

DOI: 10.5281/zenodo.19862502

SOVEREIGN WEALTH FUNDS AND PENSION SUSTAINABILITY IN AGING SOCIETIES: POLICY DESIGN FOR THAILAND

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Received: 15/02/2026
Accepted: 18/03/2026

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ABSTRACT

This study examines the feasibility of establishing a sovereign wealth fund (SWF) as a policy instrument to enhance the long-term sustainability of pension systems in Thailand. As the country undergoes a rapid demographic transition toward an aging society, existing pension arrangements are under increasing pressure due to rising dependency ratios, limited fiscal capacity, and inadequate retirement income, particularly among workers in the informal sector. To address these challenges, this research adopts a mixed-methods approach, integrating qualitative thematic analysis with quantitative simulation modeling to assess both institutional feasibility and financial potential. The qualitative component is based on interviews and focus group discussions with key stakeholders, including policymakers, financial experts, and pension specialists. The analysis identifies six major themes: pension system inadequacy, alternative funding sources, investment strategies, governance and transparency, system integration, and public trust. The findings indicate strong stakeholder support for innovative financial mechanisms capable of generating long-term resources, with particular emphasis on the need for a hybrid funding model and robust governance frameworks. To complement these insights, a quantitative simulation model was developed to project the long-term growth and pension support capacity of a proposed SWF. Based on key assumptions, an initial capital of 1 trillion Thai baht, annual contributions of 100 billion baht, and return scenarios of 4%, 5%, and 6% over a 30-year horizon, the results suggest that the fund could accumulate between 5.6 and 8.6 trillion baht. Under a 4% withdrawal rule, the fund could generate substantial annual pension allocations, leading to meaningful improvements in retirement income for the elderly population. The study concludes that a sovereign wealth fund represents a viable and strategic policy option for strengthening pension sustainability in Thailand. However, its success depends on effective institutional design, diversified investment strategies, strong governance mechanisms, and sustained public trust. The findings contribute to the literature on pension reform and public financial management in aging societies, while also offering practical policy recommendations for implementation.

KEYWORDS: Sovereign Wealth Fund, Pension Sustainability, Aging Society, Retirement Security, Public Finance.

1. INTRODUCTION

1.1. Background and Importance of the Problem

Population aging has emerged as one of the most significant demographic transformations of the twenty-first century, driven by declining fertility rates and increasing life expectancy. These shifts have fundamentally altered population structures worldwide, leading to a rising proportion of elderly individuals and generating substantial economic and social challenges (OECD, 2022; World Bank, 2020). In particular, aging populations exert increasing pressure on labor markets, healthcare systems, public finances, and social protection mechanisms. Among these challenges, the sustainability of pension systems has become a critical concern. Traditional pension models were designed under demographic conditions in which a relatively large working-age population supported a smaller retired population. However, this balance has shifted considerably, resulting in higher dependency ratios and growing fiscal burdens on governments (Barr and Diamond, 2009; Holzmann and Hinz, 2005). Consequently, many countries are struggling to maintain adequate and sustainable retirement income systems (Poterba, 2014; OECD, 2021).

Thailand is currently undergoing a rapid demographic transition and is projected to become a super-aged society within the next two decades. The proportion of individuals aged 60 and above is increasing significantly, raising concerns about retirement security and long-term fiscal sustainability. Although Thailand has established multiple pension schemes, including civil servant pensions, the Social Security Fund, provident funds, and the National Savings Fund, substantial coverage gaps persist, particularly among informal sector workers (Mitchell and Piggott, 2011; World Economic Forum, 2017). These structural limitations underscore the need for innovative policy approaches to enhance pension adequacy and sustainability. In this context, sovereign wealth funds (SWFs) have gained attention as a potential policy instrument. SWFs are government-owned investment funds designed to manage national wealth and generate long-term financial returns (Rozanov, 2005; Balding, 2012). Although traditionally associated with resource-rich economies, SWFs have increasingly been adopted by non-resource-based countries to support intergenerational savings, macroeconomic stabilization, and fiscal sustainability (Ang, 2010; Das et al., 2019). Empirical evidence suggests that well-governed SWFs can enhance financial stability and

effectively support public policy objectives (Beck and Fidora, 2008; Megginson and Fotak, 2015).

Furthermore, integrating SWFs into pension systems is consistent with theoretical perspectives such as the life-cycle hypothesis, which emphasizes the role of savings and investment across an individual's lifetime in ensuring retirement security (Modigliani, 1986). Strong governance structures are essential to ensure transparency, accountability, and long-term performance (Dyck and Morse, 2011; Truman, 2015). Despite the expanding body of literature on SWFs, limited research has examined their applicability in emerging economies such as Thailand, particularly in the context of pension sustainability. Most existing studies focus on developed or resource-rich countries, leaving a critical gap in understanding how SWFs can be adapted to different economic and institutional settings (Gelb et al., 2014; Fernandez, 2017). Addressing this gap is essential for developing innovative and sustainable policy solutions for aging societies.

