MIZUHO RESEARCH PAPER

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Demographic Ageing in East Asia and the Challenges Involved in the Formulation of Policy Initiatives

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Published by
Mizuho Research Institute
Tokyo, March 2009

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Summary

1. Demographic ageing and the decline of the birthrate are no longer issues inherent to industrialized countries. It is a phenomenon which is also progressing in the countries of East Asia experiencing rapid growth as the "world's growth center". More precisely, East Asia is predicted to age at a pace unprecedented in other parts of the world.
2. The countries of East Asia entered the "demographic window (of opportunity)" – a period in which the demographic structure works to the advantage of economic growth – from around the mid–1960s and have achieved high economic growth against this background. However, from 2010 onward, the NIEs, China, and the ASEAN (in this order) will successively enter a period burdened by a "demographic onus" – a period in which ageing will serve as a drag upon growth.
3. The ageing of the population will drag down the potential rate of growth as a result of the fall in volume of labor input and the decline of the domestic saving rate. Furthermore, it will also serve as negative effects upon fiscal conditions and households through the decline of tax revenues, rise of healthcare costs and pension burdens. However, the rate of economic growth is the sum of the rate of per capita GDP growth and the rate of population growth. Even if the labor force population decreases, economic growth will not turn negative as long as the rate of productivity growth is sufficiently high. From this perspective policy initiatives to raise productivity such as the following would be important: measures to upgrade human capital through education and the improvement of capital efficiency through innovation (the introduction of new technology and creative efforts).
4. Even so, note that fiscal and social security burdens are issues regarding distribution and that there would be nothing to distribute without the creation of wealth itself. Thus, it would still be important to contemplate the expansion of the macroeconomic

size of a country.

5. As in the case of Japan, demographic ageing in the NIEs progressed along with the maturation of their economies and societies. Thus, in addition to policy measures to raise the labor force participation rate and productivity, a key point will be how to maintain and manage the pension and healthcare programs under a moderate rate of economic growth.
6. Meanwhile, even if China and the countries of the ASEAN manage to sustain their rate of economic growth at a considerable level in the future, the economic level (such as the per–capita GDP) of these countries when they reach an ageing society will still remain comparatively lower than the developed countries. Countries such as these which will reach the stage of an ageing society when their economies are still at a developing stage will be required to strive for high economic growth and engage in initiatives to cope with ageing at the same time. In particular, Thailand will be facing a difficult situation since their demographic window will end around 2015. Fortunately, Thai society – in particular the rural areas – still possesses mutual support functions in which the elderly are taken care of by the family and community. It will be necessary to devise ways to sustain and utilize traditional mutual support and to establish and develop a social security program.
7. The three countries of ASEAN other than Thailand (Malaysia, Indonesia, and the Philippines) will still remain in their respective demographic windows until around the 2030s. Moreover, given the relatively large proportion of the young adult population in the total population, these countries possess the potential for economic growth stimulated by the young generation serving as the full–fledged workforce.
8. In reality however, unemployment has been rising to high levels among the youth generation since the Asian currency crisis. Hence, these countries have been unable to take the full advantage of their demographic bonus. For Malaysia, Indonesia, and the Philippines, the most desirable policy mix to cope with population ageing would be to raise the potential for growth by upgrading

human resources through job training and support for education and improving the investment environment so as to make the best use of the demographic bonus.

9. In any event, the social impact of ageing and the declining birthrate will grow larger along with the passage of time. For the countries of East Asia, ageing and the declining birthrate are no longer a futuristic issue. To prepare for the impending demographic onus, the countries of East Asia must cope with the "clear and present issues" depending upon the degree of the ageing process.

1. Introduction

Terms such as "ageing" and "population decline" have become indispensable keywords when discussing the future of Japan. Note however, that such phenomena are progressing not only in Japan and the industrialized countries of the world but also in the countries of East Asia (note 1) which are growing rapidly as the "world's growth center". Looking forward, East Asia is predicted to age at a pace unprecedented in other parts of the world.

Demographic shifts are considered an important factor in the medium– to long–term forecast on the East Asian economies. This paper shall survey the demographic shifts – in particular the ageing population and declining birthrate – currently progressing in East Asia – and examine the issues accompanying such shifts in the economies and societies of East Asia.

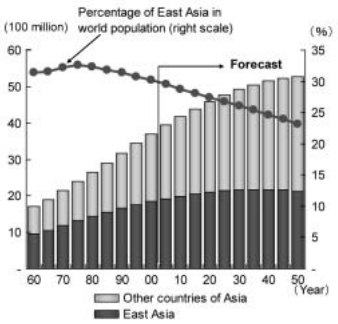
2. East Asia is ageing and its birthrate is declining at a very fast pace

(1) East Asia's population growth will peak in the 2030s

According to demographic projections by the United Nations (UN), the world's population will grow from 6.51 billion in 2005 to 8.46 billion in 2035 and 9.19 billion in 2050. While the world's population will increase by 2.7 billion during this time span, the population of East Asia which stood at 1.92 billion as of 2005 will level out after reaching 2.18 billion in 2035. Subsequently, the population of East Asia will stand at 2.11 billion in 2050 (**Chart 1**). As a result, the percentage of East Asia's population in the world will decline from 29.5% in 2005 to around 23% in 2050.

A closer look reveals that Japan has already entered a period of demographic contraction. The populations of China and the NIEs – excluding Hong Kong which is expected to receive a wave of immigration from China –will start to decline by 2050. For example, even though China is currently the most populous nation in the world, its population is predicted to decrease from around 2030 and fall below 1.4 billion in 2050. During this process, India will replace China as the most populous nation in the world around 2030 (1.66 billion in 2050). Turning to the ASEAN, even though the population of Thailand will peak in 2030 and start to decline from then onward, the population of the rest of ASEAN is predicted to keep growing up to 2050. In particular, Indonesia will have a population close to 300 million around 2050. Furthermore, the population of the Philippines, which will continue to grow at a relatively high pace, will surpass Japan around 2030.

Chart 1: Demographic movements in the countries of East Asia



(10,000 persons)

	2005	2035	2050
Japan	12,790	11,457	10,251
South Korea	4,787	4,737	4,233
Taiwan	2,277	2,214	1,888
Hong Kong	706	871	898
Singapore	433	523	503
Thailand	6,300	6,975	6,738
Malaysia	2,565	3,662	3,963
Philippines	8,457	12,811	14,047
Indonesia	22,606	28,677	29,689
China	131,298	145,829	138,996
Total East Asia	192,219	217,756	211,206
(Ref) India	113,440	155,418	165,827

Note: "East Asia" refers to the following 10 countries including the NIEs (South Korea, Hong Kong, Taiwan, Singapore), ASEAN4 (Thailand, Malaysia, Philippines, Indonesia), China, and Japan. "Other countries of Asia" include the countries of South and West Asia such as India.
Source: Made by MHRI, based upon United Nations, *World Population Prospects (2006 Revision)* and others.

(2) The child population is decreasing along with the sharp decline of the birthrate

The population decline in East Asia stems largely from the decrease of the child population as a result of the sharp decline of the birthrate. **Chart 2** shows the recent (2005 or 2006) total fertility rate (TFR) in East Asia. Note that the TFR of all the NIEs countries and regions fall below that of Japan (1.32 in 2006): Singapore (1.25), South Korea (1.13), Taiwan (1.12) and Hong Kong (0.98). In China (1.70) and Thailand (1.83), the TFR has already slipped below the replacement level of 2.1 per woman (the level necessary for stable population growth). In South Korea and Hong Kong, the decline of the birthrate is particularly noteworthy from the 1990s onward. Furthermore, in Taiwan and Singapore, the breadth of the fall is growing wider from the 2000s. Given the decline of the birthrate, the child population (the population aged 14 and under) in the countries of East Asia will fall below 20% by 2050 (**Chart 3**).

