

# Affordability and Household Indebtedness: A Case Study of Slovakia

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**Abstract:**

The Slovak housing market has undergone significant transformations influenced by historical, economic, and policy-driven factors. This paper examines the impact of rising real estate prices, interest rates, and household indebtedness on housing affordability in Slovakia. The post-1989 shift from state-supported housing to a market-driven system has exacerbated challenges for young families, low-income groups, and urban residents. Recent trends, including increasing real estate prices and inflation, have compounded affordability issues, driving up household debt, particularly through mortgages. The analysis highlights key determinants of housing affordability, such as rising property costs, income inequality, and the financial burden of housing expenses. Policy measures, including stricter lending regulations and adjustments to repayment structures, aim to address these challenges. However, the lack of rental housing, especially for middle-income families, and regional disparities remain significant obstacles. The authors conclude that without substantial investment in affordable rental housing and measures to curb real estate speculation, the housing crisis in Slovakia may deepen, posing risks to economic stability and social equity. Addressing these issues requires coordinated efforts in housing policy, financial regulation, and social support systems.

**Keywords:** Household indebtedness, housing affordability, real estate prices, rental housing.

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## INTRODUCTION

The current state of housing in Slovakia is the result of a complex historical development. Before 1989, the entire housing construction financing system was based on the system of planned management of the national economy, which meant that the state participated in complex housing construction almost to the full extent. After 1990, the responsibility for housing financing in Slovakia shifted from the state to citizens. [1] Housing affordability is one of the most significant current problems. The overpriced market and the lack of rental housing create barriers to housing affordability for young families, seniors, low-income groups and

residents of larger cities.

The years 2021 and 2022 brought an increase in real estate prices across Europe. Many investors redirected their funds into what is considered safe in turbulent times - primarily real estate, which is often also considered a safe haven from inflation. In times of heightened economic uncertainty and inflationary pressures, the real estate market can be perceived as a stable and safe area to invest. However, in the rental housing sector, inflation can also affect rental prices in response to the increasing costs associated with the maintenance and operation of the property. On the demand side, unprecedented pressures have been created due to COVID-19 restrictions. The preference for home office, the new needs for working outside the office creating new job opportunities, and a significant tourist deficit [2], as well as fiscal easing [3] have combined to create a highly diversified and regional shift in demand for properties for sale and rent.

An important determinant is interest rates, the rise of which has significant implications for the housing market and affects both consumer behavior and broader economic dynamics. When mortgage interest rates increase, the cost of borrowing increases, which can lead to a decrease in mortgage utilization among potential buyers.

This relationship is well documented in the literature, where studies have shown that higher interest rates are negatively correlated with the demand for mortgage loans. For example, Dajcman notes that changes in bank lending standards and rising mortgage interest rates for residential mortgages are negatively associated with the demand for mortgage loans, especially after the onset of the subprime mortgage crisis [4].

Moreover, the impact of rising mortgage interest rates goes beyond individual borrowing decisions and affects the overall housing market and economic growth. Chong discusses how higher mortgage interest rates can reduce the value of real estate investments, leading to a potential decline in house prices [5]. This is supported by the findings of Owuor et al., who establish a significant relationship between interest rates and mortgage market growth, suggesting that rising rates adversely affect mortgage market growth [6]. The interplay between macroeconomic variables, including GDP and inflation, further complicates this relationship, as demonstrated by Maina and Omboi, who find a high correlation between mortgage drawdowns and GDP, along with a modest correlation with interest rates [7].

Mortgage interest rate dynamics also affect the types of mortgage products that consumers choose. For example, when interest rates are high, borrowers may gravitate toward adjustable-rate mortgages (ARMs) as a means of mitigating upfront costs, despite the long-term risks associated with potential rate increases. This behavior is noted by Basten and Koch, who discuss how capital-constrained banks tend to raise mortgage rates more significantly, thereby influencing consumer decisions regarding ARMs [8]. Furthermore, the choice between fixed- and adjustable-rate mortgages is often driven by the relative spreads between these products,

as pointed out by Defusco and Paciorek, who emphasize the importance of interest rate elasticity in mortgage demand [9]. The consequences of rising mortgage rates are not limited to the housing market; they also have broader economic implications. For example, higher interest rates may lead to increased default rates, particularly among borrowers with adjustable-rate mortgages, as noted by Campbell and Cocco, who link mortgage selection to default rates during economic downturns [10]. The financial burden caused by rising rates may exacerbate existing vulnerabilities in the housing market, as Campbell et al. [11] have argued. Low-income groups in particular may face constraints in accessing adequate housing. Inflation may also affect rental prices in rental housing. Slovak households, which are already at record levels of debt, may also struggle to pay off higher-interest mortgages..