1.2. Research Question

This study is guided by the following research questions:

1. What funding mechanisms are feasible for establishing a sovereign wealth fund in Thailand?
2. What governance and investment frameworks are necessary to ensure long-term sustainability and public accountability of the fund?
3. How can a sovereign wealth fund be integrated into Thailand's existing pension system to enhance retirement income security?

1.3. Research Objective

The primary objective of this study is to examine the feasibility of establishing a sovereign wealth fund to support sustainable pension provision in Thailand. Specifically, the study aims to:

1. Identify potential funding sources for the establishment of a sovereign wealth fund in the Thai context.
2. Analyze appropriate governance structures and investment strategies to ensure efficiency, transparency, and long-term sustainability.
3. Develop a conceptual framework for integrating a sovereign wealth fund into Thailand's pension system to improve retirement security in an aging society.

2. LITERATURE REVIEW

2.1. *Related Concepts and Theories*

Population aging has become a defining characteristic of global demographic change, driven by declining fertility rates and increasing life expectancy. These trends have resulted in a rapidly growing proportion of elderly populations, creating significant challenges for pension systems tasked with providing retirement income to an expanding number of beneficiaries (OECD, 2022; World Bank, 2020). The sustainability of pension systems depends on demographic dynamics, labor market participation, and fiscal capacity. Traditional pay-as-you-go (PAYG) pension systems rely on contributions from the working population to finance retirees; however, declining worker-to-retiree ratios place increasing pressure on these systems (Barr and Diamond, 2009; Holzmann, 2013). From a theoretical perspective, the life-cycle hypothesis explains how individuals allocate income, savings, and consumption across different stages of life to ensure financial security in retirement (Modigliani, 1986). Complementing this, the consumption-loan model highlights intergenerational resource allocation and the role of institutional arrangements in supporting retirement income (Samuelson, 1958). These theories emphasize that retirement security must be addressed through long-term mechanisms that extend beyond individual savings behavior.

In response to demographic pressures, the multi-pillar pension framework has been widely proposed as a sustainable solution. This model integrates public pensions, occupational schemes, and private savings to balance adequacy and financial sustainability (Holzmann and Hinz, 2005; Mitchell and Piggott, 2011). However, even such systems face limitations under accelerated aging, prompting the need for additional financial mechanisms. Sovereign wealth funds (SWFs) have emerged as an important institutional innovation in this context. Defined as government-owned investment vehicles that manage national wealth for long-term returns, SWFs aim to support macroeconomic stability, intergenerational equity, and long-term development (Rozanov, 2005; Balding, 2012). Their role aligns with intertemporal economic theories, such as the neoclassical growth model, which highlights the importance of capital accumulation for future welfare (Diamond, 1965).

2.2. *Literature Surveys*

The literature on pension sustainability highlights the growing challenges posed by demographic

aging. Studies indicate that PAYG systems face increasing financial strain as dependency ratios rise, necessitating reforms such as raising retirement ages, expanding coverage, and promoting private savings (OECD, 2021; Poterba, 2014). Despite these efforts, scholars argue that traditional reforms alone may not be sufficient to ensure long-term sustainability (World Bank, 2020). Parallel to this, a substantial body of research has examined the role of sovereign wealth funds in public finance. SWFs are recognized as mechanisms for transforming temporary revenues into long-term financial assets, particularly in resource-rich economies (Collier, 2010; Das et al., 2019). Empirical studies show that SWFs contribute to macroeconomic stability and long-term fiscal resilience when properly managed (Beck and Fidora, 2008; Megginson and Fotak, 2015).

The success of Norway's Government Pension Fund Global demonstrates how strong governance and diversified investment strategies can generate sustainable returns while maintaining public trust (Norwegian Ministry of Finance, 2022). Similarly, non-resource-based models, such as those in Singapore, illustrate that SWFs can be effectively established using alternative funding sources such as fiscal surpluses and state assets (Balding, 2012). Governance has been identified as a critical factor influencing SWF performance. The Santiago Principles provide a global standard for transparency, accountability, and institutional design (IMF, 2018). Empirical evidence suggests that funds with strong governance structures, characterized by independence, transparency, and professional management, achieve better financial outcomes and higher legitimacy (Dyck and Morse, 2011; Truman, 2015). Conversely, weak governance may lead to inefficiencies and political interference (Acemoglu and Robinson, 2012).

In terms of investment strategies, research indicates that SWFs adopt diversified portfolios across asset classes and regions to optimize risk-adjusted returns (Bernstein et al., 2013; Gollier, 2008). Increasingly, SWFs are also integrating environmental, social, and governance (ESG) factors into their investment decisions, reflecting evolving global standards in responsible investing (Jory et al., 2010). Overall, the literature suggests that SWFs have significant potential to support long-term fiscal sustainability, including pension systems, but their effectiveness depends on appropriate institutional design and policy integration.