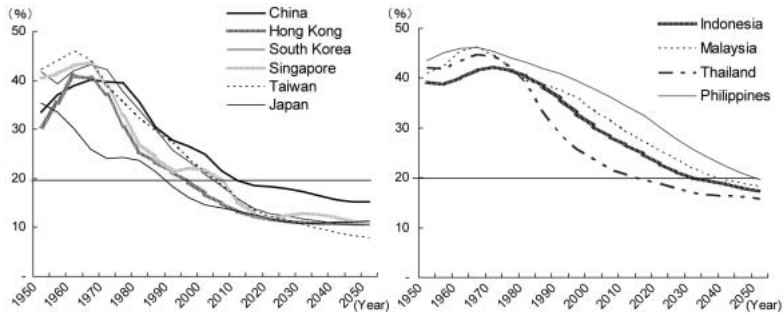
Chart 2: Total Fertility Rates (TFR) of the countries of East Asia

Year	1960	1970	1980	1990	2000	2005
Japan	2.02	2.07	1.76	1.49	1.39	1.32
Hong Kong	5.31	2.89	1.80	1.55	1.08	0.98
Taiwan	6.59	3.71	2.46	1.81	1.68	1.12
South Korea	5.63	4.28	2.23	1.70	1.51	1.13
Singapore	4.93	2.62	1.69	1.76	1.57	1.25
China	3.41	3.72	2.55	1.92	1.78	1.70
Thailand	6.39	4.96	2.85	2.00	1.90	1.83
Indonesia	5.62	5.30	4.11	2.90	2.55	2.38
Malaysia	6.72	5.40	4.24	3.47	3.10	2.93
Philippines	6.85	6.00	4.95	4.14	3.72	3.22

Notes: 1. The TFR is the number of children that would be born to a woman over her lifetime.
2. The readings in the chart above pertain to 2005 regarding Hong Kong, Japan, and South Korea and 2006 with respect to Taiwan. Shading indicates that the TFR falls below 2.1 (the population replacement level).

Source: Made by MHRI, based upon United Nations, *World Population Prospects (2006 Revision)* and others.

Chart 3: The child population ratio in the countries of East Asia



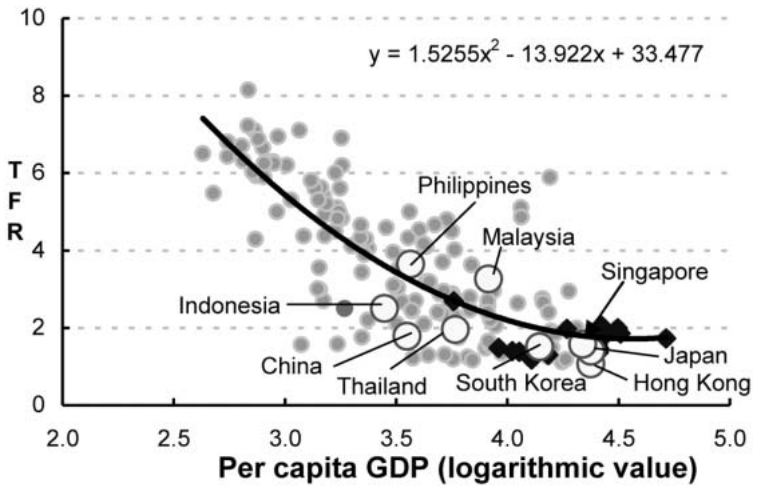
Notes: The percentage of the child population (population aged 0~14) in total population.

Source: Made by MHRI, based upon United Nations, *World Population Prospects (2006 Revision)* and others.

The trend of the declining child population in East Asia is progressing along with the rise of income levels accompanying the economic development since the 1980s. Generally, there is an inverse correlation between income levels and birthrates. **Chart 4** plots the TFR (2005) and per capita GDP of the countries of the world. The chart reveals that the birthrate tends to be lower among developed countries and higher among developing countries (note 2).

The reason for the birthrate being lower among countries with higher income levels is attributed to the fact that the costs of having children grow higher along with the rise of income levels while the merits of having children grow smaller. Focusing upon East Asia, while the opportunity costs of child rearing have grown due to the rise of job opportunities for women, the merits of having children have receded along with the progress of industrialization due to the contraction of the agricultural sector where children served as part of the labor force.

Chart 4: The relationship between the level of income and the rate of birth



Notes: The "◆" denotes OECD countries.
Source: Made by MHRI based upon United Nations, *World Population Prospects (2006 Revision)* and IMF, *International Financial Statistics.*

Furthermore, there is a strong likelihood that changing values regarding marriage and abundant childbearing and lifestyles along with the rise of economic levels are related to the decline of the child population. Let us turn to **Chart 5** which compares the percentages of unmarried people in 1970 and 2000.

Chart 5: Percentages of unmarried people in the countries of East Asia

(%)

		1970		2000	
		Male	Female	Male	Female
25～29	South Korea	43.4	9.7	71.0	40.1
	Taiwan	35.0	8.7	68.7	46.5
	Hong Kong	63.5	20.1	75.5	59.7
	Singapore	48.0	22.6	64.2	40.2
	Japan	46.5	18.1	69.3	54.0
30～34	South Korea	6.4	1.4	28.1	10.7
	Taiwan	10.9	2.2	34.8	20.5
	Hong Kong	34.5	5.6	44.1	31.2
	Singapore	21.5	9.6	30.7	19.5
	Japan	11.7	7.2	42.9	26.6

Notes: Data on Hong Kong pertain to 1971 and 2001
Source: Cabinet Office, *White Paper on Birthrate-Declining Society (FY2005)*.

As for the male population, even though the percentage of unmarried people in 1970 was 30–60%–level in the 25–29 age bracket, the percentage was low in the 30–34 age bracket (excluding Hong Kong with the percentage of unmarried people at 34%). In 2000, the percentage of unmarried people rose to 60–70% in the 25–29 age bracket and to 30–40% in the 30–34 age bracket. The change is even more predominant among women. In 1970, the percentage of unmarried people fell below 20% among the 25–29 age bracket and stood at a single digit–level among those aged 30–34. In 2000, the percentage rose to the 40–50%–level in the 25–29 age bracket and to the 10–20%–level among those aged 30–34, with Hong Kong at the topmost place with 31.2%. In East Asia, the tendency to marry later or to refrain from marriage is leading to the decline of the birthrate and decrease of the child population.

Furthermore, policy initiatives have also contributed to the decline of the birthrate. China provides a symbolic example (note 3).

In 1979, China embarked upon a “policy of birth planning” (the so–called “one–child policy”) based upon key concepts such as “later marriage” “later childbirth”, “few births”, “extended intervals

between childbirth" and "higher quality of children". More precisely, the policy restricts the number of children married couples can have to one, allowing a second child only upon the grant of permissions by the local government. Married couples declaring that they will only have one child are entitled to incentive payments and prioritized distribution of housing. In contrast, excessive and unplanned childbirths are penalized by wage cuts and other penalties.

In contrast to the one–child policy applied strictly in urban areas, the policy was applied more leniently in rural areas from the perspective of maintaining labor. Furthermore, given the enactment of the "Population and Birth Planning Law" in 2002, the birth of second children are currently treated according to actual circumstances of various regions including urban areas.

China's TFR declined to less than 2 in the 1990s due to the implementation of the one–child policy. In terms of the number of births, this translates into a decrease of approximately 300 million people in a time span of 30 years.

In addition to the decline of the birthrate, there has also been a significant extension of average life expectancy. A closer look at the countries of East Asia reveals that Japan's average life expectancy rose by approximately 18 years from 63.9 years in 1950 to 81.9 years in 2005. In the same time period, the rise of the average life expectancy in South Korea (30 years), Malaysia (25 years), Indonesia (31 years), and China (31 years) continued to rise at a pace surpassing Japan, rising above 70 years in many of the countries. While average life expectancies have surged as a result of the fall of the infant mortality rate due to the improvement of nutritional conditions, they are still expected to rise given the improvement of fundamental physical strengths and progress in the field of medical science.

(3) East Asia is ageing at the fastest pace in the world

Given the decline of the child population and rise of life expectancy, the population of East Asia is poised to age at a rapid pace (note 4).

The UN refers to countries in which the old age population ratio (the percentage of the population aged 65 or above in the total population) is 7% or higher as an "ageing society". In the event the old age population ratio surpasses 17%, the country is referred to as an "aged society" (note 5). Furthermore, the number of years it took to progress from an ageing society to an aged society (accelerating speed of demographic ageing) is used as an indicator of the speed of the ageing process.

As shown by the demographic ageing process taking 115 years in France, 85 years in Sweden and 47 years in the UK, it was believed that ageing progresses over a long period of time. Nevertheless, the ageing process only took 24 years in Japan (**Chart 6**). Although this is faster than four times the speed in France, the countries of East Asia are predicted to age at an even faster pace as follows: Singapore (17 years), South Korea (18 years), Thailand (22 years), Malaysia (23 years), and China (24 years). Japan's demographic structure started to show symptoms of a society with fewer children in the second half of the 1960s and shifted into an aged society in the first half of the 1990s. Furthermore, the labor force population started to decline from 2000 and the total population also started to decrease from 2006. The rest of Asia is predicted to follow a similar path. While we have observed the rise of the TFR and the old age population ratio so far, the odds are high that the populations of South Korea (2020), China (2030), Thailand (2035), and Singapore (2035) will all start to decline in the respective years set forth in parentheses. The pattern of East Asia's economic development has been described as a "flying geese pattern", with Japan in the forefront, the NIEs catching up and ASEAN and China following close behind. Demographic shifts will also unfold in a similar pattern with Japan at the forefront of the ageing process (**Chart 7**).

