# **Review**

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# Demystifying Household Stock Market Participation: A Thematic Synthesis of Literature from 2015 to 2025

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**Abstract:** With respect to the financial system, household stock market participation (SMP) is a key determinant of wealth accumulation, financial stability, and economic growth. However, limited SMP has remained a puzzle for scholarly and policy efforts mainly in the emerging and developed economies; making the phenomenon a suitable area of research. Given an influx of studies on household SMP over the recent decade and a mix of research findings, the systematic review uses the PRISMA framework to identify and select 102 articles on household SMP research from 2015 to 2025. A thematic analysis of the articles highlights household SMP drivers, measurement strategies, mechanisms of influence, outcomes and how the overall phenomenon relates to six fundamental theories: asset pricing, behavioral finance, EMH, expected utility, portfolio choice and social capital. Moreover, by identifying the outstanding debates and research gaps, the review suggests future research directions in the field of household SMP.

Keywords: Household; Stock market participation; Financial system

## 1. Introduction

area of research in finance, as it directly impacts personal, household, national and global wealth, as well as the behavior of businesses and the overall efficiency of the economy. SMP can also serve as a pathway through which other factors, such as trade protectionism, affect the financial system and the economy (Li & Li, 2025). Within the financial system, households are the principal lender-savers, alongside business enterprises, the government, and foreign entities. As such, household investment dynamics have garnered significant attention in financial economics literature.

However, limited household SMP has remained a key scholarly and policy concern for both emerging and developed economies. This phenomenon, known as the "stock market participation puzzle," has been a subject of extensive research over the past decade (Otinga & Mugo-Waweru, 2024). Despite this, the puzzle persists, and understanding the factors influencing SMP remains crucial for both academic and policy purposes. Consequently, an influx of studies particularly on household SMP over the recent decade has brought about a mix of research findings on the dynamic and ever evolving patterns of household SMP, without specific focus on the thematic synthesis of relevant literature.

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This systematic literature review, therefore, contributes to the body of literature by systematically and thematically synthesizing evidence from recent studies on household SMP with focus on measurement approaches, drivers, outcomes, mechanisms and underlying theories. The unique combination of systematic analysis and thematic organization enhances the understanding of the household SMP's key issues, debates and research agenda aimed at informing further research and targeted policy implications across financial stakeholders and economies. Moreover, this research uniquely extends the thematic analysis to underlying theories of household SMP in order to clarify the SMP puzzle and provide the future research directions.

# 2. Review Methodology

# 2.1. Search Strategy and Literature Organizing Framework

This research applies the 2020 updated guidelines

for the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework which uses a step-by-step approach for searching and utilizing literature for review based studies (Moher, 2021). Firstly, the search strategy in Web of Science used the key phrase "Household Stock Market Participation" filtered for years 2015 through 2025. The initial identification, therefore, came up with 187 articles which were screened by selecting titles which strictly contained the word: "Household". An analysis of abstracts of the articles resulted in 71 papers. Although the remaining articles did not include the term "Household" in their articles, further identification of 31 relevant articles was done by including articles published by authentic Journals listed by the Financial Times (FT50), 2025; University of Texas at Dallas (UTD24), 2025; and Association for Business Schools (ABS) Ranking, 2024. The final sample, therefore, contained 102 articles as illustrated in Figure 1.

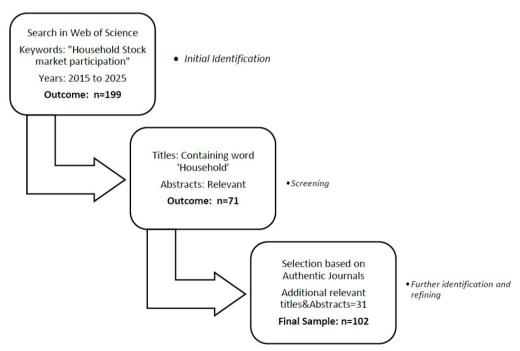


Figure 1. Literature identification and selection process.

After identifying the relevant texts, *Microsoft Excel* spreadsheet was used to record key content, including the research topic trends, geographic focus and methodical approaches and the key findings, of each article. Apart from the general descriptive data for the papers, each paper was reviewed to summarize its research content with thematic focus on influencing

factors, measurement strategies, outcomes and mechanisms of household SMP as illustrated by the organizing framework in **Figure 2** which guides the review's preceding discussion. The analysis extended the conceptualized themes to six underlying theories applied by the researchers with respect to the nature and effects of household SMP.

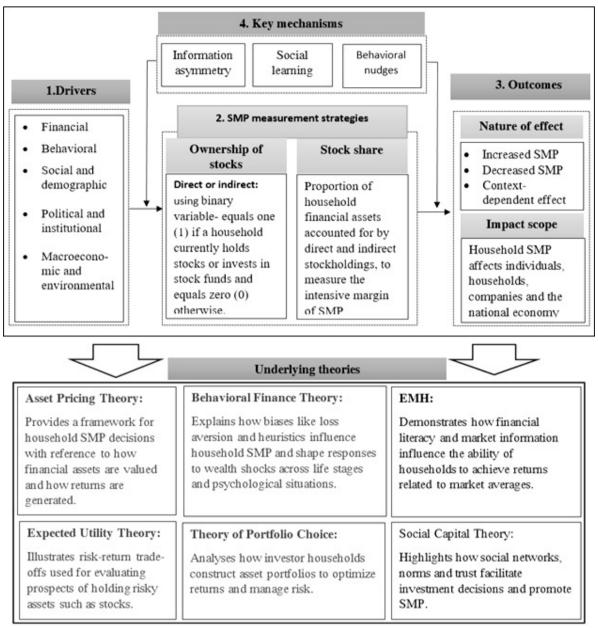


Figure 2. Literature organizing framework for household SMP

# 2.2. Descriptive Statistics for Reviewed Papers

The sample of 102 research papers can be described in terms of temporal and geographic distribution. The literature can also be classified according to their methodical approaches.

## 2.2.1. Temporal distribution

The sample indicates an increasing trend in research on household SMP as shown in **Figure 3**. This is consistent with the gradual increase in studies on household finance as noted by Zehra and Singh (2023). Within the trend, 2023 has the greatest percentage (19%) of research papers while 2018 has the lowest percentage (2%). In 2018,

several significant macroeconomic events occurred, including the initiation of the trade war by the Trump administration in the United States and four interest rate hikes by the Federal Reserve (Zhang, 2020). These events had a substantial impact on the global financial sector. However, it is noteworthy that the percentages of studies on household SMP increased significantly following the 2018 macroeconomic events, the COVID-19 pandemic in 2019 and the subsequent global shift towards digital advancement. Further examination of the sample articles also shows growing attention towards behavioral and digital finance.

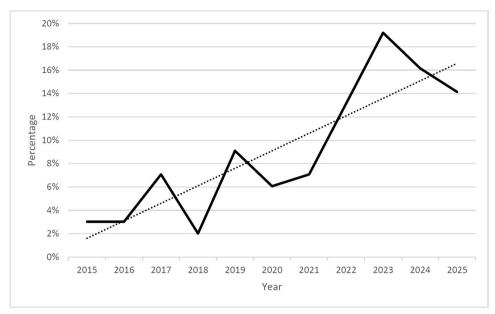


Figure 3. Trend of research on household SMP

*Note:* The percentage of 2025 papers was calculated based on articles identified by 24<sup>th</sup> September, 2025, and the final percentage for the year would likely be higher.

#### 2.2.2. Geographic distribution

Figure 4 shows the geographic distribution of reviewed research papers on household SMP. Almost 60% of the studies focus on China and the USA together, highlighting geographic concentration in the two countries. The lower percentage of the geographic distributions is composed of studies from Europe, cross-country studies and other countries, including Korea and India.

The dominance of percentages of research by China and the USA not only reflects the development of financial institutions and financial markets in the respective areas of study but also the availability of related data in those countries. For example, China and the USA have several dedicated databases such as the China Household Finance Survey (CHFS) and the Panel Study of Income Dynamics (PSID) respectively which provide useful data to a majority of research on household SMP. Apart from having underdeveloped financial systems, many other countries- especially developing ones- do not have typical databases for household finance.

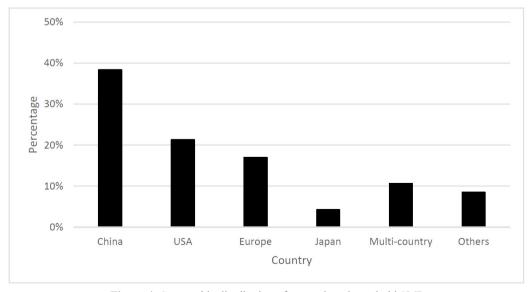


Figure 4. Geographic distribution of research on household SMP

# 2.2.3. Methodical approaches

The studies can also be classified into empirical, theoretical mixed and conceptual reviews. The methodical approaches are dominated by empirical studies, around 70%, primarily using regression and panel data. **Figure 5** illustrates the distribution of studies according to methodical approaches.

