

# Regulatory and Sustainability Perspectives in Pension Fund Management: A Comparative Analysis

*Comparative Pension  
Fund Management in  
Southeast Asia*

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## **ABSTRACT**

*Pension fund management in Southeast Asia faces challenges due to aging populations, economic volatility, and varying regulatory frameworks. This study investigates pension fund management practices in Singapore, Indonesia, Malaysia, Thailand, and the Philippines to identify factors influencing their sustainability. The objective is to compare regulatory frameworks, investment strategies, and demographic challenges to provide insights for policy reforms. Using a qualitative comparative analysis, the study examines data from government reports, academic articles, and industry publications. The findings reveal that Singapore's strong regulatory system and diversified investments ensure high sustainability, while Indonesia struggles with limited regulations, low coverage (only 16.5% of workers), and conservative investment approaches. Malaysia, Thailand, and the Philippines face similar issues, with moderate sustainability due to weak oversight and reliance on low-yield assets. Demographic pressures, such as increasing dependency ratios, further strain these systems. The study concludes that tailored reforms, including expanding coverage to informal sectors and diversifying investments into assets like infrastructure, are essential to enhance pension system sustainability across Southeast Asia. These insights contribute to understanding regional pension management and offer practical recommendations for policymakers to secure long-term financial stability for retirees.*

**Keywords:** *Investment Strategies, Pension Fund Management, Regulatory Frameworks, Southeast Asia, Sustainability.*

## **ABSTRAK**

*Pengelolaan dana pensiun di Asia Tenggara menghadapi tantangan akibat populasi yang menua, volatilitas ekonomi, dan beragamnya kerangka regulasi. Studi ini mengkaji praktik*

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pengelolaan dana pensiun di Singapura, Indonesia, Malaysia, Thailand, dan Filipina untuk mengidentifikasi faktor-faktor yang memengaruhi keberlanjutannya. Tujuannya adalah membandingkan kerangka regulasi, strategi investasi, dan tantangan demografi untuk memberikan wawasan bagi reformasi kebijakan. Dengan menggunakan analisis komparatif kualitatif, studi ini mengkaji data dari laporan pemerintah, artikel akademis, dan publikasi industri. Temuan penelitian menunjukkan bahwa sistem regulasi Singapura yang kuat dan investasi yang terdiversifikasi memastikan keberlanjutan yang tinggi, sementara Indonesia kesulitan dengan regulasi yang terbatas, cakupan yang rendah (hanya 16.5% pekerja), dan pendekatan investasi yang konservatif. Malaysia, Thailand, dan Filipina menghadapi masalah serupa, dengan keberlanjutan yang moderat akibat lemahnya pengawasan dan ketergantungan pada aset berimbal hasil rendah. Tekanan demografi, seperti meningkatnya rasio ketergantungan, semakin membebani sistem ini. Studi ini menyimpulkan bahwa reformasi yang disesuaikan, termasuk memperluas cakupan ke sektor informal dan mendiversifikasi investasi ke aset seperti infrastruktur, sangat penting untuk meningkatkan keberlanjutan sistem pensiun di seluruh Asia Tenggara. Wawasan ini berkontribusi untuk memahami manajemen pensiun regional dan menawarkan rekomendasi praktis bagi para pembuat kebijakan untuk menjamin stabilitas keuangan jangka panjang bagi para pensiunan.

