VOL.40
NO.3

SEPTEMBER 2025

THAILAND DEVELOPMENT
RESEARCH INSTITUTE

TDRI QUARTERLY REVIEW

TRACKING THAILAND'S ECONOMIC GROWTH: PAST, PRESENT, AND FUTURE

THE MEDIUM- TO LONG-TERM DEMAND FOR HOUSING CORRESPONDS WITH THAILAND'S TRANSITION INTO AN AGING SOCIETY

TDRI QUARTERLY REVIEW

VOL.40 NO.3
SEPTEMBER 2025

The Thailand Development Research Institute Foundation was Established in 1984 to conduct policy research and disseminate results to the public and private sectors. TDRI was conceived, created and registered as a non-profit, non-governmental foundation, and is recognized as such by the Royal Thai Government. The Institute does technical and policy analyses to support the formulation of policies with long-term implications for sustaining social and economic development.

CONTENTS

TRACKING THAILAND'S ECONOMIC GROWTH: PAST, PRESENT, AND FUTURE

Nonarit Bisonyabut
*Watcharin Tantisan**

ABSTRACT

Thailand's economic trajectory over the past three decades reveals a persistent and structural slowdown, with real GDP growth declining after every major crisis and long-term projections indicating continued deceleration driven by demographic aging, stagnant productivity, and long-standing structural constraints. Using four indicators—real GDP, real GDP per capita, GDP per capita (PPP), and GNI per capita (Atlas method)—this article shows that while Thailand's domestic purchasing power has continued to rise, it has done so at a progressively slower pace, and its global purchasing power has improved even more weakly. Among these metrics, GNI per capita—the indicator most widely used for international income classification—signals an especially sharp deterioration in Thailand's income generation capacity, with recent years showing negative growth and convergence falling below the thresholds required to attain high-income status. Cross-country comparisons further reveal that although Thailand remains ahead of Indonesia, the Philippines, Vietnam, and India in income level, it is the only economy in the group whose post-COVID-19 growth falls below both convergence benchmarks, indicating a deeper structural malaise. Forward-looking projections suggest that GDP growth may fall to just 1.2 percent by 2061–80, delaying Thailand's transition to high-income status until around 2071—35 years later than the government's target—and allowing Vietnam to surpass Thailand in income by the 2040s. Taken together, these findings underscore that Thailand's growth slowdown is not a temporary fluctuation but reflects fundamental, enduring weaknesses that will require far-reaching structural and institutional reforms, to be explored in subsequent articles of this series.

Keywords: economic growth, forecast, high-income economy

1. INTRODUCTION

The world has moved beyond the COVID-19 pandemic, the last major global catastrophe of the early 21st century—yet a new source of economic disruption has emerged. Under U.S. President Donald Trump's administration, the United States adopted a policy of reciprocal tariffs, imposing substantial surcharges on imported products. The severity of these tariffs varies by country, depending on the outcomes of bilateral negotiations, with the overarching objective of extracting greater economic benefits for the United States.

For Thailand, this external shock arrives amid a prolonged domestic economic slowdown. Since its peak in the early 1990s—when the country was widely regarded as the "fifth tiger," poised to emulate the rapid development paths of South Korea, Taiwan, Singapore, and Hong Kong—Thailand's growth rate has steadily decelerated. Over the past 25 years, its economic performance has become increasingly lackluster and has been overtaken by several regional peers, including China and Malaysia, with Vietnam likely to surpass Thailand in the near future.

* Dr. Nonarit Bisonyabut is Senior Research Fellow and Watcharin Tantisan is Researcher, Macroeconomic Policy and Applied Economics, Thailand Development Research Institute (TDRI).

Reflecting this perception of stagnation, commentators have labeled Thailand "the sick man of ASEAN" (Bangkok Post, 2025) or even "the sick man of Asia" (Capital Economics, 2025).

This article is the first in a three-part series that investigates Thailand's economic growth slowdown through three analytical objectives. First, it traces Thailand's growth trajectory from its historical peak to the present, offering a comprehensive overview and assessing whether the decline in GDP growth is a normal phenomenon when viewed from a global comparative perspective. Second, it examines the structural challenges that have contributed to Thailand's persistently sluggish growth compared to its regional competitors. Third, it evaluates the institutional constraints that impede effective reform, shedding light on why widely discussed policy solutions have repeatedly failed to generate substantive progress.

The primary purpose of this first article is to address the first objective. The subsequent articles will explore the second and third objectives and will be published later as part of the complete series.

2. MEASURING THAILAND'S ECONOMIC GROWTH

There are several approaches to measuring a country's economic progress. The most straightforward indicator is GDP growth, which captures the annual increase in domestic economic activity. A high GDP growth rate typically reflects an expansion in production, consumption, and investment, and is therefore often interpreted as evidence of strong economic performance. However, the size of a country's GDP is inherently influenced by the size of its population. For instance, if individuals in two countries each spend approximately USD 7,500 per year, a country with 70 million people (such as Thailand) will inevitably have a much larger GDP than a country with only 3 million people (such as Armenia). Consequently, GDP growth is partly shaped by population dynamics. Countries undergoing demographic aging are expected, over the long term, to experience slower GDP growth as the working-age population shrinks and as older individuals tend to spend less than younger cohorts. Considering this, analysts often turn to GDP per capita, which measures average economic activity

per person and provides a more population-neutral indicator of economic progress.

Although GDP per capita growth is useful for assessing a country's economic well-being over time, it is less suitable for cross-country comparisons. A key limitation lies in price differences across countries. Even when GDP per capita is expressed in a common currency, such as Thai baht or U.S. dollars, the cost of goods and services varies significantly, particularly in non-tradable sectors like services. For example, a haircut in the United States may cost USD 25–45, while the same service in Thailand may cost between USD 4 and 12. These price differences imply that dollar-denominated GDP per capita figures do not fully reflect differences in real living standards. To address this issue, economists often use GDP per capita adjusted for purchasing power parity (PPP), which equalizes price levels across countries and provides a more accurate measure of real welfare.

A fourth indicator—widely used by the World Bank to classify economies by income level—is GNI per capita (Atlas method). This measure differs from the previous indicators in two important ways. First, it is based on Gross National Income (GNI) rather than GDP. While GDP measures economic activity within a country's borders, GNI measures the income earned by a country's residents regardless of where they live or work. Second, the Atlas method applies a smoothing procedure to exchange rates over three years, adjusted for inflation differentials, to reduce volatility and enhance comparability across countries. However, like nominal GDP per capita, the Atlas method does not adjust for cross-country price differences and therefore should not be interpreted as a PPP-based measure of well-being.

This article compares all four indicators discussed above to evaluate Thailand's economic growth retrospectively and presents projections for selected indicators to shed light on the country's potential future trajectory.

The data for GDP growth and GDP per capita are obtained from the Office of the National Economic and Social Development Council (NESDC) and the Bank of Thailand. Measures of GDP per capita adjusted for PPP and GNI per capita (Atlas method) are sourced from the World Bank. Cross-country comparisons are drawn from World Bank datasets, and the forward-looking projections are produced using simple linear forecasting models that incorporate dummy variables to account for structural shocks.