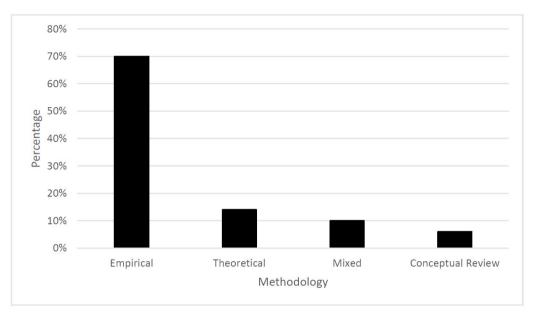


Figure 5. Distribution of methodical approaches

There are about 15% papers that used theoretical models- indicating less research work on conceptual frameworks like the one employed by Cheng, et al. (2024) on the influence of social capital on household SMP. Nevertheless, theoretical papers also essential for making causal inferences. For instance, Czellar, Garcia and Le Grand (2025) propose an asset pricing model which 'accurately' reproduced the proportion of household stockholders in France; and proved useful for estimating SMP costs. Nevertheless, the distribution of methodical approaches reflects a dominating preference of technical analysis to fundamental analysis of SMP by the researchers.

# 3. Thematic Findings on Household SMP

# 3.1. Drivers of Household SMP

The influencing factors or drivers of household SMP were analyzed according to type, namely; financial, behavioral, social and demographic factors, political and institutional, macroeconomic and environmental factors.

#### 3.1.1. Financial factors

Accounting quality and locality of companies of stock investment influence household SMP. Huang and Kim

(2023) investigate the influence of accounting quality of firms whose stocks households are invest in while Jiang, et al. (2024) focus on the locality of firms which made Initial Public Offers (IPOs).

A unique financial factor relates to ownership of the firm in which to invest. For example, Giannetti and Wang (2016) found out that ambiguity aversion is negatively associated with SMP of households in the USA, the fraction of their financial assets in stocks, and foreign stock ownership. However, ambiguity aversion is positively related to own-company stock ownership revealing how ambiguity aversion is related to portfolio under-diversification, and the tendency of households to sell stock during financial crisis.

# 3.1.2. Behavioral factors

Cognitive abilities can also be considered under behavioral factors. Cheng, et al. (2018) and Xu, Alnafrah and Dagestani (2024) are some researchers who focus on the role of household cognitive abilities and risk attitudes on SMP.

Other examples of behavioral factors include household beliefs studied by Gao (2019) and religious beliefs investigated by Kim, Kim. and Han (2021) and Xu, et al. (2022). While Xu, et al. (2022) argues that

religiosity, especially among Buddhists and Protestants, crowds out time spent on improving financial literacy and lowers commercial insurance expenses; Gao (2019) and Hwang (2024) noted that optimistic beliefs and loss aversion influence participation.

#### 3.1.3. Social and demographic factors

Social support and social capital are also key to household SMP as demonstrated by Huang and Gooi (2023) and Cheng, et al. (2024) respectively. Huang and Gooi (2023) look at both tangible and intangible forms of social support in order to highlight the impact of emotional support, physical health and mental happiness on SMP. Conceptually, social capital also has a bearing on structural, relational, cognitive aspects of behavioral finance associated with interaction, trust and shared visions within online investors (Cheng, et al., 2024).

Further, some researchers concentrated on other social and demographic factors including the military experience of the household head (Wen, et al., 2023), literacy aspects (Yamori & Ueyama, 2022) and gender (Bacher, 2024; Barasinska& Schäfer, 2017) aspects.

#### 3.1.4. Political and institutional factors

The effect of domestic political and technological factors on household SMP has not been spared from research. Such factors include policy elements such as interest rate liberation which enhance SMP (Lan, et al., 2022) and property taxes (Xu, et al. (2024). According to Agarwal, et al.'s (2022) study in the USA, political uncertainty can also reduce household SMP and reallocation of funds to safer assets.

As part of institutional factors, digital finance infrastructure interventions like broadband networks and computer applications have been found to enhance household SMP (Liu, Yin & Yan, 2025; Wang, et al., 2022). Similarly, Guo and Guo (2025) integrate technological, social and human capital perspectives in explaining SMP determinants.

# 3.1.5. Macroeconomic experiences and environmental factors

The surrounding factors and occurrences associated with the households also influence SMP. For instance, macroeconomic experiences, such as the 2008 financial crisis affected the financial risk taking and SMP of households in the Euro area countries (Ampudia & Ehrmann, 2017). Again, Lee (2023) refers to

the Russian invasion of Ukraine to illustrate how geopolitical risk affects household stock market in the USA. Another example researched by Gan, et al. (2025) is air pollution which reduced household SMP in China.

# 3.2. Measurement of Household SMP

The researchers measure household stock market participation in two main ways: stock ownership and stock share.

# 3.2.1. Ownership of stocks

Most studies measure household SMP as a binary variable whereby '1' is for ownership of stocks in a company and '0' is for non-participation in the same sense. For instance, Gao (2019) and Huang and Kim (2023) follow this measurement approach. Some researchers, like Giannetti and Wang (2022) and Xu et al. (2022) further distinguish such direct stock market participation (DSMP) from indirect stock market participation (IDSMP). While DSMP refers to the direct ownership of individual stocks by an investor who buys or sells shares through a brokerage account, IDSMP involves investing in the stock market through pooled investment vehicles such as mutual funds and exchange traded funds (DTFs) which allow the investor to own a diversified portfolio of stocks without directly purchasing individual shares.

Using the ownership measurement strategy of household SMP, the researchers are able to use of econometric models, particularly logit and probit, which are constructed on binary dependent variables.

# 3.2.2. Stock share

Stock share, defined as the fraction of household financial assets accounted for by direct and indirect stockholdings, to measure the intensive margin of SMP. The researchers that use stock share measurement in addition to the ownership make the studies more comprehensive than the studies which use only the stock ownership since the shares indicate the intensity of participation as illustrated by Gan, et al. (2025) and Wen, et al. (2023). The stock share measurement allows the use of regression techniques, including tobit and ordinary least squares (OLS) that suit either censored or uncensored continuous dependent variables.

Moreover, some researchers consider the ages of household heads when defining household SMP. Whilst Xu, et al. (2022) limited SMP in China to household

heads between 18 years and 85 years, Wang, J., Zhang and Wang, Z. (2022) limit the sample in China to ages between 16 years and 80 years. Other researchers, however, choose to fix the minimum age and leave an open upper limit. For instance, Shi, et al. (2021) and Li, J. and Li, W. (2025) considered household samples whose heads were 16 years and older. Since researchers in one country can use different age limits, the sampling relates to not only the rules of SMP in a particular study area but also specific objectives of the

research.

# 3.3. Household SMP Outcomes

# 3.3.1. Nature of influence

The household SMP drivers in section 3.1. can have positive, negative and mixed or context-dependent effect on SMP. Table 1 sums up the influencing factors according to their effect on household SMP. The table also includes the mechanisms though which the factors operate as analyzed in key representative studies.

Table 1. Nature of influence of household SMP drivers

Factor	Mechanism	Key Studies					
a. Positive influences on SMP (Increasing participation)							
i. Financial literacy	Enhances understanding and evaluation of investment risks or returns	Due :1 (2025). Weight 1					
ii. Social Support	Peer networks reduce information barriers and increase trust	Huang & Gooi (2023); Jiang, et al. (2022)					
iii. Local Initial Public Offers	Familiarity with local firms boosts confidence	Jiang, et al. (2024)					
iv. Digital Finance	Lowers entry barriers through such innovations as the expansion of broadband network and the use of mobile investing computer applications	Xiao, Li & Zhang (2025); Peng & Mao					
v. High income or wealth	Reduces liquidity constraints	Vestman (2019); Fagereng, Gottlieb and Guiso (2017) (2017)					
vi. Optimistic beliefs	Encourages risk-taking	Gao (2019)					
vii. Military experience	Correlates with discipline and risk tolerance	Wen, et al. (2023)					
viii. Retirement savings and consumption Higher retirement consumption expectations increase proportion or risky assets  Bornaparte (2025) and Jing, et al. (2025)							
ix. Accounting quality	Transparency reduces perceived risk	Huang&Kim (2023)					
x. Firm ownership	Ambiguity aversion is positively related to own-company stock ownership	Giannetti and Wang (2016)					
b. N	legative influences on SMP (Decreasing partici	pation)					
i. Geopolitical risk	Increases uncertainty and risk aversion to equities	Li & Li (2025); Lee (2023)					
ii. Air pollution	Correlates with reduced cognitive function and risk appetite	Gan et al. (2025)					
iii. Political corruption	Erodes trust in financial systems	Bu et al. (2022)					
iv. Natural disasters	Trigger loss aversion and short-term financial priorities	Bharath&Cho (2023)					
v. Gender norms	Cultural biases restrict women's access to financial networks	Bacher (2024); Barasinska & Schäfer (2017)					
c. Mix	ed or context-dependent influences (Varying wit	th setting)					
i. Homeownership	Housing wealth increases risk tolerance	Aoki, et al. (2025); He (2022)					
	Mortgage debt reduces disposable income for investing in stocks	Beaubrun-Diant & Maury (2016)					
ii Conial internations	Peer learning enhances participation	Huang&Gooi (2023)					
ii. Social interactions	Herding behavior amplifies market bubbles	Godstein&Knight (2023)					
iii. Macroeconomic shocks	Crises like COVID-19 may spur retail investing; expected inflation encourages SMP depending on the income level						
	Pandemics like H1N1 mortality depress SMP and prolonged crises erode investor confidence	Guo, Leung & Zhang (2025); Zhou (2020)					