Chart 6: Indicators on ageing in the countries of East Asia

	Ageing Society Old age population ratio >7%	Aged Society Old age population ratio >14%	Accelerating speed of demographic ageing (years)
Hong Kong	1983	2014	31
Taiwan	1993	2018	25
South Korea	2000	2018	18
Singapore	1999	2016	17
Japan	1970	1994	24
China	2002	2026	24
Thailand	2002	2024	22
Malaysia	2020	2043	23
Indonesia	2018	2039	21
Philippines	2028	---	---

Notes: The "accelerating speed of demographic ageing" refers to the number of years it will take for the percentage of the population aged 65 or above in the total population to rise from 7% to 14%.
Source: Made by MHRI, based upon United Nations, *World Population Prospects (ver.2006)* and others.

Chart 7: Demographic shifts in the countries of East Asia

Year	TFR < 2.1	Old age population ratio reaches 14% or higher	Labor force population starts to delcine	Total population starts to decline
1960-65	**Japan**			
1965-70				
1970-75				
1975-80	**Singapore**			
1980-85	**Hong Kong**			
1985-90	**South Korea**			
1990-95	**China, Thailand**	**Japan**		
1995-00				
2000-05			**Japan**	
2005-10				**Japan**
2010-15	**Indonesia**	**Hong Kong**		
2015-20		**South Korea, Singapore**	**China, Hong Kong**	
2020-25	**Malaysia**	**Thailand**	**South Korea, Singapore**	**South Korea**
2025-30	**India**	**China**		
2030-35	**Philippines**			**China**
2035-40			**Thailand**	**Singapore, Thailand**
2040-45		**Malaysia, Indonesia**		
2045-50				

Sources: Made by MHRI, based upon Komine (2004) and United Nations, *World Population Prospects (ver.2006)* and others.

3. The impact of ageing upon the economy

(1) The relationship between demographics and economic development

How will the rapid ageing and declining birthrate affect the East Asian economy? In order to shed light upon this issue, this section will first examine the impact of demographic shifts upon the economy.

The long–term demographic movements of a country can be summarized as follows. A country in its initial phase will be characterized by "high rates of birth and infant mortality" in which many children are born but fail to reach adulthood. As living conditions improve along with economic development, a country will then enter a phase characterized by "a high rate of birth and a low rate of mortality" in which the population will start to increase due to the decline of mortality rates. The baby boom generation created during this phase will subsequently grow into their working age and start to form the labor force. Since income levels will rise accordingly, the birthrate will start to decline. Since the old age generation will not comprise such a large part of the population at this stage, the percentage of dependent children and the elderly in the overall population will decline. In short, conditions conducive to high economic growth will be engendered, given the increase of the labor force and the relatively small dependency burden. The economic advantage generated in the course of the transition from a society with high rates of birth and mortality to one with low rates of birth and mortality is referred to as the "demographic bonus". The period of time in which a society benefits from the demographic bonus is called the "demographic window (of opportunity)". As we shall see later on, the period of high economic growth in many of the countries of East Asia coincided with the demographic window.

However, the demographic window will not last eternally since the low birthrate generation will reach working age and the baby boom generation will grow older into the old age generation. In

other words, as a result of the decline of the labor force population and the rise of social welfare burdens due to the ageing of the baby boom generation, the entire economy will be subject to larger burdens. This is referred to as the "demographic onus".

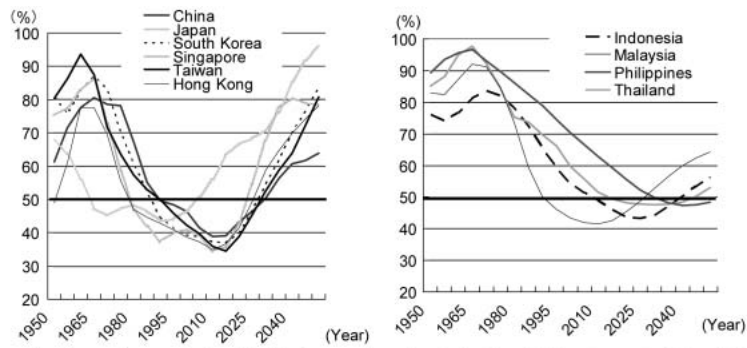
(2) The demographic window will end from 2010 in the order of the NIEs, China, and ASEAN

The demographic structures of the countries of East Asia have undergone major transformations along with their transitions from a society with high rates of birth and mortality → a society with a high birthrate and low mortality rate → a society with low rates of birth and mortality. The transition occurred in the 1960s with respect to the NIEs and the 1970s in China and the ASEAN, ushering these nations and regions into the so–called "demographic window (of opportunity)". The demographic window is a period in which a society enjoys an abundant labor force and the decline in proportion of dependents (note 6), and a nation's entry into the demographic window can be ascertained by the decline of the dependent population index or the ratio derived by dividing the total of the child population and the aged population (in other words the dependent population) by the working age population.

Chart 8 sets forth the dependent population index of the countries of East Asia. The chart reveals a sharp fall of the dependent population index of the NIEs after peaking in the 1960s. In particular, even though the dependent population indexes of South Korea and Taiwan surpassed 80% in the mid–1960s, they fell sharply thereafter, falling below 50% from the 1990s onward. The sharp decline of the dependent population index indicates that these countries were able to benefit from the demographic bonus in a relatively short time period. From the 1970s onward when the dependent population index took a sharp downturn, the countries of the NIEs resorted to policy initiatives to attract foreign investment backed by their abundant labor force. Furthermore, given the transfer of production sites among foreign corporations to take advantage of inexpensive and abundant labor, the NIEs were able to

achieve economic development leveraged by the expansion of exports.

Chart 8: The dependent population index of the countries of East Asia

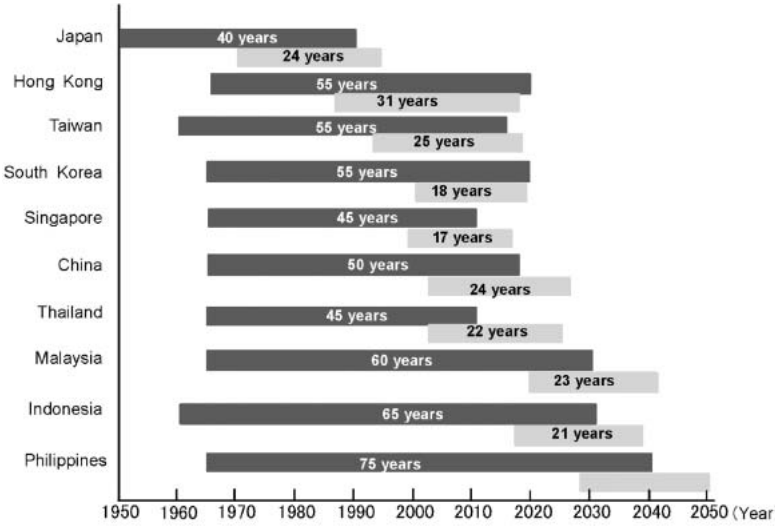


Notes: The "dependent population index" refers to the value derived by dividing the total of the child population (population aged 0~14) and the aged population (population aged 65 or above) by the working age population (population aged 15~64).
Source: Made by MHRI, based upon United Nations, *World Population Prospects (ver.2006)* and others.

Even though the decline of the dependent population index in ASEAN was milder than in the NIEs, its lowest level was still a low 40%.

Despite the absence of a clear definition of the demographic window, it can be depicted as in **Chart 9** if the peak of the dependent population index is deemed as the entry of the demographic window and the timing of the subsequent resurgence of the index is deemed as its end. Thus, in Japan's case, the demographic window coincides with the period in time from 1950 to around 1990 when the baby boom generation provided the economy with labor.

Chart 9: The demographic windows and progress of ageing in the countries of East Asia



Notes: The upper bar indicates the demographic bonus and the lower bar indicates the time in period when the relevant country shifts from an ageing society to an aged society.
Source: Made by MHRI, based upon United Nations, *World Population Prospects (ver.2006)* and others.

In the countries of the rest of East Asia, the demographic window started around the latter half of the 1960s to the 1970s and is predicted to last around 2010~2020 in the NIEs and China, around 2015 in Thailand, and 2030~2040s in the other countries of ASEAN.

Given the difficulty to sustain the continuous decline of the dependent population index, a society cannot benefit eternally from the demographic bonus. The demographic bonus is followed inevitably by a demographic onus. More specifically, the economy will be subject to rising burdens due to the increase of social welfare costs along with the ageing of the generation which served in the past as an abundant source of labor.

