

## JAPANESE PENSION REFORM: CAN WE GET OUT OF INTERGENERATIONAL EXPLOITATION?

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### *Abstract*

In the rapid aging society of Japan, the current intergenerational inequality caused by public pension is intolerable. Fundamental pension reform is necessary to stop this “intergenerational exploitation.” In this paper, I discuss some missing important topics such as intergenerational risk sharing, political risk and administrative cost in Japanese pension reform controversy. And I argue that reducing the benefit to the current pensioners is only the way to restore intergenerational equity in the Japanese public pension. Further, I discuss that the pension reform toward funded pension system is essential in order to avoid intergenerational exploitation in future.

*Key words:* Japan, Pension Reform, Intergenerational Equity  
*JEL Classification:* H55

### *I. Introduction*

Japanese public pension is now in deep trouble. With one of the most rapid demographic changes in the world, Japanese public pension system turns out to be a mechanism of “intergenerational exploitation.” However, this consequence was brought not only by unexpected factors but also by pension design failure in Japan. In this paper, I will discuss how Japanese public pension system turned to be “intergenerational exploitation” mechanism and how we can get out of this “intergenerational exploitation.”

In section 2, I will overview the current Japanese pension system. In section 3, I will discuss the optimal pension design in Japan. New topics such as intergenerational risk sharing function of public pension system, political risks and administrative costs of Japanese public pension system are considered. In section 4, I will consider desirable pension reform in Japan. There is a brief concluding remark discussing a lesson from Japanese experience for Asian countries.

The discussion here is rather brief and focuses on intergenerational income redistribution aspect of Japanese pension system. The interested readers are asked to refer to Kunieda (2002) for more details.

## II. *Overview of the Current Japanese Pension System*

### **Rapid Aging of Japanese Society and Intergenerational Exploitation**

Japan is now facing one of the most rapid demographic changes in the world. Because of the world highest longevity and recent low birth rate in Japan, it is estimated in 2002 that the ratio of the population of 65 years old and over will be 35.7% in 2050. This rapid aging is expected to bring serious consequences on various aspects of Japanese economy, but most severely on Japanese budget deficit and public pension system.

Since Japanese economy is supposed to be dynamically efficient [Abel, Mankiw, Summers and Zeckhauser (1989)], we cannot avoid the burden of budget deficit and pension debt just by playing a Ponzi game. Namely, we should keep the intertemporal government budget constraint (including public pension) in the present value, which requires that the net benefit enjoyed by the current old generation should be equal to the net burden of the current young and the future generations in present value.

Intergenerational inequality caused by the current budget deficit and the current public pension system is astonishing. The recent estimation of the generational accounting in the Annual Report on Japan's Economy and Public Finance (2001) shows that the generation aged 60 and over gets net benefit of 57 million yen per capita, while the generation aged 20s suffers net cost of 13 million yen per capita. However, the real loser is the future generation. They should bear very heavy burden of 42 million yen per capita in future. Kotlikoff and Leibfritz (1999) conclude that Japanese intergenerational inequality is worst in the world from the international comparison of generational accounts. I would like to call this intolerable Japanese intergenerational inequality as "intergenerational exploitation."

This intergenerational exploitation is brought not only by accumulated public debt, but also by pay-as-you-go defined benefit (DB) public pension system. As well known, the introduction of pay-as-you-go public pension and the debt-financed tax cut to the old generation are equivalent in generational accounting. While debt-financed one-shot tax cut to the old generation may be labeled as "selfish fiscal policy of the old generation", pay-as-you-go public pension system may be labeled as "social solidarity among generations." However, both policies bring just the same intergenerational redistribution consequence. Pay-as-you-go public pension liability is just a hidden national debt.

In 1999, the explicit national debt amounted to about 370 trillion yen in Japan. On the other hand, the hidden pension debt to be financed by general tax revenue and higher contribution in future was 973 trillion yen.<sup>1</sup>

In this paper, I will discuss how pay-as-you-go pension system may bring "intergenerational exploitation," and how we can get out of "international exploitation" by fundamental pension reform.

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<sup>1</sup> This number is taken from Case 4 in Appendix Note 3-5 of *Annual Report on Japan's Economy and Public Finance* (2001). Social security experts may exclude the transfer from the general tax revenue from pension liability. However, when we discuss about intergenerational fairness, we should consider the total burden caused by pay-as-you-go DB pension system.

