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**Mobilization of Household Savings as a Factor of Financial
Stability of the EU Countries in the Context of
Macroeconomic Instability**

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Abstract. *The households' financial stability is a key component of macroeconomic stability across the European Union countries. This issue gains particular importance in periods of economic instability, global financial shocks, and pandemics. The study utilized cluster analysis to identify similarities and differences in financial trends in the Czech Republic, Italy and Spain, supported by data visualization techniques. The findings show that household savings exhibit wave-like dynamics in response to both market fluctuations as well as macroeconomic shocks. Distinct behavioral patterns across countries are revealed due to comparative analysis, in accordance with differences in economic structure, the state of the stock market and macroeconomic conditions. In the Czech Republic, the savings steadily remained high (18–19%), whereas Italy yielded rather moderate levels (10–11%). In Spain, savings were more sensitive to crisis changes (14% in 2020). The fall in the PX, FTSE MIB and IBEX 35 stock indices in 2018 and 2020 stimulated savings. On the other hand, sustained growth in 2021–2025 restored confidence and promoted moderate investment. GDP, unemployment, and interest rates shaped adaptive financial behavior. This study integrates macroeconomic, market and behavioral factors, which enables a more comprehensive understanding of household financial behavior and improves the basis for forecasting and policy development aimed at stimulating savings and managing financial risks.*

Keywords: *stock market, macroeconomic instability, econometric analysis, market shocks, GDP*

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Makroiqtisadi qeyri-sabitlik kontekstində Aİ ölkələrinin maliyyə sabitliyinin amili kimi ev təsərrüfatlarının əmanətlərinin səfərbər edilməsi

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Xülasə. Ev təsərrüfatlarının maliyyə sabitliyi Avropa Birliyi ölkələrində makroiqtisadi sabitliyin əsas komponentidir. Bu məsələ iqtisadi qeyri-sabitlik, global maliyyə şokları və pandemiya dövrlərində xüsusilə əhəmiyyət kəsb edir. Tədqiqatda Çexiya, İtaliya və İspaniyada maliyyə trendlərindəki oxşarlıqları və fərqləri müəyyən etmək üçün klaster təhlilindən istifadə edilmişdir ki, bu da məlumatların vizuallaşdırılması üsulları ilə dəstəklənir. Nəticələr göstərir ki, ev təsərrüfatlarının əmanətləri həm bazar dalğalanmalarına, həm də makroiqtisadi şoklara cavab olaraq dalğavari dinamika nümayiş etdirir. İqtisadi strukturdakı, fond bazarının vəziyyətindəki və makroiqtisadi şəraitdəki fərqlərə uyğun olaraq müqayisəli təhlillər nəticəsində ölkələr arasında fərqli davranış nümunələri aşkar edilmişdir. Çexiyada əmanətlər davamlı olaraq yüksək olaraq qalmışdır (18-19%), İtaliya isə kifayət qədər orta səviyyələr göstərmişdir (10-11%). İspaniyada əmanətlər böhran dəyişikliklərinə daha həssas olmuşdur (2020-ci ildə 14%). 2018 və 2020-ci illərdə PX, FTSE MIB və IBEX 35 fond indekslərinin düşməsi əmanətləri stimullaşdırmışdır. Digər tərəfdən, 2021-2025-ci illərdə davamlı artım inamı bərpa etmiş və orta investisiyaları təşviq etmişdir. ÜDM, işsizlik və faiz dərəcələri adaptiv maliyyə davranışını formalaşdırdı. Bu tədqiqat makroiqtisadi, bazar və davranış amillərini birləşdirir ki, bu da ev təsərrüfatlarının maliyyə davranışını daha əhatəli şəkildə anlamağa imkan verir və əmanətləri stimullaşdırmaq və maliyyə risklərini idarə etmək məqsədi daşıyan proqnozlaşdırma və siyasətin hazırlanması üçün əsasları təkmilləşdirir.

Açar sözlər: fond bazarı, makroiqtisadi qeyri-sabitlik, ekonometrik təhlil, bazar şokları, ÜDM

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Introduction

Currently, the world is increasingly complex and the financial stability of a national economy extends far beyond a simple set of macrofinancial indicators. Instead, it is deeply rooted in the capacity of its internal sectors to rapidly accumulate and efficiently redistribute resources in response to external shocks. In fact, the financial integration in the EU member states has reached a high level, so this capacity is critically important, as the close interconnection of economies intensifies and accelerates the transfer of crisis phenomena from one country to another. Such a volatile environment leads the household savings to be a fundamental internal source of stability. According to Stanciu (2025), they not only form a vital resource base for future investment but at the same time act as a powerful buffer that helps mitigate the effects of macroeconomic fluctuations.

A substantial body of academic research consistently confirms that household savings' accumulation has a significant positive impact on investment activity, contributing to higher liquidity in financial markets and strengthening general macrofinancial stability. For instance, Slavkova and Shevaldina (2025) particularly emphasize the dual role of such savings: they serve not only as a reliable financing source for economic development but also as a countercyclical mechanism that can stabilize the economy in periods of crisis. Similarly, László (2025) and Moon et al. (2023) demonstrated empirically that household behavior tends to move towards increased saving in the face of severe crisis shocks, such as the global COVID-19 pandemic or high inflation. Accordingly, this significantly alters consumption patterns and reshapes financial flows.

At the same time, an important place in economic policy as a key component is held by the mobilization of household savings. For example, Knicker et al. (2025) maintains that the effective and well-managed attraction of these funds directly leads to a noticeable expansion of a country's domestic financial resources. Further, Phil-Ugochukwu (2024) and Roe et al. (2015) underscore the critical importance of building strong public trust in financial institutions, considering it an essential prerequisite to successfully transform the private savings into long-term, sustainable investments that support economic growth.

However, despite numerous scholarly works devoted to this issue, several important aspects remain insufficiently explored. In particular, Sahudin et al. (2024) rightly accentuates the critical importance of domestic financial resources as a method to significantly reduce economy's dependence on external financing. At the same time, comprehensive and general approaches that would allow for a full-fledged assessment of these complex processes are scarce and call for further elaboration.

In addition to the above mentioned gaps, the majority of existing research appears to be distinctly fragmentary in itself. First, there is a tendency toward analyzing household savings in isolation, oftentimes beyond the framework of their interaction with other key macrofinancial variables. Second, there is a conspicuous lack of generalized cross-country econometric approaches that would make it possible to assess these savings' impact on financial stability in EU diverse economies. Third, the mechanism through which savings are transformed into productive investments, in particular under conditions of present-day global instability, remains insufficiently explored and requires comprehensive investigation.

