

Aging in Asia

When the Structure of Prosperity Changes

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About the Release of the Translated Version

This book is a translated version of *The Ageing Asia* (老いてゆくアジア), which was published in 2007. This translated version has incorporated updated data such as the UN's *World Population Prospects, the 2012 Revision* (updated in June 2013) and the most recent data and information has been used for the descriptions presented in other parts of the book as much as possible.

While population statistics are known for their small margin of error, I was surprised anew to learn that changes were not required for the most part. In other words, population aging has advanced steadily since 2007, with the number of the elderly in East Asia alone growing by 5 million people per year. As time goes by, the governments of countries including South Korea, China, and Thailand are becoming more and more aware of the seriousness of population aging, and many workshops have been held between these countries and Japan, where population aging has advanced the most out of the countries of East Asia.

Meanwhile, the World Bank, the Asian Development Bank, and other international institutions have put forth the new concept of inclusive growth as a framework for supporting developing countries. As their policy of support under the concept of inclusive growth, they stress that economic growth should be accompanied by the development of fair social security systems for all members of the population. Amidst these circumstances it is safe to say that there is a sense of crisis toward the advance of population aging in developing countries.

Furthermore, the concept of a demographic dividend that was used in this book to explain the relationship between demographics and economic growth has become more widely used. Incidentally, the number of research papers found when searching Google Scholar for the Japanese term for “demographic dividend” in English has nearly doubled between 2007 and 2012, growing from 296 papers to 579 papers. Demographic factors such as the decrease in the working-age population and population aging have been cited as factors leading to the slowdown in China's growth in recent years. We have been forced to revise an optimistic outlook expecting that the high levels of growth enjoyed up until now would continue.

While awareness of population aging has grown, it cannot really be said that population aging countermeasures have been developed sufficiently in the countries of East Asia. Especially following the global economic crisis happened in 2007, the governments of both developed countries and developing countries have prioritized the maintenance of their economies, and the development of social security systems, particularly population aging countermeasures, has been postponed as a result. It should be noted that the

large-scale fiscal stimulus measures being implemented to maintain economies are restricting the freedom of financial resources that could be provided for countermeasures in response to aged societies in the future. Many people still fall outside the scope of social security systems.

This book stresses that we cannot afford to be optimistic toward the economic growth of East Asia due to population aging. Recently the term middle income trap has been used in reference to emerging countries and developing countries whose economic growth slows before becoming high income countries. However, an even graver situation is one in which population aging advances in emerging countries and developing countries before they become high income countries. I refer to this concept as the middle income country's cliff. While innovation to increase productivity is required to escape the middle income trap, in order to overcome the middle income country's cliff it is necessary to rethink the stance toward population aging throughout society as a whole. It is not sufficient to merely focus on how to support the continually increasing number of elderly people. We should instead rethink the practice of defining the elderly by age alone and focus on increasing the number of elderly people that are healthy physically and mentally and able to live well independently. The most important thing to do is to form societies that can actively utilize the wisdom and experience of the elderly. The biggest lesson learned since 2007 is how important increasing the number of active elders is for the achievement of an abundant aged society. If this can be achieved, East Asia will continue to shine.

This English translation version was made possible through grants provided by the Oriental Life Insurance Cultural Development Center. I would like to express my sincere gratitude for this support.

I would be overjoyed if this book provided an opportunity for the reader to consider the achievement of an abundant aged society in East Asia.

October 2013
Keiichiro Oizumi

Foreword

By

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Aging in Asia. Some readers may wonder why such a title was selected. This is because that for many people, their image of Asian countries continuing to enjoy high levels of growth overlaps with an image of countries still in their youth. Concepts associated with this image include the East Asian miracle, the Asia that serves as a driver for global growth, the Asian century, and emerging Asia. The words that are used to talk about Asia's economy all bring to mind a youthful Asia.

Meanwhile, the population explosion problem has been stressed when discussing demographic issues in developing countries in the context of development economics. The population explosion concept refers to the explosive increase in population that results when moving from the high-birth, high-death phase to the high-birth, low-death phase. Fortunately, population control measures in East Asia have been successful as we see the cases of Thailand's effective birth-control campaign and China's one-child policy, and the population that had grown before these measures has been transformed into a young, abundant, and high-quality working population. As a result, East Asia has been able to achieve export-oriented industrialization with a focus on labor-intensive industries and a high level of growth among the developing countries. This can be said to be the standard understanding of East Asian economies.

However, the situation has drastically changed since the 1990s. What have characterized East Asia since then are a decrease in the total fertility rate and an increase in the elderly population at a speed never experienced by developed countries and all at once with no relation to the differing economic levels of the individual countries. The demographic dividend period will soon come to an end in several countries of East Asia (Korea, Singapore, China and Thailand) and as a result labor supply shortages will cause real wages to rise. The simultaneous advance of population aging and fertility lowering together with the movement of young people to urban areas and transformations in family structures has caused the serious social issue of who would care for the elderly left behind in rural areas. As long as there are no improvements in labor productivity or advances in innovation, increases in real wages can only lead to a slowdown in growth and reaching income ceilings. In this sense, East Asia is now at a crossroads, being known as "the middle-income trap" or "the middle-income country cliff."

This book uses the three angles of demographic transitions, economic growth, and social security to vividly present a real picture of East Asia that is undergoing a period of major transition. In stark contrast to the traditional Asia theory based on the keywords of industrialization, export promotion, and developmental dictatorship, this is a completely new view of Asia. The original Japanese version of this book that was published in 2007 not only received great acclaim, but it also won the Award for the Promotion of Studies on Developing Countries from IDE-JETRO in recognition of presenting a fresh perspective in contrast to existing Asia theory.

With this English edition, efforts have been made to present the latest information by updating all of the data used in the original Japanese version. In the process of updating the data it was discovered that the problem of low fertility and population aging does not appear to be improving, that the situation is becoming more serious in China and Thailand, and that the same issues are occurring in other East Asian countries, although there are some variations in their levels. I hope that this book will serve as an essential tool for understanding contemporary Asia so that the future of Asia can be put in its proper perspective.

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Introduction

The trend of declining birthrates and aging populations

East Asia is rapidly aging. Declining birthrates and aging populations have already become problems that are common throughout East Asia.

These trends were first seen in Japan. The total population of Japan has been on the decline since 2005.

It is not rare for a country's population to decrease at some point in time in its history. The world has experienced declines in its population many times throughout history, caused by factors ranging from famine caused by unusual weather, epidemics such as the plague, and war damage. However, these declines in population have all been temporary.

But the decrease in population that Japan is currently facing is being caused by a prolonged low birth rate, and even should birthrates recover in the future, it represents a social problem that cannot be avoided.

Meanwhile, the population of elderly people age 65 or more in Japan was 29.25 million as of 2010, which is equivalent to 22.7% of the total population (this ratio is referred to as the population aging rate). For this reason, Japan has the highest population aging rate in the world. According to the estimates of the National Institute of Population and Social Security Research for 2012, the population aging rate will reach 31.6% by 2030 and 38.8% by 2050.

This means that as the scale of Japan's economy contracts with the decrease in population, the aging population will further increase social security costs, thrusting Japan into a situation difficult to resolve.

In contrast to Japan, the East Asian economy is considerably strong. Towards the end of the 20th century, it was often said that the 21st-century would be the "Asian Century," and this has begun to take on a sense of reality.

The real GDP growth rate of East Asia in recent years is displayed in Table 0-1. You can see that during the period from 1980 to 2010, the economic growth rate for Asia excluding Japan was significantly higher than the world average. China's double digit growth during the 1990s and 2000s was particularly pronounced.

As a result of this high growth, East Asia's (including Japan) share of the global economy grew from 20% in 1990 to 25% in 2011. According to forecasts by the IMF, this share is expected to further increase to 29% by 2017.

Although East Asia suffered an economic recession of an unprecedented scale due to a currency and economic crisis during the second half of the 1990s, it has overcome this challenge and proceeded on a course for new growth. This growth has been particularly impressive in contrast to the slowdown in the economies of the developed nations following the bankruptcy of Lehman Brothers.

In face of these circumstances, Japan and other developed nations are

actively working towards achieving sustainable development by deepening ties with East Asia.

Table 0-1 Real GDP Growth Rate of East Asia

(%)

	1980-90	1990-2000	2000-2010
Japan	4.6	1.1	0.8
NIEs			
Korea	9.7	6.5	4.2
Taiwan	7.6	6.2	3.9
Hong Kong	6.7	3.9	4.0
Singapore	7.7	7.1	5.6
China	9.3	10.4	10.5
ASEAN4			
Thailand	7.9	4.4	4.3
Malaysia	6.0	7.1	4.5
Indonesia	5.5	4.0	5.2
Philippines	1.7	2.9	4.8
World	3.3	3.2	3.6

Source: IMF, *World Economic Outlook Database October 2012*

For example, the following opinion is offered in the *White Paper on International Economy and Trade 2005* released by Japan’s Ministry of Economy, Trade and Industry:

There is a need for Japan, which will find it difficult to expect high economic growth given its aging society with a falling birthrate and shrinking population, to further promote interdependence with the East Asian economy, which is expected to continue experiencing high growth.

Taking this situation into account, Japan’s economic growth strategy should actively incorporate the vitality of the East Asian economy, with which economic interdependence is deepening as has already been explained.

In fact, following the Plaza Accord in 1985, Japanese companies have accelerated entry into East Asian markets and established networks of goods, money, and information throughout the region. To boost these developments, Japan’s government has worked towards concluding comprehensive EPAs

(economic partnership agreement) with the countries of East Asia that not only liberalize trade of goods and services, but also encourage the movement of people and money, protect intellectual property rights, provide for investment rules, and support and cooperate for technology development.

As of November 2012, EPAs with Japan have taken effect with 13 countries and regions (Singapore, Mexico, Malaysia, Chile, Thailand, Indonesia, Brunei, ASEAN, the Philippines, Switzerland, Vietnam, India, and Peru), mainly in the East Asian region.

However, it should be noted that this strategy is based on the assumption that East Asia can be expected to be a growth center in the future. In other words, it is being assumed that while Japan is becoming an aging society with a decreasing population and is entering a period of low economic growth, the demography of other East Asian countries remains young and they are undergoing a period of high economic growth.

But what would happen if it turned out that the declining birthrates and aging populations were prevalent in all of East Asia?

Table 0-2 Total Fertility Rate and Population Aging Rate

	Total Fertility Rate		Aging Rate	
	1990-95	2005-10	2010	2030
Japan	1.48	1.34	23.0	30.7
NIEs				
Korea	1.70	1.23	11.1	23.4
Taiwan	1.79	1.26	10.7	23.3
Hong Kong	1.24	1.03	12.9	26.5
Singapore	1.73	1.26	9.0	20.5
China	2.05	1.63	8.4	16.2
ASEAN4				
Thailand	1.99	1.49	8.9	19.5
Malaysia	3.42	2.07	4.8	9.7
Indonesia	2.90	2.50	5.0	9.2
Philippines	4.14	3.27	3.7	6.3
World	3.04	2.53	7.7	11.6

Source: UN. *World Population Prospects: The 2012 Revision*

It turns out that in fact, birthrates are declining and populations are aging throughout East Asia. By looking at the total fertility rate (the number of children a woman gives birth to throughout her life) and the population aging

rate (population ratio of people age 65 or more) in Table 0-2, it can be seen that the total fertility rate for the NIEs (South Korea, Taiwan, Hong Kong, and Singapore) is lower than Japan, and that for China and Thailand, the total fertility rate has already become lower than two (the number required to maintain population levels). Meanwhile, the population aging rate for the NIEs, China, and Thailand has exceeded 7%, indicating that they are already aging societies. Furthermore, the recent drastic decline in birthrates will speed up the aging of the population in the future. According to the population estimates of the United Nations, the population aging rate will exceed 20% for the NIEs and 14% for Thailand and China by 2030 as they become aged societies. By 2030, all countries in the region except the Philippines will become aging societies.

The declining birthrate and aging population should be regarded as a problem that affects all of East Asia.

In consideration of this, this book aims to study whether the vitality of East Asian economies is sustainable in the future and what kind of problems East Asia will face 10 or 20 years from now.

This book is composed of the following five chapters.

Chapter 1 focuses on the actual state of the abovementioned declining birthrate and aging population in the East Asian region.

Although the population growth rate is declining around the world, this trend is particularly pronounced in the East Asian region. The factors underlying the drastic decrease in birthrates in East Asia include both an increase in income levels and rapidly changing lifestyles. Declines in birthrates are expected to continue in the future, and it has been pointed out that there will be an explosion in the elderly population as the baby boom generation of each East Asian country reaches old age.

Of course, even though these societies are aging, it is no easy task to ascertain the effect this is having from the current state of the economy in East Asia. For example, China has maintained double-digit growth for the past 20 years, and is seemingly establishing a position as the driver for growth in Asia.

Chapter 2 focuses on the relationship between demographic trends in Asia and economic growth in connection to the concept of a demographic dividend, an increase in the working-age population. The demographic dividend refers to the concept that the increase in the working-age population (age 15 to 64) that accompanies a decline in birthrates leads to an increase in the quantity of labor supply and the domestic savings rate, which encourages economic growth as a result. Of course, the effect of the demographic dividend varies depending on the policies implemented by each country. We will look at the economic growth from the perspective of the demographic dividend for three separate regions: Japan, South Korea and Taiwan, and China and Thailand.

The effect of the demographic dividend will become diluted as societies age, and the impact of aging populations is expected to become more severe in the

NIEs, China, and Thailand from 2015 onwards.

Chapter 3 focuses on the kind of problems East Asia will face after the demographic dividend. Specifically, it will be demonstrated that improving productivity is the key to sustaining growth as the decrease in labor inputs and the decline in the domestic savings rate that accompany aging populations serve to inhibit growth. Furthermore, it will be pointed out for China and the ASEAN countries that while the benefits of the demographic dividend can be enjoyed in urban areas if the surplus workforce in rural areas is used efficiently, if something is not done soon to improve the productivity of the baby boom generation left behind in rural areas, the impact of the aging population in there will become more serious in the future.

Chapter 4 will focus on the issue of the establishment of social security systems to support aged societies. There has been an increasing momentum towards the establishment of social security systems throughout East Asia. However, in China and the ASEAN region where income levels are low, the establishment of social security systems that are available in Japan such as pensions, medical insurance, and nursing care insurance has not yet been possible due to the lack of funds, human resources, and established programs. Thailand will be used as a case study to demonstrate the difficulties of establishing the universal pension systems that are available in developed countries. However, if these countries are slow to respond to their aging populations, human security problems could develop, putting the lives of elderly people in rural areas at risk. It will be pointed out that the problem of who is going to take care of the elderly in East Asia is an issue that we should start to address now in order to create prosperous societies throughout East Asia, and that focusing on simply maintaining economic growth is not sufficient.

Chapter 5 will examine regional cooperation in East Asia in response to the issue of aging populations. Japan can be expected to play the role as a leader in terms of how it has responded to being an aged society. Of course, while Japan has yet to find a miracle cure for aging populations, from the perspective of placing value on the role of communities in elderly social welfare, local governments in Japan have accumulated much experience and knowledge over many years relating to social welfare (community welfare). Moreover, the issue of aging populations, along with environmental and energy issues, should be viewed as shared problems that extend above and beyond regions, and for this reason the establishment of cooperative frameworks that allow for the mutual sharing of wisdom and learning opportunities is necessary. Recently there has been much debate over what the East Asian Community should aim for, and I believe that addition to economic prosperity, its aims should also include the achievement of peaceful and secure societies. I believe that whether or not East Asia can become a true community is up to whether or not we can

provide the support and cooperation that is necessary for the establishment of a society that tends for all the elderly people living in East Asia.

Moving beyond the myth of Asia's miracle

The message throughout this book is that while populations age in East Asia, we cannot afford to be overly optimistic towards continued prosperity.

The US economist Paul Krugman posed doubts towards the sustainability of Asia's high growth rates in his essay "The Myth of Asia's Miracle" (1994). In this essay Krugman makes the claim that Asia's high growth has been supported by an expansion in inputs including labor inputs and capital stock, and that because no technological innovations or other improvements to production efficiency are apparent, this growth will eventually undergo adjustments. Some believe that this observation predicted the economic crisis that entire Asia region suffered three years later in 1997 triggered by a currency crisis in Thailand, and the truths behind this observation seem even more apparent in face of the current aging population. For this reason, the countries of East Asia will have to seek for a means to respond to this dilemma.

While "The Myth of Asia's Miracle" points out issues with the sustainability of economic growth, the aging population issue is a grave issue that goes beyond economic growth, as it will test societies as to whether they are capable of true prosperity that allows their elderly people to live secure and peaceful lives.

I hope this book will allow the reader to think beyond the myth of Asia's miracle and provide the reader with a chance to consider what needs to be done in order to achieve true prosperity in Asia.

Note that this book will primarily focus on the countries and regions of East Asia, including Japan, the NIEs (South Korea, Taiwan, Singapore, and Hong Kong), China, and the ASEAN-4 (Thailand, Indonesia, the Philippines, and Malaysia). However, the statistics on East Asia also include Vietnam, Cambodia, Laos, Brunei, and Myanmar.

Chapter 1: The declining birthrate and aging population in Asia

1. The world population and Asia

From a century of population explosion to a century of population decline

In a true sense, the 20th century was the century of population explosion. The world population of approximately 1.7 billion in 1900 grew to 2.5 billion in 1950, and 6.1 billion in 2000. During the one hundred years of the 20th century, the world's population increased by approximately four times.

As of 2010, there were approximately 7 billion people living together on the Earth. According to the UN's population estimates (*UN World Population Prospects: The 2012 Revision: Medium Variant*), the world's population is expected to continue to increase, reaching 9.6 billion by 2050. This means that the population will grow by more than 3 billion during the first half of the 21st century. Looking at the entire Earth, the world's population is still on the rise, and the impact of this increasing population on the Earth's food, energy, natural resources, and environment is enormous.

However, the speed of population growth has slowed with time. The world's population growth rate peaked at 2.1% from 1965 to 1970 and dropped to 1.2% from 2005 to 2010. This downward trend is expected to continue in the future, dropping to 0.9% from 2020 to 2025 and 0.5% from 2045 to 2050. While the world's population will exceed 10 billion by the end of the century, the population growth rate will drop to almost zero, and the world's population will begin to decrease in the 22nd century. In other words, the 21st century can be said to be a century of transition from a century of population explosion to a century of population decline.

Thomas Robert Malthus's theory of population is often cited when describing the rapid increase in population during the 20th century. Although people need food to live (means of subsistence), the population continues to increase while there are not any limitations on food production. Additionally, the population grows exponentially (1, 2, 4, 8, etc.) every 25 years. Meanwhile, food production only increases arithmetically (1, 2, 3, 4, etc.). For this reason, the growing population will eventually run up against the barrier of food shortage. This is Malthus's theory of population.

Furthermore, it was feared that this population explosion would eventually use up all of the Earth's resources. For example, according to *The Limits to Growth* released by the Club of Rome in 1972, if nothing is done the exponentially increasing population will not only cause a food shortage, but also cause resources to become depleted and environmental pollution to become more severe. The computer simulations in the book that demonstrated that the world (and the human race) would soon reach the limits of its growth shocked the world (Meadows et al. 1972).

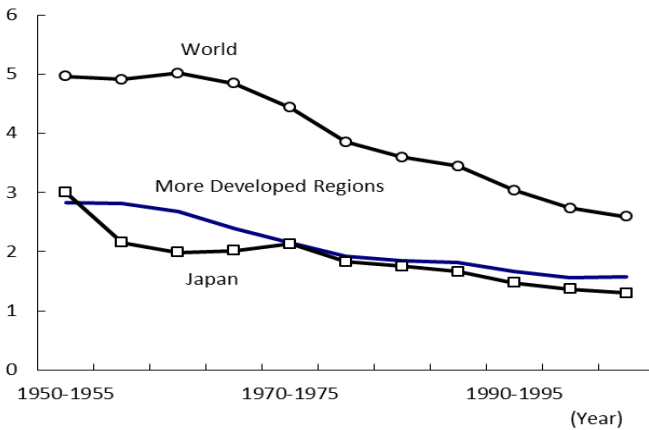
However, at the same time as being a century of population explosion, the 20th century was also a century of science. Thanks to the development of chemical fertilizers and high-yielding varieties of crops and the modernization of distribution, at the very least mankind managed to avoid any fatal insufficiencies of food or natural resources. Moreover, the growth rate of the world's population has begun to decline before reaching the limits of food supplies and resources that were pointed out by Malthus and the Club of Rome. The countries that have had the largest decreases in population growth rates are the developed countries without many resources limitations. It is believed that the decline in the population growth rate in developed countries has been caused by changes in lifestyles instead. Meanwhile, fact is that population growth rates remain high in developing countries where standard of living is lower and food supplies are insufficient.

The accelerating decline in birthrates on a global level

While the population is expected to continue to increase during the 21st century, the “population explosion” or rapid increase in the world’s population has been avoided and the population growth rate has declined over time. Triggering them is the effect of a decline in birthrates that has accelerated at a speed faster than expected.

Figure 1-1 displays changes in the global total fertility rate during the second half of the 20th century. The total fertility rate indicates the number of children a woman gives birth to throughout her life.

Figure 1-1 Total Fertility Rate



Source: UN, *World Population Prospects: The 2012 Revision*

Looking at the global total, while the total fertility rate was high at 5.0 from 1950 to 1955, it began to strongly decrease from the 1970s onward, reaching 2.5 from 2005 to 2010. Of course, the total fertility rate is lower in the developed countries. While the total fertility rate in the developed countries was already relatively low at 2.8 from 1950 to 1955, it dropped even lower to 1.7 from 2005 to 2010. Throughout this, Japan's total fertility rate has constantly remained below the average of other developed countries, and was 1.3 in that period.

In order for a country's population to stay stable, it is necessary for parents to have two children. However, because it turns out that there are some children that die before becoming adults, the total fertility rate required for keeping the population stable is approximately 2.1 (this is referred to as "the replacement level"). Because the total fertility rates in most developed countries have stayed below the replacement level for a prolonged period of time, it is only natural that the world's population should begin to decrease at some time.

It was during the mid-1970s when Japan's total fertility rate fell below the replacement level. At that time, it was only viewed as a temporary phenomenon. It was believed that the total fertility rate would move back up to the replacement level once economic and social conditions improved. However, the reality is that the total fertility rate has continued to decline since then, and differences between expectations and reality have caused social security costs to increase more than expected.

A decline in the population growth rate in developing countries

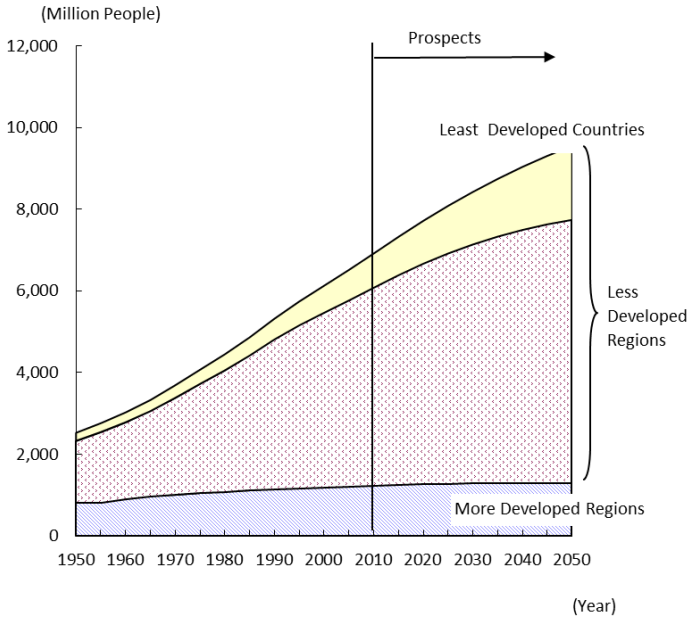
Because there has been a significant decline in birth rates in the developed countries since around the 1980s, the world's population problems can be understood respectively as aging populations accompanying declining birthrates in developed countries and as population growth rates in developing countries remaining at high levels (a population explosion).

In reflection of this, the UN's population estimates have looked at the developed countries and developing countries separately. According to these statistics, the population in developed countries increased from 813 million in 1950 to 1,241 million in 2010, while the population in developing countries increased from 1,713 million to 5,675 million during the same period. This means that the developing countries account for 90% of the population increase, and as result the percentage of the world's population accounted for by the developed countries dropped from 32.2% to 17.9% from 1950 to 2010, while this percentage increased from 67.8% to 82.1% for developing countries during the same period.

This trend will continue in the future. While the population of developed countries will increase to 1,294 million in 2030 and 1,303 million in 2050, the

population of developing countries will increase to 7,131 million in 2030 and 8,248 million in 2050. For this reason, by 2050 the percentage of the world's population accounted for by the developed countries will change to 13.6% and by developing countries to 86.4%.

Figure 1-2 Population Change (1950-2050)



Source: UN, *World Population Prospects: The 2012 Revision*

The developed countries as defined by the UN include all the countries in Europe, as well as Canada, the US, Australia, New Zealand, and Japan. However, the UN's definition does not include countries such as South Korea, Taiwan, Singapore, and Hong Kong that have already achieved developed country income levels and conversely includes countries such as Romania and Bulgaria with low income levels. Despite this issue, there is no change in the fact that developing nations account for a larger percentage of the world's population than developed nations and that this tendency will become stronger in the future.

One thing that should be noted is that even among the developing countries, a clear distinction is beginning to develop between countries in which the population growth rate is declining and those in which it is not. The UN releases population statistics on the least developed countries of the developing countries separately from the developing countries not included in this category (there are 50 countries included in the least developed countries

category). The population growth rate in the least developed countries remained at the high level of 2.3% from 2005 to 2010. It can be safely said that the population explosion is still continuing in these countries.

In contrast to this, the population growth rate in the less developed regions excluding least developed countries is clearly declining. The population growth rate in these regions declined from 2.1% in 1980 to 1.2% in 2005 to 2010. This trend is expected to continue in the future as the population growth rate will drop to 0.3% in 2045 to 2050. This is being caused by a decline in the birthrates of developing countries similar to the trend in developed countries. The total fertility rate for developing countries dropped from 3.9 in 1980 to 2.4 in 2005 to 2010 (in comparison the rate for the least developed countries fell from 6.5 to 4.4 during the same time, which is still a considerably high level).

In other words, there has to be a change in our image up until now of declining birthrates in developed countries and a population explosion in developing countries.

Flying-geese pattern of population change

Population growth rate trends and declines in birthrates differ by region.

In the UN's population estimates, the world is classified into six regions: Africa, Asia, Europe, South America, North America, and Oceania. In accordance with this classification, the region with the highest population is Asia, with 4.2 billion people as of 2010, or 60.2% of the global population. However, many countries become included in the Asia region as a result of this classification.

When the figures are recalculated for East Asia defined as Japan, the NIEs (South Korea, Taiwan, Hong Kong, and Singapore), China, the ASEAN 4 (Thailand, Malaysia, Indonesia, and the Philippines), CLMV (Cambodia, Laos, Myanmar, and Vietnam), and Brunei, the population of East Asia as of 2010 was 2.2 billion, or 31.3% of the global population. This means that one in three of the Earth's people live in East Asia.

However, the population growth rate for East Asia was only 0.8% in 2010, and after reaching a peak of 2.4 billion in 2038, the population for the region overall is expected to decrease. While Japan has already become a society with a decreasing population, by the mid-2030s South Korea, Taiwan, China, and Thailand are also expected to be transferred into societies with decreasing population. However, populations are expected to continue to grow until 2050 in Hong Kong, Malaysia, Indonesia, the Philippines, Cambodia, and Laos. In this manner, East Asia is totally moving from a period of population explosion to a period of population decline.

The major factor behind this change in demographics is the decline in birthrates. East Asia's total fertility rate was above the global average by 1970

to 1975. However, the birthrate from 2005 to 2010 was 1.8%, a level similar to levels in the developed countries.

Declines in the population growth rate and declines in the birthrate are known to have a strong correlation with income levels in general. To be more precise, for Japan, the NIEs, China, the ASEAN 4, Vietnam, and India, there is a tendency for birthrates to decline for the countries with high income levels first and for countries to become societies with decreasing populations in the same order.

The pattern of economic development being led by Japan, and followed by the NIEs, China, and the ASEAN countries has been called the flying-geese pattern of development. It is extremely interesting that in terms of demographics, a phenomenon that could be called a flying-geese pattern of population change is now occurring.

Within the scheme of flying-geese pattern of development, the more of a latecomer a given country is, the more that country can benefit from the latecomer's advantage that enables rapid industrialization through the use of technologies that have been accumulated by developed countries. In terms of demographics as well, while the population increases more rapidly the more of a latecomer a given country is, by incorporating the experiences as well as new health and medical technologies and systems of developed countries at the same time, the country may also enjoy the advantage of being able to respond appropriately to population issues. However, because latecomers become aging societies with a decreasing population while income levels are still low, the socioeconomic impact is higher than in developed countries. This will be described in further detail later.

2. Background behind the rapid decline in birthrates in Asia

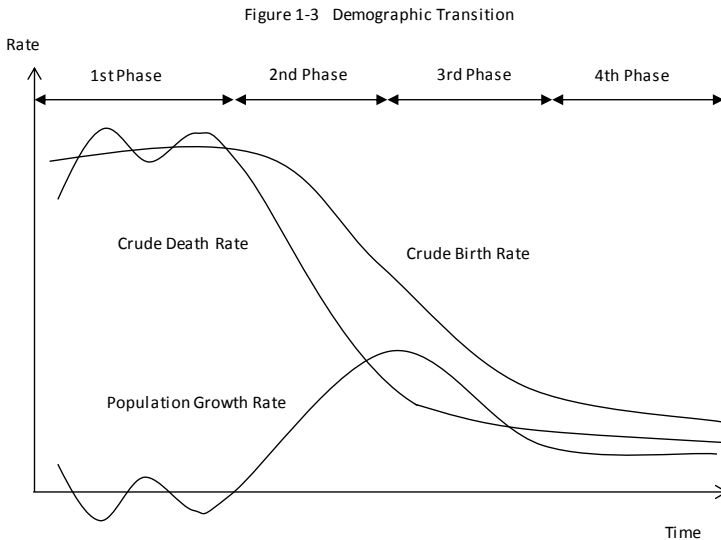
Demographic transition model

Why have birthrates declined so rapidly in East Asia? In order to understand this, it is necessary to first have an understanding of the background behind demographic trends in Asia.

The population of a given country can be explained based on the natural rate of increase accounted for by changes in the number of births (birthrate), changes in the number of deaths (mortality rate), and the movements of populations across national borders. Here, we will view the population growth rate as referring to the natural rate of increase accounted for by the population change according to the birthrate and the mortality rate.

The demographic transition model (Figure 1-3) explains population changes in terms of changes in birthrates and mortality rates, based on data from Europe and North America. This model classifies population changes into the following four phases in accordance with levels of and changes in mortality

rates and birthrates.



Source: Author

The first phase is the “high-birth, high-death phase” during which both the mortality rate and birthrate are high. The second phase is the “high-birth, middle-death phase” during which the mortality rate declines in advance of the birthrate. The third phase is the “middle-birth, middle-death phase” during which the birthrate declines after the decline in the mortality rate. The fourth phase is the “balanced population phase” during which both the mortality rate and the birthrate are stable at low levels. This model is useful for understanding population changes in developing countries.

Using this model, I would like to look at how countries in East Asia have tried to resolve population issues while still at low income levels and why birthrates have declined in these countries while they are still at low income levels. In order to compare birthrates and mortality rates, the demographic transition model uses crude birthrates and crude mortality rates that respectively express the number of births and deaths per 1,000 people (units: ‰). Hereinafter these rates will simply be referred to as birthrates and mortality rates.

From the high-birth, high-death phase to the high-birth, middle-death phase

During the first phase of demographic transition both the birthrate and mortality rate are high. During this phase, populations are unstable and volatile

in response to exposure to the risk of the mortality rate increasing due to weather conditions or disease.

In terms of mortality rates in the countries of East Asia, while rates were low in Japan in the 1950s, they were still high in China, the ASEAN 4, and Vietnam. Looking at mortality rates from 1950 to 1955, the mortality rates for Indonesia of 25.2% and China of 22.1% were significantly greater than the global average of 19.1%. There were large numbers of deaths caused by bacteria infections such as cholera, dysentery, malaria, pneumonia, and tuberculosis, and the mortality rate was high among infants with low resistance to disease. The number of deaths among infants under age one (“the infant mortality rate”) for every 1,000 live births was very high for Indonesia at 188.4%, a level nearly the same as in Africa. In other words, two out of every ten persons born in Indonesia did not live to reach their own first birthday.

