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Direction of Japan's Strategy for Economic Growth towards 2030

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The year 2030 will mark a major turning point in the world economy and society. In 2030, the population of East Asia, which is currently continuing to increase, will shift to a declining trend. With rapid economic growth being achieved in this region, new economic powers will appear on the global map and, at the same time, competition for resources such as energy, water and food will intensify.

The Japanese economy and society will also stand at a pivotal crossroads in 2030. Japan's dependent population index that will remain relatively stable at around 80 percent after 2015 is projected to reclimb starting around 2030. Under restrictions imposed by a limited labor force, Japan faces a need to build economic and social systems in the next 20 years that can withstand and overcome the further difficulties that it will experience after 2030.

A new growth strategy that can take on the challenges of an increasingly aging population and a declining working population must be established for the Japanese economy in order to maintain the social security system and to cope with increasing long-term interest rates caused by decreasing household financial assets. Simply following the past policy and strategy will make it difficult to realize the growth that is required to maintain Japan's social systems.

In view of a declining population and a decrease in the number of households, it is unrealistic to expect private consumption expenditure and foreign direct investment in Japan to significantly increase. Accordingly, focus must be given to "overseas demand," rather than "domestic demand," as a principal source and stimulant for the growth of the Japanese economy.

When targeting overseas demand, the basic approach Japan should adopt is to thrive together with other Asian countries. Efforts must be made to use Japan's technology, experience and expertise to promote further growth in Asia and to provide solutions to the issues that will arise as this region matures. In doing so, Japan should build a strategy of being prosperous along with other Asian countries.

What is the economic strategy Japan should adopt towards 2030? Before discussing this subject, this paper predicts what the world economy and society will be like in 2030, and analyzes the influences that the accelerating trends of an aging population and a declining birth rate will have on Japan. It also presents the concepts based on which Japan should move to achieve economic growth under the many adverse conditions currently facing Japan.

I Maturity in East Asia will Mark a Turning Point in World Economy and Society in 2030

1 A turning point in the world's demographic trends

(1) East Asia to enter a phase of population decline

While Japan has plunged into a period of declining population, the world's population still continues to increase. According to the United Nations population projections, the world population is expected to increase from about 6.9 billion in 2010 to about 8.3 billion in 2030, and will continue to increase thereafter (Figure 1).

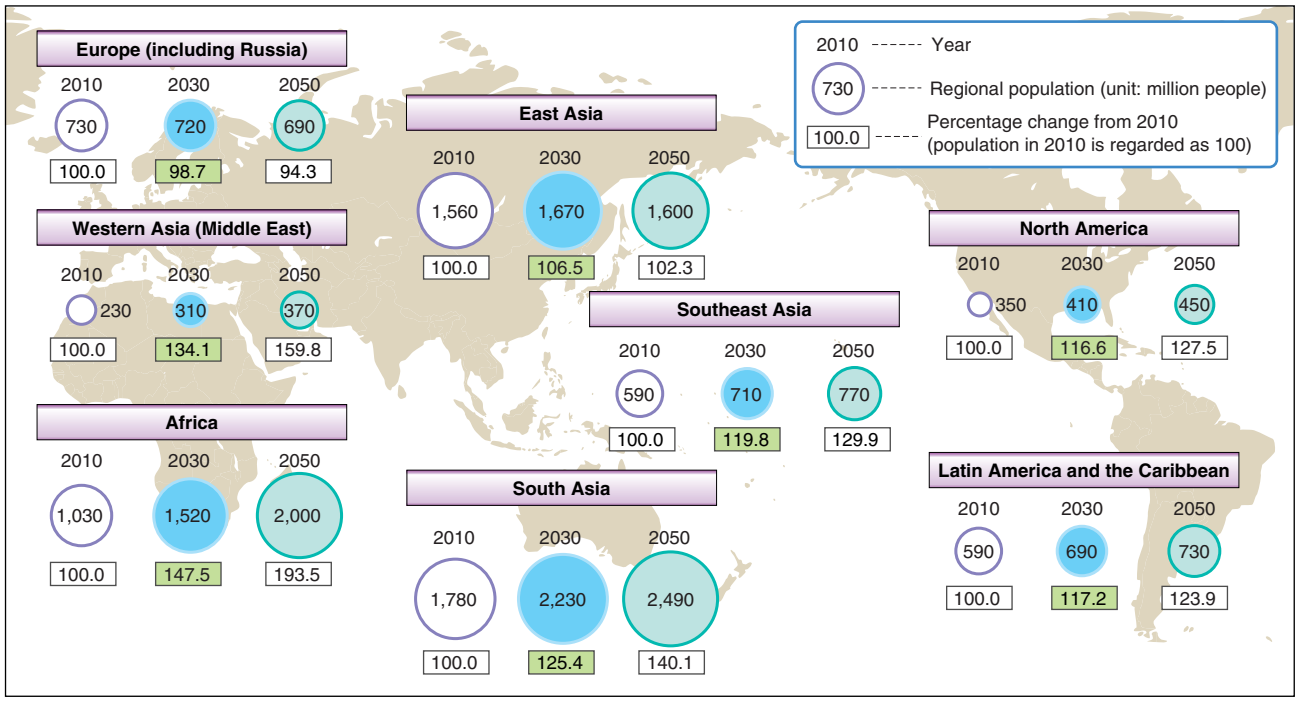
However, when we look at the demographic trends by region, a major change is projected to occur in 2030, which will mark an end to population growth in East Asia. The primary factor for this change is that the population of China, which accounts for the majority of the total population in this region, is projected to peak around 2030 and will begin to drop after that. As Japan already experienced, in 20 years, China's society is expected to experience a declining population primarily due to its one-child policy.

(2) South Asia, Africa and North America continue to see an increasing population

Compared to East Asia, South Asia, which includes populous countries such as India, Pakistan and Bangladesh, will see a rapid increase in population and is projected to have a population of more than 2.2 billion by 2030. In particular, in 2030, India's population (about 1.49 billion) is expected to surpass the population of China (about 1.46 billion), making India the world's most populous country. With a very rapid growth rate, Pakistan's population is projected to increase from about 190 million in 2010 to about 270 million in 2030, which is about a 1.5-fold increase.

In Africa, factors such as the expanded availability of medical services are expected to cause a rapid growth in population. Africa's population, which is now about 1,030 million, is projected to increase to about 1,520 million by 2030 (about a 1.5-fold increase) and to about 2,000 million by 2050 (about a 2-fold increase). Europe (including Russia), which faces the issue of a declining birth rate, as does Japan, is projected to continue to experience a population decrease. In North America, which will continue to see a high birth rate and population influx, the increase in population is projected to continue, exceeding 400 million by 2030.

