Aging Population in Asia & its Economic Impact

By Takao KOMINE

The global population looks sure to change drastically over the coming years. This report reviews recent changes in the world's demographic structure and dwells on the ongoing aging of the population, mainly in Asia, and its impact on the regional economy.

There are two reasons to focus on Asia. One is that demographic changes in Asia are a step ahead of those in the rest of the world. As we will see below, population aging will progress faster in Asia than in other regions of the world. Thinking of the Asian population amounts to thinking of future changes in the world population. The other reason is that I specialize in Asia in my research work. As a senior economist of the Japan Center for Economic Research (JCER), I worked on a long-term forecast of the world economy in 2006 and 2007. This projection was an attempt to put the Asian economy in perspective through 2050, based on prospective demographic changes in the region. It was published with the title of *"Aging Asia"* by Nikkei Publishing Inc. in 2008. This report is primarily based on the research work.

Outlook of World Demographic Changes

The world population, which totaled 790 million in 1750, more than trebled to 2,521 million in 1950. Annual population growth rates averaged 0.4%-0.8% during this period. The world population grew further in subsequent years as the number of people increased explosively in developing countries after World War II. In the latter half of the 1960s, annual growth rates of the world population averaged 2%, a high rate never seen before.

The global population will continue to undergo major changes in the coming years. According to JCER's long-term economic outlook published in March 2007 with the title *"Demographic Change and the Asian Economy,"* the following changes will occur in the world population over a period of 50 years to 2050.

First, the global population will continue growing, but its growth rate will decline year after year. The world population, which totaled approximately 6.5 billion in 2005, will increase to an estimated 9.4 billion in 2050. The annual growth rate, which stood at 1.3% in 2005, will slow to less than 1% in 2025, falling further to 0.5% in 2050.

Second, as higher income levels gradually push down the birthrate, the number of births will fall on a global scale and more countries will see their population start declining. The ratio of the juvenile population (14 years or younger) to the total world population will drop to 21.0% in 2050 from 28.5% in 2005. The population will actually decrease in more countries. Between 2000 and 2005, 17 countries saw their population contract. The combined population of these countries accounted for a mere 5.1% of the world population. However, the number of such countries will increase to 64 in the 2045-2050 period, accounting for 25.0% of the world population.

Third, aging of the population will progress faster. The world total of aged people (65 years or older) will reach an estimated 1.46 billion in 2050, roughly three times more than in 2005. Their ratio to the total world population will double to 15.5% in 2050 from 7.3% in 2005.*(Chart 1)*

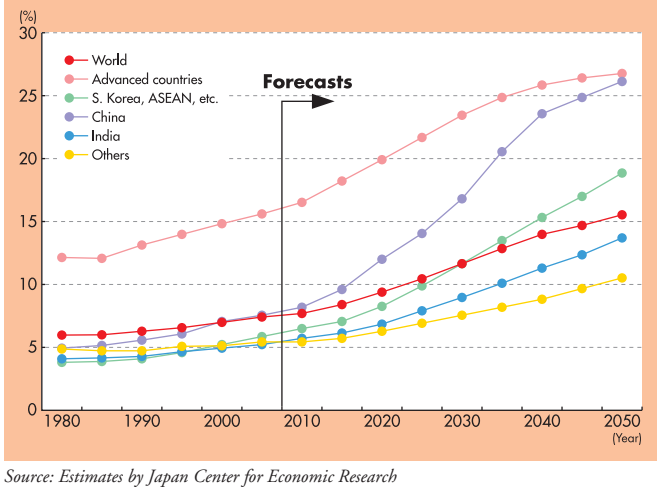
Demographic Changes in Asia & Economic Outlook

Now, we shall see how the population and the economy in Asia will change in the future. Simply put, demographic alterations in Asia in the next 50 years will be of a "flying-geese type." In Asia, sophistication of the industrial structure has progressed in the order of Japan, newly industrializing economies (NIEs), the ASEAN countries and China. This is a flying-geese type of economic development. Its demographic version will occur in the coming years.*(Chart 2)*

Japan will stand at the forefront again in this demographic change. It has led the other Asian countries in the demographic alterations that have taken place in the order of "progress in birth dearth," "transition to aging society," "decline in working population" and "decline in total population." The same things will occur in the same order in other Asian countries. Following Japan will be South Korea, Singapore, Thailand and China which are called the "second group." The birthrate has already begun falling and population aging will progress fast in these countries. They will be followed by the "third group" comprising the ASEAN countries (other than Thailand) and

