Sayuri Shirai: Demographic changes in Asia and Japan's economic and financial developments

Speech by Ms Sayuri Shirai, Member of the Policy Board of the Bank of Japan, at a meeting with business leaders, Kumamoto, 29 November 2012.

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I. Introduction

Good morning, everyone. My name is Sayuri Shirai, and I am a Policy Board member of the Bank of Japan. I am deeply honored to be able to speak to all of you, as you represent the administrative, economic, and financial communities in Kumamoto Prefecture.

First, let me briefly outline the content of my presentation. It will be divided into two parts. In the first part, I will focus on the current demographic situation and review demographic changes in Japan and other Asian economies, as well as associated trends in household consumption patterns. After giving this background, the second part of my presentation will summarize Japan's recent economic developments and price movements, as well as monetary policy and related issues. After I finish, I am looking forward to exchanging views with you about my presentation, economic performance in the region, and measures undertaken to revitalize the economy.

II. Economic growth and demographic changes in Asia

As we are all aware, Japan is a society with a rapidly-aging population caused mainly by a low birth rate. It is also increasingly recognized that other Asian economies are soon about to follow Japan's path. Therefore, I would like to look at this issue today and talk about demographic change, as well as the demographic outlook in the region over the next few decades.

A. Demographic dividend and demographic burden

The world is increasingly concerned with demographic issues. This is because demographic changes are closely associated with national living standards and economic growth. To understand the connection between living standards and economic growth, let us consider a hypothetical country in the early stage of economic development.

Generally speaking, a country with low living standards and an inadequate medical and welfare services system tends to face slow population growth largely due to high fertility counteracted by high child mortality rates. As the economy gradually develops, the country is likely to experience a decline in the child mortality rate and resultant rapid growth in the "youth population" (those aged below 15). Subsequently, further growth of per capita income will reduce the fertility rate.

When the fertility rate first begins to decline, a country generally has an abundance of relatively young workers, and the growth rate of the "working-age population" (aged 15 to 64) exceeds that of the total population.[1] In other words, the youth and elderly dependency ratio (hereafter called the "total dependency ratio") – defined as the ratio of the combined population of the youth and the elderly (aged 65 and over) to the working-age population – tends to decline. During this period, the high growth rate of the labor force directly stimulates economic growth. Moreover, the working-age population tends to save more than other generations and these higher savings indirectly contribute to economic growth through supporting infrastructure and productive investment activities. Considering these positive

[1] The ratio of the working-age population to the total population tends to rise as well.

effects of demographic change, this period is often called "the period of the demographic dividend."[2]

Eventually, the demographic dividend period ends and a country enters a new stage of demographic change. In this new stage, a country faces a growing number of elderly retirees. As the growth rate of the working-age population lags that of the total population, the total dependency ratio rises. During this period, the decline in the working-age population is likely to directly depress the economic growth rate. The economic growth rate may also decline as lower national savings reduce the available support for investment activities. Because of these possible adverse effects, this period could be called "the period of the demographic burden."[3]

B. Japan in the stage of the demographic burden

Summarizing the points made so far, the demographic dividend period starts when the total dependency ratio begins to decline, and the demographic burden period starts when this ratio begins to rise (after averaging out fluctuations driven by baby boom periods). Chart 1 reports the general conditions and outlook for demographic changes.

Japan has already entered the demographic burden period, based on United Nations data since 1950. Since the second half of the 1950s, the total fertility rate has almost always declined, and reached 1.39 in 2011 (Chart 2).[4] Over the same period, life expectancy at birth increased rapidly. Male life expectancy increased from 50.1 years in 1947 to 79.6 years in 2010, and female life expectancy increased from 54.0 years to 86.4 years over the same period. In 1970 the ratio of the elderly population to total population exceeded 7 percent (the threshold used to define an "aging" society), and in 1995 it exceeded 14 percent (the threshold used to define an "aged" society). This shift from 7 percent to 14 percent took only 25 years in Japan, compared with 61 years in Italy, and 85 years in Sweden. The elderly population ratio currently stands at 23 percent (as of 2011), which puts Japan among the nations with the highest longevity in the world (Chart 3). Reflecting both the rapid decline in the fertility rate and the rapid pace of aging, Japan entered the demographic dividend period around 1955 and transitioned into the demographic burden period around 1995. Thus, Japan is already more than 15 years into the demographic burden period (charts 4 and 5).

C. Demographic changes occurring in Asia

Now, let us look at demographic changes in other Asian economies. In contrast to Japan, most Asian economies are still enjoying the demographic dividend period (Chart 5). Asia's remarkable economic success is widely attributed to an emphasis on education, high savings and investment ratios, export-oriented economic growth strategies, government-led industry promotions, and various measures to attract foreign capital. In addition, the availability of low-cost labor owing partly to the demographic dividend period has not only supported successful economic performance, but has also attracted Japanese outward foreign direct investment (FDI) to the region since the 1980s.

However, divergent features related to demographic changes have recently begun to emerge in Asia. I think that the economies of the region can be divided into two groups: one group in

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[2] In the initial stage of the demographic dividend, a country faces rapid growth in the population of young workers aged in their late teens to forties, a demographic segment with a tendency to form families.

[3] This period is likely to see rapid expansion of expenditure on pension benefits as well as medical and nursing services for the elderly. Consequently, the fiscal balance and social security system sustainability are likely to deteriorate.

[4] The total fertility rate refers to the number of children that would be born to a woman who lives through her child-bearing years and bears children in accordance with current age-specific fertility rates.

an advanced stage of demographic change (the so-called “advanced group”) and a second group at a less advanced stage (the so-called “follower group”).

Advanced group economies approaching the end of the demographic dividend period

The advanced group includes the so-called newly industrialized economies (NIEs), which industrialized and achieved high economic growth much earlier than other Asian economies. The NIEs – which comprise Hong Kong, South Korea, Singapore, and Taiwan – experienced a rapid decline in the ratio of the young population to the total population due to a decreasing fertility rate in the 1970s. The group also includes China and Thailand. Hong Kong entered the demographic dividend period by 1965; South Korea and Singapore followed by 1970, Thailand by 1975, and Taiwan and China by 1980.[5] Hong Kong and South Korea will exit the demographic dividend period and enter the demographic burden period during 2010–15 (charts 5 and 6). China, Singapore, Taiwan, and Thailand are likely to exit the demographic dividend period by 2015. All economies in the advanced group will enter the demographic burden period by 2020.

When the demographic dividend period ended around 1990, Japan’s per capita income had already reached about 27,000 U.S. dollars – a level that ranked it among the high income economies. Similarly, the NIEs are likely to enter the new stage of demographic burden with per capita incomes already above 20,000 U.S. dollars. Economies with high income levels as well as an adequate social capital infrastructure and social security system will be better prepared to cope with aging-related challenges.

In contrast, China is projected to enter the demographic burden period when its per capita income remains in the range 8,000 to 10,000 U.S. dollars (according to the projection of the International Monetary Fund [IMF]) – the level that defines a medium income economy. This reflects the effect of China’s one child policy in rapidly reducing fertility rates since its launch in 1979 and the decline in the youth population ratio from around 1980 (Chart 6). Simultaneously, rapid aging has already made China an aging society, and the elderly population ratio surpassed the 7 percent threshold by 2000. This means China is likely to face aging-related challenges before it builds an adequate social capital infrastructure and social security system. Unless the country can increase the workforce participation of the elderly, the substantial cost of aging may be borne by the government and younger generations. The ratio of the elderly population to the total population is only about 10 percent in China, which is well below the ratios of Japan (23 percent in 2011), Hong Kong (13 percent in 2010), and South Korea (11 percent in 2010). However, China is unique in the sheer size of its elderly population (about 100 million). Like China, Thailand is also likely to end its demographic dividend period while its per capita income remains at a medium level.

Follower group economies enjoying the demographic dividend period

The follower group also experienced a decline in the youth population ratio since the 1970s and an increase in the elderly population ratio since the 2000s, but this group is likely to continue to enjoy the demographic dividend period for decades to come (Chart 5). The demographic dividend period began in India, Malaysia, and the Philippines by 1970 and in Indonesia and Vietnam by 1975. The demographic dividend period is likely to end in Indonesia by 2025, Vietnam by 2035, India by 2040, Malaysia by 2045, and the Philippines by 2050. These economies face a slower decline of the youth population ratio and a slower pace of aging than economies in the advanced group (Chart 7). Differences in fertility rates and life expectancy at birth cause different demographic patterns.

[5] While the total dependency ratio in China began to decline in 1970, the scale of the decline remained limited during the 1970s. Thus, the demographic dividend period is considered to have started in 1980, the year a clear declining trend was observed.

III. Demographic changes and expenditure patterns in Asia

The aforementioned demographic changes affect macroeconomic performance in various ways. Typically, they affect economic growth through movements in labor supply, savings, and investment. Demographic changes also affect the sustainability of the fiscal balance and social security system. Today, I want to focus on the impacts of demographic changes on consumption movements.[6]

A. Japan's expenditure patterns

Having outlined demographic trends, I would now like to talk about historical movements of household consumption in Japan. Based on time series data from the 1950s, per capita domestic final household consumption expenditure appears positively correlated with per capita GDP or per capita disposable income. Per capita consumption expenditure rapidly expanded from the 1970s to the 1980s, when per capita income grew rapidly. The aggregate consumption expenditure data also exhibited an expansionary pattern, partly due to population growth. This suggests that a country experiencing rapid income growth is also likely to see rapid consumption growth. However, once per capita income reaches about 3 million yen on a GDP basis – or 2.5 million yen on a disposable income basis – consumption appears to level out (Chart 8). This may reflect that Japan's average income level has become comparable to other advanced countries and so marginal consumption demand has weakened. Regarding future trends, the consumption level may decline as the decline of Japan's total population from 2011 reduces the total number of consumers.

