

Projection of pension, health and long-term care expenditures in Japan through macro simulation

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1. Introduction

Welfare state reform, especially in improving the sustainability of the social security system, is a pressing issue in Japan under an aging and declining population as well as a rapid changing of the labor market. Health expenditure is under pressure from the progress of medical technology, and long-term care expenditure will inevitably increase due to the aging of the population. Family support and benefits from employers used to play a large role in Japan. However, the functions of families are declining as typically seen by the introduction of long-term care insurance, and employers are cutting costs in order to cope with global competition and economic recession. Under these circumstances, what is necessary to reform social security is rationalization of the system, not a mere curtailing of the present system.

Japan's total fertility rate is very low (1.37 in 2008), and Japanese life expectancy at birth is among the highest (79.3 years for males and 86.1 years for females in 2008) in developed countries. Consequently, the population is aging rapidly, which has a heavy impact on welfare state reform in Japan. The purpose of this paper is to project the future scale of Japanese public pension, health, and long-term care expenditures caused by the aging of the population and low fertility, and to discuss the issues of reorganizing the social security system which will be sustainable for Japan in the coming years. The model used in this paper is based on Sato and Kato (2007), and we extend the model in order to analyze the benefit of public pension, health care, and long-term care more precisely. After reviewing the social expenditure in Japan from an international perspective in section 2, we describe simulation assumptions and results in section 3. Based on the projection results, we discuss reform issues on public pension, health care, and long-term care in section 4.

2. Present system and scale of social security in Japan

In this section, we first briefly describe the present system on public pension, health care, and long-term care, followed by a review of Japanese social expenditure from an international perspective.

Public pension

Japanese public pensions are a multi-tiered system.

The first tier is the Basic Pension, which provides universal coverage. Participation in this scheme is mandatory for all residents between the ages of 20 and 60, and the monthly premium per participant is a flat rate of 13,300 yen. The system provides an individual benefit proportional to the number of years of contribution, and the benefit for those with 40 years of participation has been 66,000 yen per month per person. The National Pension provides only the Basic Pension. The Employees Pension Insurance (EPI) covers most of the employees in the private sector, although it does not cover part-time workers. The contribution to the EPI is 15.35 percent of earnings in 2009, shared equally by employees and employers. The second-tier earnings-related pension benefits are proportional both to the number of years of contribution and the lifetime average of earnings, and benefits accrue at a rate of 0.55 percent of earnings per year (Note 1). The amount of old age pension received by retired employees is the sum of the Basic Pension (basic part) plus the earnings-related part. Past earnings are revalued every five years to reflect growth in post-tax earnings. Between reevaluations, the amount of the benefit is indexed to the increase in the CPI. After retirement, the same indexation rules apply to benefits as applies to the revaluation of past earnings.

The normal pension age has been increased from 60 to 65 years old for the basic part in the 1994 Reform, and for the earnings-related part in the 2000 Reform. The pension reform in 2004 decided to set a ceiling on the contribution rate of the EPI at 18.3 percent and reduce benefit expenditures through a lower adjustment of the pension benefit (called macro-economy indexation) for the period of 2005-2023. According to the 2004 Reform, the contribution rate to the EPI will be increased gradually but will be fixed at 18.3 percent in 2017 and afterwards, and pension benefits need to be lowered accordingly. However, it was explained by the Ministry that the model replacement rate (Note 2) would not fall below 50 percent when beneficiaries start receiving benefits at age 65.

Public Pension reform has been one of the major issues in recent years in Japan because the sustainability of the system is a serious concern due to the very rapid aging of the population, and financial balance of the national budget is unattainable without a sustainable public pension

system. According to the Household Survey of the Ministry of Health, Labor and Welfare (MHLW), the share of public pension benefits to the total income for the elderly households (elderly singles or couples aged 65 and over) was 71 percent in 2007, and about 60 percent of elderly households depended completely on public pensions.

Health care

The entire population has been covered by the public system, mostly through the public health insurance system since 1961. Japan has two categories of health insurance (employment-based Health Insurance and residence-based National Health Insurance), and there used to be a special program for the elderly. There are hundreds of separate sickness funds (or insurers) linked to a person's employer, occupation, or geographic location. Each fund provides coverage for a person and his or her dependants. Insured persons cannot choose a sickness fund. While there are many similarities among sickness funds in terms of health services covered and reimbursement procedures for services provided, there are systematic differences in available benefits and the level of national subsidy. The Japanese reimbursement system still uses a fee-for-service, and the same nationwide fee schedule is applied to physicians and hospitals. The contribution rate of Health Insurance was 8.2 percent of wages in 2008, shared evenly by employers and employees. A patient's cost-sharing used to be different among different schemes, but it has been unified to 30 percent of healthcare costs for non-elderly patients and 10 or 20 percent for elderly patients. However, there is an upper ceiling on patients' cost-sharing, and the cap is lower for low-income persons.

