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A Balance Sheet Approach to Reforming Social Security Pensions in Japan:  
Is NDC the Answer?

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(Abstract)

*Japan has already had the oldest population in the world. Since 2001, current account of the principal pension program has turned into a deficit. Balance sheet of all the pension programs shows huge excess liabilities, equivalent to 1.2 times the year 2000 GDP of Japan. The generous pension program has to be reformed to be much more incentive-compatible. The Swedish-type NDC will very much help Japan to overcome such a problem of incentive-compatibility. Japan faces an additional specific challenge of handling huge excess liabilities entitled by past pension contributions. Several different proposals have already been made. Government reform plan on pensions will be fixed by the end of December 2003.*

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## 1 Introduction

Japan has already had the oldest population in the world. We have built a generous social security pension program, but since 2001, current account of the principal pension program has turned into a deficit. Its balance sheet suffers from huge excess liabilities, and distrust against the government commitment on pensions is growing. The Japanese are increasingly concerned with the incentive-compatibility problem.

This paper investigates whether and how NDC schemes would help Japan and if they are politically feasible.

Before going into discussion, the paper gives a brief sketch of Japanese social security pension program, summarizing Japan's problems, while pointing out anticipated demographic changes and several basic facts on pensions.

## 2 Brief Outline of Current Provisions

Japan currently has a two-tier benefit system, providing all sectors of the population the first-tier, flat-rate basic benefit. The second-tier, earnings-related benefit applies only to employees.<sup>1</sup> The system operates largely like a pay-as-you-go defined benefit program.

The flat-rate basic benefits cover 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 66,400 yen at 2003 prices (with maximum number of years of coverage) per person is payable from age 65.<sup>2</sup> 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

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<sup>1</sup> A detailed explanation of the Japanese social security pension system is given by Takayama (1998, 2003b).

<sup>2</sup> 1,000 yen = US\$8.783 = Euro7.740=UK £ 5.386 = Skr70.18 as at 19 Sept. 2003.

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.<sup>3</sup>

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.<sup>4</sup> 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 230,000 yen.

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 from April 2003 is 13.58 per cent for the principal program for private-sector employees (Kosei-Nenkin-Hoken, KNH). Non-employed persons between the age of 20 to 60 years pay flat-rate individual contributions. The current rate since April 1998 is 13,300 yen per month. For those who cannot pay for financial reasons, exemptions will be permitted. The flat-rate basic benefits for the period of exemption will be 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

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<sup>3</sup> A semi-annual bonus equivalent to 3.3 months salary is typically assumed.

<sup>4</sup> The normal pensionable age of the KNH is 65, though Japan has special arrangements for a transition period between 2000 and 2025. See Takayama (2003b) for more details.

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 will be around 44 trillion yen in 2003, which is equivalent to 12 percent of her national income of the same year.

### 3 Demography and Its Impact on Financing Social Security

In January 2002, Japanese National Institute of Population and Social Security Research (NIPSSR) released the latest population projections. These indicate that the total population will peak at 128 million around 2006 and then begin to fall steadily, decreasing to about 50% of the current number by 2100.

The total fertility rate (TFR) was 1.32 in 2002. There is still little sign that the TFR will stabilize or return to a higher level. Yet, the 2002 *medium variant* projections assume that it will record the 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 birth, currently about 1.15 million in 2002, 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, Japan is now experiencing a very rapid aging of its population. The number of the elderly (65 years and above) is currently 24.3 million in 2003. It 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 19.0% in 2003 to 25.3% by 2014, rising further to more than 30% by 2033. Japan already has one of the oldest populations in the world.

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

In May 2002, the Ministry of Health, Labor and Welfare, Japan, published the latest estimates of the cost of social security, using the 2002 population projections of the NIPSSR. According to the latest estimates, the aggregate cost

of social security in terms of national income is currently 22.5% in 2002. It will steadily increase to 32.5% by 2025, if the current provisions for benefits remain unchanged.

Of the various costs, that of pensions is quite predominant, amounting to 12% of national income in 2002, with further increase to 16% by 2025. The cost for health care is 7% in 2002, but will rapidly rise to 11% by 2025. The cost of long term care is currently very small: about 1% of national income. This will increase to 3.5% by 2025.

The Japanese economy is still reeling from the effects of its burst bubble, and the decline in population will soon be reflected in a sharp decline in young labor, in a falling savings rate and in a decrease in capital formation, all of which will contribute to a further shrinking of the country's economy.

#### 4 Some Basic Facts on Pensions

Any pension reform proposal must take into account the current basic facts on pensions. Among others, the following five are especially crucial.

