

# Social Security Funds in ASEAN Countries and their Investments in the Financial Markets

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## Introduction

This article deals with social security funds, especially pension funds, in 5 ASEAN countries, namely, Singapore, Malaysia, Thailand, Indonesia, and the Philippines, and their investments in the financial markets. Among these countries, in terms of nominal amounts and rates to GDP, Singapore's, as well as Malaysia's social security and pension funds are considerably large at this stage due to their historically early implementations of the schemes, high population coverage rates, full funding operational bases, and substantially high contribution rates. On the contrary, social security and pension funds in Indonesia are yet to become considerably large because population coverage in real terms and premium rates of contributory schemes are still relatively low. In between are Thailand and the Philippines under these circumstances. However, there is a growing concern for old-age income security due to an aging population combined with the diminishing number of children, especially in Thailand (Cf. Tables 1 and 2 in Appendix) although it holds a foremost position in the field of universal coverage of health care.<sup>1</sup> For this reason, Thailand has been making much of private old-age income security schemes including defined contribution pension.

Meanwhile, to understand some aspects of each country's social security situation, the author refers to the pension index by Mercer and CFA Institute (2022), which delivers lessons, experiences, or ideas to be helpful in developing and reforming pension systems (Cf. Rakhmawati [2021]). This index comprises three sub-indexes, namely, adequacy, sustainability, and integrity. The adequacy sub-index considers the benefits provided to the poor and a range of income earners, as well as several design features and characteristics which enhance the efficacy of the overall retirement income system. The net household saving rate, the level of household debt, and the homeownership rate are also included, representing the non-pension savings situation and, as such, important indicators of financial security during retirement.<sup>2</sup> The sustainability sub-index considers several indicators that influence the long-term sustainability of current systems. These include factors such as the economic importance of the private pension system, its level of funding, the length of expected retirement both now and in the future, the labor force participation rate of the older population, the current levels of public pension expenditure and government debt, and the

level of real economic growth.<sup>3</sup> The integrity sub-index considers three broad areas of the pension system, namely regulation and governance; protection and communication for members; and operating costs.<sup>4</sup>

According to the overall index calculated by the three sub-indexes, Mercer and CFA Institute (2022) classifies 43 surveyed countries from grade A to E. Among those, grade A (overall index value over 80) is a first-class and robust retirement income system that delivers good benefits being sustainable and having a high level of integrity. Grade B (overall index value over 65) is a system that has a sound structure, with many good features, but has some areas for improvement that differentiates it from an A-grade system. Grade C (overall index value over 50) is a system that has some good features, but also has major risks and/or shortcomings that should be addressed. Without these improvements, its efficacy and/or long-term sustainability can be questioned. Grade D (overall index value over 35) is a system that has some desirable features but also has major weaknesses and/or omissions that need to be addressed. Without these improvements, its efficacy and sustainability are in doubt. Grade E (overall index value under 35) is a poor system that may be in the early stages of development or non-existent. (Cf. Mercer and CFA Institute, 2022, p.5) In reference to the grades above, Iceland, the Netherlands, and Denmark belong to A, and Singapore is classified in B alongside Sweden, the UK, Germany, Chile, and so on. Malaysia and Indonesia belong to C along with Spain, China (mainland), Italy, Taiwan, etc. The Philippines and Thailand are classified in D alongside Japan, South Korea, India, and so forth.<sup>5</sup> Based on the survey results, no country belongs to E. (Cf. *ibid.* p.5)

## **I .Singapore**

### **1. Overview of the Social Security Schemes**

The Central Provident Fund (CPF), which has been implemented since 1955 on full funding and defined contribution bases, is a key pillar of Singapore's social security system. The government also has introduced the Silver Support Scheme, which provides an old-age benefit as income-tested social assistance.

Of these schemes, CPF is mandatory for citizens and permanent residents in Singapore, and it helps them set aside funds to build a foundation for three needs, i.e., a fully paid-up home, insurance and savings for healthcare, and a steady stream of lifelong retirement income. For this purpose, members and their employers' contributions are accumulated in Ordinary Account (OA: For retirement, housing, insurance, and investments), Medisave Account (MA: For hospitalization expenses and approved medical insurance), and Special Account (SA: For old age and investment in retirement-related financial products).<sup>6</sup> At age 55, a Retirement Account (RA) is created for monthly retirement payouts. CPF Board transfers members' savings in their OA and SA to RA up to certain amounts calculated for each member with SA savings being transferred first. In the case of members born in 1954 and later, the current eligibility age for a monthly retirement payout is 65. They can start their payouts anytime from 65 to 70, and the CPF LIFE scheme makes the payouts whole-life with the amounts depending on each member's savings. Besides, if members have immediate needs, they can withdraw up to 5,000 Singapore dollars (hereinafter, referred to as "SGD")<sup>7</sup> after 55. They can withdraw more if they have set aside the required retirement sum in RA.<sup>8</sup>

Contribution rates to these accounts have been set according to the members' ages, their total wages for the calendar month, and, in the case of permanent residents, the number of years since acquiring

residential status. If members are employed citizens or permanent residents (3rd year onwards) aged 55 or below, and their total wages for the calendar month are above 750 SGD, their total contribution rate for the year 2022 will be as high as 37 % of the wages, of which 17 % is paid by the employers.<sup>9</sup> The total contribution is allocated to OA, MA, and SA at different rates according to the members' age with the allotment for MA being first computed, followed by SA. The remainder is allocated to OA. As a result, allotments for OA, SA, and MA range from 8.00 to 62.17 percentage points, 8.00 to 31.08 percentage points, and 21.62 to 84.00 percentage points of the total contribution respectively for the year 2022.<sup>10</sup> In principle, when members are younger, more of their contributions are allocated to OA to support their home purchases. As members grow older, more of their contributions are allocated to SA and MA to meet growing healthcare and retirement needs.

As of mid-2021, CPF had 4.08 million members, of whom 2.08 million were actively contributing. Those active members accounted for 91 % of employed citizens and permanent residents aged 15 years and over.<sup>11</sup> For reference, CPF contributions collected and credited in 2020 were 40.9 million SGD. On the other hand, the total assets of CPF as of December 31, 2020, were 466,368.1 million SGD accounting for 37.16% of GDP, which was 125,449.4 million SGD,<sup>12</sup> and the members' total balance of OA, SA, MA, and RA as of this date was 462,130.6 million SGD, which grew by 8.7% from the previous year.<sup>13</sup> As of September 30, 2020, the total assets were equivalent to 349,787 million US dollars, which was ranked 9th among the global top 300 pension funds (Cf. Thinking Ahead Institute [2021]).<sup>14</sup> Regarding the ratio of pension fund assets to GDP, Singapore stood 20th in the world as of 2019.<sup>15</sup> Meanwhile, 460,232.2 million SGD among the total assets at the end of 2020, were allocated for investments with the total interest credited to CPF members' accounts in 2020 being 16.8 billion SGD.<sup>16</sup>

According to Mercer and CFA Institute (2022), Singapore's overall pension index value slightly decreased from 71.2 in 2020 to 70.7 in 2021 due to a fall in the minimum level of support received by the poor, when expressed as a percentage of the average wage. The index value for 2021 was ranked 10th among the 43 countries surveyed by Mercer and CFA Institute (2022). Sub-indexes for adequacy, sustainability, and integrity for the year 2021 were 73.5 (11th), 59.7 (13th), and 81.5 (12th) respectively. Mercer and CFA Institute (2022, p.43) point out that the overall index value for the Singaporean system could be increased by the following measures.

1. Reducing the barriers to establishing tax-approved group corporate retirement plans.
2. Opening CPF to non-residents who comprise a significant percentage of the labor force.

In this regard, the non-residents accounted for 33.53 % of the total labor force as of mid-2021.<sup>17</sup>

3. Increasing the age at which CPF members can access their savings that are set aside for retirement, as life expectancies rise.

