

PERSPECTIVE

RESEARCHERS AT ISEAS – YUSOF ISHAK INSTITUTE ANALYSE CURRENT EVENTS

Singapore | 21 February 2024

Demographic Transitions in Southeast Asia: Reframing How We Think and Act About Ageing

*Maria Monica Wihardja and Reza Siregar**



People walk past the Dinsaw booth displaying elderly care robots at the international media centre during the Asia-Pacific Economic Cooperation (APEC) summit in Bangkok on 18 November 2022. Photo by Ludovic MARIN/AFP.

** Maria Monica Wihardja is an economist and Visiting Fellow at ISEAS – Yusof Ishak Institute and Adjunct Assistant Professor at the National University of Singapore; and Reza Siregar is Head of the Indonesia Financial Group (IFG) Progress Indonesia.*

EXECUTIVE SUMMARY

- Population ageing could be a sign of longer lives and healthier old ages, but this demographic factor poses both challenges and opportunities at the same time.
- Managing the ageing transitions will therefore critically shape the existential conditions of each demographic stage.
- This study maps the Southeast Asian economies into various demographic typologies and documents policy recommendations that these economies could adopt, for example, by drawing on the experiences and policy initiatives of other East Asian countries in navigating their ageing population.

INTRODUCTION

The Southeast Asian (SEA) region is experiencing intense demographic changes. Unlike their counterparts in Europe and the United States, countries in East and Southeast Asia are ageing at record speed, (World Bank, 2019).¹ While countries in SEA are heterogeneous in their demographic profiles – from the already aged population in Singapore to the still very young population in Cambodia and Lao PDR – none of them is spared from the challenges brought by an ageing population.²

Although population ageing could be a sign of longer lives and healthier old ages, demographic transitions can be a ticking time bomb and turn out to be disastrous if countries fail to invest in necessary systems and reforms in time. This paper discusses the challenges faced, and suggests policy recommendations for SEA countries, focusing on the ten ASEAN countries at different stages of demographic transitions, with some comparisons with, and lessons to be learned from, Japan, South Korea and China.

DEMOGRAPHIC TYPOLOGY IN SOUTHEAST ASIA

Scholars have conceptualised three forms of “dividends” from demographic changes (World Bank, 2015). A ‘first demographic dividend’, associated with a growing share for the working-age population, presents opportunities for countries to reap the expanding working age population, which they can do by investing in human capital, creating enough productive jobs and building institutions conducive to savings and transfers. A ‘second demographic dividend’, associated with a declining share for the working-age population, presents the countries with the next group of opportunities to benefit from the more sophisticated workforce; this they can do by moving the workforce into higher productivity sectors and jobs and mobilising savings that the current cohorts of older people had squirrelled away and invested when they were younger. A ‘third demographic dividend’, associated with an already aged or super-aged population, presents further opportunities by ensuring that older people can live with dignity and security, for example, by reframing ageing from being a burden to being a blessing.

Evidence from East Asia during the 1970-2000 period suggests that the contribution on GDP growth from a ‘second demographic dividend’ through a higher productivity growth was 2.2 times larger than the contribution from a ‘first demographic dividend’ through a demographic change (a higher share of working-age population) (World Bank, 2015). Since human capital accumulation is cumulative, failing to reap an earlier demographic dividend could dent the long-term potential of a country.

Table 1 summarises various demographic transitions and the channels through which demographic dividends can be reaped. Based on this typology, two countries, Singapore and Thailand, entered the ‘post-dividend’ demographic transition in 2023, associated with the third demographic dividend. Five countries, i.e., Indonesia, Brunei Darussalam, Malaysia, Myanmar, and Vietnam, have entered the ‘late-dividend’ demographic transition, associated with the second demographic dividend. Meanwhile, Lao PDR, the Philippines and Cambodia are still in the ‘early-dividend’ demographic transition, associated with the first demographic dividend.

Table 1: Southeast Asian countries in different stages of demographic transitions

Channel	Transmission mechanism	Demographic Dividend	Stage of Demographic Transition*	Countries in Southeast Asia
Labour force	The expanding working age population	First	Pre- and early-dividend countries	Lao PDR, the Philippines and Cambodia
Savings and human capital	The more sophisticated workforce and savings from current cohorts of older people	Second	Late- and post-dividend countries	Indonesia, Brunei Darussalam, Malaysia, Myanmar, and Vietnam, Singapore and Thailand
Age-friendly environment	Older people as assets	Third	Post-dividend countries	Singapore, Thailand

Source: Table 5.1, World Bank, 2015; and authors' analysis

***Note:** This typology is used by the World Bank (2015) and we updated the calculation to year 2023 (see Annex 1).

It is not too late for lower- and upper-middle-income SEA countries to prepare and implement necessary reforms to reap the demographic dividends associated with their stages of demographic transitions, but the progress to reform so far in many of these countries has been slow. Accelerating reforms will be critical for the region and individual countries.

