

THE STABILIZING ROLE OF THE HOUSEHOLD SECTOR IN THE THAI SAVINGS BOND MARKET: AN EMPIRICAL ANALYSIS*

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Abstract

The structural composition of the investor base is a critical determinant of sovereign bond market stability, particularly in emerging economies exposed to global capital flow volatility. Although conventional literature highlights the liquidity offered by institutional investors, the stabilizing capacity of domestic households is inadequately explored. This study empirically examines the household sector's role in the Thai savings bond market from January 2017 to the present, with the objective of quantifying its impact on market stability and growth. Utilizing monthly time-series data from the Bank of Thailand, the research employs a 12-month rolling standard deviation model to assess comparative volatility and an Ordinary Least Squares (OLS) regression to determine the statistical determinants of market size.

The empirical findings indicate that the household sector is the predominant market force, representing an average of 88.31% of total outstanding bonds. The analysis reveals a notable stability differential: the

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household sector demonstrates a volatility profile ($SD = 4.81$) that is roughly 2.3 times lower than that of the institutional and foreign sectors ($SD = 11.13$). This discovery substantiates the Preferred Habitat Theory in an emerging market context, depicting retail investors as *safety-seekers* with inelastic demand rather than speculative traders. Furthermore, regression analysis confirms that household demand is the primary determinant of market expansion ($R\text{-Squared} = 0.826$), with a significant elasticity coefficient of 0.80. The research concludes that the household sector operates as a *Stabilizing Anchor* for public debt. Therefore, it advises that policymakers establish *Direct-to-Household* digital issuance channels to capitalize on this robust demand as a strategic economic safeguard against external financial vulnerabilities and capital flight threats.

Keywords: Savings Bond, Household Sector, Stabilizing Anchor, Public Debt Management

Introduction

Background and Significance of the Problem

Public debt management is essential for macroeconomic stability, especially in emerging market economies such as Thailand. The configuration of the government bond market influences both the state's borrowing costs and the financial system's resilience to external shocks (Anderson et al., 2010). Historically, academic studies and public policy discussions have primarily focused on the impact of institutional investors—such as commercial banks, insurance companies, and foreign portfolio investors—as the main factors influencing bond market liquidity and yield variations. These actors, while crucial, are frequently marked by heightened sensitivity to global interest rate variations and changes in risk sentiment, resulting in potential capital flow volatility (Ebeke & Lu, 2015)

However, in recent years, the Thai government bond market has witnessed a significant structural shift, specifically within the *Savings Bond* segment. Data from the Bank of Thailand (2025) reveals a significant and steady accumulation of government debt securities by the Household Sector. In contrast to institutional investors who engage in active trading based on arbitrage opportunities and mark-to-market constraints, household investors are theoretically regarded as "buy-and-hold" investors motivated by capital preservation and consistent income, in alignment with the behavioral frameworks outlined in Household Finance literature (Campbell, 2006).

Notwithstanding the increasing prominence of retail investors, there is a dearth of empirical research that explicitly measures the stabilizing function of the household sector. Most existing research, including Andritzky (2012), examine the general "domestic investor" category without differentiating the behavioral diversity between individual savers and financial institutions. This gap ignores the effects of the Preferred Habitat Theory, which asserts that different investor classes have distinct preferences for specific maturities (Vayanos & Vila, 2021). Policymakers face challenges in designing lending instruments that enhance market stability without understanding the distinct volatility patterns and effects of the family sector. This study empirically investigates the stabilizing role of the household sector in the Thai savings bond market from 2017 to the present.

To bridge this gap, this study empirically investigates the stabilizing role of the household sector in the Thai savings bond market from 2017 to the present. Specifically, this research aims to address three fundamental questions: *first*, to what extent does the household sector characterize the market structure and dominance relative to other investor classes? Second, is the household sector sufficiently variable to be empirically classified as a stabilizing anchor for the public debt portfolio? What is the statistical significance of the household sector's impact on the total growth of the savings bond market? This study aims

to deliver evidence-based insights for enhancing public debt management strategies within a changing financial environment by addressing these questions.

Objectives

Consistent with the research questions, the specific objectives of this study are:

1. To analyze the market share and structural composition of savings bond holders in Thailand from 2017 to present.
2. To empirically compare the volatility (measured by the standard deviation of monthly growth rates) of household holdings against other investor sectors to assess their role as a market stabilizer.
3. To quantify the statistical influence of household sector holdings on total market outstanding using regression analysis.