## The Current Pension System in Japan<sup>2</sup>

The current public pension system in Japan has three tiers.<sup>3</sup> The first tier is “National Pension (Kokumin Nenkin)” or “Basic Pension (Kiso Nenkin),” which covers all Japanese nationals. The benefit level is flat. The second tier is Employees Pension Insurance (Kosei Nenkin Hoken),<sup>4</sup> which is a supplementary earning-related pension to Basic Pension for employees.<sup>5</sup> The contribution rate for these two tiers varies according to the contributor’s occupation. The insured except employees and their wives (namely, self-employed, farmers and others) are called as the “category 1 insured” of National Pension. They contribute 13,300 yen/month for National Pension. Employees are called as the “category 2 insured.” The contribution of private employees is not only for Basic Pension but also for Employees Pension Insurance. The contribution rate is 13.58% of their annual wage income (from 2003), while their employers pay half of the contribution. The employees’ wives, who are called as the “category 3 insured,” need not to pay any contribution.

The benefit of Basic Pension is paid from 65 years old. When the insured contribute from 20 years old to 60 years old, full benefit (804,200 yen in 1999) is paid. The benefit level is adjusted automatically to compensate consumer price increase. The benefit level of Employees Pension Insurance at 65 years old is calculated by the formula: (average standard monthly earnings)\*(benefit coefficient)\*(contribution periods)\*(inflation adjustment factor). Here the average standard monthly earnings are not actual earnings but modified earnings reflecting the growth rate of disposable income of the current working generation. The benefit coefficient in the formula above is determined to keep the benefit level as 59% of the disposable income of the current working generation. After 65 years old, the benefit level is adjusted only for inflation. While the insured between 60 and 64 years old can receive the special benefit of Employees Pension Insurance now, the minimum age for this special benefit will be raised gradually to 65 years old.

The third tiers are Employees Pension Fund (Kosei Nenkin Kikin) and Qualified Retirement Pension Plan (Tekikaku Nenkin). Both of them are funded DB pensions at the firm level for private employees. Under Employees Pension Fund framework, a company, a group of a company and its subsidiaries, or a group of companies in the same industry (or region) establishes a special corporation called “Employees Pension Fund.” Under Qualified Retirement Pension Plan, there is no such special corporation. Under both systems, the contribution rate and the benefit level are determined according to actuarial calculation. However, the funds paid too generous benefit based on their optimistic actuarial calculation.

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<sup>2</sup> More detailed explanation in English can be found in Japan International Social Security Association (2001).

<sup>3</sup> If we follow the criteria of Fox and Palmer (2001) based on World Bank (1994)’s proposal, we have National Pension, Employees Pension Insurance and Mutual Aid Pension in the pillar 1 (large, mandatory public or quasi-public systems with inter- and intragenerational redistribution). And we introduce the new Defined Contribution Pension in the pillar 2 (fully funded, defined contribution systems in which benefits depend on the assets in the individual’s account at retirement). Employees Pension Fund and Qualified Retirement Pension Plan are between the pillar 1 and the pillar 2, since they are DB pension, but not mandatory. The pillar 3 (government-regulated, voluntary or semi-voluntary, private pension system) did not play an important role in Japanese pension system so far.

<sup>4</sup> For public employees, there is Mutual Aid Pension (Kyosai Nenkin).

<sup>5</sup> National Pension Funds were established as the second and third tiers for the category -1 insured (self-employed and farmers). They are funded DB pension, but with serious governance problem. See Kunieda (2000b, 2000c) for details.

Further, some directors of the funds tried to build their “empire” by investing a part of the fund into inefficient investment such as pension fund buildings.<sup>6</sup> Even after financial problems of the funds are realized, the directors of the funds did not have fundamental fiscal restoration but invest in more risky assets. With the asset price drop in Japan, many Employees Pension Funds were caught in serious financial troubles. This is a typical example of moral hazard behavior that was commonly observed in S&L crisis in the US. This governance failure was fully analyzed in Kunieda (2000b, 2000c).