With such a high infant mortality rate, people sought to have more children in order to maintain the population and their lives, as a result pushing the birthrate up. Furthermore, some also believe that the drastic increase in rice cultivation in East Asia upon entry into the 20th century served to push up birthrates as a large labor force was required for rice planting and harvesting. In any case, birthrates in China, the ASEAN 4, and Vietnam exceeded 40% during the 1950. Total fertility rates were incredibly high, exceeding 6 in most countries and exceeding 7 in the Philippines.

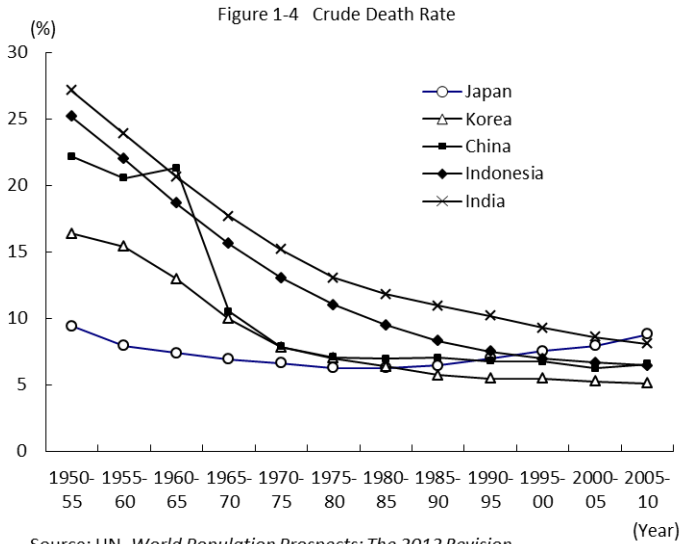
During the second phase of demographic transition, the mortality rate drops in advance of the birth rate with improvements in living standards and in health and sanitation.

Mortality rates in developed countries gradually fell from the 18th to 19th century as productivity in these societies was enhanced through the agricultural and industrial revolutions. Mortality rates dropped further entering the 20th century as nutritional conditions improved, new drugs including vaccines and antibiotics were developed, and sanitation management technologies were improved.

This decline in mortality rates in developed countries was achieved as a result of efforts within societies to improve productivity, the penetration of the concept of health and sanitation, and the development of medical technologies. However, for mortality rates to fall from 30% to 20%, it took France 78 years, Sweden 37 years, the US 32 years, and the UK 27 years.

In contrast, mortality rates in developing countries including Asia fell rapidly following WW2. The wide scale penetration of communicable disease control and medical technologies and methodologies developed in advanced countries contributed to this. The insecticides, antibiotics, and vaccines created in developed countries that were introduced to developing countries through aid in response to troubling issues including cholera, dysentery, and malaria made a particularly important contribution that saved a large number of lives.

The high effectiveness of these innovations is clear when looking at the decline in the mortality rate among infants with low resistance to disease. Comparing the infant mortality rate from 1950 to 1955 with that from 1970 to 1975, it dropped drastically from 138‰ to 38‰ in South Korea, from 121‰ to 47‰ in China, and from 120‰ to 62‰ in Thailand. As a result, the crude death rate (CDR) rapidly dropped from 16‰ to 8‰ in South Korea, from 22‰ to 8‰ in China, and 15‰ to 9‰ in Thailand (Figure 1-4).



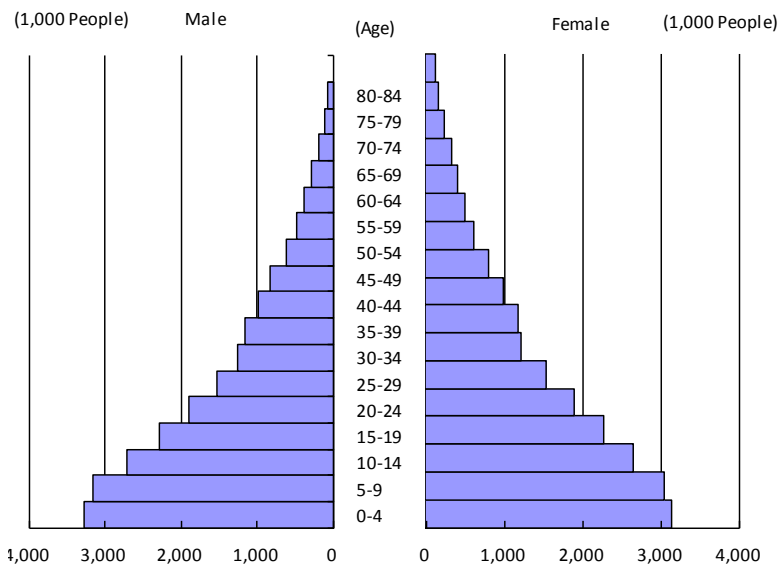
While the decline in mortality rates in developed countries was endogenously - generated through efforts made by these societies to enhance productivity and develop medical technologies, the decline in mortality rates in developing countries was exogenously-generated through the adoption of the experiences and technologies of developed countries (Watanabe 1986). Undoubtedly, the countries of East Asia have benefited from the latecomer’s advantage in terms of the population issue.

Meanwhile, declines in birthrates were more gradual because there were no sudden changes in the sense of values, traditions, cultures, and systems that served to support high birthrates. Comparing the birthrate from 1950 to 1955 with that from 1970 to 1975, while it dropped from 36‰ to 30‰ in South Korea, from 42‰ to 35‰ in Thailand, and 42‰ to 31‰ in China, the speed of these changes was significantly less than the speed of the decline in the mortality rate.

This gap between the rapid decline in mortality rates and the gradual decline in the birthrates served to increase the population growth rate. The population

growth rate exceeded an annual average of 3% in the NIEs from 1950 to 1960 and the ASEAN 4 countries from 1960 to 1970. As a result, accompanying the decrease in the area of arable land per person in farming communities, people became strongly aware that excessive populations served to impede economic development in developing countries. The word “population explosion” was then applied to these types of drastic population increases, and this served to underpin the global spread of the views espoused in *The Limits to Growth* of the Club of Rome that was previously mentioned. Note that the population pyramid for this second phase of the demographic transition contains a high youth population and resembles a peaked mountain (Figure 1-5).

Figure 1-5 Population Pyramid of Thailand in 1975



Source: UN, *World Population Prospects: The 2012 Revision*

The decline in the birthrate and the one-child policy

During the third phase of demographic transition, the decline in birthrates follows the drop in mortality rates. Because the gap between birthrates and mortality rates becomes gradually smaller during this phase, this leads to a decline in the population growth rate. However, it should be noted that the factors that cause birthrates to drop are complicated and differ by country.

First, population control measures were implemented as high-priority policies in an effort to address drastic population increases.

In Japan, the Japan Family Planning Association was established in 1954, and the organization focused on the sales of contraceptive devices and medications, the development and dissemination of educational materials, and the cultivation of instructors in related fields. In the same manner, the governments of the countries of Asia led efforts to disseminate family planning, and these efforts were supported by developed countries and international organizations. However, because decisions on whether or not to have children are made based on the values of individuals and families, the government's population control measures could only be indirect.

China is famous for the mandatory population control measure it implemented, the one-child policy.

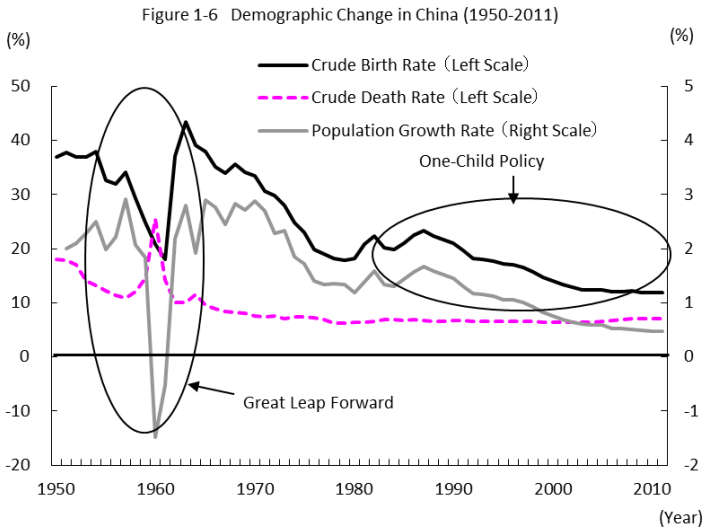
I would like to provide some background on this one-child policy here as it has caused significant changes to China's demography and in addition to the economy of China, it also has a strong impact on the future economic development of Asia.

China's one-child policy was a national policy aimed at population control under the slogans of late marriage, late birth, and low numbers of children. With the promulgation of the Marriage Law of the People's Republic of China in September 1982, the legal marriage age was raised (23 to males and 20 to females), the implementation of family planning became mandatory, and certificates were issued to couples pledging to have just one child. Couples that received these certificates were eligible for a generous variety of benefits, including the provision of scholarships for their children, prioritized day-care centers entry, prioritized school entry, assistance with day-care and school fees, coverage of medical care costs, prioritized job placement, prioritized allotment of housing and land, and additional or increased pensions. Meanwhile, couples not abiding by this one-child policy were subject to harsh penalties that included the levying of costs for excessive births, the levying of social raising costs, salary cuts, and the suspension of pay raise and promotions at the workplace (Wakabayashi 2005).

As the background for China's launch of the one-child policy, it is necessary to understand the abnormal conditions brought about by the increase in the mortality rate and decline in the birthrate as a result of the Great Leap Forward campaign from 1958 to 1961. Due to excessive collections of harvests from farmers and non-efficient transport of agricultural goods during the Great Leap Forward campaign, 16 to 20 million people suffered abnormal deaths. This can be clearly seen in China's demographic trends, which are shown in Figure 1-6.

As a rule of thumb, birthrates increase for compensating immediately after significant increases in mortality rates. The same developments apply for China. The total fertility rate grew from 3.3 in 1961 to 6.0 in 1962, and nearly doubled to 7.5 by 1963. As a result, the population growth rate during the 1970s exceeded 2%. Just at this time, the rapid increase in the populations of

developing countries around the world was being viewed as a problem, and there is no doubt that this also led to a heightened sense of crisis within the Chinese government. This is one key factor that triggered the Chinese government to implement the one-child policy.



Source: China Statistical Yearbook

However, looking at actual birthrate trends, the birthrate began to rapidly decline in the 1970s. When the Marriage Law of the People’s Republic of China mentioned above was established in 1982, the total fertility rate had already declined to 2.9. In other words, while there tends to be the strong impression that the one-child policy caused the birthrate to decline in China, the policy can be more accurately understood as a factor that acted to accelerate the decline in the birthrate. Although some regulations toward having second children were eased for farming communities in the mid-1980s, taking into account the future aging societies, this was not sufficient to slow the decline in the birthrate. The total fertility rate for 2005 to 2010 of 1.6 already falls significantly short of the replacement level.

While some have the view that the birthrate could increase if this one-child policy were abolished, when considering the rapid decline in birthrates in other Asian countries that did not implement any mandatory population control measures like the one-child policy as will be explained in further detail below, it is not believed that the birthrate in China can be increased easily even if the one-child policy is abolished.

Utilities and disutilities of having children

Besides governmental population control measures, what other factors are behind the overall decline in birthrates throughout East Asia?

Based on past experience in developed countries, we know that there is a strong correlation between declines in birthrates and increases in income levels. Declines in birthrates accompanying increases in income levels have also been confirmed in developing countries. Various analyses have suggested that urbanization, increased educational opportunities for women, and heightened participation of women in society have also affected declines in birthrates. At the International Conference on Population and Development held in Cairo in 1994, it was stressed that rapid increases in the populations of developing countries could be avoided by adopting a stance of focusing on a human-rights approach through the protection of women's health and rights rather than population control measures such as family planning.

Looking at society overall, while increases in income levels and the accompanying changes in social structure are factors that contribute to declines in birthrates, it is believed that specific birthrate levels are determined by the sense of values parents have toward having children. Libenstein's model is a model which considers these differences of whether or not to have children from the perspective of utility and disutility.

In reference to this model, let's consider the background behind the declining birthrates in East Asia.

According to this model, the three utilities and the two disutilities of having children determine the number of children. To tell the conclusion first, in East Asia, these utilities are rapidly declining while the disutilities are rapidly increasing.

The first utility of having children is the sense of fulfillment toward that actual act of having children. There is no doubt that the joy of having children is something that is irreplaceable in every society. Assume that parents have an image of an ideal family, consisting of perhaps two or three children. However, if infant mortality rates are high as they are in developing countries, it is necessary to increase birthrates in order to secure the number of children that are desired. Furthermore, even if mortality rates in a society begin to decline, it takes a considerable amount of time for parents to realize these changes. This is believed to be one factor that explains why the decline in the mortality rate in the second phase of the demographic transition did not lead to a decline in the birthrate. However, once people may recognize that the mortality rate is on the decline, it is possible to reduce the number of children that are given birth compared to the number of children that are desired.

The second utility is the utility that can be gained through child labor or income. Children serve as important breadwinners in developing countries.

The key crop in East Asia is rice, and large numbers of people are required for rice planting and harvesting. However, with the transformation of the industrial structure from one based on agriculture to one based on industry as a result of economic development, and with the mechanization of farming, the value of the child labor force has declined. In South Korea and Taiwan, birthrates fell dramatically when employment rapidly shifted from agriculture to industry. It is believed that this decline in utility of children as a labor source contributed to a decline in the number of expected births.

The third utility consists of an income security effect in which children care for their parents in their old age. Many people's image of a typical East Asia family consists of a large family in which grandparents, parents, and children all live together. The custom of children taking care of parents in these big families has been ingrained into society. However, with economic development, young people began to leave their hometowns and live in urban areas. If it becomes standard practice for children to live apart, children cannot realistically be expected to care for their parents in the future. Moreover, the development of social security programs such as pensions and medical insurance is believed to be one factor contributing to decreases in expectations toward children's care.

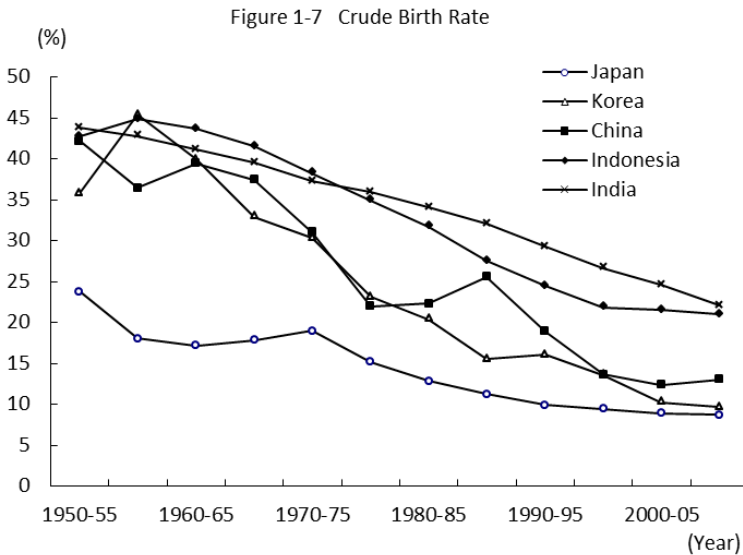
Next we will look at the disutilities of having children.

The first disutility is the direct increase in the financial burden brought about by children, such as the costs associated with raising children. In order to raise children, expenditures are required for clothing, food, housing and education. While income shortages can be mitigated in farming communities through effort made through regional cooperation, life in urban areas must be done through expenditures provided for by the income of the parents. Furthermore, as income begins to have a correlation with one's educational history with economic development, educational expenditures for each child become larger and larger. This increase in direct costs related to children is believed to work as a factor that limits the number of children.

The second disutility is the increase in opportunity costs as parents sacrifice employment and income opportunities in order to spend time raising their children. With economic development, the school attendance rate of women improves, as well as the labor force participation rate of women. As opportunities for women to acquire income outside of agriculture expand in farming communities also, there are incentives for them to limit the number of children they have and work toward increasing actual income. As a result, people began to get married at a later age and the number of people remaining single rose, and these developments also contributed to a decrease in birthrates throughout society.

While which of these factors had the most effect on the birthrate varies by country, birthrates in each East Asian country rapidly declined in the period of

economic growth following the 1980s (Figure 1-7).



Source: UN, *World Population Prospects: The 2012 Revision*

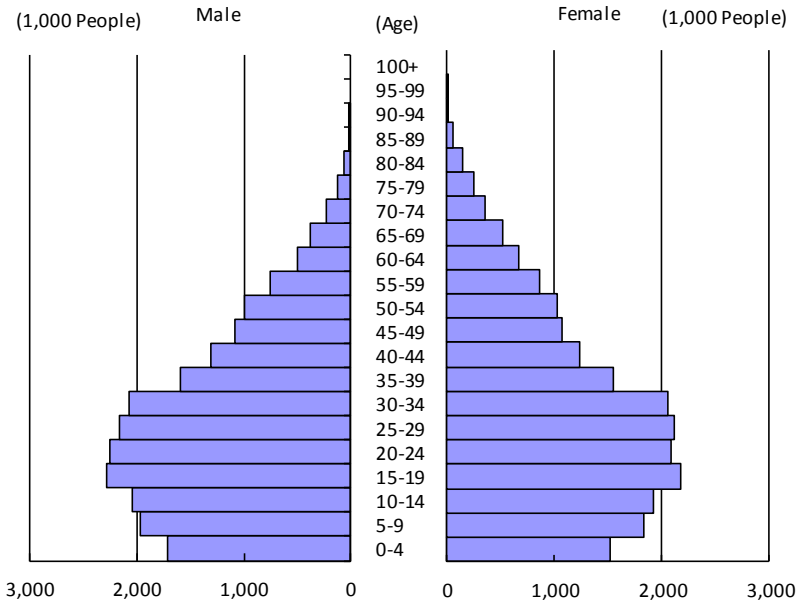
Comparing the birthrate for 1980 to 1985 with that for 2005 to 2010, it dropped from 20‰ to 10‰ in South Korea, from 24‰ to 12‰ in Thailand, and from 22‰ to 13‰ in China, respectively. During the same period, it also dropped from 36‰ to 26‰ in the Philippines. Because birth is believed to be the will of god within Islamic societies, the promulgation of family planning was said to have been difficult due to strong religious restrictions. Nonetheless, even in Indonesia, where Muslims account for the majority, the birthrate fell from 32‰ to 21‰. The birthrate also fell from 30‰ to 18‰ in Malaysia, despite its national policy of increasing the population. This suggests that in East Asia, along with rising incomes, there have been big changes in the functions of the utilities and disutilities of having children.

Due to these declines in birthrates, the population growth rates for South Korea, Taiwan, Thailand, and China for 2010 were less than 1%.

The population pyramid for the third phase of the demographic transition resembles a bell shape with a narrow base in which the population of young people is higher than children (Figure 1-8). The vitality of urban areas in China and the ASEAN countries is supported by this population pyramid. These high numbers of young people represent a demographic bulge formed as a result of the rapid decline in birthrates (hereafter, this demographic bulge is referred to as “the baby-boom generation” in this book). A characteristic of demographic trends in East Asia is that a shift was made from the high-birth middle death

phase to the middle birth middle death phase at a point earlier than in developed countries and at a faster pace. As a result, the population structures of these counties contain a large number of people within the baby boom generation.

Figure 1-8 Population Pyramid of Korea in 1990



Source: UN, *World Population Prospects: The 2012 Revision*

From a low-birth, low-death phase to a declining birthrate phase

The fourth and final phase of the demographic transition is the low-birth, low-death phase in which the mortality rate and the birthrate reach a balance at low levels and the population stabilizes. Focusing on the achievement of stable population levels, if the total fertility rate reaching the replacement level of 2.1 is considered to be the transition point to the fourth phase of the demographic transition, Japan entered this phase in the mid-1970s, the NIEs entered the phase at the beginning of the 1980s, and China and Thailand entered the phase during the 1990s. The other Asian countries will enter the fourth phase within the next 20 years.

The rapid decline in birthrates in East Asia was first affected by the exogenously-generated decline in mortality rates and was accelerated by

changes to social structures that were triggered by subsequent economic development.

In fourth phase of the demographic transition model, it was assumed that birthrates and mortality rates remain stable at low levels and the population growth rate stabilizes at a low level. However, in reality, birthrates have fallen below mortality rates. While Japan's total fertility rate for 2010 was 1.39, this rate was even lower for the countries of South Korea (1.22), Taiwan (0.90), Singapore (1.15), and Hong Kong (1.13). Thailand's rate was 1.6, and it is highly likely that the rate for China has fallen below 1.3. Furthermore, this downward trend is ongoing. This trend clearly differs from the fourth phase of the demographic transition model, and should instead be understood as an "ultra-low-birth, low-death" fifth phase (a declining birthrate phase) or as a form of the secondary demographic transition seen in developed countries.

While research is expected to analyze the causes behind these declining birthrates occurring throughout Asia in the future, let's examine some interesting points gleaned from analysis of similar phenomena occurring in Japan and Europe and consider what is currently occurring in Asia.

Firstly, there are the changes in family types. While it was previously mentioned that there has been a shift from large families to nuclear families, the custom of parents and children living together is also becoming less and less common. In South Korea, households consisting of married couples only increased from 9.3% in 1990 to 14.8% in 2000 and 24.3% in 2010. In Thailand, the average number of people in a household decreased from 4.4 in 1990 to 3.8 in 2000 and 3.1 in 2010. Meanwhile, the ratio of single households rapidly increased from 5.1% in 1990 to 9.4% in 2000 and 18.4% in 2010. It is believed that this type of reduction in family sizes is one factor that has contributed to the reduction in the number of children.

Secondly, there are the changes in perceptions toward marriage itself. Women are getting married later and later as they pursue higher education more frequently and have more opportunities for employment. In terms of the average age of first marriage for women, in Japan it increased from 24.7 in 1970 to 27.7 in 1995 and 29.7 in 2010. In South Korea, this age increased from 23.3 in 1970 to 26.1 in 1995 and 28.8 in 2005, while in Singapore it increased from 24.2 in 1970 to 27.0 in 1990 and 27.9 in 2010. While this age remained relatively low in China and the ASEAN 4, it has increased gradually, rising from 22.4 in 1982 to 24.7 in 2010 in China and rising from 22.0 in 1970 to 23.7 in 2010 in Thailand. Considering that natural fertility peaks in the early 20s, it should come as no surprise that the total fertility rate would decline as the average age of first marriage becomes in the late 20s.

Thirdly, there is the expanding cost of raising children. Educational costs have seemingly been increasing at an especially accelerated pace recently. Along with economic development and widening income disparities, salary

levels differ greatly in urban areas depending on whether one's workplace is a foreign-owned enterprise, local enterprise, or state-owned enterprise. In addition, corporate employment criteria prioritize university graduates over high school graduates, and candidates that have studied overseas in the US or Europe over those with only a domestic university academic record, emphasizing on academic background. The reality is that graduates that have received MBAs overseas and are employed at multinational companies receive exceptional salaries.

Meanwhile, in addition to urban areas, it is highly likely that rural areas will also become engulfed in this academic society. Parents hope that their children are able to find secure jobs in urban areas as income disparities between rural and urban areas become wider. As a junior high school record is required over an elementary school record, a high school record is required over a junior high school record, and a university record is required over a high school record in order to find better jobs, parents have to hold back on the number of children they have so that they are able to allocate their limited incomes to education. In Thailand, total fertility rates are low even in rural areas, and it was confirmed in the 2010 population census that only 2 of the 77 provinces including Bangkok had total fertility rates above the replacement level.

Fourthly, there are the changes in lifestyles that have been brought about with the penetration of the media. While this relates to all of the above points, it is possible to experience through medias what is going on domestically and in countries overseas in real-time. Consumption trends sought by middle and high income earners in urban areas are taking place simultaneously around the world because these trends are spread throughout the world at the same time through the Internet. Even in rural areas where there is no Internet, people have an understanding of the consumption trends in life in urban areas through the television. The penetration of the media functions to promote the transformation of urban lifestyles into developed country lifestyles and the urbanization of rural lifestyles.

How will birthrates change in the future?

Next, let's look at how birthrates will change in Asia in the future.

The UN has prepared various birthrate change scenarios to estimate the future population. For example, the prospects in the 2006 and 2008 revisions were prepared based on a total of five scenarios, consisting of the three core scenarios of the total fertility rate converging by 2050 to 1.85 (medium variant), to 2.35 (high variant), and to 1.35 (low variant), as well as a constant-fertility variant in which the birthrate stays at the current level and a constant growth-rate variant in which the population growth rate stays at the current level.

Meanwhile, after the prospects in the 2010 revision, major changes were

made to the methods for making population estimates and estimating future birthrates.

The most frequently used one is medium variant, and was prepared based on a scenario in which the total fertility rate converges to approximately 2 by 2100. Additional scenarios include a high variant in which the total fertility rate converges to approximately 2.5, a low variant in which the total fertility rate converges to approximately 1.5, as well as an estimate in which the average total fertility rate does not change from 2005 to 2010, an estimate in which the mortality rate stays fixed during this period, and an estimate that excludes the effects of population movements.

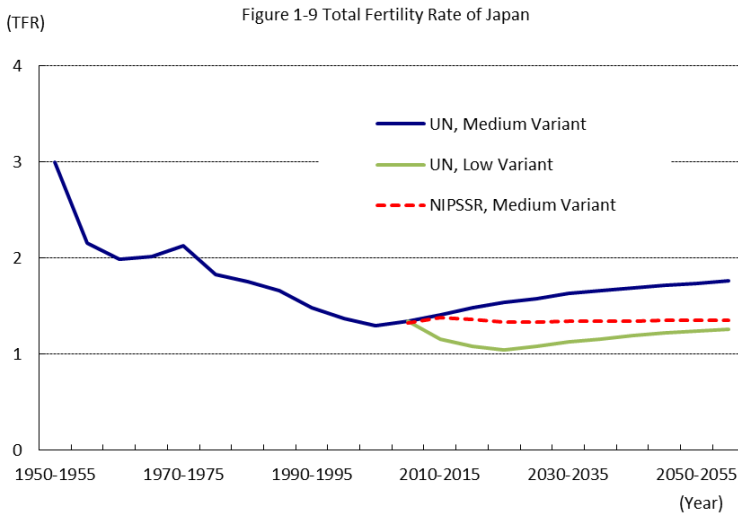
Let's consider the medium variant in more detail here.

Looking at the medium variant, the total fertility rate for East Asia overall will be less than the developed countries average from 2010 to 2015. In other words, the region most sharply impacted by declining birthrates is East Asia, not the developed countries. Looking at individual countries, total fertility rates in East Asia can be classified into two trends. One trend is representative by the group consisting of Japan, the NIEs, China, Thailand, Vietnam, and Myanmar where total fertility rates are currently below the replacement level. The scenario for this group anticipates the total fertility rate to increase in the future. Meanwhile, for Malaysia, Indonesia, the Philippines, Cambodia, and Laos, a scenario in which the total fertility rate continues to decline until the mid-21st century has been adopted.

In comparison to the population estimates prepared by governments and institutions in each country, the UN outlook for the group consisting of Japan, the NIEs, China, Thailand, etc. is optimistic. Let's confirm the future population estimates for Japan in relation to this point.

Figure 1-9 compares the birthrates in the medium variant and low variant in the UN's population estimates with the medium variant used in *the Population Projections for Japan* released in January 2012 by the National Institute of Population and Social Security Research (NIPSSR). According to this medium variant, the total fertility rate will remain at roughly 1.39 from 2010 to 2014, gradually drop to 1.33 by 2024, and increase to 1.34 by 2030 and 1.35 by 2060. These birthrate forecasts are close to the low variant of the UN's future population estimates.

The same trend applies for Thailand. According to the medium variant used for Thailand's population estimates (2000-2030) released by the National Economic and Social Development Board (NESDB) in October 2007, the total fertility rate is expected to drop from 1.81 for 2000 to 2005 to 1.35 for 2025 to 2030. These changes will impact the total population estimates as well as aging rate estimates that are to be explained in further detail later.



Source: UN, *World Population Prospects: The 2012 Revision*, National Institute of Population and Social Security Research (NIPSSR), *Population Projection for Japan 2011-2060*

3. The acceleration of population aging in Asia

The era of the elderly population explosion

Supported by factors such as improvements in eating habits, progress in communicable disease control and sanitation standards, the development of medical facilities and services, the development of improved means of cargo transport, the enhancement of medical and health systems, and the penetration of the concept of sanitation, life expectancy at birth has grown dramatically in the countries of East Asia, and this trend is expected to continue in the future.

The life expectancy at birth increased from 52 in 1950 to 1955 to 73 in 2005 to 2010 in Thailand, from 38 to 70 during the same period in Indonesia, and from 45 to 74 during the same period in China. This trend will continue in the future and the UN's population prospects have estimated that the life expectancy at birth increases to 77 from 2025 to 2030 and 81 from 2045 to 2050 in Thailand, to 74 and 77 respectively during these periods in Indonesia and to 77 and 80 during these periods in China. It goes without saying that the declines in the infant mortality rate and the small child mortality rate in developing nations have made significant contributions to this increase in life expectancy at birth. However in East Asia, the contribution made by the decline in the elderly mortality rate has also been significant.

As a result of these factors, the elderly population of East Asia has grown

rapidly. While the elderly population was only 36 million in 1950, it increased to 77 million in 1980 and 185 million in 2010. The elderly population is expected to increase further to 367 million by 2030 and 532 million by 2050. The average annual growth rate for the elderly population from 2010 to 2030 will be 3.5%, which will put to an end the population explosion in East Asia and usher in a new era of the elderly population explosion.

The transition from an aging society to an aged society

The population of Asia will age more rapidly in the future as a result of the decline in the birthrate and the increase in life expectancy at birth.

Next, we will calculate the speed of population aging.

The time it takes (“the doubling period”) for the aging rate to exceed 7% (an aging society) and the time it takes for the aging rate to exceed 14% (an aged society) is generally used as a benchmark to indicate the speed of population aging.

Compared to a period of 115 years in France, 85 years in Sweden, 40 years in Germany, and 47 years in the UK, this doubling period is only 25 years in Japan. This figure is frequently used to express just how unprecedentedly rapidly the population of Japan is aging compared to the rest of the world.

However, the populations of most of the countries in Asia are expected to age at a speed equivalent to or exceeding Japan. The speed of population aging in Asia is displayed in Table 1-1.

Table1-1 Doubling Period of Population Aging

	(Year)		
	7%	14%	Doubling Period
Japan	1970	1995	25
Korea	1999	2018	19
Taiwan	1994	2017	23
Hong Kong	1984	2013	29
Singapore	1999	2021	22
China	2001	2027	26
Thailand	2002	2022	20
Malaysia	2021	2045	24
Indonesia	2023	2045	22
Philippines	2035	2070	35
Vietnam	2016	2033	17

Source: UN, *World Population Prospects: The 2012 Revision*

In particular, a transition from an aging society to an aged society will be made in South Korea in 17 years, and in Singapore in 20 years. Population aging is occurring at the same speed as in Japan in Taiwan, China, and Thailand. While the aging rate is still low in other countries, because declines in birthrates are significant, the speed of population aging is nearly on par with the speed in Japan. This is the result of the medium variant, and if birthrates continue to decline below it, the increase in the speed of population aging should come as no surprise.

East Asia's transformation into a global aging region

The global aging rate will increase from 7.7% in 2010 to 10.3% in 2025 and 15.6% in 2050. While the aging rate is generally high in developed countries, it is also expected to increase in developing countries, from 5.8% in 2010 to 8.3% in 2025 and 14.0% in 2050. Looking at the state of aging in developing countries from the changes in elderly population, the elderly population is expected to grow from 331 million in 2010 to 567 million in 2025 and 1,153 million in 2050. The average annual growth rate from 2010 to 2025 will be 3.7%.

Looking at changes by region, the increase in the aging rate is particularly high in East Asia.

The aging rate in East Asia exceeded the global average of 7.7% in 2010, reaching 8.5%. It will then rapidly climb to 15.4% in 2030 and 22.5% in 2050. While East Asia's proportion of the global population will decline from 31.3% in 2010 to 24.8% in 2030, its proportion of the elderly population will increase from 34.834.5% to 35.7%. In other words, going forward East Asia will be the area of the world where the population ages the most rapidly, as well as the region with the highest number of elderly residents in the world.