Next, I want to explore the impact of demographic changes on consumption patterns. As the average income level in Japan rose, expenditure on durable consumption goods also increased. This trend was observed for (a) transportation equipment (including passenger cars) and (b) TVs and information/communication equipment (Chart 9). Particularly, expenditure on transportation equipment rose rapidly in the second half of the 1980s, probably reflecting a shift in consumer preferences from motorcycles to passenger cars and from low-quality cars to high-quality cars. Since then, expenditure on durable consumption goods has flattened. The number of new passenger-car registrations has declined moderately in recent years (Chart 10). The population's declining trend that started in 2011 is likely to reduce the sales volume of durable consumption goods.

B. Age-driven changes in Japan's consumption structure

While consumption appears to have peaked owing to the constraints imposed by demographic changes, it is important to pay attention to the changing characteristics of the consumption structure. First, the elderly are becoming a major consumer generation. The share of consumption by households whose heads are aged 65 and over has been rapidly rising and already accounts for more than 30 percent of total consumption (Chart 11). If households whose heads are aged 60 and over are added, the share of consumption by elderly households exceeds 40 percent of total consumption. According to analysis based on household survey data, elderly households tend to allocate a greater proportion of their consumption to medical and nursing services, tourism, social expenses, and foods than younger households. Meanwhile, elderly households spend less on education and transportation/communication (including passenger cars) than younger households. These

[6] Generally, in the early stage of the demographic dividend households tend to increase their demand for durable consumption goods (such as cars and home electronics) and actively conduct residential investment. This is because households belonging to young generation are likely to form families. As a country passes through the demographic dividend period, a growing number of households complete the child rearing stage, and so more money can be allocated to savings for retirement. During the demographic burden period, households, as population aging proceeds, may increase demand for medical care, nursing care, and house-keeping services, as well as recreation, tourism, and cultural activities.

consumption patterns make sense since many elderly households have already completed child rearing. Other data show that medical and nursing related expenditure in Japan increased cumulatively by more than 30 percent between 2000 and 2010. This increase is larger than in other advanced countries. For example, the cumulative increase during the same period was 25 percent in Germany (with an elderly population ratio of 20 percent), 11 percent in France and the United Kingdom (each with 18 percent), and 16 percent in the United States (13 percent).

In other words, the market for goods and services targeting the elderly is likely to expand further as the population becomes more aged. The elderly population generally has lower income from earnings than the working-age population. However, the elderly population is often observed to have more varied consumption preferences and tastes, reflecting divergent asset sizes, health conditions, and living environment compared with the younger generation. Given the large and diverse potential demand of the elderly population, firms can pursue new business opportunities involving high quality goods and services that meet this demand.

Furthermore, I would also like to look at the pattern of residential investment – a major investment item for households – although it is not regarded as consumption. The size of the working-age population is positively correlated with total housing investment. Chart 12 shows that private housing investment has clearly declined since the mid-1990s, when the working-age population began to decline. In the present era of declining population, the number of residential investment projects is unlikely to grow much. Instead, demand growth in housing is likely to come from renovation of existing houses or the purchase of new houses that are suitable for elderly persons or located in convenient urban areas.

Thus, I want to emphasize that the aging population can create new business opportunities for Japanese firms if they develop ways to tap this potentially large consumption market.

C. The case of the NIEs: transforming to an aging society

What about the consumption patterns of the NIEs in the advanced demographic group? As I have highlighted, since these economies already have high incomes, their consumption is likely to grow further in the near future, as Japan previously experienced. According to the historical data, Japan's ratio of household consumption expenditure to GDP dropped from the 1950s to the 1960s. This happened because GDP growth exceeded consumption growth. However, the ratio resumed a positive trend from the 1970s, when per capita income rose rapidly (Chart 13). Thus, the ratio of consumption to GDP has room to grow as per capita income increases.

Moreover, the life-cycle hypothesis indicates that the national savings rate is likely to decline and the consumption-GDP ratio is likely to increase as the elderly population grows.[7] Thus, countries with large populations of youth and elderly tend to have a lower national savings rate than those with large working-age populations. In particular, the increase in the elderly population, whose life expectancy has been increasing, is likely to further reduce the national savings rate.

Most Asian economies are still enjoying the demographic dividend period, and population aging has not progressed as far as in Japan, Europe, and the United States. Therefore, their consumption-GDP ratios tend to be much lower than those of the advanced economies (Chart 14). Above all, Asia is well known for having a higher propensity to save than any other region of the world. This saving habit not only stimulates investment but also creates a

[7] Over their life cycle, individuals attempt to smooth their consumption by accumulating savings during their working years and using those savings during retirement. Regarding an analysis on the impact to the Japanese economy of aging, see Muto, Ichiro, Takemasa Oda, and Nao Sudo, "Macroeconomic Impact of Population Aging in Japan: A Perspective from an Overlapping Generations Model," Bank of Japan Working Paper Series, No.12-E-9, 2012.

large current account surplus. Hong Kong is the most aged economy among the NIEs and is second to Japan in Asia, and its ratio of elderly persons to the total population approached 14 percent in 2010. Hong Kong's consumption-GDP ratio declined in the 1970s, but has increased since the late 1980s. As for South Korea, the consumption-GDP ratio remains low, but has increased during the 2000s. Singapore's consumption to GDP ratio shows no signs of increasing. China and Thailand have shown divergent patterns despite their similar income levels. Overall, a clear rising trend is observed only for Hong Kong.

Nonetheless, the consumption-GDP ratio in the NIEs is expected to grow further in the near future, as aging accelerates in the region. The Asian Development Bank (ADB) has conducted an interesting analysis on this subject.[8] The study found that the impact of aging on the consumption-GDP ratio (or on the savings-GDP ratio) is smaller (or larger) in Asia than elsewhere. However, it also found that the consumption-GDP ratio tends to increase in Asia when population aging reaches a certain point. Asia's relatively low consumption ratio may reflect that the pace of aging is slower there than in other regions: for example, the report mentioned that the elderly population ratio is only 9 percent in Asia compared with 12 percent globally. Namely, the presence of a relatively large working-age population in Asia supports the tendency to save rather than consume.[9] The ADB concluded that the Asian region is unlikely to stably expand consumption and domestic demand in the near future, since many economies remain in the early demographic dividend period. In other words, it may take time for the region to reduce its current account surpluses – mainly caused by high saving rates – or re-balance the saving-investment relationship.

In the Asian region, the NIEs are likely to re-balance the saving-investment relationship and experience increased demand for services, particularly since their faster aging may stimulate demand for related services.[10] The demand for a better social security system may also encourage the government to provide more services for the elderly. The elderly population ratio in these economies is expected to reach a level comparable to the advanced countries by 2030. Thus, Japan, as a leader in the aging trend, may be able to develop creative goods and services that cater to the demand of the elderly population, which may eventually find markets in other aging countries. Given that the service sector is increasingly internationalized and tradable, penetration into other countries could happen relatively rapidly.

D. The case of China: rising income and growing consumption market

China has developed its economy as a center for industrial production in the Asian region by utilizing its large pool of low-cost labor from rural areas. Thus, wage growth has long lagged labor productivity growth. The resultant low unit cost of labor appears to have contributed to household consumption growth lagging GDP growth (Chart 14). In recent years, the supply

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[8] See Estrada, Gemma, Donghyun Park, and Arief Ramayandi, "Population Aging and Aggregate Consumption in Developing Asia," ADB Economics Working Paper Series No. 282, 2011.

[9] As one of the factors contributing to the relatively low consumption-GDP ratio in Asia, it is noted that elderly persons in other regions tend to depend more heavily on pension benefits and income support provided by the public sector, while those in Asia tend to accumulate savings and assets prior to retirement. See Lee, Sang-Hyop and Andrew Mason, "The Economic Life Cycle and Support Systems in Asia," ADB Economics Working Paper Series No. 283, 2011. In other words, the Asian region tends to save more under an inadequate social security system and social capital accumulation.

[10] The share of services in GDP is found to be positively related with the level of per capita income. Eichengreen and Gupta (2009) identified two waves of service sector growth: the first is related to lodging, meal preparation, housecleaning, and beauty shops, which typically generate moderate growth until per capita income level reaches about 1,800 U.S. dollars; the second is related to financial services, computing, communication services, and business services, which support accelerating growth once income reaches about 4,000 U.S. dollars. See Eichengreen, Barry and Poonam Gupta, "The Two Waves of Service Sector Growth," NBER Working Paper No. 14968, 2009. I believe there follows a third wave of service sector growth, based on aging-related services.

of low-cost labor from rural areas has become limited. As a result, minimum wages have been rising in many areas. Further tightening of the supply-demand balance in low-cost labor is expected to ensure continuous wage growth, raising per capita disposable income and the presence of middle class income earners. The further deregulation of financial and capital markets may strengthen those markets and help the middle class accumulate financial assets. All these factors are likely to contribute to near term consumption growth.

If this growth happens, households are likely to expand demand for durable consumption goods (such as cars, air conditioners, microwaves, etc.); demand for such goods has high income elasticity. Residential investment is likely to follow this trend. According to "China 2030," a report compiled by the World Bank and China's Development Research Center of the State Council, China is projected to experience rapid urbanization – the nearly 50 percent of the population living in cities in 2009 will increase to nearly two-thirds by 2030.[11] This implies about 13 million new urban residents each year – comparable in scale to Tokyo. It is reported that the 20 fastest-growing cities in China are located inland, and per capita incomes in the interior cities are rapidly catching up with the coastal cities. If urbanization is accompanied by better infrastructure, demand for passenger cars is likely to increase substantially given the low car ownership rate. Accordingly, demand for better public services, recreation activities, education, and financial services is likely to grow further. The aforementioned report projects that the share of industry to GDP will shrink constantly from 44 percent in 2015 to 41 percent by 2020, 38 percent by 2025, and 35 percent by 2030. This may imply that some production locations may shift to other Asian economies enjoying longer demographic dividend periods.

Since it takes time to strengthen social capital infrastructure and the social security system, the consumption-GDP ratio may not rise as rapidly in China as in other countries even if the pace of aging accelerates. However, the aforementioned report projects that greater upward pressure on wages and the resultant rising share of household income in GDP will eventually reverse the steady decline in the share of household consumption in GDP. Accordingly, the share of services in GDP is also projected to grow steadily from 48 percent in 2015, to 52 percent by 2020, 56 percent by 2025, and 61 percent by 2030. Meanwhile, the investment-GDP ratio is expected to decline from 42 percent in 2015 to more sustainable 34 percent by 2030.