Hence, it follows that a key scientific gap lies in the absence of integrated cross-country econometric studies capable of combining household savings, macrofinancial shocks and financial stability indicators within a unified analytical framework. From this perspective, the central research problem is defined as the necessity not only to determine the role of household savings in strengthening financial stability, but also to fully assess their interaction with various macrofinancial factors under conditions of ever-changing and unpredictable instability.

The scientific novelty of this study lies in its novel approach to comprehensive analysis of the relationship between stock market fluctuations and household savings levels in the Czech Republic, Italy and Spain over the period 2016–2025. For the first time, normalized stock indices, market “shocks” and savings levels are integrated into a single analytical model. In terms of comparing the cross-country dynamics, the cluster analysis enables a more precise evaluation of savings mobilization in ensuring financial stability under conditions of macroeconomic instability.

Research hypotheses are as follows:

Hypothesis 1: Short-term declines in stock markets stimulate the households to increase savings as a risk-protection mechanism.

Hypothesis 2: The financial behavior of households in the Czech Republic, Italy and Spain responds differently to market shocks due to differences in economic structure and stock market volatility.

Hypothesis 3: Sustained growth in stock indices contributes to restoring household confidence and stimulates investment activity, along with a moderate increase in savings.

Purpose of the study is to assess the role of household savings in ensuring the financial stability of European Union countries during periods of macroeconomic instability, with a focus on the Czech Republic, Italy and Spain.

Research objectives:

To scrutinize the dynamics of household savings levels in the Czech Republic, Italy and Spain over the period 2016–2025, to analyze their relationship with key macroeconomic indicators (GDP, unemployment, interest rates).

To examine the impact of fluctuations in stock indices (PX, FTSE MIB, IBEX 35) on household financial behavior, particularly in terms of accumulating liquid reserves.

To calculate annual “market shocks” (Shock%) in order to assess short-term household reactions to both market declines and increases.

To apply cluster analysis and principal component analysis (PCA) to identify similarities and differences in stock market dynamics and household behavior in the three countries.

Current scientific research on household savings demonstrates a clear interdisciplinary character. As a matter of fact, it is expedient to systematize existing studies according to several key approaches, namely: classical (neoclassical), behavioral, institutional and macrofinancial. Such a classification enables a clearer identification of both the strengths and the limitations of each approach.

The classical approach considers savings as the result of rational intertemporal choice. According to Maftuhin and Kusumawardani (2022), households aim to maximize utility over their life cycle. However, this approach has a significant limitation, namely the assumption of full rationality and perfect information, which does not always reflect real-life conditions. Further, Snower and Wilson (2025) maintain that savings perform a much broader set of functions, ranging from the formation of financial security to the support of macroeconomic stability.

The behavioral approach, outlined in the works of Esposito and Mastromatteo (2024), notably complements classical theory by emphasizing bounded rationality, psychological factors and social norms. The scholarly work by Zaiats (2024) holds that even with identical income levels, savings behavior can differ significantly, which is something that classical models struggle to explain. However, this approach also is not devoid of its limitations, particularly its weak integration with macroeconomic models, which complicates the assessment of how savings influence general financial stability.

The institutional approach is concentrated on the role of financial markets, the banking system and public policy. In particular, Anser et al. (2024) and Jumena et al. (2022) claim that the level of financial infrastructure development and trust in institutions to a great extent impact the volume and structure of savings. At the same time, many studies within this approach are mainly descriptive or restricted to individual countries, which limits their the ability to draw broader conclusions.

Within the macrofinancial approach, researchers examine the relationship between savings, economic cycles and crisis phenomena. For instance, Challoumis (2025) argues that during periods of instability, households tend to hold savings in liquid forms, while research by Feng et al. (2022)

notes an increase in savings rates during crises. However, the majority of studies in this area are prevailingly empirical and provide limited scrutiny of the underlying mechanisms linking savings and financial stability.

Particular attention should also be given to studies addressing the motivational factors behind savings. For instance, Barrafreem et al. (2024) underlines the importance of income levels, expenditure structure and trust in financial institutions. At the same time, Kicova et al. (2025) and Chiabai et al. (2018) highlight the role of low financial literacy and institutional instability as key barriers to savings accumulation. However, in line with the behavioral approach, these studies are largely confined to the microeconomic level and do not sufficiently include macrofinancial dimensions.

A critical literature review reveals several key contradictions: between the assumption of rational household behavior and its actual heterogeneity; next, between micro-level explanations of savings behavior and their limited integration into macrofinancial models; between the observation of crisis-driven changes and the limited explanation of their impact on financial stability. Furthermore, there is a clear lack of systematic cross-country comparisons. From this perspective, household savings should be viewed as an integral element of the macrofinancial system, making an impact via mechanisms such as investment, liquidity and confidence in financial institutions.

Summing up, despite the substantial body of research, the systemic relationship between household savings and financial stability remains insufficiently explored, in particular under conditions of macroeconomic instability and cross-country heterogeneity, which highlights the need for further research in this direction.

Materials and Methods

Research procedure

The study draws on analyzing the relationship between stock market fluctuations and the level of household savings in three European countries: the Czech Republic, Italy and Spain. The selection of these countries is preconditioned the differing characteristics of their stock markets and economic structures. The Czech Republic is characterized by a relatively small and stable stock market, which makes it possible to trace the impact of moderate fluctuations on savings behavior. In contrast, Italy has a more developed and capitalized market with a medium level of volatility, which enables a comparison of household behavior within a more complex economic structure. Spain features a higher stock market volatility and a stronger exposure to global financial shocks, thereby making it a particularly relevant example for exploring the psychological effects of market downturns on savings behavior. The study design integrates a temporal analysis of stock indices and macroeconomic indicators with regression modeling, as well as countries clustering based on their market dynamics.

Stages of research

The study was conducted in several consecutive stages. First, statistical data on GDP, unemployment, and household savings for the period 2016–2025 was collected, together with annual data on the stock indices PX (Czech Republic), FTSE MIB (Italy) and IBEX 35 (Spain). The selection of this period was due to the fact that it covers both the pre-crisis phase and a period of significant economic shocks, including the COVID-19 pandemic and subsequent inflationary instability. This makes it possible to examine how household saving behavior changes under the influence of different macroeconomic conditions. Next, the following stage involved calculating annual “market shocks”, which show percentage changes in stock indices and can be used as independent variables across the models of household savings.

The calculation was performed using the formula as follows:

$$\text{Shockt} = \frac{\text{Indext} - \text{Indext-1}}{\text{Indext-1}} * 100,$$

where $Index_t$ is the value of the stock index in year t , $Index_{t-1}$ is the value of the index in the previous year.

