
Thailand's Efforts to Cope with a Rapidly Aging Population

—Can Thailand Become a Trailblazer for Other Middle-Income Countries Struggling with Demographic Aging?—

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Summary

1. Demographic aging has been especially rapid in Thailand compared with other major emerging Asian economies. The percentage of the Thai population aged 65 or over is expected to climb from around 10% at present to over 20% by the 2030s. In this article, we will analyze the measures being implemented by the Thai government to curb the risk of fiscal deterioration caused by a declining birthrate and demographic aging, as well as the ways in which businesses in Thailand have responded to a shrinking workforce. We will also examine the impact that these issues are having on Japanese companies operating in Thailand.
2. One of the ways in which the government is trying to reduce the risk of fiscal deterioration caused by Thailand's declining birthrate and demographic aging is by expanding the tax base with the aim of increasing tax revenues. The government is also seeking to increase contributions and dividends from state-owned enterprises by improving their management efficiency. Another goal is to improve the efficiency of government expenditure by using the public-private partnership (PPP) approach to infrastructure development. The government has also implemented social security reforms, including an increase in the age at which pension payments start. While all of these measures are still in their initial stages, there are already signs that social security system reforms are not keeping up with the problem of senior care for low- and middle-income people. As traditional in-home care by family members becomes unsustainable, there is a risk that the need for senior care will become a serious social problem in the future.
3. Companies in Thailand are adapting to workforce shrinkage by using automated production systems and digital technologies to improve their productivity, while shifting production processes for which labor requirements cannot readily be reduced to neighboring countries. One of the limiting factors for the former approach is a shortage of workers in the areas of IT and robotic engineering. Urgent efforts will be needed to develop human resources in these areas.
4. Thailand's changing population dynamics will have several negative impacts on Japanese companies operating in Thailand, including increased corporate social security costs, worsening recruitment problems, and the shrinkage of markets for consumer goods targeted toward younger people. At the same time, however, there will be growth in markets based on older consumers, such as healthcare, senior care, health foods, and fitness services, as well as increased business opportunities in emerging fields, including digitization and automation. This means that there will be greater opportunities for market participation by Japanese companies thanks to their expertise in business areas targeting the elderly. However, rather than simply transplanting their business models from Japan, companies will need to customize them to match market conditions in Thailand.

Introduction

Thailand's economy has been on a continuous recovery trend since 2014. However, its real GDP growth rate slowed dramatically after the start of 2013 (Fig.1) under the impact of an export slump caused by economic slowdowns in China and other Asian countries, a reactionary downswing in the wake of stimulus measures implemented in 2011 and 2012, worsening consumer and investor sentiment due to domestic political turmoil, and other factors. These negative factors were especially pronounced during the first quarter of 2014, leading to a 0.4% drop in GDP compared with the same period in 2013, the first such decline since the October-December quarter of 2011, when floods temporarily halted production in Thailand's manufacturing industry.

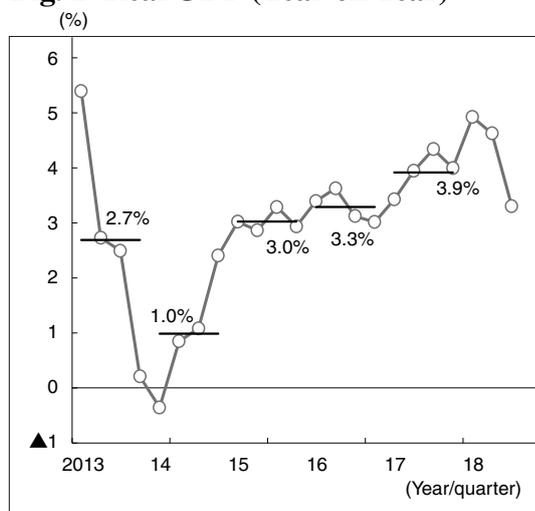
However, the Thai economy has staged a continual recovery since then. This reflects an improvement in consumer and business confidence in response to the stabilization of the political situation after the 2014 military coup, an export rally driven by the expansion of the world economy, and a bullish trend in the Thai stock market in step with a global rise in stock prices. While Thai-

land's year-on-year real GDP growth rate in the July-September quarter of 2018 dropped to +3.3% from +4.6% in the previous quarter, the growth rate for the whole of 2018 is expected to reach a six-year high on the back of a firm upward trend resulting from various stimulus measures implemented in the period to the end of the year.

Thailand plans to hold to a general election in the first half of 2019 in preparation for a return to civilian rule. While the situation will still need to be watched closely because of uncertainties within and beyond Thailand, such as the domestic political situation and the escalation of the U.S.-China trade war, strong economic growth is expected to continue, supported by infrastructure development relating to Thailand's Eastern Economic Corridor (EEC). However, Thailand is experiencing demographic aging and birthrate decline faster than any other major emerging economy in Asia, and its economic growth is unlikely to accelerate significantly because of a gradual increase in downward pressure on the economy from workforce shrinkage and continual aging. We need to be aware of the risk that the economy will slow even more than predicted if Thailand delays efforts to adapt to an aging society.

Thailand's declining birthrate and demographic aging have already been highlighted in various articles, but few Japanese studies have examined this issue comprehensively. In this article, we will therefore reexamine recent trends relating to the Thai economy within the wider context of demographic aging, while also examining the future implications for Japanese companies operating in Thailand. In Part 1, we will examine demographic trends in Thailand and factors affecting the livelihoods of elderly people. In Part 2 we will analyze the Thai government's efforts to limit the risk of fiscal deterioration caused by demographic aging. This will be followed in Part 3 by an analysis of the ways in which businesses in Thailand are coping with a shrinking workforce. Finally, in Part 4 we will consider the impact of these issues on Japanese companies operating in Thailand, based on our analyses in the preceding sections.

Fig. 1 Real GDP (Year on Year)



Source: National Economic and Social Development Board

1. Demographic Aging in Thailand—Current Situation and Future Outlook

(1) Reasons for the Fastest Demographic Aging Rate among the Asian Economies

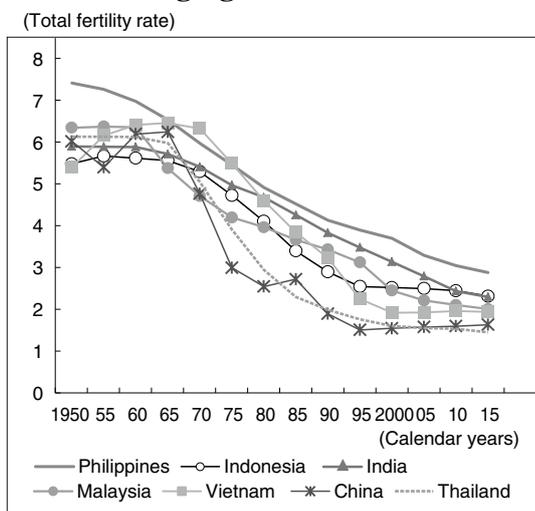
We will begin by examining historical changes in and the future outlook for Thailand’s demographic structure. Until the 1970s, Thailand’s total fertility rate (TFR) was consistently above 5.0 (Fig.2), and its total population showed sustained annual growth of around 3%. However, the birthrate began to fall sharply in the 1970s in response to the government’s efforts to reduce the number of children born by promoting family planning, with the aim of increasing per capita spending on healthcare and education. Campaigns to prevent the spread of AIDS and other sexually transmitted diseases (STDs) meanwhile led to the widespread use of condoms. These factors resulted in a dramatic reduction in the number of unplanned births. By the early 1990s, Thailand’s

birthrate had fallen below 2.1, which is regarded as the population replacement level. Thailand’s birthrate fell even lower than the levels reached in China and Vietnam, despite the fact that it did not employ the strict birth control measures used in those countries. As noted in McGraw-Hill Education [2014], one of the reasons for this was the success of a grass-roots family planning promotion campaign run by the Population and Community Development Association (PDA), which was founded by former Minister of Public Health Mechai Viravaidya in 1974. The PDA succeeded in raising awareness of family planning in regional Thailand by using its theme song, “Too Many Children Make You Poor”, to promote the use of condoms even in rural areas, where family planning had previously been seen as a taboo⁽¹⁾.

Another factor that has contributed to falling marriage and birth rates is the survival of traditional gender roles, including the perception that women should take care of housework, childcare, and care of aging parents, despite the increasing participation of women in the work force in step with a rise in female education levels⁽²⁾. As a result, Thailand’s birthrate has declined to just below 1.5, while the working population peaked in the first half of the 2010s and is now in decline. In a survey on women’s attitudes to marriage conducted by the College of Population Studies of Chulalongkorn University, over 60% of unmarried women stated that they did not want to get married, while around 70% of married women responded that they felt could live happy lives without having children. The tendency to marry late or never is a global phenomenon linked to lifestyle diversification. In addition, birthrates tend to decline as income levels rise. However, Thailand’s birthrate is low even compared with countries that have similar income levels (Fig.3).

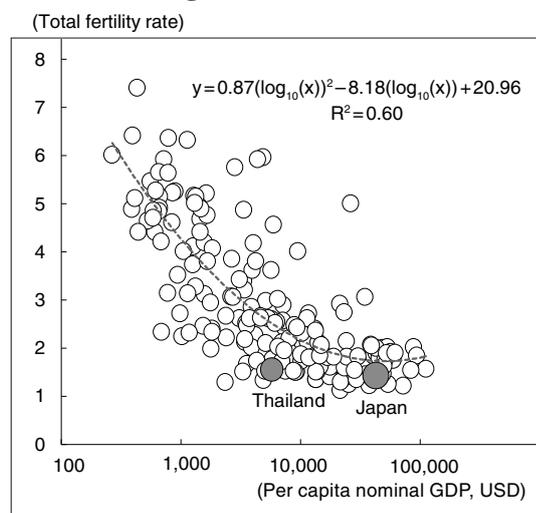
The Thai Government is taking various steps, including the expansion of tax incentives, in an effort to halt the decline in the birthrate. For example, it raised the maximum deductible amount for spending on children’s education from 30,000 baht per year to 60,000 baht from the second child onwards. Despite these efforts, the birthrate in Thailand has failed to rise. An additional tax de-

Fig. 2 Total Fertility Rates for Asian Emerging Countries



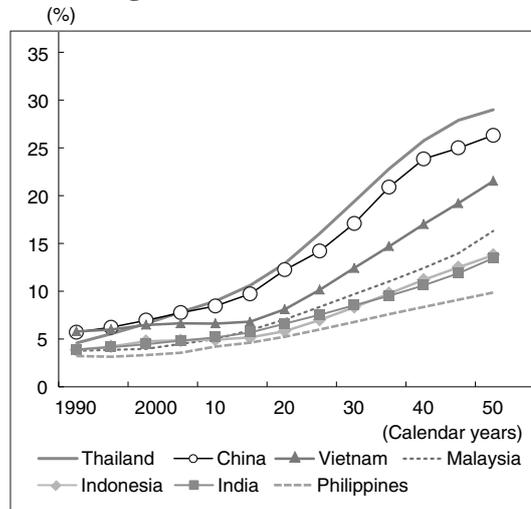
Source: United Nations

Fig. 3 Per Capita Nominal GDP and Total Fertility Rate (2010-2015 Average)



Source: United Nations, IMF

Fig. 4 Percentage of Populations of Asian Emerging Countries Aged 65 and Older



Source: United Nations

duction of up to 60,000 baht was introduced to assist with medical expenses during pregnancies, but tax incentives alone are unlikely to be sufficiently effective. Japan’s response to its falling birthrate has included efforts to raise male awareness of the need to participate in housework and childcare and develop a business culture that encourages people to balance work and home life. Thailand will need to make similar efforts.