Research Contribution

This research makes important contributions to the development of academic knowledge and policy:

This research offers empirical evidence from an emerging market context that substantiates the Preferred Habitat Theory (Vayanos & Vila, 2021). This challenges the traditional emphasis on institutional demand by illustrating that households function as a segmented market force with reduced volatility, thereby enhancing the body of knowledge in public finance established by Burger and Warnock (2006).

The findings present practical recommendations for the Public Debt Management Office (PDMO). By illustrating that consumers are more reliable investors, the government can justify shifting its issuing strategy to "Direct-to-Retail" channels to alleviate the "sudden stop" concerns associated with foreign capital in the sovereign debt market (Ebeke & Lu, 2015).

Literature Review

The theoretical frameworks and empirical literature relevant to public debt management, investor behavior, and financial stability. It begins by establishing the macroeconomic rationale for domestic debt issuance through the lens of fiscal policy and debt sustainability. That subsequently applies the Preferred Habitat Theory to delineate the behavior of the household sector and analyzes empirical evidence contrasting the volatility of domestic and international investors in emerging nations. The section concludes by highlighting the research gap concerning the particular role of households in the Thai bond market.

Fiscal Policy and the Sustainability of Public Debt

Fiscal policy functions as a principal tool for macroeconomic stabilization, especially in developing economies confronting exogenous shocks. The Keynesian approach posits that governments employ deficit financing to invigorate aggregate demand during economic recessions (Blanchard, 2019). The accumulation of public debt necessitates a robust Public Debt Management (PDM) plan to ensure long-term fiscal sustainability.

The Theory of Optimal Debt Management, as articulated by Missale (1997), asserts that the government's aim extends beyond only minimizing borrowing costs to including mitigating the risks associated with the debt portfolio. A fundamental element of this risk management is the diversification of the creditor base. Panizza (2008) contends that a substantial dependence on external debt (denominated in foreign currency) renders the fiscal stance vulnerable to exchange rate fluctuations and capital flight, a phenomenon referred to as "Original Sin."

Consequently, transitioning from external to domestic financing constitutes a strategic fiscal policy decision. By issuing debt to domestic entities, particularly the household sector, the government mitigates its susceptibility to external shocks and aligns fiscal responsibilities with the local currency earnings of its populace. This

technique converts public debt from a liability into a secure asset that bolsters domestic financial stability (Reinhart & Rogoff, 2011).

Theoretical Framework: The Preferred Habitat Theory

This study employs the Preferred Habitat Theory, initially introduced by Modigliani and Sutch (1966) and recently formalized by Vayanos and Vila (2021). to analyze the behavior of domestic investors. The argument suggests that investors have distinct preferences for specific maturities influenced by their liabilities, legal constraints, or risk profiles. Unlike arbitrageurs who trade along the yield curve to maximize profits, "preferred-habitat" investors demonstrate relative price inelasticity and generally hold assets until maturity.

Within the framework of this study, the household sector functions as a separate environment Campbell (2006), asserts that household investment behavior is predominantly influenced by risk aversion, liquidity requirements, and life-cycle savings objectives rather than short-term speculative profits. Consequently, households are less predisposed to engage in high-frequency trading or panic selling amid market turmoil compared to institutional investors who face mark-to-market limitations. This theoretical framework argues households can serve as a stabilizing force inside the financial system.

Investor Base and Market Volatility in Emerging Markets

Empirical evidence suggests a strong correlation between the composition of the investor base and bond market volatility. Ebeke and Lu (2015) investigated the impact of foreign holdings on local currency bond yields in emerging markets. Their findings show that while foreign participation increases liquidity, it also significantly increases yield volatility, particularly during global financial crises. They argue that an overreliance on foreign investors makes sovereign debt markets susceptible to sudden stoppage threats.

Consequently, domestic investors are often regarded as an insurance policy against external economic problems. Andritzky (2012) analyzed the

composition of government bondholders in G20 countries and found that a robust domestic investor base, comprising institutional and retail investors, is associated with less bond yield volatility. This supports the concept that domestic agents, particularly those with long-term investment outlooks, act as a "stabilizing anchor" amid reversals of foreign capital flows (Andritzky, 2012).