At the next stage, to estimate the delayed response of households to market changes, a lag regression model was built. The model looks as follows:

$$S_t = \alpha + \beta_1 GDP_t + \beta_2 Unempt + \beta_3 Shock_{t-1} + \epsilon_t,$$

where S_t is the level of savings in the year t , GDP_t is the annual GDP growth, $Unempt$ is the unemployment rate, $Shock_{t-1}$ is the annual market shock of the previous year, ϵ_t is the incidental error. This approach allows assessing the psychological effect of "market wealth" on the household behavior.

At the final stage, countries were clustered according to the stock indices dynamics. With that in mind, the indices were normalized, after which the principal component analysis (PCA) and cluster analysis were applied, which made it possible to identify countries with similar market trends and savings levels.

Data sources

Data on the stock indices PX (Czech Republic), FTSE MIB (Italy) and IBEX 35 (Spain) were obtained from official exchange websites and the annual reports of the respective national stock exchanges, which allowed to ensure a high level of reliability and relevance. A representative overview of the Czech stock market is provided by the PX index, including the major companies influencing the national economy. The performance of the largest Italian corporations is reflected by FTSE MIB, making it possible to assess the impact of market fluctuations within a more capitalized economy. In turn, the IBEX 35 is represented by the condition of the Spanish stock market, taking into account global financial risks.

Statistical data on household savings, GDP, unemployment rates and other macroeconomic indicators were collected from national statistical agencies, including the Český statistický úřad (Czech Republic), Istituto Nazionale di Statistica (Italy), Instituto Nacional de Estadística (Spain), as well as from international and financial institutions such as the European Central Bank, the Czech National Bank, the Bank of Italy, the Bank of Spain, Trading Economics and the International Monetary Fund. Also, data from the Eurostat database were used because it standardizes statistics across EU countries and enables cross-country comparisons based on consistent methodologies, which is particularly important for cross-country type of analysis.

Research methods

The applied research methods combine a quantitative analysis of market fluctuations and household behavior. Annual changes in stock indices ("market shocks") are calculated to assess their impact on the level of savings. Cluster analysis and principal component analysis (PCA) are utilized to reveal similarities in stock market dynamics and household savings across the Czech Republic, Italy and Spain as well as to clearly illustrate the relationship between economic shocks and household behavior.

Visualization of market resilience

For a better presentation of stock markets' impact on household behavior, a visualization of market resilience was conducted by plotting normalized stock indices (PX, FTSE MIB and IBEX 35) along with the Shock indicator and the level of household savings. The use of normalization makes it possible to compare different markets despite differences in scale and volatility. Admittedly, such a visualization clearly demonstrates the relationship between market dynamics and household

behavior. It can highlight the psychological response to stock market fluctuations and confirm the importance of accounting for lagged effects in savings forecasting models.

Results and Discussion

Over the period 2016–2025, the level of household savings in EU countries changed under the influence of various economic and social factors. In 2020, it increased due to a forced reduction in consumption associated with quarantine measures, as well as precautionary savings behavior under conditions of heightened uncertainty. During 2021–2023, the value declined, which can be explained by the realization of accumulated demand and the inflation impact, which negatively affected households' real incomes. In 2024–2025, the situation tended to stabilize at a higher level, reflecting the consolidation of more cautious household behavior, with continued prioritization of saving (Fig. 1).

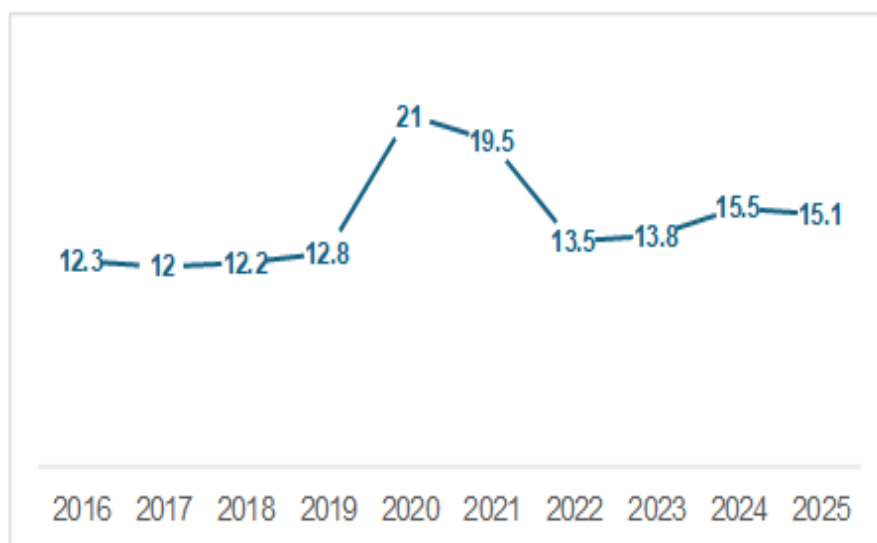


Figure 1
Household savings rate in the EU as a whole

Source. Eurostat (2026a).

Over the period 2016–2025, the level of household savings was composed by various economic factors. The Czech Republic is characterized by consistently high savings rates (18–19%), which can be explained by a relatively large share of stable incomes and overall trust in the financial system, both of which encourage saving even after economic shocks. The savings rate in Italy is lower (10–11%), possibly due to a higher proportion of consumption expenditures and structural economic challenges that limit households' capacity to save. Spain exhibits the highest volatility: the sharp increase in 2020 was driven by forced savings and heightened uncertainty, while the subsequent decline can be attributed to the release of pent-up demand and the recovery of consumer spending (Fig. 2).

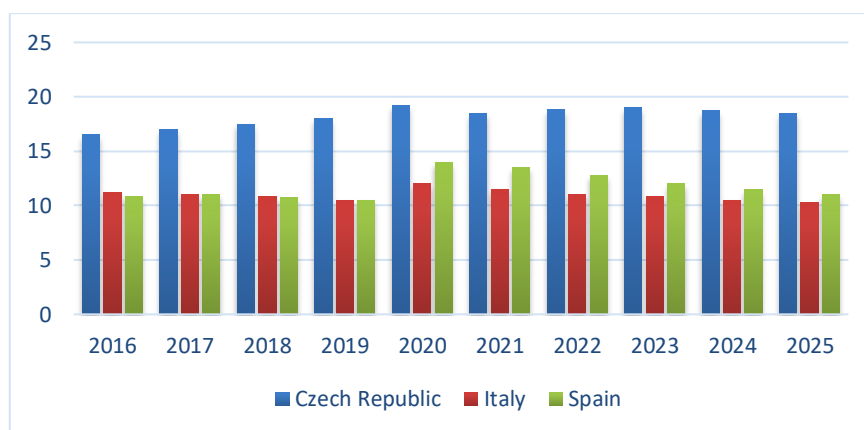


Figure 2
Household savings rate (% of income)

Sources. Eurostat (2026b), ECB (2026), CNB (2026), TradingEconomics (2026), Statista (2026).

