

Major Changes in Japanese Public Pension System: Their Backgrounds and Underlying Philosophies

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1 Introduction¹

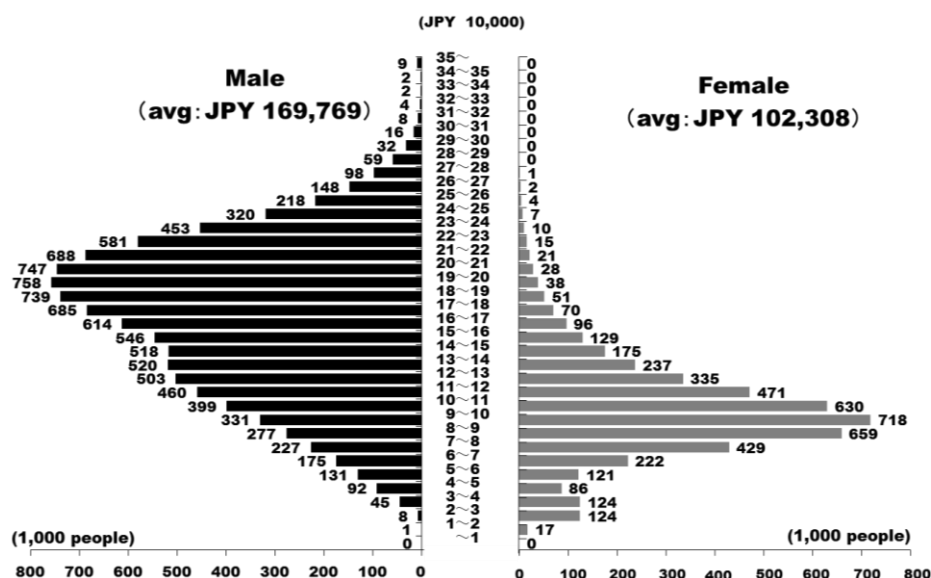
This paper presents major changes in the public pension system in Japan, with highlighting their backgrounds and underlying philosophies. Before going into detailed discussions of them (Sections 7 and 8), Section 2 explains the current role of public pensions in old age, and Section 3 focuses several characteristics of the Japanese way of thinking, while Section 4 clarifies the guiding principles in the design of Japanese pensions. Section 5 provides a brief outline of each set-up of respective public pension systems and their coverage expansion. Section 6 documents long-term demographic and economic changes in Japan. Section 9 deals with current financial situations of each pension system. Section 10 takes up challenges ahead. Section 11 concludes this paper.

2 Current Role of Public Pensions in Old Age

2.1 Distribution of Monthly Old-Age Benefits

The distribution of the monthly amount of old-age public pension (PP) benefits for retired workers in the private sector is shown in Figure 1. It is given on an individual basis. Its average amount in March 2013 was about JPY 170,000 (RMB 9,900) for males and JPY 100,000 (RMB 5,900) for females, respectively.

Figure 1 Monthly Amount of Old Age Benefits

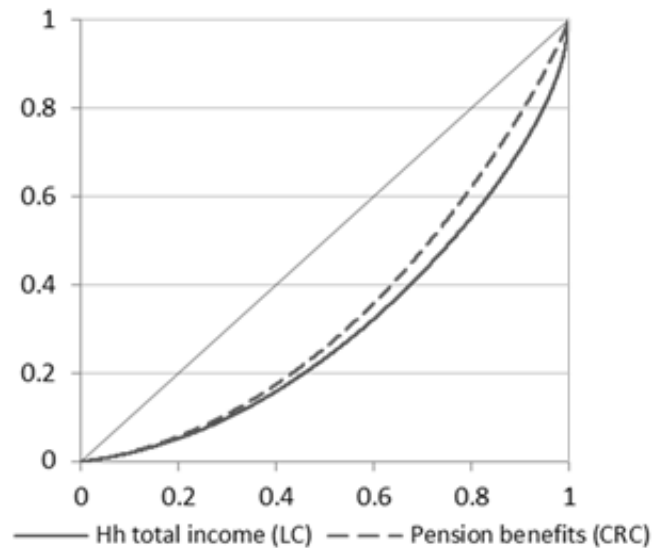


Source: The Ministry of Health, Labour and Welfare, Japan (MHLW), *The FY 2012 Annual Report of the KNH Operation*

¹ This paper is a revised version of my report presented at the China-Japan joint workshop on pensions, the Institute of Population and Labor Economics, Chinese Academy of Social Sciences, Beijing, 8-9 December 2017.

Although a persistent gender gap remained, PP benefits were distributed more equally than household (Hh) total income, as depicted in Figure 2. Incidentally, in 2007 Gini coefficient of PP benefits was 0.3339, while that of Hh total income was 0.3978.

Figure 2 Lorenz Curve & Concentration Rate Curve



Source: MHLW, *The 2007 Comprehensive Survey of Living Conditions*

2.2 Share of PP Benefits over Hh Total Income

The PP benefits are the major income source in old age, especially for low- and middle-income groups in Japan (see Figure 3). For around 80% of the elderly households whose head was 65 years old or over, the PP benefits accounted for 50% or more of their household total income in 2016.

Moreover, Japanese elderly households are better off than young ones (see Figure 4).

Figure 3 Percent of Aged Receiving Social Security Benefits, by Importance Relative to Income in Japan

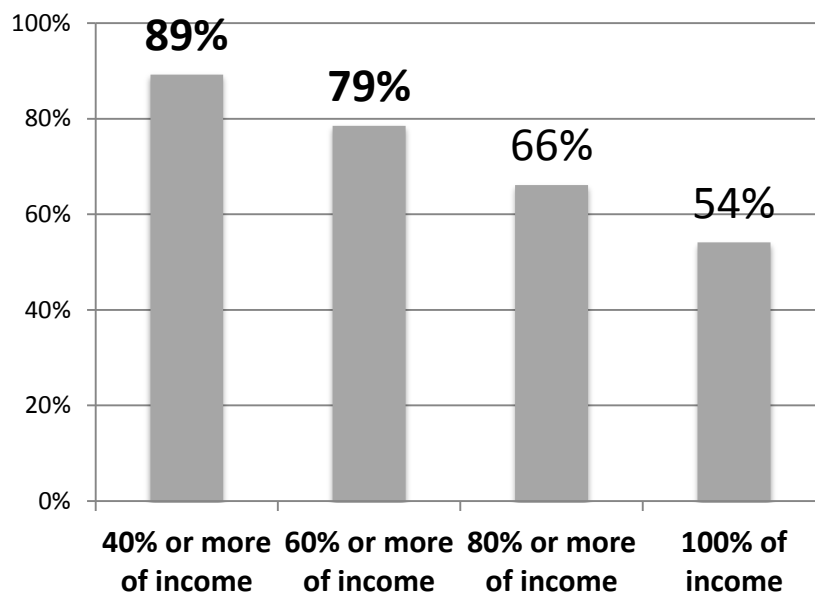
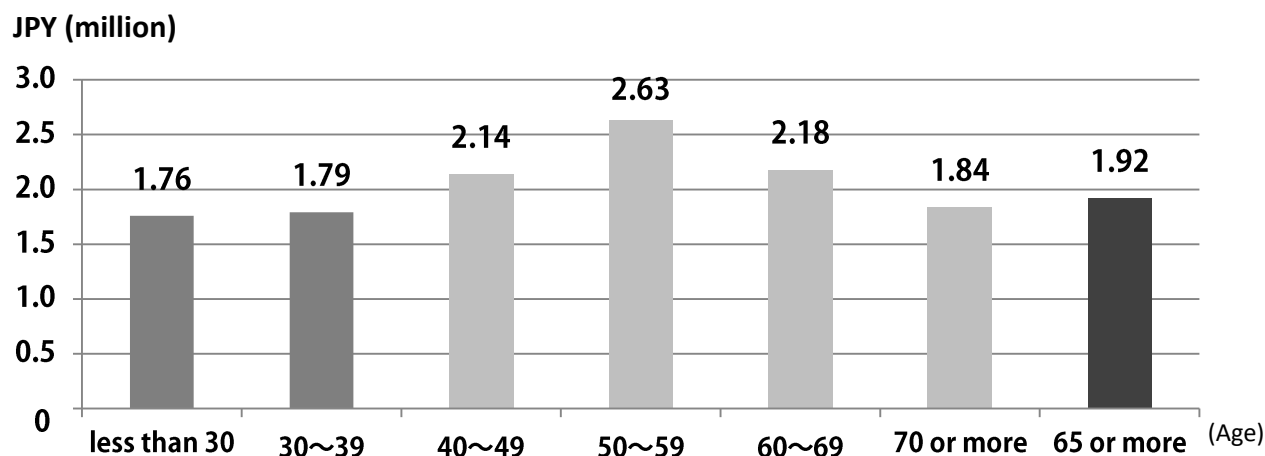


Figure 4 Average Hh Annual Income per Capita by Age in Japan



Source: MHLW, *The 2015 Comprehensive Survey of Living Conditions*

The majority of Japanese pensioners regard their PP benefits as a blessing, and receive them with deep thanks. Incidentally, on the payday of PP benefits, many beneficiaries feel happy to give their grandchild(ren) an allowance, and/or enjoy a special meal with a premium Japanese wine.

