

The Search for More Equitable Pensions Between Generationsⁱ

Noriyuki Takayama

1. Introduction

Today, Japan has the oldest population in the world. It has also built a generous social security pension programme, but since 2002, the income statement of the principal pension programme has shown a deficit. Consequently, public distrust in the government's commitment towards pensions has been growing steadily in recent years.

The current pay-as-you-go public pension system has been working, not as a pure insurance system, but rather as a tax-and-transfer system involving huge income transfers between generations. In such a pay-as-you-go (PAYG) system, pension benefits for the aged are financed mainly by contributions from the working generation.

However, the nature of such an intergenerational contract is difficult for many people to understand. Maintaining a fixed rate of replacement in gross income terms for the elderly is by no means a contract. In fact, increasing costs stemming from larger numbers of retirees can only to a limited degree be shouldered by the actively working generation or future generations, because an increasing contribution burden will ultimately inhibit their work incentives. Instead, benefits and contributions in PAYG defined-benefit plans should be changed flexibly to respond to changing circumstances. This is necessary also because planning for different possible outcomes in the future can never be complete. Consequently we have found that the replacement rate embedded in the law is not a promise in a strict sense, but is just the starting point for an ongoing process of adaptation to a changing and unpredictable world. Continual adjustments will be required to keep the system viable.

This chapter addresses pension issues in the context of intergenerational equity. Special attention is paid to the following two problems: first, how to find an intergenerationally equitable remedy for the mistakes made in the past; second, what pension schemes will be preferable for a nation to avoid any inequities between generations arising from uncertainties in the future.

The chapter is structured as follows. The next two sections will give a brief overview of the Japanese social security pension programme and its financing perspectives. This is followed by a discussion of the key problems of the public pension system in section 4 and an analysis of the most important reform measures of the last pension reform in section 5. Sections 6 and 7 deal with intergenerational equity issues in Japan's social security pensions and the future policy options to secure equity between generations. The chapter closes with some concluding remarks.

2. Pension provisions before the 2004 reform

Since 1980, Japan has carried out piecemeal pension reforms every five years, mainly due to great stresses caused by anticipated demographic and economic factors. Since then, too generous pension benefits have been reduced step by step with an increase of the normal pensionable age from 60 to 65. The pension contribution rate has been lifted gradually as well. Yet, existing pension provisions still remain generous, and face serious financial difficulties in the future.

Japan currently has a two-tier benefit system, covering all sectors of the population in the first tier with a flat-rate basic benefit. The second tier, with earnings-related benefits, applies only to employees.ⁱⁱ The system operates largely like a pay-as-you-go defined-benefit programme.

The flat-rate basic pension covers all residents aged 20 to 60. The full old-age pension is payable after 40 years of contributions, provided the contributions were made before 60 years of age. The maximum monthly pension of 66,000 yen at 2006 prices (with the maximum number of years of coverage) per person is payable from age 65. The benefit is indexed automatically each fiscal year (from 1 April) to reflect changes in the consumer price index (CPI) from the previous calendar year. The pension may be claimed at any age between 60 and 70 years. It is subject to actuarial reduction if claimed before age 65, or actuarial increase if claimed after 65 years.

Earnings-related benefits are given to all employees. The accrual rate for the earnings-related component of old-age benefits is 0.5481 per cent per year, and 40 years' contributions will thus earn 28.5 per cent of career average monthly real earnings.ⁱⁱⁱ

The career-average monthly earnings are calculated over the employee's entire period of coverage, adjusted by a net-wage index factor, and converted to the current earnings level. The full earnings-related pension is normally payable from age 65 to an employee who is fully retired.^{iv} An earnings test is applied to those who are not fully retired. The current replacement rate (including basic benefits) for take-home pay or net income is about 60 per cent for a model male retiree (with an average salary earned during 40 years of coverage) and his dependent wife. Its monthly benefit is about 233,000 yen in 2006.

Equal percentage contributions are required of employees and their employers. The contributions are based on the annual standard earnings including bonuses. The total percentage in effect before October 2004 was 13.58 per cent for the principal programme for private-sector employees, the Employees' Pension Insurance (*Kōsei nenkin hoken*), hereafter referred to as EPI. Non-employed persons between the 20 and 60 years pay flat-rate individual contributions. The 2004 rate was 13,300 yen per month. For those who cannot pay for financial reasons, exemptions are permitted. The flat-rate basic benefits for the period of exemption were

one-third of the normal amount.