As was stated at the beginning of this chapter, it is appropriate for Japan and other developed nations to adopt the stance of mitigating the negative effects of aging societies with decreasing populations by incorporating the vitality of the East Asian countries. As economic globalization becomes a reality, the formulation and implementation of a policy which does not hold fast to national borders will be more and more necessary in the future.

However, as has been described up until now, declining birthrates and aging populations are no longer issues that are unique to developed countries, and they are instead issues common to East Asia. The decline in birthrates in East Asia has been particularly rapid, and it is presumed that this will cause a rapid transformation into aged societies in the future. Accordingly, scenarios for sustainable growth in Japan and the rest of East Asia must be consistent with the changes to these types of demographic structures in China and countries of Southeast Asia. In other words, to maintain sustainable growth in East Asia, in addition to the single stance of incorporating the vitality of China and

Southeast Asia, efforts will be required to support and provide cooperation in response to the increasingly aging populations of China and Southeast Asia. This point will be covered in further detail in Chapter 5.

Chapter 2: The demographic dividend that has supported economic growth in East Asia

1. What brought the East Asian miracle to life?

Is economic growth the cause or the result?

While sudden declines in birthrates will serve to accelerate population aging in the future, a sudden decline in birthrates has also served as the impetus for generating high growth in East Asia. A declining birthrate, i.e., lower fertility, does not necessarily immediately lead to population aging. There is a time lag for it. With the increase of the population contributing to production activities during this time lag, societies become more vibrant and economies experience a tailwind.

In fact, East Asia has enjoyed significant economic growth since the 1970s when birthrates declined drastically.

The average annual growth rate of 4.2% for East Asia during the 40-year period from 1970 to 2010 has exceeded the global average of 3.1%. The rate for East Asia excluding Japan is even higher, at 7.6%. During this process the NIEs became high-income countries. Looking at per capita income levels converted at the purchasing power parity rate that indicates actual living standards, the NIEs do not differ much from Japan. For example, compared to income levels of USD 34,241 for Japan in 2010, income levels were higher for Singapore (USD 56,709), Hong Kong (USD 46,463), and Taiwan (USD 35,595) during that year. Income levels in South Korea were USD 29,717, coming close to the levels in Japan. This wave of economic development in East Asia spread from the NIEs to the ASEAN 4 and China, and is currently spreading to Vietnam and Myanmar.

Growth in East Asia has gained much attention around the world due to the fact that a high growth rate has been maintained for a long period of time and it has been accompanied by a relatively fair distribution of income. For this reason the World Bank has labeled Japan, the NIEs, Thailand, Indonesia, and Malaysia as the High Performing Asian Economies (HPAEs), and it has conducted an analysis on the factors that generated this high growth, in particular the role of governments. As a result, a report entitled *The East Asian Miracle: Economic Growth and Public Policy* was released in 1993.

This report presented the view that the high level of growth in East Asia was by no means a miracle, but was rather achieved as a result of the adoption of rational economic measures by governments, selective market intervention by governments which encouraged the expansion of trade and industrialization, and the existence of systems and organizations in individual countries that served to promote economic development and industrialization (the principle

of selection based on the existence and capabilities of officials established at an arm's-length from politics, organizations operated jointly by governments and the private sector such as the Industrial Structure Council in Japan). It was a landmark report in that it concretely stated that the government had a role in complementing the functions of the market, which went against the view of neo-classical economics that market deregulation is essential for growth.

Although after experiencing the currency crisis from the second half of the 1990s, several East Asian countries were forced to conduct a fundamental review of the economic policies they had pursued up until that time, this report is still important from the perspective of its comprehensive coverage of the process in these East Asian countries catching up with the developed countries since the 1970s and it is on its way to becoming a classic. In particular, the recognition of the role of governments conducting selective market intervention that goes beyond the role of simply making adjustments in response to market failures has become a benchmark based on which to evaluate the governmental policies of other developing countries.

In this chapter, we will examine the high level of growth in East Asia from the perspective of demographic changes.

Up until now demographic changes in Asia, for example the declining birthrate, have been viewed as the result of economic development. However, this viewpoint can also be reversed and the impact of demographic changes on Asia's high growth can be examined. Understanding the population-based aspects of high growth is also useful to consider the impact of population aging on the economy.

First, let's look at the impact of demographic changes on economic development from the perspectives of population size and population structure. Next, we will introduce the concept of the demographic dividend that has received much attention as of late, and consider how population structures have supported Asia's high growth in terms of labor inputs, savings rates, and productivity, respectively. Then we will look at how these concepts can be applied to the specific cases of Japan, South Korea and Taiwan, and China and Thailand.

Population size and economic growth

The impact of the population on economic growth can be considered separately for the impact of population size and the impact of population structure. In Japan, the former is called a society with a decreasing population, and the latter a society with lower fertility and population aging.

In terms of population size and economic growth, there has been a long-held belief that population size in and of itself demonstrates the strength of a country. For example, under the mercantile system that dominated Western Europe from the 16th century to the 18th century, childbirth and immigration

were encouraged based on the concept that people equal power. In East Asia, China with its population of over 1 billion people has always been considered to be a great power, and in the mid-1980s Malaysia implemented a national policy aimed at increasing its population to 70 million (at the time, Malaysia had a population of 15 million).

Furthermore, some believe that, as espoused by Adam Smith, economies of scale, the development of the division of labor, and adoption of the principle of competition are required for economic growth and a population must be of at least a certain size in order to achieve this. Based on this perspective, for the country of Laos with a small population of only 5 million, population control measures were not aggressively implemented despite its high population growth rate.

However, with the current globalization of the economy, it is not believed that population size will necessarily serve as a factor that encourages or controls economic growth. In fact, Singapore and Hong Kong have achieved economic growth by securing an important position in the international division of labor.

Focusing on changes in population size, there is also the pessimistic view that population increases serve as an impediment to economic development. Famous examples of this are *An Essay on the Principle of Population* by Thomas Robert Malthus and *The Limits to Growth* of the Club of Rome that espoused the view that population increases cause resources to become depleted. In addition, in *Population Growth and Economic Development in Low-Income Countries: A Case Study of India's Prospects* by Ansley J. Coale and Edgar M. Hoover, a book on population increases in developing countries, it is pointed out that if countries like India don't curb their birthrates economic development will be difficult.

Furthermore, in the renowned work *Asian Drama: An Inquiry into the Poverty of Nations* by Karl Gunnar Myrdal, a case for the necessity of birth control is made by claiming that there is a vicious circle of population growth and poverty in South Asia.

In development economics, the process of population growth impeding economic development is presented as the low level-equilibrium trap model. According to this model, because increases in production and income cannot keep up with population growth, income levels in these countries are forced to become stuck at a low equilibrium level. In recognition of this, governments of developing countries have launched family planning initiatives that have been supported by international organizations. This was a factor that led to China's decision to adopt the one-child policy.

In contrast, in developed countries, there is a pessimistic view toward decreasing populations. This is because decreasing populations cause a decline in the labor force and savings, in turn contracting the scale of economies. In

Japan, countermeasures to low fertility have been enacted in response to the negative effects of the falling population.

On the other hand, there are also some more optimistic views toward changes in population levels. Julian L. Simon has stressed that the increased pressure of population growth serves to propel technological progress. In fact, amid fears in the 1970s that sudden population growth could lead to food shortages on a global scale, the green revolution, consisting of the development of chemical fertilizers and high-yielding varieties of crops, enabled crop yields that exceeded population growth. Crop yields in East Asia nearly doubled from 1970 to 1990, increasing from 490 million tons to 873 million tons.

Meanwhile, there is also the optimistic view that while contractions in the scales of economies due to the decline in the labor force that results from falling populations cannot be avoided, it is possible to increase per capita income levels by improving the productivity in each of society, companies, and individuals.

These optimistic views are based on the assumption of the ingenuity of the human race, that people have the capability of developing new technologies when faced with problems to overcome. From this perspective, rather than optimism toward population changes, perhaps it is better to consider it as a neutral view that improvements in productivity through technological innovation contribute to economic growth. In terms of other research on the impact of population size and changes on economic growth, while there have been attempts to ascertain the optimal population size and optimal population growth rate, a shared view has not been achieved.

Population structure and economic growth

It is also possible to look at the relationship between the population and economic growth from the perspective of changes in the population structure. This is one of the focus points of this book.

In general, the population structure can be divided into the following three categories from the perspective of how each age sector of the population involves in economic activity.

The first category is the age sector from age 15 to 64, called the working-age population. This age sector serves as the driving force behind economic growth. The second category is the child population, from age 0 to 14, and the third category is the elderly population, from age 65 and above.

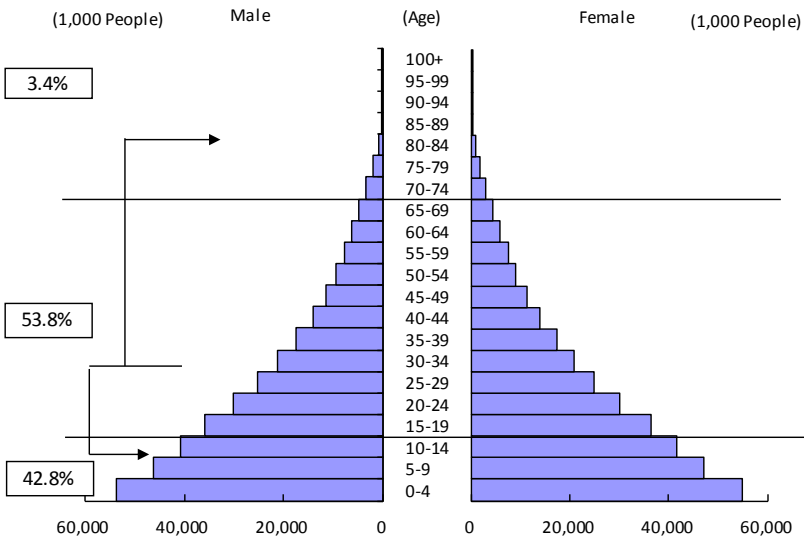
In addition, the child population and elderly population combined can also be referred to as the dependent population, and in contrast to this the working-age population can be referred to as the independent population. The elderly population divided by the working-age population (or the working population) can serve as a benchmark that expresses how many members of the working generation support one elderly person. Moreover, the dependent

population divided by the working-age population is sometimes used as the dependent population ratio.

These three categories do not always necessarily reflect reality. For example, in countries where higher education is pursued, people do not conduct economic activities until they exceed age 20, and in this case it is not appropriate to include people aged 15 to 19 in the working-age population in the advanced countries. In addition, in many cases there are people over age 65 that are fully capable of conducting economic activities. Elderly people can also be defined further as the young elderly (age 65 to 74) and the old elderly (age 75 or above). While these perspectives are important when discussing the impact of the population structure on economic growth in detail, here we will begin with a focus on the three categories of the child population, the working-age population, and the elderly population based on the abovementioned definitions.

Compared to the population size approach, this perspective of population structure is superior for understanding where issues may exist. For example, if the low level-equilibrium trap that was mentioned above in which the population growth of developing countries impedes economic growth is viewed from the perspective of age structure it is possible to more clearly see the causes for this trap.

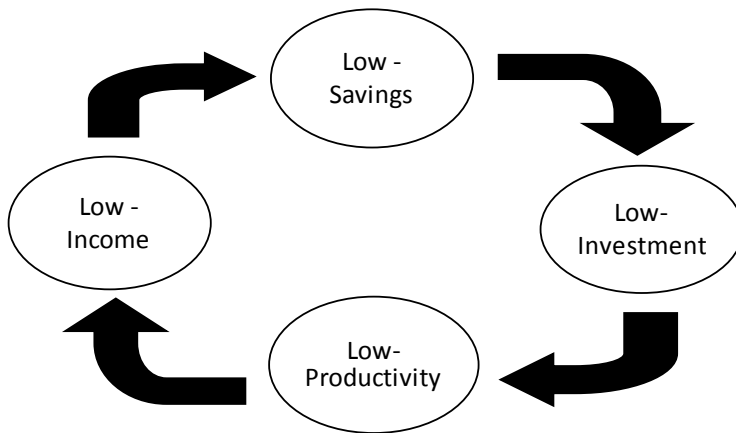
Figure 2-1 Population Pyramid of Least Developed Countries in 2000



Source: UN, *World Population Prospects: The 2012 Revision*

In the population pyramid of the least developed countries as defined by the UN in Figure 2-1, you can see with a glance that the child population is overwhelmingly large. In societies where the child population accounts for over 40% of the total population, most income is used for the cost of raising children, not leaving much room for savings. In societies that don't manage to save, investment also becomes stuck at low levels, creating a vicious circle in which low investments can only yield low levels of income. This is referred to as "the vicious circle of poverty," which was pointed out by development economist Ragnar Nurkse (Figure 2-2).

Figure 2-2 Vicious Circle of Poverty



Source: Author

Of course, savings and investment are not the only things required for economic growth. The importance of the productivity of human capital as a source of growth applies for both developing and developed countries. However, in societies like these where saving is difficult, it should come as no surprise that the establishment of educational systems that would contribute to productivity improvements is also difficult.

While most East Asian countries have now escaped from this low level-equilibrium trap, there are still many countries around the world that suffer from the burden of high child populations. As of 2000, the child population accounts for over 40% of the total population in 66 of the world's 192 countries. Approximately 70% of these countries are in Africa. Per capita GDP in these countries is less than USD 1,000, and the annual average real growth rate (from 1990 to 2000) is extremely low, at 0.15%. Because the

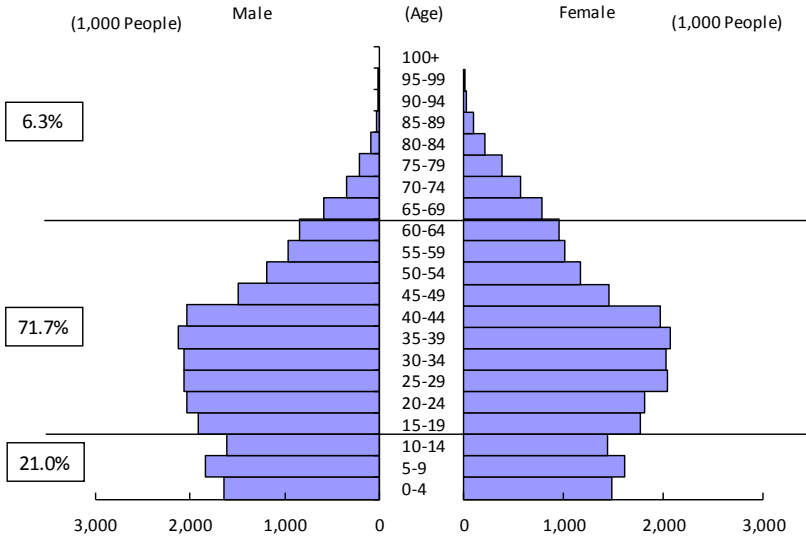
higher the population growth rate is, the lower the per capita economic growth rate becomes, population control will continue to be an issue for these countries.

In the population aging issue that is being debated in developed countries, focuses are put on no other than the impact the population structure has on the economy. As the ratio of the elderly population to the population overall becomes higher and the ratio of the working-age population becomes lower, this forces the amount of labor inputs down. In addition, as the elderly population ratio rises, this causes an increased burden in terms of pension and medical care costs for the elderly, and functions to force the domestic savings rate down. Although in many cases there are hopes that countermeasures to low fertility will mitigate the burdens of population aging, even if there are significant improvements in birthrates now, it will take 15 years for these newborns to become members of the working-age population. During this process, as the dependent population composed of the child population and elderly population continues to increase, society will have to withstand this increased burden for some period of time. It should be noted that developed countries may be in a vicious circle of stagnation, similar to the vicious circle of poverty, in which declining savings suppress production.

In this manner, the population structure approach provides insights that are not provided by the population size approach. In Japan, although a term “a society with a falling population” is sometimes referred to in the same context as “a society with lower fertility and population aging,” the expression “a society with lower fertility and population aging” that shows the changes in population structure more clearly articulates the issues faced by economic society.

Between developing countries where the child population ratio is high and developed countries where the elderly population ratio is high, there are some societies with a high working-age population ratio. While the population structure of these developing countries and developed countries has a negative effect on economic development, there is a positive effect on economic development for societies with a high working-age population ratio. This applies to developing countries that have successfully brought birthrates down, particularly the East Asian countries. Figure 2-3 displays South Korea’s population pyramid in 2000. As you can see, the working-age population that includes the baby boom generation accounts for an overwhelming high proportion of the total population, at 71.7%. The manner in which a high working-age population ratio serves to boost economic growth is referred to as “the demographic dividend,” and this is a concept that has gained much attention since 2000.

Figure 2-3 Population Pyramid of Korea in 2000



Source: UN, *World Population Prospects: The 2012 Revision*

2. What is the demographic dividend?

Economic growth as a dividend

The word demographic dividend was first used in the paper “Population and the Asian Economic Miracle” (1997) by Andrew Mason. This paper presents the outcome of a project on population policy and economic growth. Mason focused on the fact that the increase in the ratio of the population that generates income increases per capita income, and stated that declines in birthrates bring about a demographic dividend through a rapid increase in the working-age population. He favorably regarded that the reason that Asia has been able to benefit from this demographic dividend is the result of the family planning initiatives implemented by national governments, and these population control measures have boosted economic development.

The following year in 1998, the United Nations Population Fund described the demographic dividend as follows in *The State of World Population Report 1998*:

Lower birth rates in today’s developing countries offer the possibility of a demographic bonus in the next 15-20 years, as a “bulge” of young people comes into the workforce while fewer children are born. If jobs can be found for them, the “workforce bulge” can be the basis for more

investment, greater labour productivity and rapid economic development. This will generate revenues for social investments like health, education and social security, to meet the needs of both old and young and secure the basis for future development.” (p.4)

While the workforce bulge that is referred to here does not in and of itself lead to labor productivity improvement, the concept of a demographic dividend consisting of declines in birthrates encouraging economic growth spread throughout the world as a new perspective for looking at developing countries.

The concept of a demographic dividend was further developed into a theory afterwards by David E. Bloom. In the paper “Demographic Transitions and Economic Miracles in Emerging Asia” released in 1998, a quantitative analysis on Asia’s economic growth from 1960 to 1990 using population variables was conducted and the groundbreaking view that one-third of that growth could be accounted for by the demographic dividend (they referred to it as “demographic gifts” at that time) was presented. It is important to know that the paper noted that the demographic dividend would not inevitably bring about benefits and the benefits of the demographic dividend enjoyed in the East Asian countries were the result of the establishment of social, economic, and political systems that allowed the latent power generated by demographic changes to be manifested, and that these measures were suitable for the changes in population structures. In other words, only countries that implement policies suitable for changes in population structures are able to receive the benefits of economic development as demographic dividend.

Increase in labor inputs from the baby boom generation

Next we will look at the process through which the effects of the demographic dividend are realized.

Here the concept of growth accounting, which models long-term growth, will be used.

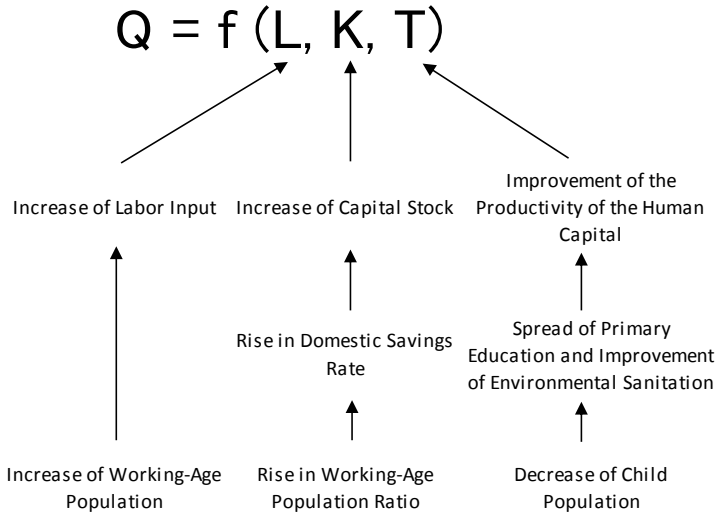
In growth accounting, the size of an economy (Q) can be described by three elements: labor inputs (L), capital stock such as machinery and equipment (K), and total factor productivity (T).

The formula is displayed in Figure 2-4. With declines in birthrates, there are positive effects on each of these elements.

Next we will look at the effect of the demographic dividend on labor input, capital stock, and technology levels, in that order. At the same time we will consider how these elements have been related to the East Asia miracle.

It should first be noted that even if birthrates decline, labor inputs continue to increase for a period of time.

Figure 2-4 The Growth Accounting and Demographic Dividend



Source: Author

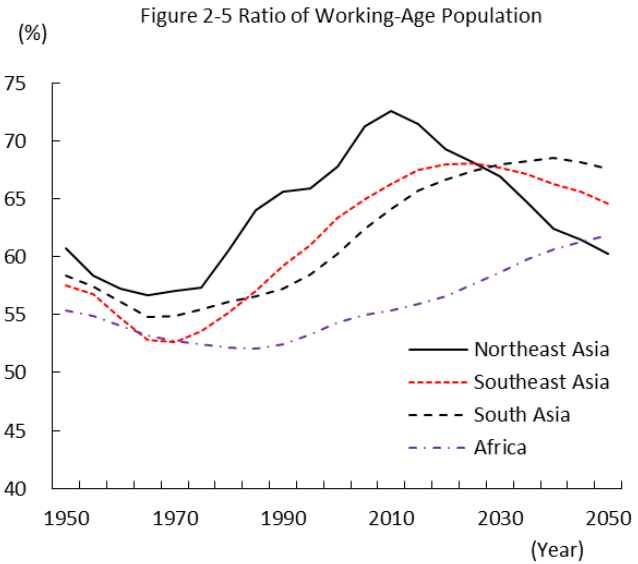
While declines in the birthrate will eventually lead to a decrease in the working-age population, the working-age population will continue to increase in the time being because the growing portion of the working-age population will exceed the declining portion. In other words, until the working-age population begins to decline, the applicable country will be able to increase its labor inputs. It is absolutely when the baby boom generation joins the working-age population that the labor force growth rate peaks.

Put precisely, while labor inputs are expressed by a product of the number of labor force and working hours, over the long term labor inputs are strongly affected by labor force trends. Furthermore, while all members of the population do not necessarily engage in labor when they reach the working-age, over the long term changes in the ratio of the labor force to the working-age population (the labor force participation rate) within a single country are small, and there are almost no differences between changes in the working-age population and in the labor force. In other words, as a general rule, we may conclude that the higher the working-age population growth rate is, the higher the increase in labor inputs.

For Japan, 1960 to 1965 was the period with the highest working-age population growth rate, when the annual rate was 2.2%. This was a period of

high economic growth, and growth was further accelerated through the absorption of the rapidly increasing labor force. During this time there were population movements from rural areas to urban areas and from agriculture to industry. There was a particularly strong tendency for members of the baby boom generation to move from rural areas to the cities after graduating from junior high school or senior high school. While the percentage of new graduates across Japan that found employment in primary industry was 50% in 1950, this percentage fell to 10% in 1960 and 5% in 1965. In Japan, the absorption of the increase in the working-age population can be understood to have accelerated industrialization (Minami 2002).

Figure 2-5 displays the ratio of the working-age population for Northeast Asia, Southeast Asia, South Asia, and Africa. It displays the rapid increase in the working-age population ratio in East Asia being followed by a similar increase in Southeast Asia and South Asia. In the case of Africa, while the working-age population ratio is on the rise, this trend remains weak. This suggests that there are differences in the growth potential of Asia's and Africa's population structure. In addition, the figure displays that the East Asia's working-age population will peak in the near future and then begin to fall.



Source: UN, *World Population Prospects: The 2012 Revision*

Of course, increases in the working-age population do not always necessarily lead to increases in labor inputs. Factors such as the development of the labor market, the stage of the industrial structure's development, and governmental policies also have a strong impact. Ultimately, the key to growth is whether or not the increasing labor force can be absorbed and whether or not the fruits of the growth can be evenly distributed to laborers.

The rise in the domestic savings rate encouraging investment

Second, we will examine the increase in capital stock that is brought about by increases in savings.

Capital stock is the accumulation of investments (capital accumulation) such as machinery, plants, harbors, power, railways, roads, etc., that will contribute to production. The higher capital accumulation is, the more that economic growth potential is increased. This type of capital accumulation is formed by the investments that are conducted every year.

Funds are necessary for investments. For developing countries, it is extremely important where and how these funds are procured. With the current advance of economic globalization, it is possible to procure the required funds from overseas. However, in developing countries where systems for accepting foreign capital have not been developed and there are limited businesses that are attractive to foreign investors, in general, domestic savings serve as the main source of funds. Changes in domestic savings determine the size of investments (Feldstein and Horioka 1980).

The process through which declines in birthrates cause the domestic savings rate to rise is believed to function as described below.

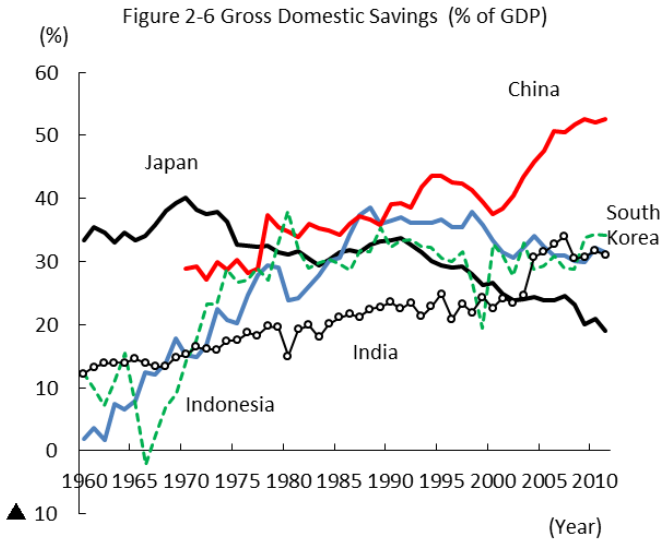
First, because the increase of the working-age population ratio increases the ratio of the population with income, this causes the amount of savings for society as a whole to increase. In addition, because declines in birthrate reduces the burden that child raising costs caused on family budgets, this leads to an increase of savings by families. Furthermore, due to an abundant labor force and low wage levels, many companies are able to accumulate internal reserves (corporate savings). Moreover, because households and companies can begin to get by on their own, the government can shift expenditures from spending that supports peoples' livelihoods to infrastructure investments. In this manner increases in the domestic savings rate lead to increased investment which encourages growth in capital stock.

The World Bank noted the following in *The East Asian Miracle*:

Between 1960 and 1990, both savings and investment increased markedly in the HPAEs, out stripping the performance of other developing regions. Savings rates in the developing HPAEs were lower than in Latin America in 1965, but by 1990 they exceeded Latin America's savings rates by almost 20 percent points Investment levels were double the average for

Latin America and East Asia in 1965; by 1990 East Asia's investment rates were nearly double the average for Latin America and substantially exceeded the rates for the South Asia and Sub-Saharan Africa. The HPAEs are the only group of developing economies in which savings exceeds investment, making them exporters of capital. (p.41)

Figure 2-6 displays the domestic savings rates in Japan, South Korea, China, Indonesia, and India. Although the savings rate in Japan was already high in 1960, it can also be seen that savings rapidly grew in South Korea and Indonesia from the 1970s. This is consistent with the increase in the working-age population ratio in both countries. Similarly, China has followed an upward trend since the 1980s. In this manner all the countries displayed have high savings rates (the developing country average is approximately 20%). There is no doubt that these high domestic savings rates served as the source for healthy investment and the driving force for high growth.



Source: *World Development Indicators*

However, for increasing domestic savings to be effectively allocated to production activities, an efficient financial system is required. The development of banks and other financial institutions is essential, as well as the legal frameworks that support their businesses and maintenance of stable macroeconomics.

Productivity improvements through the spread in primary education

Thirdly, we will look at the process through which declining birthrates increase technology levels (productivity).

Because this is technology as broadly defined, the expression as total factor productivity is often used. In his essay “The Myth of Asia’s Miracle,” which is mentioned in the Introduction of this book, Krugman pointed out that growth in the total factor productivity, or the degree of technological progress, was low in Asia.

Total factor productivity consists of not just production technologies, but also includes a wide variety of factors such as educational systems for human resources development; efficient corporate management; harbors, power, roads, waterworks and other forms of infrastructure; and the development of laws and systems.

Although technology is something that belongs to companies and society as a whole, and not just individuals, let’s look at education as an element which improves the productivity of individuals.

In the World Bank’s *The East Asian Miracle*, it is pointed out that one of the factors that allowed for high growth to be achieved in Asia was the spread of primary education which was enabled in part by rapid changes in demographic trends.

“Declining fertility and rapid economic growth meant that, even when education investment as a share of GDP remained constant, more resources were available per child.”

Of course, the full-fledged efforts of governments in the spread of primary education and secondary education should be mentioned. However, it is highly likely that the decrease in the child population as a result of declining birthrates facilitated the spread of education.

Table 2-1 displays the school enrollment ratio of the East Asian countries. In the NIEs, a school enrollment ratio of 100% was achieved before 1970 for primary education, and a school enrollment ratio of nearly 100% was achieved for secondary education from 1980 to 2000. In the ASEAN 4, a primary education enrollment ratio of nearly 100% was achieved from 1970 to 1980, and the secondary education enrollment ratio surged from 1990 onward.

In the same manner as for education, because per capita health and sanitation expenditures increase as birthrates decline, the improvement in the health of laborers is also believed to have contributed to productivity improvements. This full development of basic education and the presence of healthy laborers created an Asia renowned for “its abundant and diligent labor force,” which began to gain the attention of Japanese companies and other foreign companies as an attractive market to enter. In addition the transfer of the production technologies and management techniques of developed countries through the market entry of foreign companies also contributed to productivity

improvements.

Table 2-1 School Enrollment (% Gross)

(Unit: %)

	Primary			
	1971	1980	1990	2000
Japan	102.9	110.5	105.3	101.5
NIES				
South Korea	105.7	105.2	106.0	101.7
Taiwan				
Hong Kong	114.7	105.7	103.0	..
Singapore	101.2	106.1	102.3	..
China	..	103.7	120.3	..
ASEAN4				
Thailand	77.3	97.4	98.1	92.7
Malaysia	83.4	92.0	93.6	98.9
Indonesia	72.7	99.7	113.6	108.8
Philippines	..	109.9	109.3	112.5

	Secondary			
	1970	1980	1990	2000
Japan	86.5	92.5	95.6	101.8
NIES				
South Korea	39.7	76.8	92.6	98.9
Taiwan				
Hong Kong	35.8	64.1	79.6	..
Singapore	46.0	59.9	68.1	..
China	24.3	45.9	48.7	..
ASEAN4				
Thailand	17.4	28.8	30.1	81.9
Malaysia	34.2	47.7	56.3	70.3
Indonesia	16.1	29.0	44.0	57.0
Philippines	45.8	64.2	73.2	77.3

Source: World Bank, *World Development Indicators*, *ADB Key Indicators*

Furthermore, it is believed that the diversification of investments brought about by increases in the domestic savings rate also served to improve technology levels. This is because the investments that accompanied economic

development went not only to construction, facilities, and machinery, but also to research and development.

However, in order to maximize the effect of the demographic dividend, simply the development of primary and secondary education is not sufficient. As international competition gets more intense every year, government policies need to shift to the development of higher education and university education curricula sufficient for maintaining growth and to the encouragement of corporate research and development.

How long will the demographic dividend continue?

For the East Asian countries that have benefited from the demographic dividend, how long will these benefits continue?

In considering the sustainability of growth in East Asia that serves as the theme of this book, we have to answer the question of when the benefits of the demographic dividend have begun and until when these benefits will last.

The demographic dividend is a new framework, and there are no confirmed views regarding its duration.

For example, there are various points that could be considered as the start of the demographic dividend, such as when the working-age population ratio exceeds a certain level (for example 60%) or when the working-age population ratio begins to rise.

Here, for the sake of convenience, putting importance on the concept of demographic dividend paying attention to the working-age population ratio, with the start of demographic dividend being when that ratio starts to increase and the end of the demographic dividend being when that ratio starts to decrease. Based on this definition, the period of the demographic dividend for the East Asian countries is displayed in Table 2-2.