While Japan and the countries of the NIEs were beneficiaries of dramatic demographic bonuses due to the sharp fall of the dependent population index, the phenomenon also suggests that its reaction subsequent to the end of the demographic window will be

all the more severe. In fact, the dependent population index is forecast to rise sharply among the NIEs after bottoming in 2010–2020 (**Chart 8**). Furthermore, as indicated in **Chart 9**, the ageing process is already starting even before the end of the demographic window. In the latter half of the demographic window, the countries of the NIEs will have to start preparing for a society burdened by a demographic onus.

Looking forward, how will the countries of East Asia be affected during the period beset by the demographic onus? In the proceeding section, this paper shall examine the impact of ageing and the declining birthrate upon the economy or, in other words, the demographic onus.

(3) The impact of ageing and the declining birthrate upon the economy

Demographic shifts such as ageing, the decline of the birthrate and the population should serve as restraints upon economic growth through various channels. In broad terms, three main restraints are likely.

Firstly, there are concerns that the foregoing demographic shifts will serve to reduce labor input. Assuming that the labor force participation rate is constant, a further decline of the birthrate will serve directly as a negative factor upon the rate of economic growth since it will lead eventually to the fall of the labor force population through the decline of the working age population.

Nevertheless, as for such concerns regarding the quantity of labor input, the decline of the labor force participation may be offset to a certain degree through the promotion of job opportunities for women and the elderly whose capacities are not fully utilized despite their desire to work as well as the utilization of foreign and migrant labor.

Secondly, there are concerns that ageing will serve as a drag upon the buildup of capital stock. According to the life–cycle hypothesis of saving which posits that people save for the future during their working years and dissave in old age, the progress of

the ageing process will lead to the decline of a country's saving rate. Furthermore, it will hamper the buildup of capital stock and push down the potential economic growth rate. Moreover, in the event the investment–savings balance in the public sector worsens as a result of the increase of social security–related expenditures along with the ageing process, it will also push down the saving rate of the entire country and serve as an impediment to economic growth (note 7).

Thirdly, the rise of social security–related burdens such as medical costs and the public pension program will push down the disposable incomes of households (mainly the current generation) and corporate enterprises. Given the negative impact upon the incentive to work and invest in plant and equipment, there is the possibility that it will serve as a further drag upon economic growth. Moreover, there are concerns that the deterioration of the environment surrounding the fiscal and social security programs and the widening gap between generations may impair the sustainability of these programs.

As shown above, ageing and the decline of the birthrate and population may serve as restraints upon economic growth. Nevertheless, a country's economic growth is defined by labor, capital and total factor productivity (such as technological advances and improvement of the quality of labor). Furthermore, economic growth is the sum of per capita GDP growth rate and the rate of population growth. Therefore, even if the volume of labor decreases due to ageing and population decline, economic growth will not turn negative as long as productivity growth is sufficiently high.

Note also that in the discussion of economic development, there are those who contend that more importance should be attached to the rate of per capita GDP growth rather than GDP growth of an entire country. The view is based upon the fact that even if GDP in macroeconomic terms contracts due to the decrease of labor supply, it would be possible to raise the level of economic welfare as long as per capita GDP keeps growing. From this perspective, policy initiatives to raise productivity such as the following would be important: measures to upgrade human capital through education

and training in order to raise per capita GDP and the improvement of capital efficiency through innovation (the introduction of new technology and creative efforts).

Even so, note that fiscal and social security burdens are issues regarding distribution and that there would be nothing to distribute without the creation of wealth itself. Thus, it would still be important to consider the expansion of the macroeconomic size of a country for the maintenance of the fiscal and social security program in an ageing society with a dwindling birthrate.

(4) Ageing without the sufficient rise of income

In a discussion on ageing in East Asia, it is necessary to take note of the income levels of the respective countries.

A look at the per capita GDP as of 2006 reveals that in comparison to USD34,238 in Japan, the level of per capita GDP among the NIEs all surpassed USD10,000: South Korea (USD18,385), Taiwan (USD16,081, Singapore (USD31,027), and Hong Kong (USD27,709). These levels may no longer be described as per capita GDP levels of developing countries. In other words, the ageing process among the NIEs most likely progressed amid the maturation of the economic and social structures along with the rise of incomes, as in the case in Japan. Thus, the key point in their policy initiatives for ageing would be how to maintain and manage their pension and healthcare programs under a state of moderate economic growth (note 8).

China and the ASEAN provide a different story. At the current stage (2006), the levels of per capita GDP among these countries are as follows: China (USD2,022), Thailand (USD3,166), Malaysia (USD5,859), Indonesia (USD1,642), and the Philippines (USD1,352). Assuming that economic growth remains at the current level (the average rate of growth from 2001 to 2006) until the end of their respective demographic windows, the levels of income would be as set forth in **Chart 10**. According to this chart, Malaysia would be the only country reaching the level of a developed country by the end of the demographic window. Per capita GDP in all the other countries

would remain below USD10,000.

Chart 10: The level of per capita GDP in the countries of East Asia

	End of the demographic window	Per capita GDP (estimates)
Japan	1990-1995	23,504
Singapore	2010-2015	43,664
Hong Kong	2010-2015	34,926
South Korea	2015-2020	28,311
Taiwan	2015-2020	20,917
China	2015-2020	5,451
Thailand	2010-2015	7,608
Malaysia	2030-2035	18,538
Indonesia	2030-2035	5,237
Philippines	2040-2045	5,584

Note: Per capita GDP on a purchasing power parity basis (2000 dollar basis).
Sources: World Bank, *World Development Indicators*.

Ageing and the declining birthrate in the countries of East Asia all have unique characteristics and thus require different initiatives to solve the problem. It would be necessary to discuss the impact and policy responses in the NIEs which will head into the ageing phase after their income levels rise to sufficient levels and the countries of the ASEAN and China which will start to age before reaching sufficiently high levels.

In the following sections, this paper will look at South Korea as an example of the former and Thailand as an example of the latter group and survey what policy initiatives are being taken for demographic ageing.

4. Policy initiatives for demographic ageing in South Korea

(1) The impact of ageing will start to emerge from 2020 when the baby boom generation reaches retirement age

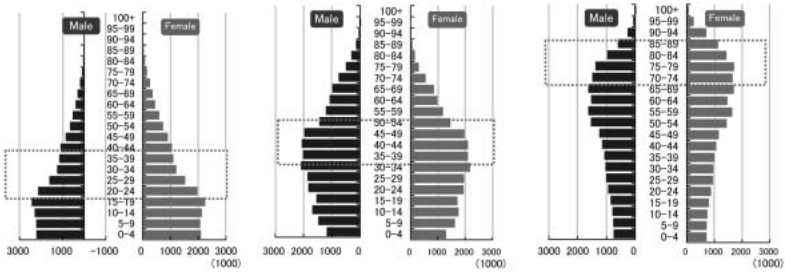
At present, South Korea is still standing at the initial phase of the ageing process. South Korea's aged population (the population aged 65 or above) was 9.4% as of 2005 – standing at a low level in comparison to 19.7% in Japan. However, South Korea is predicted to age at the fastest pace in the world. According to definitions set forth by the UN, South Korea entered an ageing society (a society in which more than 7% of the population are 65 or above) in 2000 and is predicted to enter an aged society (a society in which more than 14% of the population are 65 or above) only 18 years thereafter in 2018 and an hyper–aged society (a society in which more than 20% of the population are 65 or above) in only eight years from then onward. Such an amazingly rapid ageing process stems primarily from the sharp decline of its birthrate.

In South Korea, those born during the period immediately after the 1955 ceasefire of the Korean War to 1963 belong to the baby boom generation. At the time, the birthrate stood above 6. However, the government's subsequent family planning policy triggered a sharp fall, pushing down the birthrate to 2.08 in 1983. Since then, South Korea's birthrate has continued to fall short of the population replacement level of 2.1. The TFR in 2006 stood at an extremely low level of 1.13.

Looking forward, ageing and the decline of the birthrate will become predominant when the baby boom generation reaches the aged generation and the generation with a hyper–low birthrate (those born in and after 2001) grow into childbearing age from 2020 onward. **Chart 11** sets forth the trends in demographic structure in terms of age (note 9). In 1980, the structure was shaped in the form of a pyramid with a large percentage of the population comprised of the youth generation – mainly the baby boom generation. In 2005, the

structure shifted into the shape of a vase as the baby boom generation grew older. By 2050, the entire structure will turn thinner, reflecting the decline of the population.

Chart 11: Demographic shifts in South Korea



Note: The age brackets surrounded by the broken lines are the baby boom generations.
Sources: Made by MHRI, based upon Komine (2004) and United Nations, *World Population Prospects (ver.2006)* and others.