Developing Local Currency Bond Markets

The establishment of a robust and varied local currency bond market is crucial for mitigating currency mismatches and financial instability in emerging economies (Burger & Warnock, 2006). Early literature highlighted the development of institutional demand, including pension funds and insurance companies; however, recent trends in Asia reveal a growing importance of direct retail engagement. Gyntelberg et al. (2006) emphasized that expanding the investor base to incorporate retail investors can bolster market resilience by diversifying funding sources, thus diminishing dependence on unstable bank financing.

Research Gap

Although existing literature recognizes the significance of domestic investors (Andritzky, 2012; Ebeke & Lu, 2015) and distinct investor habitats (Vayanos & Vila, 2021), there is a paucity of research that specifically isolates and quantifies the stabilizing function of the household sector apart from domestic financial institutions. Most studies consolidate these groups, neglecting the distinct "buy-and-hold" behavior of individual savers. This study seeks to address this gap by empirically analyzing the Thai savings bond market, with particular emphasis on the household sector's role in market stability utilizing sophisticated statistical techniques.

Conceptual Framework

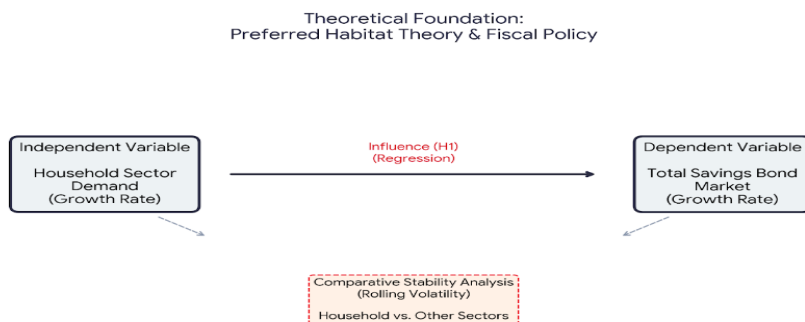


Figure 1 Conceptual Framework

Methodology

The research design, data collection methods, and statistical frameworks utilized to examine the stabilizing function of the household sector in the Thai savings bond market. The methodology is organized into three primary sections: data description, variable transformation, and the econometric models utilised for volatility and regression analysis.

Data Collection and Description

To ensure the reliability and accuracy of the empirical analysis, this study utilizes secondary data sourced directly from the Bank of Thailand (BOT).

Data Frequency: Monthly time-series data.

Observation Period: January 2017 to Present (providing over 100 observations, sufficient for statistical inference).

Scope of Study: The analysis focuses on the "Savings Bond" segment of public debt. The investor base is categorized into two primary groups for comparative analysis:

The Household Sector: Defined as holdings by households and non-profit institutions serving households.

Other Sectors: Defined as the aggregate holdings of financial institutions, non-financial corporations, the central government, and foreign residents.

Variable Transformation

Financial time-series data typically exhibit non-stationarity (e.g., trends), which can lead to spurious regression results. To address this and to interpret the results in terms of "growth" and "elasticity," the raw outstanding values are transformed into Logarithmic Growth Rates (Log-difference).

The monthly growth rate (r_t) for each sector is calculated as:

$$r_t = (ln(P_t) - ln(P_{t-1})) \times$$

Where:

r_t represents the percentage growth rate at month t .

P_t represents the outstanding value (position) at month t .

P_{t-1} represents the outstanding value at the previous month.

ln denotes the natural logarithm.

Analytical Framework

Stability Analysis (Rolling Volatility Model) To test the hypothesis that the household sector acts as a stabilizing anchor, this study employs a Rolling Standard Deviation approach. This method captures the time-varying nature of risk and allows for a dynamic comparison of stability between households and other investors.

The volatility σ_t is calculated using a 12-month rolling window to account for annual seasonality:

$$\sigma_t = \sqrt{\frac{1}{N-1} \sum_{i=0}^{N-1} (r_{t-i} - \bar{r}_t)^2}$$

Where:

σ_t is the volatility (standard deviation) at time t .

N is the window size (set to 12 months).

r_{t-i} is the growth rate in the prior i months.

$\bar{r}_t$ is the moving average of growth rates over the window.