In this connection, life expectancy at 65, which is the present eligibility age for monthly retirement payout, is projected to be prolonged from 20.00 to 22.01 for males, and from 23.08 to 25.07 for females in 20 years and this trend will continue afterward (Cf. Table 3 in Appendix).

4. Improving the level of communication provided to CPF members.

## **2. CPF Investment Scheme**

The CPF Investment Scheme (CPFIS) lets its members invest their OA and SA savings in a wide range

of investments to enhance their retirement savings. Any members above the age of 18 can invest their savings if they meet the criteria below.

Not being an undischarged bankrupt; and

Having more than 20,000 SGD in their OA; and/or

Having more than 40,000 SGD in their SA; and

Having completed the CPFIS Self-Awareness Questionnaire (SAQ) (applicable to new investors with effect from 1 October 2018)

If members meet the criteria, they can invest their savings in OA and SA after setting aside 20,000 SGD in OA and 40,000 SGD in SA. Members can invest their CPF savings in a wide range of investment products including unit trusts, investment-linked insurance products, endowment policies, Singapore government bonds, and treasury bills. Savings in OA can be invested in exchange-traded funds (ETFs), fund management accounts, stocks, property funds, corporate bonds, gold ETFs and other gold products such as gold certificates, gold savings accounts, and physical gold. However, members can only invest up to 35% and 10% of their investible savings in stocks and gold, also known as the stock and gold limits and the CPF Board (management authority of the CPF scheme) does not endorse any product providers or investment products that are included under the CPFIS.<sup>18</sup>

The net amount withdrawn from OA for investment and the total cost of current holdings of CPFIS-OA within and as of the end of 2021 fourth quarter were 184.9 million SGD and 17,178.4 million SGD respectively. Likewise, the net amount withdrawn from SA for investment and the net amount withdrawn based on current holdings of CPFIS-SA within and as of the end of 2021 fourth quarter were 43.7 million SGD and 5,717.6 million SGD respectively.<sup>19</sup> Meanwhile, the performance of all CPFIS-included funds for the period ended 2021 third quarter (% in SGD) for 3 months, 1 year, 3 years (cumulative), and 3 years (annualized) were -1.13, 17.06, 26.46, 7.89 respectively (Morningstar, 2021, p.11). Except for the 3-month one, these outperformed the annual interest rates up to 5 % (for members below age 55 on the first 60,000 SGD of combined CPF balances capped at 20,000 SGD for OA) or up to 6 % (for members aged 55 and above on the first 30,000 SGD of combined CPF balances capped at 20,000 SGD for OA; on the next 30,000 SGD capped at 20,000 SGD for OA, 5 % applies). For reference, each member's CPF balances will be guaranteed annual interest rates of 2.5 % for OA, and 4 % for SA, MA, and RA from April 2022 to June 2022,<sup>20</sup> and these interest payments including the above are made in return from the interest accrued on Special Singapore Government Securities, which is non-tradable and extremely low-risk as Singapore is one of the only nine sovereign nations with the highest credit risk ratings by Moody's, Standard & Poor's and Fitch (Gee, 2019, p.28).

## **II. Malaysia**

### **1. Overview of the Social Security Schemes**

Malaysia's social security schemes mainly comprise the public service pension system, Armed Forces Retirement Fund, Employee Provident Fund (hereinafter, referred to as "EPF")<sup>21</sup> which covers all private-sector employees and non-pensionable public sector employees, and social insurance for private-sector workers operated by the Social Security Organization (SOCSO).<sup>22</sup> For the indigent aged 60 or over, the

government provides a means-tested non-contributory pension. The following part of this section examines EPF among the above schemes.

Having been enforced since 1951 on full funding and defined contribution bases, EPF is the main pillar for old-age income security and under the scheme, some benefits are also available to be withdrawn at any time under pre-defined circumstances. For these purposes, EPF provides two types of individual accounts for members who are younger than age 55: Account 1 which funds retirement, and Account 2 which can be accessed before retirement for education, designated critical illnesses, a home purchase, and other approved expenses. Fund members with sufficient savings may choose to invest a portion of their Account 1 balance with an external fund manager. Once an EPF member reaches age 55, Accounts 1 and 2 are consolidated into a single account (Akaun 55), and a separate account (Akaun Emas) is created for contributions after age 55. (Cf. SSA, 2019)

EPF Members can withdraw all or part of their savings in Accounts 1 and 2 at age 55 without any requirement to retire even though monthly payments are also available. Members who are still working and do not withdraw their savings at age 55 must continue to make contributions to the EPF accounts (Akaun Emas). Those members who withdraw their all savings at the age of 55 can choose to rejoin and contribute to the EPF if still employed or working in new jobs. (Cf. SSA, 2019)<sup>23</sup> Contribution rates to EPF have been set according to the members' ages and monthly wages. In the case of the employed members younger than 60, the rates till June 2022 are 9 % for the members and 12-13 % for their employers, the former of which reflects the reduction from 11 % considering the influences of COVID. For members aged 54 and below, the total contributions are divided into Accounts 1 (70 percentage points) and 2 (30 percentage points). In the case of employed members aged 60 to 75, contribution rates for employees and employers are 5.5 % and 4 % respectively.<sup>24</sup>

In 2020, EPF had 14,887,998 members, of whom 7,591,053 (65.7% of all employees<sup>25</sup>) were actively contributing, and the annual contribution received from employees and employers was 78,414.74 million Malaysian Ringgit (hereinafter, referred to as "MYR").<sup>26</sup> Total assets of EPF as of December 31, 2020, were 1,003,372.15 million MYR (up 8.13% from 927,894.93 million MYR in 2019) accounting for 70.83% of GDP, which was 1,416.6 billion MYR (Cf. DSM, 2021b, viii). Regarding ratio to GDP, Malaysia stood 12th in the world as of 2019 (Cf. Note 15). As of September 30, 2020, the total assets were equivalent to 248,203 million US dollars, which was ranked 12th among the global top 300 pension funds (Cf. Thinking Ahead Institute [2021]). Meanwhile, 988.72 billion MYR among the total assets were allocated for investments, which grew by 78.43 billion MYR or 9% from 910.29 billion MYR as of the end of 2019 in line with the net contribution and income received for the year. The total gross investment income in 2020 was 63,450.22 billion MYR, which was up 24.56% from 50,903.01 million MYR in 2019.<sup>27</sup>

According to Mercer and CFA Institute (2022, p.39), the Malaysian overall pension index value decreased from 60.1 in 2020 to 59.6 in 2021, primarily due to a fall in the real economic growth rate. The index value for 2021 was ranked 23rd among the 43 countries surveyed by Mercer and CFA Institute (2022). Sub-indexes for adequacy, sustainability, and integrity for the year 2021 were 50.6 (34th), 57.5 (15th), and 76.8 (20th) respectively. Mercer and CFA Institute (2022, p.59) point out that the overall index value for the Malaysian system could be increased by the following measures.