The Health Service Program for the Elderly was first introduced in 1983 to equalize the burden of healthcare costs of the elderly among various health insurances and to ask elderly patients for reduced cost-sharing. The age of eligibility for the Health Service Program for the Elderly (HSE) had gradually increased from 70 to 75 years old in the 2002 Reform. In the 2006 Reform, it was decided to replace the HSE by a new health insurance for the elderly aged 75 or over from April 2008. Under the new scheme, all elderly persons including those who were dependent have to pay contributions. One of the main reasons to introduce the long-term care insurance in 2000 was to reduce the number of so-called socially induced hospitalization cases, especially among elderly patients.

Long-term care for the elderly

The main purposes of Japanese Long-term Care

(LTC) Insurance implemented in April 2000 are to divide the burden of caring for the elderly among all members of society and to lessen the burden upon family caregivers. However, it is also intended to relieve some of the financial pressures on the health expenditures of the elderly, in which long-term stays of elderly patients in hospitals have been included. Those insured are persons aged 65 or older as well as persons aged 40 to 64 years old who are subscribers to health insurance. Benefits are mainly for the elderly aged 65 or over. Beneficiaries are classified into one of six levels of care needs according to their level of physical and mental functions. The income and family situation of the elderly are not considered in determining the level of care needs. It is possible to combine services which are covered by insurance with those which are not covered, although such flexibility is not usually allowed in public health insurance. There is no cash option in the benefit package. From the point of view of providing service properly and efficiently, a care management approach is adopted and a care service plan is to be prepared for each beneficiary.

LTC Insurance is financed through a combination of contributions, government subsidies and user charges. Service users must pay 10 percent of the expenses, although there is an upper ceiling for this user charge. Apart from user charges, half of the funding is from mandatory insurance contributions, and the other half is from public tax revenues. The level of contribution from the elderly is determined by each municipality, and thus differs depending on the facilities and services available, as well as the take-up rate of insured persons within the municipality. It is income-related, and there are some measures to reduce the contribution for low-income persons. The average monthly contribution per elderly person is estimated to be 4,100 yen. For institutional care, apart from a 10 percent user charge, the beneficiary pays for meals and lodgings based on the average amount consumed by the elderly at home (23,000 yen per month).

Projection

According to national sources, Japanese public pension expenditure was 47.3 trillion yen (9.3 percent of the GDP), health expenditure was 33.1 trillion yen (6.5 percent of the GDP) and long-term care expenditure was 6.4 trillion yen (1.3 percent of the GDP) in FY2006. It is plausible that the sum of health and long-term care expenditures may exceed pension expenditure in the future, because health expenditure will inevitably increase and long-term care expenditure may double sooner or later, both

due to the aging of the population. Table 1 show some projection results of social expenditures in future years. Taking the long-term care expenditure as an example, not only the scale, but also the

distribution between institutional services and home care services are quite important in viewing the results of the projection.

Table 1 Projection of social expenditures in Japan: as percent of GDP (in %)

Public program	Benefit expenditure		Total expenditure		
	2006	2025 a	2006	2025 b	2050 c
Pension	9.2	8.8~9.5	9.2		
Health	5.5	6.5~7.0	6.5	8.6~8.9	8.5~10.3
Long-term care	1.2	2.3~2.5	1.3	3.0	2.4~3.1
Total	15.9	17.5~19.0	16.9		

Note: Total expenditure = Benefit expenditure + patient's cost-sharing & user charge

a MHLW (2006)

b National Council on Social Security (2008)

c OECD (2006)

Social expenditures

There is a wide range of variation in the scale of social expenditures among developed countries, and the aging rate (the proportion of those aged 65 or over to the total population) seems to have nothing to do with the social expenditure level. Among the six countries in Table 2, the Japanese aging rate is the highest, but social expenditures of public programs as a percentage of GDP in Japan is the second lowest: below 20 percent in the US and Japan and around 30 percent in continental Europe. As seen in Table 2, only 45 percent of total health expenditure is covered by public system in the US.

If employer-sponsored health insurance is covered by public programs, then the scale of social expenditures in the US is larger than Japan. The share of mandatory corporate/private pensions is large in the UK and US, resulting in a relatively small share of public pension in these countries. Taking these circumstances into account, expenditures are heavily biased towards the elderly in Japan. It does not mean that pension benefits are large in Japan than the other developed countries, but it does mean that family benefits, incapacity-related benefits, and welfare benefits are under-developed in Japan.