### **METHODOLOGY, MATERIALS AND SOURCES**

This article examines the factors influencing housing affordability and household indebtedness in Slovakia. The methodology combines quantitative and qualitative analyses to provide a holistic view of the housing market dynamics. The key methodological steps include:

Primary Data related to real estate prices, household income, and debt levels were collected from national statistical offices, financial institutions, and relevant government reports.

Secondary Data from literature from academic journals, policy briefs, and international databases, such as Eurostat and OECD reports, provide contextual insights and comparative analysis.

Statistical methods were used to analyze trends in real estate prices, income distribution, and household debt. Correlation and regression analyses explored relationships between key variables such as mortgage interest rates, household debt, and housing affordability.

Case studies were employed to assess the impact of housing policies on specific demographic groups, including young families and low-income households. Expert interviews and policy reviews provided additional insights into the challenges and opportunities in the Slovak housing market.

Slovakia's housing market was compared with other European Union countries to identify regional disparities and common challenges.

Policy Evaluation was used an assessment of existing and proposed housing policies was conducted to determine their effectiveness in addressing affordability and indebtedness issues.

The research draws on diverse materials and data sources to ensure appropriate analysis. Key materials include:

Statistical Data from the National Bank of Slovakia reports on household debt and real estate prices; Eurostat datasets on housing cost overburden, income poverty, and overcrowding rates; OECD publications on housing policies and financial stability.

Academic Literature: peer-reviewed articles on mortgage dynamics, real estate markets, and housing affordability; studies analyzing the socio-economic impacts of rising housing costs

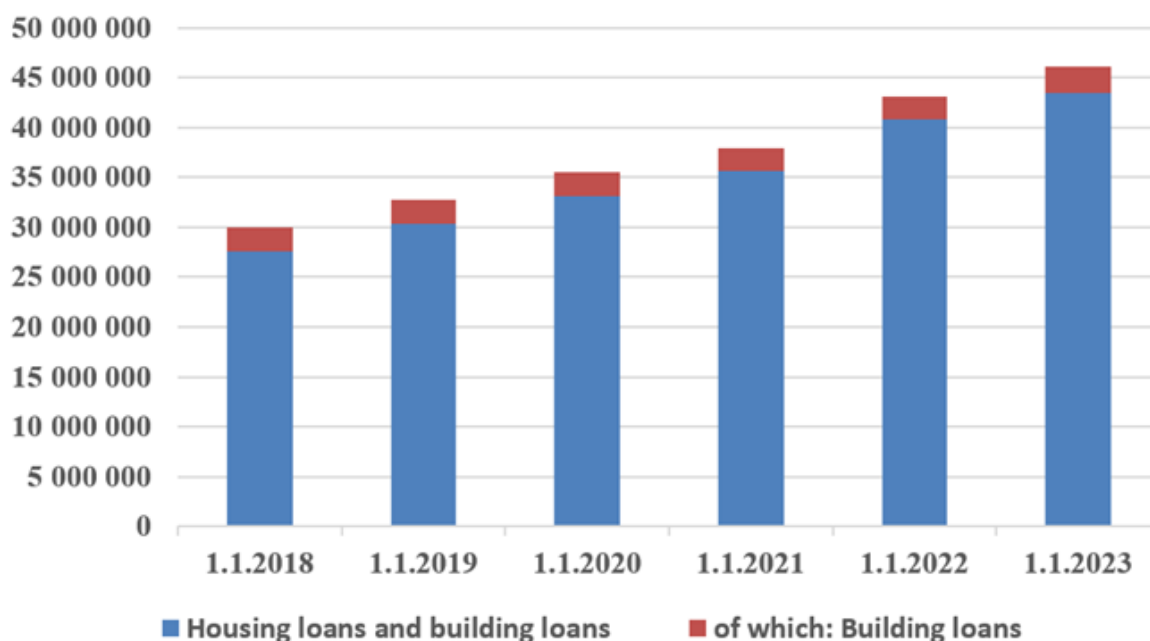
and debt levels.

