

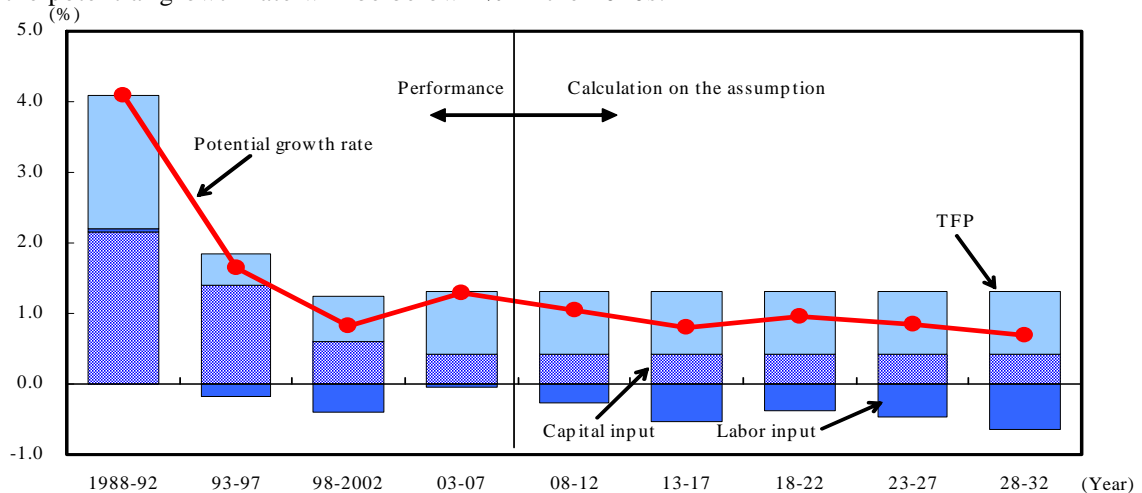
Chapter 3 Aging/Population Decrease and Financial Problems

Section 1 Impact of Aging/Population Decrease on Economy

- One of the risks that the Japanese economy bears is the issue of rapid aging of the population accompanied with overall population decrease, with a large amount of national debt.
- Aging and population decrease places downward pressure on economic growth, but such negative impact can be reduced by enhancing productivity through further opening the Japanese economy to the world.

Figure 3-1-2 Estimated expansion of potential growth rate

Assuming the TFP, growth in capital input and employment rates to remain at the current level, the potential growth rate will be below 1% in the 2020s.

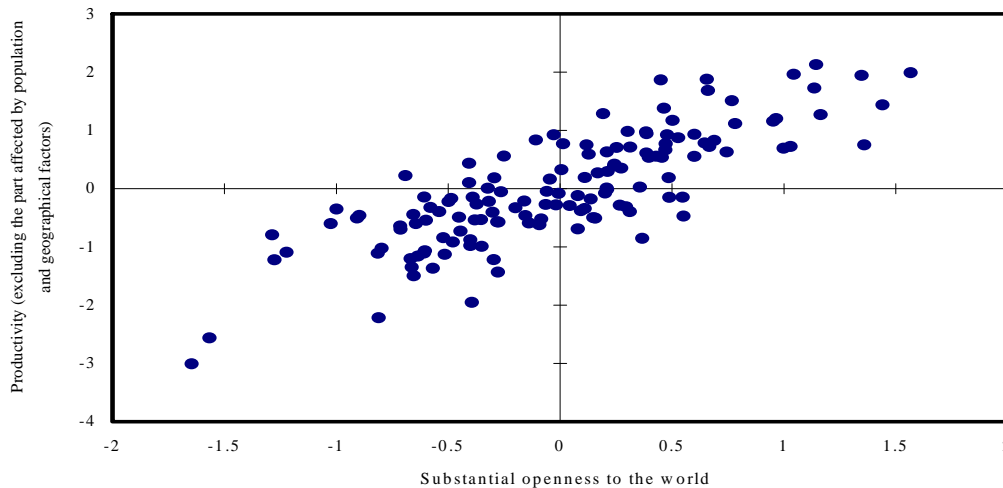


Note: Calculation is made, assuming that the TFP, growth in capital input and employment rates (rates of employed persons out of the population of between 15 to 64 years of age and out of the population of 65 years of age or older) in 2008 and after remain at the level of years between 2003 and 2007 and that the population of such age groups will follow the projected figures (based on moderate-range projection both for the birth rate and death rate). The employment rates are calculated assuming the labor participation rates for the aforementioned age groups do not change from those for years between 2003 and 2007.

Source: Created based on “National Accounts” and “Gross Capital Stock of Private Enterprises” (Cabinet Office), “Indices of Industrial Production” (Ministry of Economy, Trade and Industry), and “Population Projections for Japan” (National Institute of Population and Social Security Research)

Figure 3-1-6 Relations between productivity and the state of openness to the world

Higher openness to the world has positive impact on productivity.



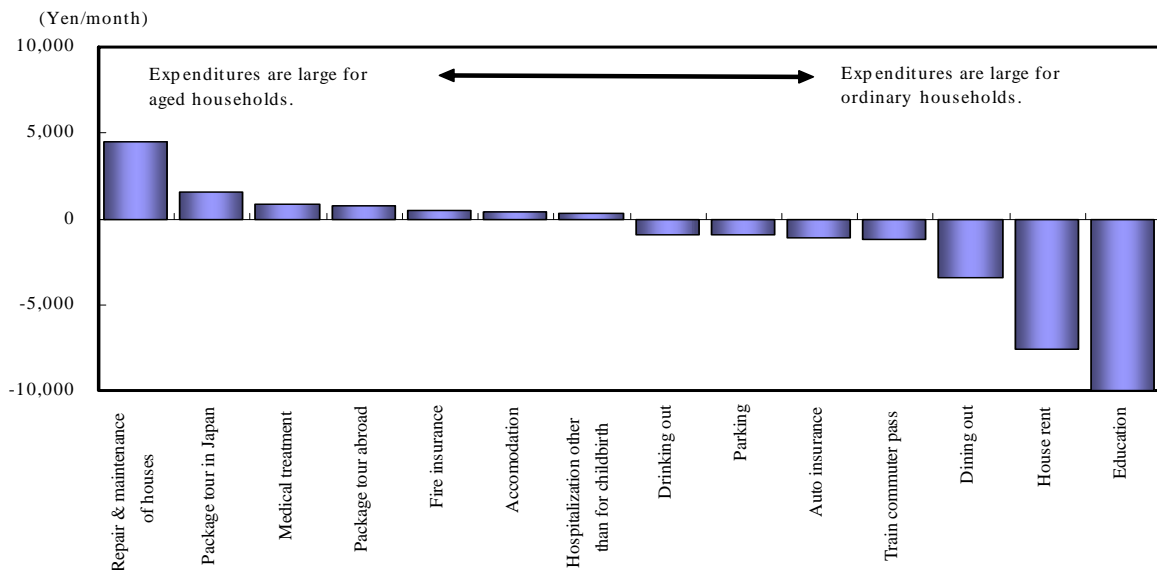
Note: The Openness to the world is the amount of imports and exports compared with GDP (on PPP basis)

Source: Created based on “Alcalá and Ciccone (2004)”

- Aging and population decrease has impact not only on the macro growth rate but also on the economic structure. In terms of expenditures, an increase is expected in consumption, in particular, in the percentage of service consumption.
- As the growth of productivity is low for the services industry, they need to enhance productivity by introducing IT and promoting collaboration and competition with their overseas counterparts.
- It is important to hold the perspective of promoting globalization and technical innovation

Figure 3-1-8 Comparison of service expenditures between aged households (with the head of 65 years of age or over) and average of overall households

Expenditures on traveling and repair charges and maintenance fees of houses are large for households with the head of 65 years of age or over, while those for house rent and dining out are small.