It is important to note that these projections are based on the assumption that China will implement necessary structural and policy reforms to promote a more market-oriented, innovative economy and maintain high productivity to generate economic growth. China also needs to implement measures to facilitate the portability of pension and social security rights and to further reform the *hukou* system. Also, the retirement age needs to be extended from 60 years old for men and 55 years old for women, and elderly workers require employment opportunities and job training.[12] The one child policy also needs to be further adjusted.

In Japan, it only took 25 years for the elderly population ratio to increase from 7 percent to 14 percent, much faster relative to European countries. While the same period for a shift from 7 percent to 14 percent is projected in China, some believe that it could be even shorter. Thus, China faces many forthcoming challenges from its rapidly aging society.

IV. Japan's structural problems and the outlook for economic activity and prices

In the first part of my presentation, I talked about past, current, and projected demographic changes in Japan and other Asian economies, as well as related shifts in consumption

[11] See The World Bank, "China 2030: Building a Modern, Harmonious, and Creative High-Income Society," The World Bank and Development Research Center of the State Council, the People's Republic of China, 2012.

[12] In the case of blue-collar workers, the retirement age is 50 years old.

patterns. In the next section, I will shed light on the outlook for Japan's economic activity and prices. But, before that, I would like to point out various structural changes, including demographic changes, which have affected the environment surrounding monetary policy management.

A. Why are the structural issues so important?

As mentioned earlier, demographic changes are one of the most important ongoing structural issues faced by Japan. Simultaneously, other advanced countries, especially in Europe, have begun to recognize these changes as important medium-term structural issues. Recently, some central banks have increasingly confronted the need to better understand the impact of demographic changes on macroeconomic performance and even on the environment surrounding monetary policy management.

Globally, Japan is taking the lead in dealing with demographic trends and associated macroeconomic issues. It is well known that Japan has seen a reduction of its working-age population in absolute terms since the mid-1990s. The trend of a declining total population began from 2011. As a result, Japan has become the furthest progressed aging society globally. The rapid reversals in the growth rates of the working-age population and total population seem unprecedented globally. This demographic trend has already exerted various negative impacts on Japan's macroeconomic performance, and thus it is important for the Bank of Japan (hereafter called "the Bank") to consider new impacts on the environment surrounding monetary policy management.

Let me give you one example. Japan's output gap (or the aggregate demand and supply balance) has remained negative almost continuously since the mid-1990s. Generally, the negative output gap is regarded to be caused by cyclical factors or temporary shocks to the economy (such as natural disasters). However, in the case of Japan, structural factors have also contributed to the long-standing negative output gap. In regard to cyclical and temporary factors, the output gap has deteriorated following a series of domestic and external shocks – such as the collapse of the asset bubbles in the early 1990s, the Japanese financial crisis and East Asian currency crises in the second half of the 1990s, the collapse of the IT bubble in the United States during the early 2000s, the global financial crisis of 2008, the European sovereign debt problems since 2010, the Great East Japan Earthquake and the Thailand floods of 2011, and the spreading effects of recent developments in the relations between Japan and China. These continuous shocks have prevented the negative output gap from narrowing quickly.

On the other hand, Japan faces various structural issues including the already-mentioned demographic changes and growing global competition. The aging population has contributed to the long-term slowing of economic growth. Thus, it is important to conduct structural reforms to strengthen the potential for economic growth by enhancing productivity growth of the working-age population while increasing the labor participation rates for women and the elderly. However, the implementation of the necessary structural reforms for boosting growth and productivity has been sluggish. Issues related to mounting government debt and social security reforms have also generated uncertainty over the economic outlook. In this environment, firms may form a pessimistic medium- to long-term outlook on their market growth while households may come to more strongly expect limited future income growth. Consequently, firms and households may become cautious in expanding current investment and consumption activities. If the adjustment of current production capacity by firms in declining industries and their entry into newly emerging or promising industries occur very slowly, these structural factors may persist and cause long-standing sluggish domestic

demand. This slows the narrowing of the negative output gap. These structural factors have also contributed to generating depressed prices.[13]

Nonetheless, I remain optimistic that deflation can be overcome in the medium term. This is because many Japanese firms are striving to become more innovative and competitive, and to explore new sources of demand, both at home and abroad. With their high technology level and experience, I believe Japanese firms can take the lead in developing innovative, higher value-added goods and services in the areas of robotics, medical treatment and elderly care, medical supplies, biotechnology, energy-savings, etc. Many newly-developed goods and services are likely to contribute to creating a more convenient, comfortable life for the elderly. Such business opportunities can also be explored globally – especially in Europe, where the pace of aging is rapidly progressing, and in the high-income aging economies in Asia.

In line with this view, the government is also expected to support the business community by creating a more business-friendly environment. Financial institutions are expected to provide diverse, new types of financial support to innovative, viable firms that tap into growing demand. Under this environment, the Bank will continue to support the business community by ensuring an accommodative monetary environment and providing long-term funds through financial institutions (as explained later). Therefore, I would like to emphasize that the baseline scenario of the outlook for Japan's economic activity and prices, which I will introduce shortly, is based on the assumption that various agents are making the expected efforts.

B. The statement "Measures aimed at overcoming deflation," jointly released by the Japanese government and the bank of Japan

Based on the perspectives presented previously, I feel that the statement "Measures Aimed at Overcoming Deflation," jointly released by the Bank of Japan Governor Shirakawa, together with Mr. Maehara (Minister of State for Economic and Fiscal Policy) and Mr. Jojima (Minister of Finance), is very significant. Given that deflation is a long-standing, structural challenge, it is important that both the Bank and the government confirm their mutual understanding of the causes of deflation and measures to overcome it.

On the one hand, the Bank will continue to pursue its CPI-based inflation goal of 1 percent annually, given that the medium- to long-term price stability goal is set within 2 percent annual inflation. A monetary easing policy – based on the virtually zero interest policy and the Asset Purchase Program – will be pursued until the 1 percent inflation goal is in sight. Simultaneously, the government is expected to vigorously promote measures to help reduce structural constraints and thus strengthen Japan's growth potential. I personally believe that this statement signals to the public a strong will on both sides to overcome deflation and restore sustainable economic growth with price stability. Therefore, I regard this action positively.

C. Outlook for economic activity and prices: a baseline scenario

Outlook for economy

Japan's economy grew at a rate of about 3 percent in the first half of 2012, as domestic demand remained firm, while both public and private reconstruction-related demand increased following the Great East Japan Earthquake. Since then, the economy has weakened somewhat, as shown by a marked decline in exports and industrial production. This reflects weakened demand from overseas economies – especially exports destined for

[13] For example, see Shirai, Sayuri, "Have Demographic Changes Affected Japan's Macroeconomic Performance? – Some Implications for Monetary Policy –," Speeches at the Bank of Finland, the Riksbank, and Stockholm University, Bank of Japan, 2012.

the European Union (EU) and China. The implications of recent developments in the relations between Japan and China have affected Japan's economy in areas such as trade and tourism. Moreover, weakness in the manufacturing sector has gradually affected employment, as seen in a decline in overtime and the number of new job offers in the sector. Private consumption has also lost some of its momentum compared with the period leading up to early summer, partly because of the ending of subsidies for purchasers of environmentally friendly cars. As for business fixed investment, firms' investment plans for fiscal 2012 as revealed in the September *Tankan* (Short-Term Economic Survey of Enterprises in Japan) – a survey conducted by the Bank – indicate relatively high growth for that time of year. Nevertheless, some manufacturing firms appear to have begun to postpone their business fixed investment plans. Considering this situation, the Bank has assessed the economy as weakening somewhat.

Going forward, Japanese economic activity is expected to remain relatively weak for the time being. Both exports and industrial production are expected to decline against the background of prolonged deceleration in overseas economies. The weakness in exports and industrial production will constrain business outlays in the manufacturing sector, and may lead more firms to postpone their business fixed investment plans. Domestic demand is expected to remain resilient on the whole, mainly supported by broad reconstruction-related demand, including investment related to disaster prevention and energy. Since private consumption has generally remained resilient, labor market conditions are likely to continue an improving trend. Nonetheless, the weak performance of the manufacturing sector is likely to deteriorate supply-demand imbalance in the labor market for the time being. Regarding per capita wage compensation, firms' poor performance during fiscal 2011 caused by the earthquake is expected to suppress winter bonuses. Meanwhile, we need to pay closer attention to the issue of how long the adverse impact of the expiration of subsidies for purchasers of environmentally friendly cars will last. Therefore, domestic demand is unlikely to increase enough to offset the weakness in exports, and the economy is expected to remain relatively weak for the time being (Chart 15).

Thereafter, as overseas economies gradually emerge from the deceleration phase, exports and industrial production are likely to start picking up and private consumption is expected to remain resilient. Residential investment is likely to continue to show a mild improvement partly because of reconstruction demand in affected areas and partly because of moderate growth in demand for condominiums in metropolitan areas based on the low interest rate environment. In fiscal 2013, the economy is expected to grow faster than its potential, as overseas economies gradually pick up and private domestic demand increases robustly, coupled with rising corporate profits and labor income. However, support from reconstruction-related public demand may diminish slowly. In the second half of fiscal 2013, a large front-loaded increase in demand prior to the consumption tax hike is likely to occur, thereby boosting growth temporarily but significantly.

In fiscal 2014, the underlying trend of the economy – excluding fluctuations stemming from the consumption tax hike – is projected to be growth that slightly outstrips its potential. This is because overseas economies are likely to grow faster than the historical long-term average and accommodative monetary policies based on low interest rates attract a more positive response through increased investment activity and optimistic growth expectations. Nonetheless, a decline in demand following the front-loaded increase prior to the consumption tax hike is likely to occur in the first half of fiscal 2014 and this will limit the growth rate for the whole of fiscal 2014 to slightly above 0 percent.