In 2015, beneficiaries of PP were near 40 million in number, accounting for 31% of the total population. The current PP system is working as one of the established social infrastructures in Japan, very robust and stable.

The road to this situation was very long and was not always smooth.

The most important person in charge of pension policy-making in Japan has been not the political leader of the ruling party (nor Minister of Health, Labour and Welfare) but Director-General of the pension bureau of Ministry of HLW, at least, for the past 40 years.

The successive Director-Generals were the best and brightest, being proved good at planning ahead, wise enough in almost all cases (but sometimes not so) in executing their jobs to flexibly adapt the pension system to a changing and unpredictable world.

3 Several Characteristics of the Japanese Way of Thinking

Pensions reflect the history, culture and philosophies of people living in respective countries. Japan is no exception.

Japanese have several characteristics in their mentality, way of thinking, and behavior. Among others, the following 7 features are notable.

First, Japanese traditionally have a side-by-side mentality; a desire to stay in line with others. Tall trees catch much wind. People in Japan are very sensitive to any differences, even small, and to try to eliminate them. People there have a strong perception for equality and impartial treatments.

Second, Japanese take it for granted that those who can support themselves should not behave irresponsibly. They are not allowed to impose costs on others.

Third, Japanese are usually very pragmatic, placing great significance on higher feasibility. It is true that some people in Japan prefer an idealistic approach, but they remain as always minor in number.

Fourth, vested interests and earned entitlements are seldom broken up, while expected rights by and large become an adjustment target. Any reform usually has a long transition process, moving ahead step by step. This way complicates things, however, by legislating the transition cohort by cohort. The details vary by different dates of birth, and people find them difficult to understand.

Fifth, Japanese have a weakness in dealing with the long-term problem. If some person of foresight points out that we are approaching a “wall,” he/she is regarded as a heretic, and no changes take place for some time. Eventually, the wall is growing taller, and at last a majority of people are forced to realize that the wall stands very close to them.

Sixth, on the other hand, Japanese have great flexibility, responding promptly once they understand the gravity of the problem. Then, they think, “Let’s forgive and forget. It’s water under the bridge.” Incidentally, political compromises are often made by combining two different things and dividing by two.

Seventh, any system cannot be maintained without exact understanding of its validity and sincere acceptance by the majority of people. Accountability is primarily in the policy-makers, and intensive open discussions along with polite explanations are required before any legislation.

4 Guiding Principles in Japanese Pension Design

Currently there are 3 guiding principles.

A: There should be no public pension benefits without any contributions made.

B: The amount of pension benefits should be proportional to the length of the period of contributions actually made.

C: As far as the same cohort is concerned, those who have paid the same amount of contributions in the past should receive the same monthly amount of pension benefits.

Principle A operates as built-in incentives for persons to participate in the pension system. It premises self-reliant efforts during the working age for preventing poverty after retirement.² Public pensions are fundamentally different from public assistance (with a means-test) whose objective is poverty relief, financed by taxes. It is alright for both systems to coexist in old age.

² There are several exceptions, however. First, those persons who have become disabled before age 20, are qualified to receive disability pension benefits from age 20. Second, the insured persons during maternity leave and/or parental leave are exempted from paying pension contributions, while they are treated in calculating pension benefits as if they would have continued to pay contributions during such leave. Third, a non-contributory old-age pension with an income test was enforced in 1959 as a transitory provision. Fourth, dependent spouses of regular employees, typically full-time housewives are automatically entitled to the flat-rate basic benefits, without being required to make any direct individual contributions. Fifth, students of age 20 or over who are qualified to postpone their payment of pension contributions until the time after their graduation, are entitled to receive disability benefits once they become disabled during their student age.

Principle B is set to encourage people to contribute to public pensions as long as possible.³

Principle C holds good irrespective of who has paid contributions; male or female, an employee or the self-employed, an employee in the private sector or a civil servant, an employee in a declining company or in a growing company. This principle reflects the Japanese strong perception for impartial treatments.

Assuming a mandatory PAYG DB pension program together with the changing demographic and economic circumstances in past Japan, Principle C resulted in income transfers from salaried workers to the self-employed persons, from present growing companies to growing companies in the past, and from males to females.

5 System Set-up and Coverage Expansion

The earliest Japanese pension plan was established in 1875 for military servants,⁴ shortly after the Meiji Restoration (the construction of a modern state) whose ultimate policy agenda is “increasing national prosperity and military power.” It required no individual contributions, and was totally financed by general revenue.

In 1884, the scheme was expanded to civil servants who have the right of executing administrative orders. From the outset, the old-age benefit for military and civil servants had a nature of an extended salary (called “*Onkyu* (恩給)” in Japanese), based on the final salary. Its level was generous.

For employees in the public sector, mutual aid associations (MAA) were gradually set up starting in 1905. The MAA required individual contributions, and provided final-salary-based retirement pensions. The similar MAAs for employees in public corporations (National Railway, Japan Tobacco, and Nippon Telegraph & Telephone) followed from 1920.

Japan experienced widespread industrialization and urbanization around the turn of the 20th century. Traditional extended-families were declining in number. Poverty in urban areas become a serious social problem in the first half of the 20th century.

Against these backgrounds, some employer (*Kanebo*) in the private sector started to pay a lump-sum retirement benefit for his employees in 1905. The similar retirement benefit plans became popular gradually in large-size private companies, while small- and medium-size companies could not afford to introduce them.

In the meantime, wars came. Quite often transportation ships were attacked and sunk. In such cases, compensation was provided to the survivors of members in armed forces, but not to those of seamen. Few people then wanted to be seamen. To improve this situation, Government decided to introduce the mandatory Seamen’s Insurance including pensions in 1940. It was a contribution-based scheme.

The establishment of the Seamen’s Insurance led blue-collar ground workers in the private sector (called “industry warriors” at that time) to also demand the introduction of

³ Currently the maximum contribution years for the 1st-tier flat-rate basic benefit are 40.

⁴ Pensions in the world date back to the Roman Empire more than 2,000 years ago. It was Emperor C. Augustus who first created a well-established pension plan for military personnel.

pension provisions. In 1942, Government set up a social insurance system for blue-collar male workers of private companies with 10 or more employees. This was the beginning of the current KNH (*Kosei-Nenkin-Hoken*; Employees Pension Insurance). Its set-up was also to reduce the rate of wartime inflation through mandatory deduction of pension contributions from wages. The coverage of KNH was expanded to office workers and female workers in 1944.

Immediately after World War II, the Japanese economy went through a period of upheaval with hyperinflation. KNH benefits became utterly inadequate since there was no provision for indexation at the time. In the face of these circumstances, private schools decided to depart from the coverage of KNH, and established a mandatory MAA for their employees in 1954. This move was also based on their demand for similar dealing with employees in national and public schools. This move then led employees of agricultural, fishery and forestry cooperatives to follow suit, establishing their own MAA in 1959. This set-up met similar treatments with civil servants in municipal governments, which were demanded by their employees.

Just after World War II, the German-type status discrimination between civil servants and public employees was abolished in Japan, and the independent respective pension schemes for them were soon unified into the MAA for civil servants in central governments in 1956. At the same time, the former pension plan (*Onkyu*) for civil servants was abolished.

Before 1947, there was no concept of local governments in Japan. After the enactment of the Local Autonomy Law, local governments individually introduced pension arrangements for local government employees, and in 1962 these arrangements were eventually unified in the MAA for civil servants in local governments.

In the latter half of 1950s, there were moves to provide coverage for “all” in mandatory health insurance (皆保険), which resulted in similar demands for “all” in social security pensions (皆年金), as well. At that time, there remained people not covered by KNH nor MAAs, such as the self-employed, farmers, the unemployed, persons with no occupation, and employees working in small companies.

