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DETERMINING THE RELATIONSHIP BETWEEN REAL ESTATE OWNERSHIP STRUCTURE, ECONOMIC DEVELOPMENT, AND INNOVATION

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Abstract: The subject of this research is to examine the relationship between real estate ownership on one hand, and economic development, financial development, and global innovation on the other. This study analyzes data from 38 countries, encompassing all European Union member states. Economic development serves as a vital factor influencing how people live and what they expect from their homes. Furthermore, the Financial Development Index and the Global Innovation Index represent indicators capable of explaining cross-country differences in housing preferences. Through this research, we aim to better understand these relationships and their real-world application, as the analyzed data confirm significant disparities in homeownership rates, which regularly exceed 80% in transition economies. The regression analysis results reveal a powerful negative correlation between real estate ownership and societal innovation (R^2 = 0.8676), economic wealth (R^2 = 0.7858), and the financial market development index (R^2 = 0.7813). The study demonstrates that high homeownership rates in less developed countries do not cause economic stagnation, but rather represent an individual's rational response to institutional uncertainty and underdeveloped capital markets.

Keywords: GDP, transition economy, homeownership

1. Introduction

Housing status represents one of the fundamental pillars of economic stability for both individuals and the state. In 2024, data reveals substantial disparities in homeownership rates across the European Union and globally. In countries such as Switzerland and Germany, most of the population rents their homes. Conversely, in developing economies, most individuals own their residential properties, with homeownership rates regularly exceeding 80%.

The subject of this research is to examine how economic development, financial development, and innovation influence housing preferences. The study analyzes the correlation between these factors and the homeownership rate.

The primary research problem lies in the fact that policymakers occasionally misinterpret the correlation between low homeownership rates and advanced economic development. They may assume that development can be stimulated by artificially

reducing homeownership, thereby overlooking historical and institutional factors that shaped the current market structure.
The objective of this study is to determine whether high homeownership rates act as a barrier to development or merely represent a byproduct of a specific economic trajectory. Furthermore, this research explores why individuals in certain countries utilize real estate investment as a secure form of savings. In environments with underdeveloped capital markets, real estate is frequently selected as a reliable vehicle for preserving wealth.

The remaining research questions are:
- Is there a statistically significant relationship between lower homeownership rates, economic growth, and innovation?
- To what extent does the underdevelopment of financial markets dictate the current ownership structure in the Western Balkan countries compared to advanced economies?
- How does a society's capacity for innovation affect labor mobility and homeownership?

The study tests two hypotheses:
H1: High homeownership rates in less developed countries do not cause slow economic growth but are instead a result of institutional deficiencies and restricted capital markets.
H2: The level of societal innovation (GII) reflects the real estate market structure more accurately than GDP metrics alone, as higher innovation levels require a more diversified asset portfolio.

The significance of this paper lies in its critical departure from conventional economic recommendations. While certain authors argue that renting is the optimal choice, research indicates that owning a home provides a crucial space of personal autonomy. It serves as a sanctuary of security, particularly in environments characterized by institutional instability. The findings are primarily intended for policymakers and regulators in transition economies striving to align housing strategies with European standards. This paper offers an empirical foundation for ministries of finance and central banks to design tax reforms and advance capital market development, highlighting the risks associated with the mechanical replication of Western European models. Additionally, the study provides an analytical framework for investment managers and the banking sector to understand the underlying causes of low financial savings rates relative to wealth accumulation in real estate. For the academic community, the paper introduces a fresh perspective on innovation as a factor in residential mobility, while serving as a corrective tool for international financial organizations when formulating institutional reform recommendations for developing societies.

2. Methodology

The research method employed in this study is a combination of existing data analysis and statistical regression. For European countries, the primary data sources were obtained from Eurostat for the year 2024, while data concerning financial development and innovation were retrieved from the databases of the International Monetary Fund and the World Intellectual Property Organization. The sample encompasses 38 countries, including European Union member states, the Western Balkan countries, as well as leading global economies such as the United States, Japan, and Switzerland.