2.3 *Conceptual Framework*

This study develops a conceptual framework that

integrates pension sustainability with sovereign wealth fund mechanisms within the context of an aging society. The framework is based on three core components:

Input Factors

These include funding sources for the sovereign wealth fund, such as fiscal surpluses, state-owned assets, and foreign exchange reserves. These inputs represent the initial capital base required to establish the fund (Balding, 2012; Collier, 2010).

Institutional Mechanisms (Process)

This component includes governance structures and investment strategies. Effective governance, characterized by transparency, accountability, and independence, ensures proper fund management (IMF, 2018; Truman, 2015). Investment strategies focus on diversification, long-term returns, and risk management (Bernstein et al., 2013; Gollier, 2008).

Outcomes (Output)

The primary outcome is enhanced pension sustainability through additional long-term financial resources. This contributes to improved retirement income security and reduced fiscal pressure on public pension systems (Poterba, 2014).

Intergenerational Impact (Feedback)

Consistent with life-course theory, the framework incorporates intergenerational equity as a feedback mechanism, where current investments support future retirees, reinforcing long-term economic stability (Modigliani, 1986; Diamond, 1965).

This integrated framework provides a theoretical basis for analyzing how sovereign wealth funds can be designed and implemented to support pension sustainability in Thailand.

2.4. Research Hypothesis

Based on the conceptual framework, the study proposes the following hypotheses:

- H1: Funding sources have a positive effect on the establishment and financial capacity of a sovereign wealth fund.
- H2: Governance quality positively influences the effectiveness and transparency of sovereign wealth fund management.
- H3: Investment strategies have a positive effect on long-term financial returns and fund performance.
- H4: Sovereign wealth fund performance positively contributes to pension system sustainability.
- H5: Governance and investment strategies jointly mediate the relationship between funding sources and pension sustainability.

3. RESEARCH METHODOLOGY

3.1. Research Design

This study adopts a mixed-methods research design, integrating both qualitative and quantitative approaches to examine the feasibility of establishing a sovereign wealth fund (SWF) to support sustainable pension systems in Thailand. The qualitative component is particularly suitable for exploring complex institutional, economic, and policy-related factors that cannot be fully captured through quantitative analysis alone. It enables an in-depth understanding of stakeholder perspectives on policy feasibility, governance structures, and investment strategies. This approach is especially relevant for policy-oriented research, where institutional design and decision-making processes play a critical role. To achieve this, the study employs two primary qualitative methods: in-depth interviews and focus group discussions. These methods facilitate the collection of rich and detailed data from diverse stakeholder groups, ensuring a comprehensive understanding of the research problem. In addition, the quantitative component complements the qualitative findings by providing simulation-based analysis to evaluate the long-term financial feasibility and potential performance of the proposed sovereign wealth fund.

3.2. Population and Sample

The population of this study consists of stakeholders involved in pension systems, public finance, and financial investment in Thailand. A total of 30 participants were selected using purposive sampling, which is commonly used in qualitative research to identify individuals with relevant knowledge and experience. The sample includes diverse stakeholder groups as follows:

- Elderly citizens: 6 participants
- Working-age citizens: 6 participants
- Policymakers: 4 participants
- Pension fund managers: 4 participants
- Financial experts and economists: 3 participants
- Investment consultants: 3 participants
- Academics and researchers: 2 participants
- Social security experts: 1 participant
- Legal experts: 1 participant

This diverse sampling structure ensures representation from both policy decision-makers and pension beneficiaries, allowing for a balanced and comprehensive analysis. Participants were recruited primarily from Bangkok and surrounding metropolitan areas, where major government

institutions and financial organizations are concentrated.

3.3. Research Instruments

The primary research instruments used in this study were semi-structured interview guides and focus group discussion protocols. The interview guide was designed to cover key thematic areas, including:

- Sustainability of Thailand's pension system
- Potential funding sources for a sovereign wealth fund
- Governance structures for national investment funds
- Long-term investment strategies
- Integration of SWFs into pension systems

Semi-structured interviews were selected to provide flexibility, allowing participants to express their views in depth while ensuring consistency across core research themes. For focus group discussions, a structured discussion guide was developed to explore participants' perceptions of retirement security, pension adequacy, and public trust in government-managed funds. Both instruments were designed to align with the study's research objectives and conceptual framework.

3.4. Data Collection

Data collection was conducted using two qualitative techniques:

1. In-depth Interviews

Semi-structured interviews were conducted with experts in pension policy, finance, governance, and investment. Each interview lasted between 45 and 90 minutes. These interviews provided detailed insights into institutional design, funding mechanisms, and policy feasibility related to sovereign wealth funds.