These shifts in demographic structure will have a massive impact upon economic growth. Firstly, the decline of the population will lead directly to the decline of the labor force population. While the working–age population will start to decrease in 2016, the labor force population should fall to approximately two–thirds of the current level in 2050, based upon the assumption that the current labor force participation ratio remains unchanged.

According to the IMF (2004), in order to maintain the labor supply as of 2000 in 2050 (keeping the labor force participation rate constant), it would be necessary to extend the retirement age (currently 55 years old) by 11 years or to raise the ratio of overseas immigrants to 35%. Furthermore, along with the increase of the aged–generation population, the old age dependency ratio (the aged population or the number of persons 65 or above/the productive population or the number of persons aged 15–64) will increase six–fold from 10.1% in 2000 to 62.5% in 2050, the (total) dependency ratio will rise from 39.5% in 2005 to 54.9% in 2030 and 81.5% in 2050.

(2) State–led efforts in an ageing society with a declining birthrate

Given a sense of crisis regarding such conditions, the government of South Korea established a "Committee on Ageing and the Future Society" (2003) under the auspices of the President. South Korea is taking full–fledged efforts to tackle the situation as shown by the enactment of the "Basic Law on Ageing and the Declining Birthrate" in September 2005 and the "Seromaji Plan" (note 10) in July 2006.

The aim of the Seromaji Plan is to realize a sustainable society in which all generations are able to coexist through overall reforms of the socioeconomic structure to correspond with an ageing society and declining birthrate from around 2020. More specifically, it sets forth four target goals as follows: (1) the creation of an environment conducive to childbirth and child–rearing, (2) the construction of a foundation in order to improve the quality of life in an ageing society, (3) the maintenance of a growth engine in a society with a declining birthrate and ageing population, and (4) the formation of a social consensus and the improvement of policy efficiency corresponding to the declining birthrate and ageing population. The government is scheduled to inject a total amount of KRW32 trillion in the first phase running for five years from 2006 to 2010.

The key point in South Korea's policy initiatives to tackle its ageing population lies in how to secure the livelihoods of the elderly. Even though the eldest son was traditionally deemed responsible for taking care of elderly parents in South Korea (note 11), such concepts of dependency are changing along with shifts in family structures and social advancement of women (note 12). To correspond to such changes in social environment, the government is (1) promoting the employment of the elderly, and (2) improving the public income security system.

a. The promotion of job opportunities for the elderly

In South Korea, employees of business establishments customarily retire in their mid–50s and there are no systems in place

which prescribe the extension of employment contracts with elderly workers. For example, according to a questionnaire survey ("Japan–Korea Joint Survey Regarding the Employment of the Elderly") conducted in May 2008 by the Nikkei Inc. and the JoongAng Daily of Korea, only 31% of companies in South Korea have introduced reemployment systems (95% of Japanese companies have introduced reemployment systems). While this may stem from South Korean companies perceiving the mass retirement of the baby boom generation as a distant issue occurring only around 2020, there is also a social factor involved, namely that strong Confucian ethics respecting elders may be at odds with the reversal of statuses as a result of reemployment.

That said, as mentioned before, there is a rising necessity for the elderly to maintain their own incomes by continuing to work, reflecting changes in attitudes regarding the support of elderly parents and the decline of the labor force population. The government of South Korea is currently engaged in efforts to raise the retirement age in phases from the current age of 55 to 60 or older and to ultimately abolish the system of compulsory retirement itself as in the US (note 13). Specifically, measures such as the following are being implemented: (1) promotion of job security and reemployment of the elderly, (2) expansion of the coverage of employment insurance from workers aged 59 to 64 or older, (3) expansion of the payment of subsidies for new employment of elderly workers (raise the upper age limit for eligibility to 65 and raise the amount of monthly payment from KRW280 thousand to KRW300 thousand), (4) improvement of the environment regarding the employment of elderly workers (establishment of job placement consultation offices and information centers for elderly employment and others).

b. Public income security nets

Income security after retirement is provided by means of the three following safety nets: (1) national pension, (2) retirement allowance, and (3) public assistance for low income persons. Of the

foregoing, the largest emphasis is placed upon the national pension.

South Korea's national pension program was established in 1988. Initially, coverage was limited to employees of private business establishments (with 10 or more employees). Subsequently, the gradual expansion of the program ultimately led to the achievement of universal coverage by acknowledging participation by the self–employed in 1999. As a result, the number of participants in the national pension program doubled from 9 million in 1996 to 1.8 million in 2006. However, the participation rate of the self–employed and unoccupied persons remains low, due in part to the fact that they must pay the full amount of national pension premium rates (9%).

Chart 12: Overview of South Korea's public old age social security program

<table>
<tr><th colspan="2">Coverage</th><th>Employees of private business establishments</th><th>Self-employed persons</th><th>Special occupation workers: government employees, military personnel</th></tr>
<tr><td rowspan="2">Pensions</td><td>Public pension</td><td colspan="2">National pension (note)</td><td>Special occupation pensions</td></tr>
<tr><td>Corporate pension</td><td>Retirement pension</td><td colspan="2">———</td></tr>
<tr><td colspan="2">Assistance for low-income persons</td><td colspan="3">Basic social security program</td></tr>
</table>

Note: As a general rule, participation in the program is compulsory. However, participation is optional for persons without income such as full-time housewives and students aged 26 or younger

Sources: Made by MHRI, based upon releases by the Ministry for Health Welfare and Family Affairs of South Korea

South Korea's national pension is a defined–benefit program in which the rate of income substitution of wages is guaranteed. Participants reaching the age of 60 who have participated in the program for 20 years or longer are entitled to full payment of the old age pension without reductions. After the time span of participation reaches 20 years, the amount of pension benefits increases with each additional year. When participating in the program for 40 years, a

participant is eligible to receive benefits equal to 50% (income replacement rate) of the average wage before retirement. Since full–benefit payment is scheduled to start in 2008, a sharp rise of benefit payments is expected in the future. While the ratio of participants to beneficiaries was a mere 0.5% in 2005, the ratio is expected to surge to 13.3% in 2010 and 41.9% in 2030.

Thus, in the reform of the pension program in 2007, it was decided that (1) the premium rate of 9% (to be divided between labor and management) would not be changed but will be subject to reviews every five years from 2010 onward, (2) benefits will be reduced by 0.5% per year starting in 2009 from an income replacement rate of 50% in 2008 (40% in 2028), (3) the eligible age for commencement of pension benefit payment will be raised from the current age of 60 to 61 in 2013 and will be raised by one year every five years, ultimately reaching the age of 65 in 2033 (note 14).

The retirement annuity program was started in December 2005, in a bid to encourage companies to enhance their retirement allowance and pension programs serving as part of post–retirement social security functions. Thus far, companies were not obligated to build up assets outside the company for the retirement allowance system required of corporations. Therefore, in the event of a corporate bankruptcy, employees were at the risk of losing both their jobs and retirement allowances. To avoid such a situation, the new retirement annuity program requires companies to build up assets outside of the company.

In South Korea, the major part of asset portfolios held by the elderly generation is skewed to real property assets rather than financial assets such as deposits. Therefore, there is a situation in South Korea where the aged generation possesses property but have no income. The government is encouraging the so–called "reverse mortgage" system in which the elderly generation receives annuities from banking institutions by providing real assets as collateral and the banking institution receives the assets either at the time of the beneficiary's death or the end of the contract term.

Furthermore, South Korea has abolished its social security law

and has set up instead a "national basic social security program" and a tax–paid "basic old age pension program" as income security measures for those without pensions. This provides low–income persons aged 65 or above with 5% of the average income of the participants in the national pension program.

c. Old age healthcare and nursing care programs

South Korea's healthcare insurance program is a universal system. The healthcare insurance program for the elderly is provided primarily by the healthcare insurance law (enacted in 1977, the universal healthcare insurance program was established in 1989). Moreover, there is also the national basic social security program provided as public assistance toward the poverty class which is excluded from the healthcare insurance program.

According to research by the Korea Institute for Health and Social Affairs, approximately 20% of the elderly aged 65 or above fall into the category of those requiring medical treatment and protection who have difficulties in daily life without the support of others. Given these circumstances, the nursing care insurance program was started in July 2008 from the perspective of responding to the sharp rise of old age healthcare costs along with the increase of the elderly requiring nursing care. The program covers the elderly aged 65 or above, requiring long–term healthcare treatment and will be funded by insurance premiums, state support and users of the program. Insurance premiums will be calculated by multiplying the insurance premium rate for long–term healthcare treatment by the health insurance premium rate and shall be collected in lump–sum along with the health insurance premium.