3. FINDINGS

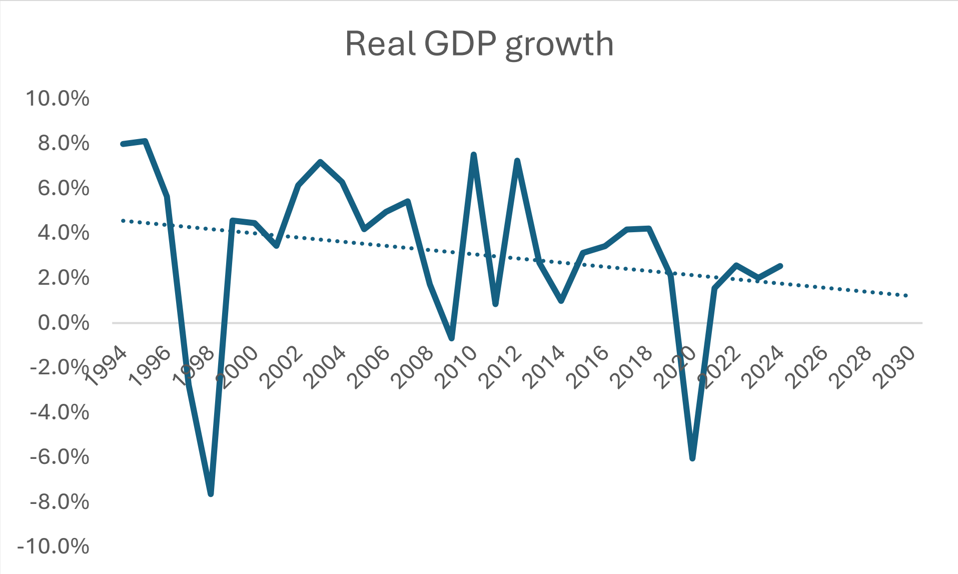
This section presents a detailed analysis, beginning with Thailand's economic growth across four indicators, followed by cross-country comparisons, and concluding with an assessment of Thailand's future economic growth outlook.

3.1 Tracking Thailand's Economic Growth

Using real GDP as the first indicator, Figure 1 illustrates Thailand's economic growth from 1994 to 2024. Over these thirty years, three episodes of negative growth are observed, corresponding to the 1997–98 Asian Financial Crisis, the 2008–09 U.S. Subprime Mortgage Crisis, and the 2020–21 COVID-19 pandemic. Notably, Thailand's long-term real GDP growth shows a downward trend, and when the data are divided into crisis-to-crisis sub-periods (Table 1), the country's average growth rate declines after every major shock.

Before the Asian Financial Crisis, Thailand experienced rapid expansion, with real GDP growing at an average rate of 7.3 percent per year between 1993 and 1996. In the post-crisis recovery period of 1999–2007, average growth fell to 5.3 percent per year. Following the U.S. Subprime Mortgage Crisis, growth slowed further to 3.2 percent per year during 2010–2019. After the COVID-19 pandemic, the average growth rate declined again, reaching only 2.3 percent in the subsequent years.

Figure 1
Thailand's Economic Growth, 1994–2024



Note. From NESDC.

The decline in Thailand's real GDP growth is notable, but part of this trend may be attributable to demographic changes. To explore this, the second indicator—real GDP per capita—is examined. By decomposing aggregate real GDP growth into real GDP per capita growth and population growth, we can better understand the sources of the slowdown across crisis periods.

After the Asian Financial Crisis, real GDP per capita growth fell from an average of 6.4 percent per year to 5.0 percent per year, while population growth declined from 0.8 percent to 0.2 percent per year. Although purchasing power continued to rise, its pace slowed far less dramatically than suggested by the drop in aggregate real GDP. Following the U.S. Subprime Mortgage Crisis, the deceleration in real GDP per capita growth became more pronounced—exceeding the magnitude of the decline in total GDP growth—indicating a deeper structural weakening in productivity and income generation. By contrast, after the COVID-19 pandemic, real GDP per capita growth declined only slightly. The main driver of the post-pandemic fall in aggregate GDP growth, therefore, appears to be population shrinkage rather than a meaningful deterioration in individual economic welfare.

Table 1
Thailand's Real GDP Growth by Sub-Period

Sub-Period	Real GDP growth
1993-1996	7.3%
1999-2007	5.3%
2010-2019	3.2%
2022-2024	2.3%

Note. The author's calculations are based on NESDC data.

Table 2

Decomposing Thailand's Real GDP Growth by Sub-Period

Sub-Period	Real GDP growth	Real GDP per Capita Growth	Population Growth
1993-1996	7.3%	6.4%	0.8%
1999-2007	5.3%	5.0%	0.2%
2010-2019	3.2%	2.7%	0.5%
2022-2024	2.3%	2.4%	-0.1%

Note. The author's calculations are based on BOT data.

The third indicator—GDP per capita adjusted for PPP—is examined to assess how Thailand's purchasing power has evolved from a global perspective. Table 3 provides this comparison across sub-periods. In most sub-periods, real GDP per capita (PPP) grows more slowly than its domestic-price counterpart. This implies that while Thais are becoming richer in domestic purchasing-power terms, their purchasing power relative to the rest of the world is improving at a slower pace. In other words, Thailand's domestic price level has risen relative to the international benchmark (typically the United States), making Thailand relatively more expensive abroad.

This divergence is most pronounced in the earlier period of 1993–2007, when domestic purchasing power increased faster than purchasing power measured in global terms. However, the gap narrows substantially during 2010–2024, suggesting that over the past 15 years, Thailand's price level has become more stable relative to international prices. As a result, the growth of Thailand's purchasing power has been broadly aligned between domestic and international perspectives, indicating limited real appreciation pressure in recent years.

Finally, the fourth indicator—GNI per capita (Atlas method)—provides additional insight into Thailand's economic progress from an income-level perspective. As shown in Table 3, GNI per capita growth exhibits substantially greater variation than the other indicators. Thailand's average growth rate declined from a peak of 10.9 percent during 1993–96 to –0.6 percent in the post-COVID-19 period, representing an 11.5-percentage-point drop. This contraction is significantly larger than the declines observed in the other measures: approximately 5 percentage points for real GDP, 4 percentage points for real GDP per capita, and 3.4 percentage points for real GDP per capita (PPP).

Among the four indicators, GNI per capita (Atlas method)—often considered the most balanced measure for assessing economic development—suggests that Thailand has undergone a particularly sharp deterioration in income generation capacity, with the magnitude of decline exceeding that implied by standard GDP-based indicators.

The next section extends the analysis by incorporating a cross-country comparative perspective.

Table 3

Comparing Thailand's Real GDP per Capita Growth, Real GDP per Capita Growth (PPP, Real), and GNI per Capita Growth (Atlas Method) by Sub-Period

Sub Periods	Real GDP per Capita Growth	Real GDP per Capita Growth (PPP)	Real GNI per Capita Growth (Atlas Method)
1993-1996	6.4%	5.7%	10.9%
1999-2007	5.0%	4.3%	7.3%
2010-2019	2.7%	2.7%	5.2%
2022-2024	2.4%	2.3%	-0.6%

Note. The author's calculations are based on World Bank data.

3.2 Cross-Country Perspectives

This section focuses on two indicators: real GDP growth and GNI per capita (Atlas method). While real GDP growth is commonly used to infer a country's economic performance, this article argues that such comparisons should be interpreted with caution, as direct cross-country comparisons of GDP growth can lead to misleading conclusions. The second indicator, GNI per capita (Atlas method), is examined alongside other major competing economies to provide a clearer picture of Thailand's relative income development. The remaining two indicators discussed earlier are excluded from this section because, although they capture aspects of economic progress, each requires more extensive conceptual treatment than can be provided within the scope of this article.

Turning to the first indicator, economists and non-economists alike often compare GDP growth rates across countries and draw broad conclusions. For example, a leading business newspaper in Thailand (Bangkokbiznews, 2025) cited World Bank projections showing that Thailand's expected GDP growth for the year—1.6 percent—would be the lowest among ASEAN economies. While such comparisons are widely used in policy discussions and public commentary, this article contends that they do not necessarily yield robust insights.