Under the current system, if the husband has the pension contribution for social security deducted from his salary, his dependent wife is automatically entitled to the flat-rate basic benefits, and she is not required to make any individual payments to the public pension system.

The government subsidizes one-third of the total cost of the flat-rate basic benefits. There is no subsidy for the earnings-related part. The government pays administrative expenses as well.

The aggregate amount of social security pension benefits was around 46 billion yen in 2004, which is equivalent to about 9 per cent of Japan's GDP of the same year.

3. Demography and its impact on financing social security

In January 2002, the Japanese National Institute of Population and Social Security Research (NIPSSR) released population projections according to which the total population would peak at 128 million around 2006 and then begin to fall steadily, decreasing to about 50 per cent of the current number by 2100.

The total fertility rate (TFR) was 1.26 in 2005. There is still little sign that the TFR will stabilize or return to a higher level. However, the 2002 *medium variant* projections assume that it will record a historical low of 1.31 in 2006 and will gradually rise to 1.39 around 2050, progressing slowly to 2.07 by 2150. The number of births, currently about 1.06 million in 2005, will continue to decrease to less than 1.0 million by 2014, falling further to 0.67 million in 2050.

Because it has the longest life expectancy in the world, Japan is now experiencing a very rapid ageing of its population. The number of elderly people (65 years and over) was 26.4

million in 2006. The number will increase sharply to reach 34 million by 2018, remaining around 34–36 million thereafter until around 2060. Consequently the proportion of the elderly will go up very rapidly, from 20.7 per cent in 2006 to 25.3 per cent by 2014, rising further to more than 30 per cent by 2033.

In Japan, nearly 70 per cent of social security benefits are currently distributed to the elderly. Along with the ailing domestic economy, rapid ageing will certainly put more and more stresses on financing social security.

In May 2006, the Japanese Ministry of Health, Labour and Welfare published the latest estimates of the cost of social security, using the 2002 population projections of the NIPSSR. According to these latest estimates, the aggregate cost of social security in terms of GDP was 17.5 per cent in 2006. It will increase steadily to 19.0 per cent by 2025.

Of the various costs, that of pensions is quite predominant, amounting to 9.2 per cent of GDP in 2006, with an expected slight decrease to 8.7 per cent by 2025. The cost for health care was 5.4 per cent in 2006, but will rise steadily to 6.4 per cent by 2025.

4. Current problems of Japan's public pension system

The public pension system in Japan currently faces several difficulties. Among these, the following five problems are especially crucial.

1. Persistent deficit in the income statement: since 2002, the EPI has been facing an income statement deficit. It recorded a deficit of 1.3 billion yen in 2002, and the deficit was expected to be 4.8 billion yen in 2005. It is estimated that the deficit will persist for a long time, unless radical remedies are made in the EPI financing.

2. Huge excess liabilities in the balance sheet: the EPI balance sheet is shown in Figure

1. In calculating the balance sheet, we assumed that:

- a) annual increases in wages and CPI are 2.1 per cent and 1.0 per cent respectively in nominal terms, while the discount rate is 3.2 per cent annually,
- b) the current contribution rate of the EPI, 13.58 percentage points, will remain unchanged in the future, and
- c) the period up to 2100 is taken into account.

Figure 1 indicates that, as of 31 March 2005, there were excess liabilities of 550 billion yen, which is a quarter of the total liabilities.^v

Figure 1: EPI Balance Sheet: Before Reform

Figure 1 about here

Source: Calculations by the author

Part One of Figure 1 is assets and liabilities accrued from past contributions and Part Two is those accrued from future contributions. Figure 1 implies that, as far as Part Two is concerned, the balance sheet of the EPI has been almost cleaned up. The funding sources of the current provisions will be sufficient to finance future benefits, and the only task left is to slim down future benefits by 4.5 per cent.

But if we look at Part One of Figure 1, things look quite different. The remaining pension liabilities are estimated to be 800 billion yen, while pension assets are only 300 billion yen (a funded reserve of 170 billion yen plus transfers from general revenue of 130 billion yen). The difference is quite large – about 500 billion yen^{vi}—which accounts for the major part of excess liabilities in the EPI.