2. Focus Group Discussions

Focus group discussions were conducted with elderly participants and working-age individuals to explore public perceptions of pension systems and retirement security. Each group consisted of 5–7 participants, and discussions lasted approximately 90 minutes.

This combination of methods enabled data triangulation, enhancing the credibility and depth of the findings.

3.5. Data Analysis

The collected data were analyzed using thematic analysis, following the framework proposed by Braun and Clarke (2006). This method is widely used in qualitative research to identify patterns, themes,

and relationships within textual data. The analysis process consisted of six stages:

- Familiarization with the data
- Initial coding of interview transcripts
- Identification of recurring themes
- Review and refinement of themes
- Definition and naming of themes
- Interpretation and reporting of findings

All interviews and focus group discussions were audio-recorded, transcribed, and systematically analyzed. Codes were grouped into broader thematic categories representing key policy insights related to sovereign wealth fund design, governance, and pension sustainability. This analytical approach ensures that findings are grounded in empirical data while maintaining theoretical relevance.

4. DATA ANALYSIS AND FINDINGS

4.1. Introduction

This section presents the findings derived from both qualitative and quantitative analyses conducted in this study. The purpose of this section is to examine the feasibility of establishing a sovereign wealth fund (SWF) as a long-term policy instrument to strengthen pension sustainability in Thailand. The analysis integrates stakeholder perspectives collected through interviews and focus group discussions with simulation-based quantitative modeling. The qualitative component identifies key themes related to pension adequacy, funding strategies, governance structures, and institutional feasibility, while the quantitative component evaluates the potential financial performance of a sovereign wealth fund over a long-term investment horizon. By combining these two analytical approaches, the study provides a comprehensive understanding of both the institutional requirements and financial implications of establishing such a fund. The following subsections present the qualitative findings, quantitative analysis, and a synthesis of the overall results.

4.2. Data Analysis of the Qualitative Data

The thematic analysis of interview and focus group data revealed six major themes that reflect stakeholder perceptions regarding Thailand's pension challenges and the potential establishment of a sovereign wealth fund. These themes include pension system adequacy, funding sources, investment strategy, governance and transparency, pension system integration, and public trust and political feasibility.

One of the most prominent themes identified in the qualitative data relates to the perceived

limitations of the current pension system. Participants widely expressed concern that existing pension benefits are insufficient to support retirees, particularly given the rising cost of living and the increasing longevity of the population. Several respondents emphasized that many elderly individuals face financial insecurity, especially those who worked in the informal sector and therefore lack adequate pension coverage. The participants also highlighted that Thailand is entering a rapidly aging society, which will inevitably increase the financial burden on public pension systems. Policymakers further noted that fiscal constraints limit the government's ability to expand pension programs significantly under the current framework. As a result, respondents stressed the importance of exploring innovative financial mechanisms capable of generating sustainable long-term resources.

Another important theme concerns the potential funding sources for establishing a sovereign wealth fund in Thailand. Unlike countries that rely on natural resource revenues to capitalize their sovereign wealth funds, Thailand does not possess large-scale oil or mineral income. Consequently, stakeholders proposed alternative sources of capital that could support the development of a national investment fund. These include the monetization of state-owned assets; contributions derived from fiscal surpluses, revenue from infrastructure investment projects, and returns from existing public investment funds. Among these options, many participants emphasized that Thailand holds significant state assets that could be managed more efficiently through a centralized investment institution. A hybrid funding model that combines multiple sources of capital was therefore considered the most realistic and sustainable option.

Investment strategy was also identified as a critical element in determining the long-term success of a sovereign wealth fund. Participants emphasized that the fund should adopt a long-term investment approach rather than focusing on short-term financial gains. Several experts recommended that the investment portfolio should be globally diversified across multiple asset classes. Suggested investments include global equities, government and corporate bonds, infrastructure projects, real estate, and alternative assets such as private equity. The rationale behind diversification is to reduce investment risk while ensuring stable returns over extended periods. Participants also stressed that sovereign wealth funds typically operate with long-term horizons, often spanning several decades, allowing them to accumulate wealth through

compounding returns and withstand short-term market volatility.

Governance and transparency were repeatedly highlighted as essential conditions for the credibility and effectiveness of a sovereign wealth fund. Many respondents emphasized that the fund must be managed by professionals and operate independently from political influence. They suggested establishing independent governing boards, implementing transparent reporting systems, conducting regular external audits, and adhering to international governance standards. These governance mechanisms are crucial for ensuring accountability, preventing mismanagement, and maintaining public trust in the institution.