1. Increasing the minimum level of support for the poorest aged individuals.

In this regard, the amount of the means-tested non-contributory pension was 350 MYR a month as of 2018 when the national poverty line income was 980 MYR.<sup>28</sup>

2. Raising the level of household savings and lowering the level of household debt.

3. Introducing a requirement that part of the retirement benefit must be taken as an income stream.

4. Increasing the pension age and the labor force participation rate at older ages as life expectancy continues to rise.

In this connection, life expectancy at 55, which is the present eligibility age for withdrawing all or part of the EPF's members' savings, is projected to be prolonged from 24.05 to 26.32 for males, and from 26.17 to 28.30 for females in 20 years and this trend will continue afterward (See Table 3 in Appendix). On the other hand, the labor force participation rate declines from the age group of 45-49 onward with 70.1 %, 56.1 %, and 36.0% for the age groups of 50-54, 55-59, and 60-64 respectively in 2021.<sup>29</sup>

## **2. EPF Members Investment Scheme**

Members have the option and flexibility to diversify their retirement portfolio and enhance their retirement savings through the Members Investment Scheme (hereinafter, referred to as "MIS"). Under this scheme, members who have sufficient savings can transfer part of the funds in their Account 1 for investments via the appointed Fund Management Institutions (hereinafter, referred to as "FMIs"), including Unit Trust Management Companies and Asset Management Companies. Effective May 1, 2020, EPF members investing under MIS are entitled to a reduction of upfront fees charged by FMIs for a period of 12 months ending April 30, 2021. No upfront fees are imposed by FMIs for investments transacted through i-Invest via EPF i-Akaun, while for investments made through agents, the upfront fee will be reduced from a maximum of 3% to a maximum of 1.5%.<sup>30</sup>

On the other hand, EPF itself elected to designate a wide range of equity portfolios at Fair Value through Other Comprehensive Income (FVOCI) on the basis that the investments were made to preserve and enhance the value of capital from members' contributions as well as to maintain stable returns over the long term. Equity portfolios include not only the domestic one (Bursa Malaysia Kuala Lumpur Stock Exchange) but also regional ones (Singapore, Thailand, Indonesia, Philippines, and other east Asian stock exchanges including Tokyo) and global ones (New York, NASDAQ, London, Frankfurt, and other stock exchanges). Among these portfolios' total fair value of 371,613,448 thousand MYR as of the end of 2020, however, Bursa Malaysia is the biggest and stands at 151,324,399 thousand MYR. (EPF, 2021, p.206)

Dividends recognized on these equity instruments designated at FVOCI amounted to 9,537.28 million MYR. As part of its strategy to enhance the value of capital from members' contributions, EPF sold 151,917.01 million MYR of equity instruments designated at FVOCI which resulted in a net gain of 17,465.91 million MYR which is included in other comprehensive income. This net gain has been transferred to a cumulative surplus. The net impact on these disposed equity instruments does not have a material impact on the future dividend income. (EPF, 2021, p.206)

In addition, EPF allocated parts of its assets to Malaysian government securities, government investment issues, bonds, sukuku (Islamic bond),<sup>31</sup> and negotiable certificates amounting to 137,367,449 MYR, 71,758,821 MYR, 81,425,759 MYR, and 6,808,292 MYR respectively (EPF, 2021, p.207).

### III. Thailand

#### 1. Overview of the Social Security Schemes

The main pillar of Thailand's social security schemes for private-sector workers, their family dependents, and the retired is the one (Social Security Fund: hereinafter, referred to as "SSF") operated by Social Security Office (hereinafter, referred to as "SSO"). SSO also manages and operates the Worker's Compensation Fund for occupational injury and illness. In addition, the government has been placing emphasis on voluntary provident funds sponsored by employers, and individual savings products, also on a voluntary basis, including the Retirement Mutual Fund, which provides a tax-free lump sum upon retirement and a large market of insurance/endowment products. On the other hand, civil servants are covered by non-contributory (tax-financed) defined benefit pension, Government Pension Fund (hereinafter, referred to as "GPF"), and Civil Servant Medical Benefit Scheme (hereinafter, referred to as "CSMBS"). For the people who are not covered by any mandatory pension schemes, the government has a voluntary defined contribution pension scheme (namely, National Savings Fund). In the field of healthcare, people who are not protected by any public systems, such as those by SSF and CSMBS, are provided with free healthcare financed by the government's budget (namely, Universal Coverage Scheme). Furthermore, all Thai citizens, except those who are receiving a civil service pension, are eligible to receive a non-contributory basic old-age pension (namely, Old-Age Allowance: hereinafter, referred to as "OAA").<sup>32</sup> The following part of this section examines SSF and, in addition, GPF among the above schemes.

SSF's sickness, maternity, disability, and death benefits section, old-age and child benefits section, and unemployment section<sup>33</sup> have been enforced since 1991, 1998, and 2004 respectively. At the end of 2020, the total number of insured persons was 16,432,965, accounting for 47.3 % of total workers in the private sector. (Cf. SSO [2021, p.29] and NSO [2021, p.57]) In that year, the total amount of the contributions collected was 170,331 million Thai Baht (hereinafter, referred to as "THB"),<sup>34</sup> which decreased by 46,755 million THB or 21.54% reduction from the previous year. Of the total amount, 89,209 million THB was the contributions to the old-age and child benefit section, which also declined from 118,533 million THB in 2019. Such decreases were due to contribution reduction measures for people suffering from Covid-19. (Cf. SSO, 2021)

The present total contribution rate of SSF for all the covered contingencies is set at 12.75 % of the insured's monthly wages, of which the old-age and child benefits section is 6 % (3 % each for employers and employees) with the central government subsidizing 1 %. The insured persons aged 55 with at least 180 months of contributions are provided with the old-age pension. 20% of the insured's average monthly wages in the last 60 months before retirement is paid plus 1.5% for each 12-month period of contributions exceeding 180 months. If the insured persons don't meet the qualifying conditions, lump-sum benefits are provided.

The total assets amount of SSF and, in addition, GPF at end of 2020 were 2,288,549 million THB and 1,036,939 million THB respectively (Cf. SSO, 2021, p.67; GPF, 2021, p.9). Among the SSF's amount of 2,288,549 million THB, the old-age and child benefits section accounted for 1,986,765 million THB or 86.81% (Cf. SSO, 2021, p.67). Thus, the total amount of GPF, together with the old-age and child benefits section of SSF, most of which are supposed to be allocated to old-age pensions, was 3,023,704 million THB

representing 19.34 % of GDP which was 15,636,891 million THB in 2020.<sup>35</sup> For reference, the SSF's total asset to GDP ratio during the 10 years period from 2011 to 2020 was continuously growing from 8.97% in 2011 to 14.58 % in 2020 (Cf. SSO, 2021, p.68).

According to Mercer and CFA Institute (2022, p.46), Thailand's overall pension index value slightly decreased from 40.8 in 2020 to 40.6 in 2021, primarily due to a decline in the household saving rate which was offset by an increase in the integrity sub-index. The index value for 2021 was ranked 43rd among the 43 countries surveyed by Mercer and CFA Institute (2022). Sub-indexes for adequacy, sustainability, and integrity for the year 2021 were 35.2 (42nd), 40.0 (35th), and 50.0 (39th) respectively. Mercer and CFA Institute (2022, p.46) point out that the overall index value for Thailand's system could be increased by the following measures.

1. Increasing the coverage of employees in occupational pension schemes thereby increasing the level of contributions and assets.

In this regard, 74.25 % of the private employees were insured by the SSF scheme at the end of 2020. On the other hand, only 18.64 % of such workers as the self-employed, unpaid family workers, and so on, who are deemed as workers in the informal sector, were covered by the scheme at the end of the same year. This rate seems to have started rising rapidly since June 2021 when the number of insured persons in these work statuses was 3,611,621 (3,508,870 as of December 2020). This number increased to 10,766,649 in March 2022 representing the coverage rate of 56.77 %. For reference, the Social Security Act's article 40 aims at covering workers mainly in the informal sector. However, such insured persons are provided with benefits only for sickness, invalidity, and death (Option 1) or sickness, invalidity, death, and old-age lump sum (Option 2) on a voluntary basis. Meanwhile, the coverage rate for private employees very slightly increased from 74.25 % at the end of 2020 to 74.50 % as of March 2022.<sup>36</sup>

2. Increasing the minimum level of support for the poorest aged individuals.

In this connection, OAA provides monthly benefits of 600 THB for persons aged 60 to 69, 700 THB for those aged 70 to 79, 800 THB for those aged 80 to 89, and 1,000 THB for those aged 90 or older. These amounts are far below Thailand's national poverty line (2,763 THB per month in 2019). If all the elderly had other sources of income including other public and private pensions, this benefit level of OAA would not be a problem. However, as shown in ILO (2022, p.57), 51 % of the people aged 60 or older receive OAA only.