500 billion yen is more than 60 per cent of Part One liabilities, equivalent to about 100 per cent of GDP of Japan in 2004. In the past, too many promises on pension benefits were

made, while sufficient funding sources have not been arranged. The Japanese have enjoyed a long history of generous social security pensions. However, contributions made in the past were relatively small, resulting in a fairly small funded reserve. Consequently, the locus of the true crisis in Japanese social security pensions is how to handle the excess liabilities of 500 billion yen to which people were entitled on the basis of their contributions made in the past.

3. Heavy burdens outstanding for pension contributions: in Japanese public debates, one of the principal issues has been how to cut down personal and corporate income tax. But recently the situation has changed drastically. Social security contributions (for pensions, health care, unemployment, work injury and long-term care) are 55.6 billion yen (15.2 per cent of national income) for FY 2003. This is more than all tax revenues (43.9 billion yen) of the central government for the same year. Since 1998, the central government has acquired more from social security contributions than from tax incomes. Looking in more detail, we can see that revenue from personal income tax is 13.8 billion yen and corporate income tax is 9.1 billion yen, while revenue from social security pension contributions stands out at 29.0 billion yen. Needless to say, the last places a most heavy burden on the public. The Japanese now feel that social security pension contributions are too heavy; they operate as the most significant factor in determining the take-home pay from the gross salary. On the other hand, businesses have begun to show serious concerns about any further increases in social security contributions.

4. Overshooting in income transfer between generations: currently, in terms of per-capita income after redistribution, the elderly in Japan are better off than those aged 30 to 44 (see Figure 2). Undoubtedly, there must still be room for reductions in benefits provided to the current retired population.

Figure 2: Per capita income by age-group in Japan

Figure 2 about here

Source: Ministry of Health and Welfare, *The 1996 Income Redistribution Survey*

5. Increasing drop-out: in the past 20 years, the Japanese government has made repeated changes to the pension programme, increasing social security pension contributions and reducing benefits by raising the normal pensionable age while reducing the accrual rate. Further such piecemeal reforms are very likely to follow in the future.

Many Japanese feel that the government is breaking its promise. As distrust against government commitment builds up, concern about such a 'problem of lack of trust' is also growing.

In 2005, nearly 33 per cent of non-salaried workers and people with no occupations dropped out from the basic level of old-age income protection, owing to exemption, delinquency in paying contributions or non-application (see Figure 3 for increasing delinquency).

Figure 3: Drop-out rate in the National Pension Insurance (non-employees) (Percentage of those not paying pension contributions)

Figure 3 about here

Source:

Also, employers are discreetly trying to find ways to avoid paying social security pension contributions. The Ministry of Internal Affairs and Communications has estimated that nearly 30 per cent of the relevant business establishments did not participate in the EPI in 2004. Any further escalation in the social security contribution rate is likely to induce a higher drop-out rate.^{vii}

5. The 2004 pension reform: Main reform measures and remaining difficulties^{viii}

The administration of former Prime Minister Koizumi Jun'ichirō submitted a set of pension reform bills to the National Diet on 10 February 2004, and these were enacted on June 5. This section will describe the gist of the approved reforms and explore issues that remain to be addressed.

Salaried workers are, as a rule, enrolled in the EPI, which is part of the public pension system. Contributions under this plan had since October 1996 been set at 13.58 per cent of annual income, paid half by the worker and half by the employer, but the newly enacted reform has raised this rate by 0.354 percentage point per year starting in October 2004. The rate will rise every September thereafter until 2017, after which it will remain fixed at 18.30 per cent. The portion paid by workers will accordingly rise from 6.79 per cent of annual income in 2003 to 9.15 per cent in 2017.

For an average male company employee earning 360,000 yen a month plus annual bonuses equivalent to 3.6 months' pay, contributions will increase by nearly 20,000 yen a year starting in October 2004. By the time they stop rising in September 2017, they will have reached just under 1.03 million yen a year, and the share paid by the worker will be just over 514,000 yen. This amounts to a 35 per cent increase from current contribution levels.

Those who are not enrolled in the EPI or other public pension schemes for civil servants are required to participate in the National Pension Insurance (*Kokumin Nenkin*), which provides just the basic pension (the basic pension also forms the first tier of benefits under the EPI and other public pension systems for civil servants). Contributions under this plan will rise by 280 yen each April from the current 13,300 yen per month until they plateau at 16,900 yen (at 2004 prices) in April 2017. The actual rise in National Pension contributions will be adjusted according to increases in general wage levels.