Participants also discussed how a sovereign wealth fund could be integrated into Thailand's existing pension system. Rather than replacing current pension schemes, the proposed model suggests that the SWF would function as a supplementary pension reserve fund. In this role, the fund would generate investment income that could be used to support future pension payments, thereby enhancing the sustainability of the overall pension system. This integration approach allows the government to gradually build long-term financial reserves without disrupting existing pension arrangements.

Finally, public trust emerged as a key determinant of the policy's success. Several participants noted that skepticism toward government financial management could potentially undermine support for the establishment of a sovereign wealth fund. To address this concern, respondents emphasized the importance of transparency, accountability, and effective communication with the public. Building trust was considered essential not only for gaining political support but also for ensuring the long-term stability of the fund.

Table 1: Summary of Key Themes from Qualitative Analysis.

Theme	Description
Pension adequacy	Current pensions are insufficient
Funding sources	Hybrid model recommended
Investment strategy	Global diversification
Governance	Independent and transparent
Pension integration	SWF as supplementary fund

Table 1 summarizes the main themes identified during the thematic analysis. It provides a concise overview of the critical issues raised by participants and highlights the institutional priorities that must be addressed in designing a sovereign wealth fund

for Thailand.

4.3. Data Analysis of the Quantitative Data

To complement the qualitative findings, this study conducted a simulation analysis to estimate the potential long-term financial performance of a Thai sovereign wealth fund. The simulation model was developed based on several key assumptions regarding the initial capital, annual contributions, investment horizon, and expected rates of return.

Table 2: Simulation Assumptions.

Parameter	Value
Initial fund capital	1 trillion THB
Annual contribution	100 billion THB
Investment horizon	30 years
Return scenarios	4%, 5%, 6%

Table 2 outlines the assumptions used in the simulation model. The initial capital represents the starting size of the proposed sovereign wealth fund, while annual contributions reflect ongoing government or institutional funding. The investment horizon of 30 years is selected to capture long-term wealth accumulation, which is typical for sovereign wealth funds.

Table 3: Simulation Results: Projected Fund Growth.

Year	4% Return	5% Return	6% Return
10	2.3 trillion	2.6 trillion	2.9 trillion
20	3.8 trillion	4.7 trillion	5.8 trillion
30	5.6 trillion	6.9 trillion	8.6 trillion

The results presented in Table 3 illustrate how the fund is expected to grow over time under different return scenarios. After the first decade, the fund size more than doubles in all scenarios, demonstrating the strong impact of annual contributions combined with investment returns. By the twentieth year, the gap between the scenarios becomes more pronounced, reflecting the cumulative effect of different rates of return. By the end of the 30-year investment horizon, the fund could reach between 5.6 trillion and 8.6 trillion baht, depending on investment performance.

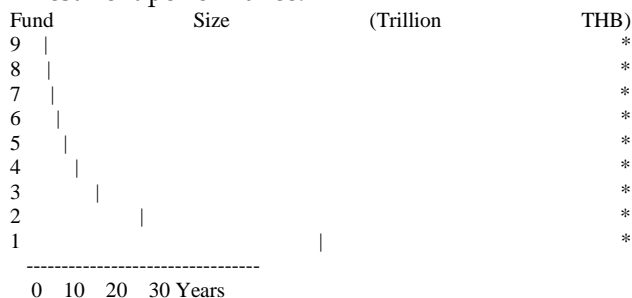


Figure 1: Projected Growth of Thai Sovereign Wealth Fund.

Figure 1 visually illustrates the long-term growth trajectory of the sovereign wealth fund under the three return scenarios. The upward trend observed in the figure highlights the exponential growth pattern that results from compounding investment returns over time. Even relatively modest differences in annual return rates lead to significantly different outcomes over long time horizons. The graphical representation reinforces the importance of adopting an effective investment strategy to maximize the financial capacity of the fund.

Table 4: Pension Support Projection.

Scenario	Annual Pension Budget
5.6 trillion fund	224 billion THB
6.9 trillion fund	276 billion THB
8.6 trillion fund	344 billion THB

Note: Assuming a 4% withdrawal rule from the accumulated fund.

Table 4 demonstrates the potential annual pension budget that could be generated from the fund once it reaches maturity. The results indicate that the sovereign wealth fund could provide a substantial financial resource to support national pension programs.

Table 5: Estimated Pension Support per Elderly Citizen.

Scenario	Annual Pension Support
4% return	18,700 THB
5% return	23,000 THB
6% return	28,600 THB

Note: Assuming 12 million elderly citizens.

Table 5 and Figure 2 translate the aggregate pension budget into individual-level benefits. The analysis suggests that the sovereign wealth fund could significantly improve retirement income for elderly citizens, thereby enhancing social welfare and reducing poverty among the aging population.