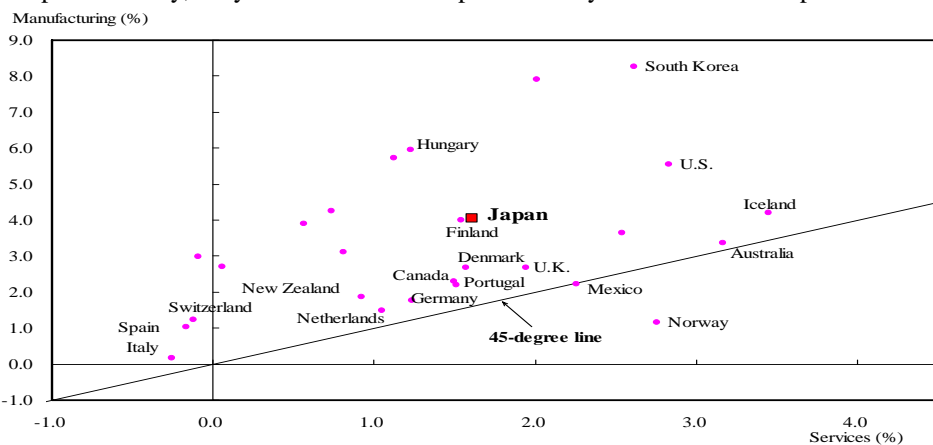


Note: The average service expenditures for overall households amount to 110,821 yen per month. Those for households with the head of 65 years of age or over are 87,001 yen per month (approximately 79%).

Source: Created based on “2004 National Survey of Consumption” (Ministry of Internal Affairs and Communications)

Figure 3-1-10 International comparison of growth in labor productivity for manufacturing industry and services industry

An increase in the production share of the services industry, which has relatively low productivity, may deteriorate labor productivity of the overall Japanese economy.



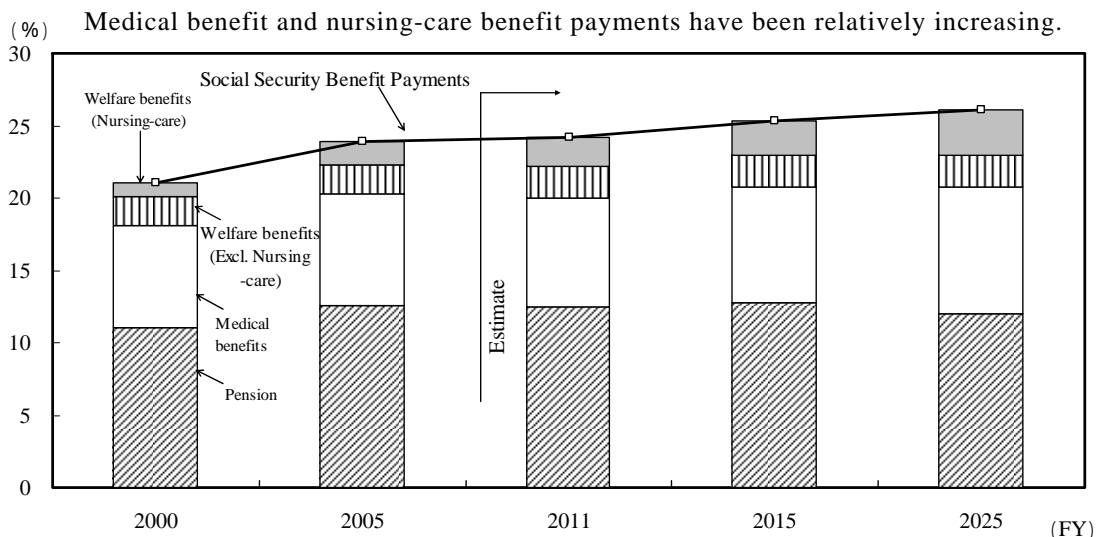
Note: Annual growth rate based on the most recent data available between 1995 and 2003

Source: Created based on “Compendium of Productivity Indicator 2006” (OECD)

Section 2 Aging/Population Decrease and Social Security Finance

- The advance of aging will inevitably increase social security benefit payments under the current system. The ratio of pension to national income will remain at the same level, but that of welfare including medical benefits and nursing-care benefits is expected to increase.
- At present, the level of social security benefits and burdens of Japan is not so high on an international basis, but has been on the rise due to aging.

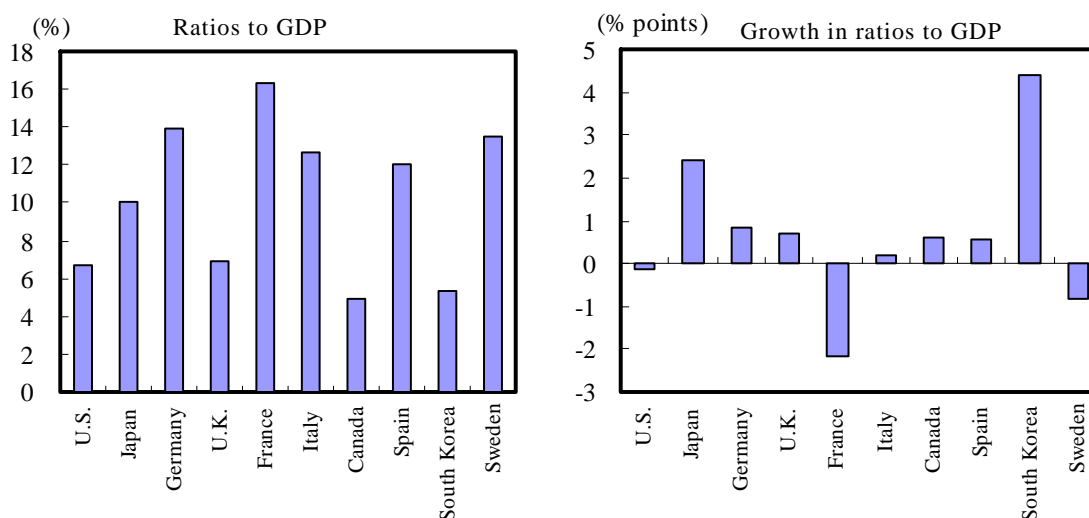
Figure 3-2-1 Impact of aging on finance (Ratio of social security benefit payments to national income)



Source: Created based on “The Cost of Social Security in Japan (FY2005)” (National Institute of Population and Social Security Research) and “Estimates of Social Security Benefits and Burdens (2006)” (Ministry of Health, Labour and Welfare)

Figure 3-2-5 Social security burdens

The ratios of social security burdens to GDP differ for respective countries, depending on their taxes and insurance burdens, but are on the rise generally.



