a direct response to real estate tax reforms, tying in seamlessly with broader fiscal strategies. By closely analysing these reforms, Krajňák's work contributes significantly to a nuanced understanding of tax policies and their impacts on both macroeconomic stability and local fiscal health.

## 4 Results and Discussion

### 4.1 The Interaction Between Mortgage Rates and House Prices in Prague: An Economic Perspective

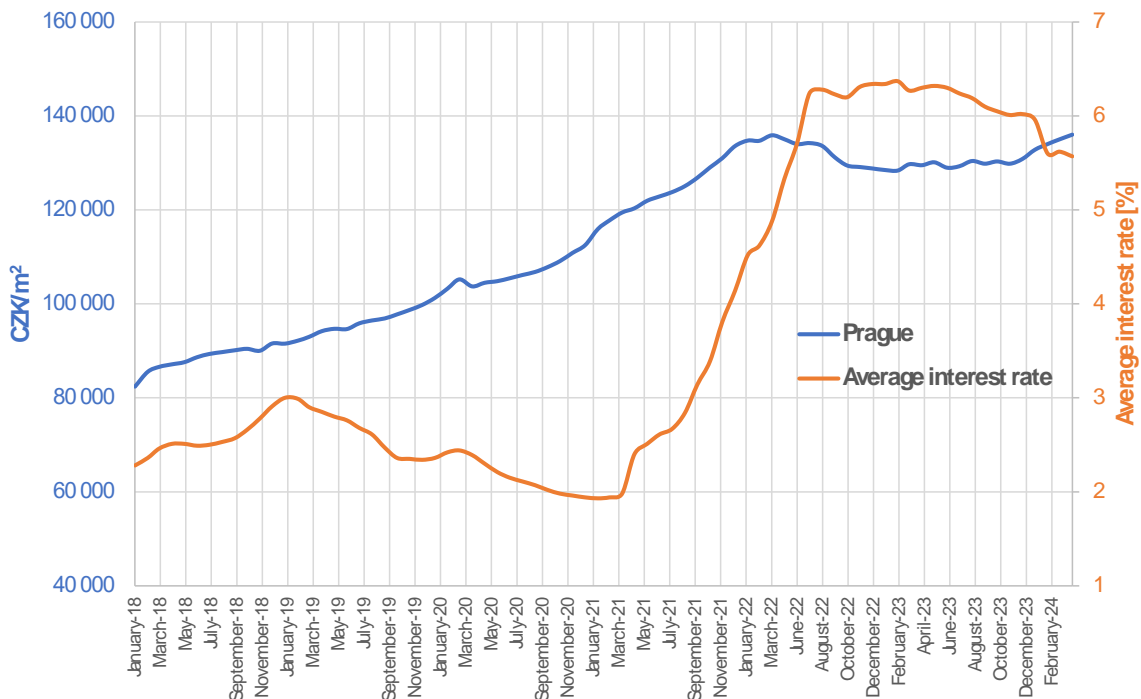
Figure 1 examines the correlation between the average mortgage interest rate and the asking price of residential property for sale in the Czech Republic.

The average mortgage rate reported is derived from the Swiss Life Hypoindex. This index is calculated as a weighted average of the interest rates applied to new mortgage loans granted to private individuals in a given month. The weighting factor for this calculation is the total volume of loans disbursed. The data used for this calculation is collected from 11 major banks operating in the Czech market.

A closer look at the Swiss Life Hypoindex for 2024 reveals a slight decrease in the average mortgage rate. Although the Czech National Bank will implement a series of gradual cuts in key interest rates over the course of 2024, the banks have only reduced mortgage rates by half a percentage point, according to the Swiss Life Hypoindex data.

The path to more affordable mortgages - and thus more accessible housing - remains challenging, complex and fraught with obstacles. Despite macroeconomic efforts to ease the financial squeeze, the small adjustments in mortgage rates suggest a slow progression towards a significant easing of housing affordability. This discrepancy raises questions about the elasticity of mortgage rates in response to macroeconomic policy changes and the broader implications for the housing market in the Czech Republic.





**Figure 1 Correlation Between Mortgage Interest Rates and Apartment Prices in Prague, January 2018 – April 2024**

Source: Software EVAL, <https://www.hypoindex.cz/>, 2024.