Table 2 Social expenditures in 6 countries: as percent of GDP: 2005 (in %)

	France	Germany	Japan	Sweden	UK	USA
Social expenditure (Public) a	29.4	27.1	19.1	30.1	22.0	16.3
Old age/Survivors	12.8	11.6	10.3	10.2	6.8	6.1
Incapacity-related	2.0	2.9	0.9	6.0	2.4	1.5
Health	7.8	7.7	6.3	6.8	7.1	7.2
Family	3.1	2.1	0.8	3.5	3.1	0.6
Active labour market/Unemployment	2.6	2.6	0.6	2.5	1.0	0.4
Housing/Others	1.2	0.3	0.3	1.1	1.6	0.6
Health expenditure b	11.2	10.7	8.2	9.2	8.2	15.2
Public	8.9	8.2	6.7	7.5	7.1	6.9
Private	2.2	2.5	1.4	1.7	1.1	8.4

a OECD (2008), Social Expenditure Database 2008

b OECD Health Data 2008

3. Simulations

3.1 Framework

In this paper, we use a simplified model, which contains a macroeconomic block and a social security block. We assume that the social security

block consists of public pension, health care, and long-term care. We further assume that the level of social security expenditure will influence the macro economy via a change in the savings rate.

The macroeconomic block is designed to be

supply side-oriented; this is a long-term model to review the relationship between economic growth and social security finance. The relationships between variables are shown in Fig. 1. In this model, the household savings rate is influenced by the social security block. The labor supply is decided by the number of the working population, the

unemployment rate, and the hours worked. Real gross domestic product (GDP) is decided by the factors employed. The data are based on SNA, and equations are estimated from 1980 to 2003 (Note 3). Estimated GDP by the model for the years 1980 to 2003 is well traced the actual GDP as shown in Fig. 2.

Fig.1 Relationships between variables

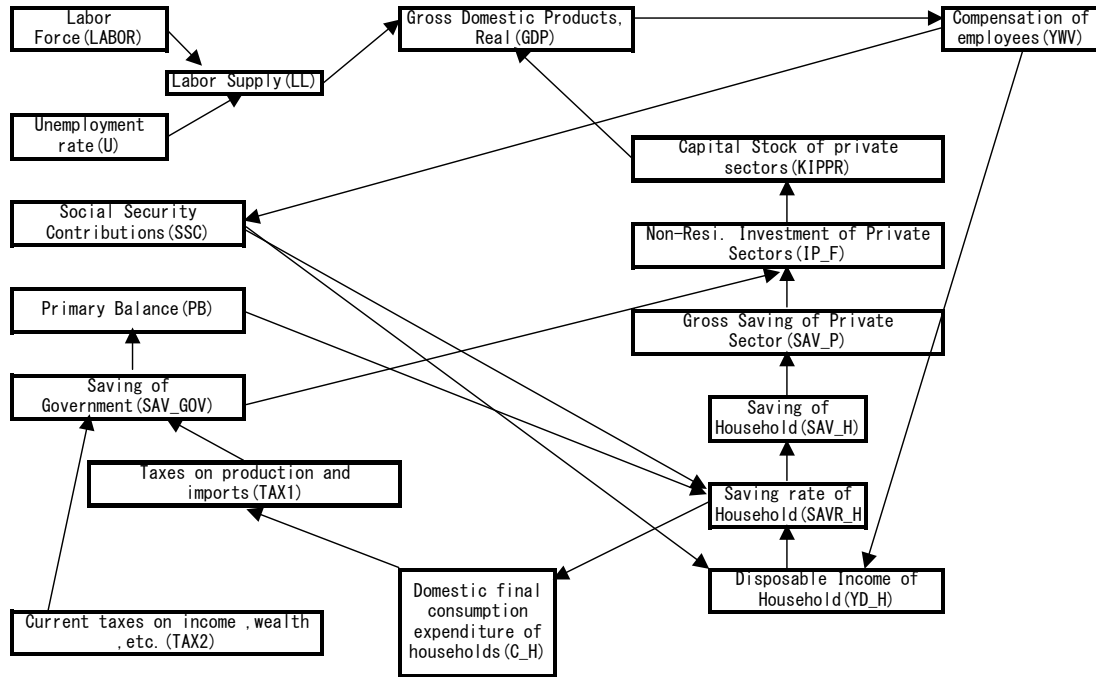
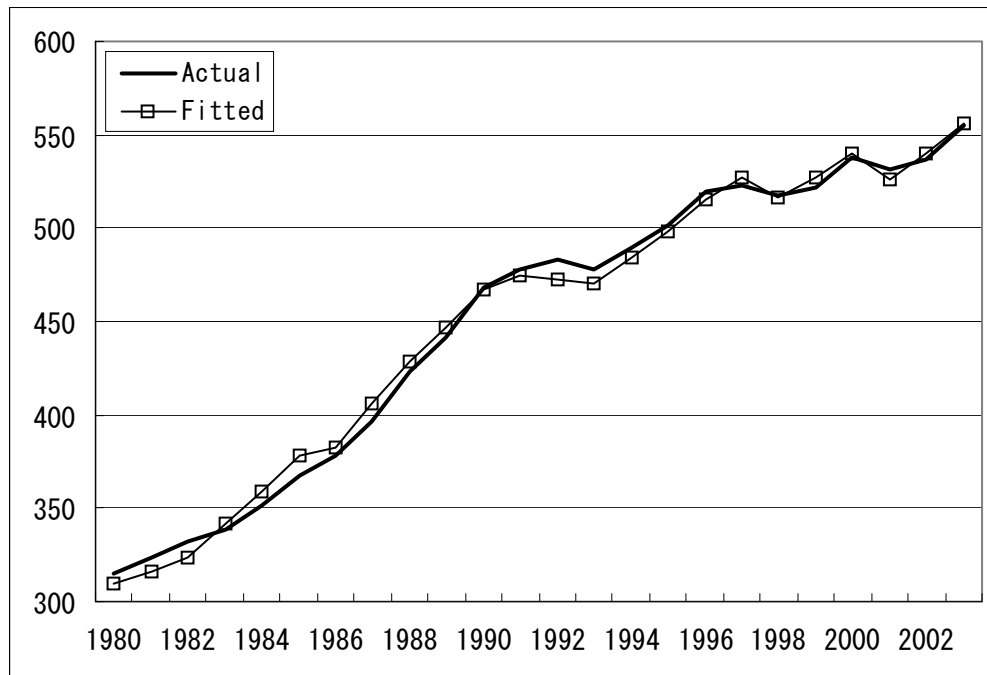