Figure 1. Population change by region in 2010, 2030 and 2050



Note: The definition of regions is based on that of the United Nations Population Division.
Source: Compiled based on materials published by the United Nations.

2 World's economic center of gravity shifts from the US and Europe to East Asia, and from advanced economies to emerging economies

(1) The rise of populous countries will transform the world economy

Globalization of the world economy can be expected to rapidly shrink the GDP (gross domestic product) gap per capita, with the highest levels of GDP per capita being attained by the US and European countries after the Industrial Revolution. Although the conclusion cannot be reached unconditionally because various political and cultural factors are involved, globalization infers the optimal arrangements of resources beyond national boundaries. From a super-long-term perspective, output per worker in the world will converge at a certain level, and the GDP of any one country can be determined by the number of workers in that country.

Roughly speaking, ultimately, the size of the population of a country determines the level of its GDP. Actually, when we classified the rate of each country's economic growth in the past 20 years according to the level of GDP per capita, we found that categories with lower levels of GDP per capita show higher growth rates and categories with higher levels of GDP per capita present lower growth rates. Based on this comparison, we predicted the GDP of each country through 2030 based on data published by the International Monetary Fund (IMF).

Figure 2 shows GDP projections through 2030 for major developed countries, China and India. In terms of nominal GDP, after being surpassed by China in 2010, Japan is estimated to also be outpaced by India shortly before 2030, falling to the rank of the world's fourth largest economy by nominal GDP. If China's economic growth were to continue despite the fact that the country faces various uncertainties such as the prospects of renminbi, taxation and unstable domestic affairs due to the growing gap between rich and poor, China's GDP is expected to reach almost the same level as that of the US around 2030. If this becomes a reality, world economy will enter the era of two major economic powers—the US and China.

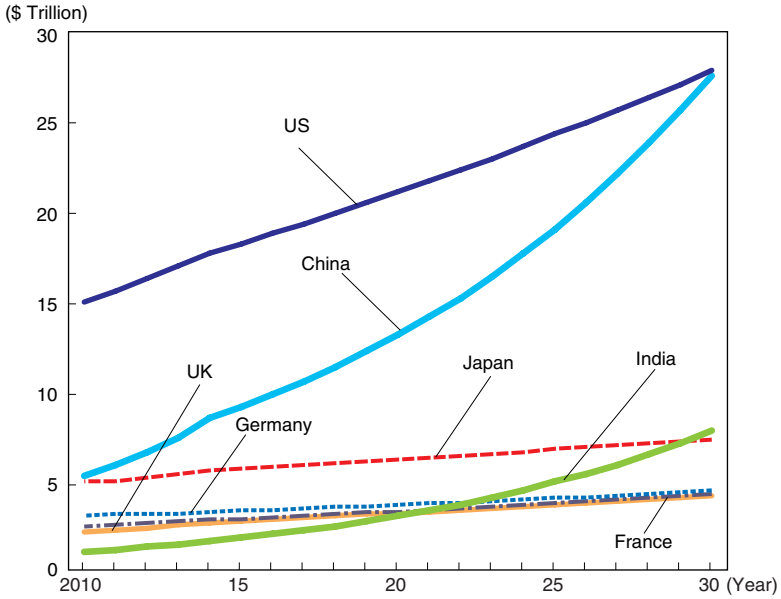
(2) East Asian economies and emerging economies to assume greater prominence

When we look at GDP share by region, we find that as of 2010, Europe accounts for 32.1 percent of the world total GDP and North America accounts for 27.3 percent. These two regions represent around 60 percent of the world total. However, in 2030, the share of East Asian GDP is expected to increase from 19.1 percent in 2010 to 23.3 percent. Accordingly, East Asia will rise as the region having the world's largest GDP by surpassing Europe (22.5 percent in 2030) and North America (19.2 percent in 2030) (Figure 3).

The total GDP of BRICs (Brazil, Russia, India and China) and VISTA (Vietnam, Indonesia, South Africa, Turkey and Argentina) is also projected to increase to the same level as that of the G7 (a group of seven major industrialized countries). World economy, which has been led by Western developed countries after the Industrial Revolution, is expected to undergo a major change. If viewed from the size of GDP, East Asia will be a major region that drives world economy, and emerging economies, rather than the current developed countries, will be major players in the world market.

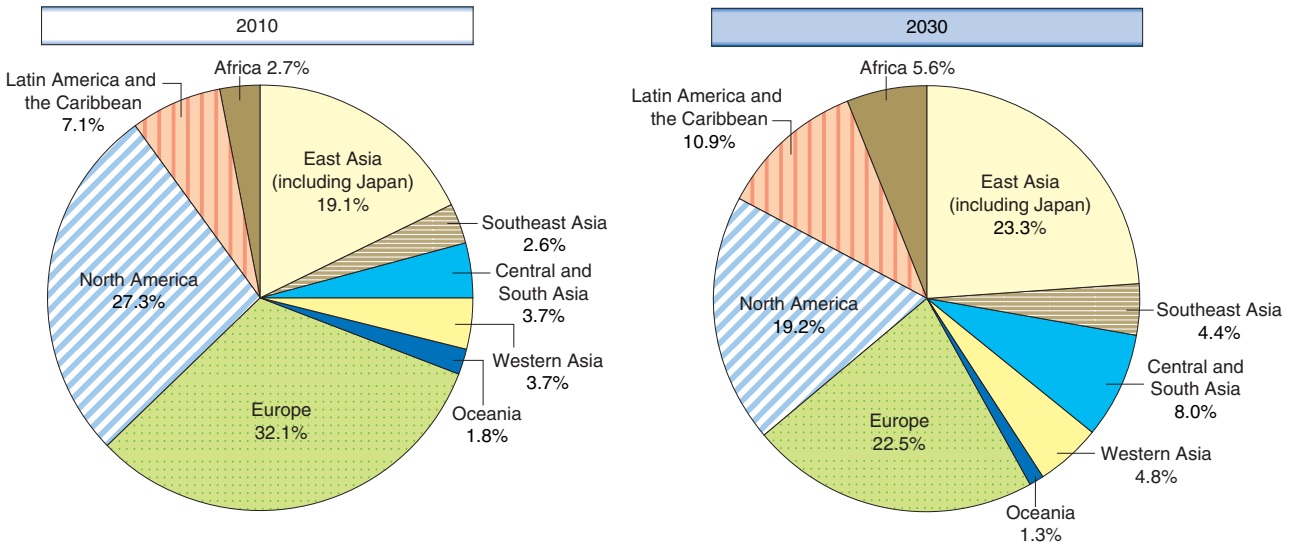
While rapid growth can be expected for Central & South Asia including India and Africa, the GDP share of the world total as of 2030 is estimated to be 8 percent and 5.6 percent, respectively. Accordingly, in terms of

Figure 2. Nominal GDP projections for major developed countries, China and India



Source: Estimated based on the World Economic Outlook Database published by the International Monetary Fund (IMF).