DEMOGRAPHICS-SENSITIVE POLICIES

What types of policy reforms are needed to address demographic shifts? In the following sections, we will discuss three priority areas that are most salient for SEA countries: (i) facilitating *intra*- and *inter*-generational transfers and equity, (ii) maintaining economic growth and labour market dynamism, and (iii) supporting the well-being of the growing older population.

Facilitating intra- and inter-generational transfers and equity

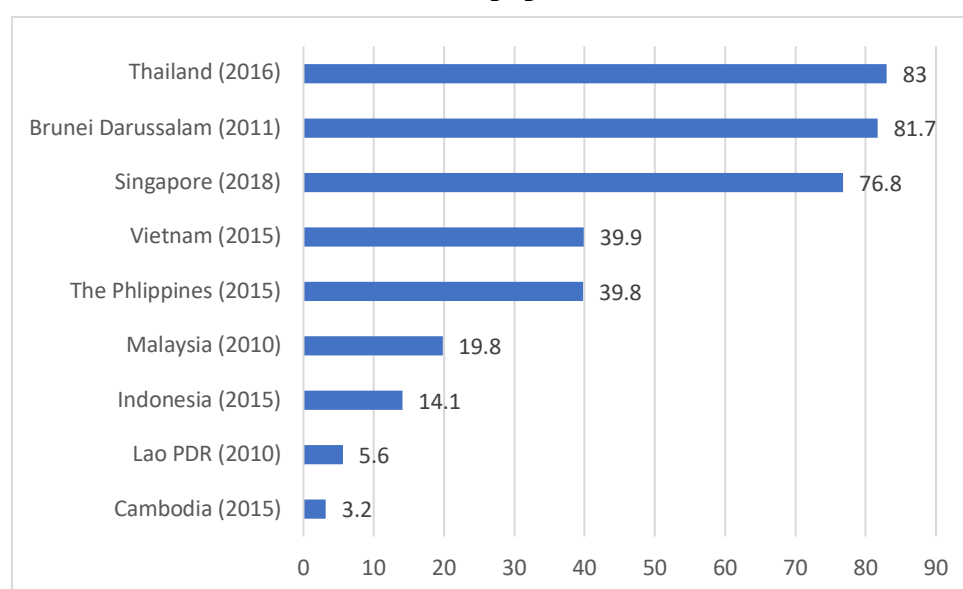
The importance of intra- and inter-generational transfers and equity can perhaps be best analysed by looking at how consumption is financed across one's lifetime, including through private and public transfers as well as asset-based reallocations (Annex Figure 1). People tend to be net recipients of transfers (consuming more than what is earned from labour income) when they are children and when they are in the post-retirement ages, while people tend to be net donors of transfers when they are in their productive ages (earning more from labour income than what is consumed).

Among the goals of such a life-cycle analysis are to be able to answer the question of how current and future older people (i.e., the young generation today) are being and will be supported, to estimate the potential impact of demographic changes on public finance including the pension and insurance systems, and to ensure inter-generational equity where the younger generation will be supported when they become old to the same extent that they support the older generation today. The pension and insurance systems, capital and financial markets (asset reallocations) and fiscal policies (taxes and social assistance programmes) will define inter- and intra-generational transfers and equity within a country.³

As a case in point, public transfers play a big role in supporting the older people in Germany while asset reallocation and private transfers play a more dominant role in the Philippines (Annex Figure 1). While public transfers can protect the more vulnerable older population, asset reallocation and private transfers alone may not, since not all older people, especially poor and vulnerable older people, own assets or have personal savings and/or family to rely on, highlighting the need in the Philippines to improve the social pension, insurance and assistance systems.

Most developing countries in SEA do not yet have mature and well-functioning pension systems (ILO-ASEAN, 2020; Park, 2012). Among ASEAN member states, only 31.5 percent of persons aged 60 years old or older are covered under some form of regular or one-time lump-sum pension payment, compared to 55.2 percent for the Asia Pacific region and 77.3 percent for the East Asian region. Moreover, there are high disparities among ASEAN countries, with more than 80 percent coverage in Thailand and Brunei Darussalam and less than 20 percent coverage in Malaysia, Indonesia, Cambodia and Lao PDR (Figure 1).

Figure 1: Old-age pension beneficiaries in ASEAN member states as percentage (%) of reference population



Source: Table 10, ILO-ASEAN 2020

Note: Data is based on the latest available year.