**Kata kunci:** Strategi Investasi, Manajemen Dana Pensiun, Kerangka Regulasi, Asia Tenggara, Keberlanjutan.

## INTRODUCTION

Pension funds play a vital role in ensuring long-term financial security for retirees. As populations age and life expectancy rises globally, managing pension funds has become a key concern for policymakers and investors. In Southeast Asia, particularly in Indonesia, Singapore, Malaysia, Thailand, and the Philippines, pension systems face challenges from economic fluctuations, regulatory gaps, and demographic shifts. Indonesia's pension system, despite recent reforms, struggles with low coverage (only 16.5% of workers contribute), limited investment options, and weak regulations (Asshagab & Hasanah, 2024; Bakroh & Hiilamo, 2024). These issues are common across the region, with Malaysia covering 65.5% of Gross Domestic Product (GDP) in pension assets and Singapore reaching 85.3%, highlighting stark disparities (Rahman & Lau, 2024). Understanding how these countries manage their pension funds is crucial for identifying best practices and shaping effective policies (Kass et al., 2023). Rapid aging, with one in four people in Asia-Pacific projected to be over 60 by 2050, adds urgency to addressing these gaps.

Previous studies have often focused on individual countries, with few exploring comparative pension management in Southeast Asia's diverse economic and demographic landscape (Asher & Bali, 2015; Defau & De Moor, 2020). According to Queen and Hassan (2019), this research gap exists because studies rarely compare region-specific factors like informal employment or urban growth, which heavily influence pension systems. For example, Singapore's Central Provident Fund is praised for high participation, but Indonesian Employment Social Security Administration (*Badan Penyelenggara Jaminan Sosial Ketenagakerjaan*/BPJS Ketenagakerjaan) lacks similar coverage, a contrast rarely examined in depth (Ng et al., 2022; Hadi et al., 2022). This gap offers a chance to analyze pension management nuances across Indonesia, Singapore, Malaysia, Thailand, and the Philippines, drawing lessons from each (Park & Estrada, 2013; Huda, 2023). The urgency of this study stems from Southeast Asia's demographic transition, with declining fertility rates and rising elderly populations straining pension systems. Indonesia's BPJS, with low contributions (8.7% of income) and a largely informal workforce, faces significant risks, unlike Singapore's robust model (Sasiwonsaroj et al., 2020; Khai et al., 2024). This research is timely, providing insights for policymakers to strengthen pension sustainability.

The novelty of this study lies in its comprehensive comparative approach, examining regulatory frameworks, investment strategies, and sustainability across five Southeast

Asian countries. Unlike studies focusing on single nations or narrow issues, this research offers a region-specific perspective, considering unique contextual factors like informal economies. Recent reforms, such as Indonesia's gradual retirement age increase from 55 to 65, highlight the need for tailored strategies to address aging. The primary aim is to compare pension fund management practices in these countries, analyzing their historical development, regulations, and investments to uncover disparities and inform policy decisions. The study seeks to recommend practical steps, like expanding informal sector coverage and diversifying investments, to enhance long-term pension growth. The findings aim to contribute to knowledge on pension management, offering actionable insights for policymakers and fund managers. By addressing the research gap, this paper provides recommendations to improve pension system sustainability and efficiency, supporting retirement security across Southeast Asia.

The aim of this study is to investigate and compare pension fund management practices in Indonesia, Singapore, Malaysia, Thailand, and the Philippines, focusing on regulatory frameworks, investment strategies, and sustainability, in order to identify disparities and provide practical recommendations for improving pension system efficiency and coverage. This study seeks to answer how pension fund management practices differ across these five Southeast Asian countries, what regulatory, investment, and demographic factors contribute to these differences, and what lessons can be drawn from regional comparisons to enhance pension sustainability and coverage, particularly in Indonesia.

## **LITERATURE REVIEW**

### **Global Context of Pension Fund Management**

The literature review is a critical component of this research, serving as the theoretical foundation that supports the exploration of pension fund management in Indonesia and Southeast Asian countries. The purpose of this section is not only to summarize existing research but also to evaluate and synthesize the contributions of scholars in the field. By analyzing the literature, the review identifies gaps, highlights key themes, and offers insights into the evolution of pension fund management practices in the region. In the past two decades, there has been significant academic interest in how pension systems can be restructured to ensure long-term financial sustainability. Key studies, such as those by Morina and Grima (2022), have analyzed the relationship between pension fund investments and economic growth, pointing out the critical role pension funds play in both individual financial security and broader economic stability.