The government delegates a part of management of Employees Pension Insurance to individual Employees Pension Funds (“daikou”). However, as Kunieda (2000c) points out, “common agency” theory predicts that such scheme may fail because of conflicts of interests. This governance design failure is another hidden reason of collapses of many Employees Pension Funds. Since many companies hoped to escape from this “common agency” status, now Employees Pension Funds are admitted to escape from the burden of delegated management of a part of Employees Pension Insurance. Fiscal troubles of Employees Pension Funds make employers realize the risk of DB pension system. Reflecting the voices from employers, a new non-mandatory individual defined contribution (DC) pension account, “Defined Contribution Pension (Kakutei Kyoshutsu Nenkin),” was introduced in 2001. Since this resembles 401(k) in the US, it is often called as Japanese 401(k). In the framework of Japanese 401(k) for employees, both employees and employers pay contribution into individual pension accounts. Portability of individual pension account in the case of changing jobs is ensured. More than 700 companies will introduce Japanese 401(k) by the end of the fiscal year of 2002 [Nihon Keizai Shinbun (August 26, 2002)].

In addition to public pension system, life insurance companies and trust banks provide private individual pension products in Japan. However, the role of such private pension is limited in Japanese pension system.

### **“Pension Crisis” and Pension Reform Controversy in Japan**

The seriousness of Japanese pension crisis is widely recognized now. However, it seems that there are two meanings of “pension crisis” when people discuss pension crisis in Japan. The typical view considers the pension crisis as the problem of fiscal sustainability of public pension system. If we take this view, the required pension reform is the reform just for restoring fiscal sustainability.

However, the other view defines pension crisis as very unfair treatment of different generations under public pension system. Since the net gains (in present value) of some generations should be offset by the net loss (in present value) of the other generations under any sustainable public pension system, intergenerational exploitation can occur even under sustainable public pension system. I believe that the most important objective of Japanese pension reform should be not only restoring fiscal sustainability but also restoring intergenerational fairness under public pension system. In this context, many economists suggested their own proposals of pension reform from pay-as-you-go system to funded system. For example, Tajika, Kaneko and Hayashi (1996) proposed the pension reform toward “(actuarially) fair pension system.” Oshio (1998) proposed the public pension reform toward two-tier pension

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<sup>6</sup> Surprisingly, Ministry of Health and Welfare did not try to sustain such investment, but encouraged it.

system with both basic pension designed by welfare principle and privatized individual accounts designed by insurance principle. Hatta and Oguchi (1999) also argue that not only second tier but also first tier (basic pension) of public pension system should be financed by funded method. In 1999, the Economic Strategy Council of Japan concluded that public pension should be restructured to limit the role only to the basic pension and financed solely by tax revenue, while the second tier should be fully privatized in 30 years, and “double burden” of privatization should be borne by each generation through gradual reform.<sup>7</sup>

However, traditional social security experts including officials of Ministry of Health, Labor and Welfare opposed to the idea of pension reform toward funded system. The typical argument of traditional social experts was that appropriate intergenerational unfairness is unavoidable under public pension system. They argue that public pension system is based on not only insurance principle but also “solidarity” (or welfare) principle. Recognizing the solidarity function of public pension system, some intergenerational inequality should be accepted.<sup>8</sup> However, the clear definition of desirable “solidarity” is not provided in their argument, while most of traditional social security experts agree that current Japanese situation is not appropriate. Thus, without the clear definition of “solidarity”, no constructive conclusion emerges from the pension reform controversy between economists and traditional social security experts in Japan.

I think that one missing link in Japanese pension reform controversy is the role of public pension in intergenerational risk sharing. Most Japanese economists who care about intra-generational risk sharing ignored intergenerational risk sharing. On the other hand, while traditional social security experts who stress solidarity aspect of public pension system do not provide the clear definition of solidarity, the idea of optimal intergenerational risk sharing can provide the clear definition of optimal “helping hand” among different generations. Thus, it is valuable to discuss Japanese pension reform from aspects of intergenerational risk sharing, which is one topic of the next section.

### III. *Pension Design*

#### **Intergenerational Risk Sharing and Japanese Public Pension System**

In Japan, the supporters for pay-as-you-go system argue that “social risk” such as inflation cannot be insured by private insurance, so that the government should protect the retired people from such risk through pay-as-you-go pension system. It is often claimed that the experience of Japanese public pension system during the oil shock in 1970s proved the superiority of pay-as-you-go DB pension system.<sup>9</sup> However, as I point out above, their

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<sup>7</sup> Unfortunately, this report had a serious logical error. In Part 1 of the report, it recommended that the government should pursue the policy that makes Japanese economy dynamically inefficient!! If so, one important rationale for privatization of the pay-as-you-go public pension will be lost.