		Continuation Table:
Factor	Mechanism	Key Studies
iv. Religion	Protestantism correlates with-risk taking	Xu, et al. (2022)
	Some religions discourage speculative gains and Buddhism crowds out time spent on improving financial literacy	Xu, et al. (2022); Kim, et al. (2021)
v. Age	Middle-aged households invest more	Department (2025): Engagency et al. (2017)
	Older households de-risk portfolios	Bonaparte (2025); Fagereng, et al. (2017)
vi. Intergenerational raising	Presence of a daughter is associated with lower savings and SMP rate unlike the case of having a son.	Wen, Chen & Tani (2025)

As shown in **Table 1**, a range of factors increase household SMP. These factors include financial literacy which enhances the understanding of investments; social support which builds trust and confidence; and digital finance, which lowers stock market entry barriers. Furthermore, high income or wealth reduces liquidity constraints, while psychological and experiential factors like optimistic beliefs, military experience, and stock ownership in one's own company encourage risk-taking. The expectation of higher retirement consumption and better accounting quality in firms also promotes investment by increasing risk tolerance and reducing perceived risk.

Conversely, several factors decrease household SMP. Geopolitical risk and air pollution respectively increase the uncertainty and reduce cognitive function and risk appetite for SMP. Political corruption erodes trust in financial systems, and natural disasters trigger loss aversion, shifting focus to short-term financial priorities. Additionally, restrictive gender norms limit women's access to financial networks and knowledge necessary for investing.

Table 1 also shows that some factors have a mixed or context dependent influence on household SMP. For instance, home ownership can either, increase risk tolerance through housing asset earnings or decrease investment capacity due to mortgage debt. Similarly, social interactions can facilitate peer learning and increase SMP; or lead to detrimental herding behavior against SMP. Macroeconomic shocks, religion, age and intergenerational raising also demonstrate variable effects, either encouraging or discouraging SMP depending on the specific circumstances, beliefs, or life stages of the household.

# 3.3.2. Scope of impact

In the long run, household SMP has impacts on the

households and individuals, firms and the national economy. The researchers not only focus on the impact of household SMP on participating households themselves, but also spillovers to other economic entities like companies and the national economy.

#### a. Households and individuals

SMP offers significant benefits to households and individuals, primarily through wealth accumulation and financial literacy spillovers. The primary incentive for SMP is the potential for financial gain, including the dividends and capital appreciation, as highlighted by Jiang et al. (2024). This benefit helps individuals grow their wealth and provides a means for financial security and retirement planning. Additionally, household SMP contributes to the spread of financial literacy within communities. As Xu (2024) notes, the financial knowledge gained by one household can spill over to neighboring households, enhancing overall financial awareness and decision-making capabilities. This collective financial literacy can lead to more informed and rational investment choices, further promoting economic stability and growth at the household and individual level.

### b. Companies

For companies, the impact of household SMP is primarily felt through the cost of capital and capital structure. Broader household participation in the stock market leads to a more diversified investor base, which can reduce the cost of capital for companies, as noted by Jiang et al. (2024). A lower cost of capital allows companies to undertake more projects and investments, enhancing their growth and profitability. Moreover, a larger and more stable investor base can improve corporate governance and accountability, as shareholders have a vested interest in the company's performance. Overall, household SMP contributes to a

more efficient allocation of capital by companies.

## c. National economy

At the national level, household SMP plays a crucial role in maintaining market liquidity and promoting economic development. An effective financial system relies on a steady flow of capital, and households are a key source of liquidity, as illustrated by Melcangi and Sterk (2024). Further, household SMP can help reduce income inequality and promote allocative efficiency within the financial system (Peng & Mao, 2024). By enabling a broader base of individuals to participate in wealth creation, household SMP can lead to a more equitable economic stability and resilience of citizens thereby contributing to a healthy financial system, market liquidity, economic growth and at national level.

#### 3.4. Classification of Mechanisms

The mechanisms through which the factors drive household SMP can further be categorized as follows:

# 3.4.1. Information asymmetry

Information asymmetry refers to a situation where different parties in a transaction have access to different levels of information. Consequently, information asymmetry is a critical mechanism through which various factors influence household SMP by affecting the decision-making process. For example, Huang and Kim (2023) illustrated that enhanced accounting quality and transparency of firms reduce the uncertainty surrounding stock performance, thereby increasing household SMP in those firms. Moreover, macroeconomic and environmental factors, including economic stability and market conditions, affect overall confidence in the stock market. By affecting transparency and reducing uncertainty, the household SMP drivers can either encourage or discourage the participation of households in stock markets.

# 3.4.2. Social learning

The social learning mechanism fosters a supportive and informative investment environment for households to participate in the stock market. Some drivers of household SMP involve learning about investment strategies and financial decisions through social networks and peer interactions. Huang and Gooi (2023) demonstrate that social support and interactions significantly influence household SMP in China. Particularly, social factors such as the tendency to

follow the investment decision of trusted peers, contribute to the spread of investment knowledge and practices. Through social networks, households also gain valuable insights and information about stock market investments, which can enhance their financial literacy and confidence (Xu, 2024). In addition, political and institutional factors, such as policies promoting financial education and community-based investment programs, can facilitate social learning and increase SMP.

# 3.4.3. Behavioral nudges

Behavioral economists view nudges as a means to correct cognitive biases and heuristics that often lead to suboptimal financial decisions (Cai, 2019). Behavioral nudges are subtle interventions designed to influence people's behavior without restricting their choices while aiming to correct undesired cognitive biases. For instance, Gao (2019) reveals that household optimism can increase risk-taking behavior and subsequent SMP, highlighting the positive reinforcement and confidence-building measures. Whilst behavioral factors, including risk tolerance and investment preferences, a crucial in determining how households respond to nudges; demographic factors such as age and gender, can influence the effectiveness of behavioral interventions.

#### 3.5. Underlying Theories

The researchers utilize typical theories that explain the influencing factors and their mechanisms of influencing household SMP and impact on various stakeholders. Together, the underlying theories provide a robust framework and valuable insights for understanding the complex interplay of drivers and mechanisms of household SMP.

#### 3.5.1. Asset Pricing Theory

The Asset Pricing Theory provides a comprehensive framework for understanding how financial assets are valued and how returns are generated. By incorporating risk, expected cash flows, and market conditions, asset pricing models such as the Capital Asset Pricing Model (CAPM) and Arbitrage Pricing Model (APM) help investors and financial professionals make informed decisions in a complex and dynamic market environment (Sharpe, 1964; Ross, 1976).

In the context of household SMP, this theory is utilized to explain how various factors influence investment decisions. For instance, Lee (2023) and Li

and Li (2025) explore the implications of asset pricing theory in geopolitical asset market environments. Czellar et al. (2025) directly apply this theory by proposing an asset pricing model for household stockholders in France, extending the model to the estimation of SMP costs. This application highlights how asset pricing theory can be adapted to understand the specific challenges and opportunities faced by households in different economic contexts.

# 3.5.2. Behavioral Finance Theory

The Behavioral Finance Theory integrates behavioral and cognitive psychological theories with traditional economics and finance to explain why people make irrational financial decisions (Baker and Wurgler, 2007). This theory is particularly relevant in understanding household SMP, as it accounts for the biases and heuristics that influence investment decisions.