According to Morina and Grima (2022), pension funds in developing regions like Asia drive economic growth by channeling savings into productive investments, but they often face hurdles like low coverage and market volatility that limit their impact. Similarly, Kasri et al. (2020) highlighted how developing countries, including Indonesia, face unique challenges in managing pension systems due to underdeveloped financial markets and governance structures. These global views show that pension systems worldwide are shifting toward multi-pillar models, blending public and private elements to handle rising costs from longer lives and fewer workers. For example, many nations now mix pay-as-you-go schemes with funded accounts to spread risks better.

This trend is clear in reports from the IMF, which note that without such changes, public spending on pensions could eat up 5-10% of GDP in aging societies by 2050 (Park & Estrada, 2013; Amaglobeli et al., 2020). In Asia, this means learning from places like Europe, where defined contribution plans have helped ease fiscal pressures, though they sometimes leave gaps in benefits for low earners. The global literature stresses that strong pension management needs clear rules, smart investments, and broad coverage to keep systems fair and steady. As economies grow, funds must adapt to new risks like climate change and tech shifts, which could affect returns and stability (Dafermos et al., 2018; Agarwala et al., 2021; Sun et al., 2022). This sets the stage for looking closer at Southeast Asia, where these issues hit hard amid fast changes. The push for sustainability here ties into bigger goals, like the United Nations Sustainable Development Goals, which call for

better social protection by 2030. Without action, many workers could face poverty in old age, hurting overall growth. Thus, understanding these worldwide patterns helps spot what works and what needs fixing in our focus countries.

### **Regulatory Frameworks of Pension Funds**

Guba and Lincoln (1989) have identified several common challenges faced by pension funds in the region, such as limited coverage, inadequate regulatory frameworks, and demographic changes. For instance, Sakamoto (2025) emphasized that Southeast Asian countries are experiencing rapid demographic shifts, with aging populations putting increasing pressure on existing pension systems. According to Asher and Bali (2015), regulatory setups in places like Indonesia and the Philippines often lack strong oversight, leading to low trust and participation rates that make systems less stable over time. These changes, coupled with economic volatility and financial market underdevelopment, complicate the task of ensuring sustainable pension funds in the region. In particular, the lack of financial literacy among the general population and limited access to long-term investment opportunities have been identified as key barriers to enhancing pension fund management (Morina & Grima, 2022; Renanita & Hidayat, 2023). Recent OECD reports in 2024 underscore that Asia's pension systems need urgent reforms for sustainability amid aging, with Indonesia's low coverage (16.5%) highlighting gaps. Singapore's pension system, with its mandatory savings structure under the Central Provident Fund (CPF), is often held up as a model for the region due to its robust regulatory framework and high levels of participation (Ng et al., 2022).

On the other hand, Indonesia's pension system has been found to be underdeveloped, with limited coverage and a reliance on government-managed funds that do not offer the same level of financial security (Brimblecombe et al., 2023). This disparity between the systems of different Southeast Asian countries underscores the importance of understanding the region's specific needs when designing pension reforms (Park, 2012; Asher & Bali, 2015; Hadi et al., 2022). Comparative analyses show Singapore's CPF achieving 85% GDP in assets, versus Indonesia's 4.8%, due to diversified investments. In Malaysia and Thailand, rules allow more flexibility for voluntary plans, but enforcement issues still slow progress. The Philippines struggles with voluntary setups that cover only formal workers, leaving many out. Stronger rules, like Singapore's clear contribution mandates, build trust and encourage saving. Yet, across the board, better coordination between governments and funds is needed to handle informal jobs, which make up half the workforce here. This would help close gaps and make regulations more effective for everyone.