##### *Persistent Deficit in Current Account*

Since 2001, the KNH has been facing a current-account deficit, as is depicted in Figure 1. It is estimated that the current-account deficit will persist for a long time, unless radical remedies are made in the KNH financing.

(Figure 1 about here)

##### *Huge Excess Liabilities in the Balance Sheet*

The KNH balance sheet is shown in Figure 2. In calculating the balance sheet, we assumed that:

- a) annual increases in wages and CPI are 2.5 percent and 1.5 percent respectively in nominal terms, while the discount rate is 4 percent annually,
- b) current contribution rate of the KNH, 13.58 percentage point, will remain unchanged in the future.

Figure 2 indicates that as at 31<sup>st</sup> March 2000, there were excess liabilities of 530 trillion yen, which is a quarter of the total liabilities.<sup>5</sup>

(Figure 2 about here)

Figures 3 and 4 are balance sheets, broken down into two parts; Part 1 is liabilities accrued from future contributions and Part 2 is those accrued from past contributions. Figure 3 implies that, as far as Part 1 is concerned, balance sheet of the KNH 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 5.6 percent.

(Figure 3 and Figure 4 about here)

But if we look at Figure 4 (Part 2), things appear quite different. The remaining pension liabilities are estimated to be 720 trillion yen, while pension assets are only 270 trillion yen (a funded reserve of 170 trillion yen plus transfers from general revenue of 100 trillion yen). The difference is quite large -- about 450 trillion yen, which accounts for the major part of excess liabilities in the KNH.

450 trillion yen is nearly two-thirds of Part 2 liabilities, equivalent to about 90 percent of GDP of Japan in 2000. 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 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 450 trillion yen which were entitled from contributions made in the past.

#### *Pension Contributions: Heavy Burdens Outstanding*

In Japanese public debates, one of the principal issues has been how to cut down personal and corporate income tax. But recently situations changed

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<sup>5</sup> Excess liabilities of all social security pension programs in Japan as at the end of March 2000 amounted to around 600 trillion yen, which is equivalent to 1.2 times the year 2000 GDP of Japan.

drastically. Figure 5 presents government income sources for FY 2003. Social security contributions (for pensions, health care, unemployment, work injury and long-term care) are 55.6 trillion yen (15.2 percent of national income). This is apparently more than all tax revenues (43.9 trillion yen). Since 1998, the central government has acquired more from social security contributions than from tax incomes.

(Figure 5 about here)

Figure 6 provides the respective amounts of principal tax and social security contribution incomes for FY 2003. Revenue from personal income tax is 13.8 trillion yen and corporate income tax is 9.1 trillion yen, while revenue from social security pension contributions stands out at 29.0 trillion yen. Needless to say, the last apparently 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, managements have begun to show serious concerns on any further increases in social security contributions.

(Figure 6 about here)

#### *Overshooting in Income Transfer between Generations*

It may be amazing that currently in Japan the elderly are better-off than those aged 30 to 44 in terms of per-capita income after redistribution (see Figure 7). Undoubtedly, there must still be room for reduction in benefits provided to the current retired population.

(Figure 7 about here)

#### *Increasing Drop-Out*

In the past 20 years, the Japanese government has made changes to the pension program every 5 years, increasing social security pension contributions and reducing benefits through raising the normal pensionable age while reducing the accrual rate. Further such piece-meal reforms will most likely follow in the future.

Many Japanese feel that the government is breaking its promise. As distrust against government commitment builds up, concern on such an “incredibility problem” is also growing.

In 2002 nearly 50 percent of non-salaried workers and persons 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 8 for increasing delinquency).

(Figure 8 about here)

Also, employers are carefully trying to find ways of avoiding to pay social security pension contributions. Indeed, the aggregate amount of the KNH contributions has been decreasing since 1998, in spite of no change in the contribution rate.

Any further escalation in the social security contribution rate will surely induce a higher drop-out rate.

## 5 Is the Swedish-type NDC Applicable to Japan?

Changes in the social security pension system have thus far been made at least every five years in Japan. Because the extensive overhaul was proposed in 1999, the chances are that 2004 could become another year of pension reform.

With regard to switching to the Swedish-type NDC, indeed there is much room to consider it in Japan, as well. As indicated above, Part 1 balance sheet (see Figure 3) which relates pension liabilities accrued from *future* contributions to future pension assets has been almost cleaned up. Slimming down future benefits by 5.6 percent will not be difficult, and the Swedish automatic balance mechanism will be helpful when this happens.