In addition, the government will increase its subsidies for the basic pension. One-third

of the cost of basic pension benefits is paid from the national treasury; this share is to be raised in stages until it reaches one-half in 2009.

Benefits under the EPI consist of two tiers: the flat-rate basic pension, which is paid to all public pension plan participants, and a separate earnings-related component. The latter is calculated on the basis of the worker's average pre-retirement income, converted to current values. Until now, the index used to convert past income to current values was the rate of increase in take-home pay. Under the 2004 reform, though, this index will be subject to a negative adjustment over the course of an "exceptional period" based on changes in two demographic factors, namely, the decline in the number of participants and the increase in life expectancy. This period of adjustment is expected to last through 2023.

The application of the first demographic factor will mean that benefit levels will be cut to reflect the fact that fewer people are supporting the pension system. The actual number of people enrolled in all public pension schemes will be ascertained each year, and the rate of decline will be calculated based on this figure. The average annual decline is projected to be around 0.6 point.

Introducing the second demographic factor, meanwhile, will adjust for the fact that people are living longer and thus collecting their pensions for more years; the aim is to slow the pace of increase in the total amount of benefits paid as a result of increased longevity. This factor will not be calculated by tracking future movements in life expectancy; instead, it has been set at an annual rate of about 0.3 percentage point on the basis of current demographic projections for the period through 2025. Together, the two demographic factors are thus expected to mean a negative adjustment of about 0.9 point a year during the period in question.

How will these changes affect people's benefits in concrete terms? Let us consider the case of a pair of model EPI beneficiaries as defined by the Ministry of Health, Labour, and Welfare: a 65-year-old man who earned the average wage throughout his 40-year career, and

his 65-year-old wife, who was a full-time homemaker for 40 years from her twentieth birthday. In fiscal 2004 (April 2004 to March 2005), this model couple would receive 233,000 yen a month.

How does this amount compare to what employees are currently taking home? The average monthly income of a salaried worker in 2004 was around 360,000 yen, before taxes and social insurance deductions. Assuming that this is supplemented by bonuses totalling an equivalent of 3.6 months' pay, the average annual income is roughly 5.6 million yen. Deducting 16 per cent of this figure for taxes and social insurance payments leaves a figure for annual take-home pay of about 4.7 million yen, or 393,000 yen a month.

The 233,000 yen provided to the model pensioners is 59.3 per cent of 393,000 yen. But this percentage, which pension specialists call the "income replacement ratio," will gradually decline to an estimated figure of 50.2 per cent as of fiscal 2023 (assuming that consumer prices and nominal wages rise according to government projections by 1.0 per cent and 2.1 per cent a year respectively). Over the next two decades, then, benefit levels will decline by roughly 15 per cent by comparison with wage levels.

The revised pension legislation stipulates that the income replacement ratio is not to fall below 50 per cent for the model case described above, and so the exceptional period of negative adjustment will come to an end once the ratio declines to 50 per cent. This provision was included to alleviate fears that benefits would continue to shrink without limit.

How will the reforms affect those who are already receiving their pensions? Until now, benefits for those 65 years old and over have been adjusted for fluctuations in the consumer price index. This ensured that pensioners' real purchasing power remained unchanged and helped ease postretirement worries. But this cost-of-living link will effectively be severed during the exceptional period, since the application of the demographic factors will pull down real benefits by around 0.9 point a year. In principle, however, nominal benefits are not to be cut

unless there has also been a drop in consumer prices. Once the exceptional period is over, the link to the consumer price index is to be restored.

Social insurance contributions in Japan already exceed the amount collected in national taxes, and contributions to the pension system are by far the biggest social insurance item. If this already huge sum is increased by more than 1 billion yen a year, as the government plans, both individuals and companies are bound to change their behaviour. Government projections of revenues and expenditures, however, completely ignore the prospect of such changes. Companies are likely to revamp their hiring plans and wage scales to sidestep the higher social insurance burden. They will cut back on recruitment of new graduates and become more selective about mid-career hiring as well. Many young people will be stripped of employment opportunities and driven out of the labour market, instead of being enlisted to support the pension system with a percentage of their income. And most of the employment options for middle-aged women who wish to re-enter the work force will be low-paying ones. Only a few older workers will be able to continue to command high wages; there is likely to be a dramatic rise in the number of ageing workers who will be forced to choose between remaining on the payroll with a cut in pay or settling for retirement. Many more companies will either choose or be forced to leave the EPI, causing the number of subscribers to fall far below the government's projections and pushing the system closer to bankruptcy.