Interpretation: A lower σ_t indicates higher stability and less sensitivity to market shocks.

Determinants of Market Growth (OLS Regression Model) To quantify the magnitude of the household sector's influence on the total market, a Simple Linear Regression model is estimated using the Ordinary Least Squares (OLS) method.

The regression equation is specified as follows:

$$\Delta \ln (Total_t) = \beta_0 + \beta_1 \Delta \ln (Household_t) + \epsilon_t$$

Where:

$\Delta \ln (Total_t)$ is the growth rate of total savings bonds outstanding (Dependent Variable).

$\Delta \ln (Household_t)$ is the growth rate of household sector holdings (Independent Variable).

β_0 is the intercept term.

β_1 is the coefficient of interest, representing the elasticity or the degree of influence.

ϵ_t is the error term.

Hypothesis Testing:

$H_0 : \beta_1 = 0$ (Household growth has no significant influence on the market).

$H_0 : \beta_1 \neq 0$ (Household growth significantly influences the market).

If β_1 is statistically significant ($p < 0.05$) and close to 1, it implies that the household sector is the primary driver of market direction.

Model Validation

To ensure the robustness of the regression results, the model undergoes standard diagnostic tests, including the Jarque-Bera test for normality of residuals to confirm the distributional properties of the data, and the analysis of R-squared (R^2) to measure the goodness of fit.

Results

The statistical findings obtained from the analysis of the Thai savings bond market data from January 2017 to the present. The results are categorized into three sections: descriptive statistics, comparative volatility analysis, and regression analysis.

Descriptive Statistics

Table 1 provides a summary of the distributional characteristics of the monthly growth rates (log-difference) for both the Total Savings Bond Market and the Household Sector.

Table 1 Descriptive Statistics of Monthly Growth Rates

Variable	Obs.	Mean (%)	Std. Dev.	Min (%)	Max (%)	Skewness	Kurtosis	JB Prob.
Total Bond Growth	105	1.231	4.339	-16.723	18.587	0.852	8.729	0.000***
Household Growth	105	1.106	4.908	-21.685	20.283	0.216	9.344	0.000***

Note: *** indicates statistical significance at the 0.01 level. The Jarque-Bera (JB) test rejects the null hypothesis of normality, indicating a leptokurtic distribution (fat tails) common in financial time series.

The data reveals that the Total Bond Market grew at an average monthly rate of 1.23%, while the Household Sector grew at 1.11%. Both series exhibit high kurtosis values (Total: 8.73, Household: 9.34), significantly exceeding the normal distribution threshold of 3. This indicates a leptokurtic distribution,

characterized by "fat tails" or the presence of outliers, which corresponds to the sporadic nature of bond issuance periods. The Jarque-Bera test confirms non-normality at the 1% significance level for both variables.

Figure 2 Monthly Growth Rates of Savings Bonds (Jan 2017 – Present)

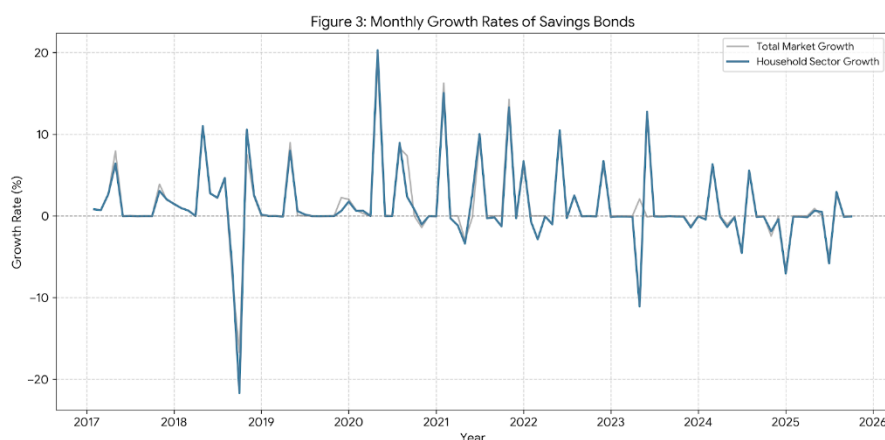
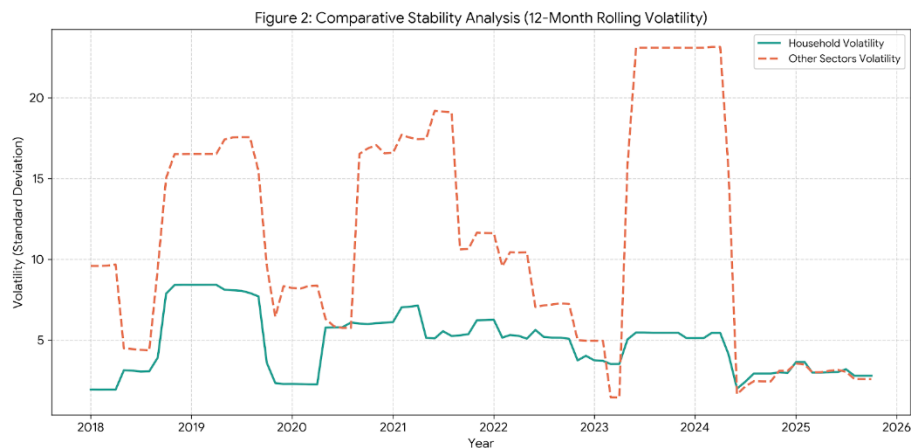