Outlook for prices

As for trends in the CPI (all items less fresh food), the year-on-year rate of decline – after reaching a historical trough of 2.4 percent in August 2009 – has continued to slow consistently since around end-2009 with a gradual improvement in the output gap. Against this background, the CPI has remained almost unchanged – with the year-on-year rate of

change of nearly 0 percent (Chart 15). From a somewhat long-term perspective, there is a slight positive correlation between the rate of change in the CPI and the output gap.

Looking at the outlook for prices, the negative output gap is likely to remain relatively large for the time being, reflecting the aforementioned economic outlook. Eventually, the output gap is expected to maintain a trend of moderate improvement, with some fluctuation caused by the effects of the hike in the consumption tax. Medium- to long-term inflation expectations can be assumed to remain stable throughout the projection period, given that the expectations of market participants and economists have been stable at around 1 percent and households have not changed their views significantly. However, a moderate drop in medium- to long-term inflation expectations appears to have emerged very recently, so I will pay close attention to future developments. Households' expectations have not changed perceptibly, and the future outlook is expected to remain stable. As for international commodity prices, crude oil and crop prices have increased slightly because of heightened geopolitical risks and poor weather conditions. On average, however, prices are expected to remain nearly flat, reflecting the deceleration of overseas economies. Thereafter, they are likely to rise moderately against the background of increased demand for food and energy arising from growth in emerging economies.

The year-on-year rate of change in the CPI is expected to hover around 0 percent for the time being and then gradually rise as the output gap shrinks. In fiscal 2014, it is projected to move steadily closer toward 1 percent, the inflation goal set for the time being.

D. Risk factors affecting the outlook

Having talked about the baseline scenario, I would like to touch on risk factors concerning the outlook for economic activity. While both upside and downside risks exist, I personally assess the downside risks as greater. The main downside risks include (a) possible downward adjustments related to overseas economies, including issues such as the sovereign debt problems in the euro area, the "fiscal cliff" in the United States, and the continued slower economic growth in China, (b) uncertainty related to firms' and households' medium- to long-term growth expectations, which may be adjusted downward by the delayed efforts of various agents to strengthen the growth potential of Japan's economy, (c) the greater-than-expected adverse impact of the consumption tax hike, and (d) Japan's fiscal sustainability issues.

Regarding the risks concerning the outlook for prices, I also assess that the risk balance is tilted to the downside, while the Bank's projection could deviate either upward or downward. First, the responsiveness of prices to the output gap may be less elastic than projected. Thus, careful attention should be paid to whether firms will raise prices with improved economic conditions as expected. Second, if firms and households increasingly expect the pace of price increases to remain slow based on price behavior in the recent and more distant past, downward pressure may be exerted on both actual prices and wages (even if the medium- to long-term inflation expectations remain stable). Third, there is a possibility that volatility in crude oil and other commodity prices may fluctuate, mainly reflecting geopolitical risks and weather conditions. Fluctuations in foreign exchange rates could also affect consumer prices, both directly through changes in import prices and indirectly through changes in economic activity.

E. Conduct of monetary policy

Finally, I would like to talk about the conduct of monetary policy. So far, financial conditions in Japan have been accommodative, as the Bank continuously pursues powerful monetary easing. Specifically, firms' funding costs have remained low, with the average contracted interest rates on new loans and discounts – both short- and long-term rates – registering just 1 percent. Issuing conditions for commercial paper (CP) and corporate bonds have remained favorable thanks to resilient demand among investors – notwithstanding the widening of some credit spreads because of worsening corporate performance. A range of indicators

reflecting (a) financial institutions' lending attitudes as perceived by firms, as well as (b) the financial positions of firms have been above the historical average since 2000. Nevertheless, attention needs to be paid to the recent moderate deterioration of the financial positions of small and medium-sized firms. Overall, business credit demand has been recovering gradually, mainly for funds related to reconstruction following the Great East Japan Earthquake and for funding of corporate takeover activities. Looking at funding in the corporate sector at home, the year-on-year rate of increase in outstanding bank lending has recently risen somewhat. The rate of change in outstanding CP issuance has generally been slightly positive.

In response to what it perceived as a weakened economy, the Bank made two decisions on October 30 regarding further monetary easing (Chart 16). First, the total size of the Asset Purchase Program was increased by about 11 trillion yen to reach approximately 91 trillion yen – from around 80 trillion yen previously. The Japanese government bonds (JGBs) and treasury discount bills (T-Bills) are to increase by about 5 trillion yen each, CP by about 0.1 trillion yen, corporate bonds by about 0.3 trillion yen, exchange-traded funds (ETFs) by about 0.5 trillion yen, and Japan real estate investment trusts (J-REITs) by about 0.01 trillion yen. The increased purchases are intended to be completed by around end-2013.

Second, the Bank decided to establish a new lending facility called the fund-provisioning measure to stimulate bank lending ("Stimulating Bank Lending Facility") to promote lending by financial institutions. The new facility will enable financial institutions to obtain long-term funds up to an amount equivalent to the net increase in lending at the interest rate equivalent to the Bank's target for the uncollateralized overnight call rate (currently 0.1 percent per annum). There will be no upper limit to the total funds provided by the Bank to the financial institutions – the facility is unlimited. The duration of each loan will be one, two, or three years, as requested by financial institutions, and the loans will be able to be rolled over for up to four years. The specifics of the facility are still under deliberation and will be announced in the near future. However, the key point is that the Bank may provide substantial funds to support financial institutions' efforts to increase their lending. I hope that this facility will encourage financial institutions to provide diverse and innovative financial services not only to existing customers but also to pioneering, newly-emerging firms. The Bank will designate this facility, together with the fund-provisioning measure to support strengthening the foundations for economic growth ("Growth-Supporting Funding Facility") established in 2010, as the "Loan Support Program."

Finally, I would like to emphasize that the Bank recognizes that Japan's economy faces the critical challenge of overcoming deflation as early as possible and achieving sustainable growth with price stability. Given that Japan's long-standing negative output gap and resultant deflation reflect both cyclical and structural factors, overcoming this challenge will require a strong will, as well as collective efforts by firms, financial institutions, government, and the Bank. The Bank will continue to conduct monetary policy in an appropriate manner. Meanwhile, I will continue to constantly consider how the Bank can best respond to the current challenging environment.

This brings me to the end of my presentation. Thank you very much for your kind attention.

Chart 1

Features of Demographic Changes

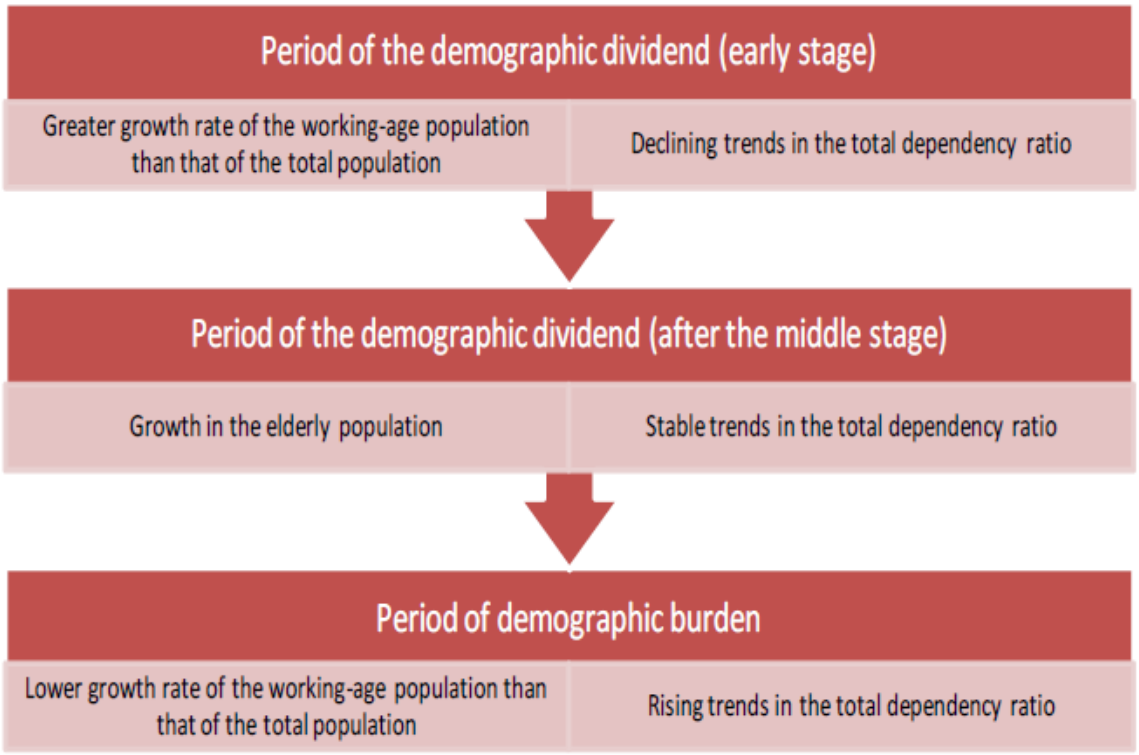
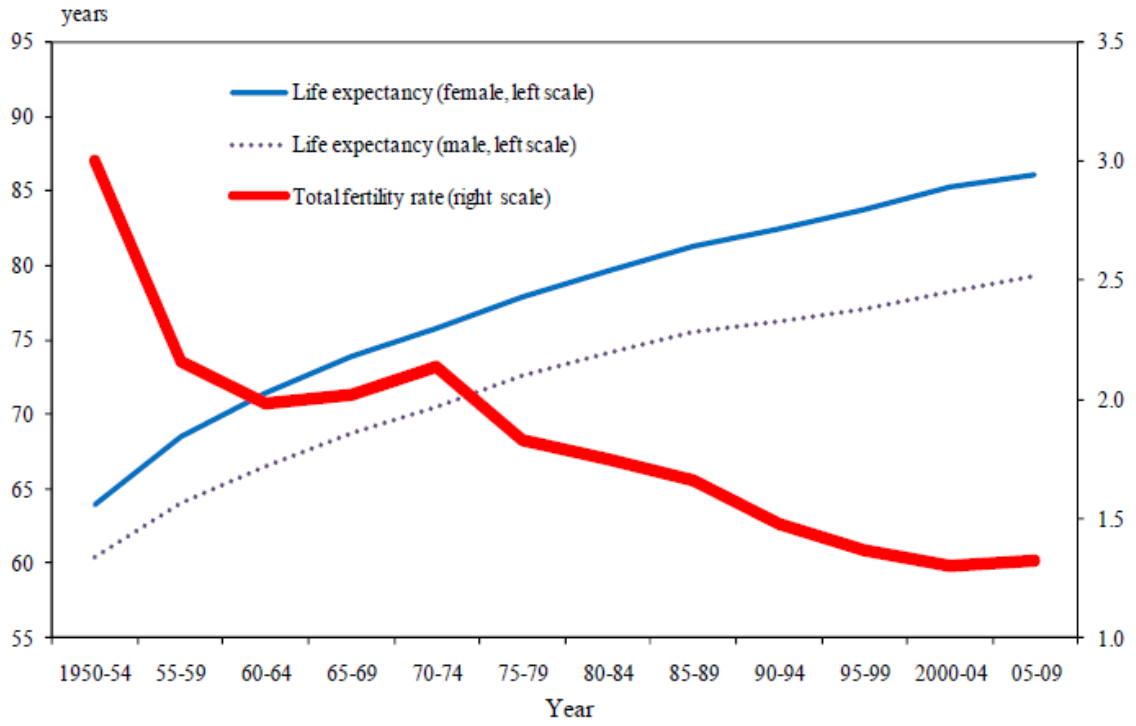