<sup>8</sup> One traditional Japanese social security expert even argues that economists who argue intergenerational gains and loss under public pension system “lacks fundamental understanding of idea of public pension.” (Hori (1997) (translated by the author))

<sup>9</sup> Another Japanese inflation that is often quoted as an evidence of the superiority of pay-as-you-go DB pension system is Japanese post war inflation. While there was a very young funded pension system in Japan, because of high post inflation, the real value of pension fund was lost, and Japanese public pension system was converted into

argument ignores intergenerational risk sharing aspect of pay-as-you-go system.

When we assume that every agent dislikes risk similarly (i.e. the degree of risk aversion is the same for every agent), the optimal risk-sharing rule with statically independent risks will be simple: Every agent should share statically independent risks. ("Risk spreading") In the context of intergenerational risk sharing, this means that every generation should share idiosyncratic shocks. Since markets for intergenerational transaction may be missing, public pension system with pay-as-you-go finance can be justified as the scheme that provides such intergenerational risk sharing. Even so, the most efficient risk sharing system is not the risk sharing system just between two generations, but with all other generations [Gordon and Varian (1988)].

However, when risks are not statically independent, risk-sharing scheme that protects only one agent with heavier burden on other agents may deteriorate social welfare. At extreme, we can consider the case where every agent faces one same risk. When a bad outcome is realized in the risk, the risk-sharing scheme that protects only one agent will sacrifice the other agents who actually suffer the same bad outcome from that risk. In this context, if one generation is protected from permanent negative shocks by public pension system, the burden will be just shifted to the next generations that also suffer the same permanent negative shocks. In this meaning, risks will be concentrated through pay-as-you-go public pension system. This is the case of "intergenerational exploitation through risk concentration" [Kunieda (1999)]. For example, when there is permanent price increase of energy prices, under pay-as-you-go DB system with full indexation, retired old people may be protected from the inflation but young workers will not only lose the real value of their human wealth, but also suffer the heavier contribution burden to maintain the real value of the benefit to the old people. While well-designed income transfer against temporary shocks can be worth of the name of "solidarity," income transfer against permanent shocks can be a system for "intergenerational exploitation" rather than "intergenerational solidarity." (In more general setting, the effects of various economic shocks depend on the exact types of pension systems. See [Lindbeck (2002)] for further discussion.)<sup>10</sup>

## Political Risks and Public Pension System: Japanese Experience

### (1) Political Risk under Pay-As-You-Go DB Pension System

In reality, political consideration is a very important factor to evaluate alternative public pension systems, since even an ideal public pension system may turn out to be inefficient and unfair in actual political process.

A natural start point of political analysis of public pension system is the median voter hypothesis. If the median voter is among the young generation, desirable intergenerational risk

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pay-as-you-go system. However, Kunieda (2002) pointed out that if the initial pension system were pay-as-you-go system, the damage should have been much heavier than the damage actually suffered. The existence of accumulated fund enabled smoother conversion into the new pension system, and reduced the need for money finance that was a true cause of post war inflation. In other word, the accumulated fund in the funded pension system can work as a buffer against large shocks, but pay-as-you-go pension system does not have such buffer in the system. See Kunieda (2002) for details.

<sup>10</sup> One possible opposition against equal risk sharing of the permanent shocks among generations is that old generation is more fragile to large economic shocks (Shiller (1999)). When there is a difference in the degree of risk aversion, risk shifting from more risk averter to less risk averter can be efficient

sharing can be achieved even under pay-as-you-go DB pension system, since the young median voter will care about not only the current contribution level but also the future benefit level. However, if the median voter is among the old generation, the old median voter will try to increase the benefit level, since they do not need to care about the contribution burden. In this case, intergenerational exploitation will emerge as a political outcome. Even when the median voter is among the young generation, if the old generation has relatively stronger political power than the young generation in actual political process because of time availability for lobbying, we cannot exclude political possibility of intergenerational exploitation. The situation may be much worse when DB public pension is financed with not only contribution but also general tax revenue. If the general revenue is financed by more government debts, both young and old do not need to care about contribution burden, so possibility of intergenerational exploitation can be very high. [See Persson and Tabellini (2002) for the survey of political economic analysis of pension system.]