Three regression models were utilized to examine the relationship between the homeownership rate and three distinct factors: average GDP per capita, the Financial Development Index, and the Global Innovation Index. These models were constructed to test whether the institutional and technological maturity of a society exerts a more profound impact on housing preferences compared to mere economic wealth. The calculated coefficients of determination, denoted as R^2, serve as the analytical starting point for the discussion on causality.

The interpretation of the results is conducted through the prism of institutional stability, market development, and available investment alternatives. Special emphasis is placed on the deviations observed within transition economies. Furthermore, the analysis acknowledges the limitations of country-level aggregate data, given that they may obscure significant regional disparities between urban and rural environments.

3. Literature review

Academic discourse on housing markets originates from the regime typology in which Kemeny (2001) distinguishes between unitary and dual rental markets, indicating that a state's institutional framework directly shapes citizen preferences. In the advanced economies of Northern Europe, renting represents a preferred option (Aalbers, 2016; Martins et al., 2021). Conversely, in Southern and Eastern Europe, homeownership is treated as a primary protective mechanism (Lux & Sunega, 2014). Esping-Andersen (1990) links the level of social security with the method of addressing housing needs, which explains why fewer stable systems exhibit a strong inclination toward physical property possession.

A particular focus in the literature is directed toward the phenomenon of "super-homeownership nations" in post-socialist states, where mass privatization and the transformation of socially owned property during the 1990s established a specific model of housing capitalism. This process resulted in homeownership rates exceeding 80% in countries like Croatia and Romania, which Mandič (2010) describes as a pursuit of secure capital amid widespread institutional erosion. In such societies, real estate becomes a symbol of civic belonging and stability within the new system.

The correlation between lower homeownership rates and higher GDP is frequently interpreted through labor mobility (Miles, 2012), with Oswald (1996) arguing that high homeownership rates can impede the labor market due to a reduced propensity among owners to migrate. In contrast, Tsenkova (2009) warns of the correlation trap, stating that homeownership in transition economies constitutes a rational response to unstable pension systems and underdeveloped capital markets. Empirical findings in the region confirm that citizens select real estate due to low trust in alternative forms of savings and as a security measure for later life (Grujić & Cobović, 2024).

The dynamics of the real estate market are no longer dictated merely by local housing needs, but rather by global demand for profit and secure collateral (Jordà et al., 2016). Under the conditions of underdeveloped stock exchanges, investing in "bricks and mortar" represents the only logical method for wealth accumulation. The shallowness of capital markets and the weak correlation between equities and economic indicators further deter investors from financial instruments, directing them toward real estate.

Cultural aspects of "freedom in the home" are analyzed through the lens of ontological security, where Saunders (1990) posits that private property provides a deeper sense

of autonomy and identity. In societies subject to frequent systemic changes, physical possession is the sole tangible form of accumulated labor that institutions cannot easily devalue. Giddens (2023) connects this sentiment to the need for basic security in a modern, risk-prone society.

The issue of intergenerational wealth transfer gains prominence as inheritance becomes the primary mechanism for housing security in countries with high homeownership rates (Norris & Fahey, 2011). Piketty (2014) emphasizes that the resurgence of inherited wealth redefines social structures in the 21st century. The concept of "asset-based welfare" indicates that real estate is viewed as a direct substitute for state social transfers.

Global trends of rising prices render homeownership increasingly inaccessible for the younger population, pushing them toward the rental market even in countries with a strong tradition of property possession. Dancygier and Wiedemann (2025) criticize the transformation of housing units into financial assets, which leads to social stratification. Traditional policies aimed at stimulating home purchases face challenges due to shifts in labor market dynamics and income instability (Šikman & Grujić, 2021). Housing status in old age directly impacts poverty levels, as ownership serves as a shield against high living costs during retirement (Grujić, 2019).

The level of a state's financial development directly shapes the housing preferences of its citizens. The Financial Development Index (FD index) serves as a benchmark for the efficiency, accessibility, and depth of financial institutions. In systems where this index is low, real estate ceases to be merely a solution to housing needs and becomes the primary mechanism for preserving asset value. A high homeownership rate in transition economies does not cause stagnation but rather represents a rational defensive strategy for individuals under conditions of underdeveloped capital markets (Mekinjić et al., 2020). Specifically, when the financial market fails to offer diverse investment opportunities, residential property remains the sole secure method to guarantee a family's future financial security.