Chart 2

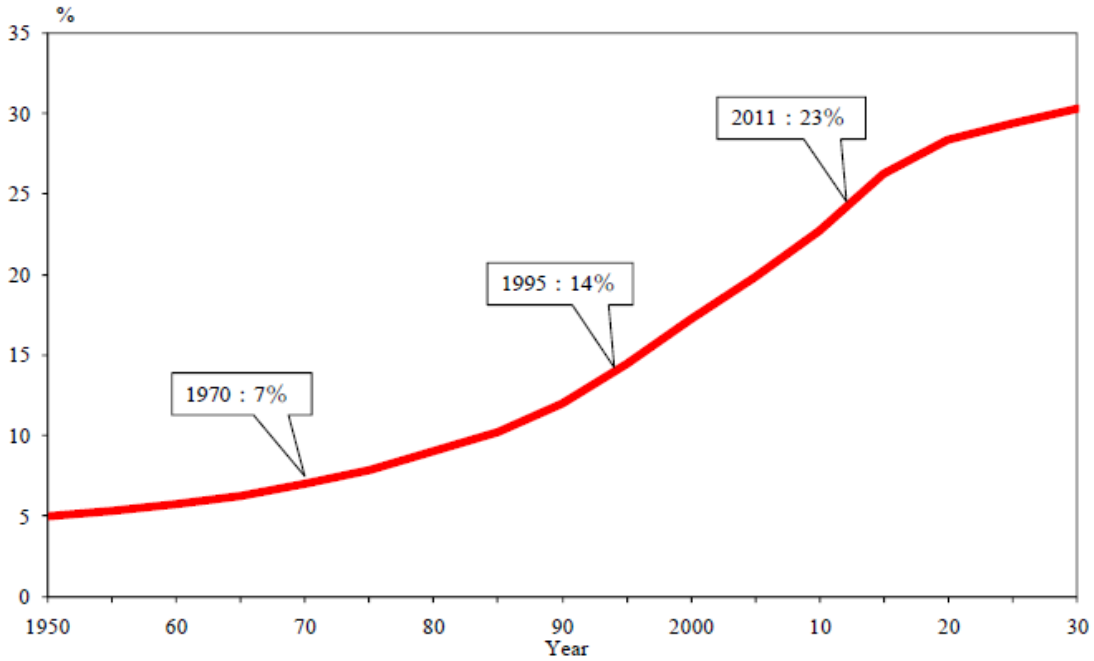
Fertility Rate and Life Expectancy in Japan



Source: United Nations.

Chart 3

Elderly Population Ratio in Japan

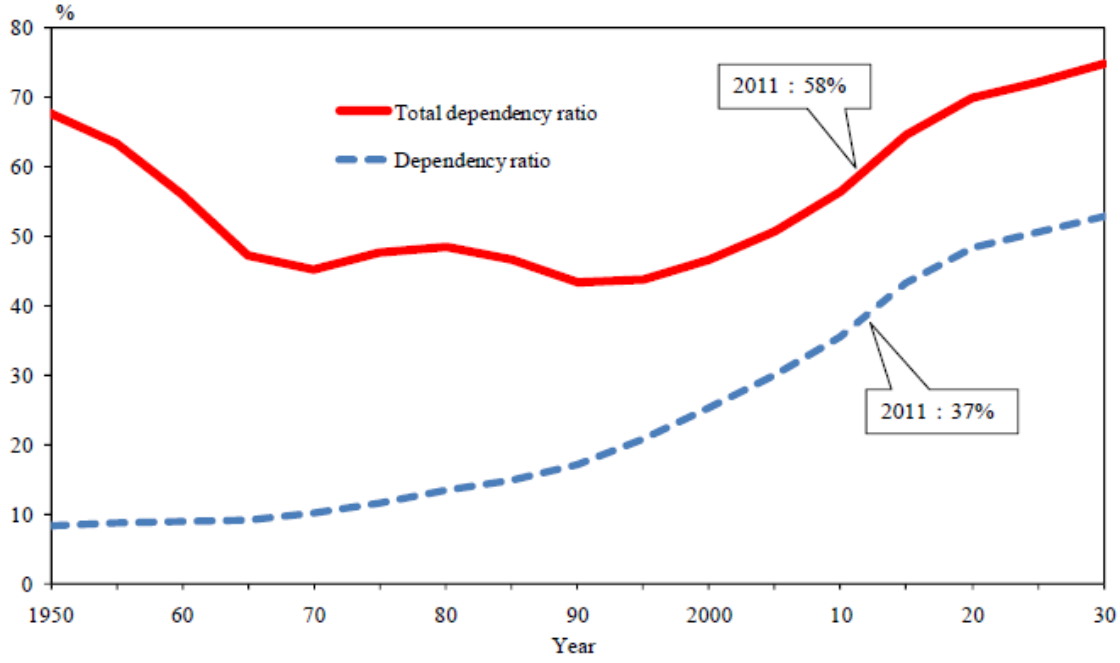


Note: Elderly population ratio = elderly population/total population.

Source: United Nations.

Chart 4

Total Dependency Ratio in Japan



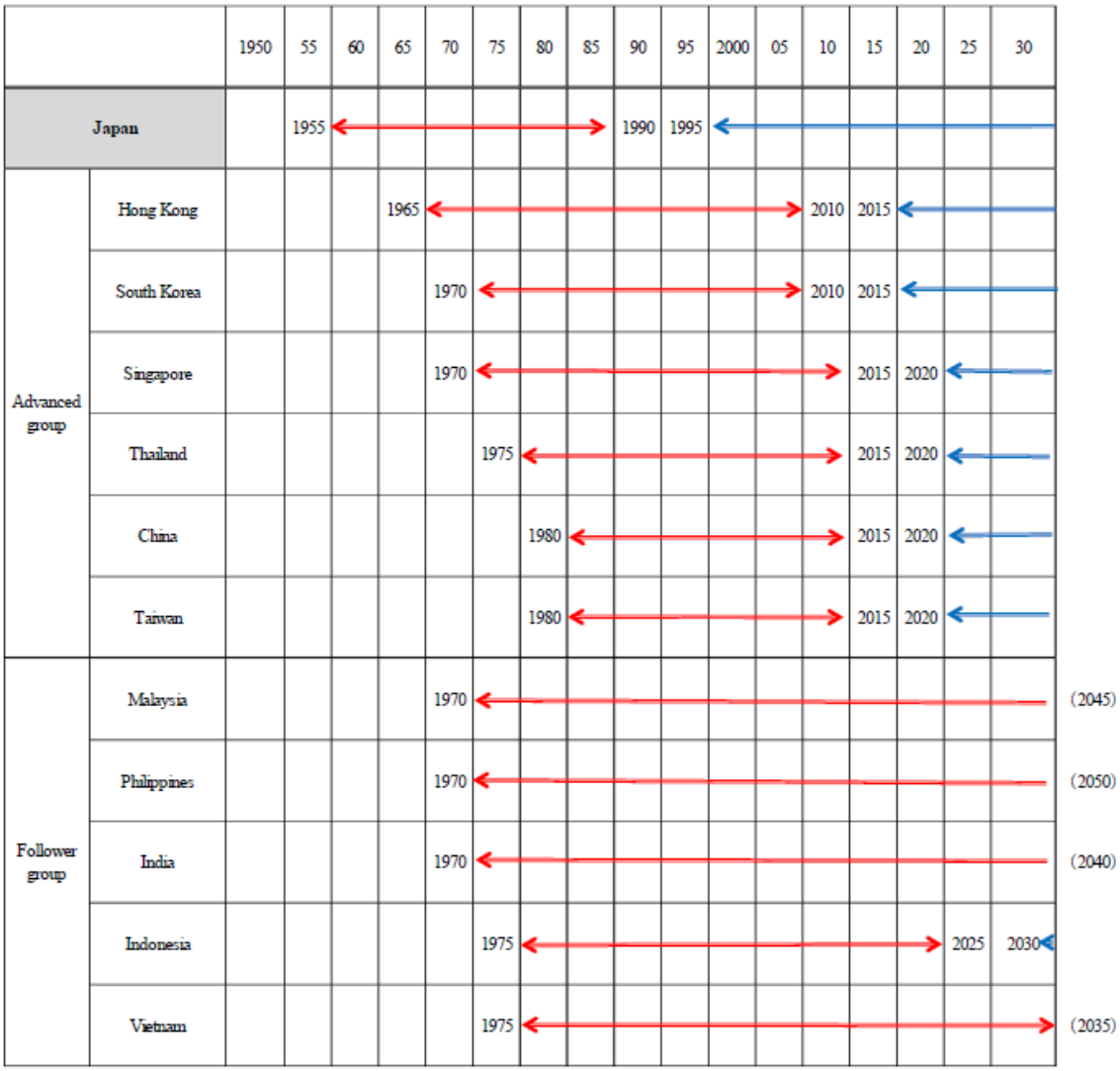
Notes: 1. Total dependency ratio = (youth population + elderly population)/working-age population.