Fig.2 Nominal GDP from 1980 to 2003



Concerning the social security block, we focus on the expenditure of the social security system (public pension, healthcare, and long-term care), which explains most of the social protection. For the public pension, we estimate the expenditures based on the data from the EPI and the National Pension. The total amount of healthcare expenditure is estimated based on the data from the government-managed Health Insurance. The public expenditure on long-term care is based on the data from the Long-term Care Insurance, although the system has been introduced only in April 2000.

A detailed framework of the model is written in Sato and Kato (2007). We replace the assumptions of benefit level and economic variables in making various simulation cases.

3.2 Simulation cases

Starting from actual expenditures in FY2006, we define the baseline case as follows:

- Economic factors: derived from the model (annual price increase rate is fixed at 1 percent throughout the whole simulation);
- Demographic assumptions: middle scenario of the 2006 Population Projection; and
- Social security benefit level: based on the latest reforms (the 2004 Reform for public pension, the 2006 Reform for health care, and the 2005 Reform for long-term care).

Besides the present system, we assume two variations for pension benefits: higher (P2) and

lower (P3) than present: Note 4). For the present system only, we employ optimistic economic factors (P4: Note 5). In order to investigate the effects of demographic assumptions on pension benefits, we apply two different demographic assumptions: high scenario of the 2002 Population Projection (P5) and low scenario of the 2006 Population Projection (P6). Therefore, we conduct 6 cases altogether for public pension as shown in Table 3.

Besides the present system, we assume for a strengthened system (H3) for healthcare which was advocated by the National Council on Social Security in November 2008 (Note6). Health care expenditure is to grow in line with the GDP in the model. For the present system, we employ a higher increase rate for those aged 65 or over (H2: 2 percent per year) other than normal increase, and apply two different demographic assumptions: high scenario of the 2002 Population Projection (H4) and low scenario of the 2006 Population Projection (H5). There is no variation on economic factors, and we conduct 5 cases for healthcare as shown in Table 3.

Besides the present system, we assume two variations for long-term care benefits: higher (L2) and lower (L3) than present (Note 7). Moreover, for the present system only, we apply two different demographic assumptions: a high scenario of the 2002 Population Projection (L4) and a low scenario of the 2006 Population Projection (L5). Therefore, we conduct 5 cases for long-term care as shown in Table 3.