4. Results

The analysis encompasses 38 countries. The sample consists of European Union member states, Western Balkan countries, and leading global economies. The descriptive statistics results reveal significant disparities in housing structures. For instance, Romania records the highest homeownership rate at 94%, whereas Switzerland stands at the opposite pole with a mere 42%. The average for the observed sample is 71%. This provides a baseline for further stratification of countries based on their economic and innovation performance.

Table 1: Overview of Obtained Results

Country	Homeownership % (2024)	GDP per capita	FD index	GII index (Score)
Romania	94%	50,727	0.31	33.40
Slovakia	93%	49,376	0.37	34.30
Hungary	92%	50,176	0.44	35.60
Croatia	80%	53,839	0.42	38.20
Lithuania	79%	59,932	0.36	39.70
Poland	78%	58,559	0.56	40.40

Bulgaria	77%	44,950	0.34	33.30
Estonia	76%	50,758	0.38	46.50
Italy	75%	64,809	0.71	46.60
Slovenia	74%	59,998	0.45	46.80
Czech Republic	73%	62,344	0.52	45.90
Spain	72%	58,348	0.74	47.20
Portugal	71%	51,853	0.58	42.20
Belgium	70%	77,705	0.78	53.30
Greece	69%	46,800	0.49	37.60
Cyprus	68%	68,029	0.43	46.30
Ireland	67%	150,865	0.73	51.10
Netherlands	66%	86,134	0.86	58.80
Malta	65%	81,746	0.41	45.60
Finland	64%	68,547	0.72	59.40
Sweden	63%	75,230	0.84	64.50
Luxembourg	63%	155,275	0.89	52.20
France	62%	67,671	0.88	58.40
Denmark	61%	84,540	0.79	59.60
Austria	55%	76,588	0.75	51.10
Germany	47%	75,480	0.85	58.40
EU average	71%	70,395	0.60	47.17
Serbia	85%	26,044	0.32	35.10
Montenegro	90%	28,027	0.28	31.40
North Macedonia	86%	21,391	0.29	30.20
Albania	92%	46,161	0.22	24.10
Norway	82%	92,500	0.78	52.50
Japan	61%	52,000	0.85	54.10
Australia	66%	65,500	0.88	49.70
Canada	66%	60,000	0.89	52.90
Switzerland	42%	89,537	0.88	67.50
USA	65%	80,412	0.91	65.90
United Kingdom	63%	56,471	0.86	62.10

Source: Eurostat (2024), IMF Financial Development Index Database (2024), and authors' calculations.

Regression analysis confirms a strong negative correlation between the observed variables and the homeownership rate. The derived linear equation for GDP per capita and homeownership stands at $y = 86980x$ with a coefficient of determination $R^2 = 0.7858$ (Figure 1). This level demonstrates that variations in homeownership rates account for over 78.5% of the variability in economic wealth within this sample.

The results from the analysis of the relationship between the Financial Development Index (FD index) and homeownership indicate a strong dependency, expressed through the equation $y = 0.7956x$ and $R^2 = 0.7813$ (Figure 2). Countries with the lowest levels of financial development, such as Albania (FD: 0.22; homeownership: 92%) and Montenegro (FD: 0.28; homeownership: 90%), directly confirm the hypothesis that real estate serves as the primary instrument for wealth preservation where capital markets fail to offer reliable alternatives.