As a result, they are ill-prepared to provide economic security for the large number of retirees who loom large on the region's horizon, risking high poverty incidences among their old-age populations in the near future. Social changes such as changing women's aspirations, including working in nine-to-five formal jobs accompanying the region's robust growth, have also weakened traditional family-based old-age support, suggesting that formal pension systems will have to play a bigger role in economic security for the growing older population.

There are five policy reforms for developing SEA countries to embrace if they are to establish more mature and well-functioning pension systems (Park, 2012). The first is to strengthen the institutional and administrative capacity of pension systems to enable them to perform their core functions effectively, including collection of contributions. The second is to improve the governance and regulatory framework of pension systems. The third policy reform is to broaden the pension coverage especially since the biggest failure of pension systems is their limited coverage. The fourth is to enhance the financial sustainability of pension systems. This will require bold adjustments in certain parameters, such as retirement ages, contribution rate, coverage rate and benefits. The fifth lesson is the need to generate higher returns for pension assets and deepening domestic financial and capital markets, particularly for long-term maturity assets.

Related to the last point on pension assets, Table 2 shows the pension funds' assets as a percentage of GDP in East and Southeast Asian countries in the period 2001–2021 where data are available.⁴ While this rate is as high as 105 percent in total OECD countries and 93.8 percent for Singapore in 2021, it is as low as 8.3 percent in the rapidly ageing Thailand, and 1.9 percent in the soon-to-be-ageing Indonesia.

Table 2: Ratio of pension funds' assets to GDP (%) in selected countries⁵

	2001	2011	2021
Total OECD	59.0	63.9	105.1
Korea	6.5	15.9	31.8
Japan	17.3	29.0	31.4
China (People's Republic of)	0.3	0.7	2.3
Hong Kong (China)	14.5	32.0	54.0
Thailand	4.2	5.5	8.3
Indonesia	1.9	1.7	1.9
Singapore	..	59.0	93.8

Source: OECD Global Pension Statistics

Note: Pension funds' assets are defined as assets bought with the contributions to a pension plan for the exclusive purpose of financing pension plan benefits.

The case of Indonesia shows that among the challenges to broadening coverage of pension systems are the large informal sector in the economy and the relatively low income per capita of the country (Siregar et al, 2021, Siregar et al, 2022).

The case of Vietnam shows that the financial sustainability of pension systems is crucial to ensuring inter- and intra-generational equity. Currently suffering from the two “missing middles”, namely older population who receive neither monthly retirement benefits, national merit benefits nor social pension benefits, and workers in their productive age who are not poor enough to be covered by social assistance but not rich enough to benefit from the social insurance system, pose serious challenges to Vietnam’s social protection system (Giang, 2024). Social assistance (non-contributory cash and in-kind transfers) only covers less than 20 percent of the workforce while social insurance (contributory pensions and health) covers only about 15 percent of the workforce (Hosny and Sollaci, 2022).

Vietnam’s unsustainable pension fund, which is partly due to the large informal sector (estimated at 68.5 percent in 2021), will become a large deficit in about three decades and this may necessitate higher taxes in the future, makes the system unfair both within and across generations (Leung, 2024; Giang, 2012). Besides increasing contribution rates and increasing normal retirement ages to improve the financial balance, in the longer term, the current defined-benefit pension system needs to transit into a more financially sustainable defined-contribution system. A voluntary contributory scheme introduced by the government in 2006 may need better incentives such as tax-funded matching contributions, to attract the more informal workforce into the pension system.

Productivity-led economic growth and labour market dynamism

After a country exits its early-dividend stage and slowly enters into the late- and post-dividend stage, the focus of an economy should be on boosting productivity growth to substitute for the losses in the economically active population. This effort could be complemented with efforts to increase the employment rate and the labour force participation rate, especially among female workers traditionally more disadvantaged than their male workers. Productivity measures such as Incremental Capital Output Ratio (ICOR) and Total Factor Productivity (TFP) can be used to measure labour and firm productivity along with a simple output per labour ratio. However, strengthening human capital by improving early childhood education and health including addressing high chronic malnutrition (stunting) issues should be prioritised.

Table 3 and Table 4 show how over the years (2000-2010 and 2010-2017), a decline in the growth of working-age population aged 15 years old and above (‘demographic change’) in ASEAN countries such as Singapore, Vietnam and Thailand between 2010 and 2017/8 are dragging down growth in per capita value added. This is in contrast to the positive contribution of demographic change to growth in per capita value added in these countries between 2000 and 2010. In Vietnam and Cambodia, declines in the growth of the working-age population were partly compensated by higher productivity growth rates. In Singapore, however, a decline in working-age population was not compensated by a higher productivity growth rate, bringing annual per capita value-added growth rate from 3.4 percent between 2000 and 2010 down to 2.7 percent between 2010 and 2018.