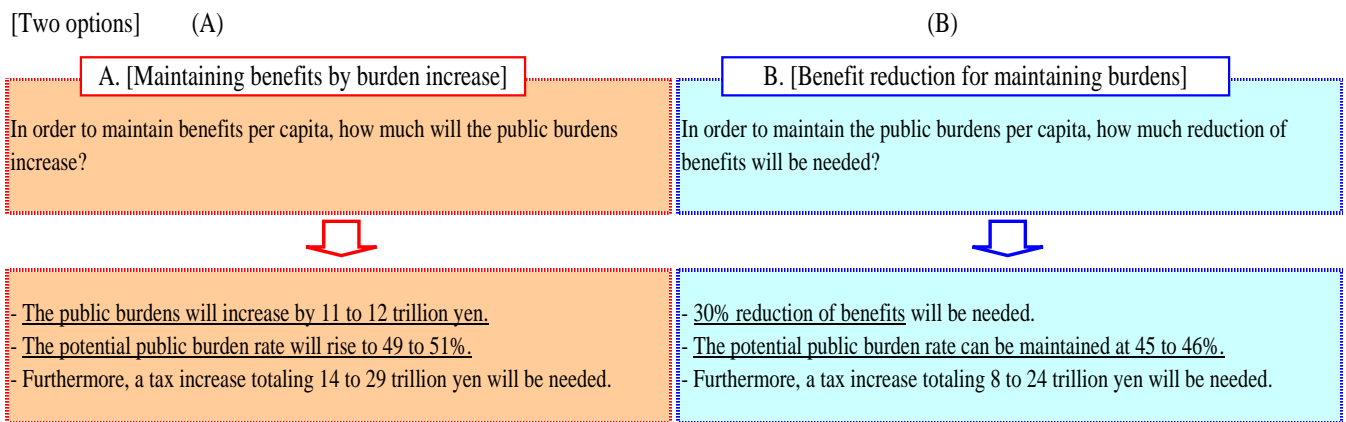
Notes: 1. Social security burdens include social security burdens incurred by employees and employers, and by business operators.
2. Figures above show the top nine countries in the OECD in terms of nominal GDP sizes (2005) and Sweden, as a reference for considering social security systems.

Source: Created based on “Revenue Statistics (2007)” (OECD)

- Where increasing social security benefit payments increase burdens, it is important to create a mechanism that will not inhibit labor and capital supply to maintain economic growth. It is also important to ensure that benefits would not discourage people from working.
- According to the survey result, many respondents would prefer a reduction of social security benefits per capita to burden increases, although there were differences of opinion by age

- At the Council on Economic and Fiscal Policy held in October 2007, two model cases – A) “Maintaining benefits by burden increase” and B) “Benefit reduction for maintaining burdens” – were presented as options of the mid-term social security policy.
- According to the result of the survey on these two model cases conducted in February and March, 2008, nearly half of the respondents preferred B) and a quarter of them preferred A). However, it is observed that older respondents are apt to support A).

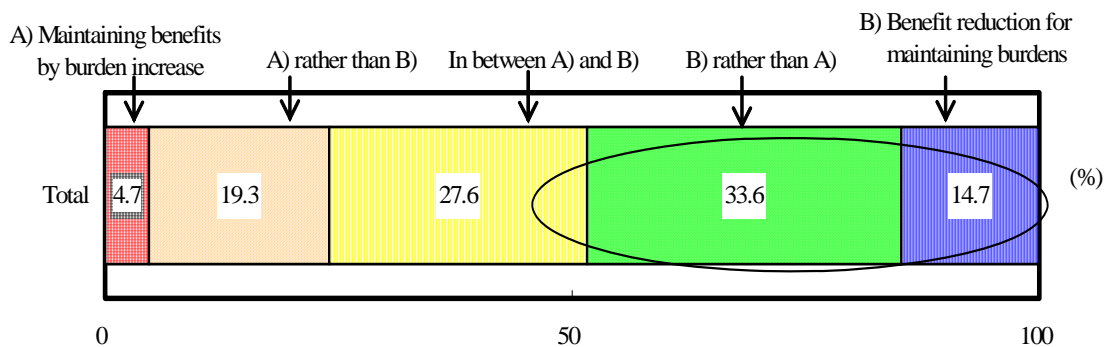
Figure 3-2-2 Mid-and-long term social security system options presented at the Council on Economic and Fiscal Policy



Source: Created based on documents presented at the Council on Economic and Fiscal Policy (Oct. 17, 2007)

Figure 3-2-10 Preference concerning benefits and burdens of social security

As a whole, a higher percentage of the respondents support B) rather than A).

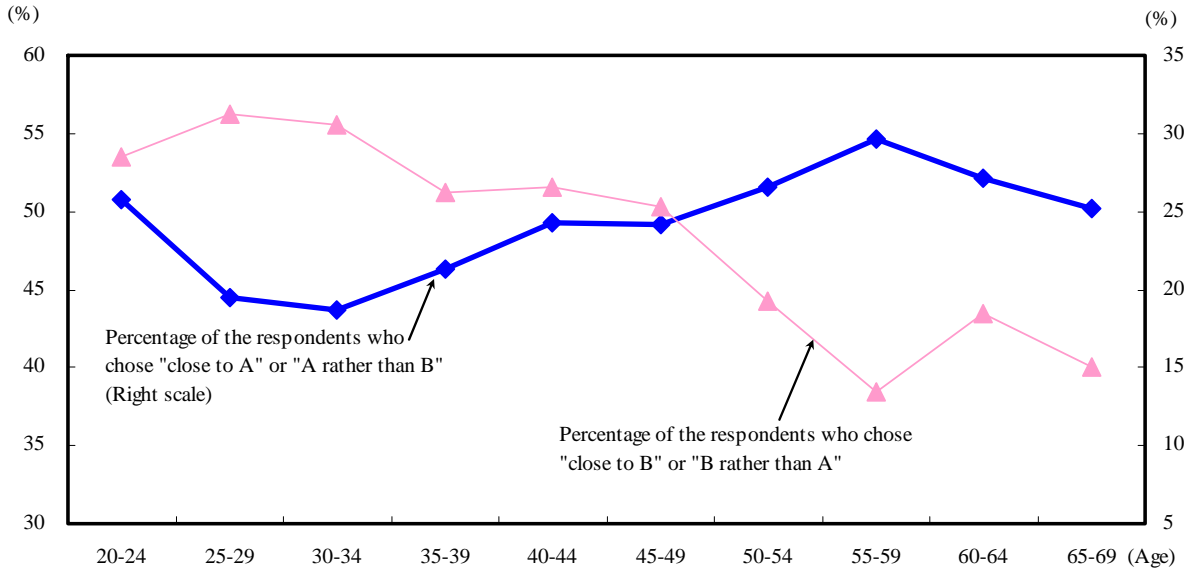


Notes: 1. Classification of regions, sexes and ages of the samples follows that for the 2005 National Census.