The continuing decline in Thailand’s birthrate has been accompanied by a rise in life expectancies, thanks to advances in medical technology and improved access to medical care. Average life expectancies have risen from 58 years for men and 63 years for women in the early 1970s to 71 years and 78 years respectively today. This is a rapid improvement even when compared with other emerging Asian economies. Another factor that has helped to lift average life expectancies in Thailand is a major improvement in access to healthcare services for low-income people following the introduction in 2002 of the “30-Baht Healthcare Scheme”, under which people could obtain a wide range of medical treatments by paying just 30 baht for the initial examination. By 2030, Thailand’s average life expectancies are ex-

pected to reach 75 years for men and 82 for women, because of factors that include the increasing availability of advanced medical technologies and growing awareness of health issues. As a result, the percentage of Thailand’s population over the age of 65 is expected to expand from around 10% at present to over 20% in the 2030s. This represents the fastest rate of aging of any major emerging Asian economy (Fig.4).

These demographic changes in Thailand mirror the changes that occurred in Japan between 1985 and 2005. However, while Japan’s nominal per capita GDP in the latter half the 1980s was over \$25,000, the figure for Thailand is slightly less than \$7,000. This means that Thailand is facing the challenge of demographic aging at an extremely early stage.

Measures to combat the decline in Thailand’s birthrate are extremely important, but since it will take decades before any increase in the birthrate begins to influence the demographic structure, Thailand will need to address the issue of demographic aging regardless of the success or failure of measures targeting the birthrate. The Thai government recognizes this and is implementing various measures. However, most of those measures

are still in their preliminary stages.

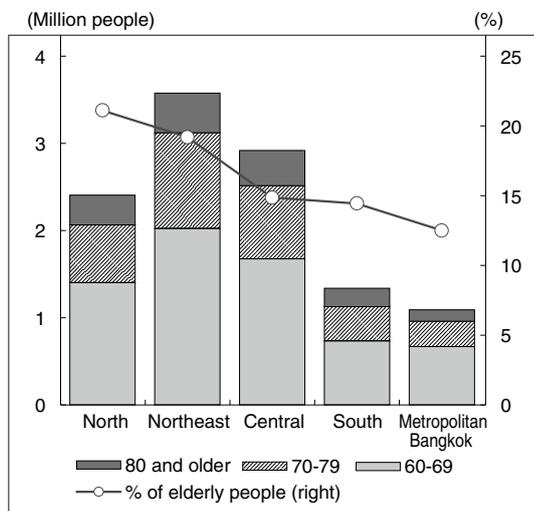
(2) Living Standards for the Aged

We will look next at living standards for the elderly people in Thailand, based on the Survey of the Older Persons in Thailand conducted by the National Statistical Office of Thailand (NSO)⁽³⁾. Most Japanese who visit Thailand for business or sightseeing tend to base their perceptions of Thailand's economic and social situation on their impressions of urban areas, such as Bangkok. However, we need to be aware that there is significant regional disparity in the living standards of the elderly in Thailand. Only around 10% of elderly Thais have their homes in the Bangkok Metropolitan Region, and the majority live in northeastern, southern, and northern regions of Thailand. For this reason, we should not base our perceptions of demographic aging in Thailand solely on the situation in Bangkok. Because young workers from low-income regions are flowing into the Bangkok Metropolitan Region, elderly people make up only about 10% of the total population in Bangkok. In

contrast, the ratio in northern Thailand has already exceeded 20% (Fig.5). In terms of occupations, retailing and wholesaling account for a high percentage of jobs in the Bangkok Metropolitan Region, while in northeast and northern Thailand the majority of people are employed in agriculture, forestry and fisheries (Fig.6). Moreover, because of high self-employment ratios in the agriculture, forestry and fisheries sector, and in the retail and wholesale sector, a national average of almost 40% of elderly people in Thailand are employed.

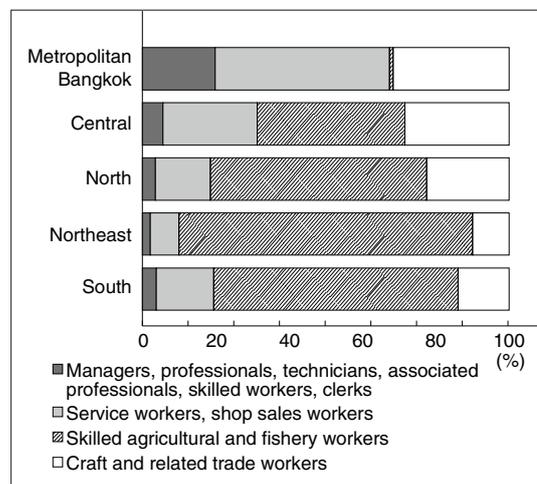
There are two major differences in the situations surrounding elderly people in Thailand and Japan. First, elderly Thais have limited assets. In Japan, the bulk of financial assets are owned by seniors, but in Thailand, over 80% of elderly households have less than one million baht (Fig.7). As a result, these households rely on other sources of money, such as remittances from their children or government benefits, to meet their living expenses. There is no fixed asset tax on owner-occupied land and houses, and because a high percentage of elderly people are employed in agriculture, forestry, and fisheries industries, they have a high level of food self-sufficiency. In addition, Thailand has a mild climate. For these reasons, elderly

Fig. 5 Numbers and Percentages of Aged People by Region (2017)



Source: National Statistical Office

Fig. 6 Job Categories of Aged People by Region (2017)



Source: National Statistical Office

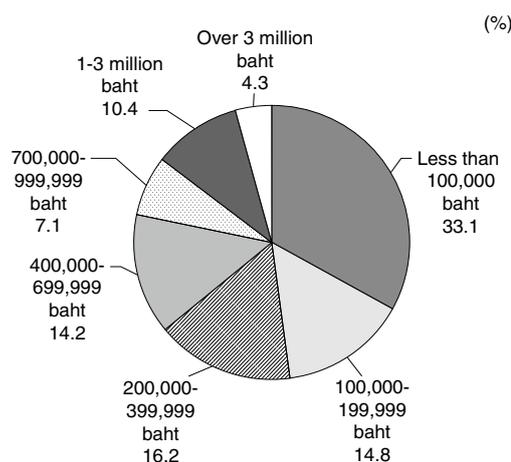
people can easily meet their basic requirements in terms of food, clothing and shelter. However, aged households that can afford to spend money in other areas are primarily concentrated in the Bangkok Metropolitan Region or central Thailand.

Second, Thailand's social security system is underdeveloped. A generous healthcare and pension scheme (Table 1) has been established for civil servants and employees of state-owned enterprises, who make up approximately 10% of the workforce, in part because their income levels are lower than in the private business sector. Medical services under this scheme are available not only to public employees but also to their dependents, and coverage continues even after retirement. Most medical services are available free of charge, with the exception of hospitalization expenses at private hospitals.

Employees in private businesses, who make up around 30% of Thailand's work force, receive

similar coverage under Thailand's Social Security Scheme (SSS). However, the cover provided is limited compared with that available to civil ser-

Fig. 7 Assets of Elderly People (60 and Older, 2017)



Source: National Statistical Office

Table 1 Main Social Insurance Systems in Thailand

	Government/SOE employees	Private company employees	Self-employed, etc.
Medical	<p>Civil Servant Medical Benefit Scheme *Coverage continues after retirement. *Also available to family members.</p> <p>Out-of-pocket costs, benefits: Free access to healthcare services, except for private hospital admissions, etc.</p>	<p>Social Security Scheme *Insuree only</p> <p>Out-of-pocket costs, benefits: Free healthcare services up to a certain amount at registered medical institutions Premiums: 10% of the employee's salary (maximum of 15,000 baht), with half each paid by the employee and employer, additional contribution of 2.75% from the government</p>	<p>Universal Coverage Scheme</p> <p>Out-of-pocket costs, benefits: Low-cost or free access to healthcare at designated hospitals (mostly national hospitals)</p>
Pension	<p>Government Pension Fund Age for start of payments: 60 Premiums: Government contribution equivalent to 3% of salary, allocation of specific amounts to government reserve Benefit level: Sum of subscribed amount + investment interest</p>	<p>Social Security Scheme Age for start of payments: 55 Benefit level: Calculated based on average monthly income in the five years before retirement</p> <p>Provident Fund Premiums: 2-15% of the employee's salary, with half each paid by the employee and employer Benefit level: Based on investment performance at the time of retirement</p>	<p>Monthly Subsistence Allowance Benefits: Paid to people aged over 60, 600-1,000 per month depending on age</p> <p>National Savings Fund Age for start of payments: 60 Accumulated funds: 50-13,200 baht/year, additional subscription of 50-100% by the government according to the age of the insuree Benefit level: Sum of subscribed amount and investment interest</p>
Nursing care	There is no public senior care insurance system.		

Notes1: In order to grasp overall features, the simplified structure is displayed.

Notes2: ■ : Taxpayer-funded ■ : Funded mainly by insurance premiums.