3. Introducing a requirement that part of the retirement benefit from private pension arrangements must be taken as an income stream.

4. Improving the governance requirements for the private pension system.

## **2. Investments by SSF and GPF**

Of the SSF's total assets amounting to 2,288,549 million THB at the end of 2020, 2,184,407 million THB was the investment fund. To invest this, SSF must comply with the Social Security Committee's Regulation on Investment of the Social Security Fund B.E. 2559 (A.D.2016). This regulation stipulates that investments in highly secured assets and risky assets have to be not less than 60% and not more than 40% of the fund respectively. In 2020, following this stipulation, 78.57% of the total investment fund was allocated to such highly secured assets as government bonds, state-enterprise bonds guaranteed by the

Ministry of Finance, corporate bonds with credit ratings, and so on, while 21.43% of the fund was allocated to such risky assets as other bonds, unit trusts, common stocks, etcetera. Of the total, 14.12% was invested in foreign markets.

Concerning investment returns in 2020, SSF gained 59,188 million THB, of which 40,234.24 million THB or 67.98 %, 4,957.93 million THB or 8.38 %, 4,318.39 million THB or 7.30 %, 3,250.40 or 5.49 %, 2,479.93 million THB or 4.19 %, 1,630.34 million THB or 2.75 %, and 793.82 million THB or 1.34 % were from domestic debt instruments, foreign equities, domestic equities, gold, foreign debt instruments, domestic real estate, and foreign real estate respectively. Meanwhile, compared to investment returns in 2019, which amounted to 85,633 million THB, the return in 2020 decreased by 26,445 million THB. This is because SSO recognized the profits from assets transfer amounting to 15,817 million THB in 2019, which was the result of hiring sub-fund management companies to perform the administration of SSF. This was a special case of one-time transfer switching investments. Besides, there were sales to yield profits amounting to 9,465.76 million THB in the foreign investment fund due to strategic adjustment of direct investment through ETFs.

On the other hand, GPF has a variety of investment plans. The Core/Default Plan was the original investment/fund management strategy adopted by the GPF before it started offering investment choices to members. Under this Plan, assets are allocated as prescribed in the ministerial regulation. Investments are made in bank deposits, bonds, equities, real estate, derivatives, and other similar financial instruments in the domestic and international markets. The EQ35 Plan is similar to the Core/Default Plan, but is for members who seek potentially higher returns with a larger investment proportion than the Core/Default Plan, even at greater risks from market fluctuations. The EQ65 Plan is the one that has a higher investment proportion of equity. The Life Path Plan is designed to accommodate all fund members regardless of their retirement ages and focuses on producing sufficient savings for retirement with the asset allocations including those to equities automatically rebalanced based on members' age. The Deposit and Short-Term Fixed Income Plan prioritizes the preservation of capital. The investment risk is the lowest among all available options. The Fixed Income Plan aims at generating relatively steady returns. With no investment in equity, this plan is designed for those who have low-risk tolerance and are willing to accept lower returns in exchange for a higher degree of stability. Under this plan, investments are limited to bank deposits, bonds, and other similar financial instruments in the domestic and international markets. The Thai REIT Plan is the one that invests in property fund investment units and/or real estate investment trust (REIT) and/or infrastructure fund investment units. It is a high-risk investment with high price volatility as well as potentially high return for members in long term. The Global Equity Plan invests only in stocks listed on stock exchanges around the world comprising developed markets, such as the US, Europe, and Japan, and emerging markets, such as China, Latin America, North Asia, and so on. The Thai Equity Plan invests only in securities listed on the Stock Exchange of Thailand and other related financial instruments. In addition to the 9 plans mentioned above, the Customized Plan started on November 30, 2021. Under this plan, members can either choose a plan from the 9 investment plans or mix the asset classes as deemed appropriate. As a result of members' choices of these plans, assets of GPF have been allocated to a variety of domestic and global financial markets including government bonds, corporate bonds, equities, real estate, commodities, and so on with Thai government bond and Thai

corporate bonds accounting for 22.35 % and 23.69 % of the total allocation respectively as of June 2021.<sup>37</sup>

## **IV. Indonesia**

### **1. Overview of the Social Security Schemes**

Indonesia's income security and workers' compensation schemes mainly comprise the ones for civil servants (TASPEN) and the military (ASABRI), and the one for private-sector workers which has been operated by BPJS Ketenagakerjaan (Badan Penyelenggara Jaminan Sosial Ketenagakerjaan: Social Security Administrative Body Employment: hereinafter, referred to as "BPJS").<sup>38</sup> For reference, "TASPEN" is the abbreviated name for Tabungan dan Asuransi Pegawai Negeri meaning Civil Service Savings and Insurance and "ASABRI" is the one for Asuransi Sosial Angkatan Bersenjata Republik Indonesia meaning Indonesian Armed Forces Social Insurance. Among those, TASPEN (since 1963) and ASABRI (since 1971) have been offering earnings-related pensions, while BPJS has been providing both the defined contribution and the defined benefit plans (since 1977 and 2015 respectively). For healthcare, the unified scheme operated by BPJS Kesehatan (BPJS Health) has been trying to cover all Indonesians regardless of their working status and foreigners who work and reside legally in the country for 6 months and longer. Such foreigners are also covered by another "BPJS" scheme, which includes a defined contribution old-age benefit program. Indonesian employees are also provided with a defined benefit pension program by the BPJS scheme with certain qualifying conditions as shown below.

- Defined contribution benefit program (namely, Jaminan Hari Tua or JHT: Old Age Security)

Members (wage earners and others) aged 58 are entitled to lump-sum benefits which comprise total members' and, in the case of employees, employers' contributions plus accrued interests in their own individual accounts. If members have contributed at least 10 years, they can receive up to 30 % or 10 % of their account balances for home purchases or retirement preparations respectively once only before they reach the eligible age above. If emigrating permanently, starting work as a public-sector employee, beginning military service, or if unemployed for at least six months after at least five years of contributions, members are eligible to receive the lump-sum benefits mentioned above. For this purpose, members and employers contribute 2 % and 3.7 % of members' gross monthly covered earnings respectively with a certain cap.

- Defined benefit pension program (namely, Jaminan Pensiun or JP: Pension Security)

The insured (wage earners only) aged 58 (since January 2022, gradually rising by one year every three years until reaching age 65 in 2043<sup>39</sup>) with at least 15 years (180 months) of contributions are entitled to the monthly pension which is calculated to be 1% of the insured's average adjusted annual earnings divided by 12 and multiplied by the number of years of contributions.<sup>40</sup> For this purpose, employers and employees contribute 2 % and 1 % of the gross monthly covered earnings respectively with a certain cap.<sup>41</sup>

At the end of 2020, BPJS's total assets were 499,585,930 million Indonesian Rupiah (hereinafter, referred to as "IDR"),<sup>42</sup> while TASPEN's total assets were 5,264,245 million IDR (Cf. Taspen Life, 2021a, p.11; BPJS, 2021). Meanwhile, ASABRI's total assets at the end of 2018 were 47,539.565 million IDR (ASABRI, 2019, p.13). Thus, the total assets of all the three schemes roughly amounted to 552,389,740 million IDR and were equivalent to 3.58 % of GDP, which was 15,438,017,500 million IDR in 2020<sup>43</sup>

although data for ASABRI for the year was not available. Taking a look at the data in 2021, which are available only for BPJS at the time of writing this article, its total assets increased from 499,585,930 million IDR at the end of 2020 to 567,927,880 million IDR at the end of 2021, of which 554,213,981 million IDR was allocated to the investment fund. For reference, other than the defined contribution benefit program (JHT) and the defined benefit pension program (JP), BPJS provides a work accident program (Jaminan Kecelakaan Kerja: JKK), death benefit program (Jaminan Kematian: JKM), and an unemployment benefit program (Jaminan Kehilangan Pekerjaan: JKP).