Japan's demographic dividend started in the early 1930s, the earliest start among the countries listed. The start was between 1960 and 1975 for the other countries. One of the reasons that the demographic dividend started at nearly the same time for these countries despite the differences in income levels is that it was during this period that many Asian countries started implementing population control measures such as family planning initiatives.

On the other hand, the end of the demographic dividend in 1992 for Japan was also the earliest end among these countries. The demographic dividend will end for the NIEs, China and Thailand sometime between 2010 and 2014. For Malaysia and Indonesia, the demographic dividend will end during the 2020s. This period depends on the speed of the decline in birthrates. The Asian countries excluding Japan are still within the demographic dividend period. However, it must be remembered that even for these countries the working-age population ratio will peak in the not too distant future.

Table 2-2 The Period of Demographic Dividend

	The Period (Year)		Per Capita GDP
	Start	End	2010
Japan	1930-35	1992	42,863
NIEs			
South Korea	1966	2013	20,540
Taiwan	1963	2014	18,573
Hong Kong	1961	2010	31,787
Singapore	1964	2012	43,862
China	1965	2010	4,423
ASEAN4			
Thailand	1968	2013	4,992
Malaysia	1964	2019	8,737
Indonesia	1971	2025	2,981
Philippines	1964	2052	2,123

Source: UN, *World Population Prospects: 2012 Revision*

The impact of population aging on the economy is under debate in the NIEs. However, in terms of per capita GDP, these countries are on the same level as developed countries, and in this sense they can be considered as already having been transformed into developed countries as a result of the demographic dividend. However, the per capita GDP of China and Thailand, which will end this demographic dividend at almost the same time as the NIEs, remains far below those of the NIEs. In ASEAN countries excluding Malaysia, it is highly likely that the demographic dividend period will end while income levels are still low.

3. How have countries in Asia been able to enjoy the benefits of the demographic dividend?

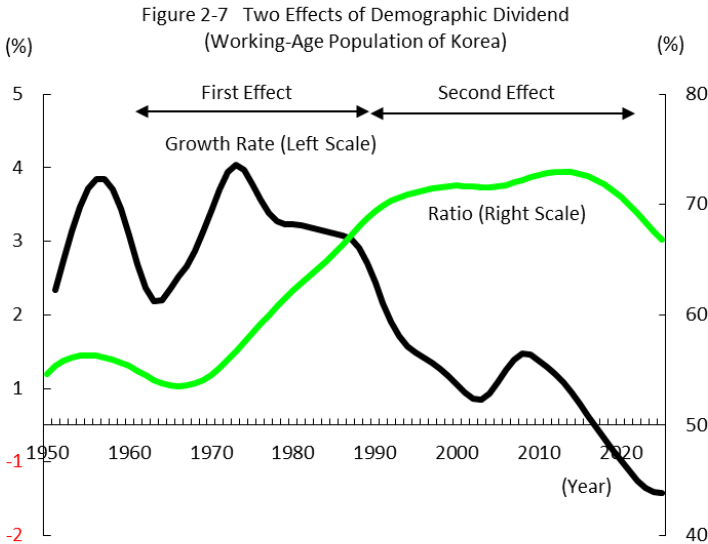
Changes in the benefits of the demographic dividend

The demographic dividend period presents developing countries with a good opportunity to catch up with developed countries, and also serves as a time to prepare for the transformation into aged societies in the future. This means that developing countries need to sufficiently absorb these benefits and build the economic and social foundation required for achieving plentiful aged societies. However, the benefits of the demographic dividend can only be enjoyed if systems and national policies are sufficient for supporting demographic trends. As mentioned above, the high level of growth in East Asia has been significantly affected by the impact of changes in population structures, and the

benefits of the demographic dividend vary by country accordingly.

What kind of governmental policies are needed in order to enjoy the benefits of the demographic dividend?

The benefits of the demographic dividend change over time. Roughly, there are two types of benefit (Figure 2-7).



Source: UN, *World Population Prospects: The 2012 Revision*

The first benefit is the increase in labor inputs that accompanies the increase in the working-age population during the first half of the demographic dividend period. However, at this time the domestic savings rate and educational levels are still low. Meanwhile, in the second half of the demographic dividend period, while the working-age population growth rate will begin to decline, the domestic savings rate and educational levels will both increase. This means that in order to enjoy the benefits of the demographic dividend, the implementation of governmental policies that support demographic trends that change over time is necessary.

The industrial structures that are suitable for these two types of demographic dividend benefits are as follows. During the first half of the demographic dividend period, governmental policy and industrial development sufficient for absorbing the increase in the working-age population are the keys to growth. This means that governmental policies for the development of labor-intensive industries such as textiles, garments, and food processing are called for during this period and that growth of these industries can be expected at the same time.

However, because domestic savings rates are still low, how to secure funds to encourage the development of these industries is also important.

Meanwhile, because the domestic savings rate rises and may reach high levels during the second half of the demographic dividend period, the development of capital-intensive industries such as steel and petrochemicals through governmental policies that effectively use these savings are called for. For this purpose, the development of financial institutions and systems that effectively distribute domestic savings is essential.

In addition, relentless efforts throughout this period to improve technologies at the government, business, and individual level will increase the benefits of the demographic dividend. Governments should be called on to increase educational levels throughout the country as income levels increase, focusing efforts from primary education to secondary education, and then to higher education. Businesses should be called on to conduct research and development aimed at unique technological innovation. The higher technology levels are, the more that growth can be expected in high-tech industries such as automobiles and electronics during the second half of the demographic dividend period. The development of knowledge-intensive industries, the provision of industry as a service, and the provision of higher added value in industry can serve as the base for maintaining sustainable growth in aged societies after the demographic dividend period. These policies can be referred to as “demographic trend-friendly policies.”

Furthermore, in order to improve the effectiveness of governmental policies, it is necessary to look at the conditions in each country (the initial conditions) when the demographic dividend period starts. These initial conditions include per capita income levels, the industrial composition ratio, the employment structure, the educational systems, the sanitation environment, and infrastructure development such as ports, power, and roads. The better these initial conditions are, the better that the benefits of the demographic dividend will be.

Meanwhile, for countries that start the demographic dividend period while still at a low level of development, some form of governmental policies are required to compensate for the insufficiencies in these initial conditions.

Next, we will look back at the economic development of Japan, South Korea, Taiwan, China, and Thailand from this perspective.

Japan: the period of high growth supported by the baby boom generation

Japan’s demographic dividend started in the early 1930s, the earliest start in Asia. Because Japan began to respond to industrialization and modernization at an early phase during the Meiji Era (1868 to 1912), by 1935 industrial production already accounted for a high 32.4% of the GDP. However, following this almost all capital stock was devastated as a result of WW2, and

the percent of the GDP accounted for by industrial production fell to 12.6% in 1955.

The actual benefits of the demographic dividend were realized through high levels of growth and industrial reconstruction after the war.

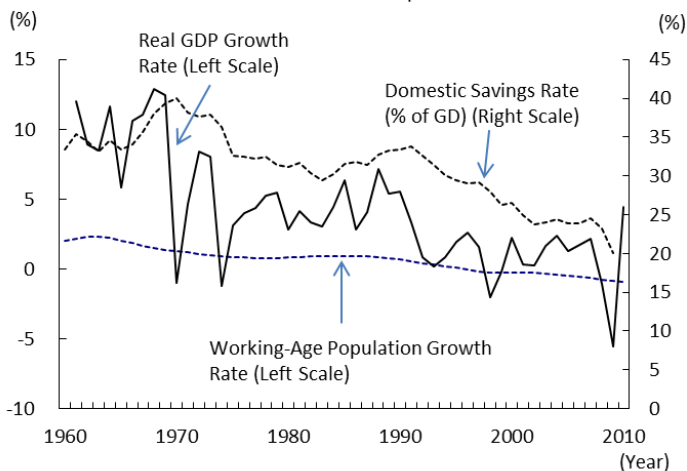
While the rapid economic reconstruction since 1955 is referred to as high growth, this growth has been driven by the baby boom generation. The baby boom generation is the generation that was born from 1947 to 1949, and during this three-year period the total fertility rate exceeded 4.0. This baby boom generation reached the working-age between 1960 and 1965, and during this period the working-age population growth rate was an annual average of 2.2%. With the entry of the baby boom generation in the labor market, population movements from rural areas to urban areas and movement of the labor force from agriculture to industry were seen.

With the absorption of this abundant labor force, Japan's industrial ratio recovered from 17.1% in 1960 to 25.2% in 1970. If construction, transportation, communication, and public utilities are added to this, the ratio increased from 37.0% to 47.5%. During this 10-year period the real growth rate was a high 9.3%.

However, one of the things that differentiate Japan from other Asian countries is that because the development of labor-intensive industries was already underway during the Taisho Era (1912 to 1926), when the baby boom generation entered the working population the focus of industry was already shifting to capital-intensive industries. In addition, because Japan's domestic savings rate accounted for a high 30% of GDP, this supported the financing of a priority production system in which the allocation of resources was prioritized for the heavy industries sector, including steel, coal, fertilizer, and shipbuilding. Also, the high educational levels of the baby boom generation were a positive factor. For the baby boom generation, the high school entrance rate was 60% and the university entrance rate exceeded 20%. Supported by this high savings rate and high educational levels, Japan succeeded in the development of capital-intensive industries with high technology levels.

Afterwards, the economic growth rate fell significantly from the high levels of the 1960s to 3.3% in the 1970s. Although some of the main factors causing this were changes in the international environment such as the oil shock (1972 and 1979), from the perspective of the demographic dividend it can be said that Japan experienced a break. The second-generation baby boomers were born during this era, during which the juvenile population ratio rose and the working-age population ratio fell, representing a demographic change unique to Japan. In terms of the domestic savings rate, it was lower during this 10-year period when compared with the 10-year periods that preceded and followed it (Figure 2-8).

Figure 2-8 Working-Age Population, Domestic Savings Ratio and GDP Growth Rate of Japan

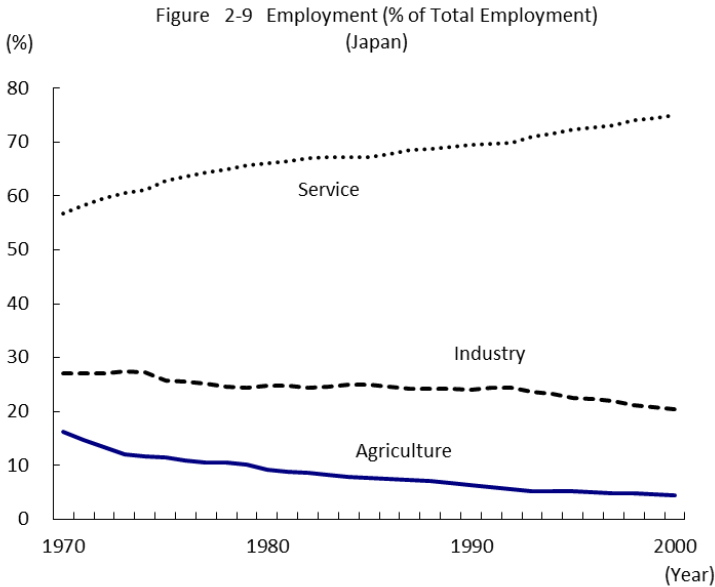


Source: UN, *World Population Prospects: The 2012 Revision*, World Bank, *World Development Indicators*

The working-age population ratio began to increase again on entering the 1980s. As technology level improvements caused the industrial structure to become more high-tech during this period, the focus of industry began to shift from the manufacturing sector to the service sector. The manufacturing sector ratio dropped from 45.0% in 1970 to 39.2% in 1990, and the working population ratio for the sector also fell from 27.0% to 24.1%. Meanwhile the service sector ratio grew from 50.0% to 58.3% and the working population ratio of the sector grew drastically from 56.8% to 69.5%. The domestic savings rate that had declined in the 1970s increased from 29.9% in 1983 to 34.0% in 1992. As financial assets increased to unprecedented high price levels, this was accompanied by skyrocketing stock and real estate prices, which brought Japan into a bubble economy. Per capita GDP in Japan overtook the US during the late 1980s, as Japan became an economic superpower. In this point, doubts remain as to whether Japan sufficiently took advantage of the increase in the domestic savings rate during the second half of the demographic dividend period. Incidentally, the growth rate during the 1980s was low, at 3.5%.

Japan's working-age population ratio peaked in 1993, bringing the demographic dividend period to an end. During the 1990s, the economic growth rate remained low, at an annual average of 1.1%. The 10-year period following the collapse of the bubble economy is often referred to as the lost decade, and it is also the period during which the demographic dividend lost its effect, as the domestic savings rate fell from 33.7% in 1990 to 27.4% in 2000

accompanying the decline in the working-age population since 1996. Meanwhile, the increase in costs for medical service and pensions that support the elderly since the mid-1990s has become an even hotter issue.



South Korea and Taiwan: the deployment of demographic trend-friendly policies

The demographic dividend started in 1965 in South Korea and in 1963 in Taiwan. Looking at the industrial structure of both these countries at this point, the industrial sector accounted for 20% of the GDP and 10% to 20% of the working population ratio, and the industrial structure was actually weighted toward agriculture. The agricultural sector accounted for over 30% of the GDP and over 40% of the working population. In addition, up until the early 1960s total fertility rates were high, at around 6. This means that these countries suffered from the typical developing country problem of surplus labor in rural areas.

Following WW2, the focal point of the economic development strategy of both countries was how to start up domestic industrialization. This governmental policy that was adopted was called import-substitution industrialization. This was a policy of controlling import of foreign-made products through high tariff rates, quantity limits, and exchange rate policy in

order to promote the domestic production of industrial products for the domestic market. As a result, the industrial ratio for South Korea increased from 13.8% in 1960 to 29.5% in 1970, and for Taiwan this ratio increased from 21.6% in 1955 to 28.6% in 1965. However, the ratio of the working population accounted for by the industrial sector was low for both South Korea (14.3% in 1970) and Taiwan (20.9% in 1970).

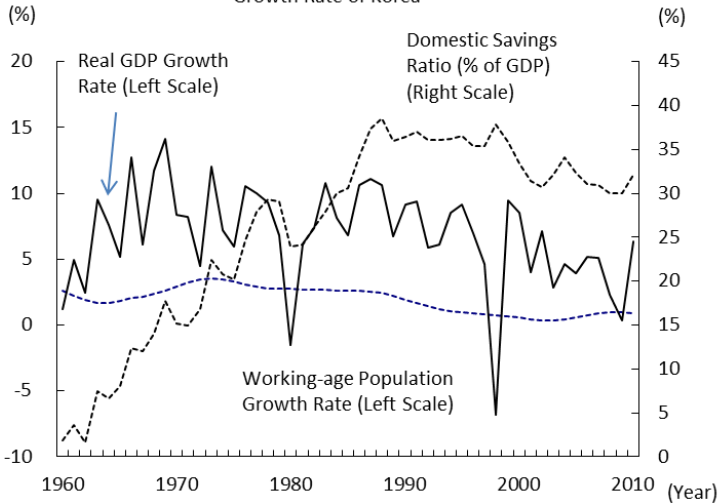
Support from overseas funding played a significant role in the development of import-substitution industrialization. Looking at the domestic savings rates for South Korea and Taiwan during that period, they have not reached 20% of the GDP for South Korea up until 1970 and until 1965 in the case of Taiwan. However, because both South Korea and Taiwan received a huge amount of aid from the US and large quantities of yen loans from Japan, this reduced the burden of public-sector spending such as for infrastructure development and enabled these countries to overcome the disadvantageous initial condition of having low domestic savings rates during the first half of the demographic dividend.

Once the baby boom generation entered the labor market, the issues of unemployment became an economic and social problem for South Korea and Taiwan. In addition to the failure of import-substitution industrialization to provide sufficient employment opportunities, because it was necessary to correct the deterioration in the balance of international payments, both shifted to a policy of export-oriented industrialization aimed at selling industrial products in markets overseas. This contributed to the absorption of the surplus labor force as a result.

In order to promote exports in South Korea, the government implemented a policy of having exporters compete and preferentially providing low-interest financing to those with the best performance. This is called contest-based competition. Furthermore, while South Korea had kept the doors closed for foreign companies in the past, it allowed the entry of foreign companies under the condition of them being exporters. With this policy shift, many foreign companies, especially Japanese companies, entered South Korean market one after another. Their aim was to use the cheap labor force in South Korea for the production of labor-intensive products. Needless to say, it was the baby boom generation that composed this labor force.

Exports grew rapidly, especially labor-intensive products such as textiles, apparel, and footwear. Over the 10-year period from 1970 to 1980 South Korea's exports grew extraordinarily by nearly 20 times, growing from USD 1.2 billion to USD 20.4 billion. Leveraging this increase in exports, South Korea achieved high levels of growth from 1970 to 1980, with an average annual growth rate of 7.3%. This was referred to as the Miracle on the Han River.

Figure 2-10 Working-Age Population, Domestic Savings Rate and GDP Growth Rate of Korea



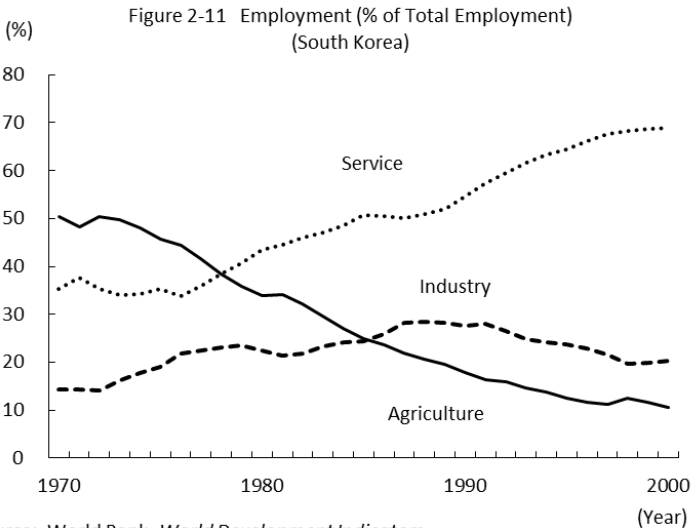
Source: UN, *World Population Prospects: The 2012 Revision*, World Bank, *World Development Indicators*

This export-oriented industrialization policy played a significant role in increasing domestic employment. According to one estimate, the ratio of manufacturing jobs to total jobs for 1975 and 1980 was very high, at 72% and 68%, respectively (Watanabe 1985).

In Taiwan, the Act Governing Establishment and Management of Export Processing Zones was promulgated in 1965, based upon which the Kaohsiung Export Processing Zone was established in 1966. Export processing zones are areas for which Taiwan has permitted the entry of foreign companies under the condition that all products produced will be exported. Companies in these zones were provided with tax privilege, assistance with recruiting laborers, and provision of infrastructure facilities. Following this, export processing zones, have become an important part of industrialization strategies for developing countries. Thanks to these efforts, exports (mainly textiles, apparel, and footwear) surged from USD 450 million in 1965 to 5,390 million in 1976. In addition, the annual growth rate from 1965 to 1975 exceeded 10%.

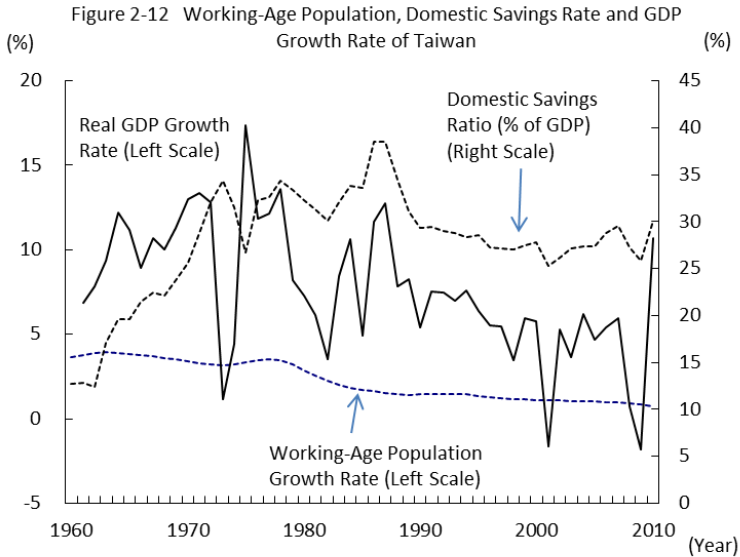
In 1979, the OECD (Organization for Economic Co-operation and Development) applied the newly industrialized countries (NICs) label to South Korea and Taiwan, along with Singapore, Brazil, Mexico, Spain, and Portugal. Afterwards in the 1980s when several Latin American countries underwent a debt crisis in the process of import-substitution industrialization, the NICs in Asia maintained high levels of growth through export-oriented industrialization

policies. This success was recognized, and the idea that the outward-looking policies of strengthening exports adopted by the NICs could be used as a means for developing countries to catch up with developed countries became a prevailing view. In 1988, the name for the NICs was changed to NIEs (newly industrializing economies), and from that point this terms has mainly been used for South Korea, Taiwan, Hong Kong, and Singapore.



The lesson learned from South Korea’s and Taiwan’s economic development is that developing countries in the first half of the demographic dividend period have an environment suitable for the growth of labor-intensive industries and policies that take advantage of this environment should be implemented. However, because domestic savings alone are not sufficient for expanding the industrial sector so that it can absorb young labor forces, the investment of foreign funds plays an important role. In addition, the development of and entry to overseas markets is useful to compensate for small domestic markets, and attracting foreign companies is also a useful means to encourage technology transfer and secure market access. Of course, the fact that the governments of both South Korea and Taiwan made efforts for the spread of primary education, adopted policies that encouraged the business activities of exporters, and prioritized the development of infrastructure cannot be dismissed. In any case, both South Korea and Taiwan are good examples of countries that benefited from the demographic dividend by overcoming

disadvantages in initial conditions through the implementation of unique policies.

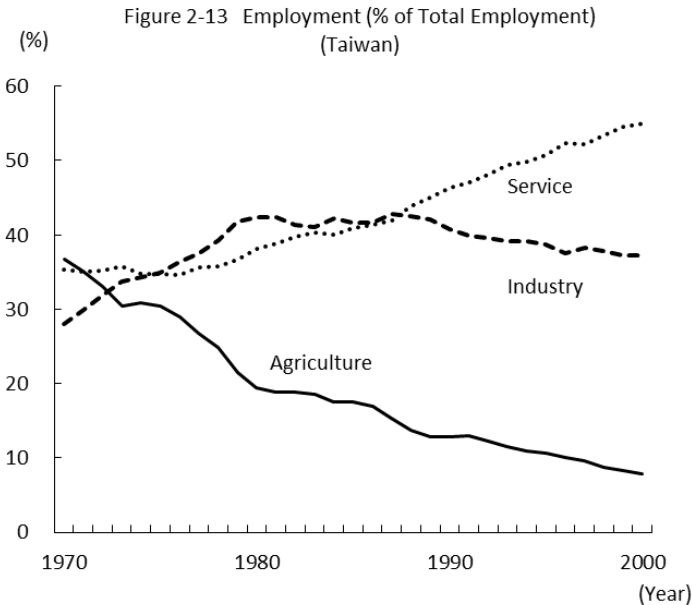


Source: UN, *World Population Prospects: The 2012 Revision*, World Bank, *World Development Indicators*

Meanwhile, the second half of the demographic dividend period is a period during which increases in the domestic savings rate can be expected, and it turns out that both South Korea and Taiwan were successful in achieving significant increases, as the domestic savings rate grew from 20.2% in 1975 to 38.8% in 1988 in South Korea and from 25.6% in 1970 to 38.5% in 1987 in Taiwan. These domestic savings served as the source of funding as heavy industries were developed in South Korea and Taiwan.

In South Korea, the Heavy and Chemical Industry Development Plan was launched from 1973, establishing the six fields of steel, shipbuilding, electronic equipment, machinery, nonferrous metals, and petrochemicals as strategic industries. The government established the National Investment Fund (NIF) in 1974 and developed a long-term financing system for heavy and chemical industries. As a result, the ratio of industrial added value accounted for by heavy and chemical industries increased from 51.4% in 1982 to 73.1% in 1996. From the mid-1980s, the Ten Strategic Industries Development Plan that included high-tech industries such as automobiles, semiconductors, and computers was launched. Continued high levels of growth was maintained from 1975 to 1990, with an average annual growth rate of 8.1%, against a

background of the development in capital-intensive industries.



Source: ADB, *Key Indicators*

In Taiwan also, the development of heavy and chemical industries was focused on in the sixth four-year plan for 1973, and at the same time the Ten National Projects of Economic Construction program was launched, consisting of investment in seven infrastructure construction projects and three industries (oil, steel, and shipbuilding) to support the heavy and chemical industries. This policy was sometimes positioned as a secondary import-substitution industrialization policy, and efforts in fields such as shipbuilding ended in failure. In Taiwan it was actually Small and Medium Enterprises (SMEs) in the machinery and electronics industries that led capital-intensive industry. Nonetheless, the ratio of Taiwan's economy accounted for by heavy and chemical industries increased from 51.8% in 1982 to 72.1% in 1996. Taiwan also maintained high growth from 1975 to 1990, with an annual average growth rate of 8.8%.

In the late 1980s, as the Korean won and Taiwan dollar appreciated against the US dollar and domestic wage level increased rapidly, the competitiveness of labor-intensive industries swiftly fell. In response to this South Korean and Taiwanese companies accelerated the transfer of production bases to Southeast

Asia and China in search of a cheap labor force. This coupled with the increase in domestic savings in both countries transformed them from investment recipient countries to investing countries. In terms of the amount of inflows and outflows of foreign direct investment in the balance of international payments, outflows exceeded inflows for South Korea from 1990 and from 1988 for Taiwan.

Entering the 1990s, the core of the industrial structure shifted from manufacture to service. In South Korea, service sector grew from accounting for 47.4% of the GDP in 1990 to 51.6% of the GDP in 2000, and from accounting for 54.5% of the working population to 69.0% of that during the same time period. Similarly, in Taiwan, service sector grew from accounting for 54.6% of the GDP in 1990 to 65.4% of the GDP in 2000, and from accounting for 46.4% of the working population to 55.0% of that during the same time period (Figure 2-11 and 2-13). The annual average growth rate from 1990 to 2000 was 6.1% for South Korea and 6.3% for Taiwan.

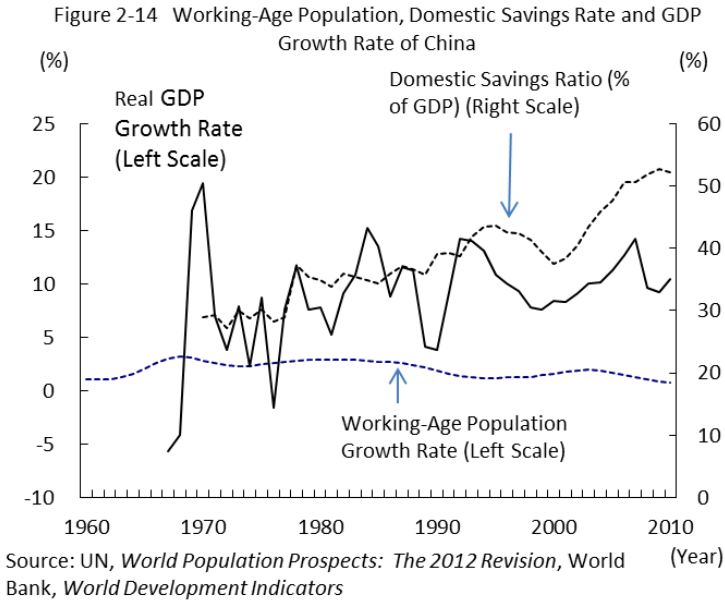
Looking at changes in the working population, during the first half of the demographic dividend period, a shift was seen from agriculture to industry, and during the second half the conversion continued with a shift from industry to service, and in this manner there were two conversions in the employment structure during the demographic dividend period.

In this way, by implementing demographic dividend-friendly policies South Korea and Taiwan have currently achieved income levels on par with those in Japan. While there will be a focus on whether South Korea and Taiwan can maintain this momentum going forward and catch up with or even overtake Japan, the demographic dividend for both these countries is expected to end around 2015 and the effects of population aging will gradually appear as they have in Japan. South Korea and Taiwan both already have an aging rate that exceeds 10% and the annual average growth rate for 2000 to 2010 has decelerated to 4.6% for South Korea and 4.1% for Taiwan. In both South Korea and Taiwan debate is ongoing as to how to avoid the burden of population aging and maintain sustainable growth.

China and the ASEAN 4: Missing out on the benefits of the first half of the demographic dividend

The demographic dividend for China and the ASEAN 4 began between the late 1960s and early 1970s. The initial conditions for these countries were more severe compared to South Korea and Taiwan. For example, agriculture accounted for at least 40% of the GDP and at least 70% of the working population for each of these countries. Traditional society was dominant in rural areas and these countries were still on the eve of industrialization. As stated above, birthrate levels were high, and resultant overpopulation was seen as a factor impeding economic growth. The total fertility rate at the start of the

demographic dividend period exceeded 4 for many of these countries, and nationwide primary education had yet to be adopted. The infrastructure such as power, ports, and roads required for supporting industrialization had not yet been developed and public finances to compensate for this were insufficient, resulting in a vicious cycle of poverty.



In an attempt to overcome these disadvantageous initial conditions industrialization was pursued in China under socialism and under authoritarian development regimes led by the military in the ASEAN countries.

In the end, these forms of industrialization were not sufficient for fully receiving the benefits of the demographic dividend.

Let's look at the case of China. It is believed that the demographic dividend started in the late 1960s in China. During that period, China was under a planned economy in which all production activities were managed by the government. Many experts point out that this rigid economic system served to reduce incentives for producers, and this dynamics is reflected in the annual average growth rate of only 3.9% from 1965 to 1978.

Full-fledged economic development in China started with the Reform and Opening Up policy based on a resolution made by the Third Plenary Session of the 11th Central Committee of the Communist Party of China in December 1978. At that point ten years had already passed since the start of the

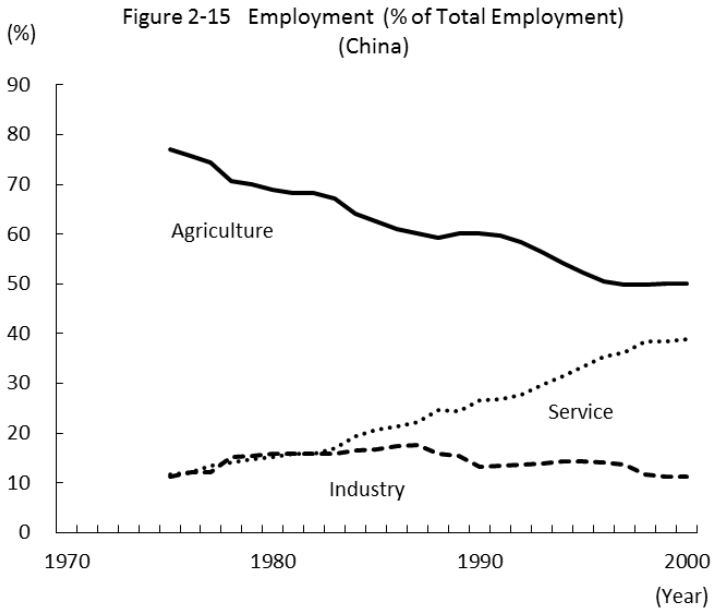
demographic dividend. Economic development in China was indeed dramatic following this Reform and Opening Up policy, and the annual average growth rate for 1980 to 1995 was high, at 8.7%, despite a period of political and social turmoil that included the Tiananmen Square incident. The annual average growth rate for the industrial sector during the same time period was particularly high, at 12.1%, and this served as a growth driver. As a result, the industrial sector grew to account for 40% of the GDP.

However this industrialization was not driven by labor-intensive industries under the guidance of the private sector as in South Korea and Taiwan. Because the Reform and Opening Up policy consisted of gradually adopting free-market principles while maintaining a planned economy system, industrialization continued to be led by state-owned companies and heavy industries, and these state-owned entities and heavy industries were prioritized in terms of investments from public finance and loans from banks. Meanwhile, while the scope of private sector production activities was gradually expanded under the Reform and Opening Up policy, overall there were many constraints and private sector companies had no room to grow labor-intensive industry. For example, up until 1988 private sector companies could only have up to eight employees. Under these constraints it was impossible for private sector companies to enter labor-intensive industries. In fact, although the industrial sector did grow rapidly, because the sector was focused on capital-intensive industry, the percentage of the working population accounted for by industry only grew from 18.2% in 1980 to 23.0% in 1995.