In 1961 the National Pension scheme (*Kokumin-Nenkin*, KN) was finally introduced for them. KN was one of social “insurance” programs, which incorporated a flat-rate contribution, and provided a flat-rate pension benefit from age 65 on an individual basis. Its set-up exceptionally reflected policy-makers’ spirit of romantic adventure, as well, demanding daily hard implementation works with expensive handling costs.⁵

The idea of a social pension which was wholly financed by general revenue, was rejected by Government (both Ministry of Finance and Ministry of Health and Welfare) in order to encourage people to prepare for their own retirement during their working age. The policy makers thought that any social pension was not likely to ensure an adequate level of benefits under severe financial constraints.

⁵ KN required JPY 23.7 billion for collecting its contributions of JPY 1 trillion, while KNH required JPY 96 million for collecting KNH contributions of JPY 1 trillion in 2015. It was about 250 times the collecting cost of KNH contributions.

The flat-rate contribution (initially JPY 100 per month per person) was introduced because it was not easy for the authorities to implement honest reporting of income from the self-employed nor farmers. For those who were not able to pay their contributions due to financial reasons, exemptions were permitted. The flat-rate benefit for the period of exemption was one-third (equal to the government subsidy) of the normal amount, then.

For persons of age 50 or over as at 1961, a non-contributory old-age pension was to be paid from age 70 with an income test. It was a *transitory and sunset* provision. Its monthly amount was JPY 1,000⁶ which was wholly financed by general revenue.

In summary, Japanese public pension systems were set up by different sectors of the population, step by step, taking into account each pressing need and feasibility, with searching for impartial treatments among similar population groups.

6 Demographic and Economic Changes

The total number of the population in Japan had been increasing from about 35 million in 1872 to around 128 million in 2010 as Table 1 shows. It recorded a peak in 2008, and since then it has been decreasing. It will be 88 million in 2065, and 60 million in 2100. The share of the population of age 65 or over was about 7% of the total population in 1970 when Japanese became conscious of the population aging. Its share has been steadily increasing up to 27% in 2017 and is anticipated to reach around 38% in 2050. Urbanization was rapid during the postwar high-speed growth period, while downsizing in the number of households had taken place in the latter half of the 20th century. Life expectancy has been lengthening, and Japanese will survive until age 90 on average sooner or later (see Table 2 and Figure 5). On the other hand, the total fertility rate had declined sharply from 4.54 in 1947 to 1.26 in 2005. It was around 1.4 recently (see Table 2). Figure 6 depicts the working status of Japanese labor force, indicating a massive shift to employees. Instead, the number of farmers has been decreasing enormously since 1955 (see Figure 7).

Table 1 Demographic Indicators for Japan

Year	Population			No. of persons per Hh
	Total (million)	65+ (%)	urban (%)	
1920	56	5.3	18	4.9
1930	64	4.8	24	5.1
1940	72	4.8	38	5.1
1950	83	4.9	37	5.1
1960	93	5.7	63	4.5
1970	104	7.1	72	3.7
1980	117	9.1	76	3.3
1990	124	12.1	77	3.0
2000	127	17.3	79	2.7
2010	128	23.0	91	2.5

Source: *Population Census*

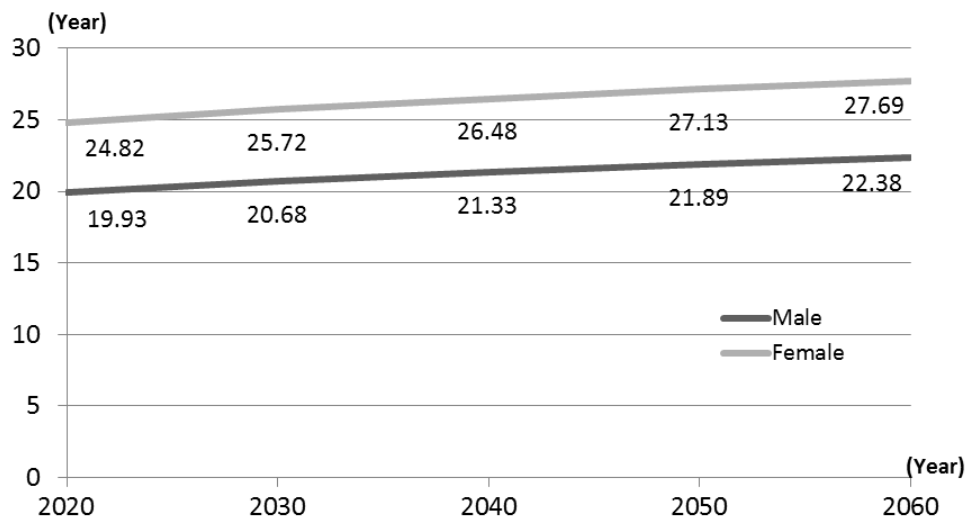
⁶ JPY 1,000 was a very small amount, just equivalent to allowances to their grandchildren.

Table 2 Life Expectancy and TFR

Year	Life Expectancy (Year)				TFR
	at birth		at age 65		
	Male	Female	Male	Female	
1947	50.1	54.0	10.2	12.2	4.54
1960	65.3	70.2	11.6	14.1	2.00
1970	69.3	74.7	12.5	15.3	2.13
1980	73.4	78.8	14.6	17.7	1.75
1990	75.9	81.9	16.2	20.0	1.54
2000	77.7	84.6	17.5	22.4	1.36
2010	80.0	86.3	18.7	23.8	1.39

Source: National Institute of Population and Social Security Research (NIPSSR), *Demographic Statistics*

Figure 5 Life Expectancy at Age 65



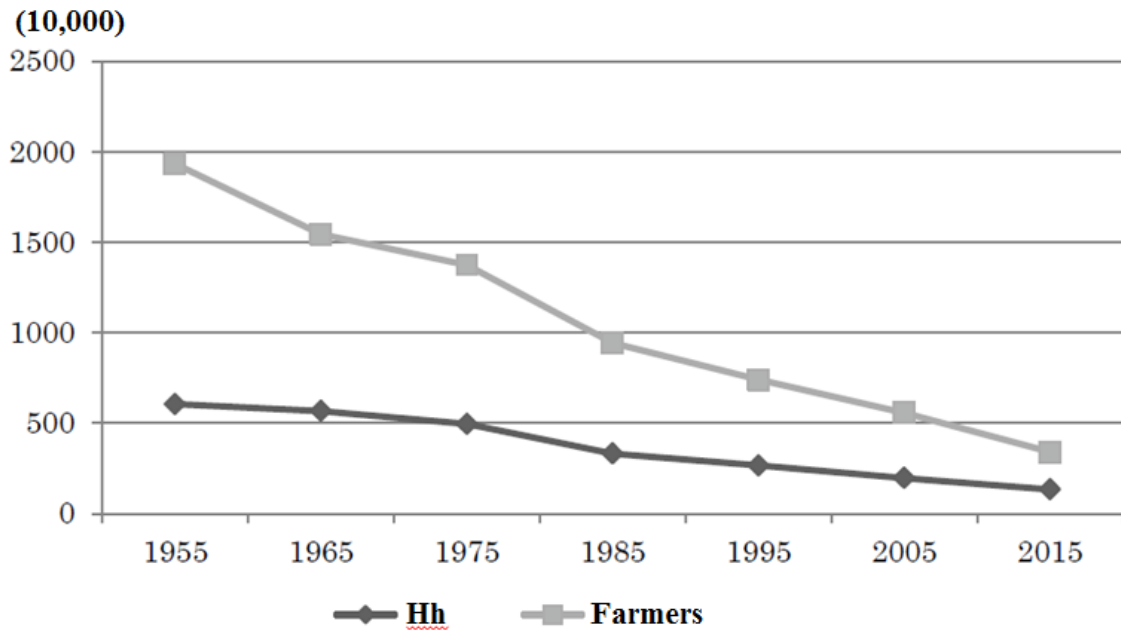
Source: NIPSSR, *The 2017 Population Projection for Japan*