Figure 3. Projected change in share of each region in world total GDP



Source: Estimated based on the World Economic Outlook Database published by the International Monetary Fund (IMF).

the size of GDP, a large gap still exists as compared to East Asia, Europe and North America. While this paper does not touch on the details, we consider that it will take about 20 more years after 2030 for these two regions to show a significant presence in terms of not only growth potential but also the size of GDP.

3 Increasingly intense global competition to acquire energy and food expected to occur

(1) Rising energy prices due to the tightening balance between supply and demand

As the economies of emerging countries and developing countries grow, the demand for resources required for production and consumption activities is expected to substantially increase. According to the 2009 edition of the World Energy Outlook published by the International Energy Agency (IEA), global primary energy consumption is projected to increase by 40 percent from more than 12.0 billion tons of oil equivalent in 2007 to 16.8 billion tons of oil equivalent in 2030. A major part of this increase is expected to be accounted for by China and India where economic growth continues. Around 2025, China is projected to surpass the US and become the world's largest importer of oil and gas. In 2020, India is expected to top Japan and become the world's third largest importer of oil and gas. The fact that this change in rankings is about 5 to 10 years earlier than the change in rankings in terms of GDP is considered attributable to the difference in the efficiency of the energy required to produce output as measured by GDP.

Due to such an expansion in demand, from a long-term perspective, IEA predicts that oil prices will increase to $100 per barrel in 2020 and $115 per barrel in 2030. For Japan, which is dependent on imports for most of its primary energy resources, sharp rises in energy prices including those of oil are a matter of vital importance.

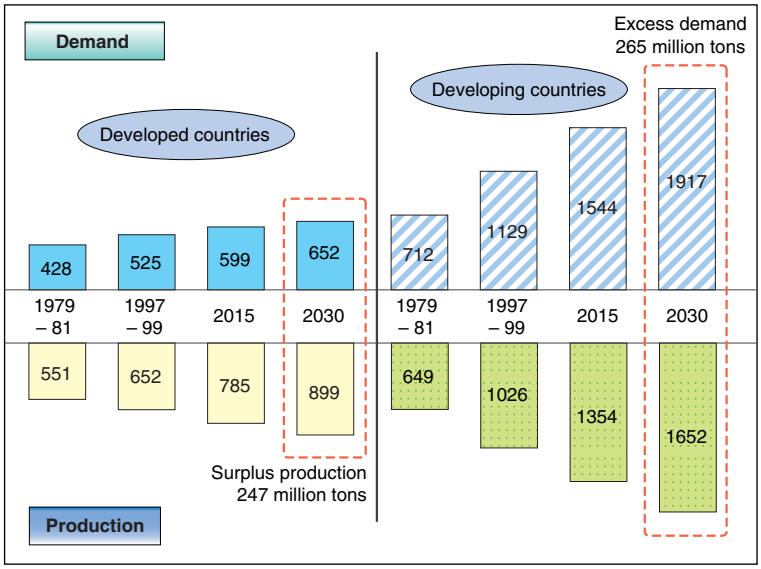
(2) Intensifying global competition to acquire water resources and food

In the same way as for energy resources, the demand for water and food is also expected to increase substantially as the population increases and the economy grows in emerging and developing countries. While Asian countries are blessed with relatively abundant precipitation, usable water resources are limited because water intake, purification, transportation and storage technologies are underdeveloped. On the demand side, however, large increases are expected in demand for agricultural water in the agricultural areas centered in Southeast Asia. In these areas, how best to secure water resources and effectively use such resources will become a major issue.

Japan is not unconcerned about the water issue. Water resources are reasonably abundant in Japan, and the country employs advanced water use and recycling technologies. Accordingly, it is extremely unlikely that Japan may fall into a chronic water shortage by 2030. However, Japan is the world's biggest importer of food, and the country is supported by food that is produced by using water resources in each producing country. The concept of "virtual water" was created by Professor Emeritus Anthony Allan at the School of Oriental and African Studies, University of London, to imply international water flows through the imports of water-intensive products. Japan's Ministry of the Environment estimates that the volume of virtual water as of 2005 is about 80 billion cubic meters, which is nearly the same level as the country's annual water consumption.

Growing global water shortages will seriously affect the agricultural sector, which is the biggest user of water, giving rise to various problems such as food shortages and increased food prices. The world water issues are a

Figure 4. Projected cereal supply-demand balance in developed and developing countries (1979 – 2030)



Source: The World Meteorological Organization (WMO), 1996, and "World agriculture: towards 2015/2030. Summary report," 2003, Food and Agriculture Organization of the United Nations (FAO).

matter that cannot be overlooked for Japan, which is the world's largest importer of food.

With reference to food, in addition to the concerns over a stable supply due to limited water resources, the projected increase in demand presents another problem. Coupled with population growth, the increase in meat consumption due to a change in food culture in emerging countries is considered the primary factor that tightens the supply-demand balance of the world's food. A large amount of cereal is necessary for meat breeding. To produce cereal, vast agricultural land, water resources and human resources are used. According to the Food and Agriculture Organization of the United Nations (FAO), the demand for cereal is expected to exceed the supply by 2030, and the supply-demand balance will be reversed (Figure 4). Some countries have already started to take action to restrict food exports.

For Japan whose food self-sufficiency rate on a calorie basis is on the level of 40 percent, as we move toward 2030, the country's food security is at stake.

II Japan to Face Demographic Crisis in 2030 due to Falling Birth Rates and Aging Population

1 Total population and working age population will decline at an unprecedented pace

(1) Total population to decline by 9.4 percent in 20 years by 2030

As described in Chapter I, a major turning point in the world economy will occur in the year 2030. Similarly, the Japanese economy will be at a major crossroads in 2030. In this chapter, we analyze Japan's situation in 2030 primarily from the demographic perspective and the challenges facing Japan.