2. Valid response: 4,415 (response rate: 88.3%)/ Sampling from nationwide registered monitors for large-scale surveys (age: 20 to 69)

Source: Created based on “Survey of Household Economy on Life and Behavior (2008)” (Cabinet Office)

Figure 3-2-11 Preference concerning benefits and burdens of social security by age



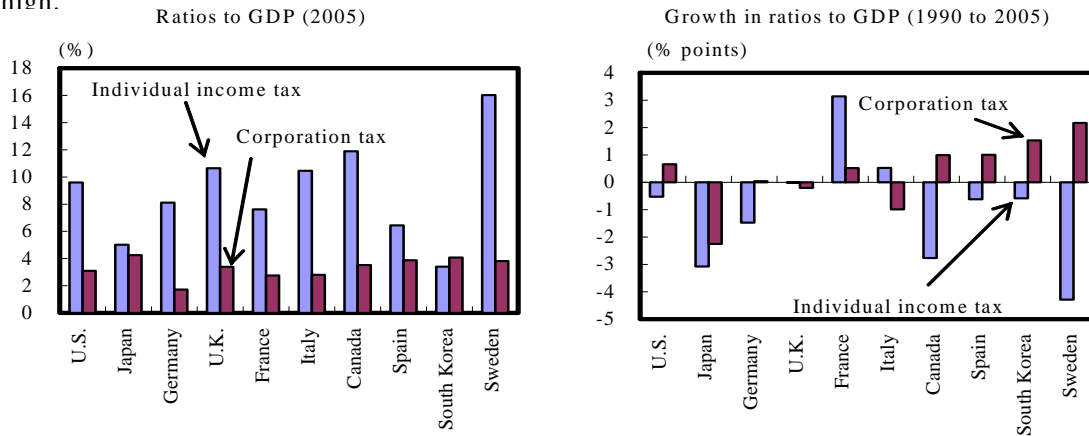
Source: Created based on "Survey of Household Economy on Life and Behavior (2008)" (Cabinet Office)

Section 3 Aging/Population Decrease and Revenue Structure

- The advance of aging and population decrease will inevitably modify the Japanese revenue structure. It is necessary to curb burden increase on workers and enhance their willingness to work. Furthermore, amid increasing capital mobility, the development of an environment attractive to enterprises is required. Under such circumstances, it has become more and more difficult to impose excessive burdens on the income of individuals and corporations.

Figure 3-3-3 Taxation on individual income and corporate income

In most countries, taxation on individual income has been decreasing in comparison with GDP. A decline in corporation tax in Japan is notable, but the level of corporation tax in Japan is still rather high.

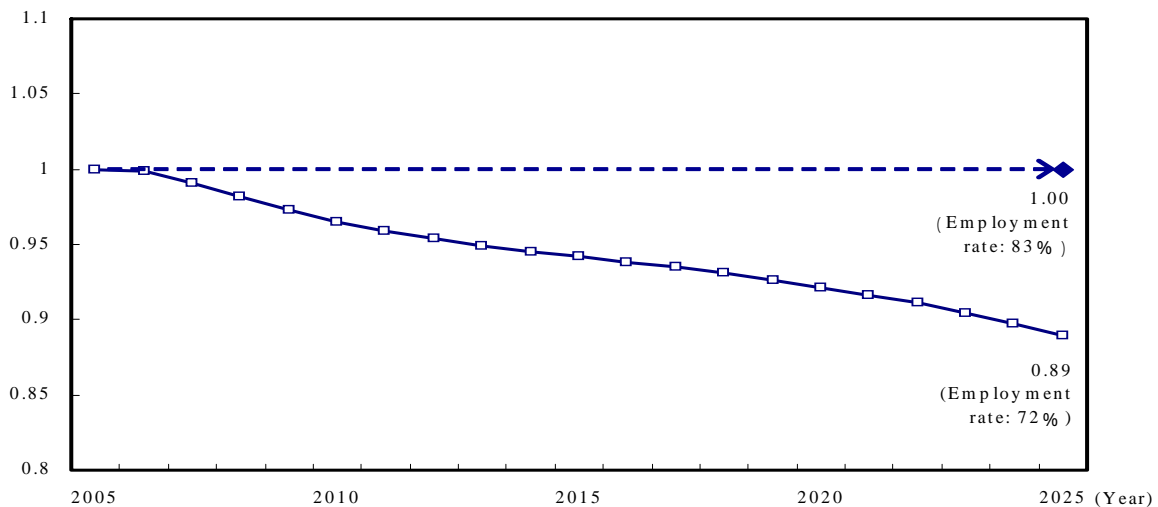


Notes: 1. Individual income tax includes income tax imposed on individuals (including local tax).
 2. Figures above show the top nine countries in the OECD in terms of nominal GDP sizes (2005) and Sweden, as a reference for considering social security systems.
 Source: Created based on “Revenue Statistics (2007)” (OECD)

- A decline in labor force will decrease remuneration of employees. In order to avoid this, considerable enhancement of the employment rate including female workers and wage gap adjustment between male workers and female workers is indispensable. It is difficult to have excessive expectations of taxation on individual income.

Figure 3-3-4 Changes in employee remuneration due to demographic factors based on the current wage curve (Estimate)

Based on the employment rate and wage level in 2007, when assuming employee remuneration in 2005 as 1, employee remuneration will decrease to 0.89 in 2025

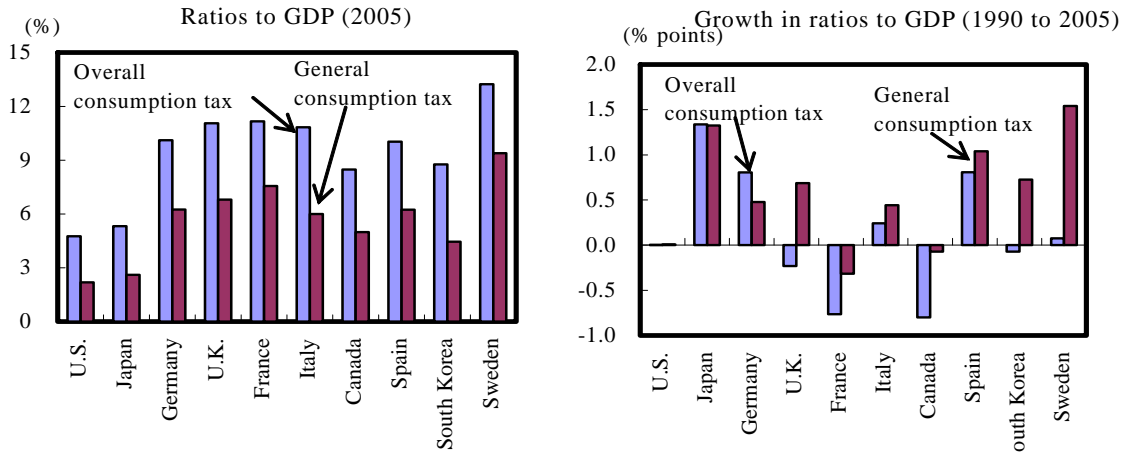


Source: Created based on “Population Projections for Japan” (National Institute of Population and Social Security Research), “Labour Force Survey” (Ministry of Internal Affairs and Communications), and “Basic Survey on Wage structure” (Ministry of Health, Labour and Welfare)

- For taxation on consumption, the significance of “general consumption tax” (equivalent to consumption tax in Japan), whose taxation base is wide and less likely to distort overall consumption behavior, has come to be widely recognized across the world. The regressivity of general consumption tax is pointed out as a problem, but a variety of measures can be taken in the framework of taxation and social security system. Such measures include establishing nontaxable items, reduced tax rates for foods, and labor tax credit.

Figure 3-3-6 Taxation on consumption

The ratios of “general consumption tax” to GDP have been increasing.