The level of household savings in the Czech Republic, Italy and Spain over the period 2016–2025 shows a close relationship with GDP dynamics. During the pre-crisis period (2016–2019), the economies in these countries experienced moderate growth, namely in the Czech Republic, GDP increased from \$195 billion to \$225 billion, in Italy from \$1,810 to \$1,930 billion, in Spain from \$1,210 to \$1,330 billion. A stable level of household savings was recorded, amounting to 16–17% in the Czech Republic, 10–11% in Italy and 12–13% in Spain. When the COVID-19 pandemic began in 2020, all three countries experienced a noticeable decrease in GDP due to quarantine restrictions. However, the decrease scale differed: in the Czech Republic GDP fell to \$210 billion, in Italy to \$1,750 billion and in Spain to \$1,150 billion. This was accompanied by an increase in household savings, in particular to 18–19% in the Czech Republic, 11–12% in Italy and 14% in Spain. This growth was mainly driven by forced reductions in consumption and precautionary saving under conditions of elevated uncertainty. The deeper GDP decrease in Italy and Spain is explained by their higher reliance on the service sector, while the more diversified structure of the Czech economy helped to reduce losses. During the period 2021–2025, the economies gradually recovered, with GDP reaching \$270 billion in the Czech Republic, \$2,050 billion in Italy and \$1,500 billion in Spain. In some households savings stabilized, in others they declined. This can be attributed to realizing the deferred demand and a gradual return to normal consumption patterns. At the same time, in financial behavior crisis-induced caution remained, in particular in the Czech Republic and Spain (Fig. 3).

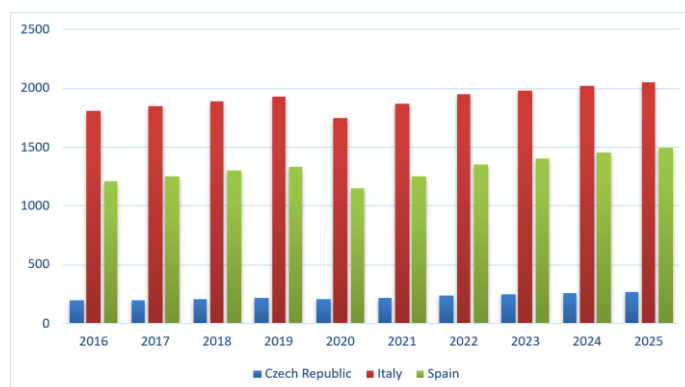


Figure 3
Nominal GDP (US\$ billion)

Sources: TradingEconomics (2026), IMF (2026), Statista (2026). Český statistický úřad (Czech Republic) (2026), Istituto Nazionale di Statistica (Italy) (2026), Instituto Nacional de Estadística (Spain) (2026)

The significant impact of employment conditions on household incomes and financial decision-making is confirmed by labor market analysis. During 2016–2019, the unemployment rate declined in all the three countries under study: in the Czech Republic from 3.0% to 2.5%, in Italy from 11.5% to 10.2% and in Spain from 19.5% to 14%. This trend coincided with GDP growth and comparatively stable levels of household savings.

In 2020, during the crisis period, a sharp deterioration in labor market conditions was observed. Spain recorded unemployment at 15.9% and Italy at around 10.5%. However, the Czech Republic remained at a low level of 2.5%, indicating greater resilience of its labor market and overall economy. The increase in unemployment in Spain and, to a lesser extent, in Italy stimulated the households to raise savings as a financial safety buffer, whereas in the Czech Republic stable incomes helped maintain a traditionally high savings level.

During 2021–2025, a gradual decline in unemployment occurred due to the recovery of economic activity in Spain from 14% to 9.9%, in Italy to 7–7.1%, and in the Czech Republic to 2.2–2.7%. Still, the savings behavior remained different across these countries: in economies with lower unemployment, particularly the Czech Republic, savings remained consistently high, while Spain and Italy exhibited greater volatility. This finding highlights that labor market conditions produce a long-term influence of household financial behavior (Figure 4). Overall, the dynamics of unemployment is indicative of the fact that macroeconomic stability and the sustainability of household savings are largely determined by employment levels and income stability. In this process, the countries characterized by more efficient labor markets show lower sensitivity of saving behavior to crisis shocks.

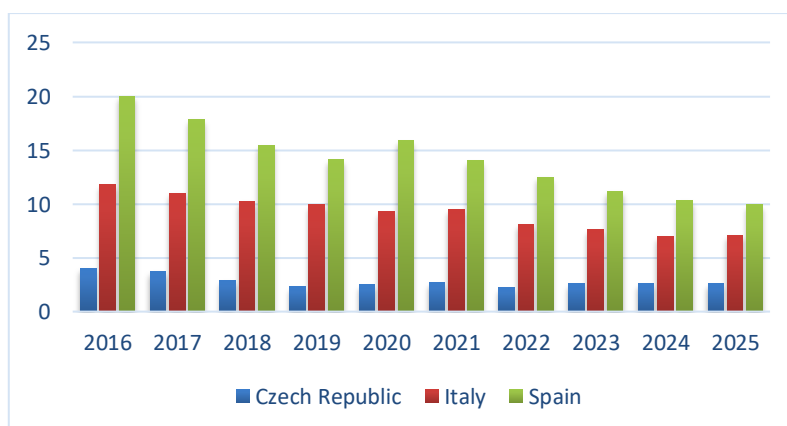


Figure 4

Unemployment (%) - annual values of the general level

Sources. Eurostat (2026c), ECB (2026), CNB (2026), TradingEconomics (2026), Statista (2026).

A significant impact of interest rates on household saving and consumer behavior is shown through analyzing the monetary policies of the Czech Republic, Italy and Spain over the period 2016–2025. The interest rates remained at historically low levels between 2016 and 2020. For example, in the Czech Republic they gradually increased from 0.05% to 2%, while in Italy and Spain remained close to zero. This monetary approach supported consumption growth while reducing the saving attractiveness. Since 2021, central banks in said countries have been adjusting their policies in response to rising inflation pressures. In the Czech Republic, the policy rate increased to 3.75% by 2024–2025, while in Italy and Spain rates increased sharply up to around 4% in 2022–2023. The above mentioned measures were aimed at curbing the inflation and ensuring macroeconomic stability. As a consequence, interest in bank deposits and other savings instruments increased indeed.