GDP growth is deeply influenced by differences in economic size, structure, and stage of development. Economic literature offers no consensus on whether larger economies have inherent advantages or disadvantages relative to smaller ones. Smaller economies with abundant natural resources—such as Brunei—may enjoy higher per-capita endowments that support stronger growth potential, whereas larger economies—such as China—may benefit from economies of scale, lower fixed operational costs, and large domestic markets that enhance efficiency and competitiveness. Furthermore, a larger GDP may reflect a more advanced level of development, and economies at higher income levels typically face slower structural growth, consistent with the empirical regularity that growth decreases as countries become richer. In short, numerous factors—population size, resource endowment, industrial structure, market size, technological capability, and stage of development—complicate straightforward comparisons of GDP growth across countries.

These considerations underscore the argument that real GDP growth alone cannot provide a definitive assessment of Thailand's competitive position.

Turning to GNI per capita (Atlas method)—a more suitable indicator for cross-country comparisons of income development—Figure 2 presents Thailand and its major competitors across three sub-periods (2011–14, 2015–19, and 2021–24). The X-axis measures income levels, where higher values indicate higher national income, and countries surpassing the World Bank's high-income threshold (approximately USD 14,000 per capita in 2024) are classified as high-income economies. The Y-axis shows the growth rate of GNI per capita, reflecting the speed at which countries move rightward along the income axis.

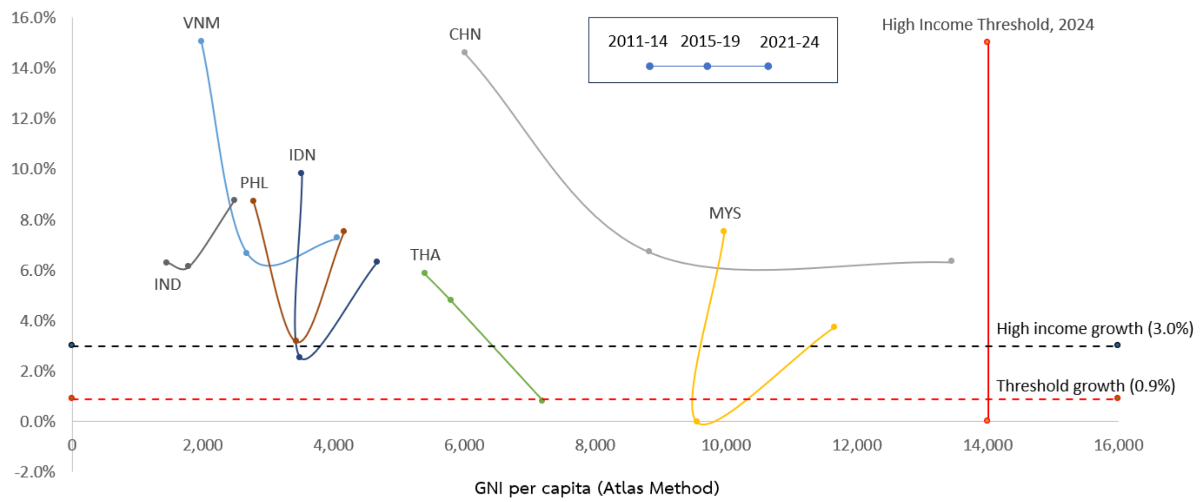
Two benchmark growth thresholds are of particular interest:

1. **The high-income threshold growth rate**, which shifts rightward at roughly 0.9 percent per year. Economies growing below this rate (red dashed line) will not converge to the minimum high-income threshold in the long run.
2. **The high-income average income threshold**, which grows at approximately 3.0 percent annually. Economies growing below this benchmark (black dashed line) will not converge to the average income level of high-income countries.

The figure shows that Thailand's income level remains ahead of Indonesia, the Philippines, Vietnam, and India, but still lags substantially behind China and Malaysia. On the growth dimension, all countries experience slower GNI per capita growth as incomes rise, and many exhibits clear downturns during certain periods. However, in the post-COVID-19 period (2021–24), Thailand is the only country in the comparison whose GNI per capita growth rate falls below both convergence thresholds. This finding indicates that Thailand's post-pandemic slowdown is particularly severe and warrants urgent policy attention.

Figure 2

Cross-Country Comparison of GNI per Capita (Atlas Method)



Note. The author's illustration is based on World Bank data.

3.3 The Future of Thailand's Economic Growth

What should be expected for Thailand's economic growth going forward? Across virtually all indicators, the data point to a persistent structural slowdown. The key questions, therefore, are how far growth will decelerate in the coming decades and how this trajectory will shape Thailand's prospects for attaining high-income status.

GDP Growth Projections

Using a simple linear forecasting model that incorporates dummy variables for major structural shocks, the analysis suggests that Thailand's long-term GDP growth will continue to decelerate (Figure 3). From an average growth rate of 2.1 percent per year during 2021–24, growth is projected to recover modestly as COVID-19 effects fade, reaching approximately 2.4 percent per year in the near term. Thereafter, however, the model predicts a renewed slowdown, with GDP growth declining to:

- **2.2 percent** per year during **2031–40**,
- **1.7 percent** per year during **2041–60**, and
- **1.2 percent** per year during **2061–80**.

These projections underscore a long-run trajectory of progressively weaker economic expansion, driven by demographic headwinds, stagnant productivity growth, and unresolved structural constraints. The structural issues underlying this slowdown will be examined in detail in the second article.

Figure 3

The Future of Thailand's GDP Growth

	Pre-covid	Post-covid	Medium Term	Long Term		
	2015-19	**2021-24**	**2026-30**	**2031-40**	**2041-60**	**2061-80**
GDP Growth	**3.4%**	**2.1%**	**2.4%**	**2.2%**	**1.7%**	**1.2%**

Note. The author's illustration is based on NESDC data.

GNI per Capita and High-Income Prospects

Building on the GDP projections, the article estimates Thailand's future path of GNI per capita (Atlas method). Two key findings emerge:

1. **Thailand remains on track to reach high-income status—but only around 2071.** Under the 20-Year National Strategic Plan (launched in 2017), Thailand aimed to become a high-income economy by 2036. The new estimate represents a **35-year delay**, reflecting a significant deterioration in long-term growth prospects. More importantly, even after crossing the high-income threshold, Thailand is **not expected to converge** to the average income level of high-income countries. At the current trajectory, Thailand risks remaining a **second-tier high-income economy**, unable to close the gap with advanced economies.

2. **Vietnam is projected to overtake Thailand well before that.** Using a comparable methodology, Vietnam's GNI per capita is expected to surpass Thailand's by **2043** and to reach high-income status by **2053—18 years earlier** than Thailand. This highlights the widening divergence in structural dynamism between the two economies and underscores the urgency for Thailand to undertake deeper productivity-enhancing reforms.

REFERENCES

Bangkokbiznews. (2025). *Thailand's economy grew the slowest in ASEAN.* https://www.bangkokbiznews.com/blogs/business/economic/1178184

Bangkok Post. (2025). *Thailand now 'the sick man of Asean.'* https://www.bangkokpost.com/opinion/opinion/3128510/thailand-now-the-sick-man-of-asean

Capital Economics. (2025). *Thailand: the new sick man of Asia.* https://www.capitaleconomics.com/publications/asia-economics-update/thailand-new-sick-man-asia

THE MEDIUM- TO LONG-TERM DEMAND FOR HOUSING CORRESPONDS WITH THAILAND'S TRANSITION INTO AN AGING SOCIETY*

Ratree Prasomsup
*Nonarit Bisonyabut***

ABSTRACT

This study examines future demand for housing purchases and rentals in the medium- to long-term. The research employs an economic modeling approach combined with household survey data and information from domestic and international agencies, covering the period 2009–2021. The findings indicate that both housing purchase and rental demand are expected to increase over the long term; however, the development of Thailand's real estate market is likely to be uneven, resulting in housing vacancies in less desirable areas and among lower-income households. Factors associated with an aging society are projected to reduce housing demand by approximately 0.6–1.3 percent per year, while market competition will intensify between higher-income households and those whose income growth cannot keep pace with rising housing prices (requiring an average growth of 4.68 percent). A key strategy for households unable to compete in the purchase market is to shift toward long-term rental housing, which can reduce expenses and increase savings for retirement. Policy recommendations include the development of new long-term rental housing products without ownership in less desirable areas and the support of foreign participation—through long-term leases or appropriate ownership shares—in high-demand areas to enhance competition and stimulate economic activity. These measures will help Thailand better prepare for the challenges of an aging society.