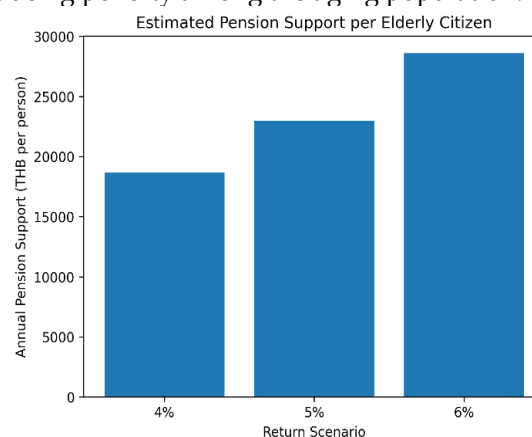


Figure 2: Estimated Pension Support per Elderly Citizen.

To complement the qualitative findings, this study employed a simulation model to evaluate the long-term financial performance and pension support capacity of a proposed Thai sovereign wealth fund. The model is based on key assumptions including an initial capital of 1 trillion THB, annual contributions of 100 billion THB, a 30-year investment horizon, and return scenarios of 4%, 5%, and 6%. The results are presented through tables and graphical figures to enhance interpretation and clarity.

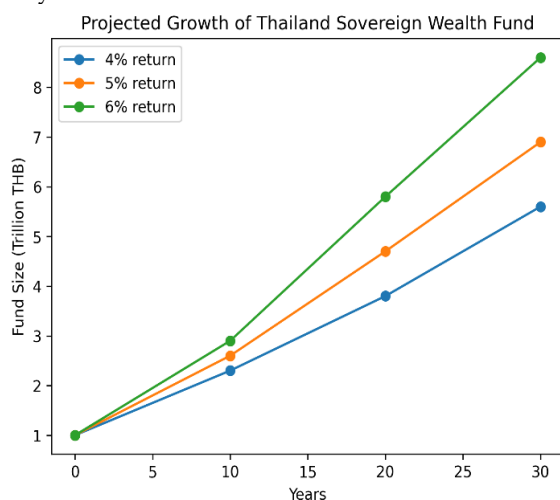


Figure 3: Projected Growth of Thai Sovereign Wealth Fund.

Note: First image corresponds to projected growth trend; second image corresponds to pension budget comparison across return scenarios.

Figure 3 illustrates the projected growth trajectory of the sovereign wealth fund over a 30-year investment horizon. The graphical representation shows a clear upward trend in fund size across all return scenarios (4%, 5%, and 6%), reflecting the cumulative effects of regular contributions and compound investment returns. The slope of the growth curve becomes progressively steeper over time, particularly in the higher return scenarios, demonstrating the exponential nature of long-term investment accumulation. At earlier stages (around year 10), the differences between scenarios appear relatively modest; however, by years 20 and 30, the divergence becomes significantly more pronounced. This indicates that even small differences in annual return rates can lead to substantial variations in total fund value over the long term. The figure therefore reinforces the importance of adopting an effective and well-diversified investment strategy to maximize long-term returns while managing risk.

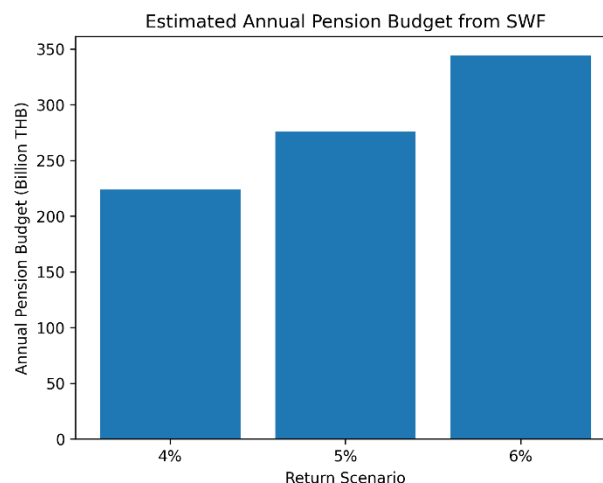


Figure 4: Annual Pension Budget under Different Return Scenarios.

Figure 4 presents a bar chart comparing the estimated annual pension budget generated from the sovereign wealth fund under different return scenarios (4%, 5%, and 6%). The vertical axis represents the annual pension budget (in billion THB), while the horizontal axis shows the corresponding return scenarios. The chart clearly demonstrates a positive relationship between investment returns and pension funding capacity. Under the 4% return scenario, the annual pension budget is the lowest, reflecting more conservative investment performance. As the return increases to 5% and 6%, the pension budget rises significantly, illustrating how improved investment outcomes translate directly into greater financial support for retirees. The visual comparison highlights that the increase in pension budget is not linear but accelerates with higher returns, due to the compounding effect on the overall fund size. This finding underscores the critical role of investment efficiency in enhancing the long-term sustainability of pension systems. Furthermore, the figure provides a clear and intuitive illustration of how different policy or investment strategies could impact real-world pension outcomes.