Policy Documents and Reports: Slovak government publications on housing policy reforms and consumer credit regulations; International reports, including those from the European Central Bank and IMF, on housing market trends and risks.

### HOUSEHOLD DEBT AND CONSUMPTION BEHAVIOR

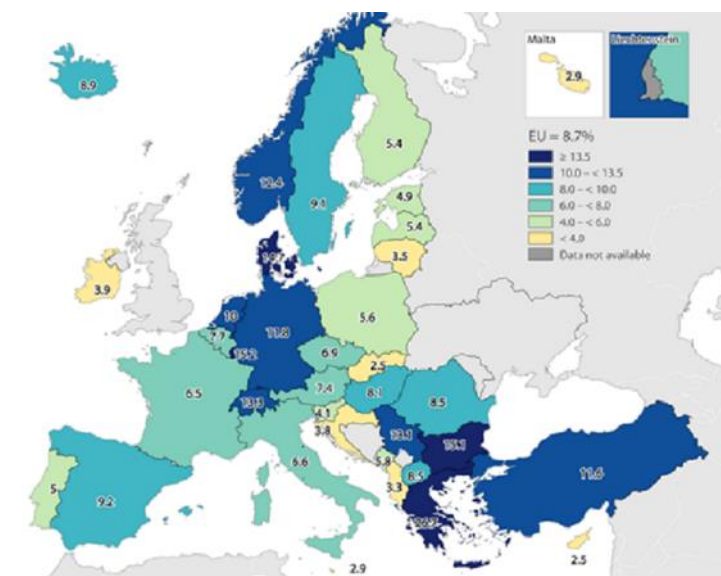
Household debt is defined by the OECD as all liabilities of households (including non-profit institutions serving households) that require payments of interest or principal from households to creditors on fixed dates in the future. It is calculated as the sum of loans (primarily mortgages and consumer loans) and other liabilities [12]. Slovak household debt to GDP reached approximately 47% in 2020, which represents a significant increase compared to 2010, when it was around 26% [13]. This growth is the fastest in the entire European Union. It is important to note that although Slovak household debt is growing at a rapid pace, it is still below a level that could pose an immediate risk to financial stability.

The largest component of household debt is loans, especially mortgages (Fig. 1), and consumer loans, which are used to purchase consumer goods such as cars, technology, and home appliances. Credit cards and short-term loans make up a smaller portion of debt, but their high interest rates can be risky. In terms of demographic structure, the highest debt burden is among young families and the middle-aged. Debt is higher in urban areas due to higher housing costs. On the other hand, household debt is a natural and common phenomenon in developed countries with modern financial systems.



**Figure 1. Review of Housing Loans in Slovakia - Statistical active balance; data include only loans provided to householder sector (in EUR). Source: own processing based on [14].**

Housing costs often make up the largest component of expenditure for many households. The housing cost overburden rate is the percentage of the population living in households where the total housing costs ('net' of housing allowances) represent more than 40 % of disposable income ('net' of housing allowances). Housing costs refer to the monthly expenditures connected with a household's occupancy of their accommodation (costs include utilities (water, electricity, gas, heating) based on actual usage). Only costs that are actually paid are considered, regardless of the payer. For owners, housing costs encompass mortgage interest payments (net of tax relief), structural insurance, mandatory services and charges (like sewage and refuse removal), regular maintenance and repairs, taxes, and utilities. Tenants (both at market and reduced prices) have similar housing costs, including rental payments, structural insurance (if paid by tenants), services and charges (if paid by tenants), taxes on dwelling (if applicable), regular maintenance and repairs, and utilities. Rent-free tenants incur housing costs potentially covering structural insurance, services and charges, dwelling taxes (if applicable), regular maintenance and repairs, and utilities. In all cases, housing benefits are not deducted from the total housing cost Fig. 2. Increases in housing costs can potentially lead to other expenditure being deferred or canceled [15].