2. Dependency ratio = elderly population/working-age population.

Source: United Nations.

Chart 5

Demographic Changes in Asian Economies



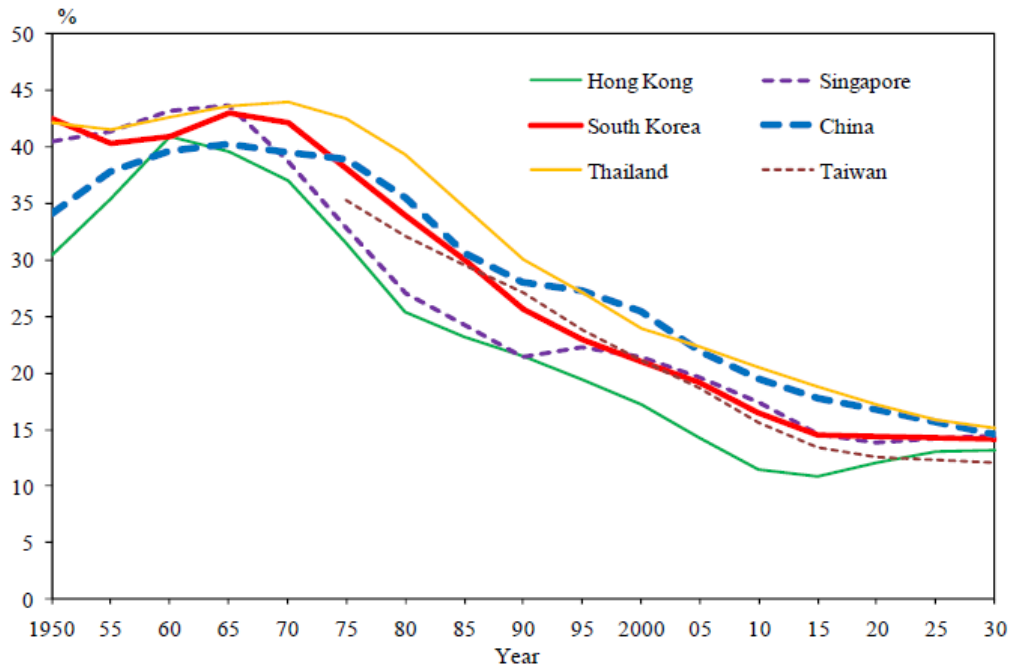
Note: Red arrows indicate the periods of the demographic dividend, and blue arrows indicate those of the demographic burden.

Source: United Nations.

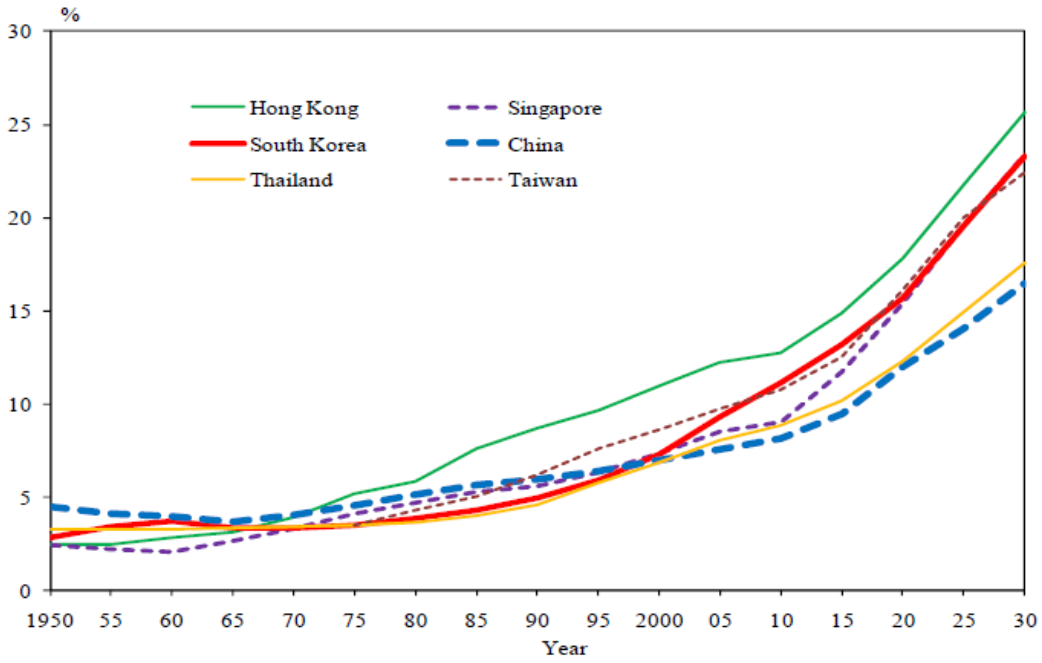
Chart 6

Youth Population and Elderly Population in the Advanced Group in Asia

(1) Ratio of Youth Population to Total Population



(2) Ratio of Elderly Population to Total Population

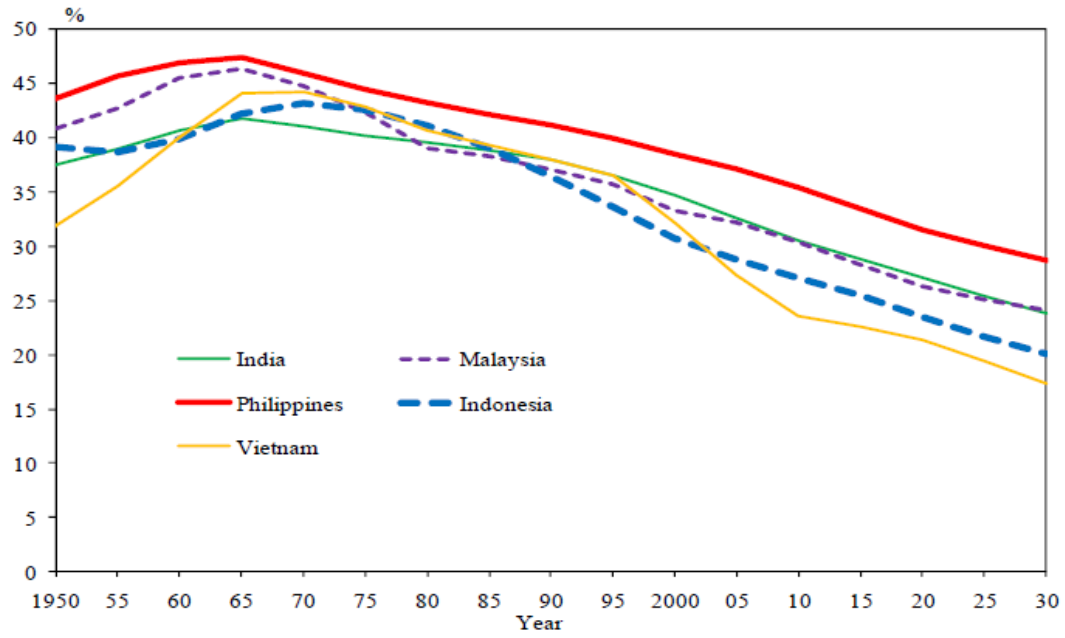


Source: United Nations.