Meanwhile, based on Law no. 11/1992 regarding pension funds, these can be a defined benefit or a defined contribution program, both of which are voluntary private pension schemes and called Supplementary Pension Schemes. The maximum benefit for a defined benefit program is 2.5% of the salary per year of service and an overall maximum of 80%. In the case of a defined contribution program, the contributions cannot be higher than 20% of the employee's salary, with the employee's contribution not exceeding 7.5%.

According to Mercer and CFA Institute (2022, p.36), on the other hand, the Indonesian overall pension index value decreased from 51.4 in 2020 to 50.4 in 2021 primarily due to a fall in the real economic growth rate. The index value for 2021 was ranked 35th among the 43 countries surveyed by Mercer and CFA Institute (2022). Sub-indexes for adequacy, sustainability, and integrity for the year 2021 were 44.7 (37th), 43.6 (30th), and 69.2 (29th) respectively. Mercer and CFA Institute (2022, p.36) point out that the overall index value for the Indonesian system could be increased by the following measures.

1. Introducing a minimum level of support for the poorest aged individuals.

In this regard, the Ministry of Social Affairs was managing a non-contributory minimum pension program that provides cash transfers called JSLU (Jaminan Sosial Lanjut Usia: Social Security for the Elderly). However, this program seems not to exist as of June 2022.

2. Increasing coverage of employees in occupational pension schemes thereby increasing the level of contributions and assets.

In this connection, the numbers of BPJS's registered workers,<sup>44</sup> and the active contributing workers and employers were 50,919,500, 30,660,901, and 725,829 respectively as of 2021. Among these, active contributing workers accounted only for 22.61% of the total workers in the private sector.<sup>45</sup> Furthermore, the number of active contributing workers for the defined contribution benefit program (JHT) was 16,571,744, of which 16,297,772 were wage earners accounting only for 32.73 % of the total wage earners in the private sector. On the other hand, the number of active contributing workers for the defined benefit pension program (JP) was 13,253,230, all of which were wage earners representing only 26.61 % of the total wage earners in the private sector. (Cf. BPJS Ketenagakerjaan [2022])

3. Increasing the pension age as life expectancy continues to rise.

4. Improving the regulatory requirements for the private pension system.

5. Improving the required level of communication to members of pension arrangements.

## **2. Investments by TASPEN, ASABRI and BPJS**

Assets of TASPEN have been allocated to such investments as time deposits, debt securities, equity securities, mutual funds, KIK-EBA, sukuk (Islamic bonds), and medium-term notes. Among those, KIK-

EBA (Kontrak Investasi Kolektif Efek Beragun Aset: Collective Investment Contract for Asset-Backed Securities) is a contract between an investment manager and a custodian bank that binds holders of asset-backed securities in which the investment manager is authorized to manage the collective investment portfolio and the custodian bank is authorized to carry out collective custody. On the other hand, sukuk is an Islamic financial certificate, similar to a bond in Western finance, that complies with Islamic religious law (Sharia). Since the traditional Western interest-paying bond structure is not permissible, the issuer of a sukuk essentially sells an investor group a certificate and then uses the proceeds to purchase an asset in which the investor group has a direct partial ownership interest. The issuer must also make a contractual promise to buy back the bond at a future date at par value.<sup>46</sup> Allocating funds' assets to those and other investment outlets, the yields of TSPEN and ASABRI were 7.30 % (2020) and 7.47 % (2018) respectively (Cf. TASPEN, 2021a, p.11; ASABRI, 2019, p.13).

Concerning BPJS's investment, on the other hand, a minimum of 50 % of its funds and 30 % of its institutional assets (i.e., assets owned by BPJS for daily operation, etc.) must be allocated to government securities, complying with the regulations by Indonesia Financial Service Authority (Susanto, 2019, p.13). For the investment of the remaining parts of funds and assets, BPJS must also follow the government regulation (Peraturan Presiden No.55/2015 Pengelolaan Aset Jaminan Sosial: Presidential Decree No. 55/2015 on Social Security Asset Management) with maximum allocations described as below.

Time deposits, Government bonds, Treasury bonds	100 % of total investment
Corporate bonds, Equities, Mutual funds, Municipal bonds	50 % of total investment
KIK EBA, Real Estate Investment Trusts (REITs)	20 % of total investment
Real property	10 % of total investment
Repurchase agreements (repo), Direct investments	5 % of total investment

Complying with those, BPJS's net investment return increased from 32,330,620 million IDR in 2020 to 35,335,455 million IDR in 2021, of which 24,440,223 million IDR and 6,102,166 million IDR belonged to JHT and JP programs respectively. Similarly, of the BPJS's investment fund amounting to 554,213,981 million IDR at the end of 2021, 372,500,227 million IDR and 101,660,391 million IDR belonged to JHT and JP programs respectively. (Cf. BPJS, 2022).

## V. Philippines

### 1. Overview of the Social Security Schemes

The Philippines' main pillars of income security schemes are the Social Security System (hereinafter, referred to as "SSS") for the private sector and the Government Service Insurance System (hereinafter, referred to as "GSIS") for all government employees and their qualified dependents. For healthcare, the unified National Health Insurance Program operated by Philippine Health Insurance Corporation (PhilHealth) has been trying to cover all the citizens regardless of their work status.<sup>47</sup> On the other hand, the Personal Equity Retirement Account (PERA) has been enforced by law since 2016. This is an individual account type defined contribution plan on a voluntary basis and gives its members opportunities

to save and invest up to 100,000 Philippine pesos (hereinafter, referred to as “PHP”)<sup>48</sup> per year, returns from which are tax-free. The following part of this section examines SSS and, in addition, GSIS.

As of December 2020, SSS had 40.2 million covered members who were eligible for at least one of the seven benefits comprising sickness, maternity, retirement, disability, death, funeral, and unemployment. Of the covered members, 5.08 million were voluntary ones who were non-working spouses and separated members, and 1.33 million were working overseas (Overseas Filipino Workers: OFWs). Thus, the number of the covered members who were working in the country was 33.97 million, accounting approximately for 84.85% of the wage and salary workers and the self-employed in the private sector (Cf. SSS [2021] and PSA [2021a]). Meanwhile, the covered members aged 60<sup>49</sup> are entitled to a monthly pension if they have contributed for a minimum of 120 months. If this requirement is not met upon retirement, the retiree will receive a lump sum which is equal to the member and employer contributions plus interest. The pension is the highest of the following.

- 300 PHP plus 20% of the insured's average monthly covered earnings and 2% of average monthly covered earnings for each credited year of service exceeding 10 years
- 40% of the insured's average monthly covered earnings
- 1,200 pesos with at least 10 but less than 20 credited years of service; or 2,400 pesos with at least 20 credited years of service

Average monthly covered earnings are the sum of the insured's last 60 months of covered earnings immediately before the six-month period<sup>50</sup> in which the pension is first paid divided by 60, or the sum of all monthly covered earnings paid before the six-month<sup>51</sup> period in which the pension is first paid divided by the number of monthly contributions paid in the same period, whichever is greater. The minimum monthly earnings used to calculate benefits are 1,000 PHP for workers in the country and 5,000 PHP for voluntarily insured overseas workers with the maximum monthly earnings used to calculate benefits being 16,000 PHP. On the other hand, the insured's credited years of service are the insured's total months of contributions divided by 12 for contributions since 2002; every year in which the insured has at least six months of contributions for contributions from 1985 to 2001; 1985 minus the year the insured began making contributions for contributions before 1985. The amounts of contributions for employees and employers ranged from 36.3 to 581.3 PHP a month and 73.7 to 1,178.7 PHP a month respectively based on 31 income classes as of 2018 with the total contribution rate for employees and employers being 11.0%. Regarding self-employed persons, the contribution amounts ranged from 110 to 1,760 PHP a month as of the same year.<sup>52</sup>

At the end of 2020, the total assets of SSS were 639,994.11 million PHP while those of GSIS amounted to 1,436,744 million PHP (SSS, 2021, p.2; GSIS, 2021a, p.52). Thus, the consolidated total assets of SSS and GSIS were 2,076,738 million PHP, which was equivalent to 11.58 % of GDP.<sup>53</sup> Meanwhile, according to Mercer and CFA Institute (2022, p.42), the Philippines' overall pension index value slightly decreased from 43.0 in 2020 to 42.7 in 2021 primarily due to a fall in the real economic growth rate. The index value for 2021 was ranked 41st among the 43 countries surveyed by Mercer and CFA Institute (2022). Sub-indexes for adequacy, sustainability, and integrity for the year 2021 were 38.9 (41st), 52.5 (19th), and 35.0 (43rd) respectively. Mercer and CFA Institute (2022, p.42) point out that the overall index value for the Philippines system could be increased by the following measures.