Of course, it is not as if labor-intensive industries did not grow at all during this time. It was actually foreign companies that gave attention to businesses which utilized China's abundant young labor force. Measures to attract foreign investment in China started off with the establishment of special economic zones in Guangdong and Fujian in 1980, and these efforts were expanded in the coastal regions and inland areas up until 1990. The reason why the government adopted policies that fully opened up the economy after initial caution toward the entry of foreign companies is that it realized that the development of labor-intensive industries could contribute to economic growth and improvements in the trade balance. However, due to the fact that China has a massive population, foreign companies only played a limited role in absorbing China's working population.

Although industrialization was accelerated under the planned economy system, the industrial sector was not able to absorb the over 10 million new laborers entering the working population every year that had emerged in the first half of the demographic dividend period. While the agricultural sector's percentage of the GDP dropped to 20% by 1995, the agricultural sector still accounted for over 50% of the working population. This means that while China was expanding its industrial sector, many young people were still left

behind in the rural areas. China's unique family registration system (that separated agricultural and non-agricultural areas) also served to inhibit the movement of the labor force. In addition, it is believed that the slight decline in the agricultural population was not absorbed by the industrial sector, but by the low productive service industry (the informal sector).



Source: World Bank, *World Development Indicators*

Of course, the rapid increase in the working-age population might have contributed to the development of the agricultural sector. This is because the annual average growth rate for primary industry from 1978 to 1985 was high, at 7.2%. While this was the result of an agricultural reform program that was typified by a contract system and increases in the government's purchase prices, this growth was likely effected by the existence of young labor force in rural areas that carried out the program.

China's domestic savings rate exceeded 40% entering the 1990s. During the second half of the 1990s, in addition to Japanese companies and NIEs companies, US and European companies began to focus on China's production capacity and market, leading to the Chinese investment boom. In terms of the balance of international payments, there have been over USD 30 billion of fund inflows to China every year since 1994. China has been called "the world's

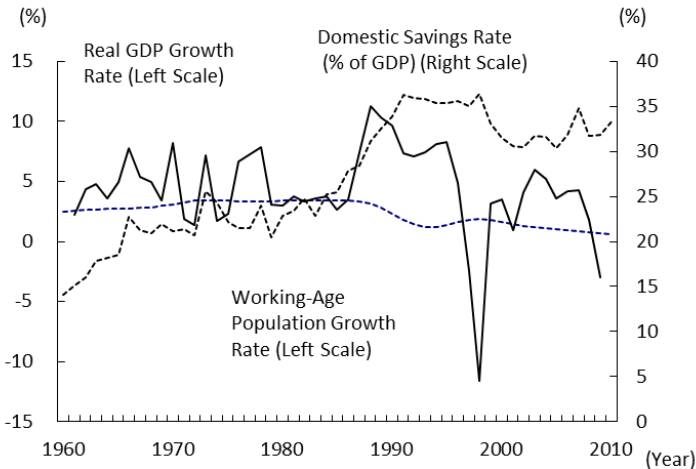
factory” since the beginning of the 21st century. Currently, high-tech industries such as automobiles and computers are growing remarkably. The growth rate from 1995 to 2010 was approximately 10%, with no sign of slowing. In 2010 China overtook Japan in terms of nominal GDP.

The impact of China’s economy on Asia’s economy is getting stronger every year. However, China’s working-age population ratio is expected to peak around 2015 and in theory the demographic dividend will come to an end. Does this mean the current high levels of growth will rapidly lose speed? We will look at this point again in the next chapter.

In considering the ASEAN countries, we will look at Thailand which has gone through changes in its population structure as dramatic as those in China.

It is believed that Thailand’s demographic dividend started in the late 1960s. While the capital Bangkok had developed as a trade port for the export and transit of agricultural products, overall Thailand was a country of agriculture and farmers, with nearly 80% of the working population engaged in agriculture.

Figure 2-16 Working-Age Population, Domestic Savings Ratio and GDP Growth Rate of Thailand



Source: UN, *World Population Prospects: The 2012 Revision*, World Bank, *World Development Indicators*

While Thailand was governed by a military regime for a long period of time since the Sarit administration that was inaugurated in 1959, the government was focused on nation-building centered around economic development. In 1959 the National Economic Development Board (NEDB) was established and although it launched the First National Economic Development Plan in 1961,

industrialization did not proceed as planned. The domestic savings rate was low, accounting for just a little more than 20% of the GDP, and although public spending on education and health was prioritized, investment funds for infrastructure development such as power, ports, and roads were limited. In 1972, the Industrial Promotion Act was established and governmental policies similar to those adopted in export processing zones in Taiwan were introduced, providing preferential tax and finance treatment for export production. However, the effects of this act were limited. This was because the lack of infrastructure served as an impediment for the entry of foreign companies (Suehiro 1993, 2008).

It is true that exports of textiles and apparel that took advantage of Thailand's cheap labor force increased from the 1970s onward. However, this differed from the situation in South Korea and Taiwan in that these exports did not have a strong linkage with domestic industrial development. It is believed that this was because there were funding limitations as a result of factors such as underdeveloped infrastructure and the low savings rate.

During the first half of the demographic dividend period from 1965 to 1985, Thailand had an annual average growth rate of 4.4%, which was lower compared to the rate in South Korea and Taiwan. Nonetheless, Thailand was successful in maintaining a reasonably high growth level for a developing country. The factors behind this include the fact that farmers in Thailand were quick to diversify agricultural products in response to the demand of international markets, the industry of processing agricultural products (agro-industry) arose, and local capitalists began to develop centering on agricultural exports.

Entering the 1980s, Thailand emerged with a growth strategy aimed at becoming a NAIC (newly agro-industrialization country) through industrialization focused on the food processing industry. However, looking at the figures for 1985 after approximately 20 years had passed since the start of the demographic dividend, while the industrial sector had grown to account for 31.8% of the GDP, it only accounted for a low 8.0% of the working population. The industrial sector was not strong enough to sufficiently absorb the labor force. As a result, in the same manner as in China, many young people stayed in rural areas and continued with agriculture in Thailand.

What changed this situation were the changes in the international economy following the Plaza Accord in 1985. The Plaza Accord was a meeting held by the finance ministers and central bank governors of developed countries at the Plaza Hotel in New York. At this meeting governments agreed to policy coordination to correct the high US dollar in order to reduce the US trade deficit. The yen depreciated against the US dollar as a result, with the yen dropping from 260 yen to the US dollar in 1985 to 80 yen level to the US dollar at one time in 1992. In response to the increase in production costs

brought about by rapid yen appreciation, Japanese companies accelerated the shift of production bases to Thailand and other countries in Southeast Asia. Because as mentioned above wages had risen and currencies had appreciated in the NIEs, this also served to accelerate investment in Southeast Asia.

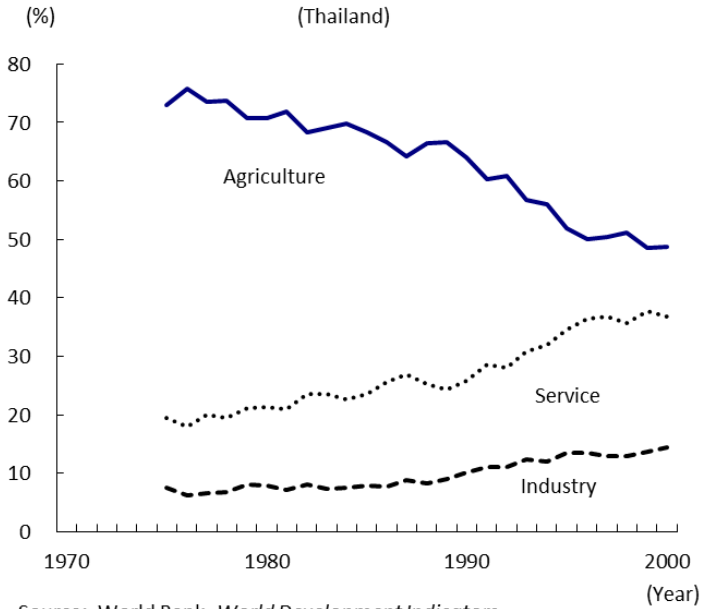
The amount of foreign direct investment approved by the Thai Board of Investment (BOI) in 1988 exceeded the cumulative amount over the previous 20 years. The amount of foreign direct investment inflows in the balance of international payments grew from past levels of around USD 0.2 billion per year to over USD 10 billion per year from 1988 onward. With the entry of foreign companies in the markets, exports grew from USD 15.9 billion in 1988 to USD 58.7 billion in 1995. The items exported included not only labor-intensive products such as textiles, garments, and processed foods, but diversified to include consumer electronics, integrated circuits, and computer parts. Industrial product grew to account for 54.9% of exports in 1988 to 73.1% in 1995. During this period a high annual average growth rate of 9.5% was achieved.

Thanks to this high level of economic growth, the domestic savings rate grew from 25.5% in 1985 to 35.4% in 1995. Regardless of the increasing domestic savings rate, because the central bank eased capital restrictions and there were massive inflows of capital from overseas, excess funds were used for the acquisition of real estate and stocks, causing land prices and stock prices to skyrocket. The economic growth in Thailand from 1992 onward has been called a bubble economy. In 1997, spectators rushed to sell off the Thai baht, and as a result the Thai economy suffered from an unprecedented economic recession, with negative growth of 10% in 1998.

There had been almost no change in the employment structure since the period of high growth following the 1980s. While industry grew to 40% of the GDP in 2000, industry only accounted for less than 15% of the working population. Meanwhile, while the agricultural sector only composed a little over 10% of the GDP, agriculture accounted for nearly 50% of the working population (Figure 2-17).

While the political systems and economic policies of China and Thailand differ significantly, a commonality is that both countries were unable to incorporate the increase in the young labor force during the first half of the demographic dividend period in their industrial sectors. High levels of growth in both countries didn't start until the middle of the demographic dividend period, and labor-intensive industries and capital-intensive industries grew at the same time. In addition, the fact that growth was largely propelled by the entry of foreign companies is another common point. Only the urban areas benefited from the East Asian miracle that was triggered by Japan and the NIEs, while the rural areas with over half the population did not sufficiently benefit from growth.

Figure 2-17 Employment (% of Total Employment)
(Thailand)



Source: World Bank, *World Development Indicators*

Although China and Thailand were covered here, the characteristics of the developments of the two are believed to be nearly the same for Malaysia, Indonesia, and the Philippines in terms of the demographic dividend starting while income levels were still low. Of course the effect of the demographic dividend differs by country. For example, in Malaysia a focus was put on developing labor-intensive industries in parallel with a Bumiputra policy that prioritized the employment of Malays, as well as the establishment of a compulsory central provident fund (CPF) in order to secure investment capital, which contributed to enjoying the benefits of the demographic dividend. Leveraging the entry of foreign countries, Malaysia established a position as the electronic equipment production based of Southeast Asia. Per capital GDP reached USD 10,000 in 2012, close to the levels in high-income countries. Nonetheless, large disparities between urban and rural areas remain, reflecting the fact that the benefits of the demographic dividend have not been received nationwide.

Meanwhile, while the Philippines had high educational levels at the start of the demographic dividend period, the growth rate between 1970 and 1990 was only 1.1% due to the negative impression foreign companies had toward investing in the Philippines resulting from the prioritized industrialization of

capital-intensive industries and long-term political instability. For these reasons it is possible that the Philippines has not benefited from the demographic dividend. Incidentally, the Philippines was not included in the HPAEs, or High Performing Asian Economies mentioned in the World Bank's *The East Asian Miracle*.

Looking at sustainable development of Asia overall, in consideration of the mature economies of Japan and the NIEs where the demographic dividend has ended, the new rising strength of China, the ASEAN 4, Vietnam, and Myanmar will be necessary to complement this maturity. In the next chapter we will look at the future as we consider how changes in the population structure will affect East Asia's economy.

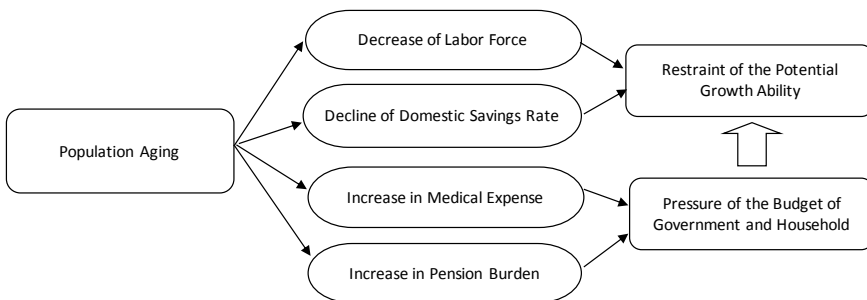
Chapter 3: The impact awaiting after the coming of the demographic dividend

1. Transition from the demographic dividend to the demographic onus

In the previous chapter, we learned that the high levels of growth in East Asia that were called the East Asian miracle were made possible due in part to the tailwinds of the demographic dividend. At the same time, it was mentioned that the demographic dividend would soon come to an end for some countries. For example, Japan's demographic dividend already came to an end in the early 1990s, and the demographic dividend will end in the middle of the 2010s for China, Thailand, and NIEs such as South Korea and Taiwan. Under these circumstances, will it be possible to maintain economic growth in East Asia in the future?

The end of the demographic dividend also signifies the start of population aging. If the demographic dividend can be considered to serve as a tailwind for economic growth, population aging could be considered as a headwind. The effects of the headwind caused by population aging are displayed in Figure 3-1 below.

Figure 3-1 Impacts of Population Aging on Economic Growth



Source: Author

First, as the population ages, this causes the working-age population to decrease, which in turn causes the labor force to decrease and the domestic savings rate to decline. This means that of the three main elements supporting economic growth, labor inputs, capital stock, and productivity, labor inputs and capital stock become scarcer. Meanwhile, as people get older medical costs grow due to increased morbidity and income security (old-age pension) becomes necessary to support their lives because their income tends to decline. It is believed that this burden of supporting the lives of the elderly causes pressure on the budgets of the government and households, which serves as a restraint on economic growth. This contrasting mechanism to the demographic

dividend (also referred to the demographic bonus) is called the demographic onus.

How will the economy of East Asia change as the population ages? What needs to be done to maintain sustainable growth? We will look at these questions in this chapter.

When considering the sustainable growth of the East Asian region, the role of the emerging economies such as China and the ASEAN 4 is becoming more and more important every year. The importance of their role is also clear when considering the recent moves by Japan and South Korea to respond to concerns of slowing growth brought about by population aging by deepening relationships with China and other ASEAN countries and attempting to incorporate their vitality. In particular, as the Chinese economy has maintained a high level of economic growth, at 9%, there are still no signs of the demographic dividend coming to an end soon. It also seems that the ASEAN 4 have fully recovered from the currency crisis and economic crisis and are now moving forward on a solid growth path.

However, as indicated by the UN's population prospects, population aging will rapidly advance in China and the ASEAN region as well in the future. Why have China and the ASEAN 4 been able to maintain such high growth despite the fact that the demographic dividend is nearing the end? How long will these high levels of growth continue? Perhaps we should consider these questions by modifying or expanding the demographic dividend framework. As part of this, we will present the new perspective of the urban demographic dividend that creates movements of labor from rural to urban areas. Furthermore, we will point out how important improving the productivity of the baby boom generation is for sustainable growth as it approaches middle age or older.

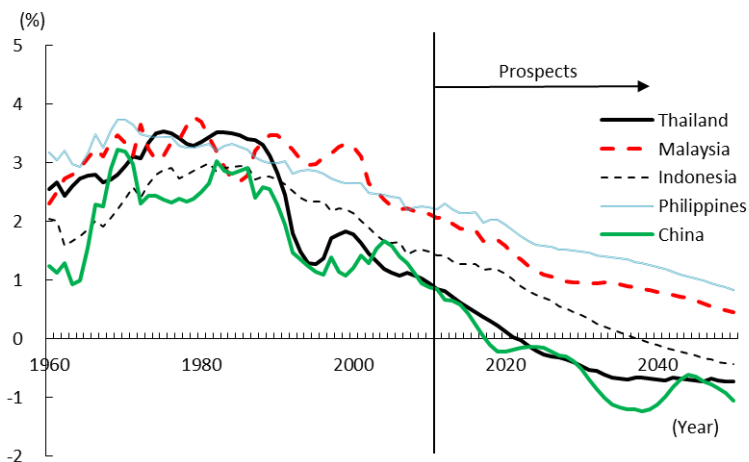
2. Changes in growth elements caused by population aging

The declining labor force

Let's look at how labor inputs are decreased with the advance of population aging.

In Japan, the working-age population has been on the decline since 1996. According to the UN's population prospects, the working-age population is expected to decrease by 12.3 million from 2000 to 2020. The growth rate of the working-age population in South Korea, Taiwan, and China has already fallen below 1%, and this population is expected to decrease from the mid-2010s. While this population is expected to continue to grow in the ASEAN 4 countries over the near term, the growth rate has already begun to decline (Figure 3-2). Working-age populations decline rapidly, particularly when the baby boom generation transforms into the elderly generation.

Figure 3-2 Growth Rate of Working-Age Population



Source: UN, *World Population Prospects: The 2012 Revision*

As we have seen up until now, the economic growth rate is more strongly affected by the labor force growth rate than the actual scale of the labor force. Declines in the working-age population growth rate constrain growth through the accompanying declines in labor input increases. The relationship between the labor force and growth rate is easy to understand if the labor force is thought of as the number of employees and the economic growth rate is thought of as expansion in the scale of factory production. Assume that there are no increases in machinery inputs or improvements in productivity. The scale of production is limited if manpower cannot be secured. This means that if the expected amount of manpower cannot be secured, the expansion of the scale of factory production cannot be achieved. This in turn means that declines in the working-age population growth rate make it difficult to secure the manpower needed to support growth.

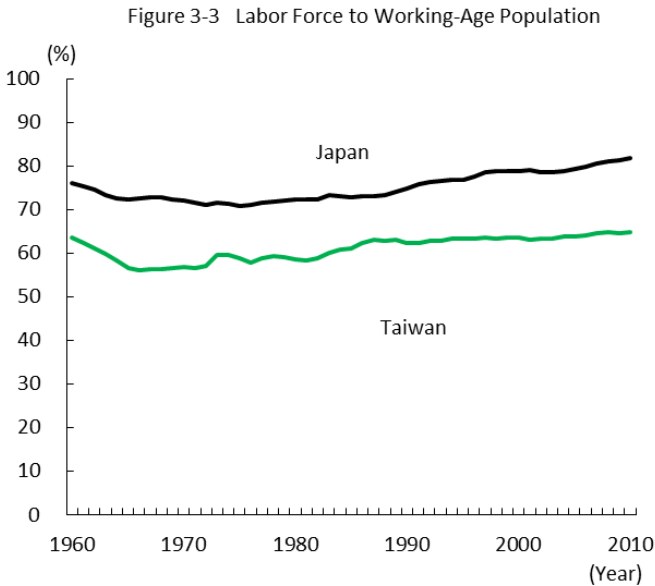
Meanwhile, the demographic dividend framework assumes that the relationship between the working-age population and the labor force is constant. In other words, the concept is that if the working-age population increases, the labor force will increase in the same manner, and conversely, if the working-age population decreases, the labor force will decrease in the same manner. The rate of change in the working-age population has been used as a substitute for the rate of change in the labor force.

However, strictly speaking, changes in the working-age population and the labor force are not uniform. For example, as educational levels become higher,

the high school and university enrollment ratio tends to increase, which causes the labor force participation rate for people age 15 to 24 to decline. Oppositely, if women who were engaged in housework up until that point become employed or if more of the elderly become employed, the labor force participation rate to the working-age population increases as well.

As an example, let's look at the relationship between the working-age population and labor force for Japan and Taiwan.

Figure 3-3 displays the ratio of labor force to the working-age population for Japan and Taiwan, and as you can see this ratio has been stable for both. This is the reason that it has been possible to use changes in the working-age population as a substitute for changes in the labor force within the demographic dividend framework. This ratio differs by county. As seen in the figure, while the ratio of the labor force to the working-age population has ranged between 70% and 80% for Japan, the same ratio has ranged from 65% to 75% for Taiwan. It is believed that these variations can be accounted for by differences in the employment environment, lifestyles, and culture in these two countries.



Source: UN, *World Population Prospects; The 2010 Revision*, ADB, *Key Indicators*

However, when looking at these trends in more detail, you can see that the ratio of the labor force to the working-age population has fallen from the 1960s to the 1970s. This was due to the decline in the labor force participation rate among the younger population as the enrollment rate increased for high schools and universities. In contrast, the ratio of the labor force to the working-age population has increased slightly since 1990. This is believed to have been caused by the increase in the labor force participation rate by women and the elderly.

For example, in the case of Japan the ratio of the labor force to the working-age population for women increased from 58.8% in 1990 to 68.9% in 2010. Similarly, this ratio increased from 47.7% to 54.6% during the same period in Taiwan. In addition, the number of elderly employees in Japan grew from 3.6 million in 1990 to 6.3 million in 2010.

Promoting the employment of women and the elderly serves as both an important population aging countermeasure and means to actually prolong the demographic dividend from the viewpoint of maintaining labor inputs. Particularly for the case of Japan, when considering that the pursuit of higher education by women and increases in the employment rate for women are factors that lead to lower fertility, the creation of workplaces that allow for a balance between women's employment and child raising would be an effective initiative for both maintaining labor inputs and mitigating lower fertility.

However, we cannot afford to have overly-high expectations toward the effects of these measures. This is because the number of retirees has significantly exceeded this increase in the number of female and elderly employees. Despite the increase in the working population among women and the elderly in Japan, the labor force began to decline in 1999. Compared to the peak labor force levels in 1998, there were 2.4 million less people in the labor force in 2012.

It is important to consider this point when foreseeing the economic growth of East Asia and the economy of South Korea and Taiwan. Furthermore, because the baby boom generation accounts for a high ratio of the population structure in other East Asian countries in a manner similar to Japan, it should be noted that the labor force in these countries will decline when this generation leaves the labor market by aging. In addition, it is overly optimistic to expect only the promotion of employment of women and the elderly to be sufficient for compensating fully this decline.

Another means for compensating labor shortages is the acceptance of foreign workers. In Japan, which has not been very enthusiastic toward the acceptance of foreign workers in the past, debate is underway about relaxing the regulations concerning the acceptance of foreign workers as a means of handling the labor shortages triggered by population aging. The foreign labor force in Japan grew from 730,000 in 2000 to 830,000 in 2010.

The decline in the domestic savings rate from the life-cycle perspective

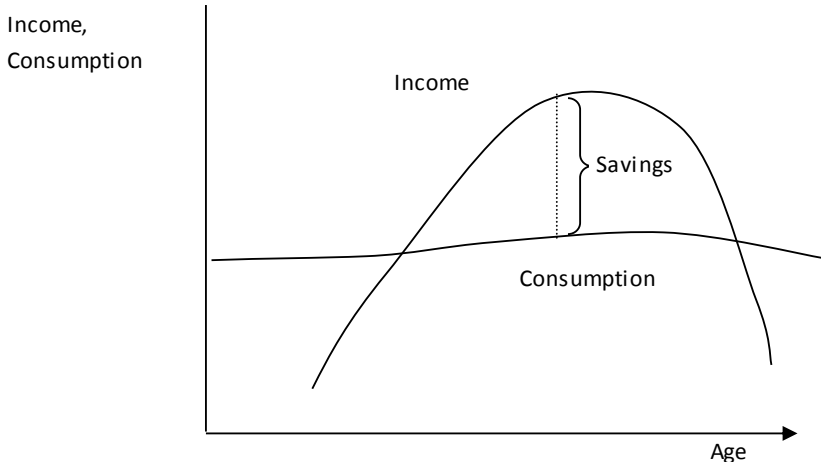
Next we will look at the impact caused by population aging on the domestic savings rate.

As indicated by the demographic dividend framework, while increases in the working-age population ratio serve to increase the domestic savings rate, population aging serves to decrease the domestic savings rate.

Let's reconsider this using the life-cycle hypothesis model.

The life-cycle hypothesis model claims that individual consumption and allocation of saving are determined based on lifetime income, with people saving for old age while they are employed and using these savings after they have retired. The life-cycle hypothesis model is displayed in Figure 3-4. Age is displayed on the horizontal axis and income and consumption levels are displayed on the vertical axis. You can see consumption moves on a curved line mostly parallel with age, while income is a highly-arching curved line. The gaps between these two lines indicate income shortages and income surpluses at each time, and from this perspective life can be classified into the following three stages.

Figure 3-4 Life-Cycle Hypothesis Model



During the first stage from birth to adolescence, consumption exceeds income. People start consumption activities soon after they are born. In order to maintain life, expenditures are required for food and clothing, and once a certain age is reached educational expenditures become necessary. However, because one does not gain income until becoming employed, there is an

income shortage between income and consumption up until the age of approximately 20 following birth. This shortage is usually compensated for by family and relatives. In addition, in some cases governments and companies compensate for a portion of this shortage through measures such as compulsory education systems and child allowances. In the case of developing countries, assistance from overseas plays an important role.

The second stage is the period from adolescence until retirement during which income exceeds consumption. When adolescence is reached and employment is gained, the past income shortage is rapidly resolved and at some point income starts to exceed consumption. A portion of this income surplus is allocated to the cost of raising children, and the remainder is saved for the future. Saving levels are affected by factors such as income levels, the consumption propensity (the level of expenditures used on consumption), the number of children, and social security programs.

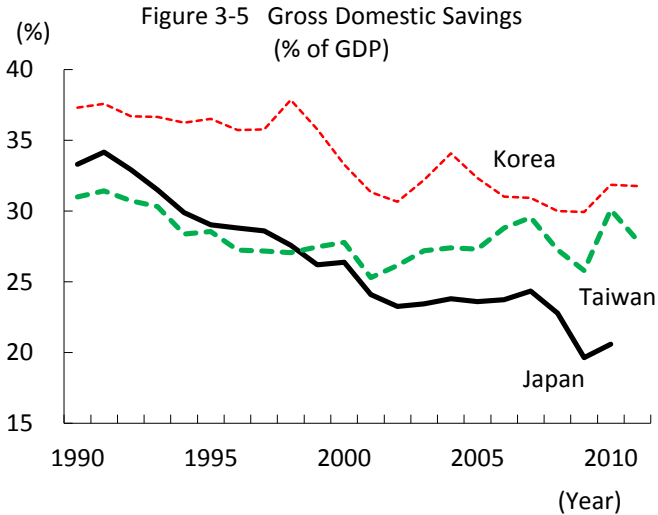
The third stage is old age after retirement. Income levels decline with age, and income rapidly declines once a certain age is exceeded. Although there are individual differences, income begins to fall below consumption with age, causing an income shortage between income and consumption to occur once again, and this shortage increases over time. In general, this shortage is covered for by the savings that one has accumulated while being employed, with further shortages being covered by one's family and social security services (such as medical insurance, old-age pensions, and long-term care insurance).

If this individual life-cycle hypothesis model is built up and steadily expanded to the country level, it should be possible to confirm that increases in the aging rate cause the domestic savings rate to decline. However, the speed of the decline in the domestic savings rate accompanying population aging differs depending on the conditions. For example, while the life-cycle hypothesis model assumes that individuals will use up all of their savings during old age, there is also an inheritance model (called the dynasty model) that assumes that the elderly do not use up all of their savings and instead leave a portion of their wealth to the next generation (descendants).

Compared to the life-cycle hypothesis model, the speed of the decline in the domestic savings is slower under the dynasty model. However, it should be noted that both models assume that it is possible to accumulate sufficient savings for old age during one's period of employment. However, not everyone is necessarily able to do this. For developing countries in particular, there are not many people with savings sufficient to support themselves during their old age. In cases like these, some of the income of the working-age population must be allocated to the living expenses of the elderly, and for this reason the speed of the decline in the domestic savings rate accelerates for developing countries.

The ability to save is already weakening in Japan. Japan's domestic savings

rate decreased from 33.3% in 1990 to 20.6% in 2010 (Figure 3-5). Broken down further, the household savings rate decreased from 16% in 1990 to 7% in 2003 and to only a mere 2% in 2010. While the ratio of the working-age population that generates savings is still on the rise in South Korea and Taiwan, the domestic savings rate is on the decline.



Of course, domestic savings are not the only source for investment. With the ongoing globalization of the economy, it is possible to effectively mobilize funds from overseas by implementing positive measures to attract foreign investment and strengthening the development of infrastructure in financial markets. From this perspective, the role of domestic savings in economic growth has become smaller than before. In fact, it was the ability to effectively draw in foreign capital that allowed high levels of growth to be achieved in East Asia. However, from a long-term perspective, there is no change in the fact that it is important to secure domestic savings sufficient for covering domestic investment in order to achieve sustainable economic development.

The required improvements in total factor productivity

In order to sustain growth as labor inputs decrease and the domestic savings rate declines, the thing that can be done inevitably is to improve the other growth factor, namely total factor productivity. Total factor productivity consists of not only corporate technological and development capabilities and

management efficiency, but also a wide range of factors such as enhancement of human capital through education, improvements to capital efficiency through the introduction of foreign capital and the development of financial systems, the development of regulations and systems, the efficient operation of government agencies, and the formation of production clusters.

Sustainable growth will be difficult if this total factor productivity cannot be improved. This was the essence of Krugman's "The Myth of Asia's Miracle." While Krugman's essay has been considered by some to have predicted the currency and economic crisis that occurred afterwards in East Asia, it actually pointed out that growth in the East Asian region would have to undergo adjustments if it no longer becomes possible to actually expect expansion in labor inputs and capital stock. Although we cannot be sure whether or not Krugman had forecast the current state of population aging in East Asia at that time, the countries of East Asia must provide a response to Krugman's warning during the process of population aging.

The improvement of productivity through measures such as the promotion of R&D (Research and Development) and joint development of cutting-edge technologies by industry and academia has already been adopted as a national strategy in Japan, South Korea, and Taiwan. After the currency and economic crisis, the necessity of improving productivity has been widely recognized in other Asian countries as well.

When it was determined that East Asia had escaped from the economic crisis in 2003, the World Bank released *Innovative East Asia: The Future of Growth*, which pointed out that the key to sustainable economic growth in the region was the improvement of productivity. The book stressed that in addition to the improvement of primary and secondary education and development strategies such as the promotion of exports as suggested by *The East Asian Miracle*, productivity improvement measures such as technological innovation through further improvements in educational levels and the promotion of R&D, the formation of production clusters utilizing global supply chains, and the application of information and communication technology should also be focused on. This means that developing countries must not only have traditional development strategies, but they must also have strategies for strengthening international competitiveness.

Furthermore, in the World Bank's *An East Asian Renaissance: Ideas for Economic Growth* that was released in 2007, it was pointed out that if middle-income countries such as China and the ASEAN countries do not change their growth paths that have been dependent on labor-intensive industries and resource industries up until now they would become stuck in the middle income trap as growth will slow before becoming high-income countries. In 2011 the Asian Development Bank released *Asia 2050: Realizing the Asian Century*, which was a report stating that being able to avoid the

middle income trap would be the key to ensuring this century as the Asian century. All of these works stressed the importance of physical and human infrastructure for supporting innovation.

It should also be mentioned that the improvement of productivity will not only contribute to the achievement of sustainable growth, but it is also an important measure for establishing a stable economic base for supporting aged societies.

3. Barriers to high growth in China and the ASEAN 4

The aging rate in China and Thailand is already above 7%, and these countries are already becoming aging societies. In addition, the working-age population ratio for China and Thailand is expected to peak by 2020. However, China and Thailand have maintained relatively high levels of growth, serving as the drivers of growth in East Asia. In order to better understand the relationship between the high levels of growth and demographic trends in these countries, the demographic dividend concept has to be slightly modified.

Surplus labor force and urbanization

The concept of the demographic dividend assumes full employment in which working-age population and labor force movements match. It was already mentioned that this assumption is reasonable in the case of Japan and Taiwan. However, in developing countries where there are high numbers of unemployed people in both urban and rural areas, and full employment has not been achieved at all because an increase in the working-age population will not necessarily lead to an increase in the labor force. Even if a country has a population structure capable of benefiting from the demographic dividend, the benefits of the demographic dividend cannot be fully enjoyed if employment is not secured.

Meanwhile, if the economy of a developing country is on the growth path, in addition to the increase in the working-age population, it will also be possible to achieve dramatic increases in labor inputs if the labor market is able to absorb the surplus labor. The higher the ability to absorb this surplus labor, the more the growth rate of the country will rise. This is one of the factors that have allowed China to maintain high growth despite being in the second half of the demographic dividend period.