Figure 6 Working Status



Source: *Population Census*

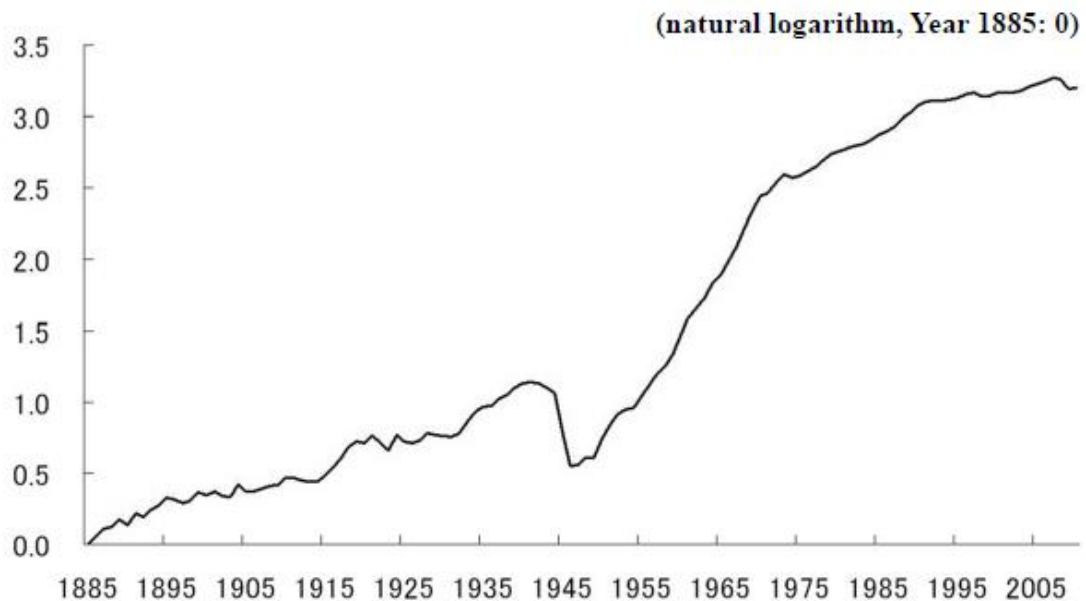
Figure 7 Number of Farmers' Hh and Farmers



Source: Ministry of Agriculture, *Census of Agriculture*

Figure 8 presents the long-term changes in real GDP per capita in Japan. It shows high-speed growth for 18 years between 1955 and 1973. During that period, the annual rate of its growth was more than 10% in real terms. Thereafter, the growth rate had been decreasing, and it recorded negative from 1998 to 2000, from 2008 to 2009, and in 2011 in real terms. Recently GDP per capita of Japan was around USD 40,000 in nominal terms (see Figure 9).

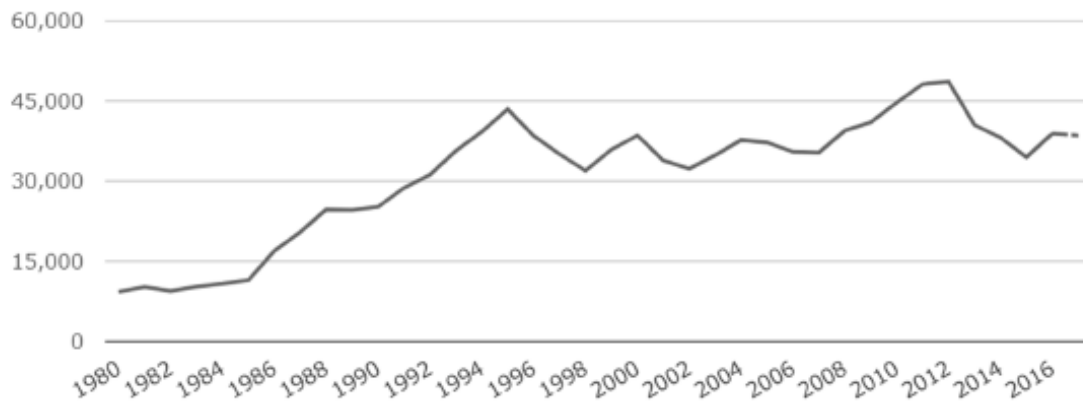
Figure 8 Real GDP per Capita



Source: Yasushi Iwamoto's estimates ([https://blogs.yahoo.co.jp/iwamotoseminar/](https://blogs.yahoo.co.jp/iwamotoseminar/30832608.html?__ysp=77yR5Lq65b2T44Gf44KKR0RQ44Gu6ZW35pyf55qE5o6o56e7)

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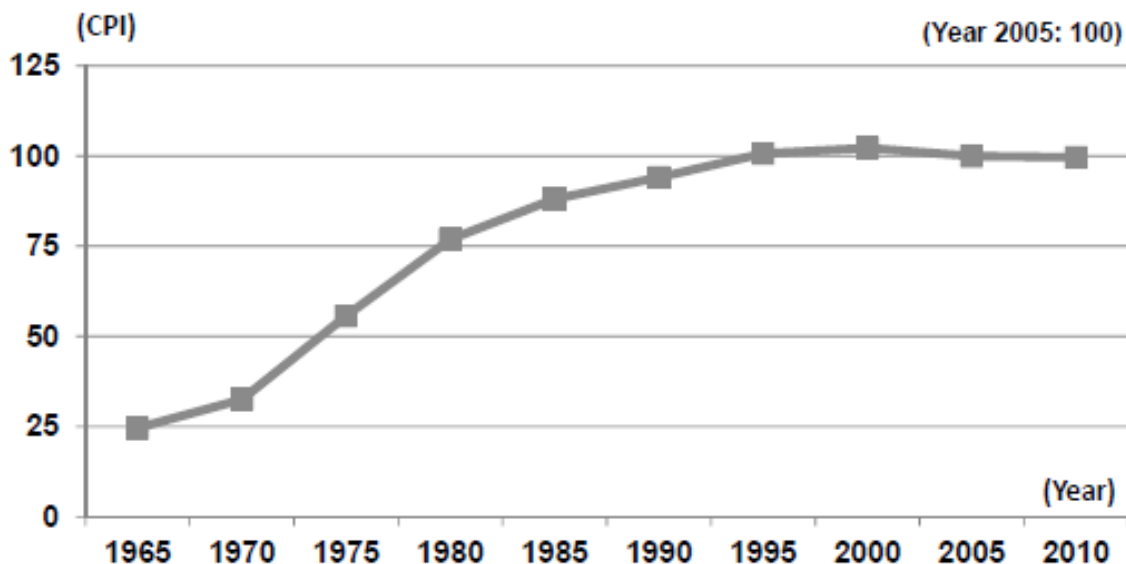
Figure 9 Nominal GDP per Capita (USD)



Source: *System of National Accounts*

Figure 10 draws changes in CPI. CPI jumped up annually by 23% in 1974, whereas its annual changes turned negative from 1999 to 2003, and from 2009 to 2012. Japan has been suffering from deflation since 1999 (see Figure 11). Negative changes in nominal wages were also observed from 1998 (see Figure 12). Annual increases in nominal wages were once more than 10% for 15 years from 1962, however. Most dramatic were ups and downs of stocks and shares prices. As is shown in Figure 13, they went up to JPY 38,916 on 29 December 1989, but fell down sharply under the bubble burst to JPY 7,608 on 28 April 2003, and further to JPY 7,163 just after the financial crisis on 27 October 2008.

Figure 10 CPI



Source: *Statistics on CPI*

Figure 11 Changes in CPI (Yearly Average)

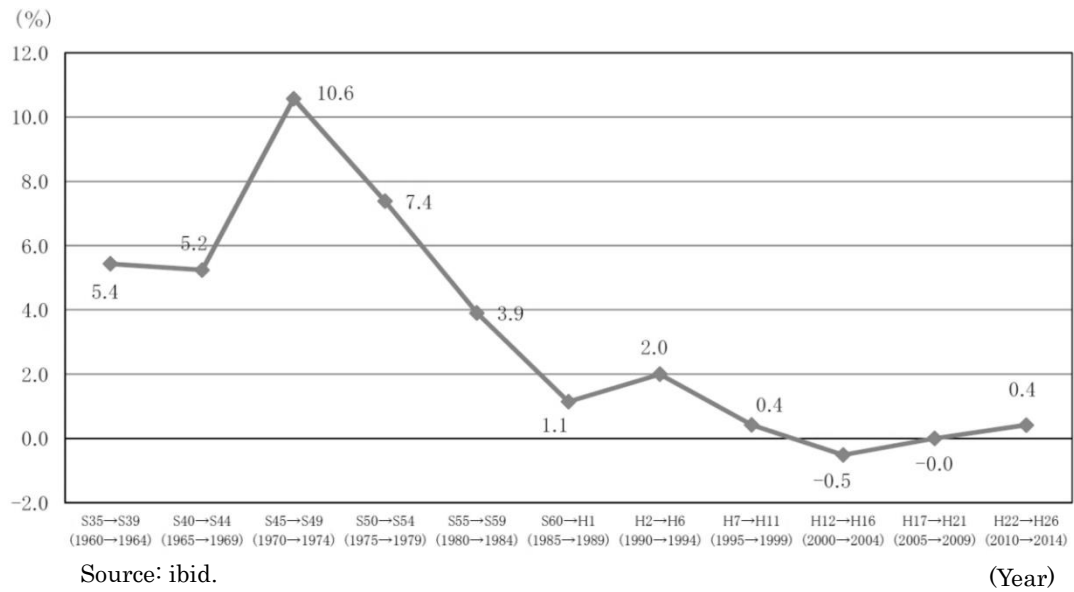


Figure 12 Nominal Changes in Monthly Cash Earnings (Yearly Average)