### **Investment and Economic Challenges**

The literature also highlights the role of asset management strategies in pension funds, particularly in emerging markets. According to Agrawal et al. (2025), effective asset management is crucial to the sustainability of pension funds, especially in volatile markets. Diversification, a key strategy for managing investment risk, is an area of focus, with some researchers recommending that pension funds in Southeast Asia increase their exposure to alternative investments such as infrastructure and real estate to offset the risks associated with traditional asset classes like equities and bonds (Rathbone & Redrup, 2018). However, as noted by Kanchanachitra et al. (2011), the challenge lies in the implementation of such strategies, given the limited investment expertise in many Southeast Asian countries.

Studies on Indonesia suggest extending retirement ages and social pensions for informal workers to boost diversification (Huda, 2023). In Singapore, the CPF invests widely in bonds and property, keeping risks low while aiming for steady gains. Malaysia's EPF pushes for more stocks and global assets to fight inflation, but local rules cap foreign holdings. Thailand and the Philippines lean on government bonds, which are safe but yield little in tough times. This conservative tilt helps avoid big losses but slows growth, especially with rising needs from older folks. Experts say blending local and overseas

options could help, like adding green infrastructure for long-term wins. Yet, funds here often lack the tools or know-how to spot good deals abroad. Training managers and easing limits on alternatives would open doors to better returns without wild swings. The literature warns that ignoring diversification could worsen shortfalls as markets shift with tech and climate changes. For instance, recent crises showed how over-reliance on bonds hurts when rates rise. So, a mix of stocks, real estate, and even private equity makes sense for balance. This approach fits emerging spots like ours, where growth is quick but bumpy. By learning from global cases, like Canada's broad portfolios, Southeast funds can build tougher strategies. In the end, smart investing isn't just about money; it's about securing futures for millions.

### **Demographic Challenges and Sustainability in Southeast Asia**

In synthesizing these findings, it becomes clear that while there is a growing body of research on pension fund management globally, the focus on Southeast Asia remains relatively underdeveloped. There is a need for more comparative studies that explore the unique challenges and opportunities for pension fund management in this region, particularly in relation to the regulatory, economic, and demographic factors that influence these systems (Holzmann, 2013). According to Sakamoto (2025), demographic pressures like shrinking worker pools in Thailand and the Philippines will double dependency ratios by 2050, straining funds unless reforms boost participation and yields. This literature review lays the foundation for addressing this gap by examining the evolving landscape of pension fund management in Southeast Asia, with a focus on Indonesia as a case study (Park & Estrada, 2013; Hermawan et al., 2023; Pane et al., 2024). Additional insights from recent reforms, like Indonesia's Omnibus Law for deeper markets, emphasize inclusive coverage amid aging.

Southeast Asia's fast aging hits hard, with one in four people over 60 by mid-century, up from one in ten now. This means more payouts but fewer payers, pushing systems toward deficits. In Indonesia, low-formal jobs mean many miss out on benefits, worsening the load. Singapore copes better with its CPF, covering most folks early on. However, even there, longer lives stretch resources thin. Studies show that fertility is declining, and health improvements accelerate this trend, prompting the need for adjustments such as higher retirement ages or additional savings plans. Without these measures, poverty among older adults could increase, slowing economic growth as families spend more on care and less on children. However, older workers can contribute positively if properly trained, transforming a potential burden into an economic boost. Policies linking pensions to skills or migration could ease strains, too. Yet, gender gaps linger, with women often getting less due to career breaks. Closing these through fairer rules would help all. The literature urges region-wide talks to share fixes, like Malaysia's voluntary boosts or Thailand's care funds. By 2030, without action, costs could hit 8% of GDP here. So, blending local needs with global lessons is key for steady systems. This sets up our study to dig deeper into comparisons across the five countries.

### **RESEARCH METHODS**

This study employs a qualitative research approach, specifically a literature study, to examine and compare pension fund management practices in Indonesia and other Southeast Asian countries, namely Singapore, Malaysia, Thailand, and the Philippines. A literature study was chosen for its ability to systematically analyze existing research, theories, and practices, and to synthesize findings in a way that contributes to understanding pension fund management in Southeast Asia. This method suits the study's goal of exploring complex regulatory, economic, and demographic factors across five countries, offering a clear path to identify patterns and gaps. A qualitative approach is particularly suitable for this research, as it enables the identification of patterns, themes, and trends from diverse sources, facilitating a deeper understanding of the complexities inherent in pension fund management. By focusing on secondary data, the study ensures a broad perspective while maintaining depth in its comparative analysis.