1. Increasing the minimum level of support for the poorest aged individuals.

In this regard, there is the Social Pension Program for Indigent Senior Citizens, which is a means-tested social assistance scheme introduced in 2011 by the Expanded Senior Citizens Act of 2010. 500 PHP a month is paid to people aged 60 and older and assessed as poor by the National Household Targeting System for Poverty Reduction (NHTS-PR). As of 2018, 35.4 % of people aged 60 and older (2.8 million people) were receiving this social assistance pension, while 29.0 % were receiving some contributory pension.<sup>54</sup> However, that amount is far below the monthly poverty threshold, which is set for a family of five at 12,082 PHP in the first semester of 2021 (Cf. PSA [2021b]). Moreover, the social assistance pension is not paid to those who are receiving any other pension, and 35.6 % of people aged 60 and older were not receiving any pension as of 2018.

2. Increasing coverage of employees in occupational pension schemes, thereby increasing the level of contributions and assets.

In this connection, most of the uncovered workers belong to the informal sector. Regarding this matter, see concluding remarks.

3. Setting aside funds in the public system for the future, thereby reducing reliance on the pay-as-you-go system.

4. Introducing non-cash out options for retirement plan proceeds to be preserved for retirement purposes.

5. Improving the governance requirements for the private pension system.

## **2. Investments by SSS and GSIS**

Financial assets of SSS have been invested in a variety of fields, such as government securities, equity securities, externally managed funds, mutual funds, corporate bonds, and government bonds. Pursuant to Section 26-A of the RA No. 11199, the engagement of local fund managers was approved by Social Security Commission (hereinafter, referred to as “SSC”) under its Resolution No. 1035-A dated December 12, 2018, to manage a portion of the SSS Investment Reserve Fund under the following mandates:

Balanced Fund Mandate

- Rizal Commercial Banking Corporation
- BPI Asset Management and Trust Corporation
- ATRAM Trust Corporation

Pure Equity Fund Mandate

- BPI Asset Management and Trust Corporation
- Metropolitan Bank and Trust Company
- Philequity Management, Inc.

Pure Fixed Income Mandate

- BPI Asset Management and Trust Corporation

Meanwhile, mutual fund investment is an investment vehicle made up of a pool of money collected from many investors for the purpose of investing in securities such as stocks, bonds, money market instruments, and other assets managed by professional fund managers. Investment in domestic mutual funds was approved by SSC under Resolution Nos. 351 and 509 dated April 25 and June 20, 2018, respectively. The investment amount is distributed to the three accredited mutual fund companies,

namely: Philequity Fund, Inc., Philippine Stock Index Fund Corp., and Sun Life of Canada Prosperity Balanced Fund, Inc. As of December 31, 2020, and 2019, the value of invested funds amounted to 3.075 billion PHP and 3.299 billion PHP, respectively. (Cf. SSS, 2021, pp.37-38)

On the other hand, the financial assets of GSIS have been invested in government bonds, stocks, corporate bonds, externally managed funds, and so on (Cf. GSIS. 2021b, p.43) The management team sets revenue and asset allocation targets yearly, as incorporated in its budget as approved by the Board of Trustees (which is composed of such members as the GSIS president, the general manager and eight other members appointed by the GSIS president). Targets are set in accordance with the GSIS' mandate of promoting the safety of the funds, optimizing the returns on its investments, satisfying the liquidity requirements of the GSIS, and meeting the needs of its members, pensioners, and other stakeholders. (GSIS. 2021b, p.33)

### **Concluding remarks**

The roles of social security and pension systems are becoming more and more important from the viewpoints of developing financial markets as well as economic security in old age amid the demographic changes as shown in the appendix in each of the ASEAN countries dealt with in this paper.

In Singapore and Malaysia, the public pension systems, which have been operated for many years, are managed on full funding/defined contribution bases and cover significant parts of each population. At the same time, the contribution rates of the systems in these two countries are considerably high. With these features, the scales of the accumulated funds are considerably large in terms of the nominal amounts and the rates to GDPs providing resources in the financial markets. However, pension systems in Singapore and Malaysia have room for improvement, as shown in each section regarding these countries.

In Thailand, the public pension schemes for civil servants have been managed on a mixture of full funding/defined contribution and pay-as-you-go/defined benefit bases. On the other hand, the public pension scheme for private-sector employees is set out on partially funding and defined benefit bases. However, the balance between active workers and pensioners will inevitably change due to the aging population and prolonged low birth rate (Cf. appendix). Thus, the pension system itself is not likely to be sustainable in the long term unless necessary reforms, such as raising contribution rate and/or pensionable/retirement age, and/or reemployment of the retired workers. Among these reforms, SSO estimates that appropriate contributions collection at a constant rate in the next 75 years should be 15% - 16% of the wage instead of 6% now (SSO, 2021, p.79). This concern has also been highlighting the need to raise the people's awareness of asset formation, and defined contribution private retirement schemes for individuals have been implemented to supplement the public pension. To promote participation in such private schemes, the people have been offered tax incentives, although they are still a long way from being widely used (Cf. Nomura Journal of Asian Capital Markets, Spring 2019).

In Indonesia, the public pension schemes for civil servants and armed forces have been managed on partial funding and defined benefit bases, while the schemes for private-sector employees are set out on a mixture of full funding/defined contribution and partial funding/defined benefit bases. The most important challenges for the private sector schemes are the coverage enlargement to informal sector workers, as well

as legal compliance by the formal sector employers and employees to join the schemes and to pay premiums. In the long run, a system redesign responding to population aging will also be necessary. Another challenge for the private sector schemes is that the defined contribution benefit program has no room for the members to invest their money by themselves. Defined contribution schemes need to offer investment opportunities to grow the financial literacy of members at an early stage of prospected population aging.

In the Philippines, public pension schemes for public and private sector workers have been managed on partial funding and defined benefit bases. One of the problems, especially for the private sector scheme, is the low benefit level. Considering the people's income level, it may be difficult to raise the premium rate. In the long run, however, the government should raise it to improve the benefit level. Another task is the improvement of legal compliance by the private sector employers and workers to join the scheme and pay the premiums. Perhaps surprisingly, participation in the scheme is mandatory, even for informal sector workers. Among 40.2 million covered members as of December 2020, however, there were only 3.3 million members in the informal sector group (Cf. SSS [2021]). Concerning this matter, Landrito (2019) pointed out that "40 percent of the informal workers have no social security." Thus, full population coverage in real terms is yet to be accomplished. According to Landrito (2019), the three top industries where informal sector workers could be found were Agriculture, Hunting and Forestry (29.7 %), Service Activities (20.1 %), and Construction (14.5 %).

To conclude this paper, as Nomura Journal of Asian Capital Markets (Spring 2019) also pointed out, social security and pension funds have a significant role in developing financial markets in all countries dealt with in this paper. Those funds provide financial markets with resources as institutional investors and help the asset management industries grow.