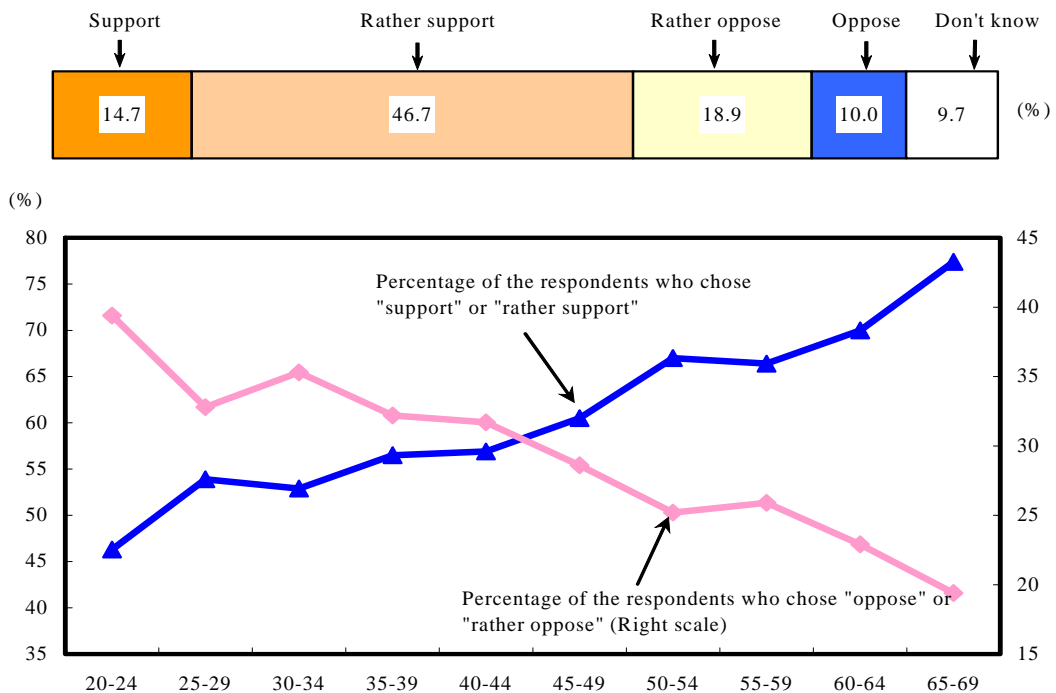


Note: Consumption tax includes taxes on specified items such as commodity tax on goods and services, VAT (value added tax), sales tax, tobacco tax, alcohol tax, and gasoline tax. Consumption tax in Spain also includes a tax for curbing environmental burdens (so-called environment tax).

Source: Created based on “Revenue Statistics (2007)” (OECD)

Figure 3-3-10 Pros and cons concerning special purpose consumption tax

More than half of the respondents support the idea to appropriate consumption tax to social security and the percentage of supporters increases with advancing age.



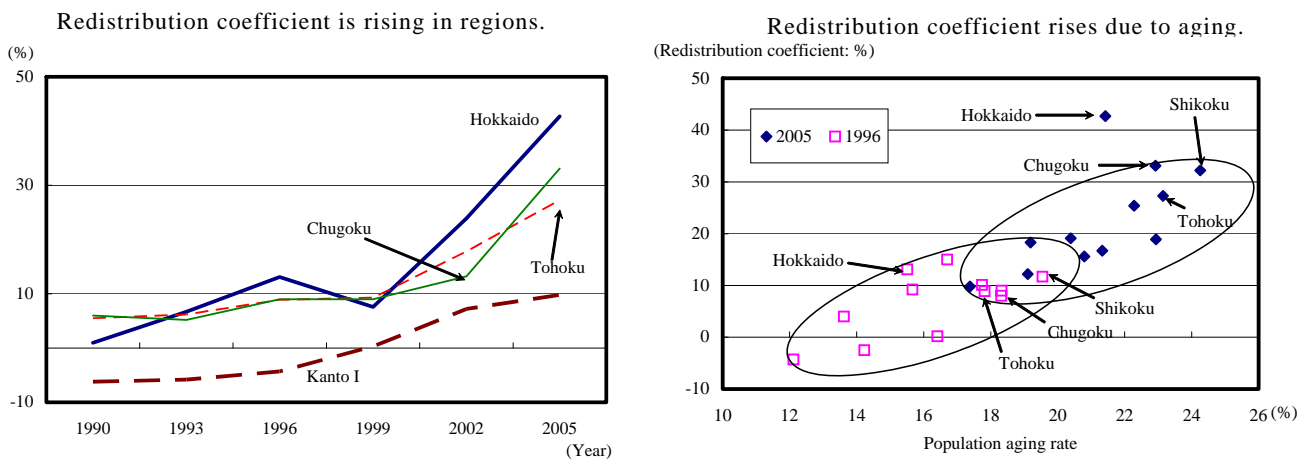
Source: Created based on “Survey of Household Economy on Life and Behavior (2008)” (Cabinet Office)

Section 4 Aging/Population Decrease and Local Finance

- Social security benefits have become more and more important for the economy of local communities, where aging and population decrease has been advancing.
- Local finance has become less dependent on public works, but social security benefit payments have increased. As a result, fiscal transfer from the central government to local governments has been increasing.

- The percentage of redistribution that the household economy receives through tax and social security benefits (redistribution coefficient) has increased year by year. In particular, the redistribution coefficient is high in regions where economic recovery is delayed and low in regions where economic recovery is relatively notable. This indicates that redistribution has worked to rectify disparities among regions. Behind this, the advance of aging can be suspected in local communities.

Figure 3-4-1 Changes in “redistribution coefficient” by region based on Income Redistribution Survey (= (redistribution income – initial income) / initial income)



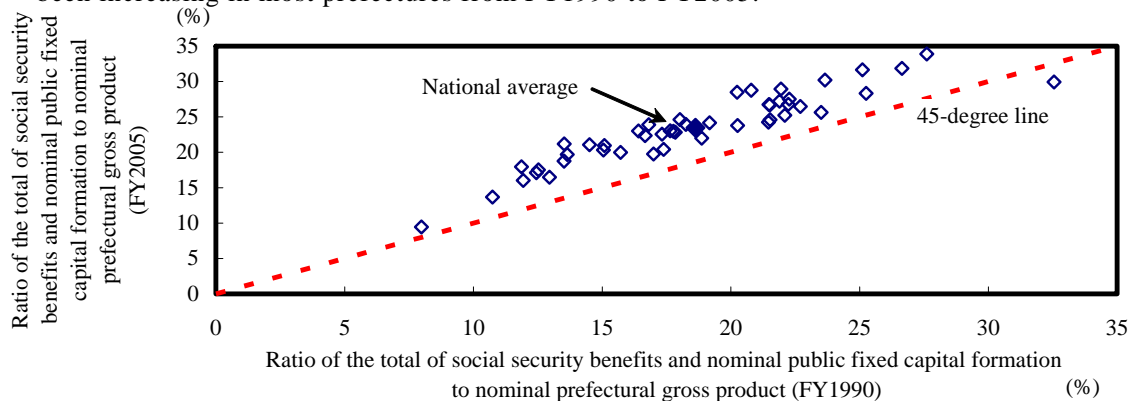
Notes: 1. For the left-hand figure, regions where the growth in redistribution coefficient is relatively high are extracted.

2. “Kanto I” in the left-hand figure means Tokyo, Chiba, Saitama and Kanagawa

Source: Created based on “Income Redistribution Survey (2005)” (Ministry of Health, Labour and Welfare; 2007), and “2005 National Census” (Ministry of Internal Affairs and Communications; 2007)

Figure 3-4-2 (3) Local governments’ dependence on public spending

The total of social security benefits and nominal public fixed capital formation has been increasing in most prefectures from FY1990 to FY2005.