Table 3 Simulation cases

	Benefit		Cases
Pension	Present system		P1
	Higher benefits		P2
	Lower benefits		P3
	Present system	Optimistic economic factors	P4
		High scenario of 2002 Pop. Proj.	P5
		Low scenario of 2006 Pop. Proj.	P6
Health care	Present system	Normal increase for 65+	H1
		Higher increase for 65+	H2
	Strengthened system	Normal increase for 65+	H3
	Present system	High scenario of 2002 Pop. Proj.	H4
		Low scenario of 2006 Pop. Proj.	H5
Long-term care	Present system		L1
	Higher benefits		L2
	Lower benefits		L3
	Present system	High scenario of 2002 Pop. Proj.	L4
		Low scenario of 2006 Pop. Proj.	L5

3.3 Results

Baseline case

The Baseline case consists of the combinations of P1+H1+L1. The level of GDP will be 762 trillion yen in 2030, and its growth rate is about 2 percent. However, this may underestimate the effect of the decrease in the working population on the GDP growth rate. The pension expenditure will slowly increase from 9.7 percent of the GDP in 2010 to 12.5 percent of the GDP in 2040 (Table 4). The reserve of the EPI will still be positive in 2030, although the level is very low. The health expenditure will increase from 7.1 percent of the GDP in 2010 to 9.0 percent of the GDP in 2025, and then start decreasing afterwards. Per capita health expenditure of the elderly aged 65+ will remain at a 2030 level during 2030-2050. The long-term care expenditure will increase much faster from 1.5 percent in 2010 to 3.6 percent of the GDP in 2040. Per capita long-term care expenditure of the elderly aged 65+ will show the same trend as the total cost. Although we focus on the expenditure of the social security system in this paper, the difference between expenditures and revenues need to be considered. This difference increased rapidly after 1990 and will increase even more in future years, due to a decrease in the working age population as well as a decrease in the rate of economic growth starting from the 1990s.

Variation cases

The results of variation cases are shown in Table 4 and Fig. 3. We denote the combination of P3+H1+L1, for example, as P3 especially in Fig. 3. As we assume that the social security block is linked to the macroeconomic block through various channels, nominal GDP will differ according to simulation cases. P3 will result in the highest GDP (790 trillion yen) and L2 will result in the lowest GDP (743 trillion yen) in 2030 as shown in Fig. 3 (Note 8).

Higher pension benefits increase pension expenditure by 0.3-0.4 percent of the GDP, and lower benefits have a much stronger impact on pension expenditure per GDP. Optimistic economic factors have some impact on pension expenditure per GDP only after 2030. Optimistic economic factors have quite naturally a very strong positive impact on the reserve of the EPI. The effect of demographic assumptions is strong with proportional and continuous nature on pension expenditure per GDP.

Concerning health expenditure per GDP, a higher increase for the elderly has a devastating impact after 2035, and a strengthened system results in a higher health expenditure by about 1 percent of

the GDP. The demographic assumptions have rather strong effects on the health expenditure per GDP.

The level of long-term care benefits has a proportional and continuous impact on long-term care expenditure per GDP. The effect of demographic assumptions is relatively weak with proportional and a continuous nature on long-term care expenditure per GDP.

4. Discussion

According to the simulation results, Japanese public pension expenditure will be 9.9 - 11.1 percent of the GDP, health expenditure will be 8.9 - 9.9 percent of the GDP, and long-term care expenditure will be 2.2-2.9 percent of the GDP in 2030. Therefore, the sum of future health and long-term care expenditures will be around the same level of public pension expenditure, or even higher. It is interesting to note that an increase in the normal pension age from 65 to 70 years old will reduce pension expenditure by 3.1 percent of the GDP in 2050, and a half of the Basic Pension benefits will be covered by the consumption tax rate of above 3 percent. The results are more or less consistent with the results shown in Table 1. Of course, economic factors and demographic assumptions have certain impacts on the results of the simulation. However, it is clear that there is no way to avoid the cost of social security caused by the aging of the population and low fertility. The issue here is how to reorganize the social security system so that it is sustainable for Japan in the coming years.

As the scale of social security benefits increases, how to finance them becomes a bigger issue. It is getting clearer that the contribution levels currently assumed as decided by the latest reforms are not enough to finance the benefits promised by the law. Therefore, it may be inevitable to increase further the contributions and/or tax revenues or to reduce further the benefit levels. If the above mentioned future scale of social security cannot be reduced, then how to make the system effective and efficient is the key issue. In this section, we discuss the reform issues of public pension, health care, and long-term care in order to make them sustainable for Japan in the coming years.