However, the data determine that cause-and-effect relationships remain complex. In spite of the higher interest rates and GDP recovery, the savings rate in the Czech Republic increased only insufficiently (to 18–19%), but in Italy and Spain it partially recovered (to about 10–11% and 12–13%, respectively). This may suggest the influence of additional factors, such as inflation expectations, household indebtedness and general economic uncertainty. Therefore, monetary policy is a key instrument for influencing household financial behavior, yet its effectiveness depends heavily on economic structure, income levels and financial literacy. Interest rates create incentives for either saving or consumption, but across studied countries their effects vary significantly in view of additional macroeconomic and microeconomic conditions (Fig. 5).

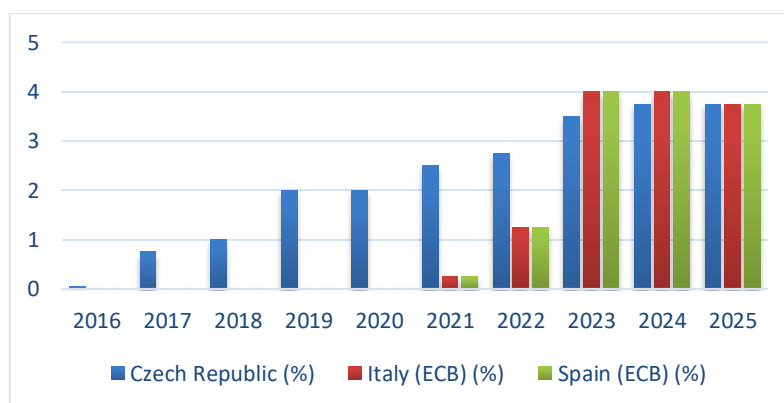


Figure 5

Interest rates (central banks/monetary policy)

Sources. IMF (2026), Bank of Italy (2026), CNB (2026).

Stock markets, together with macroeconomic indicators such as GDP, unemployment rates and interest rates, make an essential impact on the financial behavior of households in the Czech Republic, Italy and Spain. Household confidence increases due to the growth in the PX, FTSE MIB and IBEX 35 indices in both investment and saving decisions. Although market downturns and periods of high volatility stimulate a shift toward more conservative saving strategies. The interaction between market fluctuations and macroeconomic factors is shaping a complex mechanism that determines the household financial behavior and is noticeable in overall economic stability (Table 1).

Table 1

Dynamics of stock indices PX (Czech Republic), FTSE MIB (Italy) and IBEX 35 (Spain) in 2016–2025

Year	Czech Republic PX	Italy FTSE MIB	Spain IBEX 35
2016	1 000	19 234	9 352
2017	1 200	21 853	10 044
2018	1 100	18 324	8 540
2019	1 300	23 506	9 549
2020	1 200	22 233	8 074
2021	1 450	27 347	8 714
2022	1 500	23 707	8 229
2023	1 700	30 352	10 102
2024	1 900	34 186	11 595
2025	2 686	44 945	17 308

Notes. PX is the Prague Stock Exchange Index, the main stock index of the Czech Republic. The FTSE MIB is Italy's main stock index (the 40 largest companies on Borsa Italiana). IBEX 35 is the major stock index of Spain (the 35 most liquid companies on the Bolsa de Madrid). *Source.* Consolidated by the authors.

As can be seen in Table 2, the household financial behavior is closely associated with alterations in stock indices and market shocks. Short-term declines in 2018 and 2020 produced an increase in savings due to elevated uncertainty and the risk of capital losses. On the other hand, during 2021–2025 stability in market growth contributed to a gradual increase in savings alongside a rise in investment activity. In terms of the sharp changes in the Shock indicator in 2025 for the PX and IBEX indices, those reflected a rapid increase in market capitalization, which had a positive effect on household wealth and financial participation in investment markets. Overall, household behavior demonstrates a high degree of adaptability, combining the accumulation of liquid reserves with engagement in financial markets, thus indicating a pursuit of long-term financial stability.

Table 2

Normalized stock indices PX, FTSE MIB and IBEX 35, annual Shock (%) and household savings rate (2016–2025)

Year	PX_nor m	PX_Shoc k (%)	FTSE_MIB_nor m	FTSE_Shoc k (%)	IBEX_nor m	IBEX_Shoc k (%)	Savings_nor m
2016	100	–	100	–	100	–	100
2017	120	20	114	14	107	7	102
2018	110	-8.3	95	-17.3	91	-14.4	104
2019	130	18.2	122	28.9	102	12.1	105
2020	120	-7.7	115	-5.3	86	-15.7	110
2021	145	20.8	142	23.5	93	8.1	108
2022	150	3.4	123	-13.0	88	-5.4	106
2023	170	13.3	158	28.9	102	15.9	107
2024	190	11.8	178	12.5	124	21.6	108
2025	269	41.6	234	30.8	185	50.7	110

Source. Consolidated by the authors.

The graph presented in Figure 6 shows a close relationship between the dynamics of stock markets and the level of household savings. The PX index in the Czech Republic exhibits higher volatility as compared to the other indicators, which can be explained by greater market fluctuations during the 2017–2020 period. Instead, the Italian and Spanish markets, represented by the FTSE MIB and IBEX 35 indices, form a relatively tight cluster together with the savings level and the impact of yearly economic shocks. These markets are characterized by a consistent pattern: declines in stock indices are associated with increases in household savings, when long-term market growth results in stabilization or a gradual rise in savings. On the whole, the figure substantiates both the economic conditions and the psychological linkage between stock market behavior and household financial situation in the Czech Republic, Italy and Spain over the period of 2016–2025.