In line with this theory, Huang and Kim (2023) and Hwang (2024) demonstrate how biases, such as loss aversion, shape participation of households in the stock market. Bornaparte (2025) and Jing et al. (2025) further explore the dynamics of stock ownership behavioral responses to wealth shocks across the household's life cycle, including retirement stages. These studies highlight the importance of understanding psychological factors in predicting and explaining household investment behavior, emphasizing that traditional economic models alone cannot fully capture the complexity of household decision-making in financial markets.

#### 3.5.3. Efficient Market Hypothesis

Proposed by Fama (1970), the Efficient Market Hypothesis (EMH) posits that asset prices fully reflect all available information, making it impossible to consistently achieve returns above the market average by identifying undervalued or overvalued assets. This theory is foundational in financial economics and has significant implications for household SMP.

Yamori and Ueyama (2022) utilize EMH to highlight the role of financial literacy and market information in SMP for households in Japan. Their study underscores the importance of information symmetry and the impact of market efficiency on investment decisions. By understanding how market efficiency influences asset prices, households can better navigate the stock market, recognizing that superior returns are challenging to achieve without additional information or insights.

# 3.5.4. Expected Utility Theory

The Expected Utility (EU) Theory is a foundational model in decision-making under uncertainty, positing that individuals evaluate risky prospects by calculating the weighted average of utilities of possible outcomes, where weights are probabilities (Pratt, 1964). Thus, the choice with the highest EU is preferred.

This theory is instrumental in understanding how households weigh the risks and returns of stock market investments. Gao (2019) illustrates risk-return trade-offs guided by EU Theory, demonstrating how households make investment decisions based on their risk tolerance and expected returns. By applying the EU Theory, researchers can better understand the rationality behind household investment choices, even in the face of uncertainty and potential risks.

## 3.5.5. Theory of Portfolio Choice

Also known as modern portfolio theory (MPT), the theory of portfolio choice provides a framework for investors to construct portfolios to maximize returns for a given level of risk or minimize risk for a given level of return (Markowitz, 1991). This theory emphasizes the importance of diversification and risk-return tradeoffs in portfolio construction.

Studies such as those by Ampudia and Ehrmann (2017) and Fagereng, et al. (2017) apply elements of this theory to explore how households balance risk and return in their investment portfolios. Zhou (2020) further investigates the role of portfolio choice in achieving optimal investment outcomes. Additionally, Aoki et al. (2025) innovatively explore the interplay between inflation, money demand, and life-cycle portfolio choice for homeowners; demonstrating the broad applicability of this theory in understanding household financial behavior.

# 3.5.6. Social Capital Theory

The social capital theory, proposed by American sociologist Robert Putnam in the 1990s and expounded by Fukuyama (1996), focuses on the relationships between individuals and groups within a society, emphasizing the value and role of social networks, social norms, and trust in promoting social coordination and collective action.

This theory is particularly relevant in understanding how social networks influence household SMP. Huang and Gooi (2023) confirm that social networks enable household investment decisions and, therefore, SMP. Their findings highlight how social support and interactions can enhance financial literacy and confidence, leading to increased participation in the stock market. By leveraging social capital, households can overcome information barriers and gain trust in financial markets, making more informed and confident investment decisions.

## 4. Future Research Directions

The existing literature on household SMP has laid a strong foundation, but several unresolved debates and identified gaps chart a clear direction for future inquiry. One of the prominent debates is the "participation puzzle," which questions why many households avoid stock market investments despite high expected returns. While some researchers attribute this to rational barriers such as high information costs and liquidity constraints, others point to behavioral biases like loss aversion and financial illiteracy. Another key debate centers on the role of financial literacy, with conflicting evidence suggesting that its impact on SMP may be endogenous to cognitive ability, social networks, and wealth. Additionally, there is ongoing discussion about whether digital finance promotes broader inclusion or exacerbates existing divides by primarily benefiting advantaged populations. The relationship between housing wealth and stock investments also remains contentious, with studies suggesting both complementary and substitutive effects depending on factors like mortgage policies and stock market maturity.

Despite extensive research, significant gaps remain in the understanding of household SMP. Measurement approaches for SMP are inconsistent, with varying definitions of stock ownership and portfolio bases, making cross-country comparisons challenging. The geographic distribution of research is heavily skewed towards developed and a few emerging economies, leaving regions like Africa and Latin America underrepresented. This limits the global understanding of SMP and the potential for cross-cultural comparisons. Furthermore, there is a need for more nuanced frameworks that consider the joint effects of influencing factors, such as the interplay between gender, age, employment status, and digital literacy. Sector-specific analyses are also lacking, which could reveal important industry dynamics influencing household investment decisions. Lastly, the literature overwhelmingly focuses on entry into the stock market, neglecting the exit perspective and the broader impacts of SMP on household well-being, firm governance, and national economic stability.

Future research should address these debates and gaps to provide a more comprehensive understanding of household SMP. This section synthesizes five key areas summarized in **Table 2**, pointing out specific future research questions.

Table 2. Research agendas.

Research Agenda	Subtopic(s)	Knowledge Gap(s) Revealed by the Review	Specific Future Research Questions
	The "Participation Puzzle"	Unclear relative importance of rational barriers vs. behavioral biases	<ul> <li>What is the contribution of each factor (rational vs. behavioral) to the participation puzzle?</li> <li>How do these factors interact?</li> </ul>
	Role of Financial Literacy	Unclear causal relationship between financial literacy and SMP; potential endogeneity to cognitive ability, social networks, and wealth	- What is the net effect of financial literacy on SMP? - How do cognitive ability and social networks moderate the impact of financial literacy?
Resolving Core Theoretical Debates	Digital Finance Impact	Unclear whether digital finance promotes inclusion or exacerbates divides	- How do digital platforms impact SMP among rural and low-income households? - What are the long-term effects of digital finance on different demographic groups?
	Housing vs. Stock Investments	Unclear whether housing and stock investments are complements or substitutes	- Under what conditions does housing wealth encourage or crowd out SMP? - How do mortgage policies and stock market maturity influence this relationship?

			Continuation Table:
Research Agenda	Subtopic(s)	Knowledge Gap(s) Revealed by the Review	Specific Future Research Questions
Refining Household SMP Measurement Approaches	Measurement Consistency	Inconsistent definitions of SMP measures and portfolio bases	- How can SMP measures be standardized across studies? - What are the most appropriate definitions for SMP numerator and base investment portfolio?
Broadening Geographic and Cross-Cultural Scope	Geographic Distribution	Overrepresentation of developed and a few emerging economies	- How do cultural and institutional contexts in underrepresented regions (e.g., Africa, Latin America) influence SMP? - How can data availability and accessibility be improved in developing countries?
	Intersectional Factors	Limited research on joint effects of influencing factors	- How do factors like gender, age, employment status, and digital literacy interact to influence SMP? - What are the joint effects of these factors on investment behavior?
Embracing Intersectional and Sectoral Analyses	Sectoral Focus	Lack of sector-specific analyses	- How do specific industries (e.g., textiles, technology, energy) influence household investment decisions? - What are the sectoral dynamics in regions with strong household presence?
Investigating the Exit Perspective and Impacts of Household SMP	Exit Perspective	Limited research on factors influencing stock market exit	- What factors lead households to exit the stock market? - How do life-cycle patterns of divestment vary during retirement or market downturns?
	Impact of household SMP	Limited research on the impacts of SMP on various stakeholders	- How does SMP affect household well-being, firm governance, and national economic stability? - What are the long-term impacts of SMP on these areas?

## 4.1. Resolving Core Theoretical Debates

## 4.1.1. The "participation puzzle"

The relative importance of rational barriers versus behavioral biases is still contested. The review reveals that there is still debate as to why many households still avoid stock market investments despite high expected returns. Some researchers like Vestman (2019) and Catherine (2022) focus on rational explanations including high information costs and liquidity constraints yet others attribute the puzzle to behavioral reasons such as loss aversion (Hwang, 2024), ambiguity aversion (Giannetti & Wang, 2016), or financial illiteracy (Yamori & Ueyama, 2022). Future research should, therefore, aim to quantity the contribution of each factor and explore the possible factor interactions.

## 4.1.2. Theory role of financial literacy

The causal relationship between financial literacy

and household SMP is still unclear, with evidence suggesting its effects may be endogenous to cognitive ability, social networks and wealth. The supporting evidence from Xu (2024) and Li, et al. (2020) that financial literacy boosts SMP is contradicted by the findings of Xu, et al. (2024) and Jiang, et al. (2022) that literacy effects diminish when controlling for cognitive ability or social networks. Further, Kaicheng et al. (2025) demonstrate how the degree of the impact of literacy on household SMP is moderated by other factors such as employment and digital literacy.