Note: Benefits and burdens regarding pension, medical care and nursing care are estimated by prefecture, based on the population distribution and age distribution of respective regions.

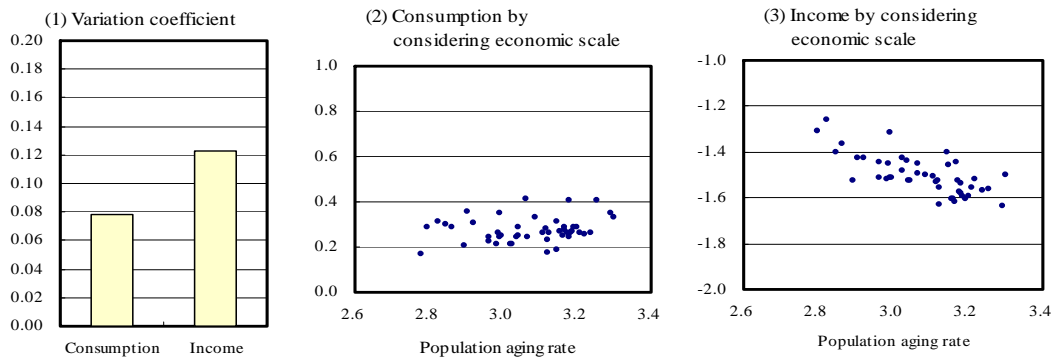
Source: Created based on “Economic and Fiscal Models by Prefecture” (Cabinet Office)

- It is pointed out that the amount of tax income varies by local government significantly for each tax item, but respective local governments need to review their own taxation structure from the perspective of ensuring stable financial resources to cope with aging society.
- However, needless to say, efforts need to be made first to prevent population outflow and revitalize local communities, before discussing the taxation system.

- By prefecture, the advance of aging and correlation thereof have caused different impacts on consumption and income, and tax income is also supposed to come under the influence of aging to some extent.

Figure 3-4-4 Relation between consumption/income per capita and population aging rate

By prefecture, consumption varies less than income, showing lower correlation with population aging rate.

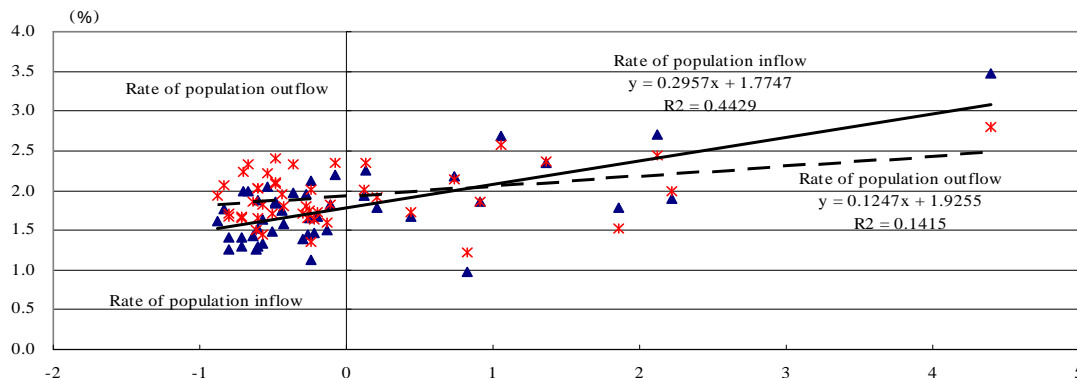


- Notes: 1. “Consumption” is the total of private final consumption expenditure and government final consumption expenditure. “Income” is the total of employee remuneration and pension.
2. Regression analysis with prefectural gross product (x1) and population aging rate (x2) as explanatory variables and consumption and income (per capita) as explained variables
Consumption: $\log(y) = 0.312\log(x1) + 0.089\log(x2) + 0.286$ Income: $\log(y) = 0.312\log(x1) - 0.487\log(x2) + 1.896$
(6.29) (1.41) (1.31) (5.30) (-6.35) (6.95)
3. Consumption and income by considering economic scale are obtained by subtracting prefectural gross product per capita and constant term of the regression formula above respectively from consumption and income. Above figures are in logarithmic display. 0.3 equals to approximately 1.35 in real numbers, -1.5 to 0.22 and 3.0 to 20.1.

- Examining factors to bring about population inflow from indices showing regional economic conditions, it becomes clear that the index related to “population/asset size” is important and the key is “concentration” on a local government basis, such as consolidating functions through municipal mergers.

Figure 3-4-5 Population inflow and outflow between prefectures

Prefectures with a larger population/asset size show a higher rate of population inflow.



- Notes: 1. Basic data area compiled for four principal components through principal component analysis.
2. The “population/asset size,” which is the first principal component, is the index mainly consisting of total population, fixed asset tax, taxable income, number of hospitals and clinics, education costs. Its contribution ratio to the overall components was 66.2%.
3. Correlation between the excess rate of population inflow (net population inflow) and the first principal component was also positive (determination coefficient: 0.63).

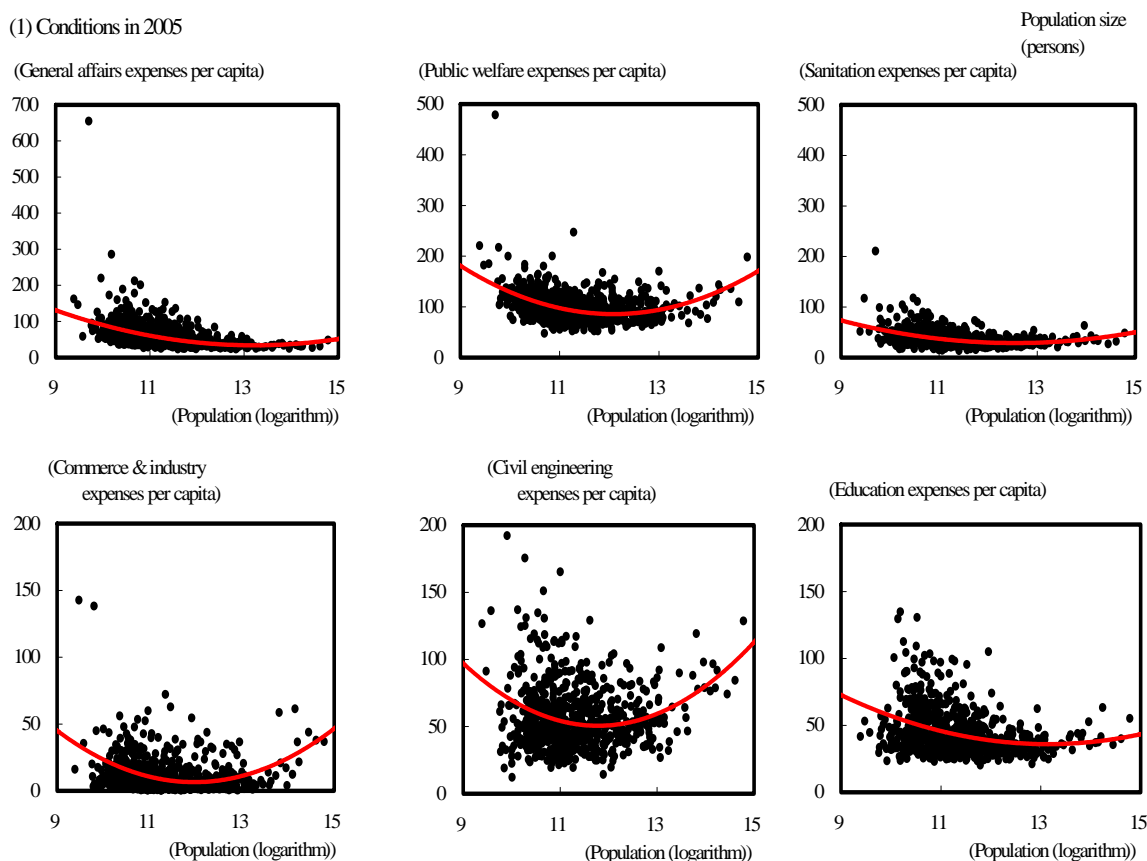
Source: Created based on “FY2005 Prefectural Account” (Cabinet Office; 2008) and “2008 Social Life Statistical Indicator” (Ministry of Internal Affairs and Communications; 2008)