Table 3: Decomposition of Growth in Per Capita Value Added in Japan and Selected SEA Countries, 2000-2010

Decomposition of Growth in per capita Value Added, by Country						
Annual Change (percentage points)	Japan 2000-2010 Total=0.5%	Indonesia 2000-2010 Total=3.8%	Singapore 2000-2010 Total=3.4%	Vietnam 2000-2010 Total=5.6%	Thailand 2000-2010 Total=3.9%	Cambodia 2000-2010 Total=6.2%
Total	0.5	3.8	3.4	5.6	3.9	6.2
Productivity	1.0	3.5	2.5	4.4	3.4	4.0
Employment Rate	0.0	0.1	0.0	0.1	0.2	0.1
Participation Rate	0.2	0.0	0.4	-0.1	-0.1	0.7
Demographic Change	-0.6	0.3	0.5	1.2	0.4	1.3

Source: World Bank's Jobs Diagnostic Tool, authors' calculations

Table 4: Decomposition of Growth in Per Capita Value Added in Japan and Selected SEA Countries, 2010-2017

Decomposition of Growth in per capita Value Added, by Country						
Annual Change (percentage points)	Japan 2010-2017 Total=1.2%	Indonesia 2010-2017 Total=4.0%	Singapore 2010-2018 Total=2.7%	Vietnam 2010-2018 Total=5.1%	Thailand 2010-2018 Total=2.9%	Cambodia 2010-2018 Total=5.5%
Total	1.2	4.0	2.7	5.1	2.9	5.5
Productivity	1.1	3.5	2.5	5.0	3.5	5.9
Employment Rate	0.3	0.2	0.0	-0.1	0.0	0.0
Participation Rate	0.7	0.1	0.5	0.3	-0.4	-0.7
Demographic Change	-0.9	0.3	-0.4	-0.1	-0.2	0.3

Source: World Bank's Jobs Diagnostic Tool, authors' calculations

Demographic differences in the ASEAN+3 region have not only facilitated capital and technological flows but also the flows of labour (Menon, 2009). Although international migration policies could help slow down the rate of ageing, at least in the short run, it is unlikely to structurally reverse the age structure in the long run while managing the consequences of migration policies long after the economy was opened up to international migrants is critical (Magnus, 2015).

Social well-being of the older population

As a country enters its post-dividend phase, one policy focus will be to sustain a decent standard of living for the whole population and maintain the well-being of the older population. There are three specific policy recommendations related to this: flattening the cost of old-age health care and services, harnessing technologies for the older population, and targeting social assistance for vulnerable older population.

(1) Flattening health care costs

As labour force shrinks, soaring old-age health care costs could overstretch the capacity of the government's budget and aged care system. As an example, South Korea's health spending as a percentage of GDP was only 3.9 percent in 2000, but increased to 8.1 percent in 2019 (before the COVID-19 pandemic) and 9.7 percent in 2022.⁶ Burgeoning health spending easily crowds out other types of spending including other public goods such as education especially in a political setting where citizens over 65 years old form a significant voting bloc such as in the case of Japan (Kuhn, 2023).

The increase in health spending as a percentage of GDP in rapidly ageing Southeast Asia countries is however more muted. Singapore's GDP share of health expenditure has increased from 3.3 percent in 2000 to 4.4 percent in 2019; Vietnam from 3.8 percent to 5 percent and Thailand from 3.1 percent to 3.9 percent in the same period.

Policies to help flatten old-age health care costs for both the current and future older populations is therefore key. Among policies that could be prioritised include (i) facilitating investment and new research and development to spur innovation for cheaper health services and products, (ii) reforming the often highly concentrated market structure in the pharmaceutical industries, (iii) the use of (AI) technologies and big data including to monitor health and detect illnesses early before they turn chronic as a preventive instead of curative measures, (iv) increase health care resilience by diversifying supply chains (as the COVID-19 has taught us), and (v) buttressing regional cooperation in health and care industries, including, for example, with Japan, which has a dominant share in the production of many advanced medical technologies such as MRI (Magnetic Resonance Imaging) machines.