# **4.1.3.** Does digital finance enhance or hinder household SMP?

It remains unclear whether digital platforms ultimately promote broad inclusion or exacerbate divides by primarily benefitting 'advantaged' populations. The inclusion hypothesis is advanced by Wang, et al. (2022) and Peng and Mao (2022) who highlight that digital platforms for stock market investing reduce entry barriers. On the other hand, Guo et al. (2022) argue that the benefits of digital finance are biased towards younger, tech-savvy, or urban households making the long-term impacts on rural or low-income groups remain unclear.

# 4.1.4. The relationship between housing and stock investments

The researchers also debate whether housing and stock investments are complements or substitutes. From the complementary perspective, He (2022) and Zhou et al. (2025) note that housing wealth boosts risk tolerance for stocks. On the contrary, Beaubrun-Diant and Maury (2016) highlight that homeownership crowds out SMP due to liquidity constraints. Consequently, the resolution of the debate is context-dependent on such factors as mortgage policies and stock market maturity.

Future research should, therefore, aim to quantity the contribution of each driver of household SMP. isolate the net effect of literacy and determine the cost-effectiveness of financial literacy interventions compared to addressing structural inequalities. Moreover, longitudinal studies on the impact of digital finance on rural and low-income households are as crucial as systemic modelling of conditions under which housing wealth crowds out or encourages household SMP. To strengthen dynamic and causal analyses, longitudinal studies should also track household SMP over the life course and in response to major events such as pandemics, tariff wars and financial crises; and there should be greater use of experimental and quasiexperimental designs that establish causality and move beyond correlational findings. This literature review reveals overreliance on observational data as compared to experiments and quasi-national designs employed by a few researchers like Kotb and Proano (2023); and lack of experimental designs and macro-micro linkages like the ones employed by Melcangi and Sterk (2024).

## 4.2. Refining Household SMP Measurement Approaches

The advancement of the household SMP research field hinges on more consistent and dynamic methodical approaches. The researchers use diverse household SMP measurement strategies, from simple binary to the share of stock in a portfolio, with inconsistent definitions of the portfolio base and localized age limits for the sample households.

Although the SMP share measure provides detailed analytical opportunity, the definition of the numerator and the base investment portfolio for SMP depends on the justification provided by the researcher. For instance, some researchers like Huang and Kim (2023) noted the need to exclude stock holdings in individual retirement accounts due to possibilities of employer automatic enrollment and the need to defined SMP share as the amount of a household's stock investment divided by the household's total net wealth. On the other hand, other researchers including Wen, et al. (2023) do not highlight the qualification of the definition of stock market participation measured by share. Future studies should explicitly justify their chosen measures, and efforts should be made to develop more standardized metrics to facilitate crosscountry comparison of research findings.

# 4.3. Broadening Geographic and Cross-cultural Scope

The geographic distribution of household SMP research is heavily skewed towards developed and a few emerging economies, including China, as illustrated in **Figure 4**. This distribution presents a significant opportunity to broaden the research field's perspective.

There is need for studies in underrepresented regions, particularly in Africa and Latin America, which have unique cultural and institutional contexts. Research in these geographic areas would enhance the global understanding of household SMP as well as allow for cross-cultural comparisons of its drivers. Nevertheless, this research direction requires concerted efforts to improve data availability and accessibility in most developing countries.

# 4.4. Embracing Intersectional and Sectoral Analyses

Future research on household SMP should adopt more nuanced frameworks that reflect the complexity of household decision-making. Moving beyond the analyzing household SMP drivers in isolation, research should investigate their joint effects. For example, Kaicheng et al. (2025) explorers how subjective literacy gap interacts with employment status and digital literacy to shape investment behavior of households. Similarly, Bacher's (2024) example investigated gender investment gap through the lens of a structural life-cycle framework, thereby exploring joint effects of gender and age on household SMP.

Such intersectional analytical approaches would yield a more comprehensive and realistic understanding of household SMP.

Another promising research direction is to conduct sector-specific analyses as investment decisions are likely influence by the characteristics of specific industries such as textiles, technology and energy. Studying sectors with strong household presence, such as China's textile industry, could reveal potential "close-to-home" investment biases and other key sectoral dynamics (Dong, et al., 2024).

# 4.5. Investigating the Exit Perspective and Impacts of Household SMP

The literature's overwhelming focus on the entry decision into the stock market leaves out critical research areas. As recommended by Giannetti and Wang (2016), it is important for research work to consider the stock market exit perspective. Bonarparte et al. (2025) also hinted on the twofold decision of entering and exiting investment accounts along the life cycle. However, a majority of the research articles concentrate on factors influencing participation. Understanding the factors that lead households to exit the stock market is equally important for policy and financial stability. Research on the life-cycle patterns of divestment, particularly during retirement or market downturns, is a vital and under-explored area.

This review also shows lack of dedicated research on the impacts of household SMP. The researchers mainly focus on the nature of the influence of the drivers on the level of SMP with subtle extensions on individuals, households, companies and national economy as explained in Section 3.3. Beyond the focus on the changes in household SMP itself, studies which explicitly examine how stock market investments affect impact areas such as household well-being, firm governance through shareholder activism, and the stability of the national economy would be a valuable research contribution.

# 5. Discussion

This systematic literature review makes several distinct contributions to the field of household SMP by synthesizing a decade of research. Firstly, it provides a novel and comprehensive thematic framework that consolidates the extensive literature into a coherent structure. By systematically mapping the drivers,

measurement strategies, outcomes, mechanisms, and underlying theories of household SMP, this review offers a holistic overview that moves beyond fragmented analyses. The organizing framework (Figure 2) serves as a valuable conceptual map for scholars, enabling them to situate new findings within the broader ecosystem of factors influencing SMP and understand the interconnections between different thematic areas.

A second significant contribution lies in the explicit identification and synthesis of the fundamental theories underpinning household SMP research. While individual studies often apply specific theoretical lenses, this review is unique in classifying and explaining how six core theories—from Asset Pricing and Expected Utility to Behavioral Finance and Social Capital—collectively provide the explanatory foundation for the observed drivers and mechanisms. This theoretical synthesis clarifies the competing and complementary logics that explain the "participation puzzle," offering a more robust foundation for future theoretical development and empirical testing.

Third, this study moves beyond a simple summary of findings to critically expose the methodological and geographic contours of the field. The descriptive analysis reveals a heavy reliance on empirical studies from a few developed and emerging economies, primarily China and the USA, and a dominance of localized household SMP measurement approaches. By highlighting these patterns, the review makes a meta-analytical contribution, clearly identifying the overreliance on observational data, the inconsistencies in measuring SMP, and the significant geographic blind spots. This critical assessment underscores the need for greater methodological rigor and geographic diversity to enhance the generalizability of future research.

Finally, the review makes a forward-looking contribution by systematically deriving a detailed agenda for future research. It transforms identified debates and gaps into a structured set of five prioritized directions, complete with specific research questions (as summarized in Table 2). This agenda not only calls for resolving core theoretical debates but also pushes the field into new territories, such as intersectional and sectoral analyses, the under-explored "exit" perspective, and the broader impact of household SMP. By providing this clear and actionable roadmap, this

review serves as a strategic guide for shaping the next wave of scholarly inquiry in household finance.

## 6. Conclusion

In the context of the financial system, household SMP remains a key determinant of wealth accumulation, financial stability, and economic growth. Over time, household investment dynamics have attracted significant research attention in financial economics. Guided by the PRISMA framework, this systematic review has synthesized a sample of 102 research articles from 2015 to 2025 in order to provide a comprehensive and structured understanding of the household SMP. By mapping the complex interplay of drivers, SMP measurement strategies, outcomes, mechanisms and theoretical foundations, the literature review has illuminated the multifaceted nature of the "stock participation puzzle". The identified research debates, gaps and the resulting research agenda consolidate the current state of knowledge and map a clear path forward. Eventually, the thematic synthesis serves as a foundational resource, aiming to inspire and guide future research towards more nuanced, methodologically robust, and globally inclusive investigations; thereby contributing to both academic discourse and the development of targeted financial policies.