**Figure 2. Persons having housing cost overburden. Source: [15].**

## INCOME POVERTY

In Slovakia, a total of 12.3% of the population was at risk of income poverty in 2021. This means that their income was lower than the calculated national poverty line. 660 thousand people had to make do with an income lower than the income poverty line, which was 45 thousand more than in the previous year. The EU SILC 2021 data takes into account income

for the entire year 2020, thus reflecting the impacts of the first year of the pandemic on income poverty. After five years of improving the situation, the at-risk-of-poverty rate increased by 0.9 percentage points and reached the level of 2018.

Interestingly, the amount determining the poverty line decreased year-on-year, which confirms that the total income of the population decreased for the entire year 2020. In a household of 1 adult person, it was approximately 11 euros to 424 euros per month (5,084 euros/year). For a complete family with two children (2 adults + 2 children under 14 years of age), the threshold was at the level of 890 euros per month (24 euros less). The poverty risk threshold changes every year and is derived from the total income of the population. It has different values according to the number and age of persons living in the household (more details in the table appendix).

Income poverty is the most common of the three surveyed dimensions/components of poverty and social exclusion in Slovakia. The risk of income poverty rate, material deficiencies of the population (so-called severe material and social deprivation rate) and the third dimension of poverty - low work intensity of household members, as well as a cross-sectional main indicator (so-called risk of poverty or social exclusion rate).

### HOUSING QUALITY

Housing quality is characteristic as the overcrowding rate (Fig. 3), which is determined by the percentage of the population residing in a dwelling with an insufficient number of rooms, based on household size, family composition, and the ages of its occupants. In 2022, 16.8 % of the EU population lived in an overcrowded household. Map shows that an overcrowding rate higher than 40 % was recorded in Romania (40.5 %) and Latvia (41.7 %). By contrast, overcrowding rates lower than 5.0 % were recorded in Ireland (4.3 %), the Netherlands (2.9 %), Malta (2.8 %) and Cyprus (2.2 %) [15].

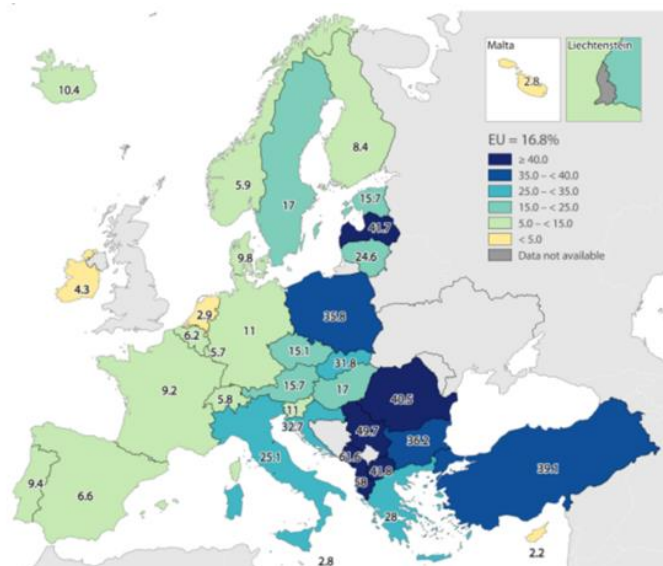


Figure 3. Persons living in an overcrowded household, 2022. Source: [16].

## **INCOME SITUATION IN RELATION TO THE RISK OF POVERTY THRESHOLD**

This indicator is defined as the percentage of the population living in an overcrowded household and it is presented as poverty status (excluding the single-person households). A person is considered as living in an overcrowded household if the household does not have at its disposal a minimum of rooms equal to: - one room for the household; - one room by couple in the household; - one room for each single person aged 18 and more; - one room by pair of single people of the same sex between 12 and 17 years of age; - one room for each single person between 12 and 17 years of age and not included in the previous category; - one room by pair of children under 12 years of age.