The movement of migrants and manpower from rural to urban areas has especially served to increase actual labor inputs. Migrant workers from rural areas are called *mingong* in Chinese. According to the *Reporting on the Problems of Chinese Farmer-Turned Workers* released in April 2006, the number of these migrant workers living in urban areas reached 120 million as of 2004. 31% of these workers are employed in the manufacturing sector and 23% are employed in the construction sector. Furthermore, in terms of age

groups, an overwhelmingly high percentage (45%) is aged 16 to 25, 23% are aged 31 to 40, and 16% are aged 26 to 30. Young laborers below age 40 account for 84% of migrant workers in China. These migrant workers have served as the labor inputs for the world's factory that China represents. In the ASEAN 4 countries where the majority of the population lives in rural areas a similar thing is happening, although on a different scale.

The areas that are actually benefiting the most from the demographic dividend are the urban areas that have accepted large numbers of young people from rural areas. When considering the future of East Asia, it is important to remember that even as population aging advances in country level, the continual absorption of the young labor force from rural areas will allow urban areas to maintain growth. Meanwhile, the outflow of the young population from rural areas as people leave to seek work results in a high child population and a high elderly population, which serves to impede growth of rural areas. Although the shift of populations from rural areas to urban areas in developing nations transfers the benefits of the demographic dividend from rural areas to urban areas and these urban areas drive the economic growth of these countries, these changes also lead to greater income disparities.

To get a hands-on sense of these trends, let's compare the population pyramids of Bangkok, Thailand's largest city, and the Northeast of Thailand, which has undergone drastic population outflows (Figure 3-6). The figures display the ratio accounted for by each age group compared to the total population in the respective regions. The population pyramid for Bangkok is particularly wide for the 20 to 35 age group, with just this age group accounting for 35% of the total. The aging rate is 6.3%. Meanwhile, in terms of the population pyramid for the Northeast which sends this labor force to Bangkok, there are not many people in the 20 to 35 age group (only 18.9% of the total) in contrast to Bangkok. The aging rate is high, at 9.4%.

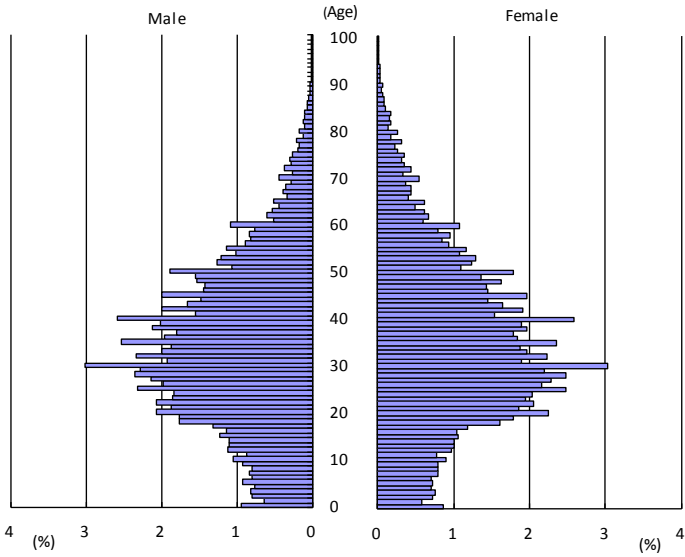
It is believed that urbanization will continue to advance rapidly in East Asia in the future. According to the UN's prospects, China's urban population ratio (urbanization rate) increased from 26.4% in 1990 to 49.2% in 2010, and it is expected to reach 68.7% in 2030. The urbanization rate has increased similarly in Thailand, from 29.4% in 1990 to 35.6% in 2010, and it is expected to reach 43.7% in 2030.

4. The difficulty of improving the productivity of the baby boom generation

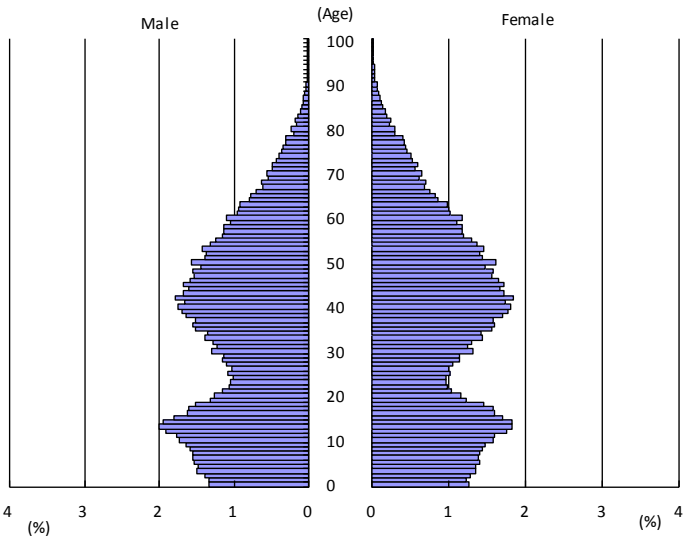
The conversion from agriculture to industry and productivity

Next, let's look at productivity in China and the ASEAN 4.

Figure 3-6 Thailand's Population Pyramid in 2010
Bangkok



Northeast



Source: The 2010 Population and Housing Census, Thailand

It is not easy to measure total factor productivity. In the study of economics, total factor productivity is only understood as the portion of the economic growth rate that cannot be accounted for by the growth rate in labor inputs and capital stock (and for this reason it is also referred to as a residual). This means that it is difficult to individually and specifically assess total factor productivity. Furthermore, the only thing deriving from this is general productivity on a national level from the perspective of the relationship between input volume and production volume within the overall economy.

For example, in some cases productivity may increase dramatically from the transfer of labor and capital among sectors with a differing level of productivity. One of the representative examples of this is the conversion of the industrial structure from the one based on agriculture to the one based on industry.

Accordingly, the absorption of excess labor from rural areas by the industrial sector in China and the ASEAN 4 will lead to not only an increase in actual labor inputs, but also contribute to improvements in labor productivity. As pointed out before, while the industrial sector accounts for the majority of the GDP in China and the ASEAN 4, in terms of the working population, the agricultural sector accounts for a higher percentage.

The added value per one employee in the industrial sector in these countries is 5 to 10 times that of the agricultural sector, and this gap does not look to be getting any smaller. In contrast, the difference is only 2 to 4 times in Japan, South Korea, and Taiwan where there has already been much labor movement between industries. Moreover, in addition to the GDP ratio, the agricultural sector has also become only marginal in terms of the working population ratio as well. In China and ASEAN 4, if it can be concluded that labor movements between industries have been delayed in consideration of the pronounced gap in added value, the governments of these countries need to ascertain the causes and make improvements accordingly.

One of the causes for this disparity is the fact that most of the production technologies that have been introduced in the industrial sector have been dependent on capital such as equipment and machinery rather than labor. As for the cause in the case of China, as it was previously mentioned state-owned banks prioritized loans toward state-owned companies, and most of the companies were in the heavy industrial sector that utilized capital more than manpower. It can be said that this type of financial system impeded the conversion from agriculture to industry through this disproportionate allocation of funds. In addition, to control the rapid increase of the urban population in China, a family registration system was adopted that separated agricultural and non-agricultural registrations, and this served an important role in limiting the movement of people.

The growth of SMEs is essential for expanding employment in the industrial

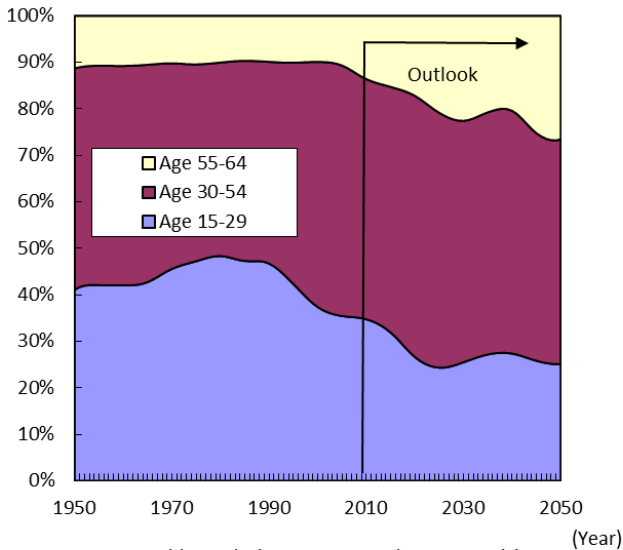
sector, and measures must be implemented to address the shortages of funds and human resources that SMEs suffer from. In addition, factors that inhibit the business activities of SMEs should be removed. In China and ASEAN 4, there are several cases of SMEs lacking funds due to loans to state-owned companies and major companies being prioritized. In this sense, the development of financial systems is indispensable for enjoying the benefits of the demographic dividend.

Aging of the baby boom generation

Population aging not only causes the elderly population ratio to increase, but also has the effect via causing the working population structure to age.

For the sake of convenience, let's classify age 15 to 29 as the young labor force, age 30 to 54 as the middle-age labor force, and age 55 to 64 as the elderly labor force. Based on this classification, in China the young labor force ratio will drop from 34.8% in 2010 to 25.5% in 2030. Meanwhile, the middle-age labor force ratio will increase slightly from 51.7% to 51.9%, and the elderly labor force ratio will nearly double from 13.6% to 22.6% (Figure 3-7). The situation is similar in Thailand, where during the same time period the young labor force ratio will drop from 32.4% to 27.1%, the middle-age labor force ratio will decline from 54.1% to 52.6%, and the elderly labor force ratio will increase from 13.5% to 20.3%.

Figure 3-7 Component Ratio of Working-Age Population of China



Source: UN, *World Population Prospects: The 2012 Revision*

So what is the relationship between the population by age group and productivity? In the *White Paper on International Economy and Trade, 2006*, the productivity by age group in the manufacturing sector is estimated. According to these estimates, productivity peaks after around 20 years of labor. At this point productivity is approximately 40% higher than the first year of labor. If it is assumed that most workers reach age 40 after around 20 years of labor, although productivity tends to decline after this age, when reaching retirement at age 60 after around 40 years of labor, productivity will have dropped only about 20% from the peak. It is believed that this is because these workers can utilize their experience, know-how, techniques, and personal networks.

The median value of the working-age population in China and Thailand will exceed age 40 within the next 10 years. However, has the baby boom generation of China and the ASEAN 4 that has already exceeded age 40 accumulated experience, knowledge, and techniques like in Japan? If not, productivity growth during middle-age or older will be low, and as the population ages productivity will decline significantly.

Table 3-1 displays the ratio of the population employed in agriculture by age group for Japan (1980), China (2010), and Thailand (2010). Although there is the shared trend of the ratio being lower the younger the age group, the ratios are still high overall for China and Thailand, indicating that many people are still employed in agriculture in these countries. As indicated in the *Reporting on the Problems of Chinese Farmer-Turned Workers* that was mentioned above, the movement of labor has been concentrated on people age 40 or below, and the middle-age or older population continues to be engaged in agriculture. It will not be easy for this population in the middle-age or older to switch to a more productive industry in the future.

Next, let's look at the educational levels which serve as the foundation for productivity improvements. Similar to the previous table, Table 3-2 displays the last level of education completed by age group for Japan, China, and Thailand. There is a trend of pursuing higher education the lower the age group. While 18% of the age 25 to 29 population of Japan in 1980 were university or graduate school graduates, China and Thailand were rapidly gaining on this figure as of 2010, at 9.5% and 21.2%, respectively.

However for the group in the middle-age or older, many people have educational background below primary school as their last level of education completed, reflecting the significant education gap between generations.

While the educational level alone is not a determining factor for productivity improvements, there may be a fear that the fact that the group in the middle-age or older have primary education's background as their last level of education completed and have continued to be employed in agriculture, as is

the situation in China and Thailand can only serve as an impediment to the maintenance of the productivity of these countries in the future.

Table 3-1 Employment in Agriculture (% of Total)

Age	(%)		
	Japan 1980	China 2010	Thailand 2010
25-29	5.4	34.1	28.0
30-34	6.9	35.2	33.4
35-39	10.6	39.7	39.9
40-44	14.7	45.9	45.8
45-49	18.9	50.1	48.0
50-54	22.0	60.2	51.4
55-59	25.5	72.3	59.3
60-64	29.9	84.5	68.5
65-69	34.8	89.0	73.7

Source: Japan: 1980 Population Census of Japan , China: Tabulation on the 2010 Population Census of the People's Republic of China , Thailand: The 2000 Population and Housing Census

Table 3-2 Educational Background

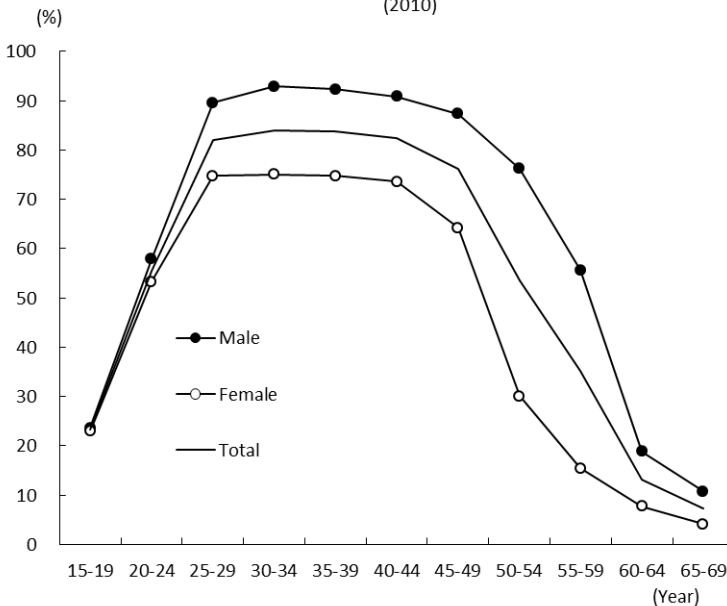
Age	(%)				
	Japan 1980	China 2010		Thailand 2010	
	Above University	Below Primary School	Above University	Below Primary School	Above University
25-29	17.7	9.3	9.5	19.8	21.2
30-34	14.4	13.9	6.5	32.8	18.2
35-39	11.2	19.5	4.2	48.8	13.7
40-44	9.0	25.5	3.1	59.1	10.8
45-49	7.8	26.4	2.6	65.0	10.4
50-54	5.1	37.7	1.4	71.2	10.0
55-59	3.5	52.8	1.0	79.1	7.6
60-64	2.5	63.8	0.9	82.2	5.6
65-69	2.4	67.7	1.4	84.2	4.3

Source: Japan: 1980 Population Census of Japan , China: Tabulation on the 2010 Population Census of the People's Republic of China , Thailand: The 2000 Population and Housing Census

Although Japan, South Korea, and Taiwan are promoting the employment of the elderly as a countermeasure to the decline in labor inputs, under current conditions it will be difficult to seek this in the group in the middle-age or older in Thailand and China that is employed in agriculture. More than that, it is difficult to become reemployed in a field that requires new technologies.

The labor environment for the elderly in China and Thailand is harsher in urban areas. Looking at the employment rate by age in China in 2010 (Figure 3-8), the employment rate drops suddenly after exceeding age 50 for both men and women. The employment rate for men age 55 to 59 is 55.6%, and this drops to 18.9% for age 60 to 64.

Figure 3-8 Labor Force Participation Rate in Urban Areas (2010)



Source: Tabulation on the 2010 Population Census of the People's Republic of China

The reason that the elderly are defined as being age 65 or above is that in general it can be assumed that age 65 can serve as the retirement age after which opportunities for income will decrease. Even if people who are able to find opportunities for gaining income even over age 65 are included in the elderly population on the basis of age, there is no effective difference from the working-age population. However, conversely, like people in China if they are included in the working-age population on the basis of age and have lost employment opportunities despite being 50 years old, they effectively belong

to the elderly population. This means that if efforts such as occupational training to improve the productivity of the group in the middle-age or older are not implemented, population aging will effectively take place sooner.

It must be remembered that the reason that there are many employment and income opportunities for the elderly in Japan, South Korea, and Taiwan is the result of the efforts of the elderly in these countries to accumulate knowledge, experience, and technique during the changes in their industrial structures. The baby boom generation in China and Thailand is currently between the age of 35 and 50. It is necessary to conduct occupational training for this generation before it is too late. If the productivity of the baby boom generation is improved, it will reduce the burden of population aging in the future.

The governments of countries in East Asia have indeed made many efforts to improve educational levels. As displayed in Table 3-3, the enrollment rate for higher education including universities is on the rise in China and Thailand. Comparing the census 2000 to the census 2010, the ratio of the 25 to 29 age group that had university background or above as their last level of education completed rose from 1.9% to 9.5% in China, and drastically rose from 4.5% to 21.2% during the same period in Thailand. However, when considering sustainable growth on the country level, policies need to be quickly implemented to improve the productivity for the group in the middle-age or older as well as young people.

As we have seen here, the manner in which the demographic dividend has arisen in China and the ASEAN 4 differs from Japan, South Korea, and Taiwan. In China and the ASEAN 4, urban areas have driven growth by absorbing the young labor force from rural areas while enjoying the benefits of the demographic dividend. Although this trend is expected to continue in future as well, the demographic dividend has not benefited rural areas much, and it is highly likely that income disparities will expand further. When growth spreads from urban areas to rural areas, if the capabilities of the group in the middle-age or older that serve as the recipients of this growth are lacking, the benefits could be reduced by half. In order to avoid this, in addition to effectively using the current high levels of domestic savings, measures will also be needed to improve the productivity of the group in the middle-age or older that continue to stay in rural areas.

A future of the Asian economy that does not allow for over optimism

Let's review what we have covered in this chapter.

While the economic growth of Japan and the NIEs will slow by the impact of population aging, China and the ASEAN 4 are expected to be able to maintain high levels of growth for the time being through the absorption by urban areas of young laborers from rural areas. Accordingly, economic relationships in the Asian region are expected to become stronger based on the

network of production and consumption formed by the residents of urban areas in the countries of Asia. It is likely that this trend will also expand across Vietnam and Myanmar. However, from the perspective of sustainability, we cannot deny that economies driven only by the urban areas and young people will eventually reach their limits in mid-term.

Moreover, because the advance of population aging causes domestic savings rates to decline, it will be difficult to maintain the high levels of growth that have been enjoyed up until now. Although the countries and region of East Asia are working to respond to population aging by increasing productivity through the improvement of educational levels for young generation, if China and the ASEAN 4 neglect to implement measures to improve the capabilities of the population in the middle-age or older left behind in rural areas, it could impede the improvement of productivity on a national level.

Considering this, we cannot afford to have too much optimism toward the levels of growth in the East Asian region overall.

Furthermore, while there has been a trickle-down effect in East Asia up until now in which the growth of urban areas spreads to rural areas, if urban areas continue to absorb the young labor force of rural areas, this effect will likely gradually fade. As was covered repeatedly in this chapter, in order for the development of urban areas to spread to rural areas, improving the capabilities of the population in the middle-age or older that will serve as the recipient of this development is essential, and almost no initiatives have been implemented to that end. The World Bank released a report entitled *World Development Report 2007, Development and the Next Generation* in 2006. As reflected in the title, the report pointed out the importance of investing in the young generation. East Asia now calls for investments to be made to improve the productivity of the population in the middle-age or older (especially the baby boom generation) that will soon join the elderly generation.

In addition, while the current situation of growth in which only the urban areas develop may be a characteristic of the age of globalization, we cannot afford to give special treatment to only the urban areas. Urban areas are parts of nations and they are obligated to redistribute income to other regions through tax and social security systems. The larger income disparities are and the larger the burden caused by the elderly is, the more that urban areas will have to transfer incomes to raise up rural economies and support the lives of the elderly. The role of the government is to make adjustments for this process. The burden of social security accompanying population aging can also be considered as a factor that affects the growth of urban areas. In the next chapter, we will look at the burden of population aging from the perspective of social security programs.

Chapter 4: Who will take care of East Asia's elderly?

In this chapter we will focus on social security systems such as medical systems and pension systems that support aged societies.

In all of the developed countries discussions are underway as to who should bear the burden of their aged societies. The word "burden" implies a weight to be borne, and this may not be an appropriate connotation. Longevity is a form of happiness common to many people, and the development of a country into an aged society can be understood as the achievement of this happiness. However, in order for the elderly to be assured of being able to live a good life in their old age, a considerable burden must be borne by society. Here the word "burden" will be used to refer to costs necessary to achieve an ideal aged society.

For both developed and developing countries, the burden of medical and pension expenses increase with population aging. Medical expenses increase because the disease rate increases as people age, and old-age pensions are required to support the lives of the elderly. In addition, new costs are incurred if nursing care services become necessary. The level that this burden reaches and how this burden is allocated among the government, companies, and individuals differ depending on the form of the social security system.

For example, if the government provides a generous social security system, the government's burden (fiscal burden) will rapidly increase with the advance of population aging. If the government relies too much on tax increases and corporate welfare programs to cover this burden, it could result in a decline in people's motivation to work and corporate investment appetite. Meanwhile, if the government fails to develop a social security system, life will be difficult for the elderly that live alone or for low-income households with elderly people.

If the livelihoods of elderly people can be supported by their own savings or families, population aging is not a problem. However, in actuality, even in developed countries with high income levels, there are few elderly people that can be supported with only their own savings and assistance of family, making the transfer of income from the working generation essential. Beyond that, in low-income developing countries, determining who will care for the increasingly growing elderly generation is becoming more of an issue.

This is a pressing issue in East Asia due to the fast pace of population aging there. The NIEs where income levels are already high face population aging issues typified by developed countries, similar to the issues faced in Japan. The large number of discussions share commonality with Japan, such as how to share the burden of population aging among the generations. However, in the low-income countries of China and the ASEAN 4, the actual domestic financial resources to support this burden are scarce. As the social security

systems to support aged societies underdeveloped, human resource are also lacking in terms of both quantity and quality. Furthermore, because large amounts of funds will need to be spent on items such as infrastructure development and education for the future economic growth of these companies, if costs associated with population aging increase, it could have an impact on the financing of economic development. However, if preparations for aged societies are not in time, there is the danger of increasing elderly survival risk. From this perspective, population aging in China and the ASEAN 4 should be considered as a new issue, “that of population aging in developing countries,” in contrast to the issue of population aging in developed countries.

In this chapter, we will first look at the characteristics of the current state of the development of social security systems in East Asia. After that, we will take a view of the factors that have caused the momentum toward establishing social security systems to grow in recent years. Furthermore, we will see how medical and pension burdens will change and how if this burden is not covered, population aging in developing countries could result in human security problems in which population aging will be accompanied by poverty. Finally, we will look at the development of the pension system in Thailand to demonstrate how difficult it is to establish universal social security systems that support the entire population in developing countries.

1. Social security systems in East Asia

Growing momentum

Entering the 21st century, the momentum toward establishing social security systems in East Asia has grown over time.

Until then, it was said that the development of social security systems had fallen behind economic development in East Asia. In fact, South Korea’s universal pension system was developed in 1999, and Taiwan’s in 2002, after income levels had caught up with those of developed countries.

It has been pointed out that the background behind this has been the inclination of the governments of these countries toward the system called “developmentalism.” Developmentalism consists of prioritizing the interest of the state and its people as a whole rather than individuals, families, or regional communities in order to attain the specific goals of the country, specifically by centrally mobilizing and managing physical and human resources in order to enhance national strength by economic growth achieved through industrialization.

In other words, countries focused on enhancing national strength through industrialization and left the social security function solely up to families and the mutual assistance function of local communities. Indeed, it was the promotion of industrialization that led to the fulfillment of the social security

function through the expansion of employment. Furthermore, “the trickle-down effect” of the fruits of economic development steadily reaching rural areas has also been important. Meanwhile in East Asia, families and local communities have been able to fulfill the social security function up until now, and traditional societies that have been cultivated over many years as well as places of worship such as temples, mosques, and churches have played an important role.

Incidentally, social security systems do not have a very long history even on a global level. Social security systems were born in Europe during the second half of the 18th century. Before that, the mutual assistance of families and local communities played the actual social security function even in Europe. However, with the increase of urban populations accompanying economic development, the number of people working at companies has increased. Meanwhile, because the role of mutual assistance that had been played by local communities in the past began to subside, societies began to require an alternative system, and this requirement was fulfilled by the state. This is the background behind the birth of social security systems in Europe.

These dynamics also apply to East Asia, where the transformations in social structures accompanying economic development have made significant contributions to the recent growing momentum toward the development of social security systems. As described in Chapter 1, the household structure in East Asia is shifting from large families to nuclear families. In addition, as was covered in Chapter 3, urban areas formed by rapid population movements from rural areas are expanding without the luxury of being able to fulfill the mutual assistance function like that fulfilled by rural communities in the past. Systems to mitigate risks of unemployment and diseases being brought about by changes in the industrial structure are also required.

Social security systems in the countries of East Asia

While the development of social security systems in East Asia has been delayed, there are various systems in each country that reflect political systems, economic structures, cultural and social factors, etc. For example, in China and Vietnam, systems that covered a high percentage of the population were created through socialism (there were also independent medical insurance systems in rural areas). Influenced by the UK, their former colonial master, Singapore and Malaysia have a mandatory pension fund. The characteristics of the systems in Thailand and Indonesia consist of the strong influence that has been received by the International Labour Organization (ILO). In addition, in each of these countries, government policy toward poverty has served as an alternative for actual social security systems (Hiroi and Komamura ed. 2003).

While the social security systems of these countries are varied in this manner, the social security systems of East Asia can be classified into the three

following groups depending on the stage of economic and social development and demographic conditions (Table 4-1).

Table 4-1 Social System in East Asia

	Social Security System	Income Level	Center of Industry Structure	Demographic Transition Phase
Group 1 (Japan, Korea, Taiwan, Hong Kong and Singapore)	Universal Benefits	High	Service	Population aging
Group 2 (China, Malaysia, Thailand, Philippines and Indonesia)	Unavailable to Farmers and the Self-Employed	Middle	Industry	Demographic dividend
Group 3 (Vietnam, Laos, Cambodia and Myanmar)	Available to Government Employees and Military Personnel Only	Low	Agriculture	Population explosion

Source: Prepared based on Hiroi and Komamura ed. 2004

Group 1 consists of Japan and the NIEs. Income levels are high and the focus of industry structure is shifting from industry to service. These countries have urban societies with high urban populations with the acceleration of population aging and fertility lowering. Social security systems such as medical insurance and pension systems cover the entire population to some degree. Discussions are underway as to how to secure the financial resources and rationalize benefit levels in response to the rapid advance of population aging going forward. What is most interesting is the shift in the focus of population policy in every country toward increasing birthrates (low fertility countermeasures). Additionally in these countries, a new common problem is arising, that of the gap in social security benefits between regular employees and non-regular employees in the private sector.

Group 2 consists of China and the ASEAN 4. Income levels are in the middle and the industrial structure is focused on industry. Birthrates are decreasing rapidly and it is highly likely that population aging will accelerate in the future. Because their working-age population ratio is still high, many of these countries will continue to enjoy the benefits of the demographic dividend for some period. While population movements from rural areas to urban areas are becoming more intense as the years go by, rural populations are still high as these countries are undergoing a period of transition from rural societies to urban societies. Although there are social security systems that apply for employees of private sector companies and public sector employees such as

government employees, military personnel, and employees of state-run companies, these systems are unavailable for farmers and the self-employed who account for the majority of the working population. This means that for Group 2, the establishment of universal health insurance and universal pension plans for all citizens will be an issue going forward (making the transition to Group 1). However, the obstacles for making this transition will be high because income levels are lower than Group 1 (the details are explained afterwards).

Group 3 consists of Vietnam, Laos, Cambodia and Myanmar. Income levels are low and industrialization is still in its early stages. In terms of demographics, while there has been some decline in birthrates, they remain high as these countries are still in the high-birth, low-death phase and struggling with population growth. These countries are mostly rural societies with much of the population living in rural areas.

Social security coverage is limited to public sector employees such as government employees, military personnel, and employees of state-run companies. Although government policy toward poverty will be the focus of social security systems over the near term, as industrialization and urbanization advance in the future, the development of social security systems that cover the gradually increasing numbers of employees of private sector companies in urban areas will become an issue (making the transition to Group 2).

When we hear the phrase “social security system,” we may associate this with a system that provides people with the security of being able to live a good and stable life. However, for Group 2 and Group 3, the main purpose of such systems is poverty relief or prevention. For example, medical insurance systems are aimed at avoiding the risk of poverty caused by injuries or disease, and income security is a form of public assistance that prioritizes covering the living expenses of those in poverty.

Due to the rapid speed of economic development and changes in social structures in China and the ASEAN 4, there is a wide range of social security system needs. For example, while medical services and public assistance are required in rural areas as poverty countermeasures, forms of insurance such as medical insurance and unemployment insurance also need to be established for the purpose of protecting the growing number of laborers in urban areas. Going forward, haste must be made to prepare for population aging through the establishment of medical care for the elderly and old-age pensions.

The impact of democratization movements

In addition to changes in social structures, the development of social security in East Asia has been supported internally by demands for welfare policies through domestic democratization and externally by strengthened support from international organizations from a viewpoint of protecting the socially

disadvantaged.

In South Korea, under a developmentalist system, a long-running policy of “growth first and distribution afterwards” was adopted. Although the National Welfare Pension Act was established in 1973, it was not put into action. It was not until the late-1980s that a social security system was developed. In 1987, labor disputes spread throughout the country, and a greater role by the state in welfare provision was called for in democratization movements. Following the establishment of the National Pension Act in 1986, the Employment Insurance Act was established in 1993. However, initially national pensions were limited, as they were only mandatory for companies employing ten or more employees. Afterwards, there was a period of social turmoil caused by high numbers of people without jobs triggered by the economic crisis of 1997, and then South Korea’s growth oriented policy began to be reconsidered. During the administration of Kim Dae-Jung, the slogan of “productive welfare” was adopted, stressing that economic development and social welfare were not in conflict, but that rather their coexistence was essential for achieving abundant lives for citizens. Efforts were made to promptly develop social security systems based on this slogan. As a result, a universal pension plan for all urban citizens was established in 1999.

In the same manners as in South Korea, the rise in democratization movements in China and the ASEAN countries also led to increased momentum for the establishment of social security systems.

Although high growth was maintained under China’s Reform and Opening Up policy while allowing for income disparities, since 2000 the growth in these income disparities has developed into a political and social issue. While the Reform and Opening Up policy was firmly maintained, the government was also imposed with the new role of assisting the socially disadvantaged. In the report of the 5th session of the 9th National People’s Congress, which was revised in March 2002, the State Council mentioned the concept of the socially disadvantaged (disadvantaged groups), and at the 16th National People’s Congress of the Chinese Communist Party held in November 2002, Jiang Zemin, who served as General Secretary at that time stated that a social security system serves as an important guarantee for the stability of society and the long-term stability of the state.

In the constitution that was subsequently promulgated in March 2004, the role of the government in social security was clearly stated, with Article 14 stating that “a sound social security system is to be established that corresponds to levels of economic development” and Article 33 stating that “the state is to respect and guarantee human rights.” Furthermore, at the 28th General Assembly of the International Social Security Association (ISSA) held in Beijing in 2004, the State Council Information Office released a white paper on social security entitled *China’s Social Security and Its Policy* for the first

time. The Office also released a white paper entitled *The Development of China's Undertakings for the Aged* in 2006. The expanding income disparities between urban and rural areas began to be seen as the negative side of the Reform and Opening Up policy. In October 2010 the Social Insurance Law covering the social security system was established and an old-age pension system for rural areas was introduced. Although a pension system covering all citizens to some degree was established through these developments, it has not spread yet and the coverage rate is low.

Political democratization movements have become more active in Thailand following the military coup d'état in 1991 and Black May in 1992 (a popular protest in Bangkok against the government and the subsequent bloody military crackdown). While there were discussions on the participation of citizens in politics and preventing corruption among politicians, there were also increased debates over respecting human dignity, including that of the socially disadvantaged. In the constitution of 1997 that was established as the result of the democratization movement, Article 4 clearly states that "The human dignity, right, liberty and equality of the people shall be protected." and Chapter III entitled "Rights and Liberties of Thai People" (Article 26 to Article 65) was greatly expanded. Of particular note in terms of the elderly is Article 54, which clearly stipulates that "The disabled or handicapped shall have the right to get access to, and to utilize of, welfare, public facilities and appropriate aids from State." Meanwhile Article 80 states the government is to provide aids and welfare to the elderly, the indigent, the disabled or handicapped and the destitute person for their better quality of life and ability to become self-reliant; obligating the government to draw out a policy and its implementation. With this revision of the constitution, a pension fund for the employees of private sector companies was established in 1999 and the Elderly Act was established in 2004 as a basic policy in response to population aging. The pension system in Thailand will be described in details later.