Banks continue to follow the subtle trend of gradually lowering interest rates. This cautious approach is partly due to the fact that banks are building up a reserve to mitigate the potential financial impact if a borrower chooses to repay a loan early. This contingency is addressed by the amendment to the Consumer Credit Act, which sets a cap on the early repayment fee. Unfortunately, despite the advice of economists, the fee cap introduced by the legislature does not fully compensate the banks for the costs associated with securing the funding necessary to support such early repayments.

As a result, banks will be forced to build up a financial buffer, which will be reflected in slightly higher base mortgage rates offered to all customers. While some financial experts are speculating about an imminent rise in mortgage rates, the prevailing trend is still for a very slow decline.

As of May 2024, the monthly instalment for a mortgage of CZK 3.5 million - financed up to 80% of the estimated value of the property (LTV) over a 25-year term at an average offered rate of 5.52% per annum - was CZK 21,540. It is becoming increasingly clear that mortgage rates are likely to remain at elevated levels for a considerable period of time. This adjustment in expectations is crucial for both current and prospective homeowners to align their financial planning with the evolving economic landscape (Hypoindex, 2024).

The analysis presented in Figure 1 focuses specifically on the unit asking price of dwellings for sale in Prague. This focused approach was chosen to avoid distorting the data with national averages, as property prices in Prague are significantly higher than in other Czech cities.

Nevertheless, similar trends to Prague were observed in other major Czech cities, suggesting that the correlation between mortgage rates and house prices is consistent across the country.

The data show an inverse relationship between mortgage rates and dwelling prices: lower interest rates generally lead to higher dwelling prices. This phenomenon is explained by the increased accessibility of mortgage loans at lower interest rates, which in turn stimulates demand for property. As more people are able to obtain financing, competition for available properties intensifies, pushing up the price per square metre.

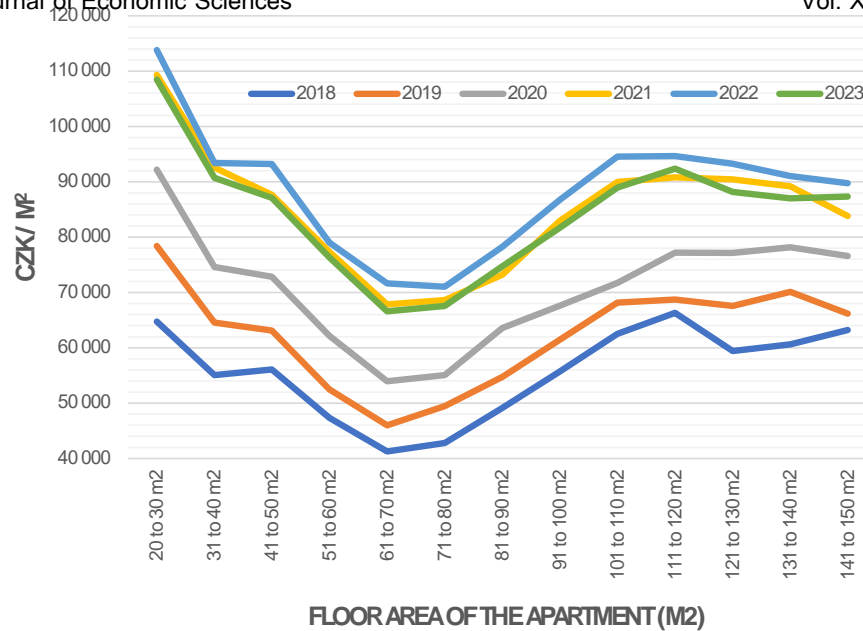
This dynamic illustrates a counterintuitive scenario: despite the notion that lower interest rates make homeownership more accessible, the resulting increase in demand leads to higher property prices, making the prospect of homeownership less affordable, especially for demographic groups such as young families starting out. This finding underlines the complexity of the housing market and suggests that significant challenges lie ahead in improving housing affordability, with no significant changes expected in the near future.

#### **4.2 Analyzing Price Trends in the Czech Real Estate Market: The Impact of Apartment Size**

Figures 2 and 3 illustrate the relationship between the asking price of dwellings and their surface area. It can be seen that the unit price of a dwelling decreases as its surface area increases, up to around 80 square metres. Beyond this threshold, the unit price starts to increase. This trend is consistent for both dwellings for sale and dwellings for rent.