According to the "Population Projection for Japan (2008, medium variant projection)," published by the National Institute of Population and Social Security Research, Japan's total population will decrease by about 12 million in 20 years—from 127.18 million in 2010 to 115.22 million in 2030—a rate of about 9.4 percent. The declining population scale of 12 million is larger than the population of countries such as Greece (11.16 million), Portugal (10.71 million) and Belgium (10.65 million) and is comparable with the population of Tokyo Metropolis (13.04 million) and the Kyushu region (13.35 million). In addition, Japan's projected population of 115.22 million in 2030 is almost the same size as that in 1980. In the 20 years following 2010, it is projected that Japan will face the most rapid and large-scale population decline that any country has never experienced.

(2) Working age population is fixed until at least 2030

In light of this situation, high expectations are being given to support measures for child-rearing families such as the "child allowance" initiated by the Democratic Party of Japan government. While there are various arguments about how best to finance and operate this program, it is incontrovertible that the government must make an all-out effort to improve the birth rate. If these support measures turn out to be effective, it might be possible to avoid such a rapid and large-scale decline in population. However, it will be only after 2030 that the children born in and after 2010 become old enough to enter the labor market.

The working population or labor force, which refers to people who have the will and ability to work, is determined by the working age population and the labor force participation rate. It might be possible to increase the labor force participation rate through the combined efforts of the government and the private sector to encourage women and seniors to enter the labor market. However, the working age population is fixed at present for at least 20 years, until 2030.

While the opening of the labor market, which is a policy to adopt a positive approach to accepting skilled foreign workers, remains a means of making up for a declining working population, significant discussions have not yet been held on this matter. It is extremely unlikely that Japan will accept a large number of foreign workers within a few years. Japan has no choice but to steer its economy and society for the next 20 years under the restrictions imposed by a largely declining working population.

2 Japan's increasing trend toward an aging population to undergo a turnaround

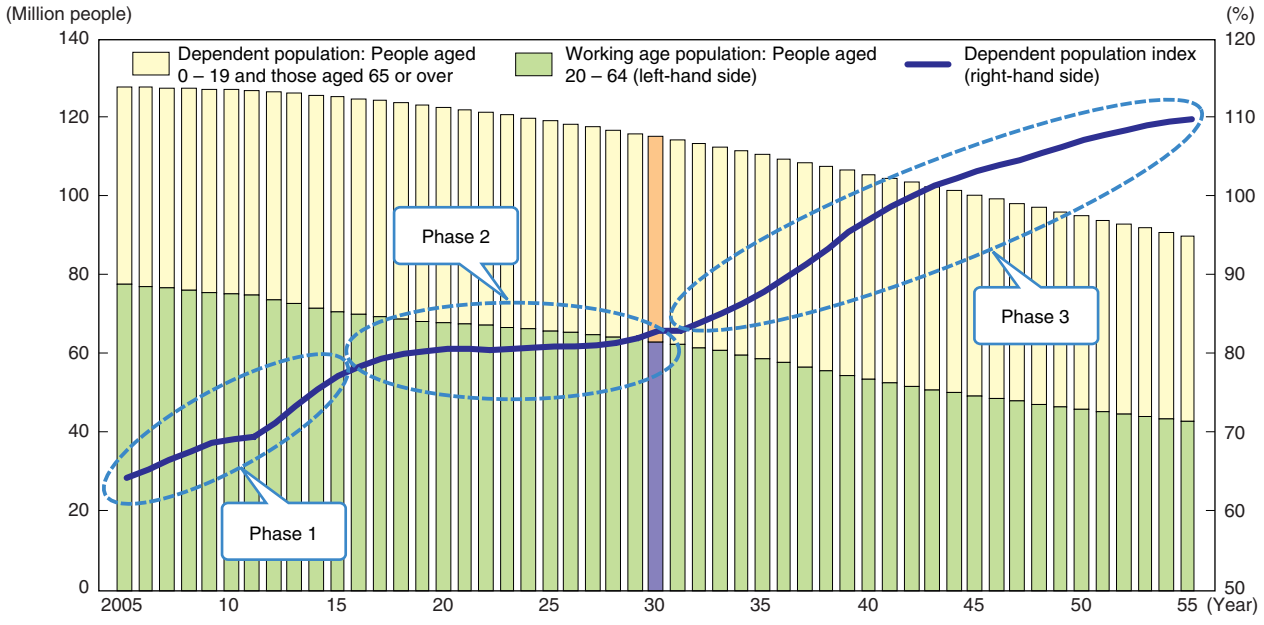
(1) Dependent population index to start reclimbing in 2030

"Dependent population" refers to people aged 0 – 14 and those aged 65 and over. In other words, they do not fall under the category of working age population (those aged 15 – 64) and have little or no possibility of entering the labor market. In this paper, however, projections are made by defining dependent population according to the situation that is closer to reality. That is, consideration is given to an employment ratio of people aged 15 – 19 and the ratio of this category who go on to high school and university. Rather than using a generally accepted definition of working age population (people aged 15 – 64), this paper defines working age population as people aged 20 – 64, which is closer to the actual situation.

Figure 5 shows changes over the period from 2005 to 2055 in the dependent population and working age population, as well as those in the dependent population index that is calculated by dividing the dependent population by the working age population over the same period. The dependent population index is the ratio of the dependent population who is unemployed or has a low employment ratio to the working age population who has a high employment ratio. This index is a basic indicator that shows the degree of social and economic burden. The higher the dependent population index, the heavier the social and economic burden imposed on the working age population.

After World War II, Japan's dependent population index continued to decline rapidly due to the effect of fewer children. The index fell to its lowest level during the period from 1990 to 2000. However, the year 2000 marked a turning point and, since then, the pace of population aging began to exceed that of the falling birth rate. As a result, the dependent population index shifted to an increasing trend. The demographic bonus period (where there are few children and seniors with a large working age population; economic activities are active) has completely ended. Japan has clearly shifted to the demographic onus period (where the number of seniors increases and the working age population declines; economic activities are stagnant). In particular, because of the large population size, the aging of the baby boomer

Figure 5. Projections for dependent population indices in the period 2005 – 2055 (working age population is defined as those aged 20 – 64)



Source: Compiled based on the "Population Projection Database (medium fertility and medium mortality assumptions)" published by the National Institute of Population and Social Security Research.

generation and people in the age bracket close to baby boomers has a substantial impact. The dependent population index that was around 64 percent in 2005 is projected to increase to about 77 percent in 2015.