- By expanding the size of a local government through municipal mergers, shared use of facilities and reduction of common costs can be expected to some extent and administrative expenditure for measures for the elderly can be allocated more effectively.
- With public works being cut, some local communities have taken progressive approaches. It is necessary for both the central government and local governments to learn lessons from domestic and overseas best practices.

- Municipalities facing aging problems are required to make efforts for realizing a certain level of population concentration and strengthening their financial basis in order to continue providing basic public services in an efficient manner.

Figure 3-4-6 Relation between expense items and municipal population size

Appropriate population size that makes the expenses smallest differs by item.



(2) Population size that makes the expenses smallest (estimate)

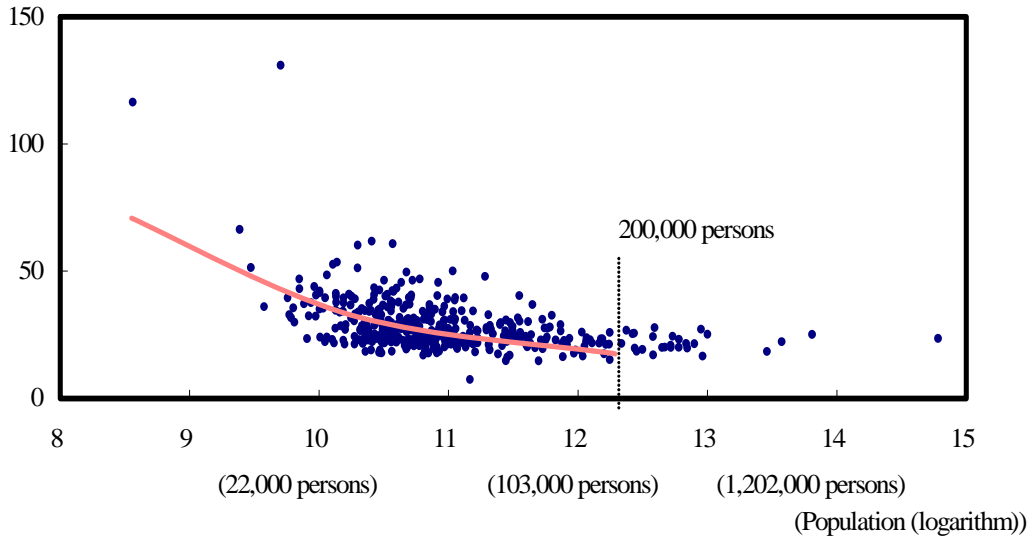
(1,000 persons)						
General affairs	Public welfare	Sanitation	Commerce & industry	Civil engineering	Education	Total
1,612	66	588	211	229	856	289

Note: The population size that makes the expenses smallest is controlled by variables such as areas, in addition to the population and the square of the population based on a random-effects model. See “Reference Material for the Workshop on Building a 21st Century Administrative and Financial System” (Cabinet Office; 2008).

Figure 3-4-7 Relation between expenses for measures for the elderly and municipal population size

When the population exceeds about 200,000, the expenses will be smallest.

(Expenses per capita for measures for the elderly; 1,000 yen)



- Notes: 1. Municipalities where the population of 65 years of age or over is 20% or more
 2. Excluding special wards
 3. The expenses for measures for the elderly mean “welfare expenses for the elderly” among the public welfare expenses, such as maintenance cost, personnel cost, supply cost for elder care facilities, medical bill for the elderly, nursing care benefit cost, social welfare allowance for the elderly and subsidiaries concerning welfare for the elderly. The expenses include cost for paying benefits, but the percentage thereof is rather small at around 10%, although it is difficult to clarify the details for each municipality.
- Source: Created based on “National Census” (Ministry of Internal Affairs and Communications) and Nikkei NEEDS

Conclusion

This report analyzed the risks faced by the Japanese economy from three perspectives--short-term, medium-term and long-term. Below, we will summarize messages identified through this analysis.

(Short-Term Risk: Developments Related to the U.S. Economy and Crude Oil Prices)

“Short-term risks” refers to various factors that could affect the prospect of the economy. Major short-term risks include (i) the slowdown of the U.S. economy, (ii) the surge in the prices of crude oil and raw materials and (iii) changes in the financial and capital markets, including the movement of exchange rates. These factors have had significant effects on the Japanese economy since the middle of 2007 and led to the stalling of the economic recovery. Underlying all of these factors is the U.S. subprime mortgage problem. The surge in the prices of crude oil and raw materials stems in part from the influx of funds into the crude oil and commodities futures markets that has been prompted by the turmoil in the financial markets due to the subprime mortgage problem. In this sense, we can say that the Japanese economy has been rocked by a “subprime mortgage shock.”

If we look back at how the economic recovery has stalled, we realize that a deterioration of the terms of trade caused by the surge in the prices of crude oil and raw materials has squeezed corporate earnings, reduced bonuses and triggered a rise in the prices of goods and services, keeping the lid on the growth in capital expenditures and personal consumption. Furthermore, a stock market plunge dampened the sentiment of companies and consumers. Meanwhile, the slowdown of the U.S. economy has led to a decrease in exports from Japan, including shipments to Asia. It should be noted that the amendment of the Building Standards Law, which has slowed down housing construction, has served as an additional drag on the economy since the middle of 2007.

Since the impact of the amendment of the Building Standards Law has been fading, the short-term prospect of the economy will depend in large part on how the subprime mortgage problem will unfold and how the U.S. economy will fare as well as the future movement of the prices of crude oil and raw materials. However, we will need to do more than just keep a close watch on the future movement of the U.S. economy and crude oil prices.

(Medium-Term Risk: Vulnerability of the Japanese Economy and Weak Risk-Taking Capability)

Then, what should we do? The essential thing to do is to recognize problems entrenched in the

Japanese economy, which constitute medium-term risks. During the most recent economic recovery, the Japanese economy has overcome the after-effects of the bursting of the economic bubble of the late 1980s, and Japanese industries, particularly export-oriented companies, have enhanced their profit-generating capability on the back of the expansion of the global economy. However, as the global economy has started to undergo structural changes, the vulnerability of the Japanese economy has been exposed. We will point out three matters regarding the vulnerability.

First, as the subprime mortgage problem and the surge in the prices of crude oil and raw materials have occurred against the background of the structural changes of the global economy, the vulnerability of the Japanese economy should be understood in relation to these dynamic changes.