The experience of Japanese public pension supports this political risk argument. In early 1970s, the opposition political parties such as Socialist Party and Communist Party argued that the social welfare system should be enlarged with the fruit of the high postwar economic growth. They won more seats in the National Diet, and won more governors' offices of important prefectures such as Tokyo Metropolitan Area. In the danger of losing the majority in the National Diet, Prime Minister Kakuei Tanaka changed his policy and determined to raise the benefit level of Employees Pension Insurance substantially. This change of the policy can be seen as an effort to propose the policy that is closer to the preference of the median voter. Even at that time, some economists pointed out the problem of too heavy burden on future generations. However, politicians paid no attention, maybe because they are only looking for more votes from the current young and old generations in such a close contest among political parties. The year 1973 was called as "First Year of Welfare" at that time, but turned out to be "First Year of Intergenerational Exploitation" later.

## (2) Political Risk of Centrally Managed Funds

If we reject DB system as desirable public pension system because of political fragility, then funded DC public pension system will be a natural choice. Still there are two alternatives: funded at the central government level, or funded at individual level. Both of them have merits and demerits, but one important difference is political risk of central fund management. Many critics found that central fund management will end in lower return than efficient market return [For international evidence, see Igresias and Palacios (2001)]. Several factors such as distorted portfolio choice toward "socially preferred industries" are pointed out.

Japanese experience of central fund management provides a good example of political risk of central fund management. Japanese Employees Pension Insurance is pay-as-you-go DB pension in principle, but with a large amount of reserve fund for a while. Until very recently, this reserve fund was mainly invested in government capital investment plan (Zaiseitoyushi) that pays fixed return rate and in bond and stock markets through Pension Welfare Service Public Corporation (Nenkin Fukushi Jigyoudan). However, in addition to this portfolio management, some portion of the money contributed from workers was used for building and managing hotels, concert hall, culture centers, sport centers and other facilities. Ministry of Health and Welfare claimed that investment in such facilities improves the welfare of pensioners, pension contributors and their families. However, it seems that there is no

justification in such explanation when there exist many private hotels and other facilities already in Japan. A hidden purpose of such investment is bureaucratic “empire building.” These hotels and other facilities provide well-paid jobs to ex-officials of Ministry of Health and Welfare. Naturally, some of these facilities have generated a huge loss. The special report of the Public Inspection Bureau of Management and Coordination Agency in 1998 estimated that accumulated loss was 55 billion yen. In 1997, Hashimoto Cabinet decided to close Pension Welfare Service Public Corporation and stop its investment in the hotels and other facilities. This Japanese experience clearly shows a political risk of negative present value investment of centrally managed pension fund.

### **Administrative Costs in Japan: Japanese 401(k) Experiment**

Administrative costs of alternative public pension systems are one of the hottest issues in the current pension reform in the world. For example, Diamond (1997) points out that high administrative costs of individual account system are important disadvantages of individual account system. Recent augment of administrative costs of public pension seems to conclude that too many collecting and record keeping agencies and too many investment alternatives in the same pension system may be too costly, since there seems to be substantial economies of scale in administrative costs. In order to avoid these problems, Swedish model of individual account system is supported by some researchers. In Swedish individual investment accounts system, there is one central public agency for collecting contributions and record keeping. Investment choices are constrained, and selected by each individual. Still, some argue that even Swedish system is more costly than pay-as-you-go DB system. Unfortunately, as long as I know, there are few studies on administrative costs of public pension system in Japan. Here I will look at only administrative costs of investment function of public pension system, since it is the most important topic of administrative cost debate now.

We can consider administrative costs of the central reserve fund management by looking at fund management fee paid by Pension Welfare Service Public Corporation. In the “pure” fund management activities (namely, excluding facilities investment and lending) of Pension Welfare Service Public Corporation, they reported the fund management fee payment was 0.16% of average amount of the principal of invested fund. On the other hand, the average management fee (“trust fee”) of (private) investment trusts in stocks for individuals is around 1% in Japan [Hiraki and Otsuki (1999)]. In addition, when individuals buy new investment trusts in stocks, they should pay sales fee generally. Even in the case of bond investment, the average management fee for individuals is 0.3-0.75% without sales fee. Thus, the fund management fee is much lower for Pension Welfare Service Public Corporation than for individuals. Several reasons can be considered for this difference. While economies of scale in the fund management are large, the average size of individual Japanese investment trust funds is too small. It is pointed out that Japanese investment trust brokers, who rely heavily on sales fee, tend to encourage their clients to change their investment trust funds frequently, and this tendency brings “churning out” of inefficiently small investment trust funds. [See the articles in Royama (1999)] Another factor is the difference in market structure between investment trust markets for individuals and institutions; Pension Welfare Service Public Corporation has strong negotiation power against fund managing companies. Invest trust companies need a large amount of advertising cost for individuals, but not for Pension Welfare Service Public



Corporation.