We call the period through 2015 where the dependent population index will continue to rise "Phase 1."

Subsequently, from 2015 through 2030, the dependent population index will hover around 80 percent. The major factors for this stability include that the number of people who joins the category of seniors will start decreasing around 2015, and the declining number of seniors will be offset by fewer children due to falling birth rates. Another factor is that the mortality rate of the baby boomer generation will start to increase around 2020. We call this stable period "Phase 2."

Incidentally, the dependent population index in 1960 (about 84 percent) is slightly higher than the projected value for 2030. However, in 1960, the population aged 0 – 19 accounted for about 40 percent of the total population, which is far larger than about 14 percent, which is the projected value for 2030. On the other hand, the elderly population, aged 65 and over, accounted for only about 6 percent in 1960, while the projected value for 2030 is about 32 percent.

We call the period after 2030 "Phase 3." During this phase, the dependent population will again start to increase. This is because baby boomer juniors and people near their age are expected to reach retirement age and enter the category of seniors. Around 2040, the dependent population index is projected to reach nearly 100 percent, causing Japan to be a society where one person of working age must support one or more dependents (children and seniors). Naturally, the burden imposed on the working age population will become extremely large. Without a substantial improvement in productivity in overall society, it will be difficult to keep the current level of per capita GDP, i.e., an individual's current living standard.

(2) Avoiding a crisis scenario by working out ways and means to support child-rearing families

In order to prevent such a crisis scenario from being reality, it is urgently required that Japan act to support families raising children and to create an environment that increases the number of children joining the labor force after 2030. For this purpose, however, we must find the ways and means of covering the cost of supporting the juvenile population, i.e., "investing in the future."

Fortunately, the current projections indicate that the dependent population index will remain stable during Phase 2 (2015 – 2030). It would be the last opportunity for Japan to disburse a certain amount of cost during this phase to raise the children who would constitute the labor force in the next generation. While the working age population (which equals the working generation) is defined as those aged 20 – 64 in this paper so as to reflect the actual situation, studies are also necessary to create an environment where people can continue to work after reaching 65. According to the "Abridged Life Tables for Japan 2008" published by the Ministry of Health, Labour and Welfare, the average life expectancies for men and women at age 65 are 18.6 and 23.64 years, respectively. A previous model that was built on the assumption that the average life expectancy is shorter and that the period during which a person belongs to the dependent population category after retirement is about ten years has already collapsed. While the details are not discussed in this paper, the government must take the initiative to fully utilize the abilities of seniors such as by guiding retirees to social businesses (meaning activities to address social issues while securing profitability as a business) and encouraging seniors to start up businesses.

3 Economic growth is essential for the sustainability of the social security system

The first concern that comes to mind over the increasing number of seniors and the declining number of people of working age is the sustainability of the social security system. According to "FY 2009 Financial Verification Report—Current Financial Status and Review of National Pension and Employees' Pension Schemes (Detailed Edition)," published by the Ministry of Health, Labour and Welfare, the financial balance of public pension schemes is projected to remain positive until 2030. This report examined several cases with differing levels of fertility rates and economic conditions. Figure 6 illustrates the case of "low fertility and a pessimistic economy," which is the worst case assumed in the report. Even if calculations are based on this worst case, the financial balances of public pension schemes can remain positive for the next 20 years.

However, attention must be given to the economic assumptions adopted for this case, which are an inflation rate of 1.0 percent and a real wage growth rate of 1.1 percent. Given that the real wage growth rate is closely linked with the growth rate of the real GDP, "a real GDP growth of 1 percent and a nominal GDP growth of 2 percent" can be considered as a gauge to foresee the sustainability of pension finance. If the actual performance of economic activities continues to fall short of the "worst case" assumed in this report, the sustainability of the public pension system cannot be guaranteed.

According to the latest Annual Report on National Accounts published by the Cabinet Office of the Government of Japan, Japan's economic performance in the last decade was "a real GDP growth rate of 0.8 percent and a nominal GDP growth rate of minus 0.4 percent." Financial projections of the public pension system based on these figures were not published in the report. It is not the intention of this paper to provide such projections. However, at least it can be said that merely maintaining

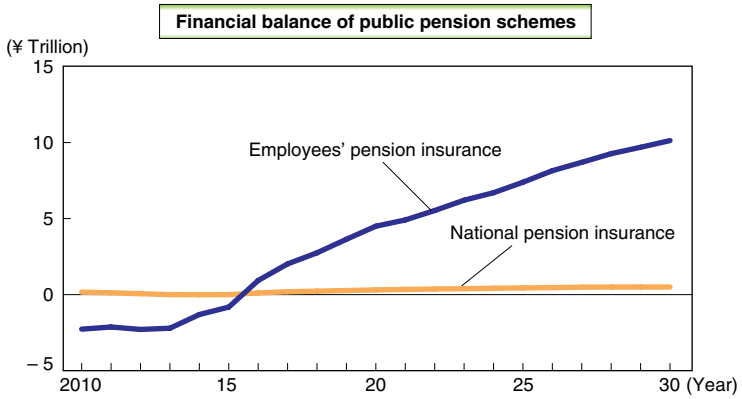
the growth trends of the last decade will be far from achieving a sustainable social security system.

4 Household financial assets will decrease due to falling birth rates and an aging population

"Ample household financial assets" is sort of an introductory term used as a safeguard when concerns are expressed over the Japanese government's fiscal problems and the issuing of new government bonds. However, eventually, this concept is no longer likely to be dependable. Because of a rapidly aging population and increasingly fewer children, the percentage of households that are drawing on their savings is increasing in society overall. Accordingly, it is highly likely that household financial assets will decrease in the future.

We estimate that the increasing trend toward withdrawing savings will lead to a decrease in household financial assets by about ¥330 trillion in 2030 as compared to 2008. Even if it is assumed that the current demand for funds remains unchanged, there will be a shortfall of about ¥240 trillion in 2030 (see the right-hand side of Figure 7).