4.4. Summary of the Results

The findings from both qualitative and quantitative analyses provide a comprehensive understanding of the feasibility and potential impact of establishing a sovereign wealth fund in Thailand. The qualitative analysis highlights widespread concern regarding the adequacy of the current pension system and identifies critical institutional factors necessary for successful implementation. These include diversified funding sources, long-term investment strategies, strong governance structures,

and the establishment of public trust. The quantitative analysis further demonstrates that a well-designed sovereign wealth fund has the potential to accumulate substantial financial resources over time. The simulation results show that the fund could grow significantly over a 30-year period and generate meaningful financial support for national pension programs. Moreover, the analysis indicates that investment performance plays a crucial role in determining the magnitude of long-term benefits. Taken together, the results suggest that a sovereign wealth fund could serve as a viable policy instrument for strengthening pension sustainability in Thailand. However, the effectiveness of such a policy will depend on careful institutional design, transparent governance, and sustained public confidence in the management of national financial resources.

5. CONCLUSION, DISCUSSION, AND RECOMMENDATION

5.1. Conclusion

This study examined the feasibility of establishing a sovereign wealth fund (SWF) as a policy instrument to enhance the sustainability of pension systems in Thailand. The findings reveal that Thailand's ongoing demographic transition toward an aging society presents substantial challenges for existing pension arrangements. Increasing life expectancy, a rising old-age dependency ratio, and limited fiscal capacity collectively threaten the adequacy and long-term viability of current pension schemes, particularly for individuals in the informal sector who lack comprehensive coverage. The qualitative analysis highlights a strong consensus among stakeholders regarding the need for innovative institutional mechanisms capable of generating long-term financial resources for retirement security. In this context, the establishment of a sovereign wealth fund emerges as a promising solution. Participants emphasized that such a fund could serve as a strategic financial vehicle for accumulating national wealth and supporting future pension obligations. The study proposes a hybrid funding model that combines multiple revenue sources, including the monetization of state-owned assets, fiscal contributions from government budgets, and returns from investment activities. This diversified funding approach enhances financial resilience and aligns with Thailand's economic structure.

Furthermore, the study underscores the importance of strong governance frameworks and diversified investment strategies in ensuring the effectiveness and credibility of the proposed fund.

Transparent management, institutional independence, and adherence to international best practices are identified as critical factors for building public trust and achieving sustainable outcomes. The simulation analysis provides additional support for the feasibility of the proposed model, demonstrating that a well-managed sovereign wealth fund could accumulate substantial financial assets over a 30-year period. The results indicate that such a fund could generate significant annual resources for pension support, thereby improving retirement income and reducing financial insecurity among the elderly population. Overall, the findings suggest that a sovereign wealth fund represents a viable and potentially transformative policy option for strengthening pension sustainability in Thailand. By converting current public resources into long-term financial assets, the fund can contribute to intergenerational equity and provide a stable foundation for future retirement systems.

5.2. Discussion

The findings of this study contribute to the broader literature on pension reform, fiscal sustainability, and long-term public investment strategies in aging societies. A key insight from the analysis is the structural inadequacy of Thailand's existing pension system, particularly in terms of benefit sufficiency and coverage. This challenge is not unique to Thailand but is widely observed across emerging economies undergoing rapid demographic transitions. The results therefore reinforce the argument that traditional pay-as-you-go pension systems may be insufficient to meet future demands without complementary financial mechanisms. In this context, the proposed sovereign wealth fund (SWF) model is consistent with international practices in which such funds are used to support long-term fiscal objectives. However, unlike resource-rich countries that rely on commodity revenues, Thailand must adopt a more innovative funding approach. The hybrid funding model identified in this study reflects a pragmatic adaptation, leveraging state-owned assets and diversified revenue streams. This approach aligns with international experiences where SWFs are financed through strategic asset management rather than natural resource income.

Another important finding concerns the critical role of governance in determining the effectiveness of sovereign wealth funds. The results highlight that institutional credibility is a key determinant of both financial performance and public acceptance. Weak governance structures may lead to inefficiencies,

political interference, and erosion of public trust, thereby undermining the fund's effectiveness. In contrast, strong governance frameworks, characterized by transparency, accountability, and professional management, can enhance both financial outcomes and policy legitimacy. These findings underscore the importance of robust institutional design in the implementation of the proposed model. Furthermore, the integration of the SWF into Thailand's pension system is best conceptualized as a supplementary mechanism rather than a replacement for existing schemes. This approach supports policy continuity while gradually strengthening long-term financial capacity. From a theoretical perspective, this is consistent with life-course policy principles, which emphasize the role of long-term institutional arrangements in supporting individuals across different stages of life.