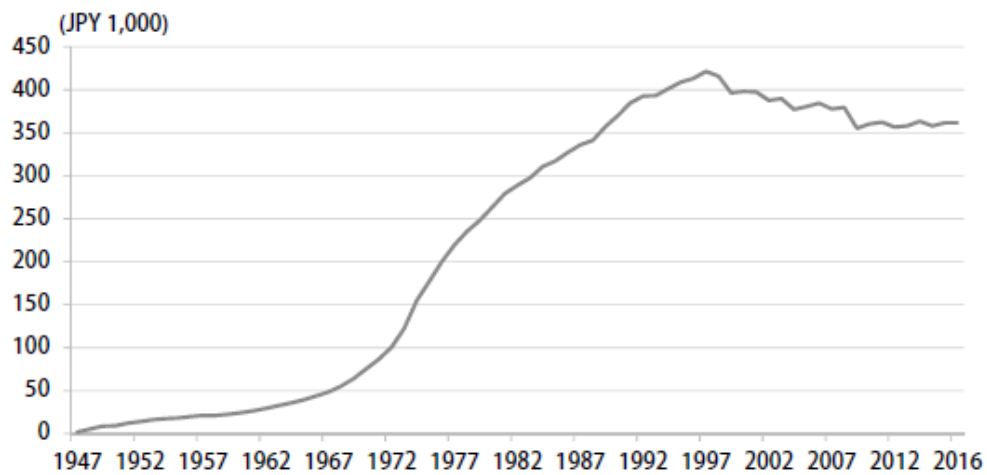


Figure 13 Changes in Stock Prices: Nikkei Stock Average 1949-2015 (JPY)



The nominal rate of interest from time deposits used to be long regulated at around 5.5% per year. But, just after its 1994 de-regulation, it went down rapidly to near 0% (see Table 3).

Table 3 Nominal Rate of Interest per Year

Year	Rate (%)	Year	Rate (%)
1950	2.90	1995	1.96
1960	4.50	2000	0.15
1970	5.00	2005	0.03
1980	7.00	2010	0.03
1990	4.90	2015	0.035

Note: 1-year time deposits for postal savings

Source: Bank of Japan, *Time Series Data*

7 Major Changes in KNH/KN

7.1 The 1948 KNH Reform

Just after World War II, a hyperinflation occurred in Japan. Namely, the CPI increased 100 times between October 1945 and April 1949. The hyperinflation turned the KNH funded reserve into heaps of worthless paper, and the earned pension entitlements of employees became a nil, since they were a contract in nominal terms.

Almost all Japanese were forced to manage to survive near a starvation level. Government reduced the KNH contribution rate from 11% to 3% in 1948.

7.2 The 1954 KNH Restructuring

Meanwhile, employers strongly asked to change KNH into a flat-rate benefit/contribution system with no earnings-related part, to control their contributions as small as possible. Some academicians also advised to do the same thing to achieve a different objective of ensuring a minimum income, following the 1942 *Beverage Report* in the UK. But, government officials stuck to the ongoing earnings-related pension.

A compromise came in 1954 when the first old-age benefit of KNH was to be paid to retired coal miners who had specially-qualified shorter minimum covered years. The solution was two-tier benefits (the 1st-tier flat-rate portion and the 2nd-tier earnings-related one) and an earnings-related contribution. The amount of 1st-tier benefits was set to equal the amount of 2nd-tier ones for average male wage-earners. The perception for equality was thus embedded partly in KNH.

Government planned to increase the contribution rate and the upper limit of the contribution base, but employers were fiercely against this plan. The conclusion was that the contribution rate was to remain unchanged at 3% for the next 5 years, and that the actuarial review at least every 5 years was legislated to change the contribution rate

(together with the range of the contribution base⁷) to adapt to changing demographic and economic circumstances.

Based on an increasing life expectancy, the normal pensionable age (NPA) for male employees was to increase from 55 to 60 step by step by 1973. But the NPA for females remained unchanged at 55. At that time, a majority of them retired upon their marriage, receiving the lump-sum withdrawal refund from KNH with their pension record of previous years entirely deleted.

The amount of KNH earnings-related benefits was proportional to the average of the lifetime annual wages. Through hyperinflation, some parts of past wages became a nil in real terms. Government then decided to newly set the KNH lower limit of monthly wages to JPY 3,000, and to regard the past wages less than this lower limit as being equal to JPY 3,000 in calculating benefits.

This caused a funding shortage, which induced transfers from general revenue to increase from 10% to 15% of the aggregate amount of KNH benefits. Note that transfers from general revenue were initially introduced as a pledge of government commitments to public pensions for the private-sector employees.

7.3 The High-speed Growth Period

In 1962, KNH began to pay old-age benefits to retired workers with 20 years coverage (the normal minimum requirement). Their level was about one third of old-age benefits for retired civil servants, and was not charming at all. This fact might induce further dropouts of some employee groups from KNH, establishing another MAA.

In order to prevent such a move, Government planned to substantially increase the level of KNH old-age benefits. A solution was to introduce “*Monthly Pension Benefits of JPY 10,000* (1 万円年金)” in 1965. The amount of JPY 10,000 indicated a replacement rate of 40% for average male wage-earners (lifetime average monthly wage: JPY 25,000) with 20 years coverage. The accrual rate for the earnings-related portion was lifted from 0.6% to 1.0%, and the unit price of the flat-rate portion was set to equal JPY 250.

At the same time, the KNH contribution rate was increased to 5.5% in 1965. The government proposal was a rise to 6.0%, but politicians finally cut part of its rise, and instead they decided to increase transfers from general revenue from 15% to 20%.

Government explained that the contribution rate would be around 9% in 40 years, assuming its finance on a (modified) funded basis. Mr. Kiyoshi Murakami (村上清), a pension expert of deep insight outside government, pointed out, however, that it would be 36%, assuming that its finance would be surely on a PAYG basis in the future. Mr. Murakami was the first to acutely explain that KNH has been basically financed on a PAYG basis since the 1954 reform. Government officials hardly discarded their old thinking, and it took about 10 years for them to finally accept Mr. Murakami’s opinion.

In 1966 the level of KN old-age benefits was significantly graded up to ensure the same monthly amount of JPY 10,000 for a self-employed couple with minimum 25 years

⁷ Currently the upper limit of the contribution base is set to equal two times the average amount of monthly earnings of all insured employees covered by KNH.

of coverage. Namely, the unit price for the flat-rate benefit was increased to JPY 200. A strong political desire dominated this reform for attaining equality between employee households and self-employed ones, at the sacrifice of KNH healthy financing in the future.

In the early 1970s, there were loud and intense voices for a further drastic increase in PP benefits for the elderly under long lasting high-speed economic growth. Retired persons were left behind, enjoying few dividends from economic growth. They were accordingly regarded as pitiful.

In 1972, labor unions pressed ahead with a strike on pensions as a single issue for the first time, while several agitators from the academic circle urged the general public a decumulation of funded pension reserves at a stroke, to immediately deliver generous benefits to retired persons.

Against a backdrop of these situations, pension policy-makers called 1973 as “*The Year of Pensions*” and implemented “*Monthly Pension Benefits of JPY 50,000* (5 万円年金).” They introduced a new idea of a 60% replacement rate in setting KNH old-age benefits for the average male wage earners with 27 years⁸ of coverage, by increasing the unit price of the flat-rate portion to JPY 1,000 together with legislating the update of past wages every five years at least in calculating the amount of benefits for each person.

The automatic benefit-indexation to CPI on an annual basis was also enforced.

Regarding KN old-age benefits, it was remarkably increased in 1973 in a similar way with KNH benefits; monthly benefits of JPY 50,000 (for couples with 25 years⁹ of coverage) came true. At the same time, the monthly amount of the non-contributory old-age pension (for those of age 70 or over, with an income-test) was lifted to JPY 5,000.