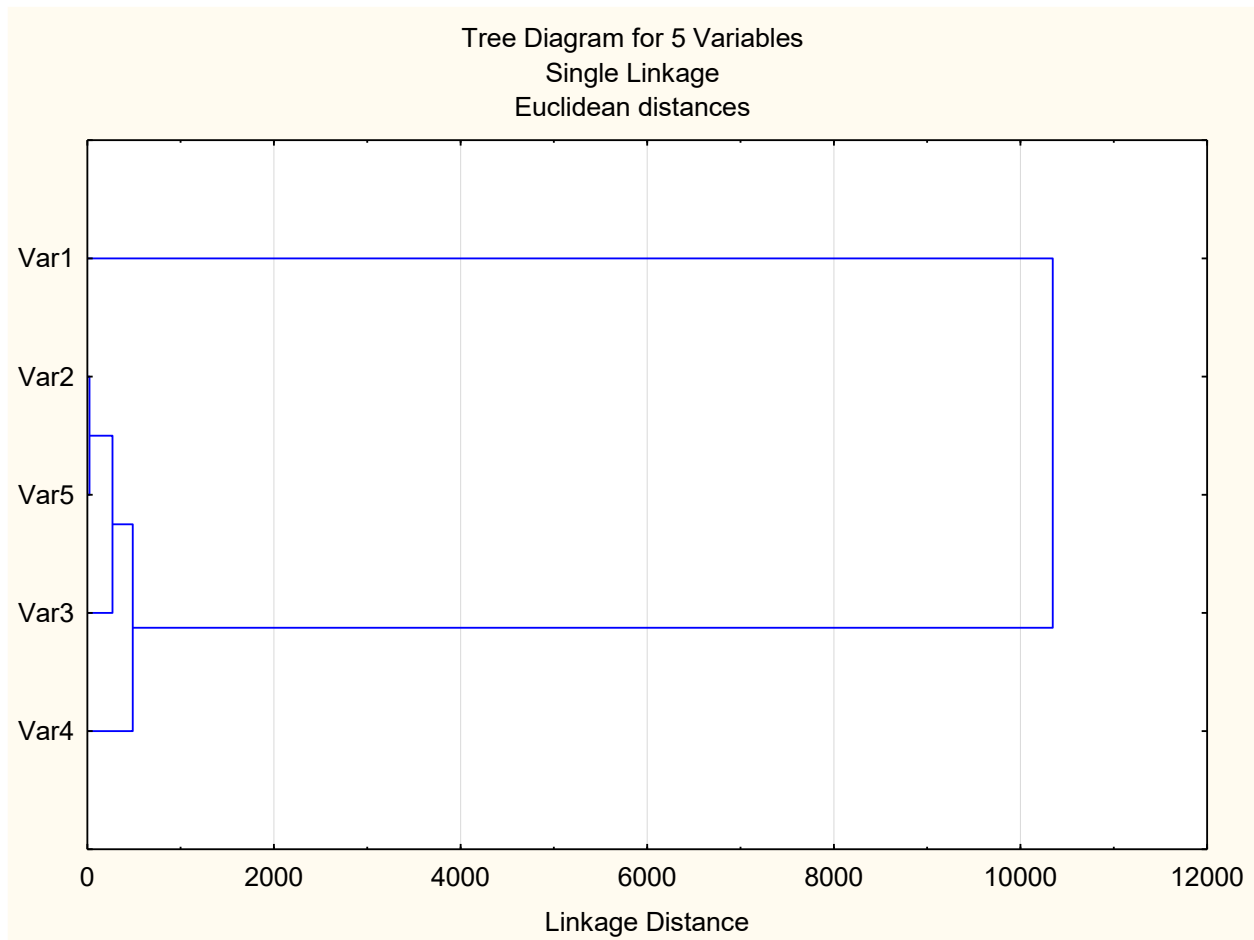


Figure 6
 Distribution of countries by stock market clusters

Note.

Var1 → *PX_norm* is the normalized Czech stock index *PX*
Var2 → *FTSE_MIB_norm* is the normalized Italian FTSE MIB index
Var3 → *IBEX_norm* is the normalized Spanish IBEX 35 index
Var4 → *Savings_norm* is the level of household savings
Var5 → *Shock (%)* — Annual Stock Index Shocks or Average Shock

Source: consolidated by the authors

Thus, the chart clearly shows that the PX index stands out among the three indices due to stronger fluctuations, but the FTSE MIB, IBEX 35 and household savings levels demonstrate more synchronized responses. This makes it possible to conclude that the mobilization of household savings functions as an adaptive mechanism that reduces the effects of macroeconomic instability and contributes to financial stability in EU countries.

Results and Discussion

A complex interaction of macroeconomic, financial and behavioral factors is demonstrated by the study of household savings dynamics in EU countries over the period 2016–2025. Although general patterns, such as the sharp increase in savings during the crisis year 2020, are in line with classical economic predictions and substantiate the findings of Skoblar (2024) and Zhao et al. (2022), the results appear to indicate a considerably stronger role of psychological factors and market shocks. Namely, even during periods of low interest rates, households exhibited active accumulation of

savings, which is to some extent inconsistent with traditional models that assume a direct relationship between the cost of credit and the propensity to save.

A comparative analysis of the Czech Republic, Italy and Spain can offer a critical reassessment of generalized assumptions regarding homogeneous household behavior within a single economic area. The Czech Republic, which is characterized by stable and high savings levels (from 100% in 2016 to 110% in 2025), supports the conservative behavior pattern described by Matějková and Tichá (2025). Italy and Spain demonstrate greater volatility, as the decline observed during the crisis year of 2020 (Italy to 95–100%, Spain to 110%) uncovers higher sensitivity to macroeconomic and social risks. It is consistent with the findings of Colabella et al. (2023) and Barrella et al. (2025). These differences demonstrate that even within the EU, household behavior is predominantly shaped by national economic and social factors.

Monetary policy is characterized by complex and non-linear impact. During 2016–2020, low interest rates supported consumption; yet, during crisis periods (notably 2020), households increased savings regardless of interest rate levels, which indicates the predominance of behavioral factors over classical economic determinants. After 2021, interest rate increases (to 3.75% in the Czech Republic and around 4% in Italy and Spain) made saving appear more attractive and moderately restrained consumption, which is consistent with Schrank's (2024) findings. It should be noted that this also highlights the complexity of interactions between economic incentives and households' psychological responses.

Undoubtedly, the macroeconomic environment is one of the principal determinants of savings formation. The analysis shows that GDP growth has a positive effect on savings levels. This aligns with Besley et al. (2026) conclusions of perceiving economic growth as a strong driver of income accumulation. Notably, the paradoxical increase in savings in 2020, when economic fall was followed by higher financial reserves, partly confirms the theoretical arguments of Sydoruk et al. (2024) and Pyatnychuk et al. (2024), who attribute such behavior to households' desire to build liquidity buffers during periods of uncertainty. However, the results of the current study further suggest that psychological factors and market shocks also play a crucial role, enabling a more accurate explanation of cross-country differences in savings.

The dynamics of the stock indices PX, FTSE MIB and IBEX 35 highlight the importance of structural differences across financial markets. The Czech Republic responds comparatively quickly to fluctuations in the PX index. At the same time, during periods of rising indices Italy and Spain demonstrate more synchronized savings behavior, which supports the "wealth effect" concept proposed by Grillet-Aubert (2020). Still, the high volatility of the FTSE MIB and IBEX 35 in 2018 and 2020 stimulated households to increase savings, while the stable growth of the PX index during 2021–2025 contributed to the formation of longer-term financial reserves. The above observations are indicative of the idea that any assessment of household financial behavior that does not include stock market fluctuations remains incomplete.