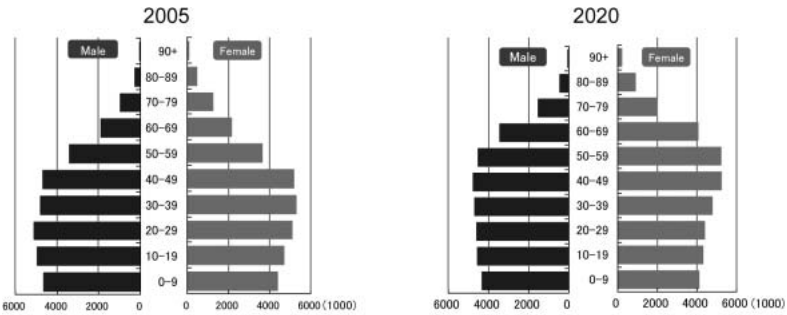
5. Policy initiatives for demographic ageing in Thailand

(1) Thailand will be the first among the ASEAN to face an ageing population

Up to the 1960s, Thailand had a birthrate over 6 and had a demographic structure characterized by a high rate of birth and a low rate of mortality. However, the government took initiatives to control the population by drawing up the "National Population Policy" in the early 1970s. Even though this policy did not entail complusory measures such as China's One Child Policy, aggressive family planning efforts contending that "prolificacy is a large burden upon households" led to the decline of the birthrate along with the rise of economic growth from the 1970s. Thailand's birthrate fell below 2.1 in the second half of the 1980s and dropped to 1.83 in 2005.

Thailand's total population as of 2005 is 63 million or 1.7 times the population as of 1970. According to estimates by the UN, the rate of population growth during the period from 2005 to 2010 is approximately 0.9% and is expected to fall to around 0.7% reflecting the impact of the declining birthrate during the period from 2015 to 2020. As a result, the population is predicted to stand at 69 million in 2020. A closer look at the shape of the demographic pyramid reveals that there is currently (2005) a bulge around the middle–aged and youth generation. Around 2020, the shape will turn more uniform as the bulge shifts upward along with the ageing of the population (**Chart 13**). The elderly population (the population aged 65 or above) will increase from 3.32 million in 2005 to approximately 7 million and reach 10.1% of the total population (25% in 2050). In other words, 10 working age persons will support one elderly person. Thailand will be the first country in the ASEAN to face an ageing population.

Chart 13: The demographic structure of Thailand



Source: United Nations, *World Population Prospects (ver. 2006).*

Thailand's income level as of 2006 is USD3,166. Even when assuming that the current rate of economic growth remains unchanged as in **Chart 9**, the level of per capita GDP will only reach USD7,608 around 2015. The odds are high that Thailand will be faced with an ageing population with a significantly smaller economy.

(2) Social security program development after the Asian currency crisis

Prior to the Asian currency crisis, Thailand took a strategy of growth to raise the overall level of its people's livelihood by stimulating economic growth. As indicated by Oizumi (2006–b), the strategy is based upon the "trickle down" concept which aims to solve various social problems such as poverty by spreading the fruits of economic development throughout the entire society. Nevertheless, given the sharp rise of unemployment and the poverty–stricken, there was a widespread recognition that a strategy committed exclusively to economic growth will not serve to stabilize the entire society.

The administration led by former Prime Minister Thaksin Shinawatra which came into power in 2001 took a "Dual Track Policy" pursuing both the stimulation of domestic demand through

the assistance of rural areas and small and medium–sized enterprises and the introduction of foreign capital and promotion of exports, based upon the following fundamental policies: (1) balanced economic development, (2) improvement of the quality of life, and (3) the alleviation of poverty. Despite the subsequent coups leading to the shift of political power, Thailand's fundamental stance in pursuit of "balanced economic development" remains unchanged. Furthermore, Thailand's efforts in response to population ageing may be understood in this context.

a. The public pension program

Currently, Thailand's public pension program is basically limited to public sector employees such as civil servants and employees of private–sector corporations. The pension program is yet underdeveloped with respect to general business enterprises, those engaged in agriculture, forestry and fisheries and workers in the informal sector (street vendors and peddlers) (**Chart 14**).

Chart 14: Thailand's social security program

Genre	Coverage	Name of program	Brief description
Pension program	Civil servants, military personnel, state enterprise employees	Government Pension Fund	Defined benefit pension. Payment of lump sum benefit funded by taxes and premiums (contribution rate: 3% government, 3% civil servants) Compulsory participation from 1997 onward. Participation was voluntary prior to 1997. Qualifying conditions: retirees with 25 or more years of continuous employment or persons aged 50 or over with10 or more years of continuous employment
	Employees of private-sector corporations	Employee's Social Security Program (note)	Pay-as-you-go pension program in which insured persons become eligible to receive pension benefits when they have participated in the program for 180 months (15 years). The amount of benefit is determined on the basis of the wage level during the five months prior to retirement and the number of years of premium contribution. The premium rate is 6% (minimum: 1650 Baht, maximum: 15,000Baht) (employer 3%, employee 3%)
		Private-sector provident funds	Provident funds running parallel to the Employee's Social Security Program which may be established voluntarily by agreement between the employer and employee. Premiums must be set within a range from 3% to 15% and the premium rates of employees must be equivalent to or higher than that of employees.
	General business enterprises, workers in the informal sector	Provident funds	Defined contribution pension (in which a maximum of 15% of income may be paid in as contributions) similar to the 401(k) plan in the US. Minimum amount of contribution (5,000 Baht per month). Contributions are tax-exempt.
Public assistance	The elderly (aged 60 or above)	Old-Aged Pension Fund	Low-income persons aged 60 or above receive 500 Baht per month as social welfare benefits. Approximately one-fourth of the elderly population (persons aged 60 or above) are eligible.

Note: A social security program providing a wide range of benefits not only limited to pensions but also healthcare and income security, maternity benefits, invalidity benefits and unemployment benefits
Sources: Made by MHRI, based upon Japan Bank for International Cooperation (2002).

Thailand's public pension program was created in 1951, with coverage limited to civil servants and employees of state enterprises. Initially, civil servants and employees of state enterprises had no obligations to pay in contributions and were entitled to receive tax–funded pensions (or lump–sum payments) proportionate to their final wages at the time of retirement. However, from the perspective of curbing fiscal burdens, the program was changed to a contributory system (compulsory payment system) by the government and civil servants from 1997 onward. The new program is a two–tier system comprised of a tax–funded lower tier proportionate to earnings and an upper tier comprised of a lump–sum payment funded by premiums paid by civil servants and employees of state–affiliated enterprises and investment returns on premiums.

Furthermore, a pension program covering employees of private–sector corporations was introduced in 1999 within the framework of the Employee's Social Security Program. The Employee's Social Security Program was upgraded pursuant to the Social Security Act (1990) which recognizes the widespread coverage of social security to employees of private–sector business enterprises. The government has made improvements to the benefits and scope of coverage in phased steps under the program. In the first step, in 1991, a program of sickness or injuries benefits, maternity benefits, invalidity benefits and death benefits was established with respect to business enterprises with 20 or more employees. Subsequently, the scope of coverage was expanded to business enterprises with 10 or more employees in 1993 and business enterprises with one or more employees in 2002. Furthermore, the scope of benefits was expanded to include old age benefits and child allowances in 1998 and unemployment benefits in 2004.

In the case of the Old–Aged Pension Fund introduced in 1998, both the employer and the employee each contribute 3% of wages (raised in 2003 from what was formerly 2%) as premiums. This serves as the source of funds for benefit payments and there are no

burdens upon the state coffers. Pension benefits are paid to persons aged 55 or over who have paid premium contributions for 180 months (15 years) (note 15). Since only 10 years has lapsed since the establishment of the program (1998), there are currently no persons who satisfy the foregoing requirements. Thus there are no persons eligible for full payment at present (payment of pension benefits will start in 2014). While the amount of pensions are calculated by multiplying 1% to each year of premium contribution on the basis of the average amount of wages during the last five years of employment, the income replacement rate is estimated to be around 30% to 35% of income before retirement.

Furthermore, there are provident funds running parallel to the foregoing social security program which may be established voluntarily by agreement between the employer and employee. The requisite conditions in such case are that premiums are set within a range from 3% to 15% and that the premium rates of employees are equivalent to or higher than that of employees.

At present, there are provident funds for workers in the agricultural, forestry and fisheries sector, the self–employed and workers in the informal sector. This is a defined contribution pension (in which a maximum of 15% of income may be paid in as contributions) similar to the 401(k) plan in the US. Given the high level of the minimum amount of contribution (5,000 Baht per month), participants in the plan are comprised mainly of the wealthy.