Looking at the details of Figure 2, it can be seen that the unit price tends to decrease as the floor area of the dwelling increases. This phenomenon can be attributed to the increased market demand for smaller dwellings. Such units tend to be more affordable, making them highly accessible and preferred by tenants. Buying a smaller apartment also involves less financial risk than buying larger units, and the initial costs associated with such a purchase are lower. In addition, smaller dwellings tend to have lower running costs over their lifetime.

Conversely, there is an upward trend in the unit price above about 80 square metres. This increase can be explained by the fact that larger dwellings are predominantly located in urban centres and are often equipped to a higher standard, thus increasing their market price. In addition, the historic housing policy between 1950 and 1990 resulted in the prolific construction of dwellings of up to 80 m<sup>2</sup>. As a result, this size of apartment has become an important segment of the Czech housing market, resulting in relatively lower unit prices per square metre. Another factor contributing to the declining popularity of very large dwellings is the significant heating costs associated with these dwellings, which can be prohibitive for many households.



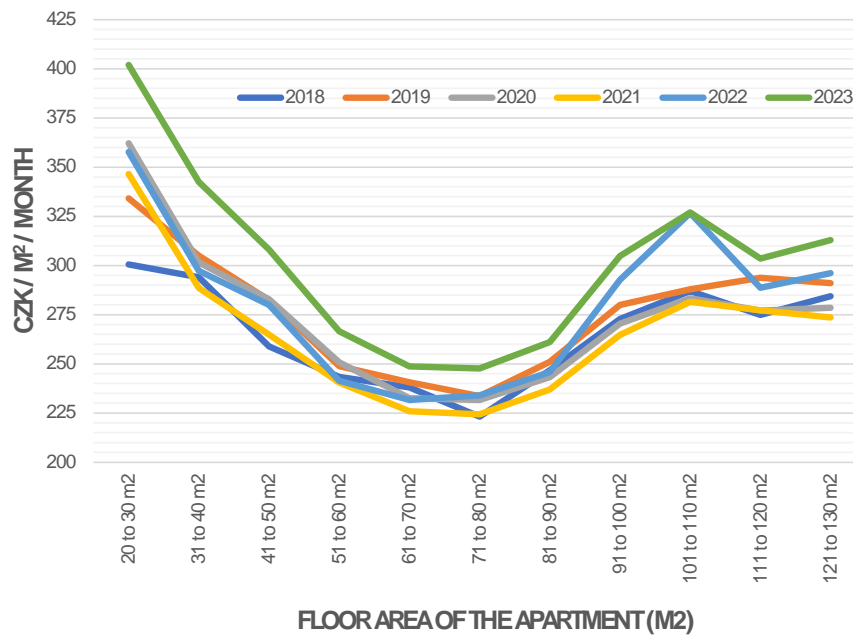
**Figure 2 The Dependence of Offer Prices on Apartment Floor Area for Sale Properties, 2018-2023**

Source: Software EVAL, 2024.

Figure 3 further elucidates the connection between the size of a flat and the unit price per square meter of rent, focusing exclusively on net rent, which exempts utilities from the calculation. This figure reveals a relationship similar to that seen in Figure 2, where smaller flats are most sought after and exhibit the most economical prices in absolute terms. The trend towards single-person dwellings is increasingly evident, with smaller flats emerging as the most advantageous choice for this demographic. Additionally, these smaller units are generally more energy efficient, leading to lower ongoing costs.

This shift towards smaller living spaces has not gone unnoticed by developers, who are increasingly incorporating smaller apartments into their offerings to align with consumer preferences. The housing market is not trying to meet the needs of young families. The absence of substantial and effective state policies in the housing sector is palpable. Political discourse often revolves around lofty but unrealized promises, resulting in no tangible improvements in the housing landscape.

The demographic trends reflect these policy failures. The number of live births in 2023 in Czech Republic fell by 10.2 thousand - a 10% decrease from the previous year, representing the lowest birth rate observed in 22 years (Czech Statistical Office, 2024). This decline is indicative of the broader challenges facing the population, including the inadequate support for housing, which is critical for young families planning their futures. Such demographic shifts suggest a pressing need for a comprehensive reassessment and reform of housing policies to better support the needs of residents and promote sustainable demographic growth.