4.1 Public pension

Various measures including macro-economy indexation have tried to make the system less vulnerable to economic and demographic changes. What has not really been discussed yet in Japan are: (a) an increase in the normal pension age to beyond 65 years old; (b) a change of benefit structure (departure from flat-rate benefit, benefit accrual rate according to income level, etc.); and (c) adjustment

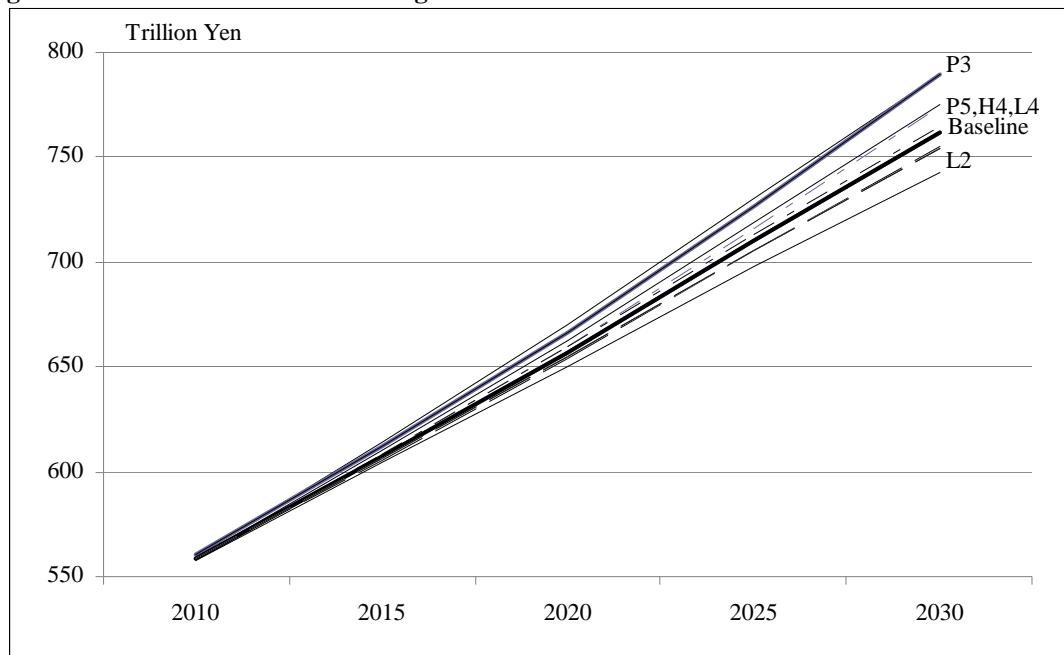
of the system to the changing labor market (Fukawa, 2007). Low expectations about future pension benefits together with a perception of intergenerational inequality in terms of lifetime contribution-benefit relations is leading to an

increasing unwillingness to pay contributions to the public pension system in Japan (Fukawa, 2007). There is still some room in the pension system to implement measures supporting childcare and long-term care.

Table 4 Simulation results: as percent of GDP (in %)

		2010	2015	2020	2025	2030	2035	2040	2045	2050
Baseline										
Pension	P1	9.7	10.7	11.0	10.9	10.7	11.3	12.5	13.2	13.7
Health	H1	7.1	7.9	8.5	9.0	8.9	8.4	8.0	7.6	7.3
Long-term care	L1	1.5	1.9	2.3	2.5	2.8	3.1	3.6	4.0	4.3
Difference compared with baseline case										
Pension	P2	0.4	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3
	P3	-0.6	-0.8	-0.8	-0.9	-0.9	-2.4	-2.6	-2.7	-2.8
	P4	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.3	-0.4	-0.6
	P5	-0.3	-0.4	-0.5	-0.6	-0.8	-0.9	-1.1	-1.2	-1.3
	P6	0.1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
Health	H2	0.0	-0.4	-0.5	-0.1	0.4	0.9	1.5	2.3	3.5
	H3	0.8	0.9	1.0	1.1	1.0	1.0	0.9	0.9	0.9
	H4	-0.2	-0.4	-0.5	-0.7	-0.8	-0.8	-0.9	-0.8	-0.7
	H5	0.1	0.2	0.3	0.4	0.5	0.5	0.6	0.6	0.7
Long-term care	L2	0.8	1.0	1.2	1.3	1.5	1.7	2.0	2.3	2.7
	L3	-0.3	-0.4	-0.5	-0.5	-0.6	-0.7	-0.8	-0.9	-1.0
	L4	0.0	-0.1	-0.1	-0.2	-0.2	-0.3	-0.4	-0.5	-0.5
	L5	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3