Summing up, the research results generally confirm the offered hypotheses. In particular, household savings levels respond to stock market volatility: during sharp declines in indices, savings tend to increase; however, during periods of market growth they exhibit stability or show gradual and moderate increases (Hypothesis 1). As observed in the Czech Republic, high and stable savings rate supports greater financial stability and reduces the unpredictability of household behavior during crisis periods. In Italy and Spain, household financial behavior appears highly synchronized with market fluctuations, indicating similar response patterns in countries with comparable economic structures (Hypothesis 2). As observed in 2021–2025, during periods of sustained stock market growth, household confidence is restored, thus fostering moderate growth in savings and a greater willingness to allocate part of disposable income to investments. Overall, this substantiates that

positive and stable market dynamics not only support household financial stability but also actively stimulate investment activity (Hypothesis 3).

Limitations

Despite the obtained results, the study is not without its limitations. The overriding limitation is that the analysis encompasses only three countries (the Czech Republic, Italy, Spain), which restricts the generalizability of the findings to other European or global markets. Furthermore, the models include a limited set of macroeconomic variables, such as GDP and unemployment. Yet, other potentially important determinants of savings behavior are excluded such as income levels, tax policy and cultural patterns of financial behavior. The above limitations should be taken into account when interpreting the results and designing future research.

Conclusions

The study of household savings dynamics in the Czech Republic, Italy and Spain during 2016–2025 uncovered essential differences in trends depending on economic structure, stock market conditions and unemployment rates. The savings remained the most stable in the Czech Republic, having increased from 100% in 2016 to 110% in 2025, which may indicate the traditionally high propensity of households to accumulate financial reserves. In Italy, a gradual recovery of confidence was observed following earlier crises: the savings rate fluctuated between 95% and 100%, reaching 108% by the end of the studied period.

In Spain, savings exhibited the highest volatility, reaching 110% during the crisis year of 2020, which may be indicative of strong sensitivity to changes in the economic environment. The importance of market wealth effects on household financial behavior is substantiated by the analysis of stock indices. For instance, in the Czech Republic, the PX index increased from 1,000 points in 2016 to 2,686 points in 2025, though fluctuations were observed in 2018 and 2020. In Italy, the FTSE MIB rose from 19,234 to 44,945 points with periodic declines. Yet, in Spain the IBEX 35 ranged from 9,352 to 17,308 points, also indicating declines in the same periods. The above mentioned stock market dynamics contributed to increased savings during the times of economic shocks and stimulated investment activity over the periods of stable growth. Also, it is evident that nominal GDP influences savings dynamics. In the Czech Republic, GDP increased from USD 195 billion to USD 270 billion, in Italy from USD 1,810 billion to USD 2,050 billion and in Spain from USD 1,210 billion to USD 1,500 billion, while the fall in 2020 was associated with increased savings across all countries.

Notably, the unemployment rate served as an important indicator of economic resilience. In the Czech Republic, it remained low, ranging from 2.2% to 2.7%, while in Italy and Spain it declined significantly over the period—respectively, from 11.2% to 7.1% and from 20% to 9.9%, despite highest levels during crisis periods (e.g., in Spain reaching 15.9% in 2020). In parallel, the increase in interest rates during 2023–2025 to 3.75–4% led to a more pronounced tendency toward savings and a moderate reduction in consumption, reflecting household adaptation to changing financial conditions. On the whole, the results demonstrate that household financial behavior is largely determined by the interaction of macroeconomic indicators, stock market dynamics and monetary policy. The highest savings stability is noted in countries characterized by low unemployment rate and clear signals of economic stability and growth.

The practical value of the study lies in its possibility to be applied for forecasting household responses to financial shocks, developing policies to encourage savings and enhancing the stability of national financial systems. Further research should expand the countries sample, incorporate additional economic variables and examine short-term effects of market shocks using higher-frequency (monthly or quarterly) data.

References

- Anser, M. K., Khan, M. A., Khan, M. A., Huizhen, W., & Haider, A. (2024). The effectiveness of emerging markets' legal structure in explaining financial development. *PLoS ONE*, 19(4), e0299831. <https://doi.org/10.1371/journal.pone.0299831>
- Bank of Italy. (2026). *Monetary policy and interest rates*. <https://www.bancaditalia.it/compiti/polmon-garanzie/index.html?com.dotmarketing.htmlpage.language=1>. Accessed on June 15, 2026.
- Barrafrem, K., Tinghög, G., & Västfjäll, D. (2024). Behavioral and contextual determinants of different stages of saving behavior. *Frontiers in Behavioral Economics*, 3, 1381080. <https://doi.org/10.3389/frbhe.2024.1381080>
- Barrella, R., Mora Rosado, S., & Romero, J. C. (2025). The 2022 energy and inflationary crises: Data, experiences and opinions of Spanish energy vulnerable households. *Energy Research & Social Science*, 121, 103961. <https://doi.org/10.1016/j.erss.2025.103961>
- Besley, T., Dann, C., & Dray, S. (2026). Growth experiences and trust in government. *The Quarterly Journal of Economics*, 141(2), 1761-1822. <https://doi.org/10.1093/qje/qjaf056>
- Český statistický úřad (Czech Republic). (2026). Home page. <https://www.czso.cz/>. Accessed on June 15, 2026.
- Challoumis, C. (2025). Economocracy: Global economic governance. *Economies*, 13(8), 230. <https://doi.org/10.3390/economies13080230>
- Chiabai, A., Spadaro, J. V., & Neumann, M. B. (2018). Valuing deaths or years of life lost? Economic benefits of avoided mortality from early heat warning systems. *Mitigation and Adaptation Strategies for Global Change*, 23(7), 1159-1176. <https://doi.org/10.1007/s11027-017-9778-4>
- CNB. (2026). *Interest rates (2W Repo Rate)*. <https://www.cnb.cz/en/faq/How-has-the-CNB-two-week-repo-rate-changed-over-time/>. Accessed on June 15, 2026.
- Colabella, A., Guglielminetti, E., & Rondinelli, C. (2023). *The distribution and use of Italian households' savings after the pandemic* (Research Gate Discussion Paper No. 797). <https://doi.org/10.13140/RG.2.2.29958.75849>
- ECB. (2026). *Household saving statistics*. https://www.ecb.europa.eu/stats/macroeconomic_and_sectoral/sector_accounts/html/index.en.html. Accessed on June 15, 2026.
- Esposito, L., & Mastromatteo, G. (2024). Behavioral economics and the nature of neoclassical paradigm. *Mind & Society*, 23(1–2), 45-78. <https://doi.org/10.1007/s11299-024-00303-y>
- Eurostat. (2026a). *Household saving rate (indicator explanation)*. https://ec.europa.eu/eurostat/databrowser/view/nasq_10_ki/default/table. Accessed on June 15, 2026.
- Eurostat. (2026b). *Household saving rate (Sector accounts)*. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Household_saving_rate. Accessed on June 15, 2026.
- Eurostat. (2026c). *Household saving rate up to 15.7% in the euro area*. <https://ec.europa.eu/eurostat/web/products-euro-indicators/w/2-04102024-ap?> Accessed on June 15, 2026.
- Feng, Q., Wu, G. L., Yuan, M., & Zhou, S. (2022). Save lives or save livelihoods? A cross-country analysis of COVID-19 pandemic and economic growth. *Journal of Economic Behavior & Organization*, 197, 221-256. <https://doi.org/10.1016/j.jebo.2022.02.027>
- Grillet-Aubert, L. (2020). *Opportunities and risks in the financial index markets* (SSRN Scholarly Paper No. 4954561). *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4954561>
- IMF. (2026). *World Economic Outlook Database*. <https://www.imf.org/en/Publications/WEO/weo-database>. Accessed on June 15.
- Instituto Nacional de Estadística (Spain). (2026). Home page. <https://www.ine.es/>. Accessed on June 15, 2026.