The focus of international organizations on social protection

Efforts by international organizations such as the United Nations, the World Bank, and the Asian Development Bank also supported the establishment of social security systems in East Asia.

Welfare policy support by the United Nations and the World Bank began in the 1970s based on the purpose of protecting workers in urban areas. Afterwards, with the launch of economic reform support (structural adjustment programs) focused on deregulation in developing countries, social policies to complement this appeared, referred to as social safety net programs.

The word "net" in this phrase comes from the nets that are installed at circuses to protect trapeze performers in case they fall. These social safety net programs consisted of temporary income replacement and medical support for

people that become unemployed in the process of structural adjustment programs (economic reform focused on deregulation) of international organizations. These programs were positioned as social policies to provide complementary economic support during the implementation of deregulation measures. These programs were implemented in reflection of the increased burden caused especially on the poorest segments of the population in societies as a result of structural adjustment programs in response to the heavily indebtedness of Latin American countries in the 1980s. During the 1990s when transitions were made to a market economy in Russia and Eastern Europe and while supporting structural reform following the currency crisis in Asia, even further attention was given to social policy (Teranishi ed. 2003).

After the United Nations set forth the elimination of poverty as one of the Millennium Development Goals (MDGs) entering the 21st century, the scope of social support by international organizations for developing countries expanded to cover all of the socially disadvantaged, including the poor, the elderly, the disabled, laborers, children, and women. Furthermore, there began to be more of a focus on social risk management support that aimed to protect vulnerable parties in advance.

From this point, social policies as social protection became the basic framework in place of the social safety net. In 2001, the World Bank released the *Social Protection Sector Strategy: From Safety Net to Springboard* and the Asian Development Bank released the *Social Protection Strategy*. While the contents of these strategies differ by international organization, they both focus on social security development support aimed at protecting the social disadvantaged including children, women, laborers, the disabled, and the elderly. In other words, we can see that social policy has transformed its policy goals from social safety net programs in response to temporary risks to welfare policy support that is more permanent.

In Japan, the Japan International Cooperation Agency (JICA) launched a research group on this perspective in 2003, and released *Towards the Establishment of Social Safety Nets (SSNs) in Developing Countries* as a result. Despite these programs being referred to as social safety net programs, their contents cover the entire scope of social security systems in developing countries, discussing as to what role Japan should play in developing countries based on its own experiences.

In addition, the Second World Assembly on Aging held in 2002 in Madrid, Spain also had quite an impact. In the Assembly, the Madrid International Plan of Action on Aging 2002 was adopted, based on the pillars of (1) older persons and development, (2) advancing health and well-being into old age, and (3) ensuring enabling and supportive environments. This reconfirmed the efforts of participants around the world to work together to address the issue of population aging. With this, it became recognized that population aging was

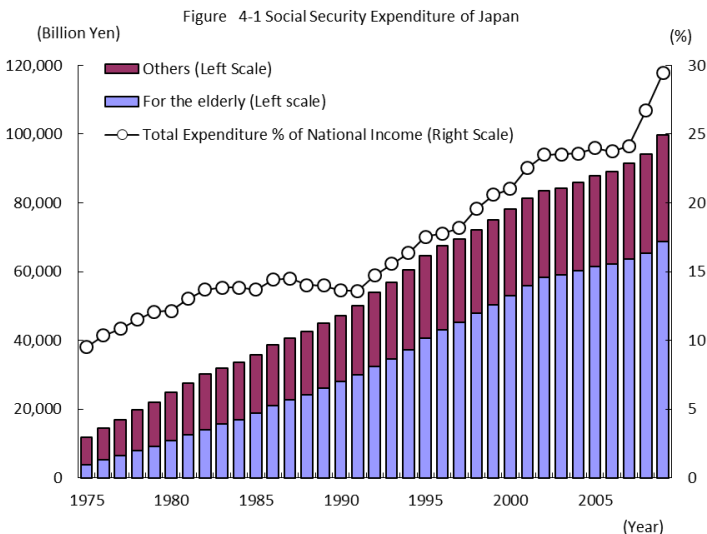
not an issue unique to developed world, but that rather the entire world, including the developing countries, was faced with same problem as “global aging.”

2. Issues in the establishment of social security systems

Increasing burdens caused by population aging

While there has been growing momentum toward the establishment of social security systems, their establishment is not easy to achieve. If future population aging is considered, indiscreet social security system design will result in a rapid increase in fiscal burden in the future. In this regard, Japan’s experience provides a valuable perspective when considering what form social security should take in East Asia.

Considering that population aging will advance at the same speed or faster than it advanced in Japan in East Asia in the future, if generous medical and pension systems like those in Japan are established at an early phase, it will rapidly increase the fiscal burden in the future. As displayed in Figure 4-1, social security benefit expenditures continue to rise in Japan, and this trend has not been stopped. The total grew from JPY 11.8 trillion in 1975 to JPY 99.9 trillion in 2009, growing from accounting for 9.5% of national income in 1975 to 29.4% of that in 2009. While the ratio of elderly-related expenses to social security benefit expenditures was high at 32.9% in 1975, this ratio grew to 68.7% in 2009.



Source: National Institute of Population and Social Security Research
<http://www.ipss.go.jp/>

The increase in social security benefit expenditures with population aging is causing pressure on expenditures in other fields, such as education. In China and the ASEAN countries where fiscal spending is still required for many fields such as infrastructure development, education, and medicine, design of social security systems that incorporate future population estimates is important from the perspective of not only the sustainability of social security systems, but also securing other development funds.

Population aging increases both medical and pension (income security) burdens.

According to the statistics of the Ministry of Health, Labour and Welfare, Japan's total medical expenses for fiscal 2012 were JPY 38 trillion. Of this, 45% (JPY 17 trillion) of all medical expenses were spent on the elderly. Looking at per capital medical expenses by age group, while costs were JPY 179,000 up to age 70, they increased to JPY 806,000 from age 70 and above, and JPY 916,000 from age 75 and above.

Although this difference in medical expenses by age group differs depending on factors such as the disease structure of each country, the current state of medical service, and the state of medical insurance, for all countries medical expenses for the elderly are higher than for other age groups.

The nature of medical service is known to change with economic and social development. Table 4-2 displays the health transition which represents the changes in the disease structure that accompany economic and social development, and this is a useful framework in considering what form medical insurance should take.

In the first phase of the disease structure, the main diseases are infectious diseases such as typhoid, cholera, and smallpox. In terms of demographic transition, this stage represents a period of population explosion with a high child population. The causes of infectious diseases are infectious pathogens that are introduced through an unsanitary environment. To prevent them, rather than the efforts of individuals, it is necessary for governments to take initiatives to improve sanitation levels through vaccinations and health maintenance. Governments should play a large role (fiscally) in this phase.

In the second phase of the disease structure, the focus of disease shifted from infectious diseases to chronic diseases. In terms of demographic transition, this stage represents the demographic dividend period with a high working-age population. Disease such as strokes, malignant tumors (cancer), and heart disease begin to account for the majority of deaths. These chronic diseases are also known as "lifestyle-related diseases," and these diseases are mostly dependent on the health management of individuals. Accordingly, it is during this phase that medical insurance is focused on prevention and treatment, and some of this burden is borne by individuals. Compared to infectious diseases,

higher-level medical technologies are required for the treatment of chronic diseases, and a longer period of time is required for treatment as well. For developing countries that have moved into the second phase, infrastructure development of hospitals that provide medical services and fostering and securing of human resource such as doctors and health care technicians become important. Although the government continues to play an important role as in the first phase, the role of private sector medical institutions and insurance companies becomes more important.

Table 4-2 The Health Transition

Disease Structure	Medical Welfare System		Center of Industry Structure	Demographic Transition
	Finance	Service		
First Phase Infectious Diseases ↓	Public Hygiene Measures (Public Prosperity)	Primary Care, Health Center Improvement, etc.	Agriculture	Population Explosion Period
Second Phase Chronic Diseases ↓	Health Insurance System (Employees → Extension to Farmers and Self-Employed)	Hospital-Centered: Medical Care and Facilities	Labor Intensive Industry	Demographic Dividend Period
	Social Security Based on the Enterprise and the Nuclear Family as a Unit		Capital Intensive Industry	
Third Phase Senile Degenerative Diseases	Integrated System of Health Care and Welfare for the Elderly	Shift to Welfare and Home Care	Service	Population Aging Period
	Toward Social Security System Based on the Individual as a Unit			

Source: Hiroi and Komamura ed. 2003

In the third phase of the disease structure, the focus of disease shifts from chronic diseases to medical care for senile degenerative diseases. In terms of demographic transition, this stage represents the population aging period. As was described above, medical expenses for the elderly lead to a rapid increase of overall medical expenses. Comprehensive medical technologies that are more advanced than those required for chronic diseases and include mental care become necessary, and the duration of treatment becomes more prolonged. In addition welfare consisting of nursing care which aims to support the life of the patient rather than treating a disease becomes more important. Japan is in the third phase, and the NIEs are in the process of moving into the third phase. A long-term care insurance system was adopted by Japan in 2001, and in South Korea and Taiwan discussions are underway as to how to approach nursing care for the elderly.

China and the ASEAN countries are in phase two. While the data are somewhat old, the causes of death in Thailand in 2003 excluding AIDS were mostly the same as in developed countries. Number one was malignant neoplasm, number two was unexpected accidents, and number three was heart disease. Considering the health transition framework, the type of medical service that is required for China and the ASEAN 4 is the introduction of an insurance system that covers all citizens (a universal medical insurance system) and the development and enhancement of the hospital infrastructure to support this.

However, actual changes in the disease structure are not as unilateral and clear as suggested by the health transition argument. This is because there are differences in the disease structure among regions and income groups. For example, response to infectious diseases is still essential in rural areas, there may be more chronic diseases in urban areas amid rising incomes and changes in lifestyles, and there could also be calls for medical care and welfare for the elderly on a nationwide level. The governments of developing countries not only have to respond to all of the phases of disease structure, they must also address infectious disease that have recently spread across wide areas, such as avian influenza in recent years. Considering this type of multi-layered disease structure, it is apparent that there are issues in developing countries in terms of limitations on the supply of facilities and human resources to provide the medical services needed.

A pension burden that already cannot be covered

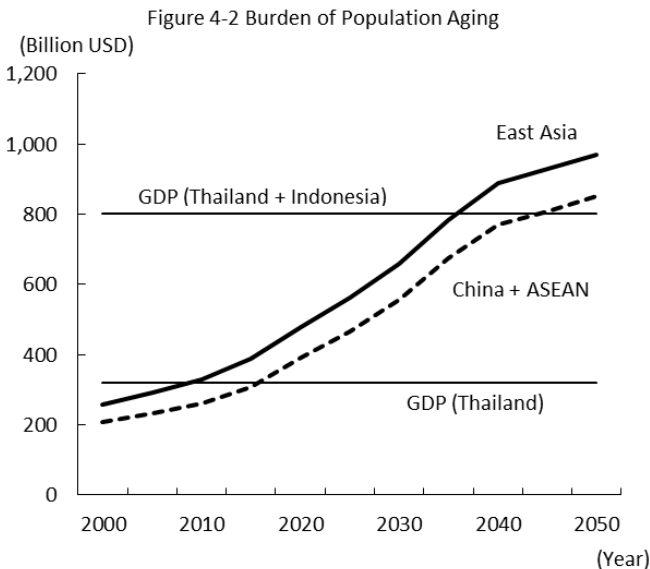
Let's consider the pension burden next.

In the same manner as for the medical burden, it is difficult to estimate the burden of pensions. When estimating the pension burden in developed countries, normally the benefit levels in the current system are assumed and the additional costs caused by population aging are calculated. However, because pension systems have yet to be developed in China and the ASEAN 4 and will have to be developed going forward, this makes it difficult to set the level of benefits to be used in assumptions.

Therefore, let's make a simple estimate on how large the burden of supporting the life of the elderly will become. Let's assume the provision of a living allowance of USD 5 per day for the elderly (age 65 or above). Multiplying USD 5 per day by 365 days would result in USD 1,825 as the annual benefit amount per elderly person. As the World Bank's guideline for poverty is an income of less than USD 1 to USD 2 per day, this allowance would put recipients above the poverty line. We can calculate the total allowance for the elderly by multiplying this amount by the elderly population. For example, because China's elderly population for 2010 was 110 million, the total annual benefit amount would be USD 200.5 billion. This would be

equivalent to 15% of China’s annual spending for that year. In other words, at the current point in time it would be problematic to provide a living allowance of USD 5 per day for the entire elderly population. Furthermore, going forward, this amount will rapidly increase to USD 303.8 billion in 2020 and USD 579.0 billion in 2040.

Looking at the entire East Asian region, the required amount of USD 329.0 billion for 2010 is nearly equivalent to the nominal GDP of Thailand. This amount will grow to USD 480.0 billion in 2020 and USD 888.0 billion in 2040, which is equivalent to the total nominal GDP of Thailand and Indonesia in 2010 (Figure 4-2).



Source: UN, Calculated by *World Population Prospects: The 2012*

In the breakdown of the burden of living expenses for the elderly, Japan and the NIEs account for a small percentage, with the majority accounted for by China and the ASEAN 4. This presents the important issue of who will take care of the East Asia’s elderly.

The five pension system pillars of the World Bank

The reason that the burden of living expenses for the elderly in China and the ASEAN 4 has yet to become apparent despite this growing burden has to do with the fact that in these countries families play the role of looking after and caring for elderly people. However, as has been pointed out many times in

this book, family structures are undergoing significant changes with the progress of economic development in East Asia. As nuclear families become more common, the number of elderly people that live alone without any other family members is on the rise. Governments are being called upon to initiate measures to protect these elderly people. However, governments should not have to bear the entire burden (for example, through social security systems). Fundamentally, these are costs that should be shared by individuals, families, communities, and companies in addition to the government. How can these costs be shared?

Let's look at the classifications used by the World Bank, which has been one of the hardest working institutions in pension system reform for developing countries. Based on its many years of experience, the World Bank has classified pensions (income security) into the five pillars displayed in Table 4-3. Because Pillar 0 and Pillar 4 were added afterwards by the World Bank, let's start off by describing the initial three-pillar framework (Pillar 1 through Pillar 3).

Table 4-3 Multipillar Pension Taxonomy

Pillar	Target Groups			Main Criteria		
	Lifetime Poor	Informal Sector	Formal Sector	Characteristics	Participation	Funding or Collateral
0	X	X	x	"Basic" or "Social Pension" at Least Social Assistance (Universal or Means Tested)	Universal or Residual	Budget or General Revenues
1			X	Public Pension Plan, Publicly Managed (Defined Benefit or Notional Defined Contribution)	Mandated	Contributions, Perhaps with Some Financial Reserves
2			X	Occupational or Personal Pension Plans (Fully Funded Defined Benefit or Fully Funded Contribution)	Mandated	Financial Assets
3	x	X	X	Occupational or Personal Pension Plans (Partially or Fully Funded Defined Benefit or Funded Defined Contribution)	Voluntary	Financial Assets
4	X	X	X	Access to Informal Support (Family), Other Formal Social Programs (Health Care), and Other Individual Financial and Nonfinancial Assets (Homeownership)	Voluntary	Financial and Nonfinancial Assets

Note: The size and appearance of x reflect the importance of each pillar for each target group in the following increasing order of importance: x, X, **X**

Source: Holzmann and Hinz 2005

Pillar 1 is characterized by public pension plans using the pay-as-you-go method mainly financed by taxes (transfer of income from the working generation serves as the source of pension funds). This method is characterized by its susceptibility to the impact of changes in population structures and the sudden increase in the burden (tax burden) on the working generation with the advance of population aging.

Pillar 2 consists of a mandated funding method in which subscribers receive benefits based on their contributions and savings made while employed. Generally, the financial sources of pension funds are the contributions jointly

made by companies (employers) and employees. For this method, while changes in the population structure do not have much of an impact, pensions are susceptible to the impact of economic fluctuations, such as rising prices and wages. For example, if prices increase, this causes the value of accumulated funds to decrease and the actual benefit levels to decline. This funding method can be classified into the defined benefit method in which benefits are determined in advance, and the defined contribution method, in which benefits are determined based on the management results of contributions.

Pillar 3 consists of the voluntary contribution method. The subscriber volunteers to make contributions or save during their period of employment and they receive benefits based on this. In many cases, contributions are managed through investments in risk assets whose value fluctuates, such as stocks and bonds.

With the movement from Pillar 1 to 2 and then to 3, the role of the government decreases while the responsibility of individuals increases. Hiroi 1999 used the concept of public assistance, shared assistance, and self-assistance as the classifications for welfare states. Based on this concept, we may view in such a way that Pillar 1 is a form of public assistance as society as a whole supports the lives of the elderly, Pillar 2 is a form of shared assistance as the source of pension funds are the shared contributions of employers and employees, and Pillar 3 is a form of self-assistance as it is based on the principle of self-responsibility.

These three pillars are provided based on the experiences of the World Bank presented in the book *Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth* (published in 1994). The book suggests that actual initiatives should not consist of selecting one of these three pillars, but rather adopting a multi-pillar model based on the country's environment.

However, after the subsequent developments and criticism, the World Bank added the following two pillars as means for securing income for the elderly in *Old Age Income Support in the 21st Century* (published in 2005).

One of these, Pillar 0, is public assistance. This is the viewpoint that income replacement needs to be prioritized for elderly persons for whom living independently is particularly difficult. In addition, Pillar 4 was added, consisting of support from families and communities. This refers to support for the lives of elderly people through various means in addition to financial support. The concept is that in developing countries where traditional forms of mutual assistance can be assumed to survive, these forms of assistance should be utilized.

The effect of each pillar for each target group is displayed at the right side of the table. Looking at this, we can see that the World Bank expects the newly added Pillar 0 and Pillar 4 to have an effect on the lifetime poor and the informal sector. The strengthened initiatives of international organizations to

eliminate poverty through the establishment of Millennium Development Goals (MDGs) have had a major impact.

The political aspects of pension system reform

As previously mentioned, pension systems evolve by first covering public sector employees such as government employees, military personnel, and employees of state-run companies; they are then expanded to include the employees of private sector companies; and in the end they evolve into universal pension plans that include farmers and the self-employed.

As the scope of pensions expands after going through these phases, adjustments need to be made for the reciprocal relationships between the differing pension systems. In general, there are generous pension systems supported by taxes for public sector employees such as government employees, military personnel, and employees of state-run companies. While public sector funds receive governmental support at times, for the most part these funds are independently funded. Then for farmers and the self-employed, because their income levels may be low and unstable, a pay-as-you-go method with much support from the government has to be adopted. In this case, making adjustments with the generous pension system for government employees becomes an issue.

However, it is no easy task for the government to reduce the pension benefits of government employees. Assuming the generous benefit levels for government employees, there is no doubt that the fiscal burden will increase rapidly with population aging if a universal pension system is established. Conversely, if a generous pension system is maintained, this could very well result in the postponement of the establishment of a universal pension system that would lead to a fiscal burden.

In addition to the fiscal viewpoint of whether burdens are sustainable in pension reform, there are also very political dynamics at work. China and the ASEAN 4 will likely struggle with these political dynamics as they go through the stage of attempting to design universal pension systems.

In 2006, China's National People's Congress (the national diet) stated that it would make no distinction between urban and rural areas. This displayed China's intention of implementing policy to correct income disparities. It is possible that the establishment of pensions systems was used as a political negotiation tool to avoid the political risks brought about by income disparities, and that this brings about the economic risk of the fiscal burden increasing.

Population aging and human security

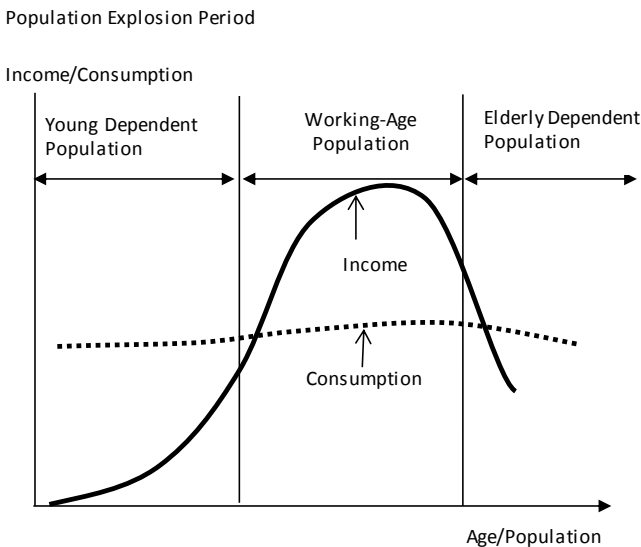
Although population aging causes a considerable fiscal burden, this does not mean that the establishment of social security systems can be postponed indefinitely. Postponing the establishment of social security systems in

developing countries results in the risk of putting the lives of the elderly in danger. Let's look at the concept of human security in relation to this.

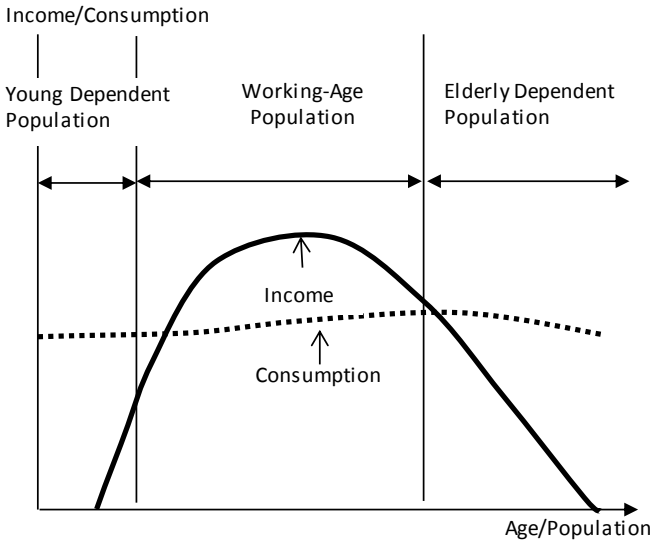
It is likely that some readers have not come across the phrase "human security." In this book, we would like to use the definition of the phrase as described by former Prime Minister Keizo Obuchi in the First Intellectual Dialogue on Building Asia's Tomorrow: "an idea of giving comprehensive consideration to all threats to human survival, life, and dignity and strengthening initiatives in response to these threats" in 1998.

Let's use the life cycle hypothesis model (Figure 4-3) once again to describe the relationship between population aging and human security. To facilitate understanding, let's use the life cycle hypothesis model to compare a country undergoing a population explosion and a country with an aged society. Differences between income and consumption indicate income shortages and surpluses. Income shortages increase for the young population during a population explosion, and for the elderly population in an aged society. For countries undergoing population explosions, domestic savings rates are low, and the balance of international payments can deteriorate as funds from overseas are used to compensate for this. If the shortage for the young population cannot be compensated for and especially if basic consumption is difficult, this can put the life of the young population at risk. As this threatens the survival of young people, the international community provides support from the perspective of human security.

Figure 4-3 Life Cycle Hypothesis Model and Human Security



Population Aging Period



Source: Author

Let's look at these dynamics from the perspective of population aging in a developing country. Although the number of elderly people will increase going forward, this does not mean that the majority of elderly people in developing countries have accumulated sufficient savings while employed. Accordingly, the gap between the income and consumption of the elderly can only be compensated for by transfers of income from the working generation through systems such as social security and tax. However, in some cases the income levels of the working population may not be sufficient for compensating for the fund shortages of the elderly.

Let's look at the working-age population ratio and the elderly population ratio from this perspective. While there were 9 people to support one elderly person in China in 2005, there will only be 6 people in 2020 and 4 people in 2030. In this case, issues similar to those faced in population explosions arise. This means that the lives of elderly people having difficulties with basic consumption are put at risk. It is important to think of assisting these elderly people as a human security problem.

Of course, the response of society toward young people and elderly people differs. Many elderly people are capable of generating income through their own efforts or maintaining their lives by participating in society. In that sense, it is not really appropriate to consider all elderly people as being socially disadvantaged. For this reason, the concept of promoting the independence of

elderly people through their own participation in society based on the concept of “active aging” has gained much attention as of late. However, it cannot be denied that in any case opportunities for employment and social participation tend to decline with age, along with the capabilities to engage in the participation. From this perspective, as of late it has become common to classify elderly people into two groups: young elderly (age 65 to 74) and the old elderly (age 75 or above). When considering population aging issues and human security in developing countries, it is essential to look at both trends.

The burden for the old elderly is much heavier than for the young elderly. While population aging has advanced in East Asia, it is not too serious yet. For example in China, although the population aging rate for 2010 was 8.4%, over 60% of this is the young elderly. While the ratio of the young elderly (age 65 to 75) population will increase by 2030 as the baby boom generation becomes the elderly generation, during this same twenty-year period the old elderly population will increase by more than 50 million. Subsequently, the ratio of the old elderly will become higher and by around 2045 the number of the old elderly will surpass the young elderly.

Table 4-4 Composition Change of Aging Population in China

	(Thousand People, %)						
	2000	2005	2010	2020	2030	2040	2050
Population Aged 65+	87,965 (6.9)	101,132 (7.7)	113,545 (8.4)	167,692 (11.7)	235,084 (16.2)	316,726 (22.1)	331,314 (23.9)
Population Aged 65-74	58,891 (4.6)	65,909 (5.0)	70,807 (5.2)	114,740 (8.0)	148,288 (10.2)	193,725 (13.5)	164,494 (11.9)
Population Aged 75+	29,073 (2.3)	35,223 (2.7)	42,738 (3.1)	52,952 (3.7)	86,796 (6.0)	123,001 (8.6)	166,820 (12.0)

Note Upper: Number, Lower: Ratio

Source: UN, *World Population Prospects: The 2012 Revision*

To avoid human security problems that threaten the survival of elderly people, it is essential for the governments of developing countries to implement population aging countermeasures from now and for the international community to provide adequate support in advance. This point will be covered in further detail in Chapter 5.

3. The difficulties facing developing countries

The pension system in Thailand

To understand how difficult it is for developing countries to establish universal social security systems, let's look at Thailand as an example of a

country that has recently actively implemented pension system reform.

Thailand's pension system was launched in 1951 as a lump-sum retirement payment and pension system for the retirement of government and military employees. The same system was established for local government employees in 1957. Government and military employees covered by this system were not required to make any contributions, and it was a generous system that provided a lump-sum retirement payment at the time of retirement along with a pension equivalent to the monthly salary of the final month in service. It was a pay-as-you-go method plan fully funded by the government, equivalent to Pillar 1 in the World Bank's classification system that was previously mentioned.

There was no way to expand this generous pension system to include other administration officials and employees of state-run companies. In fact, in order to secure funds for pensions for people working in this part of the public sector, a fund jointly contributed to by the government that also served as the employer was established for administration officials and employees of state-run companies. This was a fund with optional subscription, referred to as a provident fund, and equivalent to Pillar 3 in the World Bank's classification system. Afterwards, the establishment of such funds was allowed for the private sector as well.

Entering the 1990s, the fiscal burden of the pension system for government employees began to be seen as a problem. In 1996, a government employee pension fund jointly contributed to by government employees and the government was established, and benefits started to be provided from this fund. This fund used a mandated funding method, equivalent to Pillar 2 in the World Bank's classification system. However, as the amount of 2% of the final monthly salary multiplied by the number of years in service was supplied from the national treasury, it was not possible to move away from the pay-as-you-go method for the pension benefits for government employees. This is a good example of the previously-mentioned difficulties faced by government when reconsidering the pension systems of government employees.

While the government support of pension system outside the public sector was discussed many times since the 1940s, the establishment of such systems was always postponed. However, during the economic boom following the Plaza Accord in 1985, population movements from rural to urban areas became more active and employment at private sector companies increased rapidly. As a result, discussions on the establishment of social security systems outside the public sector rapidly became more concrete.

The Social Insurance Act covering employees at private sector companies was established in 1990. A system was started for employees of businesses with 20 or more employees in which a social security fund was accumulated through payments of 1.5% of the employee's salary made respectively by

employers, employees, and the government. With this, benefits were provided for medical care, disabilities, deaths, and births. However, due to the opposition from both of business groups and labor unions, the establishment of old-age pensions was not achieved.

Afterwards, with the increasing momentum of the democratization movement and the protection of the socially disadvantaged stipulated in the 1977 Constitution, full-fledged discussions toward the adoption of pension systems for the private sector were commenced. This movement was also supported by the direct impact that the currency and economic crisis had on the lives of low income earners. Then with the launch of the old-age pension system in 2001, employers and employees had to make respective contributions of 2% of the employee's salary (later raised to 3%), while the government was obliged to make a contribution of 1%.

The pension system for the private sector is called the old age pension fund, and the benefit level consists of 15% of the average salary during the 60 months immediately preceding retirement. The funding period must be at least 15 years, with 1.5% added to benefit levels for every year beyond this mandatory 15-year funding period. The pay-as-you-go method with contributions by the government is used for this fund, equivalent to Pillar 1 in the World Bank's classification system.

However, even if the funding period is 25 years, the maximum monthly benefit that can be received is 25% of the average salary during the 6 years immediately prior to retirement. This level is low compared to the previously-mentioned level for government employees, and this is not sufficient for securing the lives of the elderly during their old age. In response to this, the government established a provident fund like that mentioned above to compensate for this shortage. This fund is funded by contributions of 3% to 15% of the salaries of employees, with an equal amount contributed by employers and the employees themselves. These funds were based on defined contribution method with benefits determined by asset management results, and also based on the voluntary contribution method in which their establishment was left up to the decision of management. This is equivalent to Pillar 3 in the World Bank's classification system. While the adoption of provident funds was at first limited to major companies, these funds were subsequently expanded to medium-sized companies. The number of subscribers grew from 1.03 million people at 405 companies in 1999 to 1.41 million people at 5,670 companies in 2003 and 2.44 million people at 12,323 companies in 2012.

The universal pension system that never came to life in Thailand

The movement toward establishing a social security system covering all citizen gained momentum under the administration of former Prime Minister

Thaksin Shinawatra, whose Thai Rak Thai Party won an overwhelming victory in the legislative election of 2001. In 2002 the Thaksin administration launched a system covering 40 million citizens who had previously not been covered by health insurance that provided medical service of an average THB 1,500 per person under the condition of paying THB 30 per first hospital visit. This system has been referred to as “the 30 baht health care.” Although strictly speaking it is not an insurance system, in a sense Thailand has successfully achieved a medical insurance scheme that covers all citizens faster than China or the ASEAN 4.

Of course, there have been increasing expectations toward the introduction of a universal pension system. In 2001 the Thaksin administration developed a system of providing THB 300 (approximately JPY 900) to low-income elderly people. This system covers elderly people recognized as not having sufficient income (400,000 people), and is equivalent to Pillar 0 in the World Bank’s classification system.

The scope of old age pension fund entry was expanded to all registered private sector businesses in 2002. As the system was expanded to the self-employed in 2003, farmers in 2006, and people in the fishing and forest industries in 2007, this should have marked the completion of a universal pension system. However, there continued to be hitched in achieving a universal pension system.

The reason that the Thaksin administration became reluctant to establish a universal pension system could be the result of a simulation that incorporated demographic transitions. According to a simulation conducted by an international organization cooperating with pension system reform in Thailand, the current fund, the old age pension fund, would go bankrupt by around 2045. While the international organization suggested that the pension system be reviewed and commercialized, the most that could be done was increasing the ratio of contributions from 3% of salaries to 4% in 2004. Currently, in preparation for the start of benefit payments from 2014, review of the foundations of the system overall is being started, as matters such as increasing reserves, lowering benefit levels, and increasing the annuitization age are being reconsidered. It is not possible to include the self-employed and farmers in this system.

Table 4-5 displays the division of the formal sector and informal sector in Thailand’s working population covered by the social security system. The formal sector is composed of government employees, administration officials, and the employers and employees of registered private sector companies, while the informal sector is composed of the self-employed and farmers outside of the formal sector. According to this division, Thailand’s social security system only covers approximately 40% of the entire working population.