Keywords: aging society, housing demand, preparation for an aging society

1. INTRODUCTION

Housing is a fundamental factor essential to human well-being, as it affects both the long-term financial status and overall welfare of Thai households. Homeownership entails long-term financial commitments and exposes buyers to risks that may affect their income, such as unemployment or accidents that prevent them from working. These risks can result in borrowers being unable to meet their debt obligations, posing threats both to individual households and to the stability of the broader real estate market, as exemplified by Japan's property market crisis amid an aging society.

Within the context of an aging or aged society, housing decision-making becomes more complex than under normal circumstances. During periods of population growth, housing demand tends to increase, driving up property prices while mitigating risks, as housing functions as an asset that accumulates value (Pornchokchai, 2017). However, as the population declines in an aging society,

* This study uses the term "aging society" to include "aged society", or "completed aged society," which means a country where a significant percentage of people are elderly, typically defined as having over 20% of the population aged 60+ or over. Thailand has become an aged society since 2022.

** Dr. Nonarit Bisonyabut is Senior Research Fellow and Ratree Prasomsup is Researcher, Macroeconomic Policy and Applied Economics, TDRI.

housing demand is expected to decrease, potentially leading to oversupply. Consequently, homeownership may no longer serve as a reliable asset for accumulating value, making the timing of purchasing decisions critical for individual economic well-being.

Nevertheless, many public policies have not adequately accounted for the impact of population aging. For example, housing policies continue to focus on constructing large numbers of new units, which may not align with projected declines in future demand. Similarly, mortgage policies that extend loan periods up to 60–70 years may be ill-suited to an aging demographic and carry risks of future misalignment between household needs and housing market conditions.

Therefore, studying medium to long-term housing demand in the context of an aging society is essential to advance knowledge on household housing decision-making. This study aims to analyze future trends in the real estate market to reflect the impact of demographic changes on housing demand. It also evaluates the various costs associated with homeownership in an aging society, including actual expenses, borrowing, long-term housing prices, and opportunity costs, as well as examining whether housing continues to function as a "value-appreciating asset" in the context of an aging population. Furthermore, the study assesses the appropriateness of current housing measures and policies in relation to the evolving demographic structure.

2. RESEARCH METHODOLOGY

This research employs a mixed methods approach, integrating both quantitative and qualitative analyses to systematically develop a long-term housing demand forecasting model for Thailand within the context of an aging society. The study begins with a review of relevant literature and economic models, both domestic and international, to establish a conceptual framework suitable for the Thai context. Secondary data were gathered from multiple sources, including the National Statistical Office, the Ministry of Interior, UN Population Projections, the Bank of Thailand, the IMF, the World Bank, and TDRI. The data primarily covers demographic, economic, financial, and housing market aspects. These datasets were analyzed using both a Partial Equilibrium Model and a General Equilibrium Model to ensure econometric precision and to capture the systemic interconnections among economic variables.

In the quantitative analysis phase, the study employs time series models—both linear and quadratic—to forecast key variables such as income, housing prices, and interest rates. Additionally, an instance-based learning model is applied to adjust forecasts in accordance with short-term fluctuations, such as the impacts of the COVID-19 pandemic. Cluster analysis is also used to classify households by income level and age structure based on data from the 2019 National Statistical Office household survey, resulting in 58 household groups. This enables an examination of homeownership and rental behaviors through the lens of household expenditure structures. Furthermore, present value analysis is conducted to compare the long-term costs of buying versus renting, under assumptions regarding inflation rates, savings returns, and loan interest rates, to produce economically realistic results.

The quantitative analysis results are integrated with a review of government housing policies by collecting data from policy documents, government measures, and expert interviews. These inputs are synthesized into policy recommendations that address the aging population structure and future market trends. This entire process reflects a systemic research approach, emphasizing the interrelationships among economic, social, and consumer behavioral factors. The goal is to develop a body of knowledge and a policy-oriented modeling framework that can be applied to long-term planning and development of Thailand's housing market.

3. RESEARCH FINDINGS

3.1 Long-Term Housing Demand Projections for Thailand

The long-term housing demand projections for Thailand were developed using trend-based modeling to reflect future consumer behavior, assuming that housing preferences continue in line with historical data from 2009–2021. The analysis highlights several key points:

1. Projected Population: Thailand's population in 2022 continued to increase from the previous year, reaching its peak in 2028 at 67.58 million people. After this peak, the population is expected to decline gradually until the final projection year of 2070.

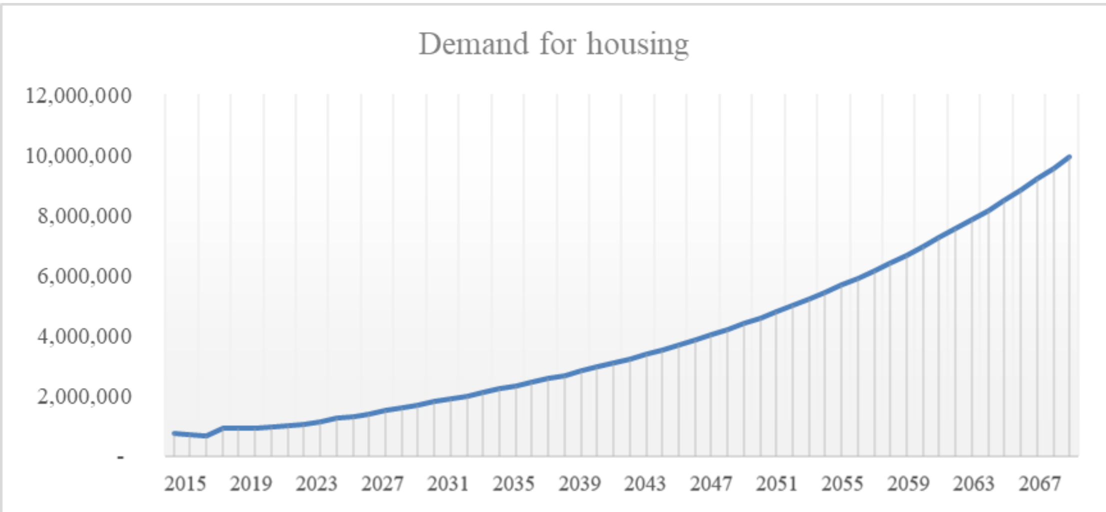
2. Household-to-Population Ratio: The ratio of households to population is projected to rise from 0.422 in 2022 to 0.936 in 2070. The inverse of this ratio, representing population per household, indicates a decreasing household size, from 2.37 persons per household in 2022 to only 1.07 persons in 2070.

3. Housing-Potential Population: Using data from the Government Housing Bank customer base, the population with potential to own housing is primarily aged 23–60 years. This age group was used to calculate the ratio of housing-potential population per household. The results show a continuous decline in this ratio, from 1.30 persons per household in 2022 to just 0.45 persons per household in 2070.

4. Per Capita Income of Housing-Potential Population: Reflecting purchasing power, per capita income shows significant growth. In 2022, income per capita was 458,000 THB per year, increasing to 4.7 million THB per year by 2070.