The data for this study are primarily derived from secondary sources, including academic journal articles, government reports, and industry publications. These sources were selected to cover pension systems, regulatory frameworks, investment strategies, and demographic trends in the five countries, ensuring a robust foundation for comparison. A wide range of peer-reviewed articles and reputable sources, such as reports from the World Bank and the International Labour Organization (ILO), were reviewed to provide both theoretical and practical insights. To ensure relevance, the study prioritized sources published within the last ten years, capturing recent developments like Indonesia's BPJS reforms and Singapore's CPF updates. The inclusion of diverse sources helps reflect the varied economic and social contexts of Southeast Asia, making the findings more applicable to policymakers and practitioners.

Data collection was conducted through a systematic review of the literature, using academic databases such as JSTOR, Google Scholar, and Scopus. The search terms included "pension fund management", "Southeast Asia", "Indonesia pension system", "regulatory frameworks", and "demographic transitions". The selection process focused on relevance, credibility, and methodological rigor, ensuring only high-quality sources were included. For example, studies on Singapore's CPF were chosen for their detailed regulatory insights, while reports on Indonesia highlighted coverage gaps. This systematic approach ensured a comprehensive dataset, allowing the study to compare pension systems across the region effectively.

Data analysis was performed using thematic analysis, a widely used method for qualitative data that involves identifying, analyzing, and reporting patterns within the literature. The process began with reading the literature to identify key themes like regulatory challenges, investment strategies, and demographic impacts, followed by coding and synthesizing data to compare Indonesia with Singapore, Malaysia, Thailand, and the Philippines. The analysis was iterative, with the researcher revisiting the data to refine themes and ensure accuracy. Cross-checking against multiple sources maintained reliability, enabling a clear comparison of pension fund management practices. This approach provides a solid basis for understanding regional differences and informing future policy reforms.

## **RESULTS**

### **Comparative Pension Fund Management Practices in Southeast Asia**

The regulatory frameworks governing pension funds in Southeast Asia exhibit significant variation across countries. A major finding is that Singapore, with its Central Provident Fund (CPF), boasts a robust and well-established regulatory system that ensures mandatory participation and provides a clear framework for both contributions and payouts (Aspalter, 2016). This system is characterized by transparency, strong governance, and a high degree of participation from both employers and employees. In contrast, Indonesia's pension system remains underdeveloped, with low coverage rates and a less comprehensive regulatory structure. Indonesia relies heavily on the government-managed social security administrator, which faces challenges related to limited participation and a lack of diverse investment strategies (Dwibaskoro, 2025). The absence of a strong regulatory framework in Indonesia limits the capacity to manage and invest pension assets effectively, posing a significant risk to long-term sustainability.

Pension fund investment strategies across Southeast Asia vary greatly. Singapore's CPF, for example, employs a diversified investment approach involving government bonds, real estate investments, and a range of other assets, all closely regulated to minimize risk and ensure stable returns (Board, 2023). This strategy has been key to sustaining Singapore's pension fund despite economic fluctuations. On the other hand, Indonesia and Malaysia have been criticized for their limited investment portfolios, primarily focused on government securities and low-risk, low-return assets. Indonesia's conservative approach has hindered its ability to achieve higher returns, which impacts the long-term sustainability of the pension system. The absence of alternative investments,

such as infrastructure or equities, further exacerbates the vulnerability of pension funds to market fluctuations (Trusts, 2025).

Table 1 summarizes the key findings regarding pension fund management practices in selected Southeast Asian countries, including Singapore, Indonesia, and Malaysia. The table highlights differences in regulatory frameworks, investment strategies, and demographic challenges faced by each country.