Figure 6. Financial balance of public pension schemes and economic assumptions (case of low fertility and pessimistic economy)

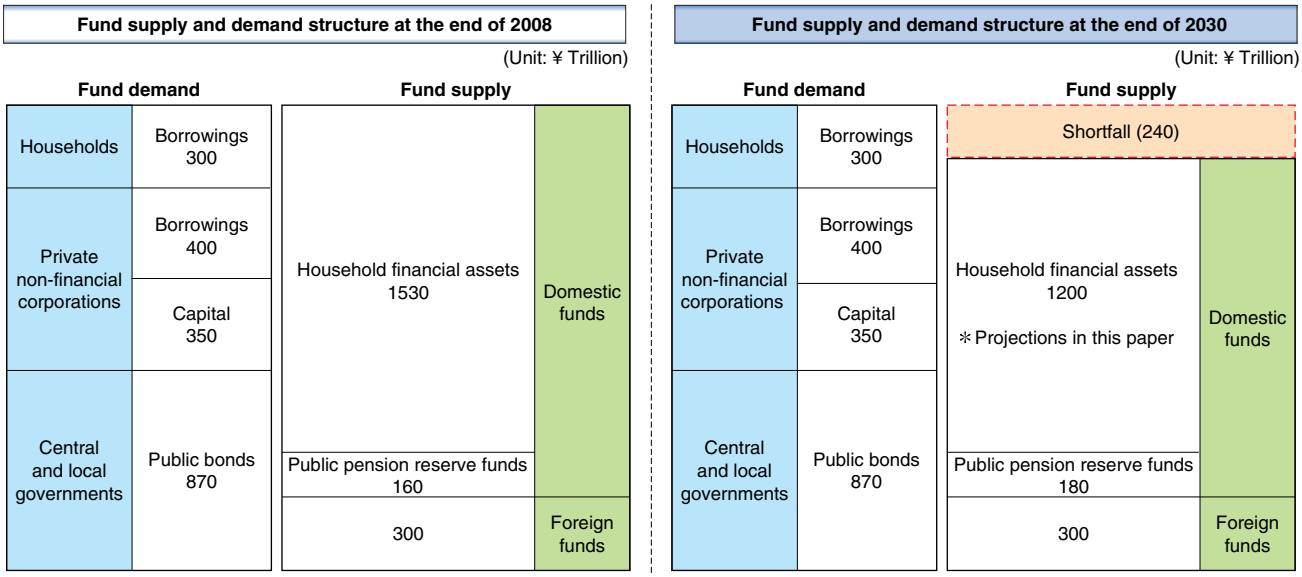


Long-term economic assumptions

Inflation rate	Wage growth rate	Yield on investment	Note
1.0%	Nominal: 2.1% Real (adjusted for inflation): 1.1%	Nominal: 3.9% Real (adjusted for inflation): 2.9%	Median value for the case where total factor productivity (TFP) growth is 0.7%

Source: Compiled based on "FY 2009 Financial Verification Report—Current Financial Status and Review of National Pension and Employees' Pension Schemes (Detailed Edition)" published by the Ministry of Health, Labour and Welfare.

Figure 7. Fund supply and demand structure at the end of 2030



Notes: 1) The fund demand as of the end of 2008 is assumed to have remained unchanged. 2) The above figure indicates only the concept of the fund supply and demand structure; the total amounts of fund demand and that of fund supply are not necessarily identical.
Source: Projections by Nomura Research Institute.

A major effect that will be caused by this shortage of funds is a rise in long-term interest rates. Because insufficient domestic funds are to be sought by both the private sector (households and companies) and the public sector (central and local governments), both sectors must inevitably struggle to acquire required funds from a limited pie.

A rise in long-term interest rates means that Japan can no longer rely on "low interest rates that depend upon domestic funds," and is nothing more or less than that Japan faces the need to seriously address its fiscal reform on the assumption that the above safeguard is no longer available. As we move into an increasingly aging society, a certain amount of increases in medical care expenditures and social security costs is unavoidable. Given this situation, it is difficult to realize fiscal reform only by reducing expenditures. Accordingly, to successfully implement fiscal reform, more importance should be given to increasing the nominal economic growth rate, that is, expansion of the pie (GDP growth).

III Need to Grow beyond the Scenario of Maintaining the Status Quo

1 Economic growth is essential to maintain the country's basic social framework

As of the end of 2008, the total outstanding amounts of public bonds issued by the Japanese government and local governments stood at about ¥870 trillion. The ratio of public debt to nominal GDP for 2008 exceeded 170 percent. In order to fend off financial collapse, the Japanese economy must continue to grow steadily.

As described in Chapter II, the design of Japan's public pension system is based on the assumption of "an inflation rate of 1.0 percent and a real wage growth rate of 1.1 percent" in the case of a low fertility rate and a pessimistic economy. Accordingly, the minimum requirement to ensure the sustainability of pension finance is to achieve "a real GDP growth of 1 percent and a nominal GDP growth of 2 percent." If Japan fails to achieve this level of growth, the public pension system itself might collapse. In other words, the minimum requirement for Japan to maintain its current basic framework as a nation is to continue to achieve growth of 1 percent on a real basis and growth of 2 percent in nominal terms every year, rather than maintaining the status quo (zero economic growth).

2 Japanese people expect the country's economy to grow at the same level as those achieved by other developed countries

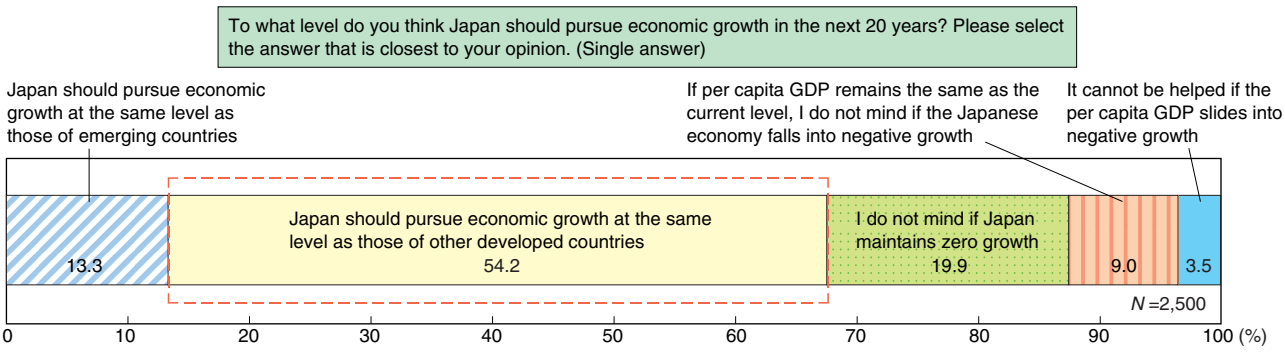
According to the Survey of the Opinions on Japan's Future Status conducted via the Internet by Nomura Research Institute (NRI) in 2009, more than 50 percent of respondents selected the answer "Japan should pursue economic growth at the same level as those of other developed countries" for the next 20 years. On the other hand, respondents who selected negative answers, i.e., either "if per capita GDP remains the same as the current level, I do not mind if the Japanese economy experiences negative growth" or "it cannot be helped if the per capita GDP slides into negative growth," represented only slightly more than 10 percent (Figure 8).