- Istituto Nazionale di Statistica (Italy). (2026). Home page. <https://www.istat.it/en/>. Accessed on June 15, 2026.
- Jumena, B. B., Siaila, S., & Widokarti, J. R. (2022). Saving behaviour: Factors that affect saving decisions (systematic literature review approach). *Jurnal Economic Resource*, 5(2), 217-235. <https://doi.org/10.56750/jer.v5i2.365>
- Kicova, E., Michulek, J., Ponisciakova, O., & Fabus, J. (2025). When financial awareness meets reality: Financial literacy and Gen Z's entrepreneurship interest. *International Journal of Financial Studies*, 13(3), 171. <https://doi.org/10.3390/ijfs13030171>
- Knicker, M. S., Naumann-Woleske, K., Bouchaud, J. P., & Zamponi, F. (2024). Post-COVID inflation and the monetary policy dilemma: An agent-based scenario analysis. *Journal of Economic Interaction and Coordination*, 20(1), 141-195. <https://doi.org/10.1007/s11403-024-00413-3>
- László, T. (2025). Structural divergences in the european economy: A cluster approach to macroeconomic performance (2013–2023). *Sustainable Futures*, 10, 100996. <https://doi.org/10.1016/j.sftr.2025.100996>
- Maftuhin, M., & Kusumawardani, D. (2022). Household saving behavior on formal financial institutions in urban and rural areas. *Ekulibrium Jurnal Ilmiah Bidang Ilmu Ekonomi*, 17(1), 40-53. <https://doi.org/10.24269/ekulibrium.v17i1.2022.pp40-53>
- Matějková, J., & Tichá, A. (2025). Housing market trends and affordability in Central Europe: Insights from the Czech Republic, Slovakia, Austria, and Poland. *Buildings*, 15(10), 1729. <https://doi.org/10.3390/buildings15101729>
- Moon, K., Heo, W., Lee, J. M., & Grable, J. E. (2023). Financial stress and COVID-19: A comprehensive analysis of the factors associated with the pandemic. *Risks*, 11(12), 218. <https://doi.org/10.3390/risks11120218>
- Phil-Ugochukwu, A. I. (2024). Informal financial savings practices to facilitate formal financial inclusion. *World Journal of Advanced Research and Reviews*, 24(3), 1970-1979. <https://doi.org/10.30574/wjarr.2024.24.3.3779>
- Pyatnychuk, I., Akimova, L., Pavlovskyi, O., Vengerskyi, O., Akimov, O., & Pershko, L. (2024). The economic and legal dimension of the migration of intellectual and human capital as a threat to national security: The role and possibilities of public administration. *Edelweiss Applied Science and Technology*, 8(6), 1481-1491. <https://doi.org/10.55214/25768484.v8i6.2264>
- Roe, D., Booker, F., Day, M., Zhou, W., Allebone-Webb, S., Hill, N. A. O., Kumpel, N., & others. (2015). Are alternative livelihood projects effective at reducing local threats to specified elements of biodiversity and/or improving or maintaining the conservation status of those elements? *Environmental Evidence*, 4, 22. <https://doi.org/10.1186/s13750-015-0048-1>
- Sahudin, Z., Ridzuan, A. R., Razak, M. I. M., & Bahrudin, N. Z. (2024). Determinants of household savings. *Advances in Social Sciences Research Journal*, 11(2.2), 347-362. <https://doi.org/10.14738/assrj.112.2.16422>
- Schrank, J. (2024). The impact of a crisis on monetary policy's influence on financial markets: Evidence from the COVID-19 pandemic. *Cogent Economics & Finance*, 12(1), 2322874. <https://doi.org/10.1080/23322039.2024.2322874>
- Skoblar, A. (2024). The puzzle of household savings in the European Union: Tracing influences across time and space. *Public Sector Economics*, 48(3), 247-282.
- Slavkova, A. A., & Shevaldina, V. H. (2025). Household savings and their impact on the Ukrainian economy. *The Problems of Economy*, 1(63), 342-349. <https://doi.org/10.32983/2222-0712-2025-1-342-349>
- Snower, D. J., & Wilson, D. S. (2025). Rethinking the theoretical foundation of economics II: Core themes of the multilevel paradigm. *Economics*, 19(1). <https://doi.org/10.1515/econ-2025-0133>
- Stanciu, L. (2025). Financial stability – a prerequisite for sustainable development of non-financial economic entities. *International Conference Knowledge-Based Organization*, 31(2), 88-95. <https://doi.org/10.2478/kbo-2025-0053>

- Statista. (2026). Household saving rate in Europe. <https://www.statista.com/topics/6820/saving-rate-in-europe/>. Accessed on June 15, 2026.
- Sydorchuk, O., Kharechko, D., Khomenko, H., Akimova, L., Kosarevych, N., & Akimov, O. (2024). Competencies for sustainable financial and economic management: Their impact on human capital development and national security. *Edelweiss Applied Science and Technology*, 8(6), 1445-1454. <https://doi.org/10.55214/25768484.v8i6.2261>
- TradingEconomics. (2026). Household saving rate (EU countries). <https://tradingeconomics.com/country-list/personal-savings>. Accessed on June 15, 2026.
- Zaiats, V. (2024). Financial behavior of households in the context of their resilient development. *Demography and Social Economy*, 55(1), 41-58. <https://doi.org/10.15407/dse2024.01.041>
- Zhao, L., Rasoulinezhad, E., Sarker, T., & Taghizadeh-Hesary, F. (2022). Effects of COVID-19 on global financial markets: Evidence from qualitative research for developed and developing economies. *European Journal of Development Research*, 35(1), 148-166. <https://doi.org/10.1057/s41287-021-00494-x>