A rosy picture for the future became extreme, dominating all over Japan. Despite this roaring and crazy situation, Mr. Murakami, a man of cool head with foresight, exceptionally warned just before discussions on the pension reform bill in the Diet in early 1973, that the typical KNH replacement rate would reach around 80% in the future due to lengthening covered years up to 40, thereby proposing a new upper limit to the replacement rate. His warning was completely ignored at that time.

His message turned to be correct, however, and it was more than 10 years after that policy makers followed his advice, starting to reduce the level of KNH old-age benefits.



The Late Mr. Kiyoshi Murakami

7.4 Reforms with Pains and Tears

In October 1973, just after the proclamation of the pension reform act, the first oil crisis suddenly took place. The onset of slower economic growth along with a rapid population aging forced the future picture of Japan to get darker and darker. The colorful dreams that Japanese youth had placed in their economy were rapidly destroyed. The period of diminished expectations started. Policy makers began to take a different turn to reduce pension benefits. Their reform proposals became quite unpopular.

⁸ The newly qualified old-age male pensioners of KNH in 1973 had 27 years of coverage on average.

⁹ 25 years were the minimum covered years for receiving the KN old-age benefit.

In 1976, Government gave up the existing idea of ensuring the same amount of pension benefits to the self-employed as the one to employees in the private sector. The normal KN old-age benefit for a couple was increased to JPY 75,000 per month, while the typical KNH benefit was lifted to about JPY 90,000.

In 1980, Ministry of Health and Welfare proposed an increase in the KNH normal pensionable age (NPA) for males from 60 to 65 in 20 years. It faced strong oppositions from both employers and trade unions, and from Ministry of Labour, as well. Government was forced not to include this proposal in the 1980 reform bill.

In 1983, current account of the KN turned into a deficit. As noted before, KN started with a very small contribution, which was politically difficult to increase thereafter. The KN benefit, on the other hand, became more and more generous. An enormous shift of the population from farmers to salaried-men during the rapid growth period obliged some cost-sharing scheme between KN and KNH/MAAs to be necessary. There was little room for MOF to increase transfers from general revenue to KN.

Under a superb and outstanding leadership by Mr. Shin-ichiro Yamaguchi (山口 新一郎), Director-General of the pension bureau of MHW, new legislation was enacted in 1985, introducing substantial changes in Japan's entire PP system.



The Late Mr. Shin-ichiro Yamaguchi

The present system is based on this reform, which became effective in 1986. Under the new system, all sectors of the population receive a “common” KN flat-rate basic benefit. KNH and MAAs for employees provide a supplement on the top of the basic benefit, related to earnings.

The 1st-tier flat-rate basic benefit of all the pension systems (entitled after fiscal 1961) has been financially integrated.¹⁰ Its aggregate annual cost is shared by all on a fully PAYG basis. This cost sharing by pension contributions is in proportion to the number of current insured persons of respective systems. Through this scheme, income is transferred from present employees to self-employed persons and farmers in the past.

Incidentally, a majority of children and grandchildren of past farmers are employees today. Those children wanted their contributions to first finance old-age benefits of their own parents and grandparents. Their sincere desire of this line justified the cost sharing scheme above mentioned.

The 1985 reform has changed some requirements of KN; the full old-age pension of JPY 50,000 per month per person became payable after 40 years of contributions, provided all the contributions were made before age 60. Special *transitional* provisions were introduced for those born after 1926 with at least 25 years of coverage. Namely, the unit price for the basic benefit was set to vary from JPY 1,250 to JPY 2,000 depending on

¹⁰ The basic idea was that each amount of contributions made so far by insured persons of KNH and MAAs was more than the amount of contributions made by those of KN, and that the former amount of contributions could be regarded to partly include the latter amount. Namely KN was regarded as if it would have been also applied to participants of KNH and all MAAs since 1961. The flat-rate benefit of KN was renamed as the “common” basic benefit for all pension systems, then. Principle C stated above in Section 4 of this paper underlay that integration.

different dates of birth. These people were able to receive the maximum pension even with fewer contribution years, provided they had been contributing without breaks since 1961.

After the 1985 reform, if a husband contributed to KNH/MAAs, his dependent wife also became automatically entitled in her own name to the flat-rate basic benefit, and she was not required to make any individual payments to the PP system. With this arrangement, the women's right for pensions has been comprehensively established.

Through the 1985 legislation, the accrual rate for the earnings-related component of KNH old-age benefits was to be reduced gradually from 1.0% per year to 0.75% cohort by cohort. The reductions corresponded to the longer average contribution years of the younger cohorts.

On average, each cohort was expected to receive 30% of his career average monthly real earnings as the earnings-related component. Consequently, the typical KNH old-age benefit for a male employee (with average monthly salary of JPY 254,000) and his dependent wife was JPY 176,000 per month, indicating a 69% replacement rate.

The NPA for KNH female employees was increased from 55 to 60 gradually by 2000, while the lump-sum withdrawal refund was abolished. In addition, the KNH coverage was expanded to companies with 5 or more employees, and the pensions-part of the Seamen's Insurance was absorbed in KNH.

In total, the expected KNH aggregate benefits were to be virtually reduced by 25% in the future through the 1985 reform.

Transfers from general revenue were changed to concentratedly finance one third of the aggregate amount of the common basic benefit. There were no subsidy for the earnings-related component, any longer.

Since 1980, the biggest political issue on pensions had been when to start benefit payments for employees. Government proposed to increase the NPA once again in 1989, but, the proposal was turned down by the Diet.

In summer 1993, the political scene changed dramatically. The Liberal Democratic Party, which had been ruling Japan ever since the end of the World War II, fell from power. It was replaced by a coalition of opposition parties (excluding the Japanese Communist Party). It was this coalition that prepared the 1994 legislation. The approved legislation guaranteed that earnings-related benefits for retired employees between 60 and 64 would be paid without any reduction. The basic benefits for this age group were to be phased out by stages (from 2001 to 2013 for men, and from 2006 to 2018 for women). Eventually nobody under 65 would receive full basic benefits.

Up to October 1994, benefits were adjusted in line with the hikes in gross wages every 5 years, but from November 1994, the benefit indexation in net wages started.

Meanwhile the future picture got much darker. Owing to negative growth of the Japanese economy recorded in 1998, Government was forced to temporarily freeze increases in the KNH contribution rate from 1999. The purpose of the 2000 legislation was to control the KNH future contribution rate to be no more than 20% by reducing aggregate pension benefits by 20% by 2025.

Following 3 measures were adopted to attain this purpose. First, the earnings-related benefits were to be reduced by 5%; more specifically, the former annual accrual rate of 0.75% was to be decreased to 0.7125% from 2000. Second, both flat-rate basic benefits and earnings-related benefits once paid were to be CPI-indexed after age 65 from 2000. Third, the NPA for earnings-related old-age benefits was to be increased step by step from age 60 to 65 for men from 2013 to 2025, and for women from 2018 to 2030.

Since 1995, contributions have been deducted from bonuses. The initial rate was 1% of the bonuses, but these contributions were not used for benefit calculation purposes. The benefit/contribution base has been shifted from monthly standard earnings to annual earnings including semi-annual bonuses since 2003. The shift induced no changes in aggregate income from contributions in the starting year; the existing contribution rate of 17.35% over monthly standard earnings for the KNH was changed to 13.58% over annual earnings from 2003. At the same time, the new accrual rate of 0.5481% was applied. The special 1.0% contributions from semi-annual bonuses were abolished then and instead, the same 13.58% was levied on semi-annual bonuses.

In 1999 CPI recorded a negative change of -0.3%. This was the start of persistent deflation in Japan. The ruling parties were reluctant to cut the amount of PP benefits by applying the automatic indexation, and decided to temporarily freeze the nominal amount of benefits from 2000. A cut in the nominal amount of PP benefits eventually got underway from 2003.

In 2001, current account of the KNH fell into a deficit. Financial stresses were becoming ultra-severe.

In order to make another overhaul of the PP system, Government submitted its reform bill, which was enacted in 2004. The gist of the 2004 reform is as follows. First, the KNH contribution rate was to be raised every year from 2004 by 0.354 percentage points until 2017, after which it will remain fixed at 18.3%. The similar increases in KN monthly contributions were enforced until they plateau at JPY 16,900 in 2017 (at 2004 prices). Then the PP system virtually move to a PAYG “DC” plan after 2017.