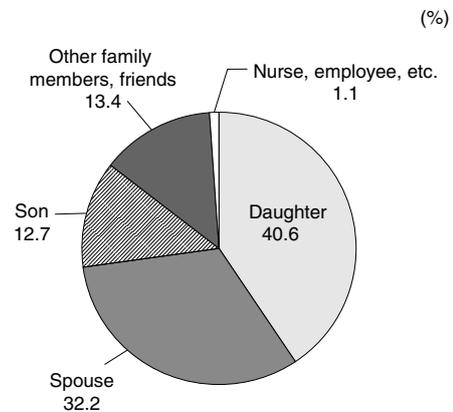
Source: Compiled by JRI using Social Security Office, *Social Security System in Thailand*, Ministry of Health, Labour and Welfare, *Kaigai Josei Hokoku* [Report on Overseas Situation], and other sources

vants. For example, healthcare services are only available at registered medical institutions, and there are upper limits for the amount of free medical care provided. Furthermore, medical services are available only to the employees themselves. Pension payouts started in 2014. When the pension system was first introduced, cover was only mandatory for worksites with 20 or more employees, and it was not until 2002 that all businesses were required to join. As a result, a significant number of workers have reached retirement age without being enrolled in the scheme for the required period of 15 years⁽⁴⁾. Those retirees who do not qualify for the scheme receive only a lump sum consisting of their past contributions plus interest. Saving for retirement through provident funds has been voluntary until now, but the government plans to phase in mandatory participation.

Self-employed people, who make up the largest share of Thailand's working population, also have access to taxpayer-funded healthcare services and pensions, but the content of these schemes is limited. Healthcare is accessible free or at a minimal cost under the 30-baht scheme, but services are limited to medical consultations at designated national hospitals. Moreover, the scheme is designed primarily for the treatment of acute conditions, and long waiting periods have become the norm. The National Savings Fund pension scheme was established relatively recently in 2015 and currently only has only about 600,000 members. Senior citizens who are not covered by the pension system receive the Old Age Allowance of between 600 to 1,000 baht every month. Given that the current minimum wage in Thailand is 308-330 baht per day, this is clearly a small amount of money⁽⁵⁾. As a result, the biggest source of income for senior citizens who are not working is transfers of money from their children.

Thailand has no public long-term senior care insurance scheme, in part because of a deep-rooted tradition of family-based care for aged relatives. Care is provided primarily by daughters of care recipients in 40% of cases, while 30% are cared for by their spouses. Only a limited number receive fee-based care in specialized facilities

Fig. 8 Main Care Providers for Persons Requiring Care (2017)



Source: National Statistical Office

(Fig.8). Of course, given Thailand's projected rate of aging in the future, the traditional senior care pattern will become unsustainable, and the only option will be to increase the percentage of long-term care recipients in specialized facilities.

2. Responding to the Risk of Fiscal Deterioration Due to Demographic Aging

In this section, we will examine the various problems that Thailand will face as demographic aging continues. We will focus on the risks of fiscal deterioration and labor shortages, which are likely to have a particularly significant impact. We will also examine the ways in which the government and businesses are working to counteract these issues.

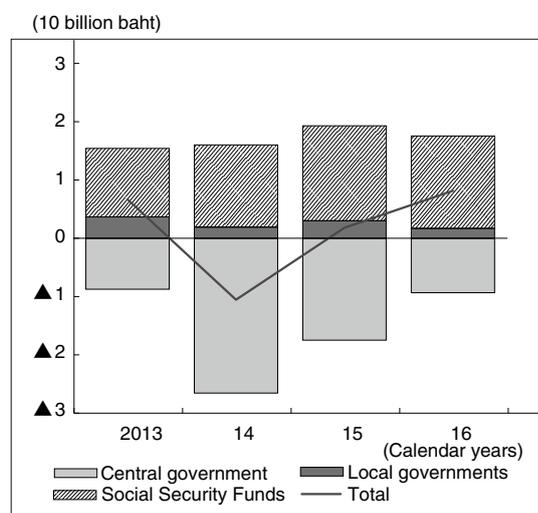
(1) Current Fiscal Situation and Future Outlook

Looking first at Thailand's general government accounts, we find that the fiscal situation has remained generally sound over the past few years. For example, the debt balance is around 40% of nominal GDP, and while the fiscal balance shifted from a surplus in 2015-16 to a deficit in 2017, the deficit amounts to just 1% of GDP. In 2018, growth was higher than initially predicted, resulting in a continuing upward trend in tax revenues. The Ministry of Finance responded to this situation by announcing a policy of maintaining the current level of fiscal discipline under a framework that includes (1) a public debt ceiling of 60% of nominal GDP, (2) a foreign currency debt ceiling of 10% of total public debt and 5% of exports of goods and services, and (3) a current year fiscal deficit ceiling of 35% of current revenues (Fiscal Policy Office [2018]). In June 2018, the IMF released the report on its 2018 Article IV Consultation with Thailand. According to this report, the IMF expects Thailand's ratio of national debt to GDP to remain stable at its current level

through to 2023⁽⁶⁾. It should be noted that the IMF estimates are based on relationships among various macroeconomic variables, such as the real GDP growth rate, the inflation rate, and interest rates, and that the IMF has not released breakdowns of fiscal balance forecasts for each institutional sector.

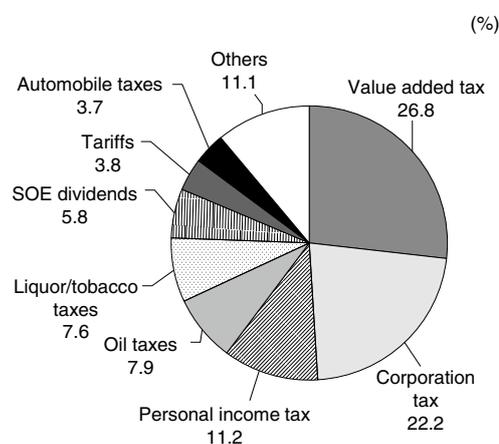
While Thailand can be expected to preserve its fiscal stability in the foreseeable future, the task of maintaining long-term fiscal soundness may not be easy for the following reasons. First, if we examine each institutional sector's balance in the general government accounts, we find that the surplus in the social security funds has played a major role in keeping the overall deficit under control (Fig.9). However, the balance for this sector is expected to worsen as demographic aging progresses. Furthermore, there will be a continuing upward trend in expenditure on Old Age Allowance payouts and healthcare, which are funded from tax revenues, while personal income tax revenues, which make up about 10% of total tax revenues, will come under pressure from workforce shrinkage (Fig.10). The Thai government is responding to this situation by working to improve financial stability through a variety of initiatives.

Fig. 9 Government Expenditure by Institutional Sector



Source: IMF, Ministry of Finance

Fig. 10 Government Revenues (2017)



Source: Ministry of Finance

(2) Measures to increase tax revenues

Interest in Thailand's efforts to improve its medium- to long-term fiscal stability will focus first of all on tax reform measures. The Thai government is rolling out a variety of initiatives to achieve goals that include the expansion of tax revenues, the reduction of inequality, and the improvement of health (Table 2). The basic policy aims behind these reforms, as explained by then Permanent Secretary of Finance Somchai Sujjapongse during an interview with the Bangkok Post newspaper in March 2018, are the expansion of the tax base relating to consumption and assets,

and the improvement of tax collection efficiency⁽⁷⁾.

Asset taxes in Thailand include an inheritance tax of up to 10% on estates worth more than 100 million baht, and a gift tax of up to 5% when assets worth over 20 million baht are gifted. These taxes were the focus of intense debate when they were introduced in February 2016. The introduction of the land and building tax was postponed to allow further deliberations in Thailand's parliament, the National Legislative Assembly (NLA), but the measures were finally passed in November 2018 and will come into force in January 2020. Land will be classified as agricultural, residential, commercial or undeveloped and will be taxed

Table 2 Recent Tax Reforms Resulting in Increased Tax Revenues

Item	Details	Anticipated benefits other than revenue growth	Introduction
Introduction of inheritance tax	10% tax on inherited assets worth over 100 million baht (5% if the heir is a direct lineal ascendant or descendant)	Reduction of inequality	Introduced in February 2016
Introduction of gift tax	5% tax on assets worth 20 million baht or more	Reduction of inequality	Introduced in February 2016
Introduction of land and building tax	Taxation at 0.01-0.7% of assessed value of land according to four categories (agricultural use, residential use, commercial use undeveloped)	Reduction of inequality, effective utilization of real estate	To be introduced in January 2020
Introduction of sugar tax	Taxation at 0.1-1.0 baht per 100ml, depending on sugar content, rate to be raised in steps	Reduction of healthcare costs through health improvement	Introduced in September 2017 (with a grace period of 2 years, taxation to start in September 2019)
Taxation of virtual currency/digital currency transactions	15% taxation of profits on sales	Control of speculation	Introduced in May 2018
Increase in tax on dividends from bond investment funds	Withholding tax on bond investment trust dividends raised from 10% to 15%	Elimination of investment distortions by setting the tax rate at the same level as for dividends from direct bond investments	Cabinet decision in August 2018
Taxation of content streaming via the Internet	Taxation of YouTube and other content providers engaged in streaming movies, etc., via the Internet (details under consideration)	Funding for consumer protection and the healthy development of the media industry	Under consideration
Increase in cigarette tax	Tax rate on cigarettes priced at 60 baht or less per pack raised from 20% to 40%	Reduction of healthcare costs through health improvement	To be implemented in October 2019 (Media reports indicate that the government has unofficially decided to postpone the measure until 2021)
Commodity tax on motorcycles	Tax of 150-200 baht, depending on CO ₂ emissions	Environmental protection	Under consideration
Tightening of single-ledger policy	Requirement for financial institutions to base credit screening only on financial statements submitted to the Revenue Department	Prevention of tax evasion	Regulations to be tightened in January 2019
Revision of consolidated taxation system	Changes to method for company tax payments by parent companies and overseas subsidiaries	Improvement of tax collection efficiency, prevention of tax evasion	Under consideration

Source: Compiled by JRI

at rates ranging 0.01% to 0.7%, depending on its classification and value. These asset taxation measures were in part intended to correct income inequality, which has been one of the causes of political conflicts since the mid-2000s. Persistent opposition from the wealthy is reflected in the design of these tax systems, including substantial deductions, and low tax rates. However, there is likely to be increasing upward pressure on the tax rates because of the growing need to fund measures to address demographic aging.

Thailand has also started to levy taxes on the rapidly expanding digital economy. For example, in May 2018 the government responded to the rapid expansion of trading in digital assets, including virtual currencies, in recent years by introducing the Digital Asset Law. This law imposes a 15% tax on profits from sales with the aim of curbing speculation. In December 2018, the NLA passed amendments to Thailand's tax laws concerning the taxation of e-commerce (EC) businesses. The changes will come into force in January 2020. The Revenue Department plans to link its systems to those of financial institutions in order to identify accounts that exceed certain criteria for the frequency and amounts of deposits and remittances, as the basis for audits to determine whether there are any tax obligations. The government is also considering the taxation of operators streaming content through YouTube and other sites, with the aim of protecting consumers on the Internet.