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## Notes

<sup>1</sup> The issue of healthcare is not addressed in this article. For reference, however, see Sugaya (2015).

<sup>2</sup> Descriptions regarding the adequacy sub-index are cited from Mercer and CFA Institute (2022, p.50). For further information concerning this sub-index, see *ibid.*, pp.51-60.

<sup>3</sup> Descriptions regarding the sustainability sub-index are cited from Mercer and CFA Institute (2022, p.61). For further information concerning this sub-index, see *ibid.*, pp.62-71.

<sup>4</sup> Descriptions regarding the integrity sub-index are cited from Mercer and CFA Institute (2022, p.72). For further information concerning this sub-index, see *ibid.*, pp.73-81.

<sup>5</sup> It is perhaps surprising that such countries as Japan and South Korea belong to D. Regarding this matter, see Mercer and CFA Institute (2022).

<sup>6</sup> Self-employed persons are obliged to contribute to only MA.

<sup>7</sup> Approximately, 1.36 SGD is equal to 1 USD as of April 18, 2022 (See: <https://www.bloomberg.com/quote/SGD:CUR>).

<sup>8</sup> For more details, see Gee (2019) and <https://www.cpf.gov.sg/member> (Accessed on March 26, 2022). For details on the whole social security system, see Sugaya (2013).

<sup>9</sup> For the details, see [https://www.cpf.gov.sg/content/dam/web/employer/employer-obligations/documents/CPFContributionRatesTable\\_1Jan2022.pdf](https://www.cpf.gov.sg/content/dam/web/employer/employer-obligations/documents/CPFContributionRatesTable_1Jan2022.pdf) (Accessed on March 26, 2022).

<sup>10</sup> For the details, see <https://www.cpf.gov.sg/content/dam/web/member/faq/growing-your-savings/documents/>

CPF\_Allocation\_Rates\_from\_1\_January\_2022.pdf (Accessed on March 26, 2022).

<sup>11</sup> The number of employed residents (citizens and permanent residents aged 15 years and over) was 2,286.5 thousand (See the following websites: [https://www.cpf.gov.sg/content/dam/web/common/images/cpfstatistics/Sub\\_CPFMembers.jpg](https://www.cpf.gov.sg/content/dam/web/common/images/cpfstatistics/Sub_CPFMembers.jpg) and <https://www.singstat.gov.sg/find-data/search-by-theme/economy/labour-employment-wages-and-productivity/latest-data>: Accessed on March 26, 2022).

<sup>12</sup> See <https://tablebuilder.singstat.gov.sg/table/TS/M015651> (Accessed on March 26, 2022).

<sup>13</sup> See [https://www.cpf.gov.sg/content/dam/web/common/images/cpfstatistics/Sub\\_Balances.jpg](https://www.cpf.gov.sg/content/dam/web/common/images/cpfstatistics/Sub_Balances.jpg) (Accessed on March 26, 2022).

<sup>14</sup> For reference, the biggest pension fund in the world as of 2020 was Japan's Government Pension Investment Fund with the amount of 1,719,987 million USD (Cf. Thinking Ahead Institute [2021]).

<sup>15</sup> The first country was the Netherlands with a ratio of 191.85%. For reference, Japan stood 26th with a ratio of 28.71 % (See [https://www.theglobaleconomy.com/rankings/pension\\_funds\\_assets/](https://www.theglobaleconomy.com/rankings/pension_funds_assets/): Accessed on March 26, 2022).

<sup>16</sup> About the above data on CPF, see CPF (2021) and <https://www.cpf.gov.sg/employer/infocenter/reports-and-statistics/cpf-statistics> (Accessed on March 26, 2022).

<sup>17</sup> See <https://www.singstat.gov.sg/find-data/search-by-theme/economy/labour-employment-wages-and-productivity/latest-data> (Accessed on March 26, 2022).

<sup>18</sup> For the above descriptions, see <https://www.cpf.gov.sg/member/growing-your-savings/earning-higher-returns/investing-your-cpf-savings> (Accessed on March 26, 2022).

<sup>19</sup> See [https://www.cpf.gov.sg/content/dam/web/common/images/cpfstatistics/Sub\\_Investment.jpg](https://www.cpf.gov.sg/content/dam/web/common/images/cpfstatistics/Sub_Investment.jpg) (Accessed on March 26, 2022).

<sup>20</sup> See <https://www.cpf.gov.sg/member/growing-your-savings/earning-higher-returns/earning-attractive-interest> (Accessed on March 26, 2022).

<sup>21</sup> In the Malay language, it is called "Kumpulan Wang Simpanan Pekerja (KWSP)."

<sup>22</sup> In the Malay language, it is called "Pertubuhan Keselamatan Sosial (PERKESO)."

<sup>23</sup> For more details, see Hussein (2019) and <https://www.kwsp.gov.my> (Accessed on March 26, 2022). For details on the whole social security system, see Sugaya (2013).

<sup>24</sup> For more details, see <https://www.kwsp.gov.my/en/employer/contribution/all-about-your-responsibility> (Accessed on March 20, 2022).

<sup>25</sup> Regarding the labor force, see DSM (2021a).

<sup>26</sup> Approximately, 4.25 MYR is equal to 1 USD as of April 18, 2022 (See <https://www.bloomberg.com/quote/MYR:CUR>).

<sup>27</sup> Concerning the above data on EPF, see EPF (2021).

<sup>28</sup> Furthermore, Malaysia revised the national poverty line income from 980 MYR to 2,208 MYR in 2020. Regarding this matter, see <https://www.malaymail.com/news/malaysia/2020/07/10/statistics-dept-malysias-new-poverty-line-income-is-rm2208-over-400k-house/1883285> (Accessed on March 20, 2022).

<sup>29</sup> See <https://www.statista.com/statistics/873483/labor-force-participation-rate-in-malaysia-by-age/> (Accessed on March 20, 2022).

<sup>30</sup> The Above descriptions are cited from <https://www.kwsp.gov.my/member/investment> (Accessed on March 20, 2022).

<sup>31</sup> About Sukuku (Islamic bond), see Section IV regarding Indonesia.

<sup>32</sup> For more details on the pension schemes, see Ratanabanchuen (2019) and ILO (2022). For details on the whole social security systems, see Sugaya (2013).

<sup>33</sup> These three sections have been managed integrally by SSO on a social insurance basis.

<sup>34</sup> Approximately, 33.7 THB is equal to 1 USD as of April 18, 2022 (See <https://www.bloomberg.com/quote/THB:CUR>).

<sup>35</sup> See <http://statbi.nso.go.th/staticreport/page/sector/en/10.aspx> (Accessed on March 28, 2022).

<sup>36</sup> For the supplementary descriptions above, see SSO [2021, p.29], SSO [2022], NSO [2021, p.57], NSO [2022a, p.82], and NSO [2022b].

<sup>37</sup> For the details, see <https://www.gpf.or.th/thai2019/3Investment/main.php?page=7&menu=partinvest&dang=en> (Accessed on April 3, 2022).

<sup>38</sup> For the details on BPJS Ketenagakerjaan, see Susanto (2019). For the details on the whole pension schemes including TASPEN and ASABRI, see Sugaya (2020). For details on the whole social security systems, see Sugaya

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(2013).

<sup>39</sup> This applies to the eligibility age for the defined contribution benefits described below.

<sup>40</sup> As of July 2018, the minimum and maximum monthly pensions were 331,000 IDR and 3,971,400 IDR respectively. For reference, benefits are adjusted every two years. Regarding these matters, see <https://ww1.issa.int/node/195543?country=878> (Accessed on March 30, 2022).

<sup>41</sup> As of July 2018, the maximum monthly earnings used to calculate contributions are 8,094,000 IDR (See the website shown in note 40).

<sup>42</sup> Approximately, 14,356 IDR is equal to 1 USD as of April 18, 2022 (See <https://www.bloomberg.com/quote/IDR:CUR>).