Second, a new indexation formula that takes demographic factors (the decline in the number of insured persons and the increase in life expectancy) into account was introduced as an automatic balance mechanism. It was expected to bring a negative adjustment of about 0.9 % every year in real terms to pension benefits, thereafter.

Third, the subsidy from the national treasury for the basic pension was to be raised in stages from one third to one half by 2009. Increases in this subsidy were to be financed by the earmarked consumption tax.¹¹

The new indexation was expected to work as a trump card for ensuring the long-term financial sustainability of the PP system. It was designed in its legislation not to apply during deflation, however. Policy makers at that time assumed deflation as a temporary phenomenon, soon returning to inflation. The outcome was contrary to their assumption.

¹¹ The outline of the current PP system in Japan is given by Takayama (2005).

The persistent deflation did not end before 2014, and the automatic balance mechanism had not been activated until then.

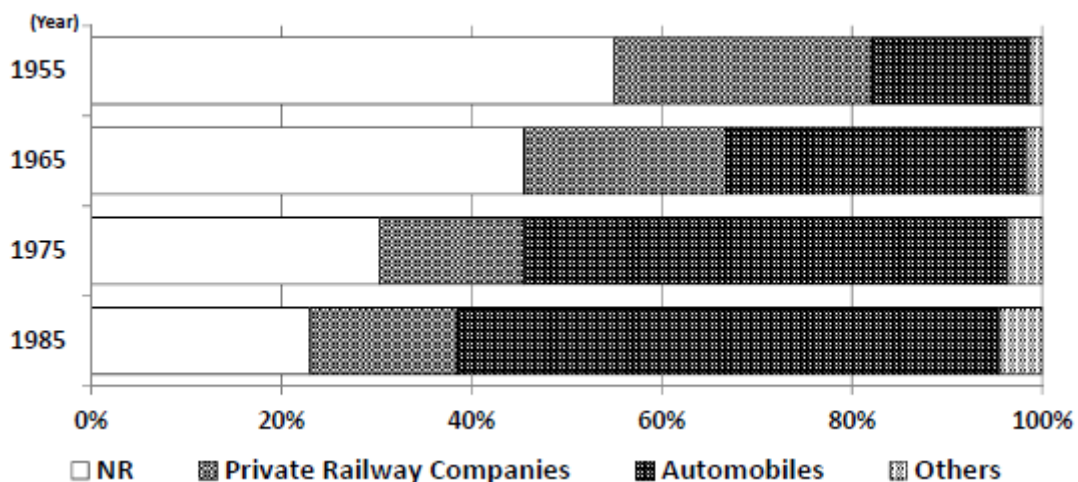
In the meantime many pension experts claimed that the new indexation formula should follow irrespective of inflation or deflation, while politicians were reluctant to change the existing rule. A compromise came in 2016; the legislated indexation be suspended during deflation, while unrealized parts of indexation during deflation be carried over for activation to times of inflation from 2018. Also benefits are to be indexed to the lower value of changes in CPI or those in wages from 2021.

8 Major Changes in MAAs

8.1 MAA for National Railway (Japan Railway) Employees

In the rapid growth period, motor ways were intensely constructed throughout the country, and thereby main land transport-means shifted from railways to automobiles/lorries at warp speed (see Figure 14). National Railway (NR) Company came to have many redundancies, facing serious and persistent deficit operations. It was finally privatized into several Japan Railway (JR) companies in 1987.

**Figure 14 Development of Motorization:
Domestic Passengers Traffic (%)**



Source: Ministry of Transport, *Annual Statistical Report*

Note: in terms of man-kilometers

Meanwhile the number of NR/JR employees sharply decreased from 610,000 in 1947 to 196,000 in 1990. Current account of MAA for NR employees turned into a deficit in 1976. Pains-taking reform measures had been introduced one after another since then.

In 1980, the NPA for them was to increase from 55 to 60 by stages. The contribution rate was rapidly lifted multiple times from 10.24% in 1980 up to 19.09% in 1991.

From 1985, automatic indexation of benefits for this group was exceptionally suspended for the following 5 years. At the same time civil servants in Central Government were forced to accept a special add-on contribution of 1.06% to provide a support to retired persons of NR/JR.

From 1990, cost-sharing among all MAAs and KNH temporarily started which covered KNH-equivalent old-age benefits entitled since 1961.

Final solutions came in 1997 when MAA for JR employees was absorbed in the KNH scheme together with MAAs for JT and NTT employees.¹² Incidentally a majority of children and grandchildren of NR retirees were then the participants in KNH. It took about 20 years for MAA of NR/JR employees to completely overcome its financial difficulties.

8.2 MAAs for Civil Servants

The mergers above mentioned were all triggered by the financial deterioration of each MAA due to changes in the industrial structure. Meanwhile, MAAs for civil servants were keeping their finance healthy. Nevertheless, they were forced to repeatedly reform their basic designs to neutralize acute jealousy from the general public.

The level of old-age benefits for civil servants used to be very generous; they were based on their final salary and their maximum replacement rate was 70% from the outset. In addition, their employment status has been most stable in Japan, with no risk of unemployment. These were main causes for jealousy. Jealousy against civil servants became intensified in the era of diminished expectations.

In 1980, the NPA for all MAAs was to increase from 55 to 60 step by step, irrespective of men or women. In 1982, due to financial difficulties in National Budget, Government suspended to activate nominal increases in annual salaries of civil servants. This decision was done in spite of recommendations made by National Personnel Authority which indicated a 4.58% lift-up, equivalent to the average increase in annual salaries of employees in the private sector.

In 1986, an overhaul of all MAAs was carried out just in line with the KNH drastic reform. First, all participants in MAAs became to receive a common KN flat-rate basic benefit. MAAs shifted to provide the 2nd-tier earnings-related component.

Second, all MAAs abandoned the final salary base and instead introduced a base of career average lifetime real earnings, which is the same as that for KNH. Each amount of old-age benefits paid to existing retirees from the public sector was newly re-calculated, and if the re-calculated amount was less than the amount calculated by the former formula, then no benefit indexation was to be applied as long as the situation remained unchanged. Consequently, some civil-servant retirees faced a real reduction of annual old-age benefits by 40% (from JPY 5.0 million to JPY 3.0 million, for example) in the long run, which they were forced to accept. Moreover, the accrual rate was to be reduced from 1.0% to 0.75% in 20 years ahead, as was seen also in KNH.

Third, MAAs (except MAA for NR employees) solely set up the 3rd-tier PP benefit which was equivalent ultimately to 20% of the 2nd-tier one. This part was called an occupational addition. The main reason for this increment was a smooth transition from the existing generous scheme. The accrual rate for 3rd-tier old-age benefits was to

¹² MAA for employees of agricultural, fishery and forestry cooperatives was also absorbed in KNH in 2002.

decline from 0.5% to 0.15% in 20 years. Another reason of the occupational addition for civil servants was to compensate economic losses attributable to the constraints imposed upon them; they are not allowed to commit strikes, and to trade stocks and shares, either. The 3rd-tier portion for civil servants induced long-lasting jealousy discussions, however.

The NPA of MAAs was to increase gradually to 65 from 2001 in the same timing of execution as that of KNH for men.

In 2004, KNH enforced another overhaul, searching for its long-term financial sustainability. MAAs for civil servants followed suit, introducing essentially the same reform contents.

In 2007 Government submitted a reform bill to the Diet to unify all the schemes for employees by extending the KNH coverage to civil servants. However, shortly afterwards the ruling parties lost majority in the Upper House, and eventually the bill was nullified.

In 2009 the ruling parties were replaced by the Democratic Party of Japan, which prepared the 2012 legislation. Its content was quite the same as that of the 2007 reform bill except its enforcement dates. Through the 2012 legislation, MAAs for civil servants was to be abolished in 2015, and they have become participants in KNH since then. The ultimate goal to have equal pension-treatments between civil servants and private-sector employees was achieved at last.

In the meantime, the unprecedented Great East Japan Earthquake and Tsunami suddenly broke out on 11 March 2011. Then the prime minister of Japan proposed to cut the amount of annual salaries of civil servants by 10% for partly financing required reconstruction expenses at the devastated area.¹³ The conclusion was a cut of 7.8% for 2 years from 2012.

From 2013, the annual amount of sunset benefits of “*Onkyu* (恩給)” paid to surviving retired public officials was reduced at once by 27% in nominal terms. Those pensioners whose annual benefits partly included “*Onkyu* (恩給)” who were receiving a total of old-age benefits more than JPY 2.3 million, were forced to receive a reduced amount by a maximum 10%.