Thailand is also working to develop a tax system that not only boosts revenue, but also reduces healthcare spending by encouraging healthier lifestyles. For example, in September 2017 a sugar tax was introduced at the rate of 0.1 to 1.0 baht per 100ml for soft drinks, based on their sugar content. Currently sugar is the only food ingredient that is subject to taxation, but it is possible that the scope of these taxes will expand in the future. In fact, the Ministry of Public Health appears to be becoming more focused on health and in July 2018 it announced a policy under which manufacture, importation, and sale of food containing trans fatty acids, which increase the risk of cardiovascular disease, will be prohibited from January 2019 onwards. The Ministry also announced

a policy aimed at reducing annual per capita salt intake by 30% from its present level. It has indicated that for the time being these measures will be implemented through methods that include requests for cooperation from food manufacturers, and the certification of health foods. However, it is possible that in the future the Ministry will seek to impose taxes on foods containing fat and salt, which can increase the risk of cancer, strokes, and circulatory system diseases, in order to encourage the consumption of healthier foods. Despite denials from the Ministry of Finance, rumors have started to circulate about the introduction of a "salt tax". In addition, while tobacco products are already taxed, the government has announced plans to increase the tax rate for cigarettes priced under 60 baht per pack from 20% to 40%.

Other measures under consideration include the imposition of a purchase tax on motorcycles according to their CO₂ emission levels as a way of protecting the environment, as well as changes to the consolidated tax payment system in order to make the tax collection process more efficient and prevent tax evasion. In relation to measures to prevent tax evasion, the Ministry of Finance has announced that the single ledger policy will be strictly enforced from 2019 onwards. In the past SMEs in Thailand have commonly maintained one set of ledgers for tax payments and another for negotiating loans with banks, but the government has directed that from January 2019 onwards commercial banks must base credit checks on the financial statements that have been submitted to the Revenue Department. Another factor that is expected to contribute to the improvement of tax collection efficiency is the shrinkage of the informal sector, in part because of the efforts of the Bangkok Metropolitan Government to eliminate street traders, mainly to enhance the city's appearance and prevent fires.

Amid these efforts to expand tax revenues from various sectors, there have also been calls for an increase in the rate of value-added tax (VAT), which is the biggest revenue category. For example, the IMF has recommended that once there are clear signs of an economic recovery trend, Thailand's VAT rate should be raised in stages from

7% to 10% (IMF [2016]). Assistant Professor Thira Woratanarat of the Faculty of Medicine at Chulalongkorn University has suggested that raising Thailand's VAT rate by 1% would provide a reliable source of revenues to cover projected future increases in healthcare expenditure⁽⁸⁾. Immediately following the 2014 coup, the military government expressed support for the idea of raising the VAT rate to 10%, in part because Thailand's rate is lower than rates in neighboring countries and there is room for a moderate increase (Fig.11). However, with the approach of a general election in preparation for a return to civilian in the first half of 2019, the government has instead decided to leave the VAT rate at its present level. The VAT rate was originally set at 10% under Thai tax law, but this was lowered to 7% following the onset of the Asian financial crisis. The reduction has been repeatedly extended by decree since then. At a cabinet meeting in July 2018, it was decided to extend the reduction until the end of September 2019.

The future direction of the VAT rate will depend on the stability of the power base built by the new

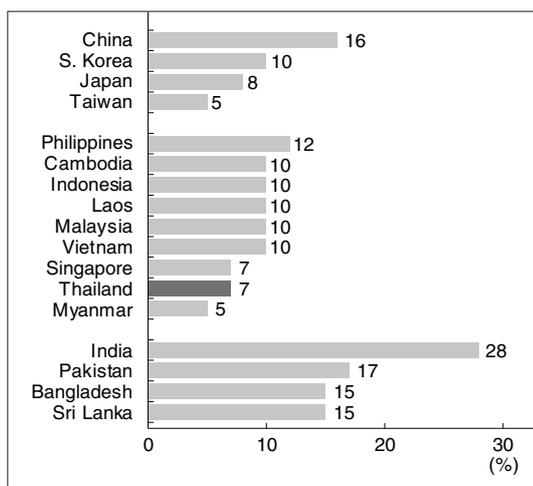
Thai government that will be inaugurated following the general election scheduled to take place in the first half of 2019. However, given that the military government did not raise the VAT rate despite the stability of its power base suggests that it may not be easy to increase it.

(3) Improving the Management Efficiency of State-Owned Enterprises

In addition to its tax reform measures, the Thai government has also initiated measures to improve the management efficiency of state-owned enterprises with the aim of increasing contributions and dividends. Thailand has 55 state-owned enterprises, including PTT Public Company Limited, which is the country's leading energy company, as well as Thai Airways International Public Company Limited, Airports of Thailand Public Company Limited, and Krung Thai Bank Public Company Limited, which is one of Thailand's five major commercial banks, as well as the Bangkok Mass Transit Authority, which is responsible for the operation of elevated railways and subway lines in Bangkok, and the Mass Rapid Transit Authority of Thailand (Table 3). These state-owned enterprises all operate under the control of the State Enterprise Policy Office (SEPO), and have total assets that exceed 14 trillion baht (Fig.12). Their payments to the government make up 6% of total government revenues. While Thailand's state-owned enterprises remain in the black overall, their average return on assets (ROA) is around 2%. This compares unfavorably with the companies listed on the Stock Exchange of Thailand, which have an average ROA of over 5%. State-owned enterprises give priority to their public role and intentionally keep the prices of their services low. Although they do not need to achieve the same level of profitability as private companies, which aim to maximize their profits, there is still much room for improvement in their management efficiency.

As part of its efforts to improve the management efficiency of state-owned enterprises and

Fig. 11 Value Added Taxes in Asian Countries



Notes: China's has four value added tax rates from 0-16%.
 India has four standard GST rates from 5-28%.
 Malaysia and Pakistan uses the basic tax rate for sales of goods. Myanmar uses the commercial tax rate as its basic rate.

Source: Compiled by JRI using data from finance ministries, the JETRO website, and other sources

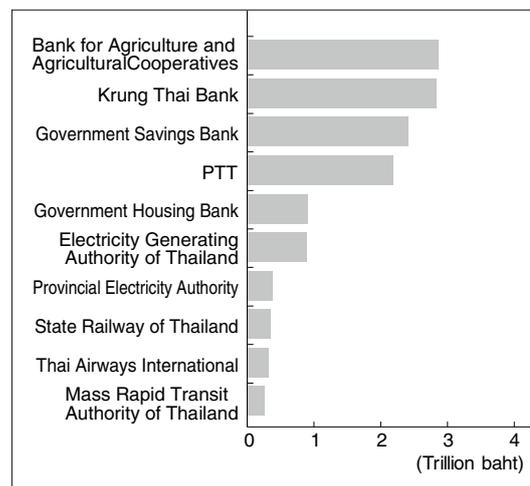
Table 3 List of State-owned Enterprises

Electric power (4 companies)	Metropolitan Electricity Authority, Electricity Generating Authority of Thailand, Provincial Electricity Authority, PTT
Logistics (10 companies)	Expressway & Rapid Transit Authority of Thailand, Port Authority of Thailand, Mass Rapid Transit Authority of Thailand, National High Speed Rail Corporation, Thai Airways International Public Co., Ltd., The Transport Co., Ltd., AEROTHAI, Civil Aviation Training Center, Bangkok Mass Transit Authority, Thai Maritime Navigation
Social science & technology (5 companies)	Sport Authority of Thailand, Thailand Institute of Scientific and Technological Research, National Science Museum, Tourism Authority of Thailand, The Government Pharmaceutical Organization
Public services (6 companies)	National Housing Authority, Metropolitan Waterworks Authority, Provincial Waterworks Authority, Wastewater Management Authority, Dhanarak Asset Development Company Limited, Industrial Estate Authority of Thailand
Telecoms (4 companies)	CAT Telecom Public Company Limited, TOT Public Company Limited (former Telephone Organization of Thailand), Thailand Post Company Limited, MCOT Public Company Limited
Agriculture (5 companies)	Marketing Organization for Farmers, Dairy Farming Promotion Organization of Thailand, Rubber Estate Organization, Fish Marketing Organization, Public Warehouse Organization
Commerce (8 companies)	The Government Lottery Office, Bangkok Dock Company Limited, The Playing Cards Factory (Excise Department), Thailand Tobacco Monopoly (Ministry of Finance), Police Printing Press (Royal Thai Police), The Liquor Distillery Organization (Excise Department), The Market Organization, Thai Hotel and Tourism Union Company Limited
Natural resources (3 companies)	The Forest Industry Organization of Thailand, The Botanical Garden Organization, Zoo Thailand Organization
Finance (10 companies)	Krung Thai Bank Public Company Limited, Small And Medium Enterprise Development Bank of Thailand, Bank for Agriculture and Agricultural Cooperatives, Export-Import Bank of Thailand, Government Savings Bank, Government Housing Bank, Islamic Bank of Thailand, Secondary Mortgage Corporation, Small Business Credit Guarantee Corporation, Office of the Government Pawnshop

Source: Compiled by JRI using State Enterprise Policy Office data

strengthen their governance, the Thai government has adopted a plan to establish a holding company along the lines of Temasek, an investment company owned by the Singaporean government. Specific moves toward the establishment of a holding company began after the cabinet approved a draft bill relating to the plan in August 2016. The plan was included in a bill approved by the cabinet in August 2017 with the aim of strengthening supervision of state-owned enterprises. This evolved into a plan to establish a holding company with jurisdiction over 11 companies, including Thai Airways International, PTT, and TOT, ahead of the general election that will result in a return to civilian rule. However, at the end of October 2018 SEPO Director General Prapas Kong-led indicated that he thought the establishment of a holding company should be postponed because of prolonged debate over the draft bill for the related law in the NLA. Efforts to establish a holding company are expected to continue, but it is uncertain whether changes to ownership structures would result in the anticipated improvement in

Fig. 12 Total Assets of Major State-owned Enterprises (2015)



Source: State Enterprise Policy Office

governance. There needs to be greater clarity in the way directors are appointed to state-owned enterprises from the government, including the Ministry of Finance, which is the supervising agency for state-owned enterprises. Information should

also be disclosed to allow regular verification of its accuracy. In general, however, such reforms cannot easily be implemented because they would result in conflicts with the government's vested interests.