Figure 2 visualizes the monthly growth rates of both the total market (gray line) and the household sector (blue line). The plot reveals a pattern of distinct spikes, corresponding to the sporadic nature of government bond issuance periods.

Observation: While the household sector exhibits similar timing in its growth spikes to the total market (confirming its role as the primary driver), the magnitude of its fluctuations is generally consistent with the market trend.

Non-Normality: The visible sharp peaks and deep troughs in the graph visually corroborate the high Kurtosis values reported in Table 1, confirming that the data follows a non-normal, leptokurtic distribution. This necessitates the use of robust statistical methods (like the Rolling Volatility used in Section 4.2) rather than simple variance analysis.

Comparative Stability Analysis To assess the relative stability of investor groups, the study calculated the 12-month rolling standard deviation (volatility) for the Household Sector versus Other Sectors.

Figure 3 Comparative Stability Analysis (12-Month Rolling Volatility)

As illustrated in Figure 3, the volatility trajectory of the Household Sector (Green Line) consistently remains below that of Other Sectors (Red Dashed Line). The average volatility for the Household Sector is 4.81, compared to 11.13 for Other Sectors. This empirical evidence demonstrates that household holding patterns are significantly less volatile than those of financial institutions and foreign investors over the observed period.

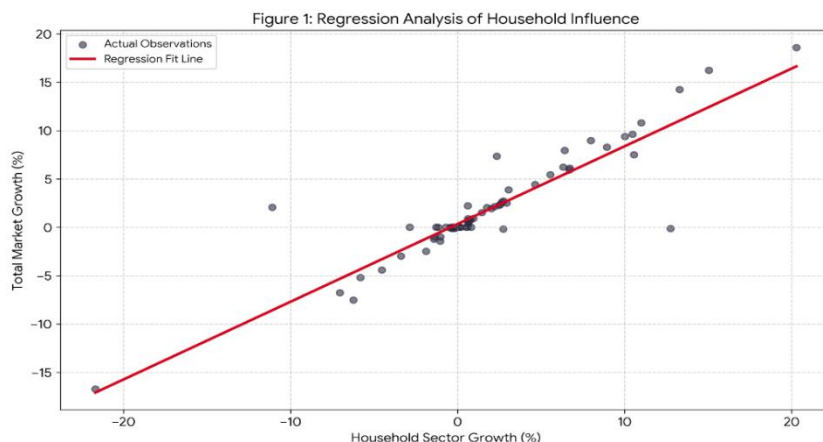
Regression Analysis Findings

A Simple Linear Regression (OLS) was conducted to determine the extent to which household sector demand explains total market growth.

Table 2 OLS Regression Results

Predictor	Coefficient (β)	Std. Error	t-Statistic	P-value	Significance
Constant	0.3421	0.1818	1.8817	0.0627	*
Household Growth	0.8036	0.0363	22.1379	0.0000	***

Figure 4 Regression Analysis of Household Influence



The regression analysis yields a coefficient (β) of 0.8036 for Household Growth, which is statistically significant at the 0.01 level ($t = 22.14, p < 0.000$). This indicates that a 1% increase in household holdings is associated with an approximate 0.80% increase in the total market outstanding. The model explains a substantial proportion of the variance in market growth, as evidenced by an R-squared (R^2) of 0.826.