Fig.3 Growth of nominal GDP according to simulation cases



People need to continue their accustomed standard of living after retirement. This will be realized through a mixture of public and private arrangements. The share of public pension benefits is dominant in continental European countries and the share of private arrangements is larger in the UK and US. In any case, public pension benefits need to participate in securing a lifetime standard of living (income-smoothing function). It is not an option in most developed countries to increase the contribution rate of the public pension system, and various solutions in private arrangement are inevitably sought. Along this line, a personal retirement account approach exists. In order to make the public pension system as neutral as possible against economic fluctuations and demographic changes, it is natural to add pre-funding elements in the PAYG system. An introduction of a personal retirement account is also useful to mitigate intergenerational inequality and gain consent to reduce PAYG benefits from the younger generation (Fukawa, 2007).

Reform discussions should take into account the consistency of pension programs with work incentives. In order to cope with the aging of the population, it is necessary to mitigate the strong pressure on social security through the postponement of retirement (Fukawa, 2005). In view of the longer life expectancy, the increase in the normal pension age is a natural and realistic option in many countries. If we define the elderly as the oldest 20 percent of the population based on the stable population in the Life Tables, then the threshold age for the elderly was 59 years old in 1960, nearly 68 in 2008, and will be 71 years old in 2050. These threshold ages happen to be 82-83 percent of life expectancies at birth since 1980 until 2050. The issue of an earnings test is related to providing incentives for older persons to continue to work, and the earnings test has been problematic in Japan for years (Seike, 2003).

Social policy should be more oriented towards helping families and reducing the cost to women of working and having families (OECD, 1997). However in Japan, child-rearing is incompatible with career development and child-rearing periods are not favorably treated in the pension system. Removing disincentives for female labor force participation would be more effective in limiting the falling proportion of workers in the total population. Therefore, it is quite important to reduce or eliminate aspects of the tax and social security system that discourage women from working full-time, and to support women in reconciling work and family life.

The most important factors for the

sustainability of the public pension system are fairness of the system and public trust in the system (Fukawa, 2004). It is important to provide meaningful benefits to the elderly within an affordable level of contribution for the working population (Fukawa, 2004). Fairness of the system is a prerequisite for public trust in the system, and it is clearly useful to treat employees and the self-employed equally. Although an equal treatment of regular and non-regular workers is a quite urgent and serious matter, faster implementation or a further increase in the normal pension age is clearly an option in Japan. There is still some room to reduce benefits for the high-income elderly: therefore it is rational to change the benefit accrual rate according to income level as OASDI does in the US. The following are some other concrete measures to be addressed to increase the reliability of the Japanese public pension system: to define the kind and scope of benefits to be covered by tax revenue, to make the system neutral from occupation, to design both contributions and benefits as earnings-related (namely, eliminate flat-rate contributions/benefits), and to save expenditure through a lower replacement rate for higher income. Once the sustainability of the system has been improved, consistence of the system and its neutrality to individuals' life-courses will become the most prominent issues.

4.2 Health care

The main reform issues in the Japanese healthcare system identified in the 1990s were: 1) reorganization of the health service delivery system; 2) reforms of the reimbursement system of medical fees and pharmaceutical pricing system; 3) financing of healthcare for the elderly; and 4) quality assurance of health services and empowerment of patients (Fukawa, 2005). More focus has been placed on the sustainability of the system and patient-oriented health care in the 2000s. Therefore, the control of health expenditure of the elderly has been targeted, as well as reducing the demand for healthcare by preventing lifestyle-related diseases. However, in reforming public health insurance, quality assurance and fairness to all will always have to be kept in mind.

Concerning health expenditure of the elderly, it is assumed that a large share of pharmaceuticals for outpatient care and a non-negligible number of long-term inpatients were two major sources of inefficiency in Japan. How the long-term care insurance will affect the health expenditure of the elderly is another very interesting topic in Japan. In fact, the number of so-called socially induced hospitalization cases especially among elderly

patients has been reduced, although not totally eliminated.

Most of factors contributing to an increase in health expenditure lie in the supply side. How to finance increasing health expenditures is directly related to the sustainability of the health care system, but the real issue is the role of national subsidy on health. There are still concerns that the present level of patients' cost-sharing (30 percent) could induce under-utilization of healthcare services among low-income households (Fukawa, 2007). In accordance with higher patients' expectations, the measurement and assurance of quality of healthcare services has become an important policy area. Empowerment of health care users is quite related to the improvement of the quality of health services, especially from the user's point of view.