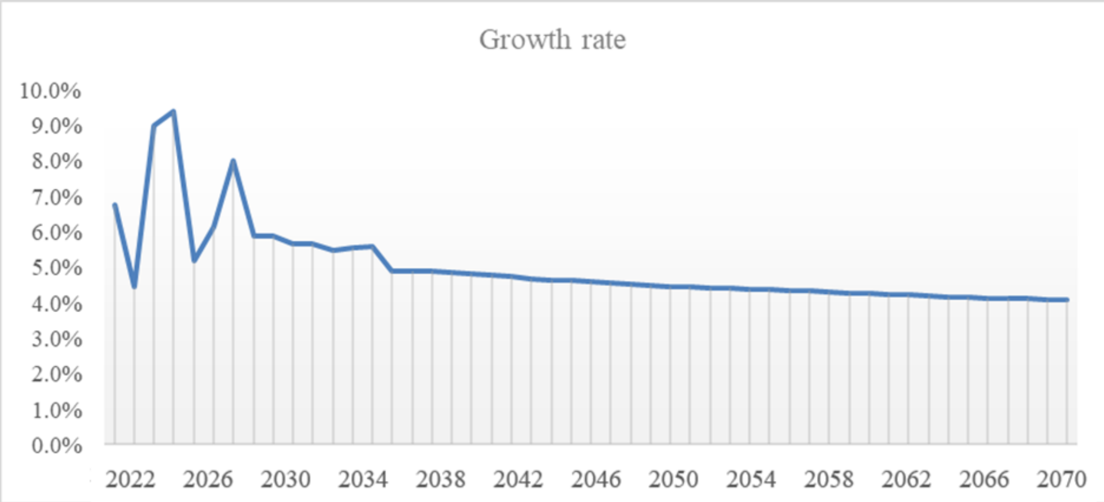
5. Long-Term Housing Prices and Market Trends: The growth rate of housing prices relative to other goods is projected to decelerate, reaching a balanced level without sustained continuous growth. Meanwhile, the ratio of housing credit to real GDP and the ratio of housing transactions to credit value are expected to remain stable in the long term at 29.48% and 0.125, respectively. Under these economic conditions, housing demand is projected to expand continuously, with a market value of 1.01 trillion THB in 2022, rising to 9.94 trillion THB by 2070. (Figure 1) The growth rate of housing demand is estimated at approximately 6.6% over the first ten years, gradually slowing to 4.1% by 2070. (Figure 2)

Figure 1
Housing Demand Estimates (Monetary Value)



Note: The figures presented are based on estimates derived from the model.

Figure 2
Growth Rate of Housing Demand

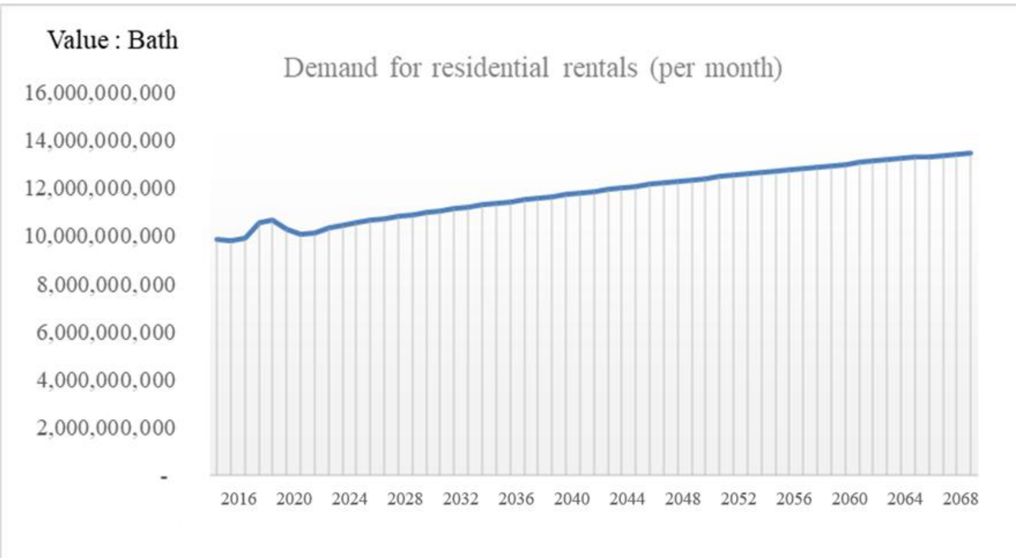


Note: The figures presented are based on estimates derived from the model.

In addition, the analysis of the ratio of housing rental value to Gross Domestic Product (GDP) indicates a slight upward trend, with long-term expansion projected at approximately 2%. Meanwhile, the ratio of the number of tenants to rental value is expected to decline significantly, reflecting a behavioral shift among Thai households from renting toward homeownership. By 2070, the volume of rental housing is projected to decrease by approximately 4.7%.

Regarding the demand for rental housing, under the assumption that future rental behavior follows historical patterns (Figure 3), demand is projected to grow steadily. In 2022, the rental market was valued at 10.7 billion THB per month, increasing to 13.4 billion THB per month by 2070.

Figure 3
Rental Housing Demand (Expressed in Monetary Terms)



Note: The figures presented are based on estimates derived from the model.

Examining the trend in the growth rate of rental housing demand (Figure 4), the initial phase shows modest growth of approximately 0.8% per year. However, this expansion is expected to gradually decline in the long term, reaching only about 0.4% per year by 2070.

3.2 Costs Associated with Homeownership

The analysis of costs associated with homeownership utilizes data from the 2019 Household Survey conducted by the National Statistical Office of Thailand, employing Cluster Analysis techniques. The analysis categorized Thai households into 58 distinct groups, each differing in terms of age structure, dependency ratios, sources of income, and expenditure patterns. This classification also highlights differences in households' ability to save, with some groups able to accumulate savings while others are unable to do so.

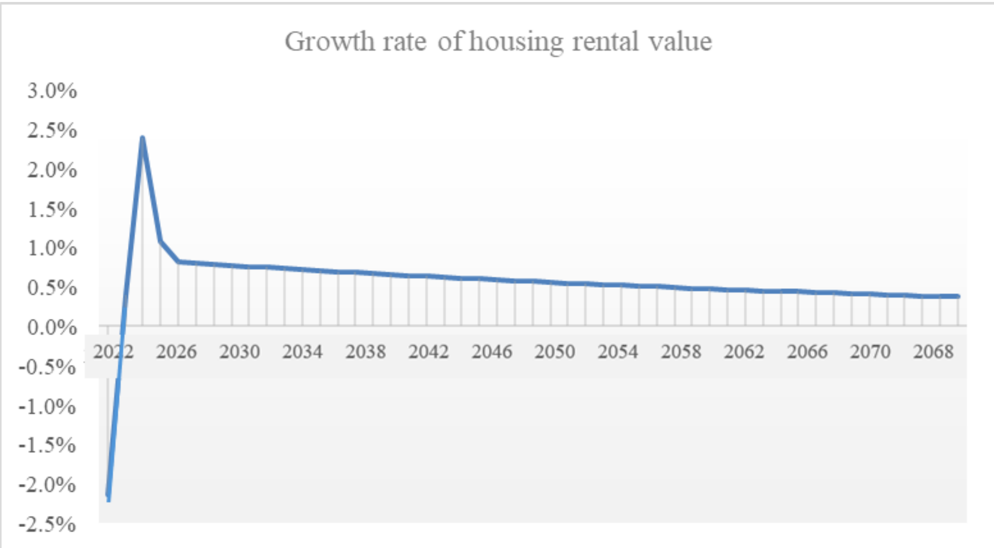
Further in-depth analysis reveals distinctions between households facing excessively high expenditures and those with relatively moderate expenditures but low income, which is a key factor explaining their inability to save.