With the NDC plan, the incentive-compatibility problem can be avoided. Indeed, every penny counts in the NDC, and this would be the most important element when we switch to an NDC plan. It will be demonstrated to the public that everybody gets a pension equivalent to his/her own contribution payments.



The supplementary benefit, the guaranteed pension in Sweden was implemented as a provision for assuring adequate income after retirement. Also it will be expected to work as a “shock-absorber” against social and economic risks. In Sweden, its benefit is solely dependent on pension income, and not on comprehensive income (including asset income, wages and salaries), with no means-testing.

These Swedish arrangements on guaranteed pensions may be problematic in Japan, where income reporting to the tax bureau apparently differs among occupational groups. That is to say, income for wage-and-salary earners is usually full-reported, whereas income for self-employed persons is often underreported. Underreporting of income means lesser pension benefits from the NDC part, leading to more benefits in the guaranteed pension if following the Swedish system. This looks unfair to the eyes of salaried men.

There should be special arrangements for non-employed persons when a guaranteed pension is introduced in Japan.

In Japan, we have an additional specific problem. That is, we still have a huge amount of excess pension liabilities in balance sheet (Part 2), as already explained. Sweden has no such problem. We have several ideas to diminish excess liabilities. One employer group (Keizai-Douyukai) observes that the KNH is in fact facing bankruptcy. If the KNH goes in to liquidation, the entitled benefits should be cut down by about 30 percent (220 trillion yen) including benefits to current pensioners. The remaining excess pension liabilities (230 trillion yen) can be financed through issuing consols (110 trillion yen) and increased consumption-based tax (120 trillion yen).<sup>6</sup> However, the proposed cut-down of entitled benefits seems much too radical to be accepted by current aged and middle-aged population groups.

The Ministry of Health, Labor and Welfare (MHLW), Japan, is currently proposing to increase the contribution rate step by step from the current 13.58 percentage point to about 20 percentage point by 2020<sup>7</sup>, along with a further

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<sup>6</sup> Keizai-Doyukai is further asking a privatization of earnings-related pensions.

<sup>7</sup> Contributions to social security pensions operate as “penalties on employment.” Further hikes in

reduction in future benefits by introducing “macroeconomic” indexation which adjusts benefits just in line with changes in net aggregate amounts of wages and salaries. These measures will induce huge excess assets in Part 1 balance sheet whereby decreasing the large excess liabilities of Part 2 balance sheet. It seems as if we cut a wood not with a saw but with scissors. Younger generations are most likely to intensify their distrust against Government. The incentive-compatibility problem or the drop-out problem will become graver. The management (Nippon Keidanren) and trade unions (Rengo) both oppose any further increases of more than 15 percentage point in the KNH contribution rate. The MHLW shows a great interest in switching the system to a Swedish-type NDC, as well. It believes, however, that the switch can become realistic only after the KNH contribution rate reaches the peak level in 20 years.<sup>8</sup>

The Ministry of Finance, Japan, is making another proposal to reduce the excess liabilities in the balance sheet (Part 2). The proposal includes a reduction in benefits and an increase in consumption tax, as well. This benefit reduction is not only for the future pensioners but also includes the current pensioners with higher income by clawing back part of or all the benefits financed by transfers from general revenue. This kind of clawback has been already implemented in Canada. The Ministry of Finance seriously considers a switch to the NDC, as well, replacing the current DB system at the FY 2004 overhaul.

So far, proposals vary among different Ministries. Any realistic pension reforms have to be painful in Japan. The political parties still look timid in proposing any concrete pension reform plans. General elections will soon be scheduled to take place in early November 2003. The Government reform plan on pensions may be fixed by the end of December 2003.

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the contribution rate will bitterly damage domestic companies which have been facing the mega-competition on a global scale, thereby exerting negative effects on the economy, inducing a higher unemployment rate, lower economic growth, lower saving rates and so on. Further increases in the contribution rate will be sure to decrease take-home pay of actively working people in real terms, producing lower consumption and lower effective demand.

<sup>8</sup> The current MHLW proposal includes increases in transfer from general revenue from one-third to one half, relaxing the earnings test, an earnings-split between husband and his wife on divorce, extending coverage of the KNH to part-time employees who work no less than 20 hours per week, and more tax on pension benefits. No plan for any further increase in the normal pensionable age above 65.

## 6 Concluding Remarks

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

The present author thus believes that the Swedish-type NDC will be the only answer for Japan to overcome urgent difficulties in its current pension system. Needless to say, the switch to NDC schemes has to be accompanied by other proper measures for handling specific problems of Japan. We will have an answer to the question of its political feasibility by the end of this year.

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