4.3 Long-term care

Long-term care of the elderly is a big social concern under the issue of aging of the population. The proportion of the elderly who need long-term care is about 5 percent in Japan, but the need for long-term care is quite common among the oldest population. The cost of long-term care in developed countries differs considerably by country (from 1 to 3 percent of the GDP), but the difference will be reduced in the future. According to our simulation, Japanese long-term care expenditure will rise substantially.

The principles underlying the Japanese Long-term Care (LTC) Insurance implemented in April 2000 are a universality of coverage (although benefits are available mainly for the elderly), financing through social insurance (although the public fund finances about 45 percent of the cost), freedom of choice by service users, and reliance on a service market. It is quite a remarkable event in Japan that the provision of long-term care services has been changed from welfare and rationing services to needs-based insurance benefits through the implementation of LTC Insurance. However, a shortage of supply continues in both institutional services and home care services, and there is a wide variation across municipalities and between urban and rural communities in the amount and quality of service providers. Shortage of institutional care exists partly because the conversion of hospital beds from health insurance coverage to long-term care insurance coverage has been below anticipation. Improving the treatment of care workers in terms of payment and work conditions is strongly needed in order to overcome the serious shortage of care workers.

It is inevitable that the total cost of health and long-term care services will increase due to the increase in the number of the elderly and expansion

of the use of long-term care services. This increase will be accepted by the public only if high-quality services are provided efficiently. Long-term care services should support the autonomy of service users and it is important that service users can choose services they need. As long-term care cost is more closely related to the aging of the population than the healthcare costs of the elderly, it is indispensable to prevent and reduce incidences as much as possible. The only positive way to contain the cost of long-term care services is the prevention of long-term care need as well as delaying the deterioration of long-term care need. An active participation by the insured and beneficiaries are indispensable in this regard. In the Netherlands, it was proposed to integrate the health insurance scheme for curative services which is based on the model of managed competition with long-term care, in order to provide much stronger incentives for efficiency and to meet more consumer preferences than the present system (Schut and van den Berg, 2009). The quality issue will be focused after the quantity issue is solved. As large regulations are necessary in the private long-term care insurance market, objective and scientific quality standards on long-term care services are needed.

4.4 Final remarks

The function of risk pooling through public health insurance and long-term care insurance has been well appreciated by Japanese people, and the safety net function is perceived to increase the quality of life throughout the lifecycle. Most people think income redistribution should be strengthened through the public pension and tax system, and that support for low income people needs to be improved considerably through various policy measures in Japan.

Financing of the welfare state is still a key issue and new approaches have been pursued, including broadening the financing basis of social benefits and seeking a desirable mix of public systems and private arrangements. Aging of the population together with a declining working-age population inevitably focuses on the cost of old age in general. Besides improving fairness and efficiency of the social security system, it is fundamentally important to put the right incentives in the systems. Under the circumstances of trimming public programs, curtailment of fringe benefits by companies, and enlargement of individual responsibility, a better balance between solidarity and individual responsibility will be a key issue in considering the future scale of social security in Japan.

Notes

(Note 1) The benefit accrual factor for the earnings-related part was 0.7125 percent of earnings without bonuses per year of contribution until March 2003, but it is 0.548 percent of annual earnings since April 2003. It is important to remember that this change of accrual rate does not accompany any benefit reduction.

(Note 2) Model pension refers to the old-age pension benefit for those male employees with a dependent spouse, who earned average earnings for 40 years. The model replacement rate is the proportion of model pension to the average net earnings of male employees.

(Note 3) New series of SNA is available from 1994 till today, which is not long enough to estimate equations. Therefore we use previous series of SNA data.

(Note 4) Higher benefits assume a minimum guarantee of 80,000 yen per month per elderly person, as well as earnings-related benefits of the present system. Lower benefits mean lower earnings-related benefits due to income-related accrual rates, but assume the same minimum guarantee as higher benefits.

(Note 5) Price increase rate: 1 percent, wage increase rate: 2.5 percent, and interest rate: 4.1 percent annually. This set was used for the financial verification of the public pension in February 2009.

(Note 6) Health expenditure in the strengthened system was assumed as 1.01 times of the logarithm value of health expenditure obtained from the present system. This assumption has in fact no direct connection with the National Council on Social Security.

(Note 7) Higher benefits mean 50 percent higher, and lower benefits mean 20 percent lower than the present system uniformly.

(Note 8) The nominal amount of the GDP in 2030 will differ according to simulation cases as follows: P3 (790 trillion yen) > P5, H4, L4 > L3 > P4 > H2 > Baseline, H3 > P2 > P6, H5, L5 > L2 (743 trillion yen).

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