# References

- [1] Addoum, J. M., Delikouras, S., Ke, D., & Korniotis, G. M. (2024). Industry clusters and the geography of portfolio choice. *Journal of Financial and Quantitative Analysis*, *59*(3), 1031-1063. https://doi.org/10.1017/S0022109023000236
- [2] Addoum, J. M., Korniotis, G., & Kumar, A. (2017). Stature, Obesity, and Portfolio Choice. *Management Science*, 63(10), 3393-3413. https://doi.org/10.1287/mnsc.2016.2508
- [3] Agarwal V, Aslan H, Huang L, Ren H. Political Uncertainty and Household Stock Market Participation. *Journal of Financial and Quantitative Analysis*. 2022;57(8):2899-2928. https://doi.org/10.1017/S0022109022000114
- [4] Ampudia, M., & Ehrmann, M. (2017). Macroeconomic experiences and risk taking of euro area households. *European Economic Review*, 91, 146-156.
  - https://doi.org/10.1016/j.euroecorev.2016.09.012
- [5] Aoki, K., Michaelides, A., Nikolov, K., & Zhang,

- Y. X. (2025). Inflation, Money Demand, and Portfolio Choice. Management Science. https://doi.org/10.1287/mnsc.2022.02007
- [6] Apergis, N., & Bouras, C. (2023). Household choices on investing in financial risky assets: Do national institutional factors have their own merit? *International Journal of Finance & Economics*, 28(1), 405-420. https://doi.org/10.1002/ijfe.2427
- [7] Arrondel, L., & Coffinet, J. (2019). Household preferences and demand for stocks in the Crisis: France 2004-2014. Revue d'économie politique, 129(3), 391-417. http://dx.doi.org/10.3917/redp.293.0391
- [8] Bacher, A. (2024). The gender investment gap over the life cycle. *Review of Financial Studies*. https://doi.org/10.1093/rfs/hhae068
- [9] Badarinza, C., Balasubramaniam, V., & Ramadorai, T. (2019). The household finance landscape in emerging economies. In A. W. Lo & R. C. Merton (Eds.), *Annual Review of Financial Economics*, Vol 11 (Vol. 11, pp. 109-129). Annual Review of Financial Economics.

https://doi.org/10.1146/annurev-financial-110118-123106

- [10] Baker, M., & Wurgler, J. (2007). Investor sentiment in the stock market. *Journal of Economic Perspectives*, 21(2), 129–152. <a href="https://doi.org/10.1257/jep.21.2.129">https://doi.org/10.1257/jep.21.2.129</a>
- [11] Balloch, A., Nicolae, A., & Philip, D. (2014). Stock market literacy, trust, and participation. *European Finance Review, forthcoming*. https://doi.org/10.1093/rof/rfu040
- [12] Barasinska, N., & Schäfer, D. (2017). Gender role asymmetry and stock market participation evidence from four European household surveys. *The European Journal of Finance*. https://doi.org/10.1080/1351847x.2017.1371622
- [13] Beaubrun-Diant, K., & Maury, T.-P. (2016). Home tenure, stock market participation, and composition of the household portfolio. *Journal of Housing Economics*, 32(C), 1-17. https://doi.org/10.1016/j.jhe.2016.03.002
- [14] Bhamra, H. S., & Uppal, R. (2019). Does household finance matter? Small financial errors with large social costs. American Economic Review, 109(3), 1116-1154. https://doi.org/10.1257/aer.20161076

- [15] Bharath, S. T., & Cho, D. (2023). Do natural disaster experiences limit stock market participation? *Journal* of Financial and Quantitative Analysis, 58(1), 29-70. https://doi.org/10.1017/S0022109022000680
- [16] Bonaparte, Y., Korniotis, G. M., Kumar, A., & Vosse, M. (2024). Inflation, monetary policy, and portfolio decisions of U.S. households. *Management Science*, 70(9), 6438-6460. https://doi.org/10.1287/mnsc.2023.02197
- [17] Bonaparte, Y., Korniotis, G. M., Kumar, A.; , Michaelides, A., Zhang, Y. (2025) Stock Market Ownership Transitions. *Management Science*, 71(6),4977-5000. https://doi.org/10.1287/mnsc.2023.00290
- [18] Briggs, J., Cesarini, D., Lindqvist, E., & Östling, R. (2021). Windfall gains and stock market participation. *Journal of Financial Economics*, 139(1), 57-83. https://doi.org/10.1016/j.jfineco.2020.07.014
- [19] Broihanne, M. H. (2025). Intra-household selfconfidence in subjective financial knowledge. *International Journal of Bank Marketing*, 43(7), 1389-1412.
  - https://doi.org/10.1108/IJBM-10-2024-0625
- [20] Brown, S., Ghosh, P., & Taylor, K. (2016). Household finances and social interaction: Bayesian analysis of household panel data. *Review of Income and Wealth*, 62(3), 467-488. https://doi.org/10.1111/roiw.12174
- [21] Bu, D., Hanspal, T., & Liao, Y. (2022). Political corruption, trust, and household stock market participation. *Journal of Banking & Finance*, 136, 106442.
  - https://doi.org/10.1016/j.jbankfin.2022.106442
- [22] Bucciol, A., & Miniaci, R. (2015). Household portfolio risk. *Review of Finance*, *19*(2), 739-783. https://doi.org/10.1093/rof/rfu002
- [23] Cai, C. (2019). Nudging the financial market? A review of the nudge theory. *Accounting & Finance*, 60. <a href="https://doi.org/10.1111/acfi.12471">https://doi.org/10.1111/acfi.12471</a>
- [24] Cardak, B. A., Martin, V. L., & McAllister, R. (2019). The effects of the Global Financial Crisis on the stock holding decisions of Australian households. *The North American Journal of Economics and Finance*, 50, 1-15. https://doi.org/10.1016/j.najef.2019.04.026

- [25] Catherine, S. (2022). Countercyclical labor income risk and portfolio choices over the life cycle. *The Review of Financial Studies*, *35*(9), 4016-4054. https://doi.org/10.2139/ssrn.2778892
- [26] CEIBS Shanghai (2025, January 9). *Top Business Journals: FT 50.* CEIBS. Retrieved from
- https://ceibs.libguides.com/c.php?g=963339&p=7006421
- [27] Chen, H., Zhao, M., Shen, Y., & Nie, J. (2024). Financial literacy among Chinese rural households and its impact on stock-market participation. *China Finance and Economic Review, 12*(2), 100475.
  - https://doi.org/10.1016/j.cfer.2024.03.002
- [28] Chen, X. R., Li, R. Y., & Wu, X. (2021). Multihome ownership and household portfolio choice in urban China. *Journal of Housing and the Built Environment*, *36*(1), 131-151. https://doi.org/10.1007/s10901-019-09713-8
- [29] Cheng, Y.-F., Mutuc, E. B., Tsai, F.-S., Lu, K.-H., & Lin, C.-H. (2018). Social Capital and Stock Market Participation via Technologies: The Role of Households' Risk Attitude and Cognitive Ability. *Sustainability*, *10*(6), 1904. https://doi.org/10.3390/su10061904
- [30] Czeller, V., Garcia, R., & Le Grand, F. (2025). Uncovering asset market participation from household consumption and income. *Journal of Econometrics*, 248, 105867. https://doi.org/10.1016/j.jeconom.2024.105867
- [31] Dong, X., Cui, R., Bai, X., & Liu, K. (2024). Can digital inclusive finance reduce household poverty? Evidence from the China household finance survey. *International Review of Economics and Finance*, 64(1), 1-15.
  - https://doi.org/10.1016/j.iref.2024.05.001
- [32] Elkamhi, R., & Jo, C. (2023). Asset holders' consumption risk and tests of conditional CCAPM. *Journal of Financial Economics*, *148*(3), 220-244. https://doi.org/10.1016/j.jfineco.2023.04.002
- [33] Fagereng, A., Gottlieb, C. & Guiso, L. (2017). Asset Market Participation and Portfolio Choice over the Life-Cycle. The Journal of Finance. 72. https://doi.org/10.1111/jofi.12484
- [34] Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *Journal of Finance*, 25(2), 383–417. https://doi.org/10.1111/j.1540-6261.1970.tb00518.x

- [35] Fang, Z., Liu, P., & Lee, C. (2025): Assessing the Effect of Digital Divide on Risky Financial Market Participation in China Via Household-Level Analysis, *Emerging Markets Finance and Trade*. https://doi.org/10.1080/1540496X.2025.2527765
- [36] Felici, M., & Fuerst, F. (2023). The heterogeneous relationship of owner-occupied and investment property with household portfolio choice. Journal of Housing Economics, 62, 101964. https://doi.org/10.1016/j.jhe.2023.101964
- [37] Fukuyama, F. (1996). Trust: The social virtues and the creation of prosperity. London: Penguin Books.
- [38] Gan, H., Guo, M., Li, J., Niu, G., & Zhou, Y. (2025). Air pollution and household stock market participation. Journal of Banking & Finance, 172(C), 1-22.
  - https://doi.org/10.1016/j.jbankfin.2025.107397
- [39] Gan, X., Zhang, X., Ma, X., & Khalid, F. (2023). Impact of financial environment on household risk financial asset selection: A micro perspective. Review of Economics and Finance, 21(1), 137-145.
  - https://doi.org/10.1016/j.iref.2023.01.009
- [40] Gao, M. (2019). No pain, no gain? Household beliefs and stock market participation. Economics Letters, 181(C), 81-84.
  - https://doi.org/10.1016/j.econlet.2019.05.001
- [41] Gao, M., & Fok, R. (2015). Demographics, family/social interaction, and household finance. Economics Letters, 136, 194-196. https://doi.org/10.1016/j.econlet.2015.09.027
- [42] Giannetti, M., & Wang, T. Y. (2015). Corporate scandals and household stock market participation. Journal of Finance, 70(3), 1185-1224. https://doi.org/10.1111/jofi.12399
- [43] Giannetti, M., & Wang, T. Y. (2016). Ambiguity aversion and household portfolio choice puzzles: Empirical evidence. Journal of Financial Economics, 119(3), 558-574. https://doi.org/10.1016/j.jfineco.2016.01.003
- [44] Gogolin, F., Dowling, M., & Cummins, M. (2017). Individual values and household finances. Applied Economics, 49(35), 3560-3578. https://doi.org/10.1080/00036846.2016.1262528
- [45] Goldstein, A., & Knight, C. R. (2023). Boom, Bust, Repeat: Financial Market Participation