## **DISCUSSION**

Slovakia, as part of the European Union, is experiencing significant changes in consumer behavior and household indebtedness. The increasing household indebtedness raises questions about its causes, consequences and factors affecting it. The growth of household indebtedness is one of the main trends in the global financial market and represents one of the key risks to the financial stability of countries [12]. In recent years, in Slovakia, but also in some other European Union countries, we have seen a significant increase in loans, mainly due to high demand in the real estate market. The largest part of household debt is loans, primarily for housing. As real estate prices rise, households have to borrow more money to buy those [12]. At the same time, property owners may feel wealthier and, based on the increased value of their property, borrow to finance expenses related to consumer goods and services. However, excessive indebtedness, if not adequately regulated, can lead to serious banking and economic crises. [17].

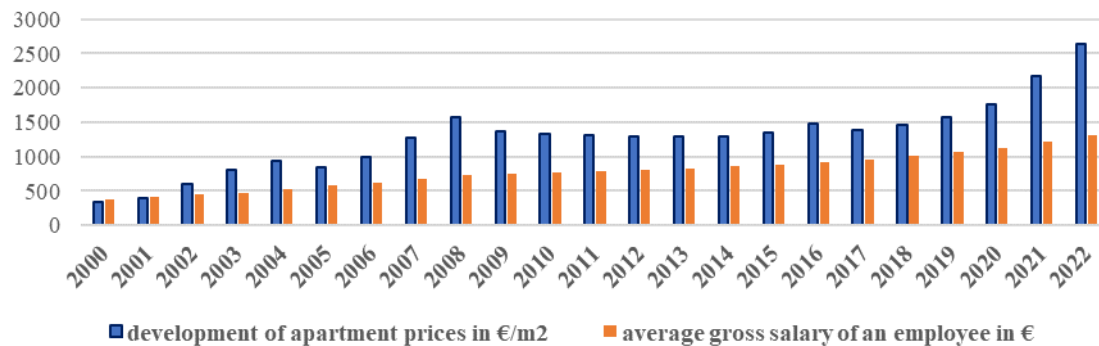
According to the analyses of the National Bank of Slovakia, the significant increase in debt in Slovakia was mainly contributed by low interest rates, favorable macroeconomic conditions and the situation on the real estate market. However, the increase in real estate prices can have a positive impact on managing high debt, as price growth increases the value of households' financial assets, making loans a smaller share of their total assets. Nevertheless, the financial assets of Slovak households remain among the lowest in Europe.

Housing affordability in Slovakia is closely linked to household income. Real estate prices have grown faster than real wages, which has created pressure on indebtedness. The main factors are:

- Rising real estate prices: Especially in large cities such as Bratislava, where high demand and limited supply are causing price growth.
- Income inequality: Households with lower incomes have limited options for financing housing, making them more likely to rely on long-term loans.
- Financial burden on housing: The share of housing costs in total income is high for many

households, which reduces the scope for further savings and consumption (Fig. 4).

The National Bank of Slovakia introduced new measures in the area of prudential provision of housing loans from 1 January 2020. The reason for this was the development in the consumer credit market, which is one of the most significant factors affecting the stability of the Slovak banking sector.



**Figure 4. Comparison: Development of apartment prices in €/m2 and Average gross salary of an employee in €. Source: [14].**

Therefore, it was important for lenders to adequately assess the ability of retail clients to repay their obligations to banks. Especially in times of low interest rates, it is important to assess the ability of clients to repay loans conservatively enough, also considering the risk of future increases in interest rates and thus loan repayments, and to ensure the gradual repayment of loans provided.

The risk of increasing household indebtedness, to which the rapid growth of consumer loans contributes significantly, is one of the most significant trends in terms of the stability of the Slovak financial sector. However, this growth brings several risks, especially if consumer loans are not provided in a sufficiently prudent manner. The aim of the proposed measures was to contribute to mitigating these risks and thus to achieving sustainable growth in consumer credit and a healthy functioning household credit market overall. Another aim was to create common rules in the area of consumer credit provision, which must be identical for all consumer credit providers. This will ensure legal certainty and equal access for all consumers who apply for consumer credit or who will be granted consumer credit.