The jobless rate overall will rise. The Japan Ministry of Economy, Trade, and Industry has estimated that higher pension contributions will lead to the loss of one million jobs and raise the unemployment rate by 1.3 points. The government plan to increase pension contributions annually for the next 13 years will exert ongoing deflationary pressure on the Japanese economy. For the worker, a rise in contribution levels means less take-home pay; as a result, consumer spending is likely to fall, and this will certainly hinder prospects for a self-sustaining recovery and return to steady growth.

Another problem with increasing pension contributions is that they are regressive, since there is a ceiling for the earnings on which payment calculations are based and unearned income is not included in the calculations at all.

One major objective of the reforms is to eventually eliminate the huge excess liabilities in the balance sheet of the EPI. The plan is to generate a surplus by (1) raising contributions, (2) increasing payments from the national treasury, and (3) reducing benefits. The policy measures adopted in the 2004 pension reform bill will induce huge excess assets of 420 billion yen in Part Two of the balance sheet whereby offsetting excess liabilities of the same amount in Part One of the balance sheet, as shown in Figure 4. Huge excess assets of Part Two of the balance sheet imply that future generations will be forced to pay more than the anticipated benefits they will receive. Their benefits will be around 80 percent of their contributions, on the whole.

Figure 4: EPI Balance Sheet: After Reform

Figure 4 about here

Source: Calculations by the author

It is like using a sledgehammer to crack a nut. Younger generations are most likely to intensify their distrust of the government. The incentive-compatibility problem or the drop-out problem will become graver. Business (represented by the Japan Business Federation *Nippon Keidanren*) and trade unions (represented by the Japanese Trade Union Confederation *Rengo*) both oppose any further increases of more than 15 percentage points in the EPI contribution rate.

As noted above, those who are already receiving their pensions will see their benefits decline in real terms by an average 0.9 per cent per year. The government scenario sees consumer prices eventually rising by 1.0 per cent a year and take-home pay by 2.1 per cent a

year. This means that the model beneficiary who begins receiving 233,000 yen a month at age 65 in 2004 will get roughly 240,000 yen at age 84 in 2023; nominal benefits, in other words, will remain virtually unchanged for two decades, despite the fact that the average take-home pay of the working population will have risen by over 40 per cent. The income replacement rate, which stood at nearly 60 per cent at age 65, will dwindle to 43 per cent by the time the model recipient turns 84. The promise of benefits in excess of 50 per cent of take-home pay does not apply, therefore, to those who are already on old-age pensions.

The so-called demographic factors are likely to continue changing for the foreseeable future. The government itself foresees the number of participants in public pension plans declining over the coming century: the estimated figure of 69.4 million participants as of 2005 is expected to fall to 61.0 million in 2025, 45.3 million in 2050, and 29.2 million in 2100. This corresponds to an average annual decline of 0.6 per cent through 2025, 1.2 per cent of the quarter-century from 2025, and 0.9 per cent for the half-century from 2050. In other words, the decline in the number of workers who are financially supporting the public pension system is not likely to stop after just two decades.

However, the 2004 reform adjusts benefit levels in keeping with the decline in the contribution-paying population for the next 20 years only; the government's standard case does not foresee any further downward revisions, even if the number of participants continues to fall. If the government really anticipates an ongoing decline, there is no good reason to abruptly stop adjusting benefit levels after a certain period of time. Sweden and Germany, for instance, have adopted permanent mechanisms whereby benefit levels are automatically adjusted for fluctuations in demographic factors.

The decision to keep the model income replacement rate at 50 per cent at the point when pension payments commence represents, in effect, the adoption of a defined-benefit formula. Maintaining both fixed contributions on the one hand and defined benefit levels on the

other is not an easy task, for there is no room to deal flexibly with unforeseen developments. The government will be confronted with a fiscal emergency should its projections for growth in contributions and a reversal in the falling birth rate be wide of the mark.