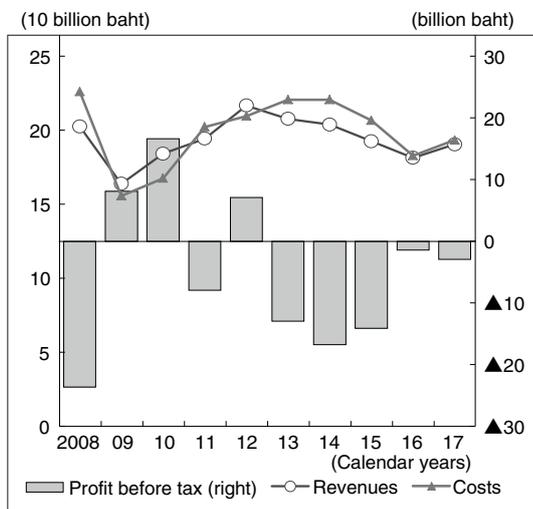
In fact, despite government directives calling for operational improvements at Thai Airways International, the State Railway of Thailand, TOT Public Company Limited, Bangkok Mass Transit Authority, CAT Telecom, and the Small and Medium Enterprise Development Bank of Thailand, which are continually experiencing financial problems, these companies have been slow to rebuild their finances.

Not even Thai Airways International has been able to lift itself out of financial problems, despite strong pressure to improve its management because of its status as a listed company with around 30% of its shares held by private investors⁽⁹⁾. While the company's financial position has improved significantly thanks to lower fuel costs resulting from the oil price decline since 2015, it is still not achieving a positive bottom line. Its stock price is languishing, and no dividends are being paid (Fig.13). In an effort to reduce its operating expenses, the company has established a highly efficient maintenance facility equipped with the

latest digital technology and a training facility for maintenance engineers near U-Tapao International Airport. It also announced the goal of eliminating all of its accumulated losses by 2022. However, these measures alone will not be sufficient, and the company will need to take more drastic measures, such as the closure of unprofitable routes, which would result in job cuts. It is uncertain how far these reforms will progress under a management structure that lacks commitment to profitability due to the presence of many senior executives appointed to cushy post-retirement jobs after government and military careers. During an interview in April 2016, former CEO Charamporn Jotikasthira commented that there was a lack of commitment to management reforms in the company⁽¹⁰⁾. Full privatization would be one way to accelerate the management reforms, but this is unlikely to be achieved in the short-term due to opposition not only from vested interests within the Ministry of Finance, but also from labor unions.

Like Thai Airways International, the State Railway of Thailand has also become the focus of concerns about its financial problems. It has announced a policy designed to improve its financial position through the leasing of unused land that it owns, but these efforts are still at the development stage. If financial restructuring is delayed, the government will face an increasing fiscal burden because of the need to cover the company's losses. There is also a risk that high-speed rail projects would be negatively impacted. In fact, there have already been calls within Thailand for the reconsideration of plans to introduce expensive Japanese *Shinkansen* technology on the Bangkok-Chiang Mai high-speed rail link because of fears that daily passenger numbers could be lower than initially projected⁽¹¹⁾.

Fig. 13 Before-tax Earnings of Thai Airways



Source: Thai Airways Annual Reports

(4) Efforts to Promote the PPP Approach

In part because of these situations, the Thai government has announced a policy of using the public-private partnership (PPP) approach in its

infrastructure development projects, with the aim of reducing expenditure and improving the management efficiency of state-owned enterprises. One example of this is the EEC infrastructure development plan approved by the EEC Policy Committee in February 2018, which has a total budget of approximately 1 trillion baht. The EEC Policy Committee has indicated that the PPP method will be used for work equivalent to around 60% of this project expenditure. The PPP approach will be used for six projects that have a particularly high priority: (1) the expansion of U-Tapao International Airport and the development of surrounding areas in order to attract aviation-related industries, (2) the development of a high-speed rail system linking Suvarnabhumi, Don Mueang, and U-Tapao airports, (3) Phase III of the Map Ta Phut Industrial Port expansion project, (4) Phase III of the Laem Chabang port expansion project, (5) the development of maintenance, repair and overhaul (MRO) center facilities at U-Tapao International Airport, and (6) the establishment of the Smart Park Industrial Estate for companies engaged in digital technology-related activities (Fig.14). In addition, approval is currently being sought for the use of the PPP approach for improvements to subway lines in the Bangkok Metropolitan Region, including the east-west section of the MRT

Orange Line, and the extension of the Purple Line.

Using the extensive powers granted to him under Article 44 of the interim constitution, Prime minister Prayut Chan-o-cha has drastically simplified the approval process with the aim of speeding up PPP projects. Work is in progress on changes to PPP-related laws with the aim of further speeding up the process. According to SEPO Director General Prapas Kong-led, the time required to complete the PPP approval process will be reduced from the current average of 44 months to around six months. However, NGOs and others have expressed concern that the excessive simplification of infrastructure development procedures could lead to major environmental problems later if the importance of environmental impact assessments is underestimated.

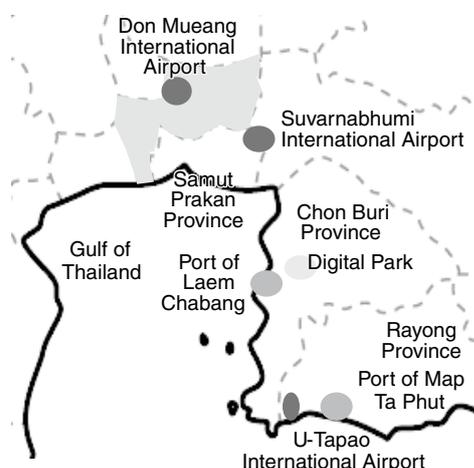
(5) Social Security System Reforms

We will conclude this analysis by examining trends in social security system reforms. In 2017, the Thai government implemented a legal amendment to set the retirement age at 60. The aim of this move was to improve the soundness of the pension scheme by raising the starting age

Fig. 14 Major PPP Projects, Project Expenditure

Project	Budget (billion baht)
High-speed railroad linking three airports	224.5
U-Tapao airport expansion, Eastern Airport City	200.0
Laem Chabang Phase 3	155.8
Port of Map Ta Phut Phase 3	10.2
Bangkok: Orange Line extension	238.0
Bangkok: Purple Line extension	128.0

Source: Compiled by JRI using data from Eastern Economic Corridor Office of Thailand, interviews, media reports



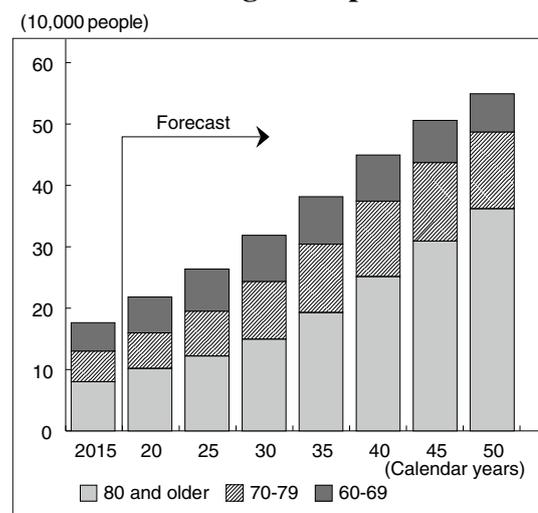
for the payment of benefits to private sector employees under the Social Security Scheme (SSS) from 55 to 60. There are also plans to raise the current retirement age for civil servants from 60 to 63. The government is further considering the introduction of additional tax incentives relating to the employment of older people in response to increases in employers' labor costs as a result of the higher retirement age. In addition to delaying the start of pension benefit payments, the increase in the retirement age will also help to mitigate labor shortages, as discussed later in this article. Interestingly, when the Social Security Office (SSO) carried out a survey in the second half of 2017 regarding the possibility of raising the starting age for pension benefits, approximately 70% of respondents were in favor. This is because many households that are only eligible to receive a lump-sum payment because they have not belonged to the scheme long enough to qualify for pension benefits expect the higher pension starting age to result in increased benefits for them. As far as the 30-baht healthcare scheme is concerned, Prime Minister Chan-o-cha has indicated that the government will maintain the current system, but there is speculation that it will be abolished through an amendment to laws. There is little likelihood that the system will be abolished abruptly because of the immense impact that this would have on Thai society. Nonetheless, it is possible that in future the amount payable by patients will be increased in order to improve fiscal stability, or that the scope of coverage under the scheme will be reduced.

Compared with its moves targeting the tax and pension systems, the government has been very slow to take action in the area of senior care. As discussed earlier in this article, senior care in Thailand has traditionally been provided at home by family members, with the result that public senior care systems are underdeveloped. However, there is a risk that traditional care systems will break down due to the rapid pace of birthrate decline and demographic aging. As of 2017, there were approximately 180,000 bedridden elderly people in Thailand. This number is expected to exceed 300,000 by the 2030s and 500,000 by the

2040s, in step with the growth in the number of people aged 80 or older, who have a high incidence of illness (Fig.15). This means that there is a risk that senior care could become a serious social issue in Thailand. Participants in a seminar held by the National Human Rights Commission of Thailand (NHRC) in November 2018 expressed strong concern regarding several serious social problems in this area, including abandonment of the obligation to provide senior care, as well as mental and physical abuse of elderly people⁽¹²⁾.

In response to these issues, the government is now working to improve care facilities. For example, in April 2017, the Ministry of Finance announced a policy calling for construction of a total of 2,000 senior residential facilities at five locations across the country. Major private hospitals are also actively building related facilities. For example, in May 2017 the Phatari-Thonburi Hospital, which is located in the Bangkok Metropolitan Region, announced plans for the development of one of the Bangkok Metropolitan Region's biggest senior residential housing complexes, "Jin Wellbeing County", in Pathum Thani Province. In

Fig. 15 Forecast of Number of Bed-ridden Aged People



Notes: The figures are estimates based on the percentages of bed-ridden aged people in the 2017 survey of the aged, and the United Nations age-based population forecasts (Median Estimate).
Source: Compiled by JRI using data from the National Statistical Office and the United Nations

September 2018 it further announced that it would be developing the Thonburi Hospital Health Village Pracha Uthit in Bangkok. As the influx of companies into the senior care market accelerates (Table 4), the government is meanwhile developing safety and service standards for care facilities.

However, most of the facilities currently under construction are intended for use by the wealthy or by elderly foreigners in Thailand for prolonged periods for medical tourism. As in the past, the only primary care providers for low- and middle-income people are volunteers assigned by local governments, and family members (Fig.16).