Table 4-5 Formal Sector and Informal Sector in Thailand (2009)

Age	(People, %)							Cover Ratio (b)/(a)
	Labor Force							
	Total (a)	Formal Sector (b)			Informal Sector			
Total		Male	Female	Total	Male	Female		
15-19	1,364,060	483,203	301,009	182,194	880,857	581,159	299,698	35.4
20-24	3,564,839	1,616,861	877,909	738,952	1,947,978	1,192,151	755,827	45.4
25-29	4,540,360	2,443,871	1,244,285	1,199,586	2,096,489	1,251,469	845,020	53.8
30-34	4,820,145	2,338,550	1,209,118	1,129,432	2,481,595	1,345,235	1,136,360	48.5
35-39	5,006,159	2,079,127	1,068,905	1,010,222	2,927,032	1,500,988	1,426,044	41.5
40-49	9,574,452	3,206,695	1,765,950	1,440,745	6,367,757	3,195,540	3,172,217	33.5
50-59	6,428,490	1,610,004	943,100	666,904	4,818,486	2,511,371	2,307,115	25.0
60-	3,073,022	275,433	180,588	94,845	2,797,589	1,618,492	1,179,097	9.0
Total	38,371,527	14,053,744	7,590,864	6,462,880	24,317,783	13,196,405	11,121,378	36.6

Source: National Statistical Office, Thailand, 2010 *Thailand Statistical Yearbook*

As previously mentioned, one of the main issues for the social security systems of middle income countries like Thailand and China is incorporating the informal sector that includes the self-employed and farmers. However, income levels for members of the informal sector are generally low, meaning that it will be difficult to call upon this sector to provide the funding required for existing social security systems. In other words, it would be difficult to provide social security to all citizens simply by expanding existing systems in developing countries.

While there are suggestions by international organizations stating that the self-employed and farmers should use voluntary provident funds and mutual funds for retirees to prepare for their own old age, most self-employed and farmers do not have income sufficient for making such contributions.

Thai government has considered the establishment of a separate social security system for people whom existing systems don't apply to. In the course of these studies, there have been proposals for the establishment of pension funds in the communities where people live. In fact, some communities in Thailand have started one baht per day activities to support traditional forms of mutual assistance. Meanwhile, for people working in urban areas without any clear communities like those found in rural areas, efforts have been made to group these people by occupation such as taxi drivers or street vendors, and establish the same type of fund for each group. In addition, it is being considered whether these groups should be able to enter the national pension fund system if their funds fulfill certain conditions.

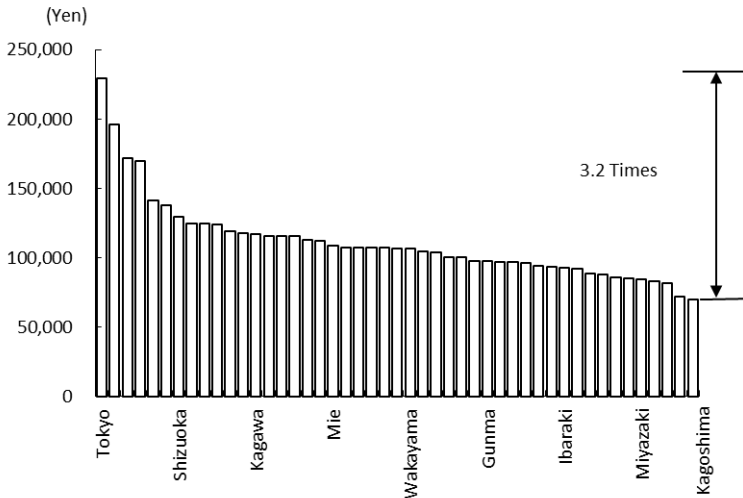
In order to ensure sustainability for the social security systems in Japan and the NIEs in the face of population aging and to achieve universal social

security systems in China and the ASEAN countries, sooner or later tax reform will be essential for securing the financial resources required.

While tax systems originally serve the function of redistributing income from the rich to the poor, this function is fulfilled by social security systems also.

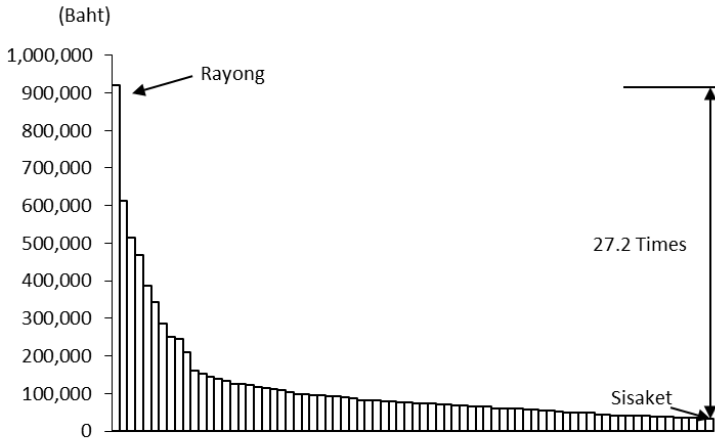
In regions and countries like China and Thailand there are large income disparities and the introduction of pension system could result in transfers of income from rich areas to poor areas. However, it should be noted that this environment differs completely from that in Japan when its universal pension system was introduced. Let's compare the disparities in regional income levels when the universal pension system was introduced in Japan in 1960 with those in Thailand in 2009 (Figure 4-4 and Figure 4-5). Looking at per capita GDP by prefecture for Japan in 1960, there was a gap of 3.2 times between the first-ranking Tokyo and the bottom-ranking Kagoshima prefecture (Figure 4-4). On the other hand, there was a gap of 27.2 times between the first-ranking Rayong prefecture and bottom-ranking Sisaket prefecture in terms of per capita GDP by province for Thailand in 2009 (Figure 4-5).

Figure 4-4 GDP Per Capita in Japan (1960)



Source: Cabinet Office, Government of Japan

Figure 4-5 GDP Per Capita of Thailand (2009)



Source: NESDB, *GROSS REGIONAL PRODUCT CLASSIFIED BY SUBREGIONS 2009*

Generally speaking, it is better for the financial resources for social security systems to be secured in small quantities over a broad area. However in countries such as China and the ASEAN countries where there are large income disparities, the establishment and maintenance of universal pension systems will be often largely dependent on transfers of income from large metropolitan areas to the regions and rural areas.

In fact, it may be necessary to increase corporate and personal income tax rates and implement tax reforms such as the introduction of fixed asset taxes and inheritance taxes. However, such tax reforms could be in direct opposition to national development strategies. Recently, development strategy in East Asian countries has increasingly been focused on strengthening the competitiveness of metropolitan areas, and strengthening the competitiveness of Shanghai and Beijing in China, and attracting foreign investment to the area around Bangkok in Thailand and the area around Jakarta in Indonesia play an essential role. From this viewpoint, it would be preferable to keep the corporate tax rate low in order to attract foreign investment. Furthermore, keeping personal income taxes low would facilitate the securing of high-quality human capital. Moreover, raising consumption tax would be difficult from the perspective of stimulating domestic demand. In this era of free trade, it is also not possible to rely on tariffs as a source of funding.

In order to establish universal social security systems and secure their funding under these conditions, it is necessary to create a mutual understanding among the citizens of regional and rural areas who serve as the beneficiaries

and urban citizens and companies who bear the costs. If discussions like these are avoided and priority is only given to benefits, it will not only cause the fiscal burden to expand out of control, but also serve as a factor that creates major uncertainty toward the future of society. As of 2010, social security expenditures account for less than 20% of annual expenditures in Thailand, meaning that government should still have some public funds that it could use for this purpose. However, the lesson presented by Thailand is that for countries that undergo population aging before becoming high income countries, the establishment of social security systems that include rural areas will likely be difficult. Does this mean the creation of a welfare state for developing countries is only a dream?

The advance of population aging will probably result in more uncertainties for the economies of East Asia and the future of these societies. What can we do to avoid this? How should it be approached? Let's look at these questions in the final chapter.

Chapter 5: Community welfare and the East Asian Community

1. From welfare states to welfare communities

Communities hold the key

Governments must play a leading role in resolving the population aging issue.

However, none of the governments of developed countries have discovered a fundamental solution for resolving the population aging issue. In fact, the rapid increase in the fiscal burden brought about by population aging has resulted in a sense of crisis among welfare states, and in fact welfare systems themselves are currently undergoing review. The situation is particularly serious for developing countries whose populations age while income levels are still low. As seen in the example of Thailand, the actual achievement of a welfare state in which the government plays an active role in welfare service is extremely difficult for developing countries.

Accordingly, in this chapter we will review social welfare from the perspective of two types of regional communities beyond the framework of the state.

The first type of communities is the regional communities that elderly people live in. In fact, the role of providing nursing care for the elderly has shifted from the state to regions.

The second type of communities we will look at is the regional communities formed of various countries for the purpose of working together to effectively resolve the population aging issue as a problem common to the countries of East Asia.

In other words, let's consider response to population aging from the perspective of two communities: local community organizations and the cross-border community of East Asia.

From this perspective, we will look at the global trend of transition from welfare states to welfare communities. We will then also look at what is being expected of local community organizations in terms of the provision of social welfare. Next, we will summarize the experiences of community welfare in Japan to provide a perspective on how to best support developing countries. In addition, we will overview the current state of economic integration in East Asia and see how the cooperation of each country in the region is essential for maintaining sustainable prosperity in the region and establishing plentiful aged societies, which will definitely contribute to the formation of an East Asian community.

Transition to welfare communities

During the 20th century the role of the governments of developed countries

in social welfare “from the cradle to the grave” was emphasized. However, as the fiscal burden of many countries that had focused on social welfare rapidly increased around the end of the 20th century, there began to be talked aimed at rethinking the idea of the welfare state itself. In this process it became recognized that truly universal welfare states do not exist and that it would be more realistic for independent welfare systems to be established through combinations of the state, markets, and families in each country. In addition, as populations age, more attention has been focused on the supplementary role played by civil society and local community organizations.

The transition from welfare states to welfare communities is a common global trend. Developing countries also are undergoing this very phase. There are many factors limiting the development of social security systems in developing countries and individuals have a low capacity for covering their living expenses when they reach old age. Therefore, in developing countries, welfare states cannot be achieved and these countries have to work toward achieving welfare societies.

As means of addressing this reality, there has been much focus on the role of communities in social welfare in developing countries as well. For example, as a result of China’s Reform and Opening Up policy, some people’s communes and state-owned companies that had provided social welfare services were dissolved and some people were no longer able to receive social welfare services from the state. To supplement this, there began to be more attention put on the presence of communities as mutual assistance organizations composed of people in resident areas. From 1987 onward as discussions were made about region-based social welfare service systems, there began to be more of a focus on the role of the *shèqū* (the Chinese word for community) in the provision of a wide variety of services, consisting of not only social welfare for the elderly but also the provision of housing, medical and health care, the maintenance of public order, social welfare for the disabled, and traffic safety. In 2000 China’s Ministry of Civil Affairs released a policy socializing social welfare (the provision of social welfare service by communities), which encouraged the participation of commercial organizations in social welfare in communities and cooperation with NPOs (non-profit organizations) participated in by residents.

In Thailand, the Ministry of Social Development and Human Security was newly established in 2002, which as its name suggests became involved in efforts to create communities that integrate community development and social welfare service. As a model of this, the National Economic and Social Development Board (NESDB) presented its “livable village and livable community” in 2003 and established and implemented a unique policy called the “Family Development Plan (2004 to 2014)” aimed at restoring family bonds. The establishment of community-based pension funds that was

considered in Chapter 4 can be viewed as part of community-based social welfare services.

At the same time, international organizations have increasingly focused on communities as the receivers of their support. For example, the World Bank's *Social Protection Sector Strategy* stresses the importance of the use of informal traditional communities in the strengthening of social welfare in developing countries, specifically emphasizing the strengthening of support through social capital as a means of community development. What social capital refers to here are frameworks such as trust, norms, and networks that enable social efficiency to be improved through the coordinated action of people (Putnam et al. 1994). Specific forms of support include the activities of regional governments and NPOs, community-based organizations, and private sector companies aimed at protecting the rights and developing the capacities of citizens and achieving sustainable community development.

However, the traditional communities in developing countries are not quite as stable as we may imagine them to be. The fact is that there have been calls for the development of social security systems precisely because the mutual assistance function of traditional communities has got weaker. In addition, there are doubts concerning what can be done to stop the collapse of these communities or revive them, and whether there are actually any kinds of communities capable of covering the socially disadvantaged in urban areas.

Meanwhile, in developed countries, voluntary participation-based communities are expected to play a new role in welfare communities. However, many points remain unclear, such as what elements are required for the formation of new communities and whether it is possible to cover all of the socially disadvantaged nationwide. Furthermore, many issues will need to be faced going forward, such as whether communities can provide a sufficient quantity and quality of social welfare service for the elderly and whether governments will be able to develop support systems to ensure that these activities are effective. In addition, the future direction that the promotion of cooperation and coordination between traditional communities with new communities such as NGOs will take remains unclear. As the way things currently stand, both international organizations and national governments are undergoing a process of trial and error.

2. Lessons learned from community welfare activities in Japan

History of community welfare in Japan

Reviewing and strengthening the role of the community in this manner are important from the perspective of considering new means for Japan to provide support for population aging countermeasures in East Asia. The reason for this is that for many years Japan has been involved in regional-based community

welfare service and in this process it has accumulated abundant experiences and learned many lessons.

Let's take a quick look at the history of community welfare in Japan.

In Japan, the depopulation of rural areas and overcrowding of urban areas advanced alongside with economic development, putting at risk of collapse the traditional communities in both rural and urban areas. In response to this and in conjunction with the revision of the Local Autonomy Law in 1969, the Community Issues Sub-committee of the Quality Life Policy Council released *Community: Restoration of Humanity in Life Habitats*, while the Ministry of Home Affairs announced its Model Community Policy in 1971. Furthermore, a report entitled *Formation of Community and Social Welfare* released by the Central Social Welfare Council in 1973 also provided an opportunity to review the social welfare function of communities (Takegawa ed. 2005).

Entering the 1980s, the Social Welfare Council began to systematize existing social welfare activities and formulate community welfare plans. Meanwhile, the rapid progress of population aging served as a driving force that made community welfare initiatives even more urgent. For example, in 1989 the Gold Plan (Ten-Year Strategy to Promote Health Care and Welfare for the Elderly) emphasized the importance of at-home nursing care, while a report entitled *The Future of Social Welfare* released in the same year by the Social Welfare Third Discussion Assembly Planning Subcommittee stressed the importance of municipalities as a main actor as well as community welfare consisting of at-home social welfare and nurturing of public sector services. With the revision of the Social Welfare Services Act in 1990, the active participation of local communities was institutionalized, and in 1993, the formulation of elderly health and social welfare plans at the municipal and prefectural level became mandatory. With this, in 1994 the Gold Plan was revised as the New Gold Plan (New Ten-Year Strategy to Promote Health Care and Welfare for the Elderly), while the Long-term Care Insurance Law was established in 1997, stipulating that local communities play the role of the main supporter in social welfare.

Furthermore, the Social Welfare Services Act was revised as the Social Welfare Act for the purpose of encouraging community welfare with regional residents and groups addressing social welfare based on the community unit. For Community Welfare Plans, the Act stipulated the policy that both Municipal Welfare Plans and Prefectural Plans for Supporting Community Welfare should be prepared. This was for the purpose of integrating social welfare activities that had been implemented by individual communities up until then while encouraging the participation of local residents. It is also noteworthy that strengthening the foundations of local communities through community welfare was positioned as a means not only to revitalize social welfare activities but also to support the prosperity of local economies.

With the establishment of Social Welfare Act, the Guidelines for the Formulation of Municipal Welfare Plans and Prefectural Plans for Supporting Community Welfare were released by the Social Security Council Social Welfare Sectional Meeting in January 2002, based on the following four pillars: 1. the necessity of the participation of local residents, 2. the creation of societies for mutual coexistence, 3. the joint participation of women and men, and 4. the creation of a social welfare culture. Following this, the Social Support Bureau Chief of the Ministry of Health, Labour and Welfare addressed the Notice on the Formulation of Municipal Welfare Plans to prefectural governors, and now activities are full-fledged in local communities.

Division of roles between the nation and local communities

In this manner, Japan has accumulated abundant experiences and learned many lessons on community welfare, and this could provide many important clues as to how to support population aging countermeasures in developing countries.

For example, the following points are important in terms of the division of roles between the nation and local communities.

While there has been much decentralizing of social welfare, the central government still plays a significant role in the creation of a base (including infrastructure development) for revitalizing community welfare. In addition to infrastructure development, the government plays an important role in intangible elements such as regulations concerning urban and facility design for aged societies. Such regulations include the Law for Buildings Accessible to and Usable by the Elderly and Physically Disabled Persons (widely known as “the Heartful [heart-warming] Building Act”) of 1994 and the Law for Promoting Easily Accessible Public Transportation Infrastructure for the Aged and the Disabled (also known as “the Transportation Accessibility Improvement Law”) of 2000, in which the accumulation of knowledge and technologies relating to the universal community building including design for passenger facilities, vehicles, and secondary roads and design standards that take into consideration handrails in residences and the elimination of steps and bumps is reflected. By supporting the transfer of knowledge and technologies for the development of communities that give consideration to the elderly in this manner, it should be possible to improve the efficiency and durability of infrastructure development in developing countries.

In addition, because community welfare initiatives were implemented from an early phase, the division of roles between prefectures and municipalities has become considerably clear. The Social Welfare Act stipulates the roles of prefectures and municipalities as follows. Municipalities are to be the principal activity unit for community welfare and are to prepare plans from the perspectives of 1. the appropriate utilization of welfare services, 2. the sound

development of services aimed at social welfare, and 3. the facilitation of residents' participation in activities. In contrast to this, prefectures are to play a back-up role for supporting municipal activities through initiatives such as the dispatching of appropriate personnel. In terms of specific activities, there has been an increase in cases of promoting activities for divisions such as elementary school districts. These activities reflect the long history of community welfare and the high level of awareness among residents in Japan.

It may not be possible to introduce to developing countries as is these types of relationships between prefectures and municipalities. While the decentralization of power has advanced in developing countries recently, in many cases personnel is dispatched by central governments due to the lack of human resources in local communities. For this reason coordination is in fact principally conducted with central governments even though it is community welfare support. However, when considering that municipalities are the principal activity unit for community welfare, social welfare support should be designed so that local partners are shifted down from the central government level to the prefectural level, and then to the municipal level. At the same time, it is necessary to conduct human resource development at the local government level to encourage this shift and to conduct educational activities to promote the participation of residents.

In addition to the public administrative level, perhaps it is also necessary for grassroots organizations to make efforts to provide concrete support. In this event, as the same manner as the plans of the Social Security Council Social Welfare Sectional Meeting are emphasized, it will be important to discover local leaders and create positive personnel cooperative relationships with local residents. Furthermore, community activities based on elementary school units that are achieving results in Japan could also be used by developing countries as a reference point and they should try to utilize new local community organizations as well as temples, churches, and rural communities.

Coordination between social welfare supporters and the participation of local residents

Next, let's look at coordination between community welfare supporters.

In accordance with the guidelines released by the Social Security Council Social Welfare Sectional Meeting in 2002, in addition to community residents, other supporters of social welfare could include the following: (1) groups requiring assistance, (2) residents' and regional associations, organizations based on territorial bonding, (3) corporations and shopping arcades, (4) welfare commissioners, childcare commissioners, and social welfare commissioners, (5) volunteers and volunteer organizations, (6) specified non-profit juridical persons (NPO corporation), home service organizations participated in by residents, (7) agricultural cooperatives, consumer affairs cooperatives, (8)

social welfare corporations, regional social welfare councils, (9) social welfare employees (including private sector employees), and (10) social welfare-related private sector businesses. It is important to incorporate a variety of supporters so that service based on actual conditions can be provided.

It is not as if supporters were diversified from the beginning in Japan. This diversification occurred as the result of traditional communities breaking down and new communities supplementing them. However, the Social Welfare Council that developed these supporters and coordinated between them played a major role. The Social Welfare Council is a non-profit organization that was established based on the Social Welfare Services Act in 1951. The Council became institutionalized nationwide with operations supported by fund raising and grants. Activities such as micro-community welfare activities based on elementary school districts have improved the awareness of residents and the Council's network has served as the basis for the development of new supporters.

In developing countries, it cannot be expected that a large number of supporters will be involved in community welfare. However, the experiences of the Social Welfare Council in Japan of small-scale activities and forming networks nationwide can be useful in developing countries that are in need of new supporters. Furthermore, cooperation with overseas NGOs that have recently expanded the scope of their activities would also be meaningful in developing countries. Possible forms of support for developing countries could include nurturing these types of supporters and encouraging the formation of organizations that promote coordination between supporters.

In addition, it is no exaggeration to say that the effectiveness and sustainability of community welfare is determined by the level of direct participation by residents. In Japan, various mechanisms have been used to encourage the participation of residents in each phase of community welfare planning, including design, implementation, and evaluation. For example, there have been many efforts to create plans through the joint participation of administration and residents, with residents identifying community issues during the design phase and independently establishing a vision for these plans. Moreover, the implementation plans consist of not only public administrative level policy, but also incorporate activities that facilitate the participation of community residents, including activities that foster a sense of solidarity in daily life such as saying hello and greeting activities and joint neighborhood cleaning activities, interactive food services in which participants dine together with the elderly, and interchange activities through casual hobbies such as cooking and music. There are many reports that these activities have helped to improve the minds and bodies of the elderly. Activities such as holding events focused on community cultural assets and the issuing of small community

magazines can also be useful means of increasing the feeling of solidarity between community residents. Because there is a lack of supporters in developing countries, it will be necessary to promote participation even more so than in developed countries. In this case, promoting community welfare activities as an extension of daily life as previously described could be effective.

In the plan evaluation process, in addition to objective evaluations conducted by public administrations, there is an increasing tendency to also incorporate independent evaluations based on the first-hand experiences of residents. In some cases community residents create their own indices, quantify achievement goals, and conduct evaluations. It is likely that the creation of indices through resident participation serves to increase the awareness of residents, strengthen administrative governance, and contribute to the sustainability of community welfare activities.

Effective country-level activities to encourage and support this type of resident participation could include the organization of various community activities, the release of information on these activities, and the construction of frameworks for sharing experiences. In Japan, the Community Welfare and Volunteer Information Network website managed by the Community Welfare Promotion Committee, Japan National Council of Social Welfare introduces various specific activities. An environment that allows community residents to access case studies for other communities provides an opportunity for improving both the quantity and quality of social welfare work that is participated in by residents.

3. Toward the formation of ideal East Asian Community

Cooperative frameworks in the East Asian region

Finally, let's consider an international cooperative system in order to maintain sustainable growth in East Asia and achieve stable and prosperous aged societies.

Deepening economic relationships in East Asia have developed into regional cooperation. For example, there have been increased levels of mutual dependence in trade. The total exports of the East Asian countries covered in this book increased from USD 695.9 billion in 1990 to USD 4,687.0 billion in 2011, with trade within the East Asian region increasing from USD 290.9 billion to USD 2,268.1 billion during that period, or from 41.8% to 48.4% of all trade. Measures such as the Chiang Mai Initiative, a multilateral currency swap arrangement among the ASEAN countries, Japan, South Korea, and China, were conducted for the purpose of stabilizing these mutual dependencies. The East Asian countries now share a common destiny economically.

In addition, as real economic integration advances, there has been an acceleration in institution building to encourage this integration. Since 2000, ASEAN has taken the initiative in advancing regional integration. ASEAN proposed AFTA (ASEAN Free Trade Area) in 1992 with the goal of intra-regional trade liberalization. Although there were initially suspicions toward whether these goals would be met, the elimination of tariffs within the region was nearly achieved by January 2010. During that period, Vietnam, Cambodia, Myanmar, and Laos became members of ASEAN. The ASEAN countries now aim for the achievement of the ASEAN Community by 2015, composed of three elements: a security community, an economic community, and a socio-cultural community.

ASEAN's solidarity has encouraged moves toward broader regional integration including the other countries of East Asia. While Japan had been reluctant to participate in regional economic integration until around 2000, ever since former Prime Minister Koizumi announced the East Asia Community concept in Singapore in 2002, Japan has actively cooperated in initiatives aimed at achieving regional integration in East Asia. The Comprehensive Economic Partnership between ASEAN and Japan came into effect in 2008. China has also shown strong interest in regional integration like this. China proposed the creation of an ASEAN–China Free Trade Agreement at the ASEAN Summit in 2000. Subsequently the Comprehensive Economic Co-operation between ASEAN and China agreement was signed at the ASEAN Summit in 2002 and a free trade agreement came into effect from July 2005. Moreover, the Comprehensive Economic Co-operation between ASEAN and Korea was signed with South Korea in 2004 and this free trade agreement came into effect from June 2007. In addition to eliminating tariffs, these free trade agreements also incorporated clauses that deregulated the movement of people, provided for the protection of intellectual property rights, etc. ASEAN has regularly held East Asia Summits participated in by Japan, South Korea, and China, and in December 2012 a wide-spanning Regional Comprehensive Economic Partnership (RCEP) that includes the ASEAN nations as well as Japan, South Korea, China, India, Australia, and New Zealand was proposed.

Challenges in the formation of an East Asian community

However, the achievement of an East Asian community should not be rushed while emphasizing deepening economic mutual dependencies such as the expanding trade and investment in the East Asian region that have got a head start. As we watch the unraveling of the EU community, it should be remembered that the barriers to be overcome are even higher in East Asia compared to the EU.

This is because there are significant differences in the stages of development and income levels within the East Asian region. Japan and Singapore, with a

per capita GDP of over USD 30,000, coexist with Myanmar and Cambodia, where per capita GDP is less than USD 1,000. Furthermore, East Asia is composed of many diverse cultures. People have diverse senses of values, as evidenced by a diversity of religions that includes Buddhism, Catholicism, Islam, and Hinduism. In addition, there are countries with different political systems. A socialist regime is still maintained in China, Vietnam and Laos. While there are security frameworks in the EU such as NATO (North Atlantic Treaty Organization) and OSCE (Organization for Security and Cooperation in Europe) that cover the region, there are no equivalents in Asia.

From this perspective, the important thing to do now is create relationships of trust for the mutual respect of each other’s culture and society so that a community can be formed. It is likely that time will be required for these relationships of trust to mature. In consideration of the various differing factors in East Asia, it is not very realistic to call for common institutions and laws. Hurrying to create a community under these circumstances could lead to discord and ruin the efforts that have been made.

When limiting the scope to economic integration, integration can be divided into the four stages (Table 5-1); the creation of a free trade area, a customs union, a single market, and an economic and monetary union (Balassa 1962). In the case of East Asia, preparations for the first stage (a free trade area) have just been commenced. Over the near term, it will be essential to deepen actual relationships such as economic relationships. When facing various challenges accompanying economic integration within this process, by establishing cooperative systems and accumulating them, the base for the establishment of a community can be formed. The economic cooperation following the currency and economic crisis that was previously mentioned is a good example of this form of cooperation.

Table 5-1 The Stages of Economic Integration

		Contents
1	Free Trade Area	Elimination of Tariffs among Member Countries
2	Customs Union	Application of Common Tariffs among Non-Member Countries
3	Single Market	Elimination of Non-Tariff Barriers among Member Countries
4	Economic and Monetary Union	Implementation of Common Economic Policy by Member Countries under A Uniform Organization (Such as Single Currency)

Source: Balassa 1962

Regions should work together to prevent outbreaks of infectious diseases such as avian influenza that are a shared threat to economic prosperity as well as other issues such as terrorism. Also, cooperation should be discussed for the purpose of mitigating future risks, such as energy issues, environmental issues, and food supply issues.

Furthermore, the issue of population aging that was examined in this book should also be considered. The reason for this is that it is believed that cooperative frameworks in response to the issues of population aging will promote economic integration in East Asia in the manner described below, as well as contribute to foundation-building for the creation of a community.

The effect of the demographic dividend in East Asia will wane from around 2015. In addition, while the domestic movement of working-age populations encourages growth in urban areas, it is also a factor that accelerates the depopulation of rural areas and causes regional income disparities to expand. The deepening of economic relationships in the East Asian region that is currently ongoing is a form of cooperation between urban areas, with rural areas being left behind. However, on a country level the prosperity of urban areas is indivisible from the growth of rural areas, as urban areas are forced to support the growth of rural areas by the transfer of income through measures such as social security systems. There is no doubt that the gap between urban areas and rural areas will have an even larger effect on the sustainable growth of East Asia going forward. The increasingly serious population aging issue in rural areas is not unrelated to the maintenance of sustainable growth in East Asia as a whole.

Furthermore, expanding our horizons to the rural areas of other countries is an essential step in order to take regional economic cooperation to the next level, that of a community. This is because a community consists of a society in which interests are shared among the people who live within a region and in which it is obligatory to watch over all the members. Of course, rural areas are included in the scope of discussion on an East Asian community. We cannot afford to take the overly optimistic view that economic development in urban areas will eventually expand to rural areas, spreading the fruits of growth everywhere.

As pointed out in this book, if aggressive action is not taken, population aging will advance in rural areas, which could make self-sustained activities difficult. It is unworkable to discuss a community that does not incorporate the elderly that live in other countries. For this reason, how the countries of East Asia interpret and handle the problem of population aging within the region will be a litmus test for how effectively a true community can be formed in this region.

Social welfare network in Asia

Population aging advances regardless of the progress that is being made in economic integration and community building. It also advances regardless of the delays in government initiatives. Meanwhile, regions where the elderly live must depend on their own efforts even more. Considering this, there will likely be even more attention paid to the types of social welfare based on resident areas and community welfare that were examined in this chapter.

Japanese aid organizations have begun to give consideration to the population aging issue in developing countries. The Japan International Cooperation Agency (JICA) has provided elderly social welfare administrative support for Chile since 2004, rural pension system design support for China since 2006, and intellectual aid for community welfare for Thailand since 2007. Countries should summarize the experiences and lessons they have learned in relation to community welfare in their own countries and discuss which experiences can be shared.

Because the form that community welfare should take varies according to conditions such as the region's population size, the age structure, types of occupations, the infrastructure development level, and traditional cooperative frameworks, it is not possible to prepare a common manual for all communities. While activity policy can be indicated for public administrative level initiatives, it is residents that play the central role in coordinating these initiatives and forming plentiful aged societies.

The time has come to approach social welfare as an issue of the Asian region and to form an Asian social welfare network for the purpose of mutual cooperation and strengthened partnerships between governments, NGOs, and NPOs (Hiroi and Komamura ed. 2003). Residents that are busy in their day-to-day lives have limited time for coordination and have accumulated little know-how on the issues. What these people really need is not philosophy and frameworks prepared at the public administrative level, but knowledge and experience that will allow them to respond to the issues that are occurring right before their eyes. For this reason examples of initiatives in each region may be useful for other regions. For example a case study from a village in Okinawa, Japan may be a useful reference point for a village in Chiang Mai Province, Thailand, while a case study from a village in Shandong Province, China may be appropriate for community welfare for a village in Aomori Prefecture, Japan. Bidirectional exchanges of information on community welfare both within and across country borders would be useful. Fortunately, with the advance of globalization it is now possible to instantly share surprising volumes of information using the Internet. In addition, the experiences of NGOs and NPOs active globally also provide a treasury of information. One policy that local government should be called on to implement is the development of infrastructure for exchanging information that can be accessed by community

residents.

Recently, relationships between East Asian countries have transformed from a donor country and support receiving country dynamic to a partnership-based dynamic. Initiatives aimed at creating sustainable local communities capable of withstanding rapid population aging can truly be said to be forward-looking cooperative frameworks based on partnerships. In addition, the transition from welfare state to welfare society is an issue that is shared by developed countries and developing countries. This means that the establishment of welfare societies could be viewed as an issue that developed countries and developing countries may share their wisdom in addressing. Initiatives in response to population aging in East Asia that is becoming an aged society as a result of rapid fertility lowering not only aim to maintain regional growth, but are also forms of cooperation that will contribute to supporting the aged society in their respective countries.

It is hoped that Japan, where population aging has reached the most advanced stage in East Asia, will share its experience and knowledge on community welfare with other countries while establishing a forum that promotes the exchange of information in order to absorb the knowledge and experience of other countries. This form of mutual exchange of experience and knowledge matches with the basic spirit of the East Asian community of thinking together and progressing together.

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This book was originally published by Chuokoron-Shinsha in September 2007. With the consent of the author and the publishing company, OLICD Center translated into English in October 2013. The book has been updated by the author for this English edition.

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