The draft law on consumer credit contains, in particular, a specification of prudential principles for the provision of consumer credit in the area of setting and compliance with limits for the indicator of the consumer's ability to repay consumer credit, verification of the consumer's income, prudential setting, compliance with limits and rules for the maximum maturity and method of repayment of consumer credit and a specification of prudential rules for the provision of consumer credit through financial intermediaries. The aim of these measures is

primarily to prudently prevent negative trends in the provision of consumer loans, which could lead to increased risks for creditors, consumers and the economy as a whole in the future. The law in question also includes an amendment to the draft law on housing loans.

## CONCLUSION

The authors of the present article sought to identify the main factors that have a significant impact on household indebtedness in the context of housing affordability. The issue of affordable rental housing in Slovakia has been more or less discussed for almost 30 years, when after 1990 there were significant changes in the ownership structure of apartments, to the detriment of rental housing. The housing market was not helped by the extensive (and inappropriate) privatization of the housing stock. This was primarily due to the unpreparedness for market conditions, while the state's unpreparedness for the privatization of the housing sector caused a collapse, the creation of regional disparities and a shortage of rental housing. In total, between 1992 and 2006, according to the OECD, approximately 340 thousand municipal and 270 thousand cooperative apartments were privatized in Slovakia.

Housing needs to be discussed from several perspectives, such as creating conditions for improving the quality of life, a significant source of employment (this applies not only to the construction, maintenance and management of apartments, but also to a wide range of services directly or indirectly related to housing; services for households and services provided within the community linked to the residential environment are a significant source of job opportunities and are often organized and provided simultaneously with services directly related to housing), housing affordability, etc. [18].

However, affordability is not only a matter of housing costs. Well-located housing can save a household significant travel costs and thus improve the overall economy of the family.

Low regional mobility in Slovakia is one of the sources of insufficient utilization of the workforce. According to the Organization for Economic Cooperation and Development (OECD), Slovaks move for work much less than in neighboring EU countries. Global experience shows that the current market environment does not allow for sufficient flexibility in addressing the housing needs of all population groups.

Housing policy is an important factor that contributes not only to economic growth but also to employment growth, and housing construction accounts for approximately one quarter of all investments in each European Union country. Housing construction thus plays the role of a multiplier and accelerates the economic recovery phase in the long-term reproduction cycle.

It is necessary to realize that at the beginning of 2020 the pandemic situation began to significantly affect the economies of all countries. It can be assumed that also as a result of this negative situation, those who currently finance their housing through mortgage loans and other

housing loans will no longer be able to repay them. It is also necessary to emphasize that within a few years a new group of people will emerge who will have problems with the availability of housing not only due to obtaining a mortgage loan and subsequent repayment, but also due to the relatively high rent in larger cities. The availability of housing in the Slovak Republic is poor. This is primarily due to the low physical availability of rental housing with regulated rents and the lack of housing with market rents.

The housing problem no longer affects only the socially disadvantaged, but also middle-income groups. The pandemic has brought significant economic damage on the one hand, but on the other hand, residential real estate is becoming increasingly expensive. The availability of new housing in the Slovak Republic was the third worst in 2020, compared to 22 European countries, after the Czech Republic [15].

However, it should be emphasized that the luxury real estate market has slowly become saturated, but the alarming shortage of apartments for the middle-income class and young families has been forgotten. The lack of rental apartments in both the private and public sectors is an obstacle to the geographical mobility of the workforce. The current reality is also that 2022 was affected by several socio-economic and political problems, of which the growth of inflation and the associated price increase, as well as the continued increase in interest rates on housing loans, have a significant impact on the development of residential real estate construction in the coming years.

The reaction to the above-mentioned negative situation was the approval of new rules for early repayment of mortgage loans, which from September 2023 will allow early repayments once a month, while they can total up to 30% of the loan principal for the entire year (previously, it was possible to repay 20% of the principal of a housing loan once a year, one month before the anniversary of the contract, free of charge). However, the question remains, "how many borrowers will these new options affect in practice and what potential risks may arise?"

In conclusion, it can be stated that if the development of affordable rental housing in the Slovak Republic continues to stagnate, the question of the near future will be, "how to ensure affordable housing for those residents who are unable or will not be able to secure housing from their own resources and will cease to be able to repay them and lose their current housing?"

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