Regarding housing-related expenses, the analysis shows that households capable of saving allocate approximately 20–30% of their income to housing, whereas households without savings spend a much higher proportion, ranging from 36–60% of their income (Table 1). These findings indicate that housing expenditure burdens are closely associated with households' ability to save.

When classifying households in each cluster by their housing tenure status, they can be divided into three categories:

1. **Homeowners,**
2. **Renters**, and
3. **Households living in others' homes**, which may include state- or employer-provided housing or residences owned by relatives.

Figure 4
The Annual Growth Rate of Rental Housing Demand is Presented



Note: The figures presented are based on estimates derived from the model.

Table 1
The Share of Housing Expenditures to Household Income

Main Income Source	Dependency Ratio	Monthly Savings	Number of Households	Population Count	House Rent	Other Expenses	Housing Expense to Income Ratio
Not Working	>1	>0	1,507,234	2,477,403	33,822	2,297	30.3%
Not Working	>1	<0	748,087	1,294,820	26,958	1,660	44.7%
Not Working	<1	>0	521,594	879,475	45,662	2,362	32.9%
Not Working	<1	<0	324,648	558,132	33,065	4,216	44.9%
Agriculture	>1	>0	806,130	2,280,760	22,646	1,962	24.7%
Agriculture	>1	<0	748,087	1,930,868	23,077	4,970	62.3%
Agriculture	<1	>0	521,594	879,475	22,652	1,824	21.3%
Agriculture	<1	<0	324,648	3,478,534	21,942	6,657	59.1%
Labor	>1	>0	1,106,945	3,989,316	38,074	4,380	35.9%
Labor	>1	<0	303,867	1,192,814	30,100	9,758	64.9%
Labor	<1	>0	7,467,891	1,027,643	36,071	2,793	22.9%
Labor	<1	<0	1,861,380	5,368,403	31,105	7,526	36.1%
Business	>1	>0	689,215	1,977,208	33,830	2,356	24.5%

Note: For households that own their dwellings, the imputed rental value is used as a proxy for the rental cost.

The analysis of the **"transition from ownership to renting"** compares housing-related costs across all 58 household clusters. The objective is to determine whether households with similar characteristics could reduce their housing expenditure if they shifted their tenure status to renting.

Based on the comparison results (Table 2), from approximately 20 million households included in the study, the following groups can be identified:

1. **Households for whom switching tenure status could reduce housing costs**—about **13.75 million households.**
2. **Households for whom switching tenure status would reduce costs but with certain limitations**—approximately **2.1 million households.**
3. **Households for which the comparison could not be performed**—about **0.6 million households.**
4. **Households residing in others' homes—3.6 million households,** which would **not benefit** from a change in tenure status.

Table 2
The Share of Housing Expenditure to Household Income

Evaluation Results of the Model Change	Number of Households
1. Changing the model will help reduce expenses	
- Households with income higher than expenses	9,738,049
- Households with income less than expenses but greater than standard expenses	1,960,399
- Households with income less than standard expenses	2,051,602
2. Changing the model will not help reduce expenses	2,114,494
3. No comparative data	661,216
4. Households residing in others' homes	3,643,543
Total Households	**20,169,303**

Note: The assessment of normative household expenditure is based on a comparative estimation of household spending, conducted using the Generalized Least Squares (GLS) estimation technique.

The evaluation of the shift in housing tenure from homeownership to renting (Table 3) aims to assess the extent to which such a transition can alleviate the housing expenditure burden of Thai households. The key findings are as follows:

1. Households with income exceeding their total expenditures: A transition from homeownership to renting yields a reduction in annual housing expenses ranging from 1,770 baht **to** 39,268 baht**, with a** median **reduction of** 10,480 baht **and an** average **of** 12,714 baht **per year.**

2. Households whose income is lower than their actual expenditures but remains above their essential (normative) expenditure level: For these households, shifting from homeownership to renting can reduce annual housing costs by a minimum of **2,702 baht** and up to **47,776 baht,** with a **median** reduction of **12,945 baht** and an **average** of **15,413 baht** per year.

3. Households whose income is lower than their essential expenditure level: Among this group, transitioning from homeownership to renting reduces annual housing expenditures by at least **670 baht** and up to **25,748 baht,** with a **median** reduction of **8,350 baht** and an **average** of **10,963 baht** per year**.**

Ultimately, an assessment was conducted to determine the actual economic gains under real-world conditions by comparing a scenario in which household expenditures are reduced for a period of 30 years—equivalent to the approximate duration of typical mortgage payments—to evaluate the real present value of such expenditure differentials.

The estimated gains in two scenarios (Tables 4(a) and 4(b)) are presented separately: (1) the case in which homebuyers use their own savings, thereby incurring an opportunity cost in the form of foregone returns on savings; and (2) the case in which homebuyers rely on bank loans, resulting in additional interest payments. The findings can be summarized as follows:

1. In the scenario in which homebuyers use their own savings, households with income exceeding expenditure would experience the following benefits if they switched from purchasing to renting a home:

- The minimum reduction in household costs would be 71,715 baht.
- The maximum reduction would be 1,591,017 baht.
- The median benefit would be 424,617 baht.
- The average benefit would be 515,132 baht

- For households whose income is lower than their expenditure but still above the normative expenditure level, switching from homeownership to renting would reduce household costs by at least **109,477 baht**, and at most **1,935,734 baht**, with a median reduction of **524,450 baht** and an average reduction of **613,547 baht.**
- For households whose income is lower than the normative expenditure level, shifting from homeownership to renting would reduce household costs by at least **27,106 baht** and at most **1,043,229 baht,** with a median reduction of **338,316 baht** and an average reduction of **444,146 baht**.

Table 3

The Assessment Indicates that Transitioning from Homeownership to Renting Contributes to A Reduction in Household Expenditure

Household Group	Minimum (Baht/year)	Maximum (Baht/year)	Median (Baht/year)	Average (Baht/year)
Households with income exceeding expenditures	1,770	39,268	10,480	12,714
Households with income lower than expenditures but above the normative level	2,702	47,776	12,945	15,413
Households with income lower than the normative expenditure level	670	25,748	8,350	10,963

2. In the scenario in which homebuyers rely on bank financing, households with income exceeding expenditure would experience the following benefits from switching from purchasing to renting a home:

- The minimum reduction in household costs would be **89,524 baht,**
- The maximum reduction would be **1,986,115 baht,**
- The median benefit would be **530,062 baht**, and
- The average benefit would be **643,055 baht.**

- For households whose income is lower than their expenditure but still above the normative expenditure level, switching from homeownership to renting would reduce household costs by at least **136,663 baht**, and at most **2,416,436 baht**, with a median reduction of **654,688 baht** and an average reduction of **765,910 baht**.
- For households whose income is lower than the normative expenditure level, shifting from homeownership to renting would reduce household costs by a minimum of **33,837 baht** and a maximum of **1,302,294 baht**, with a median reduction of **422,330 baht** and an average reduction of **554,441 baht**.

Table 4
Estimated Benefits of Switching from Buying to Renting

(a) Household Savings–Based Financing

Household Group	Minimum (Baht)	Maximum (Baht)	Median (Baht)	Mean (Baht)
Households with income higher than expenditure	71,715	1,591,017	424,617	515,132
Households with income lower than expenditure but higher than essential expenditure	109,477	1,935,734	524,450	613,547
Households with income lower than essential expenditure	27,106	1,043,229	338,316	444,146

(b) Bank Loan Financing

Household Group	Minimum (Baht)	Maximum (Baht)	Median (Baht)	Mean (Baht)
Households with income higher than expenditure	89,524	1,986,115	530,062	643,055
Households with income lower than expenditure but higher than essential expenditure	136,663	2,416,436	654,688	765,910
Households with income lower than essential expenditure	33,837	1,302,294	422,330	554,441

Note: The opportunity cost of household savings is assumed to be equivalent to the prevailing market rate of return, set at 4.72 percent. The interest rate for housing loans is calculated based on the Minimum Retail Rate (MRR) of 6 percent. In addition, a long-term inflation rate of 1.5 percent is applied in order to compute the present value of the resulting monetary benefits.