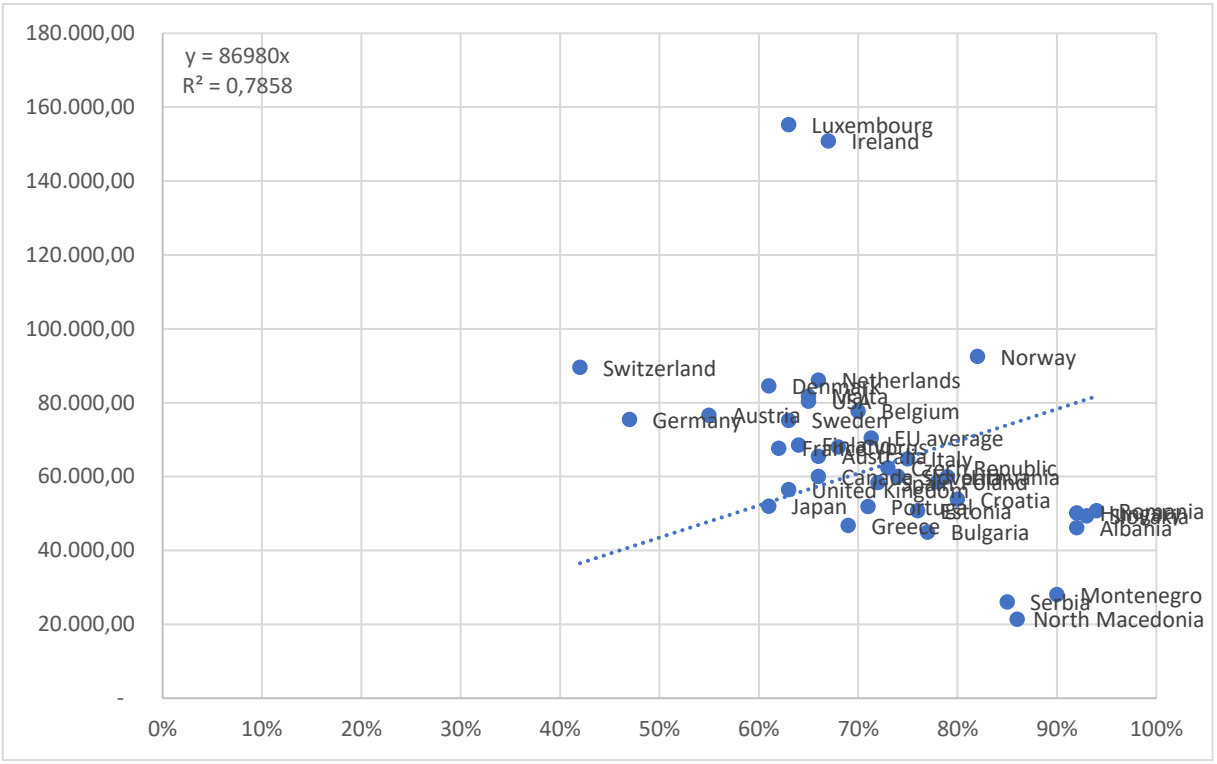


Figure 1: Correlation between GDP per capita and homeownership rate
Source: Eurostat (2024), IMF Financial Development Index Database (2024) and authors calculation.