The government bases its population figures on the January 2002 projections of the National Institute of Population and Social Security Research. According to these projections, the medium variant for the total fertility rate (the average number of childbirths per woman) will fall to 1.31 in 2007, after which it will begin climbing, reaching 1.39 in 2050 and 1.73 in 2100. Actual figures since the projections were released have been slightly lower than this variant, and there are no signs whatsoever that the fertility rate will stop declining in 2007.

If the government is to keep its promise on an upper limit for contributions and a lower limit for benefits, the only policy option it will have in the event of a financial shortfall will be to raise the age at which people begin receiving benefits. The reform package makes no mention of such a possibility; the drafters of the bills no doubt chose simply to put this task off for a future date.^{ix}

By fiscal 2009, the share of the basic pension benefits funded by the national treasury will be raised from one-third to one-half. This means that more taxes will be used to cover the cost of benefits. Taxes are by nature different from contributions paid by participants in specific pension plans, and there is a need to reconsider the benefits that are to be funded by tax revenues.

The leaders of Japanese industry tend to be quite advanced in years. For the most part, they are over the age of 65, which means that they are qualified to receive the flat-rate basic pension. Even though they are among the wealthiest people in the country, they are entitled to the same basic pension as other older people hovering around the poverty line. Using tax revenues to finance a bigger share of the basic pension essentially means asking taxpayers to foot a bigger bill for the benefits of wealthy households as well. For an elderly couple, the

tax-financed portion of the basic pension will rise from 530,000 yen a year to 800,000 yen. If a need arises to raise taxes at a future date, who will then actually agree to pay more? Few people will be willing to tolerate such a wasteful use of tax money.

6. Intergenerational equity issues in Japan's social security pensions

Huge excess liabilities of 500 billion yen appearing in Part One of Figure 1 partly reflect mistakes made in the past.^x It is true that any social security scheme for pensions faces great uncertainties for its future long-term scenarios: about the number of participants, the number of pensioners, the rate of increases in wages or the consumer price index, and the rate of return from investment. No one has precise information on these variables beforehand. Nevertheless, the system planners need some fixed figures on the system's future scenario when designing (or re-designing) the pension system. It is often the case, however, that the assumed figures differ to a greater or lesser extent from the actual ones. What really matters is whether or not the system planners adjust their system to correspond to the changing circumstances in a timely and proper way.

Japanese experience in the past 30 years shows that the adjustments were so slow and insufficient as to produce huge excess liabilities amounting to 500 billion yen. It is evident that pension projections always turned out to be too optimistic, and that politicians were always reluctant to introduce painful remedies for current pensioners and current contributors, leaving the pension system financially unsustainable and inequitable between generations.

The 2004 reform in Japan looks very drastic, since the introduction of the demographic factors will significantly reduce the level of pension benefits in real terms. These reductions are regarded as an inevitable reaction to make up for the mistakes or omissions made in the past, for which the current pensioners and the baby-boomers were responsible. Nevertheless, the 2004

reform still suffers from an incentive-compatibility problem, leaving the pension system inequitable from the younger generations' point of view.^{xi}

7. Future policy options for securing equity between generations

Are there any policy measures that could avoid the incentive-compatibility problem in Japan? This section tries to answer this question.

To begin with, how about separating the “legacy pension” problem from the problem of re-building a sustainable pension system for the future? The two problems are quite different in nature, and accordingly they require separate treatment.

The legacy pension problem of Japan looks like *sunk costs* from an economic perspective. It can be eased, not by increasing the EPI contribution rate, but by introducing a new 2.0 per cent earmarked consumption tax and intensive interjection of the increased transfers from general revenue (see Figure 5). Needless to say, the current generous benefits have to be reduced more or less by the same percentage in the aggregate level as implemented in the 2004 pension reform.

All these measures are considered on the understanding that current pensioners and baby-boomers are mainly responsible for Part One excess liabilities, and that they are therefore first in line in diminishing the existing excess liabilities. Note that any increases in the contribution rate for social security pensions will be paid by current younger and future generations. Current pensioners no longer pay them and baby boomers will pay them only to a small extent. They are not an appropriate measure for diminishing Part One excess liabilities. By contrast, an increase in the consumption-based tax will be shared by all the existing and future generations, including current pensioners and baby-boomers.^{xii} Increased transfers from general revenue can be financed by increases in inheritance tax and income tax on pension