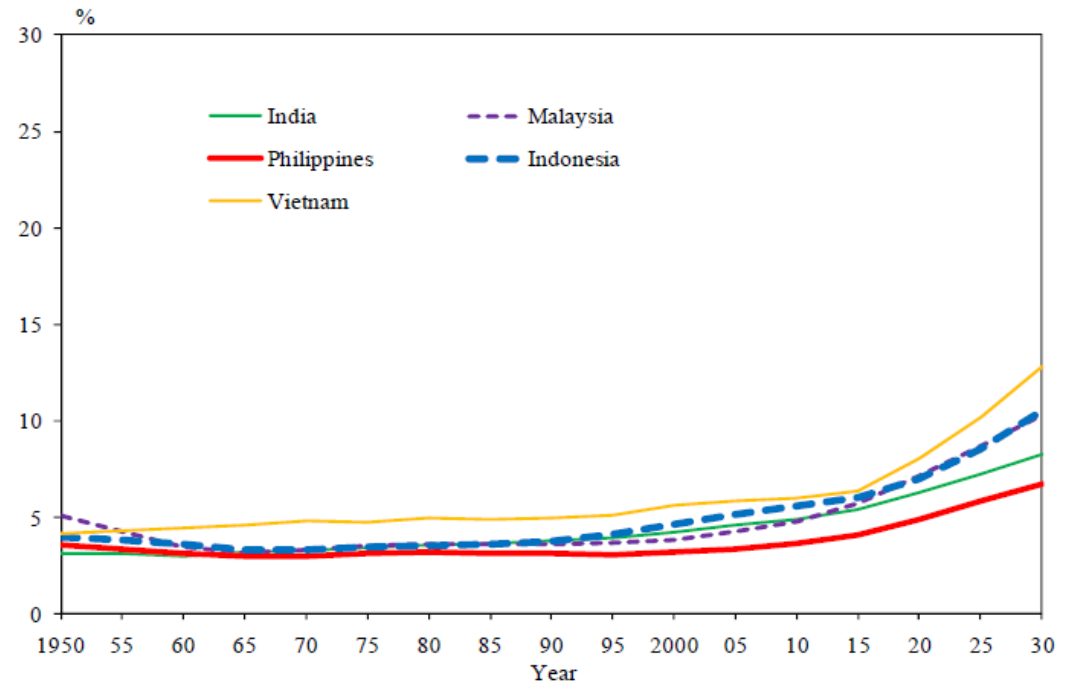
Chart 7

Youth Population and Elderly Population in the Follower Group in Asia

(1) Ratio of Youth Population to Total Population



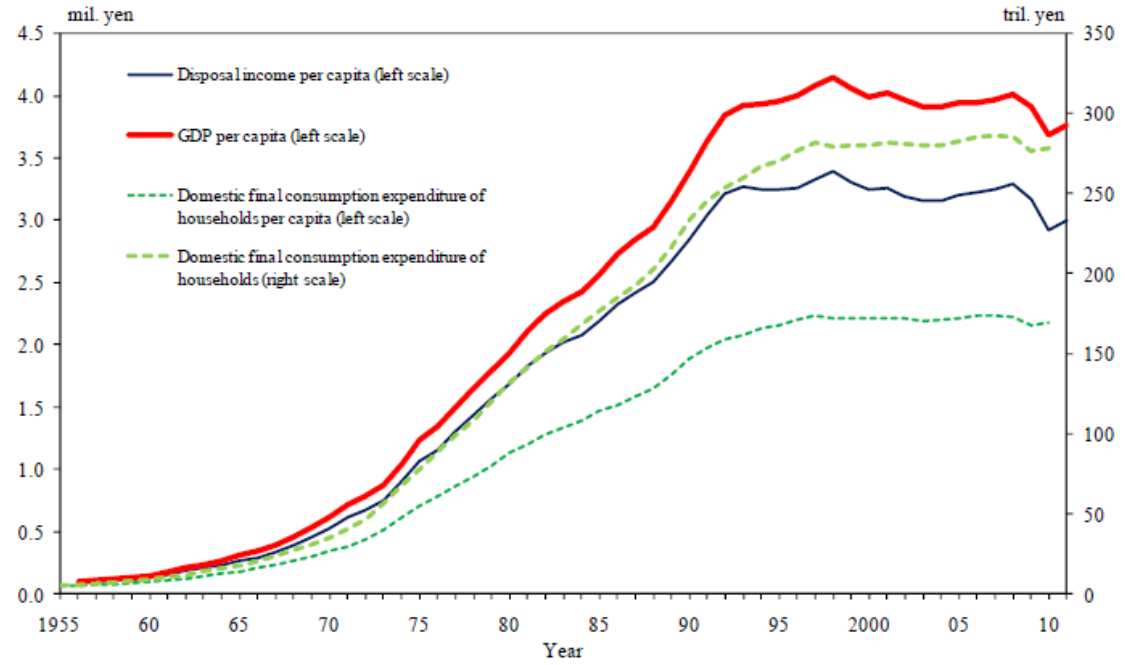
(2) Ratio of Elderly Population to Total Population



Source: United Nations.

Chart 8

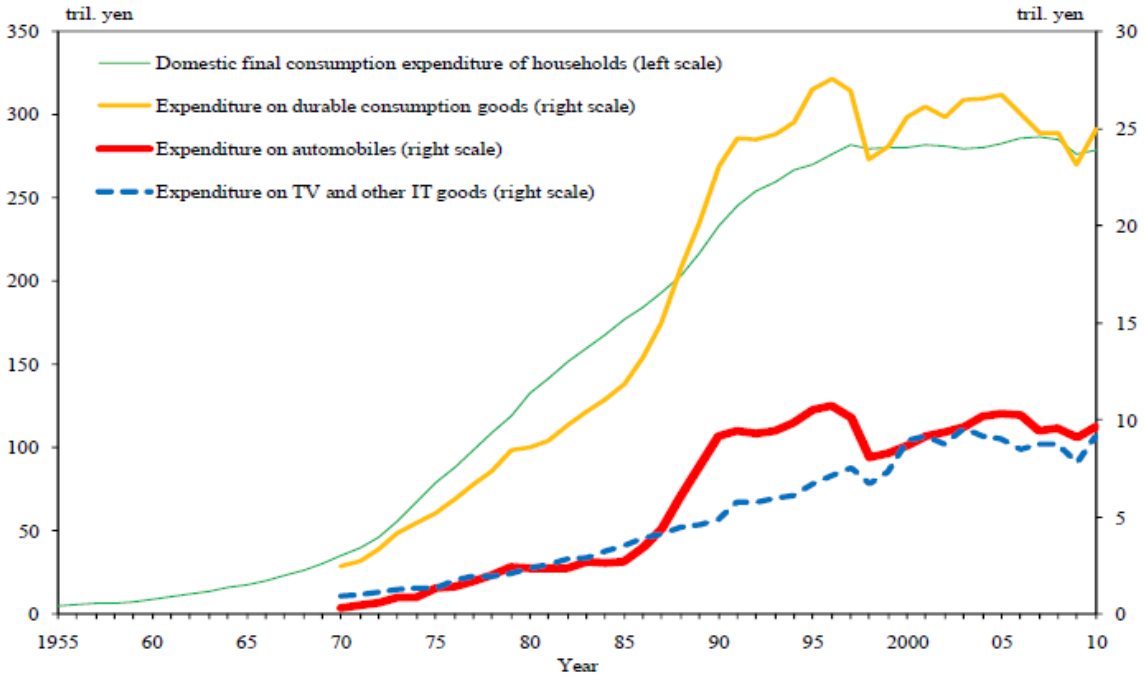
Income per Capita and Consumption Expenditure in Japan



Source: Cabinet Office.

Chart 9

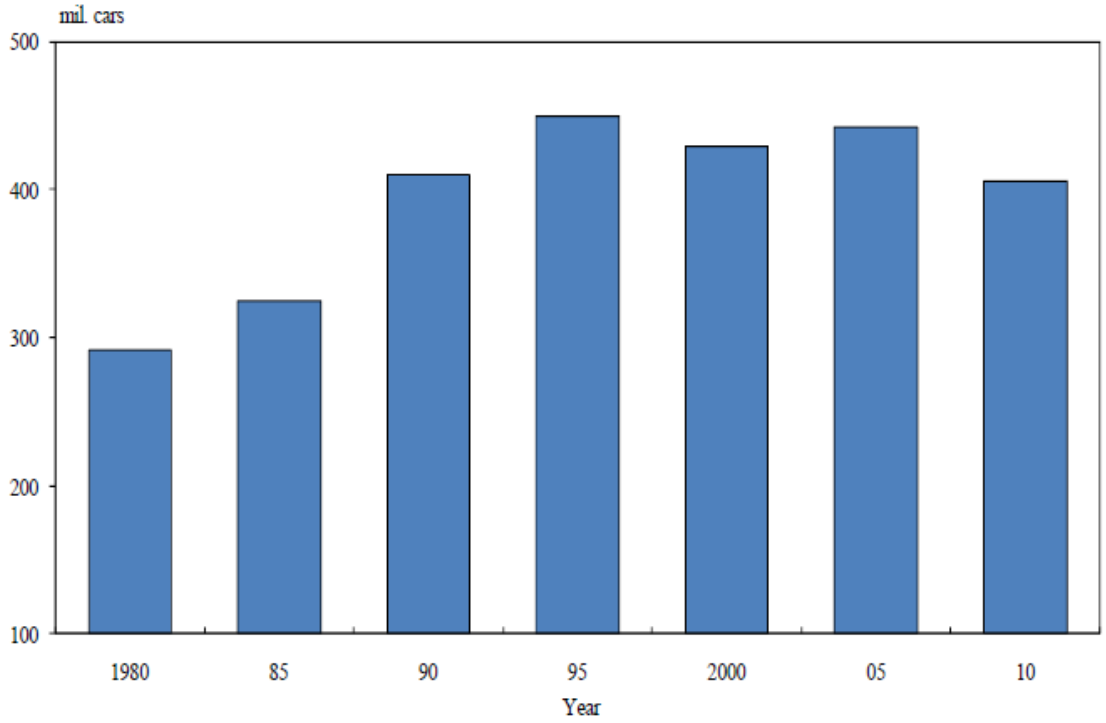
Consumption Expenditure on Durable Goods in Japan



Source: Cabinet Office.

Chart 10

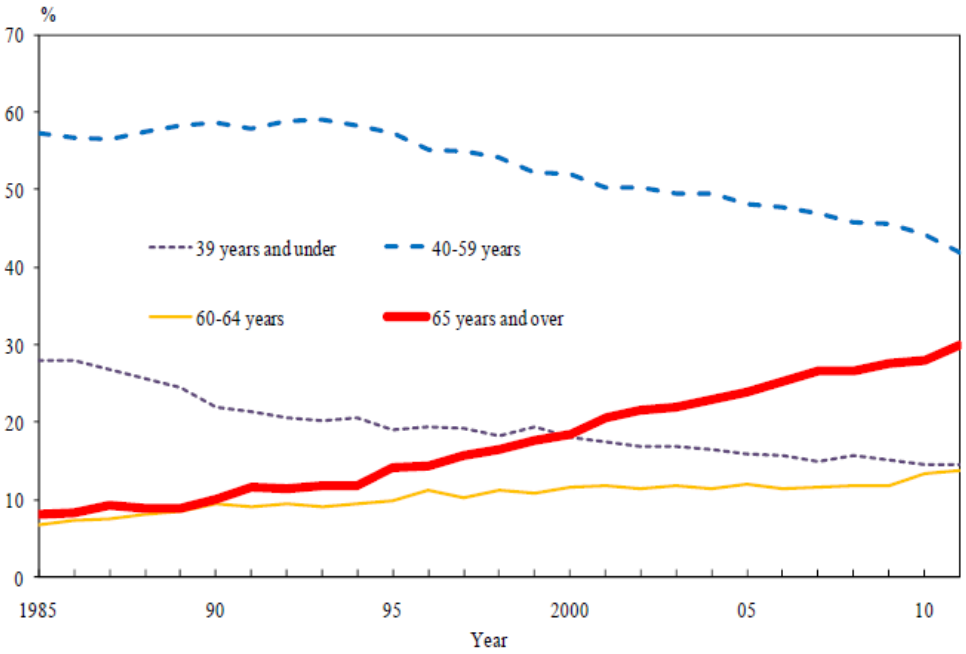
Domestic Car Sales in Japan



Sources: Japan Automobile Dealers Association; Japan Mini Vehicles Association.