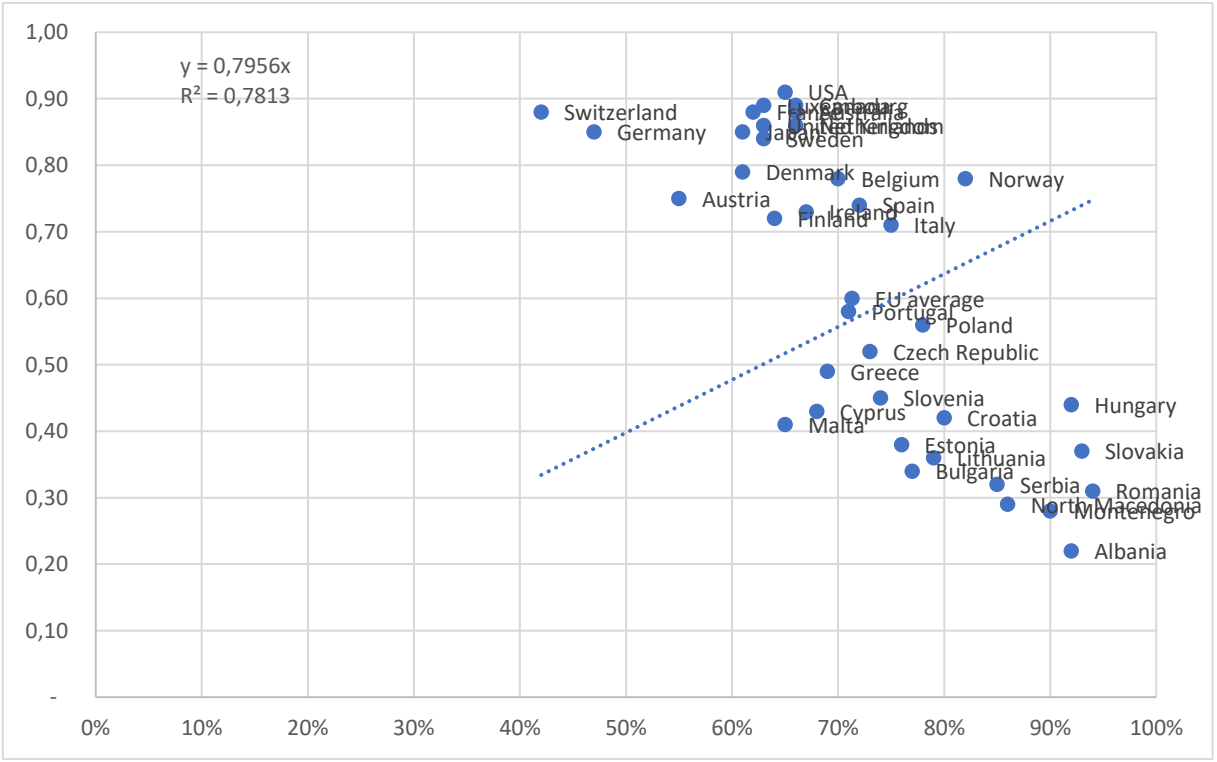


Figure 2: Relationship between financial market development and homeownership
Source: Eurostat (2024), IMF Financial Development Index Database (2024) and authors calculation.

A significant finding of this research is the highest degree of correlation observed between homeownership and the Global Innovation Index (GII), with the equation y = 62.237x and R^2 = 0.8676 (Figure 3). This proves that the innovation capacity of a society explains nearly 87% of the variability in housing structure, supporting the thesis that high-tech societies require greater mobility and lower attachment to fixed assets.