While the public sector has been slow to respond, the private sector has started to offer solutions to these social problems. For example, Health at Home, which was established in 2015, uses smartphones to provide visiting care services more efficiently and at a lower cost than tradition-

al systems. In collaboration with Muang Thai Life Assurance, an affiliate of the Kasikorn Bank, it is working to reduce the burden of healthcare costs for people who require nursing care. In September 2017 the Government Savings Bank introduced a reverse mortgage system, which allows the elderly to borrow money to cover their living expenses by using land and houses as collateral. However, the cost of Health at Home's service are still too high for low-income people⁽¹³⁾, while use of the reverse mortgage scheme is likely to be limited by a number of issues, including the poor financial literacy of elderly people, the risk that people will outlive their assets, and the risk of fluctuations in interest rates and property prices.

For these reasons, the government will probably need to introduce a policy of expanding public support systems in the senior care area, just as it did for healthcare with the introduction of the 30

Table 4 Recent Trends in Participation in the Operation of Housing and Care Facilities, etc., for the Aged

Date reported/ announced	Details
January 2016	Riei, a Japanese aged care company, opens Riei Nursing Home Ladprao, a fee-based rest home for wealthy individuals in Bangkok.
February 2017	The Tokyo Metropolitan Small and Medium Enterprise Support Center hosts a business matching meeting between Japanese and Thai companies in such fields as senior care services, home healthcare equipment, products for the aged.
February 2017	The Sanga Group, a Japanese care provider, establishes MOS Sanga to provide consultation and training in the operation and management of healthcare and senior care facilities.
April 2017	The Ministry of Finance announces a policy calling for the construction of housing for elderly people over 2,000 unit in five locations (Samut Prakan, Chiang Mai, Chonburi, Nakhon Nayok, Prachuap Khiri Khan).
May 2017	The Thonburi Healthcare Group, a private hospital chain, opens Jin Wellbeing County, one of the biggest residential complexes for the aged in metropolitan Bangkok.
June 2017	The Thai subsidiary of Wellsys Partners, a Japanese care provider, opens WECC Garden Latphrao, a care facility for elderly Japanese living in Thailand.
July 2017	A joint venture established by four real estate firms (Nye Estate, Chewathai Public, LPN Development, CH Karnchang) announces plans to develop housing for the aged in Phuket.
July 2017	Yanhee Hospital, a private hospital specializing mainly in cosmetic procedures, opens the Yanhee Elderly Center.
August 2017	The real estate developer Sunplay Asia commences sales of Stage 3 of Sunplay Bang Sarey, a luxury resort for the aged in eastern Thailand.
September 2017	MUFG Bank invites representatives of approximately 20 Thai companies with an interest in businesses targeting the aged market to Japan to tour facilities relating to care facility robots and barrier-free housing.
October 2017	Magnolia Quality Development Corporation Limited (MQDC), a real estate in the CP Group (a major conglomerate) establishes Aspen Corporation to provide care services for the aged.
February 2018	The hotel operator Principal announces that it will develop serviced apartments for the aged in eastern Bangkok.
June 2018	Supalai, a major real estate developer, announces that it will develop thousand eSupalai Elderly Home & Wellness Center in Saraburi Province in central Thailand.
September 2018	Thonburi Healthcare announces that it will develop Thonburi Hospital Health Village Pracha Uthit in Bangkok.

Source: Compiled by JRI using data from media reports and corporate websites

Fig. 16 Main Care Providers by Income Level and Level of Care Needed

		Level of care needed		
		Low	Medium	High
Income level	High income (disposable income over \$35K)	Housing for the aged With live-in or live-out maid housekeeper	Aged care homes With live-in/live-out nurse and doctor visits	Convalescence hospitals (private)
	Medium income (disposable income over \$5K)	Daycare (social service centers for the aged)	Daycare (social service centers for the aged)	Convalescence hospitals (public)
	Low income (disposable income less than \$5K)			

Notes: Edited from a map of existing players in the Thai care market in a report on the international expansion of care services.
Source: Compiled by JRI

baht healthcare system in 2002. Worawan Chandoevmit of the Thailand Development Research Institute (TDRI), which advises the government on social security policies, recommends the establishment of a fund to which people would contribute 500 baht per year between the ages of 40 and 65 in order to support the improvement of public senior care systems. Debate over government-funded senior care is expected to intensify going forward. Interestingly, in July 2017 Thailand’s Ministry of Public Health signed a memorandum with Japan’s Ministry of Health, Labour and Welfare concerning technical cooperation on policy responses and healthcare for an aging society.

By sharing its experience after the introduction of the Public Long-Term Care Insurance System in 2000, Japan may be able to offer some useful hints to Thailand as it starts to draft policies.

3. Responding to Labor Shortages

We will look next at the Thailand’s response to labor shortages, which are expected to become

increasingly serious in step with demographic aging. We will begin by considering which sectors are likely to be seriously impacted by labor shortages. This will be followed by an analysis of the policies adopted by the government and employers in response to this problem.

(1) Increasingly Serious Labor Shortages

Evidence of the chronically tight supply-demand balance in Thailand’s labor market includes the fact that the unemployment rate has remained low at around 1% since the mid-2000s and is still low in the 2010s, despite slower economic growth. One reason for this has been active business investment in Thailand in anticipation of ASEAN integration. Another factor is increased prosecution of illegal workers from Cambodia, Laos, and Myanmar, who had previously acted as a buffer in the labor market. In June 2017, the new Royal Decree on Managing the Work of Aliens came into force, resulting in increased penalties for illegal workers. Around 30,000 workers left Thailand in the first few weeks after the establishment of this

law, raising expectations of labor shortages in the construction and food service industries, which rely heavily on foreign labor. Another factor that is causing the labor market to tighten is a decline in the number of rural migrant workers seeking work during the agricultural off-season. Like foreign workers, these people formed a buffer in the labor market, but their numbers are dwindling as farmers grow older. It has also become difficult to recruit staff capable of speaking English, Japanese or other languages and people with advanced IT skills due to Thailand's limited pool of these workers.

One industry that will face increasingly grave labor shortages due to demographic aging is the agriculture, forestry, and fisheries sector, which employs over one-third of the working population. While agricultural workers grow ever older, little progress has been made toward the development of a young generation to take their place. There are also likely to be worsening labor shortages in retailing and labor-intensive food manufacturing industries. Labor shortages are also expected to affect the construction sector as infrastructure development moves into high gear. In addition, there are increasing signs of labor shortages in the areas of healthcare and nursing care.

(2) Strategic Directions for Responses to Labor Shortages

Businesses are responding to the prospect of deepening labor shortages by using automation and digital technology to improve productivity.

Companies in capital-intensive manufacturing industries, such as transportation equipment and electronic device manufacturing, have already automated many of their production processes. Manufacturers in other sectors are also working to automate their production operations (Table 5). For example, Thailand's biggest food manufacturer, CP Foods, has fully automated bread production in its state-of-the-art factory, reducing the number of production workers required by almost 70% compared with a conventional factory. Oishi, a

subsidiary of the leading drink manufacturer Thai Beverage, has similarly used automation technology to reduce labor requirements on a newly installed production line at its green tea factory by 90%. The Saha Group, a major manufacturer of consumer goods, is automating production of food and household goods in its factories.

In the past, factory automation has been limited mainly to large corporations with ample financial resources. However, there have also been initiatives toward the automation of the production operations of small and medium enterprises. For example, in May 2018, the Ministry of Industry officially opened The Industry Transformation Center (ITC) to support industrial advancement in the small and medium enterprise sector. One of the core activities of the ITC is the nurturing of system integrators to develop efficient production systems. This initiative relates to the Project for Nurturing New Industries in ASEAN and Japan, which is being implemented by Japan's Ministry of Economy, Trade and Industry. Under contract to the Japan External Trade Organization (JETRO), DENSO Corporation is facilitating improvement in the industrial capabilities of small and medium enterprises by providing training programs in collaboration with local universities and integrators.

In addition to its work with the ITC, Thailand's Ministry of Industry is also collaborating with Japanese companies on measures to accelerate the introduction of automation and digital technology by small and medium enterprises. In cooperation with Toyo Business Engineering and i Smart Technologies, which supplies production line monitoring systems, it is promoting the use of the Internet of things (IoT) to visualize factory operations. It is also developing a financial support structure, including the arrangement of concessional interest rates with leasing companies, to assist small and medium enterprises with the installation of robots.

Efficiency improvement through automation and digitalization is more difficult for labor-intensive production processes, and companies in those areas are instead relocating their production operations to Cambodia, Myanmar, and Vietnam. One example of a labor-intensive industry in which full automation is impractical at present is apparel

Table 5 Production Efficiency Improvement Initiatives in the Manufacturing Sector

Item	Content
Factory automation (food industry)	In 2017, Charoen Pokphand Foods (CPF), a major food manufacturer, opened a fully automated hamburger and bread factory in Chachoengsao Province in eastern Thailand, reducing the number of workers required by about 70% compared with conventional plants.
Factory automation (food industry)	In 2017, Thai Beverage, a major beverage manufacturer, implemented high-level automation on a new line at its green tea factory in Saraburi Province, reducing the number of workers by around 90% compared with a conventional system.
Factory expansion (food industry)	President Bakery, a member of the Saha Group, plans progressive automation of its manufacturing plant in eastern Bangkok. Thai President Foods, which manufactures and sells “Mama” brand instant noodles, is also expected to formulate an investment plan by the end of 2018 in preparation for the automation of its factories. (Based on media reports)
Factory expansion (food industry)	Ajinomoto Thailand has announced a plan to increase its production capacity for the “Ros Dee” seasoning range through the expansion of its production facility in Saraburi Province and the automation of packaging processes.
Factory expansion (glass industry)	BG Container Glass, a glassware manufacturer affiliated to Boon Rawd Brewery, a major beer manufacturer, intends to install industrial robots in its bottle factory after experiencing labor recruitment difficulties due to hot conditions in the plant. (Based on a media report in June 2018)
Low-interest loans for the installation of robots by small and medium enterprises	In September 2018, Uniark, a supplier of industrial machinery, signed a memorandum with BOT Lease (an MUFG affiliate), BSL Leasing, and Bangkok Grand Pacific East, covering the provision of industrial robot leasing services to small and medium enterprises at annual interest rates of 2-4%.
Cooperation on human resource development for automation by the Federation of Thai Industries and the Ministry of Labor	In May 2017, the Federation of Thai Industries announced that it would establish the Manufacturing and Automation Robotics Academy (MARA) jointly with the worker skill development unit of the Thai Ministry of Labor to train workers in manufacturing automation and robotics. The academy aims to train over a million workers by 2021.
Establishment of robotics research institute	In June 2018, the Panyapiwat Institute of Management (PIM) opened a robot technology development center (iCRAS). It has signed MOUs concerning robotics training with Yaskawa Electric, a major Japanese industrial robot manufacturer, and Shenyang Xinsong Machine Automation, a Chinese robot manufacturer.
Establishment of Industry Transformation Center for small and medium enterprises	In May 2018, the Ministry of Industry opened the Industry Transformation Center (ITC) to support industrial advancement by small and medium enterprises. DENSO has provided efficient production systems under the Japan-ASEAN industry creation and verification project established by the Japanese Ministry of Economy, Trade and Industry.