It is also well documented that those who remain economically and socially engaged are relatively healthier than those who do not. Positive perceptions of ageing are correlated with a survival advantage, with individuals harbouring such views living approximately eight years longer and exhibiting better memory (Ng, 2024). Conversely, ageism – prejudice against older persons – is identified as a contributor to stress and social isolation, leading to an annual health cost estimate of USD63 billion (Ng, 2024). Therefore, to reduce health care costs, governments could support the older population to remain economically and socially engaged including by creating an age-friendly environment, helping them engage in 'silver entrepreneurship' (start-

up entrepreneurship by people over the age of 50) and voluntary works while increasing the retirement age and the re-employment age.⁷

(2) Harnessing technologies for an ageing population

Although there have been scepticisms over the use of robots to address a care crisis—including those that arise from the ethical concern of ‘dehumanising care’ (Henwood, 2019) to the disconnection between state-driven vision of robotic care and the intricate everyday realities of care provision (Wright, 2023)—, AI, robots and automated solutions are commonly deployed in the healthcare eco-system and will continue to play a critical role in managing the care crisis in an ageing or aged society.

The wide application of digital technology may, however, leave behind older people who have no or low digital literacy. Ng and Idran (2022 & 2023) and Wright (2023) show how having older adults and care givers as the centre of addressing the care crisis using (digital) technologies is key. For example, Ng and Idran (2022) explore how older adults engaging on TikTok platforms could help reframe the perception on ageing and challenge socially constructed notions of old age by creating TikTok micro-videos that help fight stereotyping and discrimination against older people.

(3) Targeting vulnerable older population with social assistance

In many developing SEA countries, many still earn low incomes and cannot rely on their pension savings, medical insurance and old-age care as old-aged supports. Old-aged social assistance or safety nets are needed. The definition of ‘vulnerability’ itself could vary across countries but with regard to policy design, both the academic and policy communities have reached a consensus that given a limited budget, *targeted* social assistance is crucial for social policy making in general and for aging policy in particular. Kong and Yang (2018) provide a good example of how a pre-screening tool to identify vulnerable older population is done in the case of China; this is simple enough for policy makers to use and is effective in screening at-risk older population and estimating the appropriate amount of assistance required by the vulnerable older population.

CONCLUSION

In this paper, we focus on three key policy reform areas for SEA namely: (i) ensuring *intra*- and *inter*-generational transfers and equity, (ii) maintaining productivity-led economic growth and labour market dynamism, and (iii) supporting the well-being of the older population.

We need also to keep in mind the changing contexts in which countries are ageing today, including the emergence of big data and AI that enable health monitoring in innovative ways, more frequent and intense extreme weather events such as heat waves and natural disasters to which older people are most vulnerable, and changing aspirations of women and older adults with regards to labour force participation (Berd, 2023).

Since Southeast Asian countries are not ageing all at the same time, there is room for regional cooperation. However, of greater concern than protectionist policies on trade flows are the restrictions on cross-border labour mobility, capital and technology. Regional cooperation could ensure more seamless flows to help the region adapt to the inexorable demographic transition towards more aged population.

Importantly, we need to reframe how we think and act about ageing, and to see how expenditure on older population can become an investment. Hence, we have to focus our policy making from minimising the costs to maximising the return on investment (Berd, 2023). For developing SEA countries, the time to invest is now.

REFERENCES

- Berd, John. 2023. 'Asia's Future in the Face of Dramatic Demographic Shifts and their Impact on Healthcare.' Presentation at the International Forum on the Super Aging Challenge. https://channel.nikkei.co.jp/wass2023e/ifsace231121_03.html
- Giang, Thanh Long. 2024. 'Vietnam's Aging Population: Challenges and Policy Responses.' Presentation at the ISEAS-Yusof Ishak Institute webinar, 'Demographic Transitions in Southeast Asia: Reframing How We Think and Act about Ageing', January 25. <https://www.iseas.edu.sg/media/event-highlights/webinar-on-demographic-transitions-in-southeast-asia-reframing-how-we-think-and-act-about-ageing/>
- Giang, Thanh Long. 2012. 'Viet Nam: Pension system overview and reform directions.' Chapter 9 in Park (2012).
- Henwood, Melanie. 2023. 'Why the idea of 'care robots' may be bad news for the elderly.' World Economic Forum. https://www.weforum.org/agenda/2019/11/care-robots-ai-4ir-elderly-social/?DAG=3&gad_source=1&gclid=Cj0KCQiA4NWrBhD-ARIsAFCKwWtfeolUxCC-DXbEnUOIImZUWWFg031WVqsQ7CbC8Nra6xHqUJ6BxuxsaAkMMEALw_wcB
- Hosny, Amr, and Alexandre Sollaci. 2022. 'Digitalization and Social Protection: Macro and Micro Lessons for Vietnam.' International Monetary Fund Working Paper, WP/22/185. <https://www.imf.org/en/Publications/WP/Issues/2022/09/15/Digitalization-and-Social-Protection-Macro-and-Micro-Lessons-for-Vietnam-523399>
- International Labour Organization (ILO) – Association of Southeast Asian Nations (ASEAN). 2020. 'Old-age Income Security in ASEAN Member States – Policy Trends, Challenges and Opportunities'. ASEAN Secretariat Publication. https://asean.org/wp-content/uploads/FINAL_old-age-2021.pdf
- Kong, Tao, and Po Yang. 2018. 'Finding the vulnerable among China's elderly: identifying measures for effective policy targeting.' *Journal of Aging and Social Policy*, Vol. 31, No. 3, pp. 271-290.
- Kuhn, Anthony. 2023. 'The growing concern of Japan's 'silver democracy'.' NPR news. <https://www.npr.org/2023/06/28/1184894573/the-growing-concern-of-japans-silver-democracy>