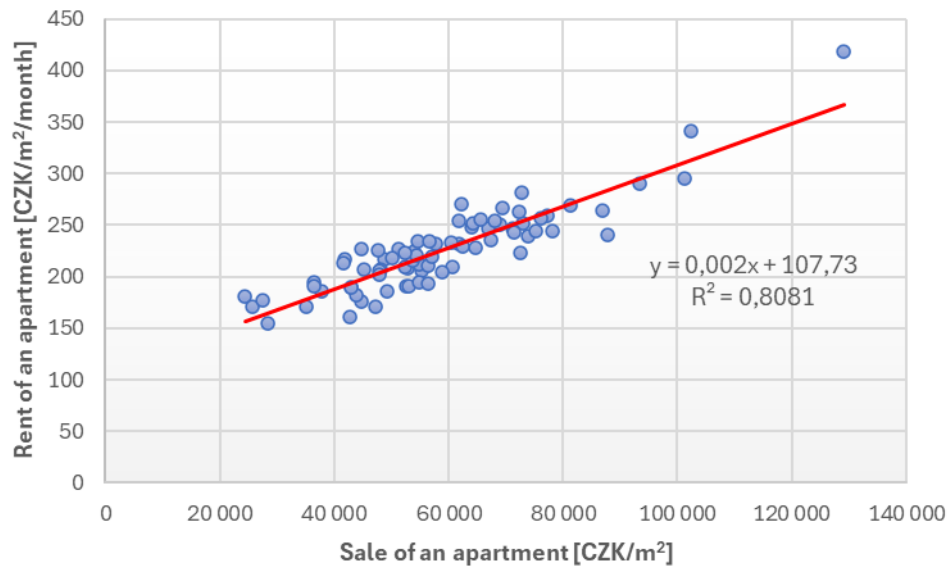


**Figure 3 The Dependence of Rental Unit Prices per m<sup>2</sup> on Apartment Size (Excluding Utilities), 2018-2023**

Source: Software EVAL, 2024.

### 4.3 Correlations and Trends in Real Estate Pricing across Czech Districts

Figure 4 illustrates the correlation between the sale price and the rental price of dwellings in the districts of the Czech Republic. The graph includes data from all 77 districts, represented by blue dots. The blue dot in the top right-hand corner of the Figure 4, which shows the highest sales price alongside the highest rental price, represents the Prague district where price levels are the highest. Conversely, the districts in the bottom left-hand corner of the Figure 4, mainly from regions such as Ústí nad Labem, Karlovy Vary and Moravskoslezský, have the lowest price levels.



**Figure 4 Correlation Between Apartment Sale and Rental Prices in Czech Districts, January 2022 - April 2024**

Source: Software EVAL, 2024.

The analysis shows a correlation between sales prices and rental prices of dwellings. Higher sales prices generally correlate with the potential to charge higher rents. More expensive dwellings tend to be located in prime locations such as city centres, which offer ample employment opportunities and a vibrant social scene, contributing to higher purchasing power and better employment prospects. In addition, more expensive dwellings often offer a higher standard of living and a quieter neighbourhood environment.

There is a linear relationship between the two price structures. The choice of the period from January 2022 to April 2024 was deliberate to ensure consistency in price levels and to reduce potential bias in the analysis.

#### 4.4 Correlation Between Property Prices and Investment Returns in the Czech Republic

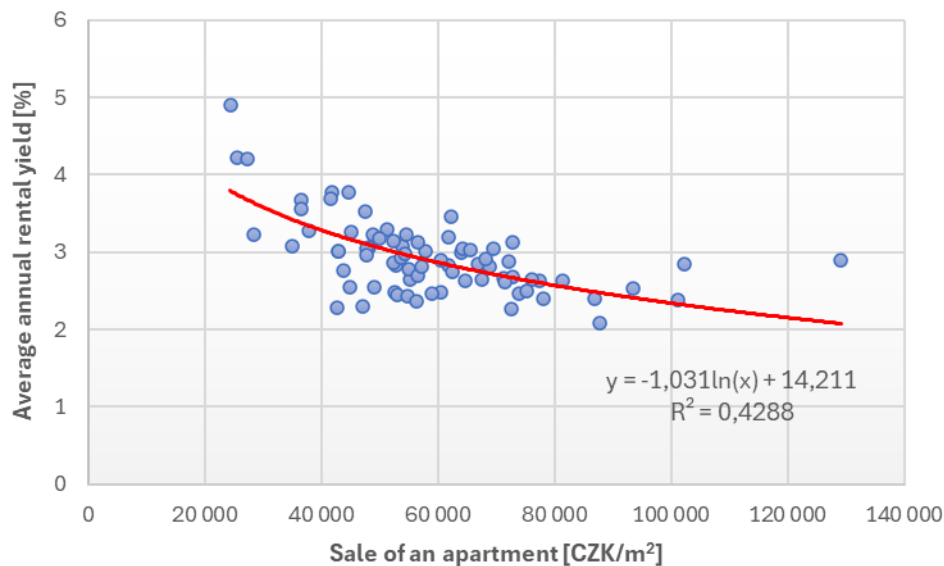
Figure 5 illustrates the inverse relationship between the price per square metre and the average annual return on investment in the Czech property market. Properties with lower prices tend to yield higher returns, which can be attributed to a number of factors.