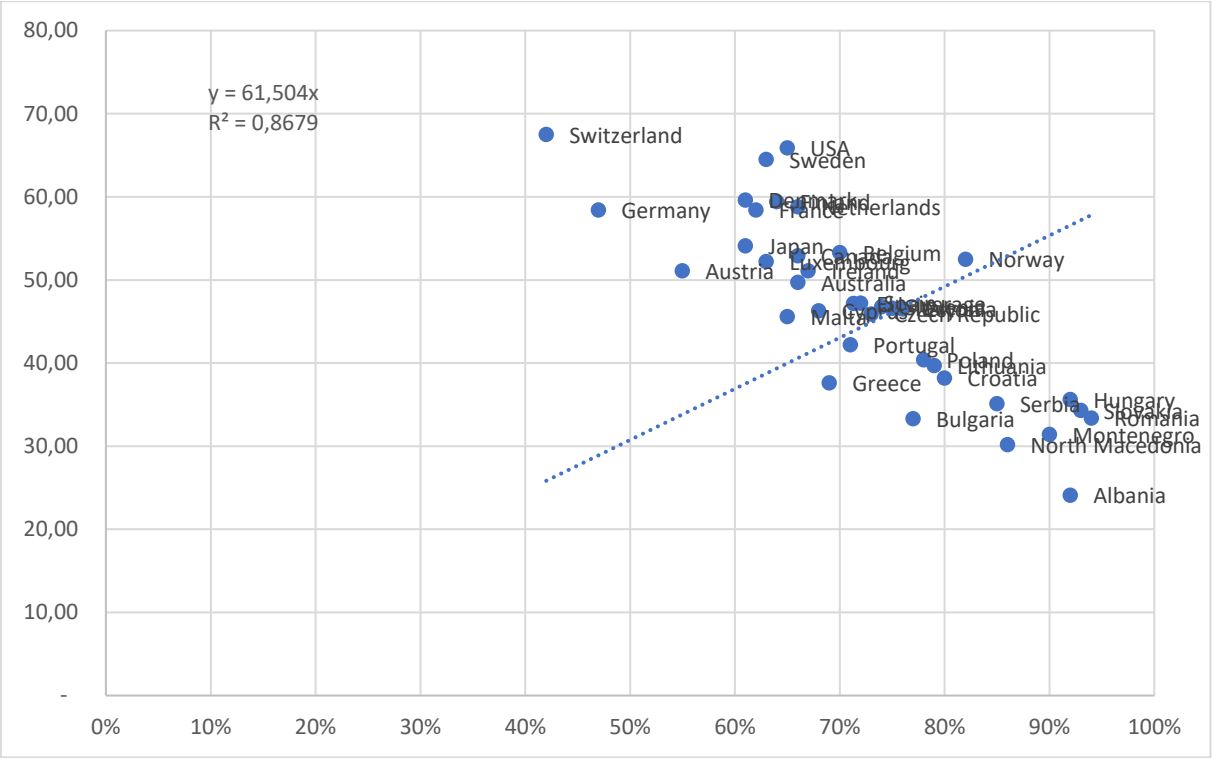


Figure 3. Relationship between GII index (score) and homeownership
Source: Eurostat (2024), IMF Financial Development Index Database (2024), and authors' calculations.

The data clearly categorizes the countries into three distinct groups. The first group is led by the transition economies of the Western Balkans and Eastern Europe, with homeownership rates exceeding 80%, where real estate functions as a "surrogate pension fund." The second group consists of states like Italy (75%) and Slovenia (74%), which balance between property ownership traditions and more developed rental markets. The third group comprises highly innovative economies such as Switzerland, Germany (47%), and Austria (55%), where institutional stability and sophisticated capital markets eliminate the pressure for physical asset ownership as a guarantee of security. Ultimately, the identified trends indicate that housing market rigidity decreases proportionally with the strengthening of the institutional framework and the diversification of investment avenues. While a high rate of ownership in developed systems may signify accumulated wealth, in transition societies it more frequently indicates market imperfections and a lack of trust in the financial sector. These results invalidate arguments for artificially stimulating the rental market through punitive tax measures without first establishing depth and stability within the domestic capital market.

5. Discussion

The research results confirm that low homeownership rates in developed economies do not represent a cause, but rather a byproduct of an advanced stage of institutional

maturity. The powerful correlation with the Global Innovation Index (R^2 = 0.8676) indicates that societies characterized by a developed technology sector naturally favor labor mobility. In such systems, tying up capital in a single location through long-term mortgages is viewed as a significant opportunity cost that diminishes individual flexibility. Conversely, in states with a lower GII score, real estate remains an undisputed instrument of protection against inflation and systemic instability.

High homeownership rates in the transition economies of the Western Balkans, such as those in Montenegro (90%) and Serbia (85%), must be interpreted through the prism of a deficiency in investment alternatives. While citizens in Switzerland or Germany enjoy access to deep and liquid capital markets, residents of post-socialist states frequently exhibit low trust in stock exchange operations or complex savings products. From an auditing profession perspective, such a concentration of assets in an illiquid form presents a risk to personal wealth diversification, yet it simultaneously constitutes the most rational response to the historical instability of local currencies and banking systems.

The analysis of the Financial Development Index (FD index) further elucidates the thesis that homeownership acts as an "inverse mirror" of the sophistication of banking and market systems. Where financial institutions are inclusive and stable, the necessity for physical property possession as the sole guarantor of social security in old age decreases significantly. The data for Albania and North Macedonia demonstrate that the underdevelopment of financial intermediation directly forces households into capital accumulation within "bricks and mortar." This creates an illusion of real estate wealth, whereas the actual purchasing power and liquidity of these families are frequently quite low.

A critical point of discussion relates to recommendations from international institutions regarding the introduction of progressive property taxes to stimulate the rental market. Such measures in countries with high homeownership rates could yield counterproductive effects, as they would further burden the most vulnerable segments of the population who own a home but lack high current income. Instead of punitive tax policies, the developmental focus must center on strengthening the rule of law and creating new investment instruments. Only when the capital market offers security comparable to that provided by residential property ownership will a natural and sustainable shift in ownership structure occur.

In conclusion, the phenomenon of high homeownership percentages in less developed states represents a specific form of "asset-based welfare." In systems characterized by insecure pension funds and insufficient social transfers, the home serves as a fourth pillar of retirement insurance. The distinction between Switzerland and Romania does not lie solely in GDP levels, but rather in the trust citizens place in the state and its institutions. Therefore, housing policy must not be isolated from broader strategies of financial literacy and the digital transformation of money markets.