However, it is too early to conclude that individual accounts are much more costly in Japan. In 2001, Japanese 401(k) was introduced. Since 401(k) contributors do not change their investment trust funds so frequently, financial institutions will make more efforts to compete in price for new investors, rather than to encourage frequent turnovers. In fact, many investment trusts cut or even eliminate sales fee for 401(k). This change may reduce “churning out” of small investment trusts. It is worth watching the cost saving effects of the introduction of Japanese 401(k) closely for the time being.

While we may expect that Japanese 401(k) will reduce administration costs of investment trusts in Japan, it is sure that some disadvantages of investment trusts in administrative costs will remain. Thus, when we introduce the individual account system in Japan, we should consider the framework with the constrained choices such as the Swedish system in order to avoid the possible burden of high administrative costs.

#### IV. *Pension Reform*

##### **Recent Public Pension Reform**

While we consider “pension design” so far, we should also consider “pension reform” with the existing pension system in Japan. Like the difference of “tax design” and “tax reform,” “pension reform” can be different from “pension design.”

Japanese experience of pension reforms is a typical example of “incremental reform” rather than “fundamental reform” under pay-as-you-go DB pension system. Since the recalculation of public pension finance is required for every 5 years by law, we have some pension reform debate almost for every 5 years. After “First Year of Welfare,” the population growth and the economic growth slowed down. Gradually realizing that the generous public pension system cannot survive, several pension reforms were implemented. The main ways of the past pension reforms were to reduce future benefit by increasing the minimum age to receive the benefit and reducing the degree of indexation of benefit, and to increase the contribution rate. These incremental reforms have several common problems. The required reforms were determined and implemented only gradually. The politicians tend to postpone some necessary painful reforms. Public projection of population growth and other factors supported less drastic reforms, but were repeatedly found too optimistic later. As a result, “a never-ending pension reform” continues.<sup>11</sup>

The most recent pension reform in Japan was the reform in 1999. The main concern of the reform was similar to the previous ones. The new projection of fertility rate was lower than expected, while the projection of longevity was longer than expected. Much heavier burden than expected before is required to maintain the benefit level as before. In the end of 1997, Ministry of Health and Welfare showed “Five alternatives” of coming pension reform. Among these five alternatives including privatization, Ministry of Health and Welfare chose 20% cut of the total benefit expenditure. After some political process, the final proposal was to increase the minimum age for earning-related benefit of Employees Pension Insurance, with about 5%

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<sup>11</sup> This is the title of Franco (2002)'s paper on Italian pension reform.

cut of individual benefit level. This was not the end of the story. In the legislative process, the majority parties determined to “freeze” the increase of the contribution rate in the reform plan because of depressing economic situation in Japan. While the other part of the reform plan was implemented, such political compromise will be a threat to the future fiscal sustainability of Japanese public pension. Similar movements continued. Since Japanese economy is now under deflation (CPI increase rate: -0.3 in 1999, -0.7 in 2000), the automatic indexation of the benefit level of public pension requires the government to reduce the benefit level. However, such automatic indexation was cancelled politically because of current depressing economic condition in Japan.

In the end of January 2002, Institute of National Institute of Population and Social Security Research published the latest projection of population dynamics. The newly projected ratio of the population of 65 years old and over in 2050 (35.7%) is much higher than the previous projection (32.3% in 1997 projection). Since many researchers already criticized that the previous projection was too optimistic, this is an expected revision. Since the pension reform in 1999 was based on 1997 projection, the latest revision of the projection implies that another fundamental reform is required.

### How to Get Out of Exiting Intergenerational Exploitation

While the incremental reforms were chosen by Ministry of Health and Welfare, many researchers argue that the fundamental reform such as the conversion to funded pension system is required to get out of intergenerational exploitation.

However, as long as the benefit level of retired pensioners at the time of pension reform is maintained, some generation should pay to finance the benefit to current pensioners. If young workers at the pension reform pay all cost, they should pay for not only the contribution to their own funded pension but also the income transfer to pensioners. This is so called “double burden” of pension reform to funded pension system.