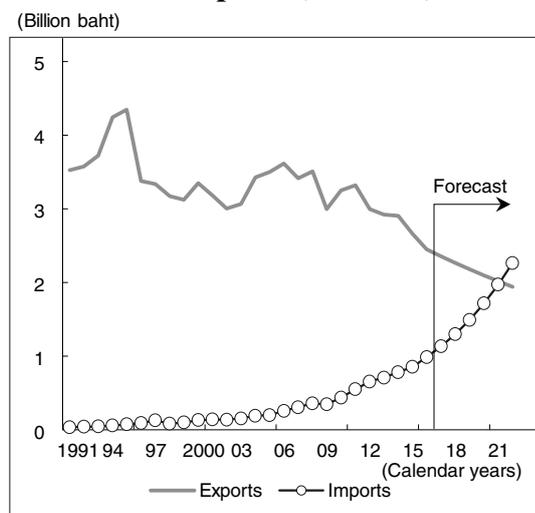
Source: Compiled by JRI using data from media reports and corporate websites

manufacturing. More and more companies in that industry are moving their production facilities to Cambodia and Myanmar. In the 2010s, this has been reflected in a continual decline in Thailand’s apparel exports and a continual increase in its apparel imports (Fig.17). Based on the pace of this trend over the past few years, Thailand can be expected to become a net importer of apparel by the 2020s. Manufacturers of wire harnesses, which are used in the internal wiring of automobiles and various types of electronic equipment, are also shifting their production operations to Cambodia and Vietnam. Located near the Thai-Cambodian border, the Sanco Poipet Special Economic Zone was developed specifically for Japanese companies, which have started to produce automotive and HDD parts in Cambodia (Table 6). Production operations have also started to shift from Thai-

land to Laos since the establishment of the Pakse-Japan SME Special Economic Zone in December 2015. The Board of Investment (BOI) is using the tax system to provide additional impetus for this production shift to neighboring countries. For example, while offering generous tax incentives to high-added-value industries, it is reducing incentives for labor-intensive industries.

Without timely efforts to develop new industries and move labor between sectors, there is a risk that the shift of manufacturing operations across Thailand’s borders will result in the hollowing-out of domestic industries and a decline in jobs. In Japan, there were similar fears that domestic economic performance would deteriorate due to the continuing exodus of production operations to Asian emerging economies, including China and Thailand, in response to the rapid strengthening of

Fig. 17 Thailand's Apparel Imports and Exports (HS61-62)



Notes: Figures for 2017 onwards are estimates based on average rates of increase/decrease between 2006 and 2016.

Source: Compiled by JRI using United Nations Data

Table 6 Japanese Companies with Production Operations in Cambodia's Sanco Poipet Special Economic Zone

Company	Main products
NHK Spring (Cambodia)	Car seats
Steel Hub	Steel pipes for construction
SC Wado Component (Cambodia)	Base plates for PC HDDs
Techno Park Poipet PVT	Automotive parts
Koiwa Bond (Cambodia)	Car seat covers
Sumitronics Manufacturing (Cambodia)	Electronic parts
Mabuchi (Cambodia)	Iron and steel
Sanko Electronics (Cambodia)	Electronic parts, wire harnesses

Source: Sanco Poipet SEZ website

the yen after the 1985 Plaza Accord and the economic globalization of the 2000s. However, few people in Thailand have shown any concern about the negative impact of the production shift because of the continuing tightness of the labor market, and because there is a strong consensus that international divisions of labor lead to improve productivity.

Companies in the non-manufacturing sector are meanwhile actively utilizing digital technology, and retailing and wholesaling businesses are shifting to e-commerce. Central, a major department store chain, aims to increase its e-commerce turnover from just 1% of sales at present to around 15% over the next five years. Measures implemented by the Digital Economy Promotion Agency (DEPA) to encourage small and medium retailing and food service businesses to adopt digital technology include subsidies ranging from 10,000 to one million baht.

Commercial banks are also working to reduce the number of branches and staff required, in part through the digitalization of financial services. In 2018, the Siam Commercial Bank announced that it would reduce its branch network by one-third over the next three years, while the Krung Thai Bank has unveiled a policy calling for staff cuts⁽¹⁴⁾.

Activities targeting the agricultural sector, which employs over one-third of Thailand's workforce, are still at the experimental stage. However, there have been a number of initiatives, including the use of drones to scatter seeds or spray fertilizers, as well as computer-based weather risk management. The BOI is using tax incentives to encourage these efforts. Businesses using new technologies to improve productivity are eligible for a five-year exemption from corporation tax. It is also promoting farmland consolidation so that newly introduced equipment can be used more effectively.

(3) Concern about Slow Progress on Human Resource Development

However, we need to be aware that efforts to introduce automation and digital technology will be limited by shortages of personnel in the areas of IT and robotic engineering, who will play the most important role in driving these initiatives. The government is responding to this issue by promoting industry-government-academia collaboration, and by issuing a directive in December 2018 calling for urgent measures to train human

resources for 10 priority industries⁽¹⁵⁾ for the EEC. Other measures include the issuance of “smart visas” to facilitate the recruitment of highly skilled foreign workers. There have also been moves toward collaboration with leading foreign universities. For example, Carnegie Mellon University, which is highly competitive in the AI field, has established a branch campus with King Mongkut’s Institute of Technology Ladkrabang. The Federation of Thai Industries and the worker skill development unit of the Ministry of Labor have established the Manufacturing Automation and Robotics Academy (MARA) as a training facility for people working in robot-related industries. The goal is to train one million people by 2021.

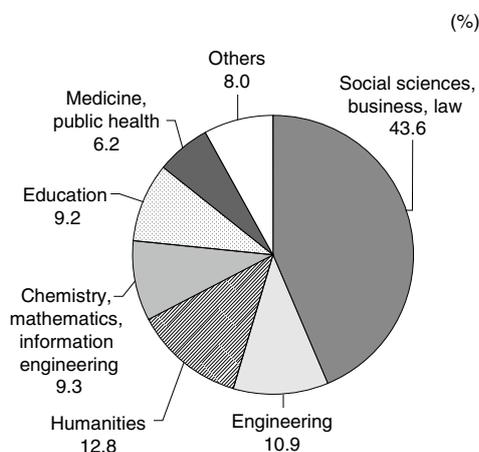
However, only a limited number of students are majoring in IT and robotics (Fig.18), and there has been no significant progress on educational reform. Moreover, the incomes of AI engineers in Thailand are low compared with their counterparts in the United States and China. When factors such as these are taken into account, it seems unlikely that these initiatives will alleviate labor shortages in the short-term. In an article published in *The Nation* in May 2018, Associate Professor Athapol Anunthavorasakul of Chulalongkorn University’s

Faculty of Education noted that there had been no significant progress on educational reform for several years, apart from the establishment of the Independent Committee for Education Reform (ICER) in the Office of the Prime Minister in the first half of 2017⁽¹⁶⁾. In October 2018, approval was given for the merger of the Office of Higher Education Commission (OHEC), the National Research Council of Thailand (NRCT), the Thailand Research Fund (TRF), and other organizations to create the Research and Higher Education Ministry, with the aim of accelerating qualitative improvement in higher education and greater efficiency in research and development. However, this was just a starting point for educational reform. Because educational reform takes a long time to produce benefits, the government has tended to give priority to economic infrastructure development as a way of achieving immediate benefits.

4. Implications for Foreign Companies in Thailand

In this final section, we will consider how Japanese companies in Thailand will be affected by changes linked to demographic aging.

Fig. 18 Major Subjects of Thai Undergraduates (2016)



Source: National Education Information System

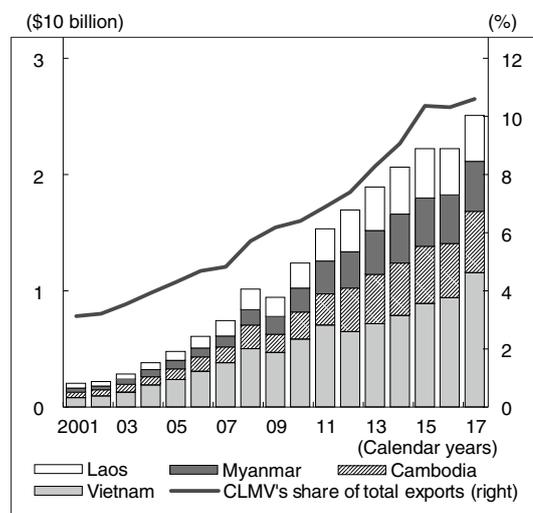
(1) Anticipated Changes in the Business Environment

Demographic aging and associated changes in various systems will affect Japanese companies in Thailand from a number of perspectives. First, from a labor management viewpoint, recruitment competition will escalate as the workforce shrinks. Companies will also need to deal with a variety of human resource issues, such as changes to salary and promotion systems to reflect increases in employee retirement ages and a growing social insurance burden, and training to improve the productivity of middle-aged and older employees. To adapt to labor shortages, they will also need to

consider automation and digitalization, and the re-location of production operations to neighboring countries.

In addition, Japanese companies will probably need to change their sales strategies. Personal consumption expenditure, which accounts for over 50% of GDP, is led by younger age groups, which means that sales growth will slow due to the falling birthrate and demographic aging. However, firm growth trends will continue in neighboring countries, and it will become increasingly important to develop business operations not only in Thailand, but also in neighboring countries, in part because expansion across borders will become even easier as regional integration in ASEAN deepens. Exports to neighboring countries still account for only about 10% of Thailand's total exports, but there has been steady increase in the significance of those exports in both value and percentage terms over the past 10 years (Fig.19). Since the BOI offers tax concessions to companies that locate their regional headquarters in Thailand, there is likely to be increasing interest in the use of Thailand as a base for expansion into neighboring countries.