4. SUMMARY OF FINDINGS AND POLICY RECOMMENDATIONS

The long-term forecast of housing demand reveals several concerning issues, indicating that the growth of Thailand's real estate sector faces risks of instability and potential crisis if consumer behavior continues to follow historical trends. These concerns can be categorized into two key issues as follows:

1) The Impact of Population Aging on the Contraction of Housing Demand

Estimates indicate that Thailand's transition into an aging society is causing a continual decline in the fundamental factors that previously supported housing demand. A key demographic signal is that the total population is projected to begin shrinking in 2029, while the ratio of households to population will fall below 2.0 in 2033—the minimum threshold indicating that households still consist of more than one member and have not yet shifted toward a predominantly "single-person household" structure. This ratio is expected to drop further to 1.49 by 2050, reflecting a substantial increase in single-person households.

When examining the **"population with the potential to support housing per household,"** this indicator is projected to fall below 1.0 in 2034. This implies that the financial burden of housing costs will primarily be borne by a single individual, unlike in the past when multiple household members shared this burden.

Although the population is expected to decline in the medium term, the continued expansion in the number of households will still contribute to increased housing demand. However, when focusing specifically on the segment of the population with real purchasing power, the impact of population aging results in a **net negative effect** on housing demand. The research team estimates that demand will decrease by **0.6%–1.3% per year** (Figure 5).

2) Income-Generating Capacity and The Emerging Segmentation of The Real Estate Market into Two Distinct Tiers

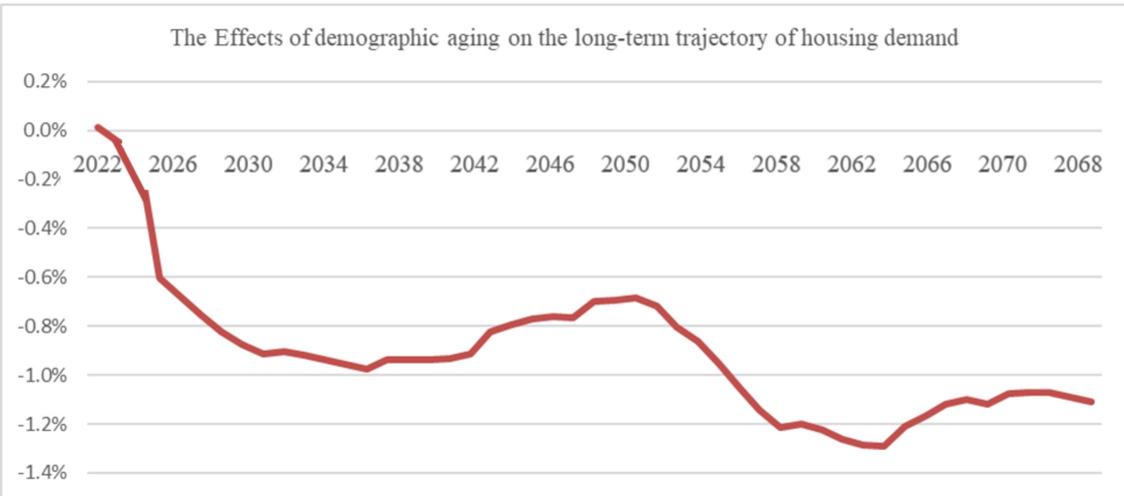
Future housing demand will be shaped primarily by the population's income-generating capacity, which shows a clear tendency toward dividing the housing market into two segments: (1) high-income groups with the purchasing power to acquire housing in desirable locations, and (2) groups whose income growth fails to keep pace with rapidly rising housing prices. Estimates indicate that the incomes of households with the potential to purchase a home will need to grow by **4.48–6.02 percent per year** (an average of **4.68 percent**) to sustain past purchasing behavior. At the same time, buyers will need to accept housing price inflation that exceeds general inflation by approximately **1–2 percent annually** from now until 2041.

The requirement for higher income growth, combined with continuously rising housing prices, creates a significant risk that the real estate sector will become increasingly polarized. Properties in prime locations will be purchased predominantly by higher-income groups who can absorb higher prices, while those in less desirable locations will be left to lower-income groups and/or those unable to afford high-priced units.

However, when examining wage growth across various sectors in Thailand, the data show that between **2011–2019**, several sectors—including manufacturing, construction, wholesale and retail trade, transportation, hotels, communications, support services, education, and arts and culture—achieved average income growth exceeding **4.68 percent** per year. Yet when considering the more recent period of **2014–2019**, none of these sectors recorded average income growth above the **4.68-percent** threshold.

Because the income figures presented are average, it can be inferred that although a portion of the population earns more than **4.68 percent** annually, the majority still faces uncertainty regarding their ability to compete in the housing market. This finding highlights a trajectory of **uneven development** in Thailand's real estate sector—mirroring phenomena observed abroad—where vacant or underutilized properties tend to cluster in less desirable locations and are often owned by lower-income households.

Figure 5
Impact of Changes in Population Structure on the Decline in Housing Demand



Note: The figures presented are based on estimates derived from the model.

The implications for household financial stability are substantial. In earlier periods, when Thailand had not yet transitioned into an aging society, the real estate market tended to develop more evenly, supported by broad-based demand across income groups and relatively moderate price competition. Under such conditions, residential property served as a reliable vehicle for wealth preservation.

However, in an aging society, natural demand driven by population growth and the purchasing power of potential homebuyers is expected to decline steadily. As a result, properties in less desirable areas, particularly those at risk of becoming vacant—face a heightened probability of **asset devaluation**, ultimately becoming a financial burden for households that are unable to compete for properties in prime areas.[1]

3) Imbalances in the Rental Housing Market

An examination of household behavior in Thailand shows a declining trend in rental housing alongside increasing homeownership—patterns that align with rational decision-making under conditions of normal population growth. However, in an aging society, if a large share of households continues to compete for homeownership, the long-term consequence will be a reduction in housing demand during certain periods, with a portion of units becoming vacant. This dynamic could lead to a significant decline in household asset value.

4) Changing Household Structures

Shifts in household composition—particularly the decline in households with children—have altered housing ownership patterns. Although residential property remains a long-term wealth-accumulating asset, the necessity for occupants to utilize the property throughout their lifetime means that housing is not easily converted into liquidity. While the government has introduced measures such as reverse mortgages to allow older adults to use their homes as collateral in exchange for monthly payments from financial institutions, interviews indicate that uptake remains limited. Barriers include inadequate understanding, lack of familiarity, and the reluctance of older adults to use their homes as collateral for loans.

In addition, the analysis of the costs associated with housing reveals the financial constraints faced by households and highlights important opportunities for designing measures to address the emerging imbalance in the real estate market.

First, a large number of households have expenditures that exceed their income, with housing costs accounting for a disproportionately high share of total household spending. Controlling housing-related costs is therefore essential to alleviating the overall financial burden on households and enhancing their long-term financial resilience.

Second, when considering opportunity costs, the analysis shows that choosing to rent rather than purchase a home can free up approximately 400,000–600,000 baht in financial resources for households. For households relying on mortgage financing, the opportunity cost increases further to 500,000–700,000 baht due to interest payments and long-term financial commitments.

Based on the findings above, two key policy recommendations emerge to support an aging society:

1) Measures for Lower-Quality Areas

For households with limited income and insufficient long-term purchasing power, policy should prioritize access to rental housing in well-serviced locations rather than promoting owner-occupation. Accordingly, the government—either directly or in partnership with the private sector—should develop new housing products tailored to this segment, emphasizing long-term residential rental schemes.