Discussion

The Household Sector as a Stabilizing Anchor

The most significant finding of this study is the marked difference in volatility between households and other investor classes. The empirical results show that the household sector's volatility (SD = 4.81) is approximately 2.3 times lower than that of other sectors (SD = 11.13).

This finding presents strong evidence to support for the Preferred Habitat (Vayanos & Vila, 2021) in the context of an emerging market. It indicates that Thai households function as buy-and-hold investors motivated by a desire for security and consistent income, rather than speculative arbitrage. In contrast to institutional investors, whose involvement may vary with global interest rates or

liquidity conditions (Ebeke & Lu, 2015), households demonstrate a consistent demand that endures across economic cycles. Thus, the household sector operates as a Stabilizing Anchor, mitigating the overall volatility of the public debt portfolio.

The Determinant Role of Households

The regression analysis indicates that the household sector is not exclusively a participant but the primary catalyst of the savings bond market, accounting for about 80% of overall market growth. This contrasts with traditional bond market structures where banks or foreign investors sometimes dictate market trends (Andritzky, 2012).

The significantly elevated R-squared value (0.826) signifies that the growth of the savings bond market is intrinsically connected to the financial behavior of domestic households. This creates a closed-loop stability system where domestic savings are reinvested in public debt, reducing the government's reliance on foreign funding and alleviating the Original Sin risk of currency mismatches, as noted by Panizza (2008).

Structural Implications for Debt Management

The significant size of the household sector signifies a successful alignment of Fiscal Policy with the financial needs of households. By offering risk-free assets directly to residents, the government has tapped into a significant pool of domestic savings that is resilient to foreign shocks. This heightened concentration suggests a potential risk of reliance; future debt management solutions must ensure that the provided products correspond with the evolving lifecycle needs of an older population to maintain this steady demand.

Body of Knowledge

The Stabilizing Role of the Household Sector in Emerging Bond Markets

This research integrates empirical findings to establish a novel body of knowledge concerning the structural dynamics of the Thai government bond

market. The contributions are classified into three principal dimensions: Empirical Discovery, Theoretical Advancement, and Policy Implications.

1. Empirical Discovery: The "Retail Anchor" Phenomenon

This analysis challenges the standard market microstructure perspective that institutional investors predominantly supply liquidity and stability.

Discovery: The research identifies the Household Sector as the dominant market force, accounting for an average of 88.31% of the savings bond market share.

Stability Anomaly: Contrary to the assumption that retail investors are "noise traders" prone to panic, empirical evidence reveals that the household sector exhibits a volatility profile (SD = 4.81) that is 2.3 times lower than that of other sectors (SD = 11.13).

Conclusion: This establishes the concept of the "Retail Anchor," where domestic households function as the primary stabilizing agent against market fluctuations, creating a resilient demand floor that persists through economic cycles.

2. Theoretical Advancement: Validating Segmentation in Emerging Markets

The research that follows integrates developed-market concepts with the realities of emerging markets.

Preferred Habitat Confirmation: The results offer substantial empirical evidence for Vayanos and Vila's (2021) Preferred Habitat Theory in the context of a rising economy. It affirms that Thai families represent a unique "habitat" characterized by inelastic demand for safety, distinctly separated from the speculative influences impacting institutional investors.

Behavioral Redefinition: The study redefines the academic characterization of retail bond investors from "yield-seekers" to "safety-seekers." The significant R-squared value (0.826) in the regression model indicates that

household behavior is systematic and predictable, serving as a reliable determinant of market expansion rather than a source of random volatility.

3. Strategic Policy Implications: The "Direct-to-Household" Paradigm

The research study offers an evidence-based paradigm for the modernization of public debt management.

Capital Flight Buffer: The "Retail Anchor" serves as a counter-cyclical safeguard. Policymakers can alleviate the dangers of "Original Sin" linked to foreign capital flight and exchange rate volatility by broadening the household investor base.

Inclusive Financing Model: The results confirm the strategic transition to "Direct-to-Household" distribution channels (e.g., digital wallets). This is not solely a financial inclusion instrument but a vital macro-stabilization strategy that diminishes the government's dependence on unpredictable wholesale funding markets.