6. Conclusion

This research has demonstrated that homeownership is not merely a cultural phenomenon. This metric can serve as an indicator of a society's institutional and economic maturity. The powerful correlation between the homeownership rate and the Global Innovation Index (R^2 = 0.8676), as well as the Financial Development Index (R^2 = 0.7813), clearly indicates that the population in less developed systems rationally

selects physical property possession as the primary vehicle for savings. Under conditions characterized by underdeveloped capital markets and low trust in alternative investment instruments, real estate ceases to function exclusively as a housing unit and becomes the most secure form of accumulated capital.

The regression analysis results across a sample of 38 countries challenge the proposition that a high homeownership rate inherently impedes economic growth. On the contrary, the data reveals that it represents a direct consequence of a lack of financial market depth. The examples of the Western Balkan countries, where homeownership frequently exceeds 85%, illustrate a defensive mechanism for households that construct their own social security systems through real estate. Attempts to artificially alter this structure via punitive property taxation, without a prior strengthening of institutions and a diversification of financial products, could severely undermine the economic stability of families.

The scientific contribution of this paper lies in identifying innovation capacity (GII) as a determinant of mobility and housing preferences. While advanced economies, such as Switzerland and Germany, operate on rental models that support labor market flexibility, transition systems continue to rely on "housing capitalism." For economic policymakers, the primary recommendation must center on developing the domestic capital market and instruments capable of offering a level of security and return comparable to real estate investment. Only such a systemic approach can lead to a gradual and natural balancing of the housing market without the imposition of coercive fiscal measures.

The scope of this research is reflected in the comprehensive quantitative verification of the relationship between housing possession, financial depth, and innovation capacity across a global sample, thereby expanding the traditional analytical focus on GDP metrics alone. The integration of the GII score into regression models has facilitated a more profound understanding of how a society's technological maturity impacts residential structures.

Conversely, the main limitation of this study stems from the utilization of country-level aggregate data, which may obscure substantial variations between urban centers and rural areas. Furthermore, the research relies on cross-sectional data for the year 2024, which allows for the identification of strong correlations but necessitates caution when deriving definitive conclusions regarding long-term historical causality. Future research should encompass longitudinal data series to monitor the dynamics of ownership structure shifts more precisely under the influence of the financial sector's digital transformation.

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UTVRĐIVANJE VEZE IZMEĐU STRUKTURE VLASNIŠTVA NAD NEKRETNINAMA, EKONOMSKOG RAZVOJA I INOVATIVNOSTI.

Miloš Grujić, Saša Čekrlija

Sažetak: Predmet istraživanja je ispitivanje veze između vlasništva nad nekretninama s jedne strane te ekonomskog razvoja, financijskog razvoja i globalne inovativnosti s druge strane. U ovom istraživanju analiziraju se podaci iz 38 država, što obuhvaća sve članice Europske unije. Ekonomski razvoj je vrlo važan čimbenik. On utječe na to kako ljudi žive i što žele od svojih domova. Osim toga, indeks financijskog razvoja i Globalni indeks inovativnosti pokazatelji su koji mogu objasniti razlike u stambenim preferencijama među različitim zemljama. Ovim istraživanjem nastoje se bolje razumjeti ti odnosi i njihovo funkcioniranje u stvarnosti. Podaci potvrđuju značajne razlike u stopama vlasništva, koje u tranzicijskim ekonomijama redovito premašuju 80%. Rezultati regresijske analize pokazuju snažnu poveznicu između vlasništva nad kućama i sposobnosti društva za inovativnost. Otkrivena je snažna negativna korelacija između vlasništva nad nekretninama i inovacija u društvu (R^2= 0,8676), kao i ekonomskog bogatstva (R^2= 0,7858) te indeksa razvijenosti financijskog tržišta (R^2= 0,7813). Istraživanje dokazuje da vlasništvo nad nekretninama u manje razvijenim državama nije uzrok ekonomskog zaostajanja. Ono predstavlja odgovor pojedinca na institucionalnu nesigurnost i nerazvijeno tržište kapitala.

Ključne riječi: BDP, tranziciona ekonomija, vlasništvo nad nekretninama