A primary factor is the relatively uniform average rents across different regions of the Czech Republic, in contrast to the more variable property sales prices. High-priced properties are often out of line with the rents achievable in their locations, making them less lucrative investments. Conversely, properties in areas where prices are well below the national average often face socio-economic challenges. These areas tend to have higher rates of social and economic deprivation, which affect property values and rental market dynamics.

The state plays a role in these areas by subsidising the incomes of low-income and impoverished tenants through benefits - a system that can be vulnerable to abuse, a problem colloquially known as 'poverty trading'. This subsidy adds a layer of complexity to the price dynamics of both selling and renting property.

Investing in areas of social exclusion involves higher risks for investors, which may paradoxically lead to higher potential returns. These risks include rental discontinuity - where a property may remain unlet for long periods due to low demand - and higher maintenance costs. Properties in socially excluded areas are more likely to be neglected or damaged by tenants, requiring a larger maintenance reserve for investors.

Overall, while lower-priced properties in challenging socio-economic environments may offer higher yields, they come with increased risks and complexities that require careful consideration by investors. This difference in investment potential highlights the nuanced and diverse nature of the Czech property market.



**Figure 5 Correlation Between Property Prices and Investment Returns in the Czech Republic, January 2022 - April 2024**

*Source: Software EVAL, 2024.*

The analysis presented shows a logarithmic relationship between property prices and investment returns, highlighting the complexity of property financial performance. The period chosen, from January 2022 to April 2024, was deliberately chosen to ensure consistency in price data and to minimise biases that could distort the analysis.

The ROI calculation focused on a representative model of an older, well-maintained 50 square metre apartment located in a specific district in the Czech Republic. This model includes various operating expenses such as routine maintenance of the apartment, property insurance, contributions to a repair fund, fees associated with property management, applicable income and property taxes, potential rent losses due to tenant turnover, and other necessary operating costs.

This comprehensive approach provides a holistic view of the financial burden and potential return, giving investors a clearer understanding of the economic landscape of property investment in the Czech Republic. Such detail helps to shed light on the factors that influence profitability and offers insights into the strategic management of property investments in different economic environments.

## 5 Conclusion

The findings of this study provide a comprehensive examination of the Czech property market, revealing the intricate relationships between mortgage rates, dwelling sizes and regional economic conditions. By examining these key aspects, we have gained several important insights into market dynamics and their implications for housing affordability and investment opportunities.

First, our analysis highlights a paradoxical effect whereby lower mortgage rates, which are intended to make home ownership more accessible, actually lead to higher house prices. This phenomenon results from increased demand fuelled by more affordable credit, which, contrary to policy objectives, reduces housing affordability. This highlights the need for a reappraisal of monetary policy and its application to the housing sector and suggests that other supportive measures may be needed to genuinely improve affordability.

Second, the trend towards smaller homes, driven by demographic shifts towards single-person households, indicates a change in consumer preferences. This shift has clear implications for the sales and rental markets, affecting price structures and market behaviour. Smaller units are becoming more popular, with different price implications depending on their use (sale or rental), and developers and policymakers are being urged to adapt to these changing needs.

In addition, the regional analysis highlights how different levels of economic vitality affect property prices in different parts of the country. Regions with stronger economic conditions have higher property and rental prices, reflecting the direct impact of the wider economic landscape on property values. This regional disparity suggests that more localised strategies may be required to address the unique challenges and opportunities in different areas of the Czech Republic.

The complexities revealed in this study call for a nuanced approach to real estate market regulation and development, highlighting the need for policies that not only aim to modulate market dynamics, but also take into account broader socio-economic trends and regional disparities.

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