Furthermore, old–age welfare benefits provide income security for low–income persons. Low–income persons aged 60 or above receive 500 Baht per month. In 2007, approximately one–fourth of the elderly population (persons aged 60 or above) received these benefits.

b. Healthcare insurance programs

Healthcare insurance is provided in Thailand by the Civil Servant Medical Benefit Scheme (CSMBS) covering civil servants and an insurance program within the framework of the social security fund for employees of private–sector corporations. The gap in coverage

with respect to workers in the agricultural sector and the self–employed is a similar situation with those who are not covered by the pension program. Even so, the National Health Insurance Act was passed in 2002 under the Thaksin Administration, guaranteeing the rights of all Thai nationals to receive medical care. Under this scheme, persons other than civil servants and employees of private–sector corporations can receive a maximum amount of 1300 Baht in healthcare services by paying 30 Baht per episode, regardless of whether the treatment includes out–patient or in–patient services. Even though this so–called "30 Baht Universal Coverage Policy" requires prior registration, as many as 48 million or 70% of all Thai nationals registered and received healthcare under the Thaksin Administration. In view of the cost burden to collect the 30 Bhat payment, the provisional government established subsequent to the 2006 coup has made healthcare costs free of charge while maintaining the framework of the scheme. Healthcare costs totaling 920 billion Baht per year are funded entirely by public finance.

6. East Asia's policy initiatives for the ageing population

(1) Social security development in South Korea and Thailand

The foregoing sections provided a survey of the initiatives taken toward ageing in South Korea and Thailand, centering mainly upon the social security programs. Currently, the old age population ratios of both South Korea and Thailand are still at single–digit levels and fall into the purview of an ageing society under the UN's definition. However, it is predicted that South Korea will reach the stage defined as an aged society subject to larger impacts of ageing in a time span of 10 years in 2018 and that Thailand will reach the same stage only four years thereafter in 2022. The next issue is how to

assess the state of the social security program in the rapidly ageing societies of South Korea and Thailand

As in Japan, South Korea's public pension and national heathcare insurance programs are universal schemes providing coverage for all its nationals. Furthermore, public frameworks for the impending aged society are established such as the introduction of the nursing care insurance program. In view of the progress of population ageing, the maintenance of such frameworks will become important tasks.

Turning to the public pension program, the actuarial review conducted in 2003 forecasts that the pension program will fall into a state of excess expenditures in which pension revenues will surpass expenditures in 2036 and that the pension fund will be depleted in 2047. Thus, measures were taken to raise the eligible age to receive full benefits and to lower the level of benefits (the income replacement rate) in gradual phases at the time of the revision of the pension program in 2007. Nevertheless, it has been pointed out that the pension funds will be depleted by 2062 – in other words that the time span until depletion will be only be extended by 15 years – as long as premium rates remain at the current 9%. According to Moon (2007), there are estimation results showing that it would be necessary to raise premium rates to the 20%–level in order to maintain the current level of benefits (50%). In South Korea, the pension program will be subject to review every five years from 2010 onward on the basis of the future outlook on the fiscal balance. In view of forecasts on the rapid ageing of the population, the odds are high that South Korea will be faced with the need to lower the level of pension benefits and review the premium rates every five years.

Given the increase of the elderly requiring social "support" in the future, the rise of social security expenditures such as pensions, healthcare and nursing care will be inevitable. On the other hand, the proportion of the youth population – the "supporters" – is shrinking. Amid the rapid population ageing and declining birthrate, it will eventually become difficult to sustain the program only through stopgap measures to review the current program. In order

to reduce the costs accompanying the demographic onus, measures to either halt or slow down the demographic ageing process, declining birthrate and population contraction would be necessary.

Under these conditions, the government of South Korea is engaging in full–fledged efforts to tackle the declining birthrate under the aforementioned Seromaji Plan, in a bid to increase the "supporters" of the South Korean society. Even so, in addition to the notoriously difficult task to achieve a dramatic rise of the birthrate, it would take a time span of 20 years or so for the efforts to bear fruit. During such a long period, someone must bear the burdens accompanying the ageing population. The crucial point will be how well the burden may be balanced among the state, individuals and corporate enterprises.

Thailand faces a decidedly more difficult task when compared to South Korea. This is because developing countries such as Thailand must achieve high economic growth through infrastructure development and other measures while facing the necessity to upgrade their social security program such as pensions and healthcare services.

As for the current state of healthcare services, while the healthcare insurance program only covers civil servants and employees of private–sector corporations, all nationals are basically entitled to receive free healthcare services under the charge–free healthcare program introduced after the Asian currency crisis. However, as a general rule, the pension program does not cover workers in the agricultural sector and the self–employed (including workers in the informal sector). As a result, the rate of coverage of the pension program falls below 40%. From the perspective of achieving an environment in which the elderly are able to live at ease, the establishment of a universal pension program would be commendable. Having said so, the establishment of a universal insurance program is no easy matter.

Firstly, in the event coverage is expanded to workers in the agricultural sector and the self–employed, the odds are high that the introduction of a social insurance program resting mainly upon

premiums would raise the state's fiscal burden to a considerable high level, given the relatively low income level of these people. It will not be easy to pursue the development of social infrastructure necessary for growth while generating social security expenditures from limited financial resources. Furthermore, the introduction of a pay–as–you–go program at a stage where ageing and birthrate decline have progressed to a considerable degree would serve as an excessive burden upon the working–age generation. There are risks that the initiatives to cope with the ageing population would dampen the vitality of the economy and serve to weaken growth.

Moreover, while a charge–free healthcare program is commendable as a social security program to provide widespread healthcare services, it should be noted that the healthcare costs totaling 920 billion Baht per year are funded entirely by public funds. Looking forward, given forecasts of the rise of healthcare costs along with the progress of the demographic ageing process, the program will have to be revised at some point in time from the perspective of sustainability (note 16). Tax hikes to secure fiscal revenues or the introduction of a social insurance program would become necessary in the future. However, in such event, similar drawbacks discussed with respect to the pension program would occur.

As set forth above, there are numerous difficulties in the establishment of a program to provide pension benefits and healthcare services to all nationals. Fortunately, Thai society – mainly the rural areas in which 70% of the population resides – still rests upon close–knit communities providing mutual assistance and extended families in which family members take care of the elderly. At the current stage, support toward the elderly including income security is provided by families and relatives and mutual assistance within communities. While the weight of public assistance is predicted to increase along with the urbanization of Thailand, it would still be difficult for the public sector alone to cope with demographic ageing. In developing countries such as Thailand, the role of government will inevitably be more limited than in developed countries given the existence of various constraints. Ingenuity will be

a key to establish a social security program while maintaining and utilizing the traditional role of mutual help in regional communities.

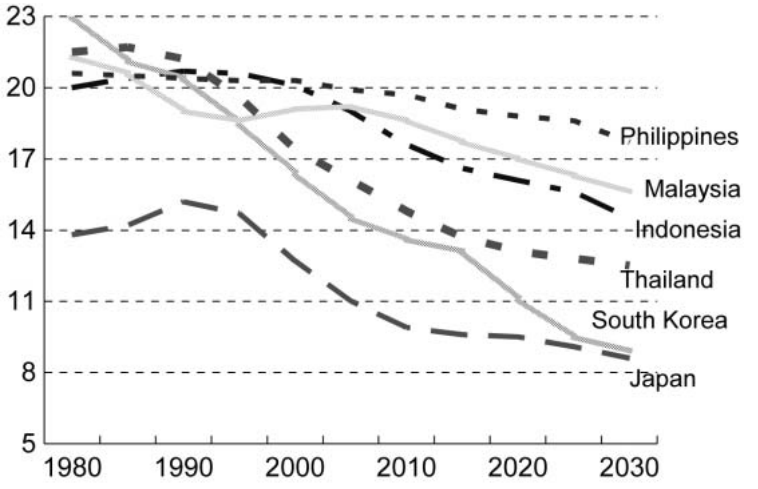
(2) Social security development in Malaysia, Indonesia, and the Philippines

We shall look next at the three countries of ASEAN other than Thailand, namely Malaysia, Indonesia, and the Philippines.

Despite differences in the speed of the process, the populations of all three countries of ASEAN other than Thailand are ageing. Indonesia and Malaysia are poised to join the ranks of an ageing society around 2020. Even so, the birthrates of all these countries still surpass 2.1 which is the population replacement level. Furthermore, in contrast to the end of the demographic window in 2015 with respect to Thailand, the demographic windows of these three countries will continue until 2030–40. In view of these conditions, ageing is not as much of an immediate issue in these countries when compared with the NIEs and Thailand.