Secondly, the key to overcoming the vulnerability is to take advantage of the benefits of the globalization. As it was forced to cope with the after-effects of the bursting of the economic bubble, Japan has lagged behind in carrying out forward-looking economic reforms while witnessing the structural changes sweeping through the global economy. From now on, Japan must overcome the vulnerability of its economy by absorbing the vitality of the global economy.

Thirdly, as Japan tries to overcome the vulnerability of its economy, Japanese companies and households must become willing to take risks. As long as they shy away from taking risks, Japan will remain unable to increase its growth potential, leaving the Japanese economy vulnerable to external shocks. As a prerequisite for Japan to take advantage of the vitality of the global economy for its own economic growth, Japanese companies and households must take risks while conducting appropriate risk management.

Below, we will explain the key points of debate regarding medium-term risks.

(Structural Changes of the Global Economy and Vulnerability of the Japanese Economy)

First, how have the subprime mortgage loan problem and the surge in the prices of crude oil and raw materials come about against the background of the structural changes of the global economy? The starting point was the rise of emerging countries like China. The participation of the vast labor force of the emerging countries in the global economy has expanded international trade, while demand in these countries has also grown rapidly. This, coupled with technological innovation, has reduced the relative share of developed countries' labor force in the global economy and fueled a rise in the prices of natural resources. Meanwhile, funds gained from the trade surpluses of emerging countries have flown into the United States and supported the expansion of the housing and securitized product markets there. Once these markets were thrown into turmoil, those funds were redirected to the crude oil and commodities markets.

Under these circumstances, Japan, backed by its current account surplus, has also acted as a

provider of funds. However, Japan has not been directly hit as hard by the subprime mortgage problem as other developed countries. That is because Japanese financial institutions' exposure to securitized products has been relatively small. Although major Japanese financial institutions have so far booked losses totaling around one trillion yen, the size of the losses is not so large as to destabilize Japan's financial system. Despite the limited direct impact inflicted on Japan, stock prices have fallen more steeply in Japan than in other developed countries, including the United States, the source of the subprime mortgage problem.

It is often pointed out that since the oil shocks, Japan has improved its energy efficiency as represented by a decrease in the energy intensity. However, Japan has suffered from significant deterioration of its terms of trade due to the combined effects of cuts in the prices of yen-denominated exports due to the yen's appreciation and the surge in natural resource prices. In this respect, Japan's circumstances are different from those of the United States and the European Union, for which terms of trade have not changed much. The difference partly reflects the fact that European companies have managed to deflect the impact of the appreciation of their home country currencies by raising the prices of their exports in terms of local currencies while Japanese companies have been unable to do so. Another reason for the difference is that the ratio of crude oil and raw materials to the overall imports is larger in Japan than in the United States and Europe.

(Adaptation to Globalization Is Key to Overcoming Vulnerability)

The vulnerability of the Japanese economy thus exposed reflects a major problem entrenched in it, namely its weak growth potential. Below, we will explain major elements of the weakness and set forth the direction of measures that should be taken to overcome the weakness.

First, Japan's ability to make use of domestic and overseas assets is weak. As a result, Japan's financial and capital markets are susceptible to instability, curbing the investment returns on the vast amount of assets held by Japanese households. Measures for redressing this situation include (i) strengthening the competitiveness of Japan's financial and capital markets and increasing their "depth," (ii) actively accepting foreign direct investment and (iii) promoting direct investment abroad by Japanese companies and enhancing the efficiency of the management of overseas assets. These measures are expected to increase the importance of the yen in the global markets as well.

Secondly, Japan has proved to be more vulnerable than expected to the surge in the prices of crude oil and raw materials. Certainly, in the wake of the oil shocks, Japan achieved remarkable improvement in energy efficiency in the form of reduction in energy intensity. However, its energy intensity has not decreased much in recent years as it has eased up on improvement efforts. Although the current oil price surge partly reflects an influx of speculative funds into the crude oil futures market, it also stems from a structural factor, namely the growing energy demand from

emerging countries. In short, rather than ignoring the price signal, Japan should grasp the trend and quickly shift to a more resource-efficient system. Other tasks for Japan include promoting strategic development of crude oil and other natural resources and improving its own food supply capacity.

Thirdly, domestic demand, particularly personal consumption, is weak. Behind this is stagnant wage growth, which apparently reflects the effects of technological innovation and an expansion of the low-cost labor of China and other emerging countries. In order to cope with this problem, it is important for Japan to accumulate human resources with advanced skills in fields that do not face competition from China and other emerging countries, namely “advanced human resources,” based on the recognition of the ongoing changes in the comparative advantage structure of the global economy.

(Risk-Taking Combined with Proper Risk Management)

Risk-taking is closely related to the issues discussed above. Certainly, the subprime mortgage shock has underscored the importance of risk management regarding financial products and exposed problems to be tackled, such as how to ensure proper rating of financial products. Also, it is important for Japanese companies to engage in risk hedging against currency fluctuations and deterioration of the terms of trade as part of their business globalization efforts..

With the importance of risk management in mind, Japanese companies and households need to actively take risks. The weakness of the Japanese economy’s growth potential and the low profitability of Japanese companies reflect a lack of risk-taking in various fields. Unlike in the past, the window of opportunity for Japan to achieve macroeconomic growth is limited now. Japanese companies must exploit the limited window of opportunity in order to achieve business growth. To this end, it is essential that risk money be provided by households to companies and that companies be subjected to discipline through corporate governance in order to ensure that the risk money thus provided produces returns.

It is desirable that institutional investors such as pension funds and trusts will play a greater role in exercising governance over companies through the market. Also, as banks continue to have an important role to play in providing direct and indirect support to small and medium-size enterprises, including venture companies, they should maintain and enhance their risk-taking capability. In any case, the key to ensuring the exercise of proper governance is acquiring an acute perception of growth opportunity. Therefore, it is an urgent task for Japan as a whole to develop human resources with an “acute eye” for growth opportunity. Households should also acquire an “acute eye” in the form of “financial literacy.”

(Long-Term Risk: Impact of Aging and Shrinkage of Population on Fiscal Structure)

Lastly, the impact of the aging and shrinkage of the population on Japan's fiscal structure looms as a long-term risk for Japan. Although the aging and shrinkage of the population themselves tend to be viewed as risk factors, it is possible to predict how quickly these processes will proceed. If Japan is to maintain economic growth, it will need to enhance its productivity, and necessary measures are identical to the aforesaid measures for enhancing the growth potential. Should the aging and shrinkage of the population still pose a risk to Japan on the assumption of the implementation of these measures, the risk would be relating to the country's fiscal problem of ballooning national debts.

In order to prevent the fiscal risk from materializing, Japan should now start making efforts from the following perspectives. First, given that the amount of social security benefits is certain to grow, the fiscal burden will definitely increase. In coping with this problem, it is important to take further progress of globalization into consideration and select a burden-bearing scheme that would not inhibit the supply of labor and capital. Secondly, while Japan's society is aging at one of the fastest paces in the world, the country is lagging behind in efforts to improve its fiscal health, as shown by the accumulating national debts. There is significant room for Japan to learn best practices from social security systems and tax reforms in other countries. Thirdly, the effects of the aging and shrinkage of the population will become prominent in regional economies in particular. The key to overcoming risks for Japan as a whole will be to improve the efficiency of fiscal management by achieving population accumulation and concentrating urban and administrative functions.