<sup>43</sup> See <https://www.bps.go.id/indicator/11/65/2/-seri-2010-pdb-seri-2010.html> (Accessed on March 27, 2022).

<sup>44</sup> Workers comprise wage earners, those who work in construction service without formal employment status, and various non-wage earners.

<sup>45</sup> Data concerning the workforce are as of February 2022 (See <https://www.bps.go.id/statictable/2009/04/16/971/penduduk-15-tahun-ke-atas-menurut-status-pekerjaan-utama-1986---2022.html>: Accessed on June 29, 2022).

<sup>46</sup> Descriptions on Sukuk are cited from <https://www.investopedia.com/terms/s/sukuk.asp> (Accessed on April 3, 2022). More details are also available on the website.

<sup>47</sup> For details on SSS and GSIS, see Pineda (2019) and SSA (2019). For details on the whole social security systems, see Sugaya (2013).

<sup>48</sup> Approximately, 52.26 PHP is equal to 1 USD as of April 18, 2022 (See <https://www.bloomberg.com/quote/PHP:CUR>).

<sup>49</sup> Certain workers, such as miners, are qualified earlier under certain conditions. Meanwhile, for pensioners up to age 65, employment or self-employment must cease. The pension is suspended if the pensioner resumes employment or self-employment.

<sup>50</sup> January-June, April-September, July-December, or October-March.

<sup>51</sup> Cf. note 50.

<sup>52</sup> These amounts of contributions cover all cash benefits for sickness, maternity, retirement, disability, death, funeral, and in the case of employees, unemployment. The total contribution rate for employees and employers has been 12 % since 2019.

<sup>53</sup> GDP at the current price in 2020 was 17,938,582 million PHP (See <https://psa.gov.ph/national-accounts/base-2018/data-series>: Accessed on March 24, 2022).

<sup>54</sup> See SSA (2019) and <http://pension-watch.net/country-fact-file/philippines> (Accessed on March 24, 2022).

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### Appendix: Some Projected Data regarding Demographics

**Table 1: Percentage of Total Population by Broad Age Group (Both Sexes Combined)**

Country	Age	Year					
		2020	2030	2040	2050	2060	2070
Indonesia	0-14	25.9	23.1	21.0	19.4	18.1	17.0
	15-64	67.8	67.7	66.4	64.7	64.2	62.8
	65+	6.3	9.2	12.6	15.9	17.8	20.2
Malaysia	0-14	23.4	21.8	18.8	16.7	16.0	15.2
	15-64	69.4	68.2	68.3	66.3	62.2	59.7
	65+	7.2	10.0	12.9	17.0	21.8	25.1
Philippines	0-14	30.0	26.0	23.8	21.4	19.4	17.8
	15-64	64.4	66.3	66.5	66.8	65.8	64.2
	65+	5.5	7.6	9.7	11.8	14.8	18.0
Singapore	0-14	12.3	12.3	10.9	10.2	10.7	10.9
	15-64	74.3	65.2	60.0	56.6	53.4	52.5
	65+	13.4	22.5	29.1	33.3	35.9	36.6
Thailand	0-14	16.6	14.2	12.9	12.3	12.1	12.1
	15-64	70.5	66.2	61.0	58.0	56.4	54.3
	65+	13.0	19.6	26.2	29.6	31.5	33.6
Japan (For reference)	0-14	12.4	11.1	11.1	11.6	11.5	11.6
	15-64	59.2	58.0	53.7	50.7	50.2	50.5
	65+	28.4	30.9	35.2	37.7	38.3	37.9

Source: Compiled by the author using data from the UN (2019)

**Table 2: Total Fertility Rates**

Country	Year					
	2020 - 2025	2030 - 2035	2040 - 2045	2050 - 2055	2060 - 2065	2070 - 2075
Indonesia	2.22	2.07	1.95	1.88	1.83	1.81
Malaysia	1.92	1.80	1.73	1.70	1.69	1.70
Philippines	2.45	2.24	2.07	1.95	1.85	1.79
Singapore	1.24	1.30	1.34	1.38	1.42	1.44
Thailand	1.46	1.42	1.48	1.54	1.59	1.63
Japan (For reference)	1.37	1.45	1.52	1.57	1.60	1.63

Source: See table 1.

Table 3: Life Expectancies at Birth and Some Ages

Country	Sex	Age	Year					
			2020 - 2025	2030 - 2035	2040 - 2045	2050 - 2055	2060 - 2065	2070 - 2075
Indonesia	Female	0	74.64	76.46	78.04	79.47	80.81	82.06
		55	24.22	25.31	26.42	27.49	28.53	29.53
		60	20.12	21.11	22.14	23.14	24.11	25.05
		65	16.28	17.16	18.08	18.98	19.87	20.74
	Male	0	70.12	71.73	73.31	74.89	76.56	78.28
		55	20.90	21.84	22.89	23.99	25.21	26.52
		60	17.16	18.00	18.95	19.95	21.08	22.29
		65	13.76	14.49	15.32	16.21	17.21	18.30
Malaysia	Female	0	78.78	80.11	81.37	82.57	83.74	84.85
		55	26.17	27.25	28.30	29.32	30.33	31.31
		60	21.90	22.91	23.89	24.85	25.82	26.74
		65	17.75	18.68	19.59	20.49	21.39	22.26
	Male	0	74.71	76.19	77.73	79.33	80.99	82.54
		55	24.05	25.15	26.32	27.57	28.89	30.15
		60	20.31	21.31	22.38	23.53	24.76	25.93
		65	16.69	17.60	18.56	19.61	20.72	21.80
Philippines	Female	0	75.92	77.15	78.33	79.50	80.62	81.74
		55	26.28	26.84	27.51	28.26	29.04	29.85
		60	22.34	22.82	23.41	24.08	24.78	25.51
		65	18.52	18.93	19.44	20.03	20.65	21.30
	Male	0	67.67	68.97	70.37	71.88	73.47	75.17
		55	20.31	20.96	21.75	22.65	23.67	24.80
		60	16.90	17.46	18.14	18.93	19.83	20.84
		65	13.76	14.23	14.80	15.48	16.25	17.13
Singapore	Female	0	86.15	87.37	88.55	89.72	90.88	92.03
		55	32.19	33.28	34.36	35.43	36.51	37.58
		60	27.57	28.62	29.67	30.70	31.75	32.79
		65	23.08	24.08	25.07	26.05	27.05	28.06
	Male	0	82.06	83.38	84.61	85.78	86.95	88.10
		55	28.58	29.75	30.85	31.91	32.97	34.02
		60	24.19	25.30	26.35	27.36	28.38	29.39
		65	20.00	21.03	22.01	22.96	23.91	24.86
Thailand	Female	0	81.34	82.73	84.02	85.22	86.39	87.53
		55	29.24	30.23	31.19	32.11	33.04	33.96
		60	24.88	25.79	26.69	27.56	28.44	29.31
		65	20.74	21.56	22.37	23.17	23.97	24.77
	Male	0	74.16	76.28	78.40	80.35	81.88	83.16
		55	25.24	26.41	27.68	28.93	29.94	30.81
		60	21.43	22.46	23.59	24.72	25.64	26.43
		65	17.81	18.70	19.68	20.67	21.49	22.18
Japan (For Reference)	Female	0	88.10	89.31	90.49	91.64	92.76	93.86
		55	34.36	35.39	36.40	37.40	38.39	39.38
		60	29.71	30.70	31.67	32.63	33.58	34.54
		65	25.15	26.08	26.99	27.91	28.81	29.73
	Male	0	81.91	83.12	84.31	85.46	86.58	87.69
		55	28.87	29.87	30.86	31.85	32.80	33.77
		60	24.50	25.44	26.38	27.31	28.22	29.14
		65	20.34	21.21	22.08	22.95	23.79	24.65

Source: See table 1.