These schemes should require that units be used strictly for residential purposes, allow tenants and their families to secure long-term occupancy, and mandate that units be returned to the provider when tenants relocate or pass away.

[1] Housing prices in prime areas are projected to increase by 2.875 times by 2070 (from 2022), rising from an average of THB 2.45 million to approximately THB 7.03 million. In contrast, housing in non-prime areas is unlikely to function as a value-accumulating asset and is expected to depreciate over time.

2) Measures for High-Quality Areas

Housing markets in prime areas are likely to experience continued price escalation and require greater competitive pressure to enhance market efficiency. The government should therefore consider policies that allow greater participation of foreign residents through long-term leasing or appropriately regulated ownership (e.g., within condominium quota limits). Such measures would stimulate economic activity, including spending, investment, and domestic consumption. At the same time, intensified competition would encourage Thai buyers to adjust their preferences toward secondary locations, helping to rebalance demand across broader urban areas and reducing price pressures in prime zones.

Effective implementation of these policies—and the broader development of a housing market aligned with an aging society—will require coordinated action among key institutions, including the central government, the National Housing Authority, and the Government Housing Bank.

Meanwhile, private developers can strategically adopt these directions in anticipation of future market conditions, and households can draw on this information to make more informed decisions that reduce long-term financial risk.

REFERENCES

Börsch-Supan, A. (1993). *Long-term prospects in the housing market—consequences for a reform of housing subsidies: The housing and real estate industry*. Essen, GAGFAH, 341–364.

Börsch-Supan, A., Ludwig, A., & Sommer, M. (2007). *Aging and asset prices*. Mannheim Research Institute for the Economics of Aging.

Businessinsider. (2020). *The true cost behind Italy's $1 homes*. https://www.businessinsider.com/true-cost-of-italys-one-dollar-homes-sambuca-mussomeli-2020-3

Chantarat, S., Lamsam, A., Samphantharak, K., & Tangsawasdirat, B. (2017). *Thailand's household debt through the lens of credit bureau data: Debt and delinquency*. Discussion Paper: No. 61. Puey Ungphakorn Institute for Economic Research.

Chantarat, S., Lamsam, A., Samphantharak, K., & Tangsawasdirat, B. (2020). Household debt and delinquency over the life cycle. *Asian Development Review, 37*(1), 61–92.

Circular flow: Change in household spending. (2017, February 17). Thinking like an economist. https://econthink.wordpress.com/circular-flow-change-in-household-spending/

de Leeuw, F. (1971). The demand for housing: A review of cross-section evidence. *The Review of Economics and Statistics. 53*(1), 1–10.

Denpaiboon, C. (2017). *A study on housing demand projection in Thailand, 2017–2037*. Thammasat University.

DiPasquale, D., & Wheaton, W. C. (1992). The markets for real estate assets and space: A conceptual framework. *Real Estate Economics, 20*(2), 181–198. https://doi.org/10.1111/1540-6229.00579.

Ewing, B. T., & Sari, R. & Aydin, B. (2007). Macroeconomic variables and the housing market in Turkey. *Emerging Markets Finance and Trade, 43,* 5–19. https://doi.org/10.2753/REE1540-496X430501

Fulford, S. L., & Schuh, S. (2015). *Consumer revolving credit and debt over the life cycle and business cycle*. Federal Reserve Bank of Boston Working Paper: No. 15–17.

Ghane, M. (2010). *Evaluating investment in real estate projects*. [Master's Thesis, The University of Northern British Columbia].

Green, R., & Hendershott, P. H., (1996). Age, housing demand, and real house prices. *Regional Science and Urban Economics, 26,* 465–480.

Green, R. K., & Lee, H. (2016). Age, demographics, and the demand for housing, revisited. *Regional Science and Urban Economics, 61,* 86–98.

Hamilton, B. W. (1991). The Baby boom, the baby bust, and the housing market: A second look. *Regional Science and Urban Economics, 21*(4), 547–552.

Kau, J. B., & Keenan, D. (1980). The theory of housing and interest rates. *Journal of Financial and Quantitative Analysis, 15*(4), 833.

Kirinpanu, S. (2006). *Study and analysis of housing demand models* [Master's thesis/Independent study]. Sukhothai Thammathirat Open University.

Mankiw, N. G., & Weil, D. N. (1989). The baby-boom, the baby-bust and the housing market. *Regional Science and Urban Economics, 19,* 235–258.

Mayo, S. K. (1980). Theory and estimation in the economics of housing demand. *Journal of Urban Economics, 10,* 95–116.

Megbolugbe, I. F., Marks, A. P., & Schwartz, M. B. (1991). The economic theory of housing demand: A critical review. *The Journal of Real Estate Research, 6*(3), 381–393.

Ministry of Public Health. (2016). *Cabinet Resolution*. www.moph.go.th

Moon, J. (2017). *A Study on the impact of demographic change on housing price in South Korea*. Martin School of Public Policy and Administration.

National Housing Authority. (n.d.). *20-Year Housing Development Strategy (2017–2036).* www.nha.co.th

Pitaktheeratham, K. (1994). *Factors affecting housing demand in Bangkok Metropolitan Region* [Master's thesis/Independent study]. Kasetsart University.

Pitkin, J. R., & Myers, D. (1994). The Specification of Demographic Effects on Housing Demand: Avoiding the Age-Cohort Fallacy. *Journal of Housing Economics 3,* 240–250.

Pornchokchai, S. (2017). *Thai real estate business administration* (4th ed.). Thai Real Estate Business School.

Phumipho, S. (2013). *System dynamics model theory*. Management Technology Study Center. http://mantechsc.blogspot.com/2013/01/blog-post_30.html

Swan, C. (1995). Demography and the demand for housing–a reinterpretation of the Mankiw-Weil demand variable. *Regional Science and Urban Economics, 25*(1), 41–58.

Thailand Development Research Institute. (2009). *Study for housing demand projection during 2009–2016: Final report.*

Thailand Development Research Institute. (2022). *Saving patterns consistent with the lifestyle of the new generation*. National Research Council of Thailand.

Tokyo Cheapo. (2024). *Akiya: Vacant houses in the Japanese countryside for a steal*. https://tokyocheapo.com/living/akiya-vacant-houses-in-the-japanese-countryside-for-a-steal/

United Nations. (n.d.). Goal 11: *Make cities and human settlements inclusive, safe, resilient and sustainable*. SDG Indicators. https://sdgs.un.org/goals/goal11

UN Population Projection. (n.d.). *World population prospects*. https://population.un.org/wpp/

Vajiranivesa, P. (2008). *A Housing demand model: A case study of the Bangkok Metropolitan Region, Thailand* [Doctoral thesis, RMIT University].

Wang, Z., Wang, C. & Zhang, Q. (2015). Population ageing, urbanization and housing demand. *Journal of Service Science and Management, 8,* 516–525. doi: 10.4236/jssm.2015.84052.

Wooldridge, J. M. (2012). *Introductory econometrics: A modern approach*. South-Western Cengage Learning.

World Health Organization. (n.d.). *The WHO age-friendly cities framework-age-friendly world*.

Zhang, X., Geltner, D., & de Neufville, R. (2018). System dynamics modeling of Chinese urban housing markets for pedagogical and policy analysis purposes. *Journal of Real Estate Finance and Economics, 57*(3) 476–501. https://doi.org/10.1007/s11146-017-9650-z

Thailand Development Research Institute (TDRI)
565 Soi Ramkhamhaeng 39
Wangthonglang, Bangkok 10310 Thailand

Tel: 02-718-5460 ext.474
Fax: 02-718-5461-2
Website: www.tdri.or.th
X.com: @TDRI_thailand
Facebook: @tdri.thailand

TDRI