benefits as well.^{xiii}

Figure 5: EPI Balance Sheet: Alternative

Figure 5 about here

Source: Calculations by the author

When it comes to Part Two of the balance sheet, which relates to future contributions and promised pension benefits to which people are entitled through future contributions, a switch to an NDC (notional defined contribution) system is possible and preferable.^{xiv} An NDC system follows the philosophy of a funded system of individual accounts, but with a pay-as-you-go financing structure. The main difference from a defined-benefit model is that NDC benefits are defined, not by a formula based on wages and years of service, but by a worker's accumulated account balance at retirement. Benefits are thus closely linked to contributions. With an NDC system in place, the EPI contribution rate can be kept unchanged at the current level, around 14 percentage points.

With an NDC plan, the incentive-compatibility problem can be avoided. Indeed, in an NDC system, every penny counts, and this would be the most important element, because it would demonstrate to the public that everybody gets a pension equivalent to his or her own contribution payments (see Könberg 2002; Palmer 2003).

In an NDC, the notional rate of return should be endogenous. It could be periodically adjusted by an automatic balance mechanism, such as was introduced in Sweden (see Settergren 2001). Alternatively, in 2004, Germany introduced a sustainability factor, whereas Japan implemented the demographic factors in the same year. Both factors operate more or less as an automatic balance mechanism. The automatic balance mechanism aims to avoid any political difficulties by flexibly adapting the pension system to a changing and unpredictable

world.

We could also introduce a guaranteed pension (GP) to add to the NDC pensions. This would be to provide an adequate income in old age. However, this should be financed by sources other than contributions (payroll tax), since the policy objectives for a guaranteed pension and an NDC are quite different (see Figure 6).

Figure 6: Notional Defined Contribution plus Guarantee Pension

Figure 6 about here

Source: By the author

8. Concluding Remarks

Regarding pensions, the Japanese are increasingly concerned with the “taste of the pie” rather than the “size of the pie” or the “distribution of the pie.” When it comes to social security pensions, the most important question is whether or not they are worth buying. How big or how fair they are has become a secondary concern. The basic design of the pension programme should be incentive-compatible. Contributions should be much more directly linked with old-age pension benefits, while an element of social adequacy should be incorporated in a separate tier of pension benefits financed by sources other than contributions.

Japan faces the problem of seeking to meet too many targets through the single policy instrument of pensions. This contradicts the standard theory of policy assignment, which suggests that each policy objective can be best attained only if it is matched with a different policy instrument of comparative advantage. A diversified multi-tier system is thus most preferable.

Also important is the separation of the legacy pension problem from the problem of

rebuilding a sustainable and intergenerationally equitable pension system.

Social security pensions are consumption-allocation mechanisms, thereby transferring resources from workers to pensioners when pensions are paid. Under a pay-as-you-go system, the transfer is direct, through contributions or taxes paid by workers. Under a funded system, pensioners liquidate their accumulated assets by selling them to the current working generation. In both cases, workers' disposable income is reduced by the amount of resources transferred to retirees. Supporting an increasing number of retired people is possible if output grows. Economic output depends crucially on the supply of workers, and thus increasing labour force participation on the part of young retirees, women and young adults will be required.

No one can claim to see clearly all the changes that lie ahead in the decades to come. Nevertheless, the challenge is hard to ignore. What is missing is more explicit consideration of an automatic balancing mechanism for remedying possible mistakes in the projections towards the future.

References

Franco, Daniele (1995): Pension Liabilities: Their Use and Misuse in the Assessment of Fiscal Policies. In: *Economic Papers* 110, Commission of the EC, Directorate-General for Economic and Financial Affairs (DG ECFIN).

Holzmann, Robert, Robert Palacios and Asta Zviniene (2004): Implicit Pension Debt: Issues, Measurement and Scope in International Perspective. In: *Social Protection Discussion Paper Series* No. 0403, Social Protection Unit, World Bank.

Könberg, Bo (2002): The Swedish Pension Reform: Some Lessons. In: *Discussion Paper* 46. Project on Intergenerational Equity, Institute of Economic Research, Hitotsubashi University.

Musgrave, Richard A. (1981): A Reappraisal of Financing Social Security. In: Skidmore, Felicity (ed.): *Social Security Financing*. Cambridge: MIT Press, pp. 89–125.