Leung, Suiwah. 2024. 'Solving Vietnam's social protection sustainability problem.' East Asia Forum. <https://eastasiaforum.org/2024/01/12/solving-vietnams-social-protection-sustainability-problem/>

Magnus, George. 2015. *The Age of Aging: How Demographics are Changing the Global Economy and Our World*. Wiley publication.

Menon, Jayant, and Anna Melendez-Nakamura. 2009. 'Aging in Asia: Trends, Impacts and Responses.' Working Paper Series on Regional Economic Integration No.25. <https://www.adb.org/sites/default/files/publication/28500/wp25-aging-asia.pdf>

Ng, Reuben. 2024. 'Ageism'. Presentation at the ISEAS-Yusof Ishak Institute webinar, 'Demographic Transitions in Southeast Asia: Reframing How We Think and Act about Ageing', January 25. <https://www.iseas.edu.sg/media/event-highlights/webinar-on-demographic-transitions-in-southeast-asia-reframing-how-we-think-and-act-about-ageing/>

Ng, Reuben, and Nicole Idran. 2022. 'Not Too Old for TikTok: How Older Adults Are Reframing Aging.' *The Gerontologist*, Vol. 62, Issue 8, pp. 1207-1216. <https://doi.org/10.1093/geront/gnac055>

Ng, Reuben, and Nicole Idran. 2023. 'Innovations for an Aging Society through the Lens of Patent Data.' *The Gerontologist*. <https://doi.org/10.1093/geront/gnad015>

Park, Donghyun. 2012. *Pension Systems and Old-Age Income Support in East and Southeast Asia. Overview and reform directions*. Asian Development Bank & Routledge.

Siregar, Reza, Mohammad Alvin Prabowosunu, and Rizky Rizaldi Ronaldo. 2021. 'Public Pension Fund Potential in Indonesia.' IFG Progress Economic Bulletin – Issue 2.

Siregar, Reza, Ibrahim Kholilul Rohman, Mohammad Alvin Prabowosunu, Nurkholis, and Daffa Harafandi. 2022. 'Income Threshold Estimation Needed to Increase Pension Fund Penetration in Indonesia.' IFG Progress Economic Bulletin – Issue 19.

World Bank. 2015. 'Global Monitoring Report 2015/2016: Development Goals in an Era of Demographic Change.' World Bank Group and International Monetary Fund publication.

World Bank. 2019. 'Approach Paper. World Bank Support to Aging Countries.' Independent Evaluation Group. World Bank Group.

Wright, James Adrian. 2023. *Robots Won't Save Japan*. Cornell University Press.

ANNEXE

Annex 1: Demographic Typology in Southeast Asia

This typology is used by the World Bank (2015) and we have updated the calculation to year 2023.

Annex Table 1: Criteria of demographic typology

Change in working-age population (15-64 years old) share, 2023-2038	Total fertility rate 1993		Total fertility rate 2023	
	<2.1	≥2.1	<4	≥4
≤ 0	Post-dividend	Late-dividend		
>0			Early-dividend	Pre-dividend

Source: World Bank, 2015 (Table C.2)

Using this typology, we break down countries into two types: those with an increasing share of working-age population and those with a declining share of working-age population (which is usually irreversible). We further break down each of the two types.

We call a country ‘pre-dividend’ if the share of working-age population is increasing and the fertility rate is still above 4, which almost doubles the replacement rate of 2.1.⁸ These countries are yet to reap the ‘first demographic dividend’ since the child dependency ratio is yet to decline, a necessary condition that enables countries to harness the first demographic dividend. We call a country ‘early-dividend’ if the share of working-age population is increasing but the fertility rate has fallen below 4, where the share of young population is expected to rapidly decline. These countries are ripe to reap the ‘first demographic dividend’.