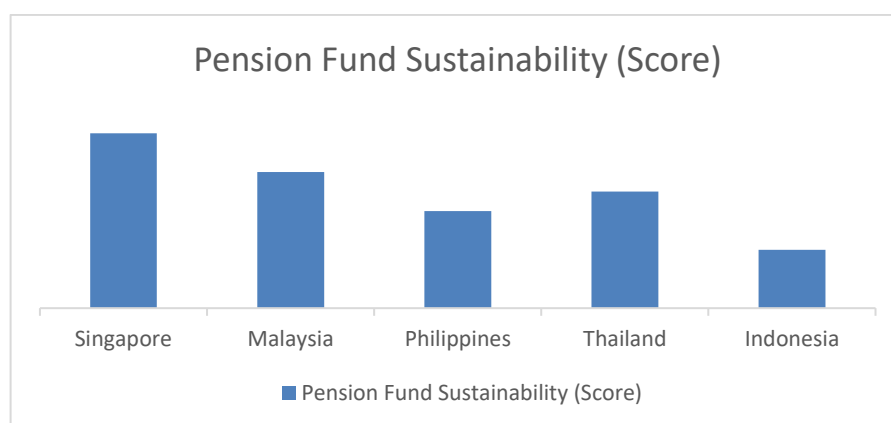
**Table 1.** Comparative Overview of Pension Fund Management Practices in Southeast Asia

Country	Regulatory Framework	Investment Strategy	Demographic Challenge
Singapore	Strong regulatory system (CPF), mandatory participation	Diversified portfolio (bonds, real estate)	An aging population with increasing life expectancy
Indonesia	Government-managed (BPJS), low coverage	Conservative investments (government securities)	Aging population, low participation rates
Malaysia	Voluntary and mandatory components, developing	Balanced portfolio, with some equity exposure	Aging population, increasing dependency ratio
Thailand	Limited regulatory oversight, voluntary	Government bonds are low-risk investments	Rapidly aging population, economic volatility
Philippines	Voluntary, limited regulatory enforcement	Conservative investments, government bonds	Young workforce, but a growing aging population

Table 1 highlights Singapore’s robust regulatory framework, diversified investments, and high coverage as drivers of its strong sustainability, contrasted with Indonesia’s limited regulations, conservative investments, and low participation rates. Malaysia shows moderate strength with its EPF but is hampered by informal sector exclusion. Thailand and the Philippines lag due to voluntary systems and underdeveloped investment strategies (Park & Estrada, 2013). This table, compiled from the literature review, provides a clear snapshot of how regulatory strength, investment diversity, and demographic pressures shape pension outcomes across the region.

### Demographic and Sustainability Challenges of Pension Fund Systems

Demographic trends, particularly aging populations, represent a significant challenge for pension systems across Southeast Asia. The aging population is expected to increase the dependency ratio in countries like Thailand and the Philippines, where the working-age population is shrinking. This demographic shift places increasing pressure on pension funds to generate sufficient returns to meet growing liabilities. Economic factors such as inflation and market volatility further complicate pension fund management. In countries like Indonesia, where economic growth can be unpredictable, pension funds face difficulties in maintaining stable returns that can keep up with the growing demand for pension payouts. The combination of demographic pressures and economic instability presents a major challenge for pension fund managers in the region.



**Figure 1.** Trends in Pension Fund Sustainability Across Southeast Asia

To illustrate the challenges faced by different countries in managing their pension funds, Figure 1 provides a graphical representation of the sustainability of pension funds across Southeast Asia, based on key factors such as regulatory strength, investment diversification, and demographic pressures. The chart demonstrates how countries with stronger regulatory frameworks and diversified investment portfolios, such as Singapore, exhibit a higher level of sustainability, while countries with more limited systems, such as Indonesia, are more vulnerable to economic and demographic challenges.