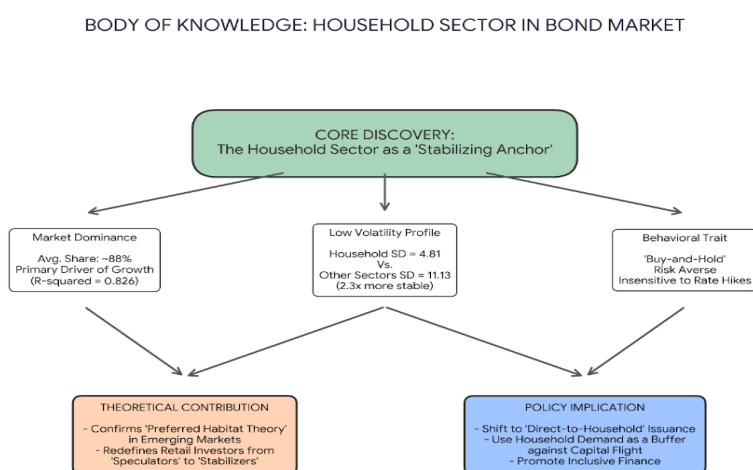


Figure 5 Body of Knowledge

Conclusion

This study presents quantitative data showing the structural development of the Thai savings bond market from 2017 to the present. The investigation yields three definitive conclusions regarding the role of the household sector. The market microstructure has evolved into a retail-centric model, with the household sector accounting for an average of 88.31% of total outstanding savings bonds. This designates the household sector as not merely a participant, but as the fundamental cornerstone of the market. The analysis identifies the household sector as a "Stabilizing Anchor" for state debt. The comparative volatility research reveals that household holdings exhibit a standard deviation of 4.81, roughly 2.3 times lower than that of institutional and international sectors ($SD = 11.13$). This discovery supports the Preferred Habitat Theory within an emerging market context, confirming that household investors display inelastic demand and are driven by safety-seeking behavior, thus protecting them from the short-term speculative pressures that cause institutional volatility. The regression study indicates that household demand is the principal factor influencing market expansion, accounting for 82.6% of the variance in overall market growth ($R\text{-Squared} = 0.826$). This research recharacterizes the Thai household sector from a passive saver to an essential macro-stabilizer, demonstrating that the effectiveness of the government's funding strategy is fundamentally connected to the financial behavior of domestic households.

Recommendation

Policy Recommendations based on the empirical evidence establishing the household sector as a stabilizing anchor, three strategic recommendations are proposed for the Public Debt Management Office (PDMO) and fiscal policymakers:

Institutionalize "Direct-to-Household" Distribution: Since household demand is identified as the primary driver of market growth ($R^2 = 0.826$), the government should permanently institutionalize digital distribution channels (e.g., the Paotang application). Transitioning from ad-hoc issuance to a seamless, low-cost digital platform will further deepen this high-quality investor base and reduce the fiscal burden associated with traditional intermediary fees.

Utilize Retail Demand as a Counter-Cyclical Buffer: Policymakers should employ the household sector as a strategic economic safeguard during times of external financial instability. Empirical analysis demonstrates that household demand exhibits considerably lower volatility than institutional demand (SD 4.81 vs. 11.13), thus augmenting savings bond allocations during periods of capital flight can effectively stabilize the domestic bond market and alleviate "sudden stop" risks.

Synchronize Product Design with Demographic Trends: Given the safety-oriented nature of this sector, forthcoming bond instruments must be customized to accommodate the requirements of an aging population. Innovations like Inflation-Protected Securities (IPS) or bonds offering monthly coupon payments would more effectively align with the income preservation objectives of Thai savers, thus ensuring sustained long-term demand.

Limitations of the Study

This research offers substantial macroeconomic insights, yet it is constrained by specific limitations. The analysis depends on aggregated monthly data, which may obscure the diversity within the household sector. Therefore, the study is unable to differentiate between the behaviors of high-net-worth individuals and modest savers. The scope is exclusively confined to Savings Bonds, which are non-tradable instruments. Consequently, the results concerning volatility may not entirely apply to the tradable government bond market, where price sensitivity and liquidity limitations are more pronounced.

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