Fig. 19 Exports to Neighboring Countries



Source: Bank of Thailand

(2) New Business Opportunities

Markets targeting younger consumers continue to stagnate because of the falling birthrate. However, there will be various opportunities for Japanese companies to participate business areas that

Table 7 Potential for Japanese Companies to Participate in Business Areas Relating to Services for the Aged

Business area		Reasons for expansion of participation opportunities	Aspects Requiring Caution when Considering Market Entry
For households	Healthcare, nursing	Increased demand due to aging	Underdeveloped social insurance systems for low-income people
	Health foods	Increased focus on health	Saturation of Japanese food market in Bangkok
	Fitness	Increased focus on health	Escalating market competition due to accelerating entry of European/US firms
	Tourism	Growing "active senior" population	Tourist areas slow to adapt to the needs of older visitors
	Financial services	Increased demand for financial investment and insurance in preparation for retirement	Uneven distribution of assets among older people
For businesses	Digital and automated production	Needs relating to a shrinking workforce and rising labor costs	Shortage of IT and robotic engineering personnel
	Law, accounting, consulting	Changes in taxation and accounting systems and business models	Shortage of professionals

Source: Compiled by JRI

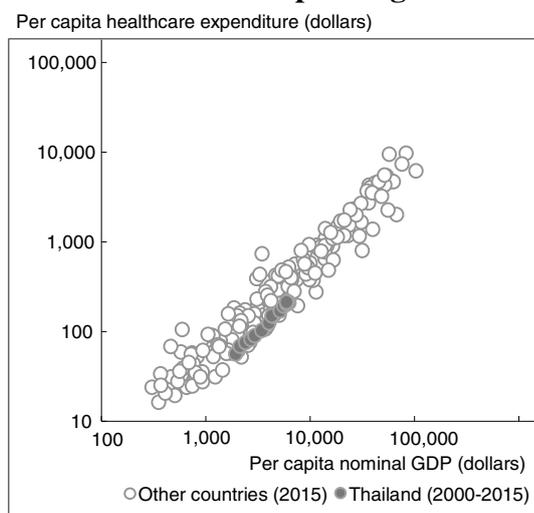
focus on elderly people (Table 7). Japan is about 30 years ahead of Thailand in terms of demographic aging, and Thailand is hoping that it will be able to respond appropriately to the aging problem by absorbing know-how from Japan. Business matching sessions and seminars are already being held in both countries. As noted earlier, however, the environment for elderly Thais is different from the environment for elderly Japanese in a number of ways, including the amount of assets owned and social security systems. For this reason, companies will need to adapt their business models flexibly to conditions in Thailand, rather than simply applying them unchanged.

One of the most promising areas is healthcare-related industries. In every country there is a clear correlation between income levels and healthcare expenditure (Fig.20), and demand for healthcare spending is expected to expand faster than real GDP growth. Imports of medical equipment and pharmaceuticals are also increasing. However, companies will need to monitor regulatory trends, since the government is considering the addition of pharmaceuticals and healthcare services to the price control list as a way of controlling healthcare expenditure.

As noted earlier, companies are already starting to move into markets relating to senior care, including the operation of care facilities for elderly people living in Bangkok, the training of caregivers, and sales of care-related products. Participation in this area is likely to expand significantly if Thailand improves its social security systems for low- and medium-income people. Given the asset and income levels of elderly people in Thailand and other aspects of their environment, the ability to provide services at affordable prices is likely to have a key bearing on business expansion.

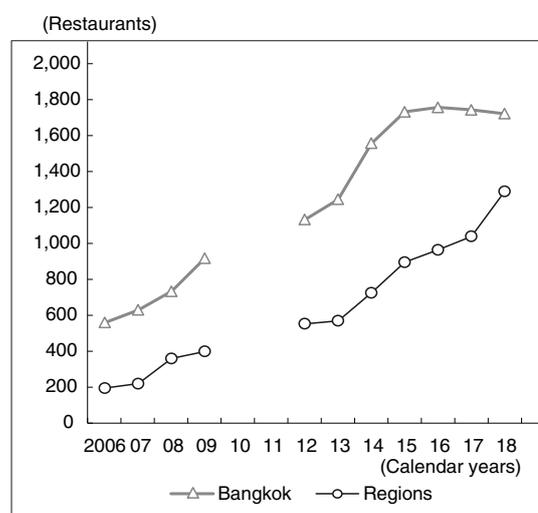
Another area with market growth potential is health maintenance and improvement, including health foods and fitness services. Japanese food has a strong reputation for being healthy and is already widely popular in Bangkok. However, the number of Japanese restaurants began to decline in 2017-2018, and companies need to be aware that the market is close to saturation point and increasingly competitive (Fig.21). Success will depend either on the creation of restaurants with unique features in terms of pricing and menus, or on the ability to carry out effective campaigns to attract customers. Alternatively, companies may need to consider siting their restaurants in cities

Fig. 20 Per Capita Nominal GDP and Healthcare Spending



Source: World Bank

Fig. 21 Number of Japanese Restaurants in Thailand



Source: 2018 survey of Japanese restaurants and the Japanese food market in Thailand by the Japan External Trade Organization (JETRO)

other than Bangkok, where is still scope for market entry. Competition is also fierce in the fitness market due to continuing inroads by sports gym operators from Europe and North America in recent years.

Given the increasing number of active seniors retiring around the age of 60, there is also potential for market growth in the area of tourism and entertainment. In 2018, the government introduced a tourism promotion scheme under which tax deductions of up to 15,000 baht could be claimed for tourist accommodation and travel in 55 provinces that currently attract few visitors. To encourage tourism by elderly people, the government is also considering tax incentives for children who send their elderly parents on trips. Further market expansion could be achieved by making facilities in tourist areas barrier-free, and by improving transportation networks, including high-speed trains, to facilitate travel by seniors. There is also likely to be increasing demand for travel to Japan for elderly people with substantial assets.

Demand for financial services relating to preparation for retirement, such as asset management and insurance, is also likely to expand. In view of the wide disparity in financial assets, success or failure in the area of asset management will hinge on whether companies can attract the minority of high-net-worth individuals, who have a major impact on earnings.

The market for digitalization and automated production equipment also offers growth potential. As noted earlier, the Ministry of Industry is already working with Japanese companies to capture this demand, while the Japanese Embassy in Thailand is implementing the Open Innovation Columbus (OIC) Program to promote strategic collaboration between Japanese start-ups and Thai conglomerates. In October 2018, around 30 companies from Japan and Thailand took part in the Digital Transformation (DX) Summit. Collaborative initiatives are expected to emerge from individual discussions with conglomerates that expressed interest.

Tax system changes, digitalization, automation, the emergence of neighboring countries, and other factors are all heightening the need for business

model changes. This is likely to result in expanding demand for consulting services, including accounting and legal advice. In June 2018 the Ministry of Commerce revised the Foreign Business Act and announced a policy of liberalizing participation in these areas. This is expected to lead to accelerating competition.

Given the potential for expanding business opportunities in many fields and the continuing maturation of the Japanese economy, Japanese investment in Thailand can be expected to remain on a firm trend.

Concluding Remarks

Thailand's efforts to prepare for its transition to an aging society generally deserve a positive assessment. However, when we look at these initiatives in greater detail, we find that many are still under consideration or at the planning stage. It remains to be seen whether the new government that emerges following the return to civilian rule in the first half of 2019 will be able to implement these measures. Former Nissan Chairman Carlos Ghosn stressed the importance of implementation, saying that "Implementation is everything. Ideas are only five percent of the solution." The question for Thailand going forward will be whether it can go beyond continuous policy debate and advance to the implementation stage.

The success or failure of Thailand's response to demographic aging is likely to have a major influence on policy formation in countries that will make the transition to aging societies at an even lower income level, such as Vietnam and Myanmar.

This report is the revised English version (The original Japanese version was published 25th Feb 2019).

End Notes

1. Mr. Viravaidya promoted the use of condoms through a slogan that said buying condoms should be as easy as buying cabbages. As part of these educational activities, a restaurant called “Cabbages & Condoms” was opened and has since become a tourist attraction.
2. Thailand has traditionally been a patriarchal society, as illustrated by the Thai proverb, “Men are the elephant’s front legs and women the hind legs”.
3. In these statistics, the term “older person” is defined as a person aged 60 or older.
4. One reason why many retirees do not qualify for pensions is the fact that many people switch to self-employment after working informally for companies up to a certain age.
5. Thailand’s Ministry of Finance aims to increase the Old Age Allowance to a flat rate of 1,000 Baht in 2019.
6. The IMF suggested that public investment is in fact too low at present, and that there is a risk that this will impede private investment and foreign direct investment. The IMF therefore recommended that infrastructure-related expenditure should be temporarily increased above the current level in order to enhance Thailand’s potential growth rate.
7. March 29, 2018, *Bangkok Post*, “Aging Society Prompts Ministry Tax Review”
<https://www.bangkokpost.com/news/general/1436790/ageing-society-prompts-ministry-tax-review>
8. *Bangkok Shuho*, October 8, 2018.
9. The Ministry of Finance holds 51.0% of the shares in Thai Airways International, the state investment fund Vayupak Fund 1 15.2%, and the state-owned Government Savings Bank 2.1%. The remaining 30% of shares are held by private sector investors.
10. In an interview with the Nikkei (online version) on April 12, 2018, the CEO of Thai Airways International said that they had stopped hemorrhaging and would post a positive result for the first time in four years.
11. According to an article on the SankeiBiz website on March 12, 2018, deepening uncertainty over a high-speed rail project in Thailand because of the construction costs involved is also causing concern in Japan. <https://www.sankeibiz.jp/macro/news/180312/mcb1803120500001-n1.htm>
12. NHRC website, กสม. จัดเวทีรับฟังความคิดเห็นต่อ “ร่างข้อเสนอแนะเพื่อคุ้มครองสิทธิของผู้สูงอายุ” เตรียมขงรัฐบาลเร่ง
<http://www.nhrc.or.th/News/Activity-News/กสม-จัดเวทีรับฟังความคิดเห็นต่อ-ร่างข้อเสนอแนะเพื่อ.aspx>
13. Health at Home has reduced its service charges to around one-fifth as much as traditional visiting care services. However, the cost still amounts to around 30,000 baht per month, which is more than double the average worker’s wage of 13,722 baht in 2017.
14. See Kumagai [2018] for a detailed analysis of the digitalization of financial services by commercial banks and the resulting effects.

15. Five existing industries have been selected for competitiveness improvement (next-generation automobiles, smart electronics, medical/health tourism, advanced agriculture and biotechnology, and food manufacturing), and five new industries for future development (robotics, aviation/logistics, bio-fuels, bio-chemicals, digital industries, and healthcare hubs). In December 2018, education and defense were added.

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