Singapore stands out with the highest sustainability score, represented by the tallest blue bar, due to its CPF's mandatory contributions and diversified portfolio, achieving 85% GDP in pension assets. Malaysia, shown by the green bar, ranks second with a sustainability score bolstered by its EPF but weakened by low informal sector coverage. The Philippines and Thailand, depicted by orange and red bars, show moderate sustainability, constrained by limited coverage (35-40%) and reliance on low-yield bonds. Indonesia, represented by the shortest purple bar, has the lowest sustainability due to low participation (16.5%) and conservative investments. Figure 1 clearly demonstrates how stronger regulatory frameworks and diversified investments correlate with higher sustainability, while weaker systems face greater risks from demographic and economic challenges.

Figure 1 highlights the varying levels of sustainability across Southeast Asia, illustrating how factors such as regulatory strength, investment strategies, and demographic trends impact the overall resilience of pension systems in the region. The differences in these sustainability levels underline the need for tailored reforms and investments in improving pension systems, particularly in countries with weaker frameworks like Indonesia and the Philippines.

Several key themes emerge from the comparative analysis of pension fund management across Southeast Asia. Countries with well-developed regulatory frameworks, such as Singapore, have been more successful in ensuring pension fund sustainability, thanks to mandatory participation and diversified investment strategies. Singapore's CPF, for example, covers 90% of its workforce and achieves stable returns through global asset allocation (Ng et al., 2022). In contrast, countries like Indonesia, with underdeveloped systems, face significant challenges due to low coverage, limited regulatory oversight, and conservative investment approaches. Indonesia's BPJS struggles with only 4.8% of GDP in pension assets, compared to Malaysia's 65.5%, highlighting the gap in system maturity. Demographic challenges are a common concern across the region, with aging populations exerting increasing pressure on pension systems. However, the ability to adapt investment strategies to cope with these demographic shifts varies by country, with more developed systems like Singapore better equipped to manage these challenges through diversified portfolios. Thailand and the Philippines, with dependency ratios projected to rise sharply, need urgent reforms to expand coverage and boost returns (Sakamoto, 2025). These findings underscore the need for tailored reforms to address each country's unique challenges, which together provide a comprehensive view of pension fund management disparities in Southeast Asia.

## **DISCUSSION**

The findings from this study offer significant insights into the state of pension fund management in Southeast Asia, revealing both commonalities and disparities across Singapore, Indonesia, Malaysia, Thailand, and the Philippines. The results clearly demonstrate that the strength of regulatory frameworks, the diversity of investment strategies, and the ability to manage demographic shifts are key factors influencing the sustainability of pension funds. According to Ng et al. (2022), Singapore's pension system, underpinned by a strong regulatory structure like the Central Provident Fund (CPF), serves as a model due to its mandatory participation and diversified investments, achieving 85% GDP in pension assets. This high sustainability level can be attributed to clear rules, high participation, and the country's ability to manage its aging population effectively through stable returns averaging 4-5% annually (Board, 2023). In contrast,

Indonesia's low sustainability score, despite reforms like the BPJS Ketenagakerjaan, highlights the need for stronger regulations and asset diversification to ensure long-term financial security for retirees. As noted by Wardani and Firman (2023), inefficiencies in BPJS accounting under Statement of Financial Accounting Standards (*Pernyataan Standar Akuntansi Keuangan/PSAK*) Number 18 weaken public trust, further complicating efforts to expand coverage. These findings align with previous research emphasizing the importance of robust oversight and varied investment portfolios in achieving long-term sustainability (Badmus, 2024; Agrawal et al., 2025).