One way to avoid concentration of the burden is to spread the burden over the current young and future generations. For example, we can consider one benchmark case where the government issues government bonds to finance the cost of benefit to pensioners at the time of pension reform, and keeps per capita level of government bonds at the same level forever. In this case, the government should raise the tax burden of each generation in order to keep per capita level of government bonds. However, we can show that this increased tax burden is exactly the same as the gain of pension reform for current young and future generations.<sup>12</sup> Thus, in this benchmark case, there is no change of intergenerational income redistribution by the pension reform. This conclusion may sound strange, but is easily understood if we realize that pay-as-you-go public pension liability of the government is just a hidden national debt. This benchmark case of pension reform just switches from hidden debt to explicit debt, so that intergenerational exploitation will still continue [Shiller (1998), Sinn (2000)]. Unless the benefit level for current pensioners is reduced, any pension reform cannot change the present value of total gains received by current pensioners and the present value of total burden borne by current young and future generations.<sup>13</sup>

<sup>12</sup> More detailed explanation can be found in Kunieda (2002).

<sup>13</sup> While Ministry of Health, Labor and Welfare proposes notional defined contribution (NDC) pension system Very recently, we can say the same thing about the pension reform to NDC pension system. The sustainable NDC

While the pension reform with the same benefit level as before cannot change the total sum of the costs borne by current young and future generations, the pension reform that is different from the benchmark case may change the ratio of the tax burden borne by young generation and by future generations. The pension reform that raises more tax revenue from current young generation than the benchmark case will redistribute income from current young generation to future generations.<sup>14</sup> Thus, more attention should be paid to the way of raising additional revenue for the double burden in Japanese pension reform controversy, since it determines income redistribution between current young and future generations.

### **Japanese Pension Reform for Getting out of Existing Intergenerational Exploitation**

The purpose of the Japanese pension reform should be not only restoring fiscal sustainability but also getting out of existing intergenerational exploitation. As discussed above, the pension reform to funded pension system is desirable to avoid further intergenerational exploitation in the future, but is powerless against the currently existing intergenerational exploitation unless the benefit level to current pensioners is reduced. Still, in some countries that have long history of public pension, the reduction of the benefit level may not be desirable. Since the first generation who was the only winner of intergenerational exploitation game already died in those countries, so that there remain only loser generations in intergenerational exploitation game of public pension [Gokhale and Kotlikoff (2002)]. Thus, in those countries with a long history of public pension, how to share the burden among the current and future generations fairly and efficiently will be the most important question. However, in Japan with a relatively short history of substantial public pension system, the first generation who started the very generous pay-as-you-go public pension in “First Year of Welfare” is still alive. They continue to receive the benefits that are much higher than their contributions. We can stop intergenerational exploitation by stopping further redistribution to the winners of intergenerational exploitation game. Of course, we do not need to cut income transfer to truly poor old. We just need to reduce the benefit to affluent pensioners effectively. Not only direct reduction of benefit but also heavier tax on pension income (which is more lightly taxed than other income now) can achieve this objective.

The reduction of benefit to the first generation who voted for starting intergenerational exploitation has further important implication. It is well known that there can be multiple Nash equilibriums when zero-sum game is played by successive overlapping generations in the infinite horizon [Kandori (1992)]. In non-cooperative equilibrium, each generation will try to exploit future generations by imposing the maximum contribution. We may call it “intergen-

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pension system will pay only the notional return rate just as the same as the population growth rate plus the per capita growth rate at the maximum. This corresponds to the return rate of the existing pay-as-you-go pension system, so that every generation except the first generation bear the same cost as before. NDC can reduce intergenerational exploitation only when it is used for reducing the benefit received by current retired pensioners.

<sup>14</sup> For example, Feldstein (1998) considers the case where the government will maintain not per capita level but total level of government bond after the pension reform. This means that per capita level of government bond will decrease gradually as long as the population growth is positive, so that there is intergenerational income transfer from current young and relatively early future generations to later future generations. Since Feldstein (1998) assumes that the interest rate is higher than social discount rate because of capital income taxes, he concludes that this income transfer is welfare improving. But if the government fails to raise sufficient tax to maintain per capita level of government bond, the result will be opposite.

erational exploitation equilibrium.” On the other hand, with some conditions, there is a possibility of another equilibrium where each generation realize that if they behave in cooperative way, then the other generations behave in the similar way. This may be called “intergenerational solidarity equilibrium.” However, the conditions to achieve “intergenerational solidarity equilibrium” include the punishment by the other generations on the generation who starts intergenerational exploitation. If non-cooperative behavior of one generation is allowed by the other generations, the other generations also will start intergenerational exploitation. In that case, only equilibrium is non-cooperative intergenerational exploitation equilibrium. In the context of Japanese pension reform, if the first generation is not punished even when they start intergenerational exploitation, then every future generation will behave in non-cooperative way. Even after we can succeed in the pension reform that restores intergenerational fairness, some future generation may start another intergenerational exploitation if they realize there is no credible punishment in future. We need credible punishment for deviators if we would like to make Japanese public pension system to be durable “intergenerational solidarity” mechanism rather than “intergenerational exploitation” mechanism.