We call a country ‘late-dividend’ if the share of working age population is declining but their fertility rate was still above the replacement rate of 2.1 thirty years ago (a ballpark length from the birth of a parent to a child).⁹ These countries are likely to be in the final phase of their ‘first demographic dividend’.

We call a country ‘post-dividend’ if the share of working-age population is declining and the fertility rate has already started to go below the replacement rate of 2.1 in the last three decades. These countries are likely to have passed (or missed) their ‘first demographic dividend’.

Based on this typology, two countries, Singapore and Thailand, have entered ‘post-dividend’ demographic transition. Five countries, i.e., Indonesia, Brunei Darussalam, Malaysia, Myanmar and Vietnam, have entered ‘late-dividend’ demographic transition, while Lao PDR, the Philippines and Cambodia are still in ‘early-dividend’ demographic transition. Compared to eight years ago, some of these countries have transitioned into a different demographic typology, such as Indonesia, Malaysia and Myanmar (from early- to late-dividend) and

Thailand (from late-dividend to post-dividend) (Annex Table 2). From Annex Table 2, we can also see how socioeconomic development and ageing go hand in hand.

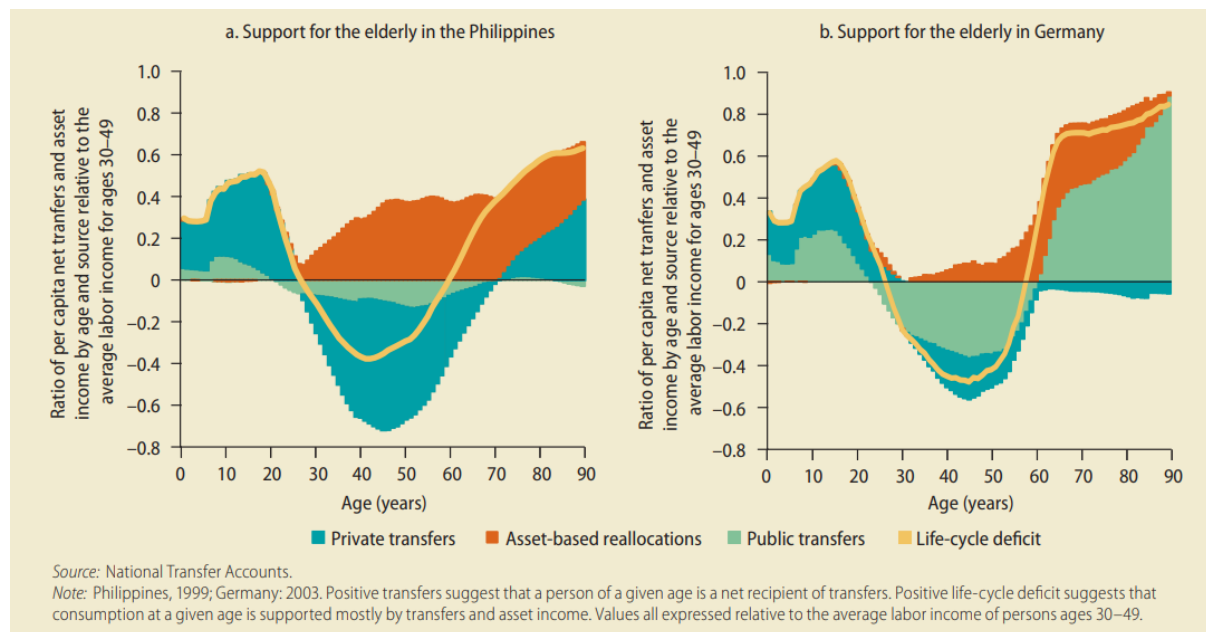
Annex Table 2: Economies by demographic typology

Country	GNI per capita (Income status) 2023	Typology 2015- 2030	Typology 2023- 2038	Change in working age share 2023-2038	Total fertility rate 1993	Total fertility rate 2023
Southeast Asia						
Brunei Darussalam	31,410 (High)	Late-dividend	Late-dividend	-0.03	3.01	1.75
Singapore	67,200 (High)	Post-dividend	Post-dividend	-0.11	1.51	1.04
Indonesia	4,580 (Upper-middle)	Early-dividend	Late-dividend	-0.01	2.88	2.13
Malaysia	11,830 (Upper-middle)	Early-dividend	Late-dividend	-0.01	3.37	1.77
Thailand	7,230 (Upper-middle)	Late-dividend	Post-dividend	-0.08	1.99	1.32
Cambodia	1,690 (Lower-middle)	Early-dividend	Early-dividend	0.01	5.27	2.28
Lao PDR	2,310 (Lower-middle)	Early-dividend	Early-dividend	0.03	5.75	2.41
Myanmar	1,270 (Lower-middle)	Early-dividend	Late-dividend	0	3.28	2.12
Viet Nam	4,010 (Lower-middle)	Late-dividend	Late-dividend	-0.01	3.14	1.93
Philippines	3,950 (Lower-middle)	Early-dividend	Early-dividend	0.01	4.15	2.69
East Asia						
Japan	42,440 (High)	Post-dividend	Post-dividend	-0.04	1.46	1.32
Republic of Korea	36,190 (High)	Post-dividend	Post-dividend	-0.11	1.67	0.88
China	12850 (Upper-middle)	Late-dividend	Post-dividend	-0.05	1.69	1.19