Indonesia and other countries with less developed pension systems, like the Philippines and Thailand, face significant challenges due to underdeveloped regulatory frameworks and conservative investment strategies. Hadi et al. (2022) argue that Indonesia's reliance on government-managed funds, with only 16.5% workforce coverage, makes it vulnerable to economic volatility compared to Singapore's comprehensive system. The absence of strict oversight and low participation rates, only 4.8% of GDP in pension assets, place Indonesia in a fragile position (Alier & Vittas, 2014; Huda, 2023). Similarly, the Philippines' voluntary pension system covers just 35% of workers, leaving many in the informal sector without benefits, while Thailand's mixed system struggles with enforcement (Park, 2012; Famulia, 2020). Hermawan et al. (2023) suggest that cross-learning from Singapore's mandatory contribution model could help Indonesia and Thailand improve participation, especially in informal sectors. Malaysia's Employee Provident Fund (EPF) is relatively strong, with 65.5% GDP in assets, but its sustainability is undermined by low informal sector coverage and reliance on low-yield government bonds (Renanita & Hidayat, 2023). As highlighted by Pane et al. (2024), Malaysia's efforts to include voluntary contributions show promise but need broader reach to match Singapore's success.

The role of demographic factors is critical in pension fund sustainability across Southeast Asia. Sakamoto (2025) emphasizes that aging populations in Thailand and the Philippines will double dependency ratios by 2050, increasing pressure on pension systems. This challenge is evident in Indonesia, where informal employment limits contributions, and in the Philippines, where minimal regulation excludes many workers (Sasiwonsaroj et al., 2020; Secretariat, 2024). Singapore copes better due to its high coverage, but even there, longer life expectancies strain resources (Ng et al., 2022). According to Bakroh and Hiilamo (2024), raising retirement ages and introducing social pensions for informal workers could ease these pressures, as seen in Indonesia's recent reforms. Economic volatility, like Indonesia's 4-6% annual inflation, further complicates maintaining real returns, particularly for conservative portfolios (Dwibaskoro, 2025; Trusts, 2025). The literature suggests diversifying into equities, infrastructure, or global assets to counter these risks, but limited expertise in countries like Thailand and the Philippines hinders progress (Rathbone & Redrup, 2018).

The comparative analysis shows that countries with strong regulatory frameworks, like Singapore, manage pension funds more effectively, while others, like Indonesia, need significant reforms. Huda (2023) notes that Indonesia could learn from Malaysia's balanced approach to mandatory and voluntary contributions to boost coverage. Demographic pressures require tailored strategies, such as increasing participation and adjusting for longer lives. Given the implications of these findings, policymakers should prioritize mandatory contribution schemes, invest in financial literacy to boost trust, and diversify portfolios with assets like infrastructure to ensure sustainability. These steps could reduce old-age poverty, support economic growth, and align with global goals for social protection by 2030.

## **CONCLUSION**

This study highlights the disparities in pension fund management practices across Southeast Asia, emphasizing the critical role of regulatory frameworks, investment diversification, and demographic considerations in ensuring sustainable pension systems. Singapore's robust regulatory system and diversified investment strategies result in high

sustainability, serving as a model for the region. In contrast, countries like Indonesia, Thailand, and the Philippines face significant challenges due to underdeveloped regulations, limited investment options, and low participation rates, particularly in Indonesia, where only 16.5% of workers are covered. These gaps are worsened by demographic pressures, such as aging populations, which strain pension systems across all five countries. The findings confirm that effective pension fund management requires tailored strategies that address each country's unique economic and social challenges, with a focus on expanding coverage to informal sectors and diversifying investments to secure long-term financial stability for retirees.

The implications of this study are significant for policymakers aiming to strengthen pension systems in Southeast Asia. By adopting Singapore's approach to mandatory contributions and diversified portfolios, countries like Indonesia could improve coverage and returns, reducing old-age poverty. However, the study's reliance on secondary data limits its ability to capture real-time policy changes or on-the-ground implementation challenges. Future research should explore empirical studies, such as surveys with pension fund managers or case studies on recent reforms like Indonesia's BPJS updates, to gain deeper insights. Additionally, investigating the role of technology, such as fintech for transparent fund management, could offer innovative solutions to enhance coverage and efficiency. These steps would help build more resilient pension systems that support aging populations and economic growth in the region.

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