- and Cycles of Speculation. American Journal of Sociology, 128(5), 1430-1471. https://doi.org/10.1086/723953
- [46] Gomes, F., Haliassos, M., & Ramadorai, T. (2021). Household Finance. Journal of Economic Literature, 59(3), 919-1000. https://doi.org/10.1257/jel.20201461
- [47] Gu, R., Peng, C., & Zhang, W. L. (2024). The gender gap in household bargaining power: A revealed-preference approach. Review of Financial Studies.
  - https://doi.org/10.1093/rfs/hhae039
- [48] Guo, B. S., Guo, J. D. (2025). The digital divide and household risky financial investments in China. International Review of Economics & Finance, 104, 104565.
  - https://doi.org/10.1016/j.iref.2025.104565
- [49] Guo, C., Wang, X., & Yuan, G. (2022). Digital finance and the efficiency of household investment portfolios. Emerging Markets Finance and Trade, 58(10), 2895-2909.
  - https://doi.org/10.1080/1540496X.2021.2013197
- [50] Guo, N. J., Leung, C. K. Y., Zhang, S. M. (2025). From pandemics to portfolios: Long-term impacts of the 2009 H1N1 outbreak on household investment choices. Journal of Economic Behavior & Organization, 231, 106931. https://doi.org/10.1016/j.jebo.2025.106931
- [51] He, H. (2022). Home equity and household portfolio choice: Evidence from China. Journal of Housing Economics, 59(C), 101795. https://doi.org/10.1016/j.iref.2018.12.014
- [52] Huang, S. X., & Kim, M. (2023). Accounting quality and household stock market participation. Accounting Horizons, 37(1), 93-120. https://doi.org/10.2308/horizons-2020-126
- [53] Huang, W., & Gooi, L.-M. (2023). Social support and household stock market participation. Economics Letters, 233(C), 111408. https://doi.org/10.1016/j.econlet.2023.111408
- [54] Hwang, I. D. (2024). Behavioral aspects of household portfolio choice: Effects of loss aversion on life insurance uptake and savings. International Review of Economics & Finance, 89, 1029-1053.
  - https://doi.org/10.1016/j.iref.2023.07.027
- [55] Jia, D., Li, R., Bian, S., & Gan, C. (2021).

Financial planning ability, risk perception and household portfolio choice. *Emerging Markets Finance and Trade, 57*(8), 2153–2175.

https://doi.org/10.1080/1540496X.2019.1643319

[56] Jiang, F., Lowry, M., & Qian, Y. (2024). Local IPOs and household stock market participation. *Review of Finance*, 28(6), 1919-1952. http://dx.doi.org/10.2139/ssrn.3909980

[57] Jiang, M. M., Sun, R. R., & Zhang, B. (2022). Social networks and household financial decisions: evidence from China. *Journal of Applied Economics*, 25(1), 58-92.

https://doi.org/10.1080/15140326.2021.2007725

[58] Jiang, Y. (2023). Digital financial inclusion and diversity of household financial asset allocation: Evidence from China. *China Economic Review*, 83(C), 102095.

https://doi.org/10.1016/j.chieco.2023.102095

[59] Jing, P., Zhao, S. C., & Wang, M. L. (2025). From Savings to investments: How retirement consumption expectations shape household risky financial asset allocation. *Pacific-Basin Finance Journal*, 93, 102828.

https://doi.org/10.1016/j.pacfin.2025.102828

[60] Ke, D. (2021). Who wears the pants? Gender identity norms and intrahousehold financial decision-making. *Journal of Finance*, 76(3), 1389-1425.

https://doi.org/10.1111/jofi.13002

[61] Kim, H., Kim, K. T., & Han, S. H. (2021). Religious differences and households' investment decisions. *Journal of Financial Research*, 44(4), 753-788.

https://doi.org/10.1111/jfir.12260

[62] Koijen, R. S. J., & Yogo, M. (2019). A demand system approach to asset pricing. *Journal of Political Economy*, 127(4), 1475-1515. https://doi.org/10.1086/701683

[63] Kotb, N., & Proaño, C. R. (2023). Capital-constrained loan creation, household stock market participation and monetary policy in a behavioural new Keynesian model. Journal of Economic Dynamics & Control, 145(3), 104256-104270.

https://doi.org/10.1016/j.jedc.2023.104256

[64] Kuhnen, C. M., & Miu, A. C. (2017). Socioeconomic status and learning from financial

information. Journal of Financial Economics, 124(2), 349-372.

https://doi.org/10.1016/j.jfineco.2017.03.002

[65] Lan, J., Peng, Z., Pan, Y., & Liu, Y. (2024). Interest rate liberalization and household investment in China. *International Review of Economics & Finance*, 74(C), 1-15. https://doi.org/10.1016/j.iref.2024.103631

[66] Lee, K. (2023). Geopolitical risk and household stock market participation. Finance Research Letters, 51(C), 1-10. https://doi.org/10.1016/j.frl.2022.103328

[67] Lee, K., Jeon, Y., & Kim, I. (2020). Chinese economic policy uncertainty and U.S. households' portfolio decisions. *Pacific-Basin Finance Journal*, 64(C), 101440.

https://doi.org/10.1016/j.pacfin.2020.101440

[68] Li, J. & Li, W. (2025). Retreating from risks: Household stock market participation in a protectionist era. *Journal of Banking and Finance*, 172,107392.

https://doi.org/10.1016/j.jbankfin.2025.107392

[69] Li, J., Li, Q., & Wei, X. (2020). Financial literacy, household portfolio choice and investment return. *Pacific-Basin Finance Journal*, 62(C), 1-15. https://doi.org/10.1016/j.pacfin.2020.101370

- [70] Li, L. (2022). Social interactions and Chinese households' participation in the risky financial market. *Finance Research Letters*, 49(C), 102200. https://doi.org/10.1016/j.frl.2022.103142
- [71] Li, W. C., Song, C. C., Xu, S., & Yi, J. J. (2022). High sex ratios and household portfolio choice in China. *Journal of Human Resources*, 57(2), 465-490.

https://doi.org/10.3368/jhr.57.2.1217-9245R2

[72] Li, X. Li, X. H., & Zhang, J. (2025). Digital Financial Capability and Efficiency of Household Financial Asset Portfolios: Evidence from China. *Journal of Family and Economic Issues*. https://doi.org/10.1007/s10834-025-10039-7

[73] Li, Z., & Xu, X.-Z. (2024). House purchasing intention and household participation in the financial market: evidence from Chinese households. *Journal of the Asia Pacific Economy*, 29(2), 721-738.

http://dx.doi.org/10.1080/13547860.2022.2041313

[74] Liao, K., Liu, Y., He, L., & Peng, G. (2025).

Subjective financial literacy gap and household stock market participation. *Applied Economics Letters*, 1–5.