During the five years from 2003 to 2007, the average annual growth rate of the G7 countries was 2.1 percent (on a local currency basis and in real growth terms). If we consider that "economic growth at the same level as those of other developed countries" is the growth rate of the G7 countries, the survey findings reveal that more than half of Japanese people expect to achieve an average annual growth rate of around 2 percent (in real terms).

3 To achieve economic growth, new industries must be created, new markets must be developed and productivity must be improved

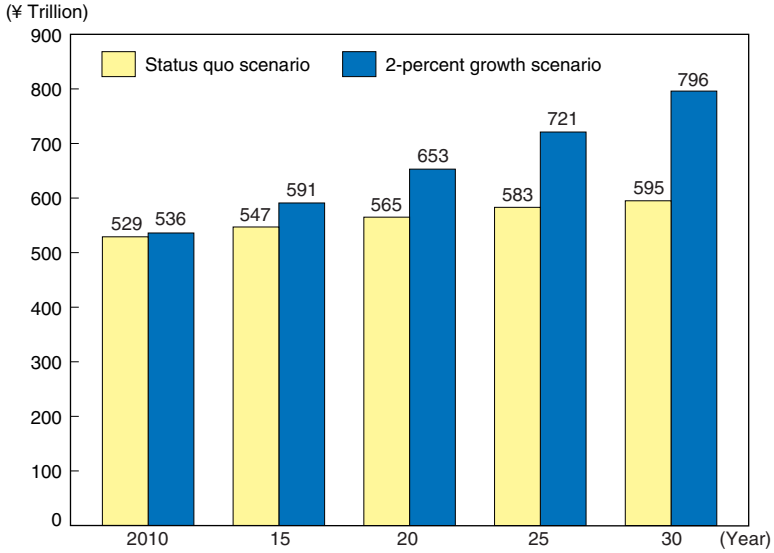
In the New Growth Strategy (Basic Policies) adopted by the Cabinet led by then Prime Minister Yukio Hatoyama

Figure 8. Economic growth rate expected by Japanese people



Source: "Survey of the Opinions on Japan's Future Status" conducted by Nomura Research Institute in October 2009.

Figure 9. Difference between a 2-percent GDP growth scenario (on a real basis) and a status quo scenario



Source: Compiled based on various statistics.

in December 2009, it was stated that Japan aims to achieve an annual average "GDP growth rate of more than 3 percent in nominal terms and more than 2 percent in real terms" over the period until 2020.

While this target is extremely high, if this goal were achieved and the GDP were to grow at an annual average rate of 2 percent (in real terms) until 2030 (this case is called the 2-percent growth scenario), Japan's GDP would reach about ¥800 trillion in 2030.

On the other hand, under the scenario in which productivity per worker grows at the same level as that of the period between 1990 and 2008 (this case is called the status quo scenario), Japan's GDP would be limited to about ¥600 trillion in 2030 (Figure 9). If Japan were to maintain the same level of productivity improvement as that achieved in the past 20 years, it would face a shortage of about ¥200 trillion less than the target GDP of around ¥800 trillion.

In order to realize an annual average growth rate of 2 percent (on a real basis), a major structural change that is clearly distinct from the past trends is required. Economic growth can be driven by both domestic demand and overseas demand. However, economic growth led by domestic demand faces a limit. The reasons for such a limit are explained in the next chapter.

IV Limit in Strategy for Economic Growth Led by "Domestic Demand"

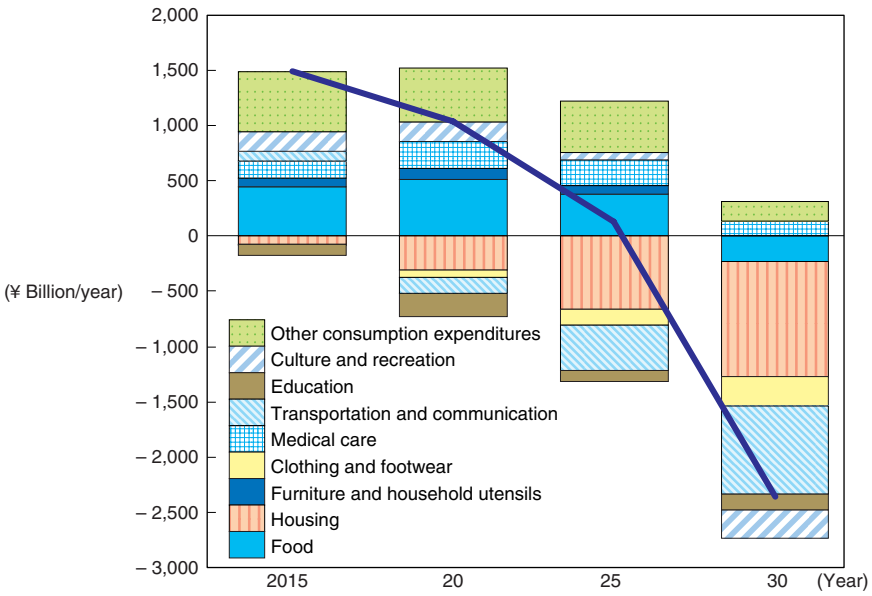
1 Major increase in household consumption can no longer be expected

When GDP is considered from the demand aspect, household consumption (more precisely, this refers to "private final consumption expenditure (PFCE)") represents the largest share or about 60 percent of GDP. For that reason, in this section, this household consumption is analyzed. Figure 10 shows the projections for increases/decreases in household consumption through 2030 as compared to 2010. These projections are based on itemized consumption expenditures by age of the head of household that were published in the Family Income and Expenditure Survey in 2009 by the Ministry of Internal Affairs and Communication and changes in the number of households by age of the head of household in Japan that were published by the National Institute of Population and Social Security Research.

Although Japan has already entered a phase of population decline, the number of households will continue to increase until 2015. Partly because of this increase, household consumption is projected to increase by about ¥1.5 trillion in 2015 over 2010. Subsequently, however, once the number of households starts falling, consumption in items such as "housing" and "transportation and communication" will decrease considerably, causing total household consumption expenditures in 2025 to drop to almost the same level as that in 2010. In 2030, the total expenditures will fall below the level in 2010.