### **Japanese Pension Reform for Avoiding Intergenerational Exploitation in Future**

The first task of Japanese pension reform is to get out of existing intergenerational exploitation. Then, the next task of Japanese pension reform is to avoid intergenerational exploitation in future. As we see above, pay-as-you-go DB system may not be a way of the optimal intergenerational risk sharing in future. Further, while pay-as-you-go system requires “a never-ending pension reform” in order to adjust various economic shocks, pay-as-you-go system is fragile against political risks. The Japanese history of pension reforms proves this fragility. Too generous benefit was introduced in “First Year of Welfare.” While many recognized that pension reforms are inevitable to restore fiscal sustainability, it took a long time to raise the minimum age to receive benefit. The optimistic demographic projections of the government were repeatedly modified downward. Since rapid aging population means that the median voter will be older than now, it is expected that the old generation will have more political power in future. Thus, funded DC pension is a natural choice for avoiding intergenerational exploitation in future.

While either the government or private agents can manage pension funds, both Japanese experience and other countries’ experience prove political risks of centrally managed fund. On the other hand, when we see the administrative cost of existing investment trusts, the administrative costs seem high now in Japan. However, the recent introduction of Japanese 401(k) may encourage more efficient private fund management in Japan. Then, a serious consideration should be given to the individual pension accounts in the form of the (semi-) mandatory version of Japanese 401(k). We may follow the Swedish individual pension account system by limiting the maximum administrative costs and delegating record and collection function to one or a few central organizations, in order to avoid inefficiency due to too small scale of operation.

However, one question here is the timing of this reform. There are two alternatives. One alternative is to implement drastic reduction of benefit and to convert public pension to funded DC at once in the grand pension reform. The other is to implement drastic reduction of benefit

first and then to convert public pension toward funded DC after confirming that current intergenerational exploitation is eliminated. The former has some advantages. Since the speed of aging is very high in Japan and the conversion to new pension system will take a very long time, we should start the conversion as soon as possible. People would like to have a concrete future image of public pension when benefit cut is discussed. However there are some disadvantages, too. When the conversion is implemented, the government should issue a very large amount of government stock to finance the benefit to current pensioners in order to smooth tax burdens over generations. As empirical research on budget rules shows, accepting the budget deficit beyond exiting budget rules may deteriorate budget discipline. We can easily imagine that political incentives to cut benefit may be lost when the government runs massive budget deficit. For example, who cares about 2 trillion yen expenditure saving by 10% annual benefit cut when the government issues 330 trillion yen new government bonds? Rather, politicians may insist that the government should raise benefit level by issuing more government bonds. Thus, I think that the desirable strategy of Japanese pension reform is to cut benefit drastically at first and to consider the conversion toward funded DC next.

### V. *Concluding Remarks: A Lesson for Asian Countries*

In this paper, we saw how ill designed pay-as-you-go DB public pension system brought intergenerational exploitation rather than intergenerational solidarity in Japan. While Japanese public pension experience was determined by some specific factors, there are some valuable lessons for Asian countries.

The most important lesson of Japanese public pension is simple. Do not introduce too generous pay-as-you-go DB public pension system without careful consideration on its long run fiscal consequences. After high economic growth, people will care more about social welfare and income redistribution as in Japan in 1970s. However if the government introduces too generous pay-as-you-go DB public pension, it can be a critical mistake in the long run. We should remind that the introduction of pay-as-you-go system is just the same as debt-financed tax cut to the old generation from the viewpoint of intergenerational income redistribution. Even rapid growing Asian tigers may face much lower economic growth after their "catch-up" period. With higher living standards, each household may have fewer children. Then, sooner or later, the long-run pension finance plan established during the high economic growth period will turn out too optimistic. Finally hidden pension debt will explode.

Being caught by the trap of intergenerational exploitation is so easy, but getting out of intergeneration exploitation is so difficult. This is an important lesson from the failures of Japanese public pension reforms.

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