Chart 11

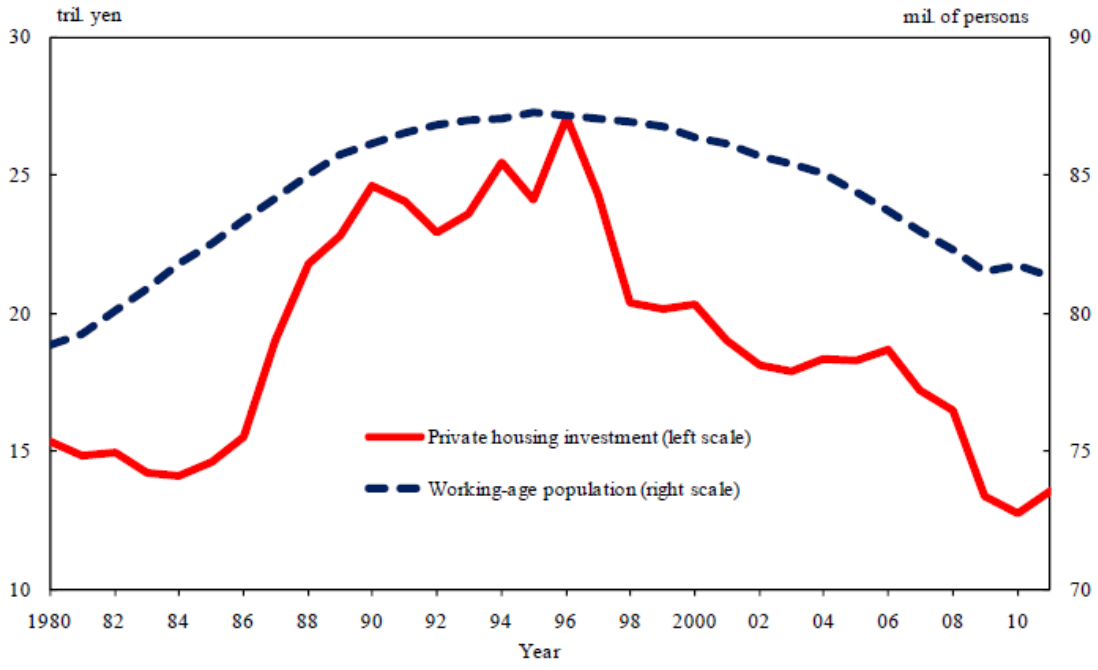
Share of Consumption Expenditure by Age of Household Head in Japan



Source: Ministry of Internal Affairs and Communications.

Chart 12

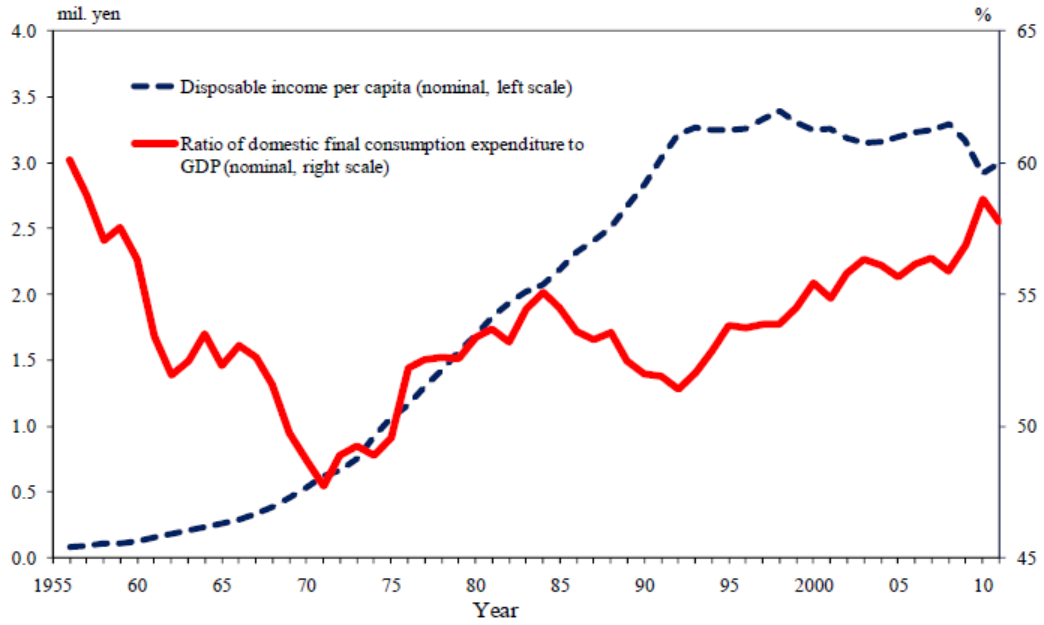
Working-Age Population and Housing Investment in Japan



Sources: Cabinet Office; Ministry of Internal Affairs and Communications; Ministry of Land, Infrastructure, Transport and Tourism.

Chart 13

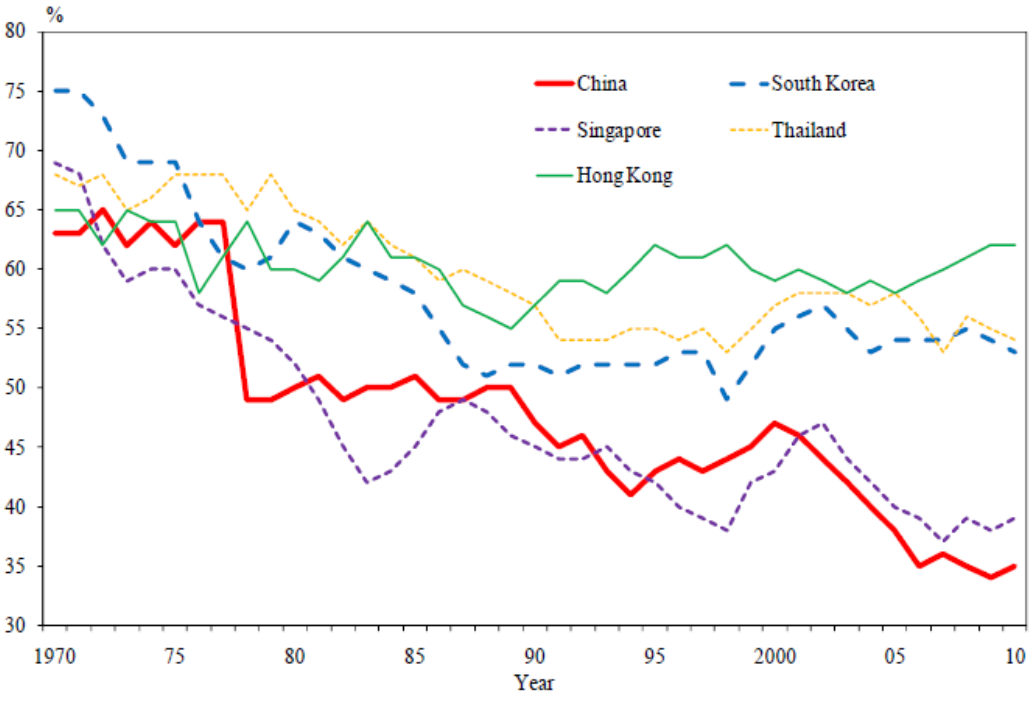
Per Capita Income and Consumption Expenditure in Japan



Source: Cabinet Office.

Chart 14

Consumption Expenditure in Asian Economies (as a Percent of GDP)



Source: United Nations.

Chart 15

Outlook for Economic Activity and Prices (as of late October 2012)

(1) Real GDP

(2) CPI (All Items Less Fresh Food)

Note: Based on the aggregated probability distributions (i.e., the Risk Balance Charts) compiled from the distributions of individual Policy Board members, the Forecast Distribution Charts are compiled as follows. First, upper and lower 10 percentiles of the aggregated distributions are trimmed and second, colors indicated below are used to show the respective percentiles of those distributions. The circles in the bar charts indicate the median of the Policy Board members' forecasts (point estimates). The vertical lines in the bar charts indicate the range of the forecasts of the majority of Policy Board members. The forecast for the CPI excludes the direct effects of the scheduled consumption tax hikes.

Upper 40% to lower 40%	Upper 30 to 40% & lower 30 to 40%	Upper 20 to 30% & lower 20 to 30%	Upper 10 to 20% & lower 10 to 20%

Chart 16

The Bank of Japan's Pursuit of Monetary Easing

(1) Comprehensive Monetary Policy

1. Introduction of "the Price Stability Goal in the Medium to Long Term"

- ✓ A positive range of 2% or lower in terms of the year-on-year rate of change in the CPI.
- ✓ A goal of 1% is set for the time being.

2. Commitment to Maintaining Monetary Easing

- ✓ Continuing monetary easing until the goal of 1% is in sight.
- ✓ The virtually zero interest rate policy and the Asset Purchase Program (government bonds, corporate bonds, CP, ETFs, REITs, etc.)
  - ➢ On condition that no significant risk to the sustainability of economic growth (including from the accumulation of financial imbalances) is identified

3. Expansion of the Asset Purchase Program

- ✓ Initially about 35 trillion yen (Oct. 2010)
  → About 91 trillion yen (1.1 trillion U.S. dollars) by end-Dec. 2013

(2) Loan Support Program (Total Amount: Unlimited)

1. Growth-Supporting Funding Facility

- ✓ Providing funds to financial institutions based on their actual lending and investment performance in growth-enhancing sectors
- ✓ Total amount prepared: 5.5 trillion yen (70 billion U.S. dollars)*

*General features (total: 3.5 trillion yen), supporting equity investments and asset-based lending (0.5 trillion yen), supporting small-lot projects (0.5 trillion yen) , the U.S. dollar lending arrangement (12 billion U.S. dollars, market interest rate)

- ✓ Duration: maximum up to four years (including rollovers)
- ✓ Loan rate: 0.1% per annum (fixed)**

**The Bank's target for the uncollateralized overnight call rate at the time of loan disbursement

2. Stimulating Bank Lending Facility

- ✓ Providing funds to financial institutions upon their request up to the amount equivalent to the net increase in lending from the designated date
- ✓ Total amount: unlimited (no upper limit)
- ✓ Duration: maximum up to four years (including rollovers)
- ✓ Loan rate: 0.1% per annum (fixed)**