In addition, at the current stage, the ratio of the young adult population in the total population is relatively high and is expected to remain high for some time (**Chart 15**). Just as the NIEs took advantage of their demographic bonus to achieve economic growth, the three ASEAN countries (ex Thailand) possess the potential to stimulate economic growth by serving as the labor force or the source of investment and productivity growth.

Chart 15: The ratio of the young adult population in the countries of East Asia

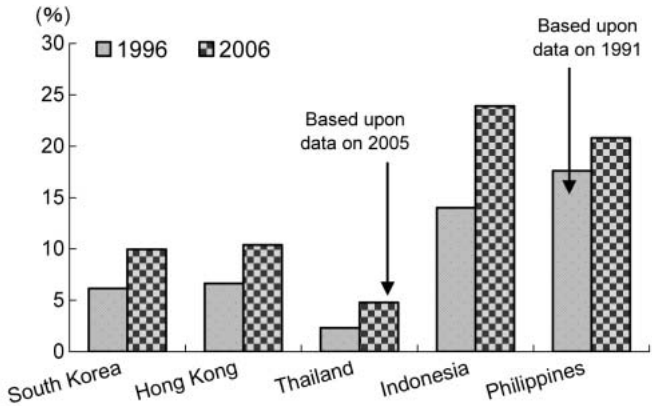


Sources: United Nations, *World Population Prospects (ver. 2006).*

However, when turning to reality, the unemployment rates of these three countries have been rising since the Asian currency crisis. Unemployment is particularly rampant among the young generation and remains high even after these countries emerged out of the currency crisis (**Chart 16**) (note 17). Youth unemployment does not lead only to the loss of present growth opportunities. Difficulties for the young generation to upgrade their professional capabilities stemming from the lack of opportunities to develop professional skills may serve as impediments to the improvement of the quality of the labor force in the future. In contrast to the rise in demand for workers with high skills and expert knowledge as the countries of the ASEAN progress on their way up the economic ladder, the supply of such human resources is not catching up. While technological training and educational support are urgently needed in these countries, the qualitative improvement of education would also be necessary over the medium term. For the three countries of the ASEAN apart from Thailand, the best policy option to tackle

demographic ageing at the current stage would be measures to raise the economic growth rate so as to reap the maximum benefits of the demographic bonus.

Chart 16: Youth unemployment in the countries of East Asia



Note: The youth generation refers to the generation aged 15~24.
Sources: ADB, *Asian Development Outlook (2008)*, ILO, *Labour Statistics Database*.

Indonesia and the Philippines both have significantly high rates of unemployment. Both of these countries are unable to generate sufficient employment given the inadequate development of the manufacturing sector which would be able to generate jobs. It would be necessary to place emphasis upon the improvement of the overall investment environment such as the development of infrastructure and the reform of inefficient administration systems also from the perspective of creating jobs.

7. Concluding remarks

The countries of East Asia have been achieving economic growth by utilizing their demographic windows. From around 2010 onward however, the NIEs, China and ASEAN (in this order) will start to enter the "demographic onus" period in which ageing will serve as a drag upon growth.

As in Japan's case, the ageing of the population in the NIEs progressed along with the maturation of their economies and societies. Thus, in addition to policy measures to raise the labor force participation rate and productivity, a key point will be how to maintain and manage the pension and healthcare programs under a moderate pace of economic growth.

Meanwhile, even if China and the countries of the ASEAN manage to sustain their rate of economic growth at a considerable level in the future, the economic level (such as the per–capita GDP) of these countries when they reach an ageing society will still remain comparatively lower than the developed countries. Countries such as these which will reach the stage of an ageing society when their economies are still at a developing stage will be required to strive for high economic growth and engage in initiatives to cope with ageing at the same time. In particular, Thailand will be facing a difficult situation since their demographic window will end around 2015. Fortunately, Thai society – in particular the rural areas – still possesses mutual support functions in which the elderly are taken care of by the family and community. It will be necessary to devise ways to sustain and utilize traditional mutual support and to establish and develop a social security program.

The three countries of ASEAN other than Thailand (Malaysia, Indonesia, and the Philippines) will still remain in their respective demographic windows until around the 2030s. Moreover, given the relatively large proportion of the young adult population in the total population, these countries possess the potential for economic growth stimulated by the young generation serving as the

full–fledged workforce. In reality however, unemployment has been rising to high levels among the youth generation since the Asian currency crisis. Hence, these countries have been unable to take the full advantage of their demographic bonus. For Malaysia, Indonesia, and the Philippines, the most desirable policy mix to cope with demographic ageing would be to raise the potential for growth by upgrading human resources through job training and support for education and improving the investment environment so as to make the best use of the demographic bonus.

In any event, the social impact of ageing and the declining birthrate will grow larger along with the passage of time. For the countries of East Asia, ageing and the declining birthrate are no longer a futuristic issue. To prepare for the impending demographic onus, the countries of East Asia must cope with the "clear and present issues" depending upon the progress of the ageing process.

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Notes:

1 In this paper, the term "East Asia" is used to refer to the 10 countries and regions including the NIEs (South Korea, Hong Kong, Taiwan, and Singapore), ASEAN4 (Thailand, Malaysia, the Philippines, and Indonesia), China, and Japan.

2 However, the non–linear rather than linear relation between the two suggests that the birthrate stops falling and starts to pick up once the income level rises to a certain level.

3 Other countries which took population control policies include South Korea, Taiwan, and Malaysia.

4 Generally, the sharper the fall of the birthrate, the faster the pace of demographic ageing.

5 A condition in which one out of every seven is an elderly person may be easier to conceptualize. Furthermore, once the percentage of the elderly in the total population surpasses 20%, a society is referred to as a hyper–aged society. Japan will be deemed as a hyper–aged society in 2010 and the countries of East Asia should follow suit as follows: Hong Kong, and Singapore in 2025, South Korea in 2030, and China in 2040.

6 Note that the demographic window is not a natural consequence with respect to all societies. In other words, a precondition is that there is a sector capable of adequately utilizing and absorbing the labor force created during the demographic window. For example, countries such as the Philippines and Indonesia do not enjoy the full benefits of the demographic window because of the low level of labor demand stemming from the underdeveloped state of labor–intensive industries.

7 There is also a hypothesis that the saving rate does not decline even in an ageing society because people do not dissave significantly due to reasons such as intergenerational transfers (the dynasty hypothesis)

8 Of course, as mentioned later on, it will be necessary to take policy initiatives to raise the growth potential in order to alleviate the negative impact of population ageing and declining birthrate.

9 Even though the total population of South Korea will continue to increase up to 2020 (49.96 million), the total population is predicted to decline from then onward, falling to 48.41 million in 2030 and 42.33 million in 2050, recording a contraction of the total population by 5.54 million in comparison to 2005 (47.87 million).

10 In the Korean language, "seromaji" means "to greet anew".

11 "Filial piety" served as the bedrock of South Korean society. There was a deep–seated idea that it was "filial piety" or the "child's duty" to take care of parents. Furthermore, parents devoted their income to their child(ren)'s upbringing and education, based upon the idea that investment in one's child(ren) leads to their security in old age.

12 According to a survey of attitude toward the care (of elderly parents) among the young and elderly generations conducted in 1999 by the Korea National Statistical Office, the idea of the care of elderly parents being the duty of the child(ren) is stronger in older generations. The percentage of responses to the effect that the care of elderly parents are not the child(ren)'s duty is higher among younger generations.

13 The labor force participation rate of persons aged 65 or over in South Korea is 31.3% and is following an upward curve. However, the majority is comprised of the self–employed and workers in the agriculture, forestry and fisheries sectors.

14 As a result, the income replacement rate will fall from the initial 70% to 40% in 2028.

15 In the event the period of premium contribution is one year or over and less than 15 years, a lump–sum payment equivalent to the following will be paid: the amount equivalent to the premium paid by labor and management (6% of wages) plus investment returns on premiums. In the event the period of premium contribution is less than one year, a lump–sum payment equivalent to the self–paid premium (3% of

salary) will be paid.

16 At the same time, infrastructure upgrades including the development of healthcare facilities and the provision of healthcare human resources such as nurses will be necessary.

17 Even though the aged–based unemployment rate is not disclosed on a continuous basis in Malaysia, data pertaining to 2002 shows that the overall unemployment rate was 3.5%, the unemployment rate of the youths was 29.5% with respect to persons aged 15–19 and 36.1% with respect to persons aged 20–24. Furthermore, even though the countries of Asia all were subject to structural adjustments to a certain degree due to the Asian currency crisis, adjustments in the process with respect to employment led to the rise of the unemployment rate. In particular, the youth generation – being unskilled – was prone to the effect of employment adjustment. The currency crisis also triggered the rise in percentage of non–regular workers.

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