These projections are based on household consumption expenditures in 2009 and assume that current consumption behavior will continue for 20 years without giving consideration to structural changes such as that in the social security system or to consumption stimulation by the offering of new products and services. Accordingly, it is inevitable that discrepancies will arise from these projections. Nevertheless, declining population, the shrinking number of households and the increasing percentage of aged population constitute an unavoidable major trend. Given this situation, it is reasonable to

Figure 10. Changes in household consumption expenditures as compared to 2010



Source: Projections are based on the Family Income and Expenditure Survey in 2009 published by the Ministry of Internal Affairs and Communications and materials published by the National Institute of Population and Social Security Research.

assume that substantial increases in household consumption expenditures are difficult to assume at least until 2030.

2 Housing investment, public investment and corporate capital investment continue to decline

This section analyzes gross fixed capital formation (GFCF), which accounts for about 20 percent of GDP. GFCF primarily consists of housing investment, public investment and corporate capital investment. Among these major fields, it is difficult to expect any increase in housing investment as we move towards a period when the number of households will decline. According to the National Accounts of Japan, published by the Cabinet Office of the Government of Japan, housing investment peaked in 1996 in both real and nominal terms and, since then, it has decreased significantly. When we look at the large number of homes already in stock, we find a low possibility of creating any new demand except in some large cities such as Tokyo.

After reaching a peak in fiscal 1995, public investment has also continued to decline as affected by the reduction in public projects undertaken by the government. In fiscal 2008, such investment fell to half of its level in fiscal 1995. Given Japan's markedly deteriorating fiscal condition, it is hard to say that relying on public investment as the core driving force of long-term growth is realistic.

Compared to housing investment and public investment, capital investment by Japanese companies is relatively increasing at a steady pace. After reaching a peak around fiscal 1990, it once dropped due to the effect of the collapse of the bubble economy. However, it has gradually recovered and, in fiscal 2008, it surpassed the level in fiscal 1990 on a real basis. Nevertheless, we foresee that its future is not bright. Moves have already begun in the Japanese manufacturing industry to relocate not only manufacturing bases but also R&D centers overseas. In addition, the Japanese service industries that were mostly oriented toward domestic markets in the past as compared to the manufacturing industry started to invest in overseas markets, mainly in the coastal areas of China. When consideration is given to stagnant Japanese markets, accelerated moves toward globalization and the expanded markets and improved technologies of emerging countries, from a long-term perspective, it is reasonable to assume that we cannot stop the trend of shifting the focus of investment destinations to overseas markets.

3 Foreign direct investment in Japan is still at a low level

Foreign direct investment (FDI) in Japan is expected to make up for the outflow of domestic capital. While this inward FDI is on an increasing trend, it still remains at a low level with only a small growth rate. According to data published by the Japan External Trade Organization (JETRO), as of 2008, Japan's inward FDI stock as a percentage of GDP is 4.1 percent. While the ratio increased from 1.1 percent as of 2000, it is at an extremely low level as compared to the world average (24.5 percent) and the average of developed countries (24.7 percent). Without needing to mention that the ratio in the UK is 36.9 percent and is 34.7 percent in France, it is obvious that Japan's ratio is low even if compared with that in the

US whose ratio is 16.0 percent and in Korea at 9.8 percent.

Furthermore, in recent years, Japan has become less attractive to foreign investors. A growing number of foreign companies are now establishing not only their production bases but also R&D centers and regional headquarters in China, especially in the major coastal cities such as Shanghai. We must acknowledge that Japan's position as an Asian hub for global business has relatively declined. Other GDP elements include government final consumption expenditure (GFCE). Similar to public investment, however, it would be difficult to expect GFCE to function as a stimulant for economic growth. In view of these circumstances, it is reasonable to conclude that it would be difficult to expect economic growth by relying only on "domestic demand" or the inflow of foreign capital into the Japanese markets.

Naturally, the government must take actions quickly such as implementing structural reform to encourage capital investment by companies and revising corporate tax rates to increase inward FDI. Nevertheless, with the Japanese economy facing two shrinking factors of a declining population and a relatively lessening market scale, there would be a limit in seeking a principal source and stimulant of economic growth from Japanese markets.

V Pursuing Economic Growth Driven by Overseas Demand Primarily in Asian Markets

As described so far, major changes are occurring in the world economy and society. Under these circumstances, it is difficult for Japan to envision its own economic growth that relies on "domestic demand." Rather, Japan should pursue economic growth that is driven by "overseas demand." The next question is in which areas of the world should Japan aim for demand as a stimulant of economic growth. The answer is Asian markets.

The high economic growth potential in Asia is not the only reason that Japan should target the Asian markets. Close networks have already been established between Japan and other Asian countries through direct investment by Japanese manufacturers. Based on these networks, the flow of goods and people is active. Furthermore, there are many common factors in terms of culture and climate as well as similarities such as high-density urban structures principally in coastal areas. Japan and other Asian countries should aim to thrive together by building a complementary relationship.

The Asian economy is achieving rapid growth. Achieving growth at a rapid pace causes various inefficiencies and problems in internal systems. Japan should take on the challenge of developing solutions to these problems and promoting the growth of Asia. In doing so, Japan should adopt a strategy of taking part in such growth. Specific fields where Japan can use its strength in Asian markets include improving energy efficiency and developing highly efficient water use systems.

It is also possible to envisage a strategy of Japan and other Asian countries growing together by providing solutions to challenges that Asian countries are expected to face in the future. Specific examples include providing products and services suitable for an aging society with declining birth rates, which Asian countries will experience in the future. Another example is the international development of highly efficient and low environmental load urban infrastructure that uses public transportation.

Furthermore, when the living standard of the people in Asian countries improves and their markets mature, increased attention will be paid not only to functional value but also to emotional value. If Japanese companies could provide emotional value that appeals to Asian consumers and markets, Japanese products whose shares were eroded by inexpensive products are likely to have a chance for recovery.

The roles that Japan should play cover a wide range of fields. These include the establishment of common rules in Asia that promote the integration of intra-regional markets and the improvement of efficiency, the education of consumers and the development of inter-regional infrastructure such as by using infrastructure funds. Any of these roles could help support the sustainable growth of Asia, and at the same time, could be regarded as a growth strategy for the Japanese economy that will thrive together with other Asian countries.

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