CHART 1

Changing ratios of aged population (65 years or older) to total population



Source: Estimates by Japan Center for Economic Research

CHART 2

Transitions in Asian national populations

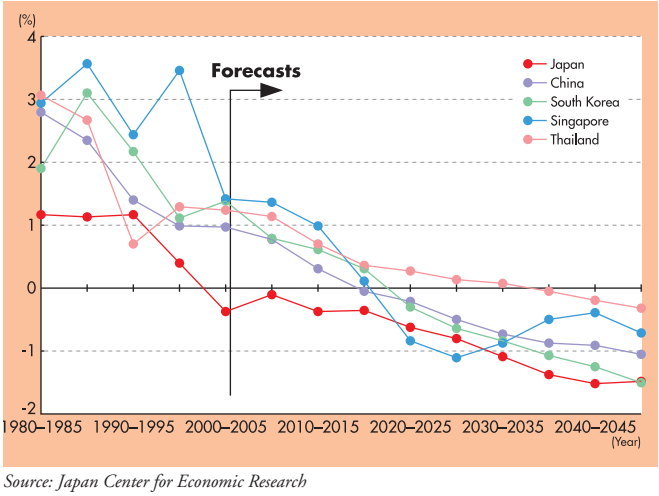
Period	Period when total fertility rate falls below 2.1	Period when elderly population ratio exceeds 14%	Period when labor force begins to decline	Period when total population begins to decline
1950-1955				
1955-1960				
1960-1965	Japan			
1965-1970				
1970-1975				
1975-1980	Singapore			
1980-1985	Hong Kong			
1985-1990	South Korea			
1990-1995	China	Japan		
1995-2000	Thailand			
2000-2005			Japan	
2005-2010	Vietnam			Japan
2010-2015		Hong Kong		
2015-2020	Indonesia	South Korea, Singapore	China, Hong Kong	South Korea
2020-2025	Malaysia		South Korea, Singapore	
2025-2030		China, Thailand		China
2030-2035	India			
2035-2040	Philippines	Vietnam	Thailand, Vietnam	Singapore
2040-2045		Malaysia, Indonesia		Thailand, Vietnam
2045-2050				

Note: Rates of change for the total fertility rate, labor force and total population were measured as five-year averages. The elderly population ratio was viewed by five-year intervals (for 1995, for example, the results are classified as being for 1990-95).

Source: Japan Center for Economic Research

CHART 3

Changes in Asian working populations



Source: Japan Center for Economic Research

India. In these countries, the birthrate will begin falling as income levels go up. Their population aging will progress from 2025 through 2050.

These demographic changes are expected to decelerate the growth of the Asian economy.

A nation's long-term economic growth rate is determined by three elements: labor force, capital and total-factor productivity (technology progress). Demographic changes affect the economic growth rate via two routes. One is a drop in the working population. Japan is already in the phase of diminishing labor force. The second group of countries will enter this phase around 2015-2020.*(Chart 3)*

The other route is through a slowdown of capital accumulation that comes along with a drop in the savings ratio. In an aged society, people who consume their savings outnumber those who save in preparation for old age. This sends the overall savings ratio falling, which in turn works as a drag on capital accumulation.

Let us look at long-term economic growth prospects in Asian countries by taking these elements into consideration. Japan's growth rate will gradually slow as a fall in its labor force population gathers momentum. Its growth rate will drop closer to nil in the 2040s. The countries in the second group will continue to grow 3%-5% annually until around 2020. But their growth rate will inevitably slacken after that. The growth rate in the third group of countries will also ease off as their working population will either hit the wall or decline. But these countries will maintain higher growth rates than the second group.

From Population "Bonus" to Population "Onus"

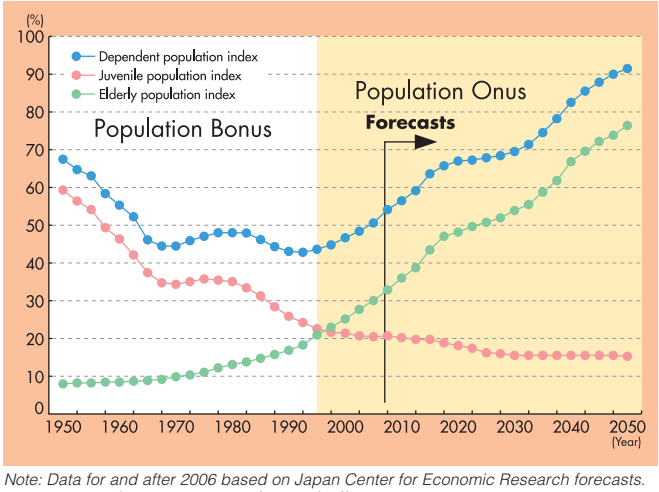
As we have seen, demographic changes will leave the Asian economy at a major turning point. This change in economic society may well be seen as a transition from "population bonus" to "population onus."