# https://doi.org/10.1080/13504851.2025.2547100

- [75] Lin, L. (2020). Bank deposits and the stock market. *The Review of Financial Studies*, 33(6), 2622–2658.
  - https://doi.org/10.1093/rfs/hhz078
- [76] Lin, T. C., & Pursiainen, V. (2023). The disutility of stock market losses: Evidence from domestic violence. *Review of Financial Studies*, *36*(4), 1703-1736. https://doi.org/10.1093/rfs/hhac049
- [77] Liu, T. X., Yin, X. C., & Yan, Y. (2025). Household Financial Risk-Taking: Does Digital Infrastructure Matter? *Journal of Family and Economic Issues*. https://doi.org/10.1007/s10834-025-10032-0
- [78] Liu, Z., Li, K., & Zhang, T. (2023). Information diversity and household portfolio diversification. *International Journal of Finance & Economics*, 28(4), 3833-3845. https://doi.org/10.1002/ijfe.2622
- [79] Luo, Z. Y., Azam, S. M. F., & Wang, L. X. (2023). Impact of financial literacy on household stock profit level in China. *PLOS ONE*, 18(12), e0296100.
  - https://doi.org/10.1371/journal.pone.0296100
- [80] Markowitz, H. M. (1991). Portfolio Selection: Efficient Diversification of Investments. Reprint. Cambridge, MA: Basil Blackwell. https://doi.org/10.1002/9780470563841
- [81] Melcangi, D., & Sterk, V. (2024). Stock market participation, inequality, and monetary policy. *Review of Economic Studies*. https://doi.org/10.1093/restud/rdae068
- [82] Moher, D. (2013). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *Annals of Internal Medicine*. <a href="https://doi.org/10.7326/0003-4819-151-4-200908180-00135">https://doi.org/10.7326/0003-4819-151-4-200908180-00135</a>
- [83] Moher, D., & Shamseer, L. (2021). PRISMA 2020 explanation and elaboration: updated guidelines for reporting systematic reviews. *PubMed Central*.
  - https://pmc.ncbi.nlm.nih.gov/articles/PMC8005925/
- [84] Munk, C. (2020). A mean-variance benchmark for household portfolios over the life cycle. *Journal of*

- Banking & Finance, 116, 105833. https://doi.org/10.1016/j.jbankfin.2020.105833
- [85] Nargunam, R., & Anuradha, N. (2017). Market efficiency of gold exchange-traded funds in India. *Financial Innovation*, *3*(1), 14. https://doi.org/10.1186/s40854-017-0064-y
- [86] Otinga, N. K., Obi, P., & Mugo-Waweru, F. (2024). Stock market participation puzzle: a systematic review and bibliometric analysis. Cogent Business & Management, 11(1), 2396531-239. https://doi.org/10.1080/23311975.2024.2396531
- [87] Peng, P., & Mao, H. (2022). The Effect of Digital Financial Inclusion on Relative Poverty Among Urban Households: A Case Study on China. *Social Indicators Research*, 165(2), 377-407. https://doi.org/10.1007/s11205-022-03019-z
- [88] Pratt, J. W. (1964). Risk aversion in the small and in the large. *Econometrica*, 32, 122–136. https://doi.org/10.2307/1913738
- [89] Rodini, L. (2023, February 7). What is the economic cycle? Stages & importance. The Street.
- https://www.thestreet.com/dictionary/economic-cycle
- [90] Ross, S. A. (1976). The arbitrage theory of capital asset pricing. *Journal of Economic Theory*, 13(3), 341–360.
  - https://doi.org/10.1016/0022-0531(76)90046-6
- [91] Saijo, H. (2019). Technology shocks and hours revisited: Evidence from household data. *Review of Economic Dynamics*, *31*, 347-362. https://doi.org/10.1016/j.red.2018.09.002
- [92] Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *The Journal of Finance*, 19(3), 425–442. https://doi.org/10.1111/j.1540-6261.1964.tb02865.x
- [93] Shi, G. F., Li, M., Shen, T. T., & Ma, Y. (2021). The Impact of Medical Insurance on Household Stock Market Participation: Evidence From China. Frontiers in Public Health, 9, 710896. https://doi.org/10.3389/fpubh.2021.710896
- [94] Sias, R., Starks, L. T., & Turtle, H. J. (2023). The negativity bias and perceived return distributions: Evidence from a pandemic. *Journal of Financial Economics*, *147*(3), 627-657. https://doi.org/10.1016/j.jfineco.2023.01.003
- [95] Song, Y., Wu, W., & Zhou, G. (2020). Inequality of opportunity and household risky asset investment: Evidence from panel data in China.

- China Economic Review, 63(C), 101513. https://doi.org/10.1016/j.chieco.2020.101513
- [96] Tischbirek, A. (2019). Long-term government debt and household portfolio composition. *Quantitative Economics*, 10(3), 1109-1151. https://doi.org/10.3982/QE836
- [97] Tsang, A., & Yu, L. (2023). Socially responsible local firms and stock market participation: Evidence from the US household survey. *Journal of Behavioral and Experimental Finance*, 40, 100854.

# https://doi.org/10.1016/j.jbef.2023.100854

[98] Tsendsuren, S., Wong, W.-K., & Li, C.-S. (2024). Cognitive abilities and household financial portfolios in association with economic development and national health system: A cross-country analysis based on SHARE data. *Acta Oeconomica*, 74(3), 379-404. https://doi.org/10.1551/aoecon.2024.74.3.379

[99] Vestman, R. (2019). Limited stock market participation among renters and homeowners. *The Review of Financial Studies*, 32(4), 1494-1535. https://academic.oup.com/rfs/article-pdf/32/4/1494/28021872/hhy089.pdf

[100] Wang, J., Zhang, D. & Wang, Z. (2022). Digital finance, stock market participation and asset allocation of Chinese households. *Applied Economics Letters*. 30. 1-4.

 $\underline{https://doi.org/10.1080/13504851.2022.2083556}$ 

- [101] Wen, C., Zhao, X., Xu, L., & Yin, H. (2023). Military experience and household stock market participation: Evidence from China. *International Review of Financial Analysis*, 86(C), 102519. https://doi.org/10.1016/j.irfa.2023.102519
- [102] Wen, X., Chen, Z. M., & Tani, M. (2025). Daughters, Savings and Household Finances. Journal of Behavioural and Experimental Economics, 117, 102395.

https://doi.org/10.1016/j.socec.2025.102395

- [103] Wu, X., Zhao, J. Risk sharing, siblings, and household equity investment: evidence from urban China. *J Popul Econ* 33, 461–482 (2020). https://doi.org/10.1007/s00148-019-00740-x
- [104] Xie, Y., Tang, R., Pantelous, A. A., & Lu, X. (2024). Narrow framing and under-diversification: Empirical evidence from Chinese households.

- *China Economic Review, 83*(C), 102095. https://doi.org/10.1016/j.chieco.2023.102095
- [105] Xu, S. L., Yang, Z., Ali, S. T., Li, Y. F., & Cui, J. W. (2022). Does financial literacy affect household financial behavior? The role of limited attention. *Frontiers in Psychology*, 13, 906153. https://doi.org/10.3389/fpsyg.2022.906153
- [106] Xu, S., Alnafrah, I., & Dagestani, A. A. (2024). Cognitive ability and stock market participation: evidence from China. *Kybernetes*. https://doi.org/10.1108/K-07-2023-1296
- [107] Xu, X. Z., Wang, J., & Li, Z. (2024). The impact of property tax expectations on household asset allocation. *Buildings*, *14*(9), 2745. https://doi.org/10.3390/buildings14092745
- [108] Xu, Y. (2024). Financial literacy and household investment performance: evidence from China. *Journal of Financial Literacy, 1*(1), 1-15. https://doi.org/10.1186/s40563-022-00202-4
- [109]Xu, Z., Ma, J., Li, D., & Fu, W. (2022). Religious beliefs and stock market participation: Evidence from urban households in China. Research in International Business and Finance, 63(C).

https://doi.org/10.1016/j.ribaf.2022.101795

[110] Yamori, N., & Ueyama, H. (2022). Financial Literacy and Low Stock Market Participation of Japanese Households. *Finance Research Letters*, 44, 102074.

https://doi.org/10.1016/j.frl.2021.102074

[111] Zhang, L. (2020, October 20). The impact of the COVID-19 pandemic on global supply chains. Sohu.

https://www.sohu.com/a/298930168 485176

[112] Zhao, F., & Xiao, Y. Z. (2023). Information searching from new media and households' investment in risky assets: New evidence from a quasi-natural experiment. *Sustainability*, 15(4), 3385.

https://doi.org/10.3390/su15043385

[113] Zheng, W. Y., Li, B. Q., Huang, Z. Y., & Chen, L. (2022). Why was there more household stock market participation during the COVID-19 pandemic? *Finance Research Letters*, 46(B), 102481.

https://doi.org/10.1016/j.frl.2021.102481

[114] Zhou, J. (2020). Household stock market participation during the great financial crisis. *The Quarterly Review of Economics and Finance*, 75, 265-275.

https://doi.org/10.1016/J.QREF.2019.04.008

[115] Zhou, Z., Zhou, Y., & Zhou, Y. (2025). Does residential housing crowd out or promote households' stock investment? Evidence from

- China. *Economics Letters*, 250(C), 106468. http://dx.doi.org/10.1080/1540496X.2016.1199381
- [116] Zou, Z., & Xu, X. Z. (2022). Financial literacy, housing value and household financial market participation: Evidence from urban China. *Journal of Housing Economics*, 59(C), 101795. https://doi.org/10.1016/j.chieco.2019.03.008