The quantitative results further strengthen the analysis by demonstrating the potential financial impact of the proposed fund. The simulation findings highlight the importance of long-term investment horizons and the compounding effect of returns in generating substantial financial resources. At the same time, they reveal the sensitivity of outcomes to variations in investment performance, indicating that effective portfolio management is essential for maximizing long-term benefits. The estimated pension support levels suggest that the SWF could make a meaningful contribution to retirement income, although it should be complemented by additional policy measures to fully address adequacy challenges. Finally, public trust emerges as a central factor linking the qualitative and quantitative findings. The success of a sovereign wealth fund depends not only on its financial performance but also on its perceived legitimacy. Transparent communication, strong accountability mechanisms, and consistent policy implementation are therefore essential for building and sustaining public confidence. Without such trust, even well-designed policies may face resistance and fail to achieve their intended outcomes.

5.3. Recommendation

Based on the findings of this study, several policy recommendations are proposed to support the effective establishment and implementation of a sovereign wealth fund (SWF) in Thailand.

First, policymakers should adopt a hybrid funding model that combines multiple sources of capital, including state-owned assets, fiscal surpluses, infrastructure-related revenues, and returns from existing public investments. To

operationalize this approach, the government should prioritize the strategic monetization of underutilized state assets through mechanisms such as asset securitization, public-private partnerships (PPPs), and the establishment of infrastructure funds. For instance, Singapore has successfully leveraged state-owned enterprises through Temasek Holdings to generate long-term returns, while infrastructure asset recycling programs in countries like Australia demonstrate how public assets can be transformed into investment capital. This approach would enable Thailand to convert illiquid assets into productive financial resources while reducing reliance on debt financing.

Second, the institutional design of the SWF should emphasize strong governance, independence, and accountability. An independent governing board should be established with clearly defined mandates, professional qualifications, and safeguards against political interference. Specialized committees for investment, risk management, and audit functions should also be implemented to ensure effective oversight. The fund should adhere to internationally recognized governance frameworks such as the Santiago Principles and adopt transparent reporting practices, including regular public disclosures and external audits. A useful benchmark is Government Pension Fund Global, which is internationally recognized for its high transparency, ethical investment standards, and strong institutional accountability. Adopting similar governance practices would significantly enhance credibility and public trust.

Third, the investment strategy of the fund should be structured around long-term diversification and risk management. The portfolio should be globally diversified across asset classes such as equities, fixed income securities, infrastructure, real estate, and alternative investments including private equity. Policymakers should define a clear asset allocation framework, risk tolerance levels, and performance benchmarks aligned with global standards. For example, GIC Private Limited and Canada Pension Plan Investment Board adopt globally diversified portfolios and long-term strategies to achieve stable returns. Incorporating Environmental, Social, and Governance (ESG) principles, similar to leading global funds, would further enhance sustainability and align with international investment trends.

Fourth, the SWF should be integrated into Thailand's existing pension system as a supplementary financial mechanism. Rather than replacing current pension schemes, the fund should function as a national reserve that generates

additional revenue streams to support future pension obligations. A clear fiscal rule, such as a sustainable withdrawal rate (e.g., 3–4% annually), should be established to ensure long-term financial stability. This approach is consistent with the model adopted by Norway, where only a portion of investment returns is used to support public spending while preserving capital for future generations. Such a framework would allow Thailand to strengthen pension adequacy while maintaining fiscal discipline.

Fifth, building and maintaining public trust and policy legitimacy should be treated as a central priority. The government should implement proactive communication strategies, including regular public reporting, stakeholder engagement, and transparency initiatives that clearly demonstrate how the fund operates and delivers value. Public education campaigns can play an important role in strengthening understanding and acceptance of long-term savings policies. For example, New Zealand has actively promoted transparency and public engagement through the New Zealand Superannuation Fund, which provides accessible reporting and communication to citizens. Such practices could be adapted to enhance public confidence in Thailand.

Sixth, policymakers should incorporate lessons from international best practices to refine the design

of the SWF. In addition to Norway and Singapore, South Korea provides a relevant case of an emerging economy establishing a globally competitive fund through the Korea Investment Corporation. These international experiences demonstrate the importance of professional management, global investment strategies, and institutional independence. Adapting these models to Thailand's economic and institutional context would enhance both effectiveness and policy credibility.

Finally, future research should extend this study by developing more advanced quantitative models, including stochastic simulations and scenario-based stress testing, to assess the sensitivity of fund performance under varying macroeconomic conditions. Comparative studies across countries with similar economic structures, such as Malaysia or Indonesia, would also provide valuable insights into optimal policy design and regional applicability.

In conclusion, the establishment of a sovereign wealth fund represents a strategic and forward-looking policy option for addressing the challenges of pension sustainability in Thailand. With robust institutional design, diversified funding mechanisms, and effective governance, the SWF has the potential to become a key instrument for enhancing long-term fiscal stability and improving retirement security for future generations.

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