Palmer, Edward (2003): Pension Reform in Sweden. In: Takayama, Noriyuki (ed.): *Taste of Pie: Searching for Better Pension Provisions in Developed Countries*. Tokyo: Maruzen CO., Ltd., pp. 245–269.

Project on Intergenerational Equity, Hitotsubashi University (2005): *The Balance Sheet of Social Security Pensions*, Proceedings 6, PIE. Tokyo: Hitotsubashi University.

Settergren, Ole (2001): *The Automatic Balance Mechanism of the Swedish Pension System*. <http://forsakringskassan.se/sprak/eng/publications/dokument/aut0107.pdf> (found 29

November 2006).

Takayama, Noriyuki (1998): *The Morning After in Japan: Its Declining Population, Too Generous Pensions and a Weakened Economy*. Tokyo: Maruzen CO., Ltd.

Takayama, Noriyuki (2003): Pension Arrangements in the Oldest Country: The Japanese Case. In: Takayama, Noriyuki (ed.): *Taste of Pie: Searching for Better Pension Provisions in Developed Countries*. Tokyo: Maruzen CO., Ltd., pp. 185–217.

Takayama, Noriyuki (2004): Changes in the Pension System. In: *Japan Echo* 31, 5, (October), pp. 9–10.

Takayama, Noriyuki (2007): Social Security Pensions and Intergenerational Equity: The Japanese Case. In: Roemer, John E. and Suzumura Kotaro (eds.): *Intergenerational Equity and Sustainability*. Houndmills and New York: Palgrave (forthcoming).

ⁱ This chapter is a revised version of Takayama (2007).

ⁱⁱ A detailed explanation of the Japanese social security pension system is given by Takayama (1998, 2003).

ⁱⁱⁱ A semi-annual bonus equivalent to 3.6 months' salary is typically assumed.

^{iv} The normal pensionable age of the Employees' Pension Insurance (EPI) is 65, although Japan has special arrangements for a transition period between 2000 and 2025. See Takayama (2003) for more details.

^v Excess liabilities of all social security pension programmes in Japan as of March 2005 amounted to around 650 billion yen, which is equivalent to 1.3 times the fiscal year 2004 GDP of Japan.

^{vi} The amount of excess liabilities (EL) will vary depending on alternative discount rates. For example, a 2.1 per cent discount rate produces EL of 650 billion yen, while another 4.0 per cent discount rate produces EL of 420 billion yen. Part One excess liabilities can be termed as "accrued-to-date net liabilities" or "net termination liabilities". See Franco (1995) and Holzmann *et al.* (2004).

^{vii} Contributions to social security pensions operate as "penalties on employment." Further increases in the contribution rate will severely hit domestic companies, which have been facing mega-competition on a global scale, thereby exerting negative effects on the economy, leading to a higher unemployment rate, lower economic growth, lower saving rates and so on. Further increases in the contribution rate will be sure to decrease the take-home pay of actively working people in real terms, producing lower consumption and lower effective demand.

^{viii} This section depends heavily on Takayama (2004).

^{ix} Later retirement would be preferable for the country to achieve active ageing, providing that this has little substitution effects on employment for young people.

^x The excess liabilities arise partly from windfall gains given to the first generation in a pay-as-you-go pension system. This part should not simply be interpreted as "the mistakes made in the past."

^{xi} Richard Musgrave once examined the credibility and long-run political viability of alternative contracts between

generations, demonstrating that a “*Fixed Relative Position (FRP)*” approach is most preferable (Musgrave 1981). Following his suggestion, Germany and Japan had introduced a net indexation method in adjusting their social security pension benefits since the early 1990s. The FRP approach faces some difficulties, however. For example, this approach could be acceptable only if participation in the social security pension system pays for the younger generations.

^{xii} The payroll tax and the consumption-based tax might be indifferent in a steady-state economy, although they will induce different economic impacts in a transition period.

^{xiii} A 2 per cent earmarked consumption tax could be all right, since the remaining excess liabilities of 90 billion yen might be acceptable as a “hidden” national debt. Even if all the alternative measures above stated are implemented, current young and future generations will still have to pay a substantial part of Part One excess liabilities. However, the current pensioners and baby boomers should still try to do as much as possible to diminish the excess liabilities before any further increases in the contribution rate are considered.

^{xiv} A funded plan might be another alternative. However, it cannot escape the so-called “double burden” problem in the transition period, while the NDC is free from it.