Source: UN projections, authors' calculations

Note: Greyed areas mark changes in demographic typology. Countries are ordered based on their income status.

Annex Figure 1: A life-cycle model of private and public financing of lifetime consumption: The Philippines vs. Germany



Source: World Bank (2015), Figure B5.4.1

Note: It is expected that an average person experiences a life-cycle deficit (what is consumed is higher than what is earned) when he or she is still a non-productive child or young adult and when he or she retires from work. When he or she is a non-productive child or young adult, this deficit is commonly financed by his or her parents (through private transfers) and/or the government (through public transfers), e.g., social assistance programmes for poor households with children. This group of population is usually a net *recipient* of transfers. As he or she starts working, and throughout his or her productive ages, he or she will start earning (labour and non-labour) income and paying taxes while saving part of his or her income (including through pension funds) and/or investing in assets, e.g., buying a house. This group is usually a net *donor* of transfers. When an individual retires, his or her consumption will again be financed by private and public transfers plus savings and earnings from capital gains. This group is also a net *recipient* of transfers. Intra- and inter-generational transfers take place from net *donors* to net *recipients*.

ENDNOTES

¹ It took France well over 100 years to double the share of population aged 60 years old or above from 10 to 20 percent (1850-1980), but it took Japan only 27 years (1967-1994) to do the same, China 24 years (2000-2024) and Singapore 17 years (2003-2020).

² The World Bank (2019) defines a country as 'ageing' when the share of population aged 65 or above is above seven percent, 'aged' when it is 14 percent or more, and 'super-aged' when it exceeds 20 percent.

³ Annex Figure 1 shows the breakdown of sources of financing of an average person's consumption during different stages of his or her lifetime in the Philippines vs. Germany.

⁴ Pension funds' assets are defined as assets bought with the contributions to a pension plan for the exclusive purpose of financing pension plan benefits. The pension fund is a pool of assets forming an independent legal entity.

⁵ Siregar et al (2021b) has slightly different figures for Indonesia (2.73 percent in 2020), Thailand (12.74 percent in 2020) and Malaysia (61.42 percent in 2021).

⁶ Statista on South Korea's national health expenditure as a percent of GDP from 2000 to 2022. Link: <https://www.statista.com/statistics/647320/health-spending-south-korea/>

⁷ Re-employment age is the maximum age an employee can be re-employed until.

⁸ Fertility rate of 4 or above is considered high since it means an average woman will have 4 or more children. As an illustration, the fertility rate among women in the top 60 percent of the income distribution in upper-middle-income countries is 2.5, while it is 3.5 for women in the bottom 40 percent of the population in these countries.

⁹ According to OECD, assuming no net migration and unchanged mortality, a total fertility rate of 2.1 children per woman (since men don't give birth) ensures a broadly stable population.

<p><i>ISEAS Perspective</i> is published electronically by: ISEAS - Yusof Ishak Institute</p> <p>30 Heng Mui Keng Terrace Singapore 119614 Main Tel: (65) 6778 0955 Main Fax: (65) 6778 1735</p> <p>Get Involved with ISEAS. Please click here: https://www.iseas.edu.sg/support/get-involved-with-iseas/</p>	<p>ISEAS - Yusof Ishak Institute accepts no responsibility for facts presented and views expressed.</p> <p>Responsibility rests exclusively with the individual author or authors. No part of this publication may be reproduced in any form without permission.</p> <p>© Copyright is held by the author or authors of each article.</p>	<p>Editorial Chairman: Choi Shing Kwok</p> <p>Editorial Advisor: Tan Chin Tiong</p> <p>Editorial Committee: Terence Chong, Cassey Lee, Norshahril Saat, and Hoang Thi Ha</p> <p>Managing Editor: Ooi Kee Beng</p> <p>Editors: William Choong, Lee Poh Onn, Lee Sue-Ann, and Ng Kah Meng</p> <p>Comments are welcome and may be sent to the author(s).</p>
---	---	---