Now we will consider the relationship between population and the level of income. An average country first sees a period of population growth as the fatality rate of infants starts declining before the birthrate does. In due course, the people born in this period bring about an increase in the population of productive age. The birthrate begins falling about the same time. The weight of aged people is not so high at this juncture. What happens next will be a drop in the dependent ratio. This is the ratio of the total number of juvenile and aged people to the total number of people in their productive years (15 to 64 years old). Demographers call this a period of "population bonus." During this period, the national economy gets easily activated as the ratio of working people to the total population is high and their burden is relatively small.

Before very long, however, the dependent ratio starts going up as the people who have inflated the population in the initial phase of the demographic change get older while the people born after the start of a decline in the birthrate grow to join the productive population. This ushers in a period of "population onus." In this period, the labor force starts shrinking, adding to the burden to be borne by the working people. The economy gets laden with a heavy burden.

CHART 4

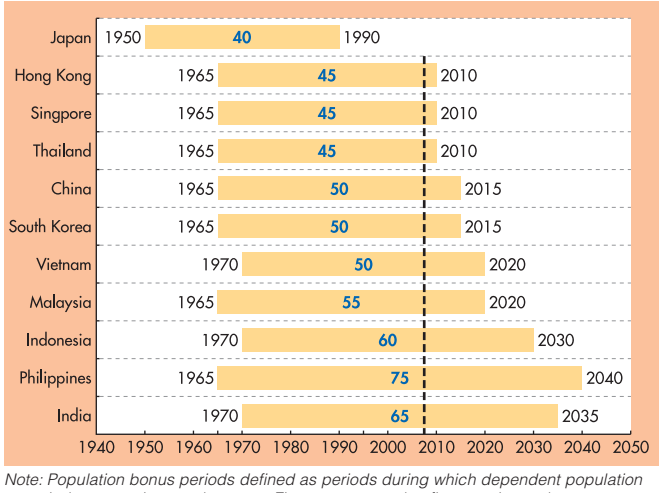
Japan's population bonus & onus



Note: Data for and after 2006 based on Japan Center for Economic Research forecasts.
Source: National Census, Ministry of Internal Affairs & Communications

CHART 5

Overview of population bonus period



Note: Population bonus periods defined as periods during which dependent population indexes continue to decrease. Figures measured at five-year intervals.
Source: "World Population Prospects," United Nations

This time around, the population composition poses a headwind for the economy.

Let us review the case Japan experienced. Japan had a typical population bonus period from 1950 to 1970. However, it has been going through a typical population onus period since 1995. Negative effects of population onus are visible in various facets of the Japanese economy. These include a slowdown in economic growth, a drop in the working population, a gradual decline in the savings ratio, the growing burden borne by working generations over pension, medical care and other costs, and their greater anxiety about the future. *(Chart 4)*

What is the situation in other Asian countries? As *Chart 5* shows, most Asian countries entered their population bonus period between 1965 and 1970. They are still there at the moment. We can say that the high economic growth in those Asian countries has been brought about by their population bonus. For most of them, however, this period will come to an end before long. They will shift to a population onus period one after another. Both Singapore and Thailand will see the shift around 2010, to be followed by China and South Korea around 2015.

Response to Population Onus

To put it in a nutshell, what to do with various problems posed by the population onus is a major challenge those Asian countries will face in the foreseeable future. When they think of their future problems, they can start thinking about what Japan faces today. Here are some of the problems Japan is required to address now.

First come the problems posed by the diminishing number of children. Japan's population began to decline in 2005. It was around that year that Japanese people began to talk about implications of a declining population. The government began to address the issue in real earnest in 2004 when the Cabinet endorsed a policy program titled an "Outline of measures to cope with a society with fewer children." More recently, many Japanese businesses have begun to focus on matters related to the work/life balance, namely how to balance between work and child-rearing.

Second, Japan is working on ways to prevent a slowdown of economic growth by minimizing the adverse effects that the demographic changes may have on productive factors. Japan is already faced with a gradual shrinkage of its labor power, which is bringing about a shortage of hands. The savings ratio is also on the gradual decline. Japan faces the growing need to promote participation in work by women and aged people and make better use of foreign workers. It also needs to develop a better financial market that can attract more investment from abroad.

The third problem concerns pension, medical care, and nursing care for aged people. During its population bonus period, Japan created a pay-as-you-go pension scheme. This system inevitably adds to the burden borne by the working generations in the population onus period. Japan is required to restructure its systems and institutions that were effective in the population bonus period into ones that suit a society with a falling population.

Fourth, Japan needs to respond flexibly to the changes that are happening in its industrial and consumption structures. Some new phenomena are already prominent in Japan. A saturated domestic market has been prompting more manufacturers to go out of Japan. A versatile silver market has been created at home by relatively rich older generations. The medical/nursing care business has been expanding as a new growth industry.

What is being done in Japan will soon be required in other Asian countries and later on in the rest of the world. JS

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