In 2015 the 3rd-tier PP benefit for civil servants was abolished. Alternatively in the same year, a new funded DC plan with a contribution rate of 1.5% was established as their non-public occupational pension.

9 Current Financial Situations

Table 4 demonstrates the long-term changes in the number of insured persons for respective pension schemes. Its number for KNH has been increasing, while the number for MAAs of civil servants started to gradually decrease in 1990s.

¹³ This proposal was made by following the famous Chinese words “Take an initiative to do things as what you said” (先從魏始《戰國策》).

Table 4 Number of Insured Persons (10,000)

FY	KNH	MAA (1)	MAA (2)	MAA (3)	MAA (4)	MAA (5)	KN
1965	1,867	76	35	111	229	14	2,002
1975	2,389	80	45	116	300	27	2,588
1985	2,723	62	49	116	330	35	2,534
1995	3,281	47	51	113	334	40	6,995
2005	3,302	—	—	108	307	45	6,988
2015	3,684	—	—	(106)	(283)	(53)	6,535

Notes: MAA→(1) public corporations, (2) agricultural cooperatives, (3) central government, (4) local governments, and (5) private schools. Shaded parts of KN denote figures under the new regime.

Source: Actuarial Subcommittee, MHLW (2017), *Annual Actuarial Report on the Public Pension Plans in Japan: FY2015*

The number of old-age pension beneficiaries from all programs has been rapidly increasing, as is shown in Table 5. Consequently the support ratio of pensions for all systems has been steadily decreasing (see Table 6).

Table 5 Number of Old-age Pension Beneficiaries (10,000)

FY	KNH	MAA (1)	MAA (2)	MAA (3)	MAA (4)	MAA (5)	KN
1965	20	13	0.3	5	8	0.2	—
1975	107	21	4	20	37	0.6	273
1985	334	44	9	39	83	2	685
1995	659	46	13	57	127	5	1,687
2005	1,152	—	—	63	158	9	2,430
2015	1,568	—	—	69	205	13	3,096

Notes: the same as Table 4.

Source: *ibid.*

Table 6 Support Ratio

FY	KNH	MAA (1)	MAA (2)	MAA (3)	MAA (4)	MAA (5)	KN
1965	93.4	5.8	116.7	22.2	28.6	70.0	—
1975	22.3	3.8	11.3	5.8	8.1	45.0	9.5
1985	8.2	1.4	5.4	3.0	4.0	17.5	3.7
1995	5.0	1.0	3.9	2.0	2.6	8.0	4.1
2005	2.9	—	—	1.7	1.9	5.0	2.9
2015	2.4	—	—	1.5	1.4	4.0	2.1

Notes: the same as Table 4.

support ratio = (the number of insured persons)/(the number of old-age pension beneficiaries)

Source: ibid.

The contribution rates had been lifted up by stages (see Table 7). In December 2017, the rate of KNH contribution (combined for employees and their employers) is 18.3%, and has already been fixed forever at the current level. The KN contribution is JPY 16,490 per person per month.¹⁴ It has been also fixed forever in real terms.

The transfer from general revenue amounts to JPY 11.78 trillion in 2017, which accounts for 12.1% of the national budget.

The aggregate amount of PP benefits was JPY 54.9 trillion in 2015, around 14.1% of GDP in Japan.

Table 7 Contribution Rate (%)

FY	KNH	MAA (1)	MAA (2)	MAA (3)	MAA (4)	MAA (5)
1956	3.0	7.16	—	—	—	—
1966	5.5	7.92	9.6	7.04	6.72	7.4
1976	9.1	8.92	9.8	7.44	7.52	8.0
1986	12.4	16.99	10.9	11.4	11.04	10.2
1996	17.35	20.09	18.54	18.39	16.56	12.8
2006	14.642	15.69	15.412	14.767	14.092	11.168
2015	17.828	—	—	17.278	17.278	14.354

Notes: the same as Table 4, except MAA (1) → National (Japan) Railway. The contribution base has been changed to include bonuses as well since FY 2003.

Source: ibid.

¹⁴ JPY16,490 is equivalent to JPY 16,900 at 2004 prices.

Table 8 Income Statement

(1) KNH (JPY trillion)

FY	Income (Contr.)	Outgo	Balance
2012	33.32 (24.15)	36.81	△3.49
2013	35.78 (25.05)	37.63	△1.86
2014	40.49 (26.32)	38.71	1.78

(2) KN (JPY trillion)

FY	Income (Contr.)	Outgo	Balance
2012	3.86 (1.61)	4.31	△0.45
2013	3.92 (1.62)	4.10	△0.18
2014	3.84 (1.63)	3.74	0.10

Source: *ibid.*

Recently, income statement of both KNH and KN was in a deficit (see Table 8).¹⁵ The total amount of PP funded reserves in 2015 was around JPY 200 trillion (see Table 9), which was equivalent to about 38% of GDP in Japan.

Table 9 Funded Reserves (as at the end of March 2015)

	FR (JPY trillion)	Reserve Ratio
KNH	136.7	4.1
KN	9.3	5.0
MAA (1)	7.8	5.1
MAA (2)	42.5	9.4
MAA (3)	4.2	8.9

Notes: MAA (1) → Central government, (2) local government, and (3) private schools.

Reserve Ratio denotes the amount of funded reserves over the aggregated annual amount of benefits.

Source: *ibid.*

¹⁵ KNH and KN enjoyed windfall gains from investment out of the funded reserves in 2014.

10 Challenges Ahead

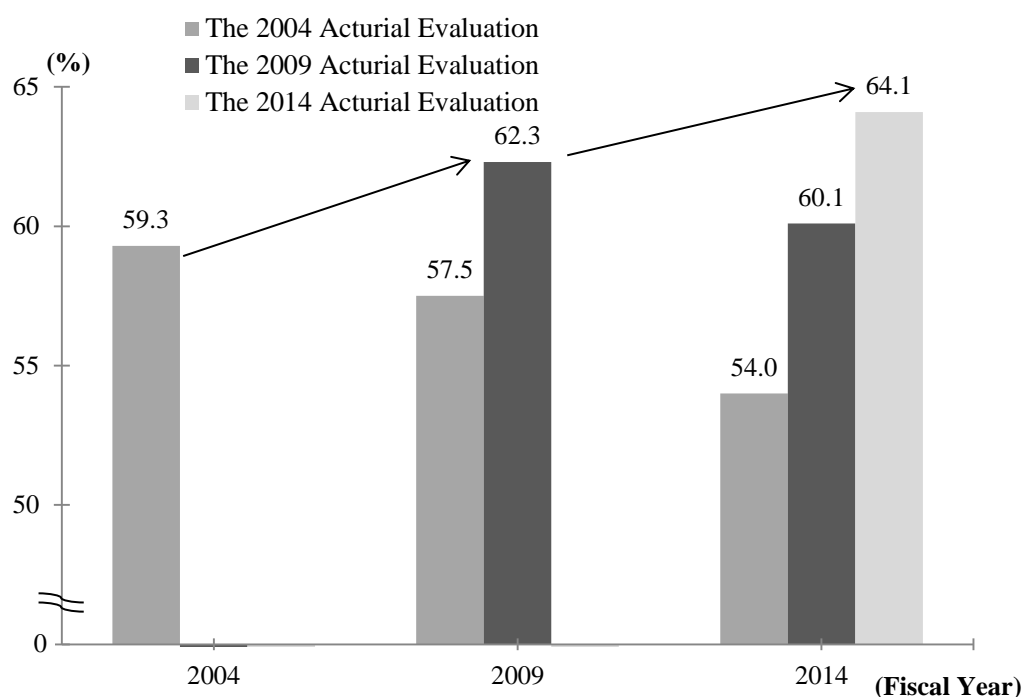
10.1 Unexpected Increases in the Replacement Rate

Japan has been suffering from deflation for nearly 2 decades. During deflation, the automatic balance mechanism was suspended to work. Instead, the benefit indexation to CPI has been in operation. Moreover, the level of take-home pay for actively working employees decreased more than the decrease in CPI in nominal terms during this period.

Consequently, the replacement rate for the KNH “model” male employee with his full-time housewife was increased from 59% in 2004 to 64% in 2014, as is depicted in Figure 15. This outcome is against the spirit of the 2004 reform.

The 2016 legislation on redesigned indexation rules is expected to slowly improve these situations.

Figure 15 Replacement Rate



Source: MHLW, *The 2014 Actuarial Report on Public Pensions*

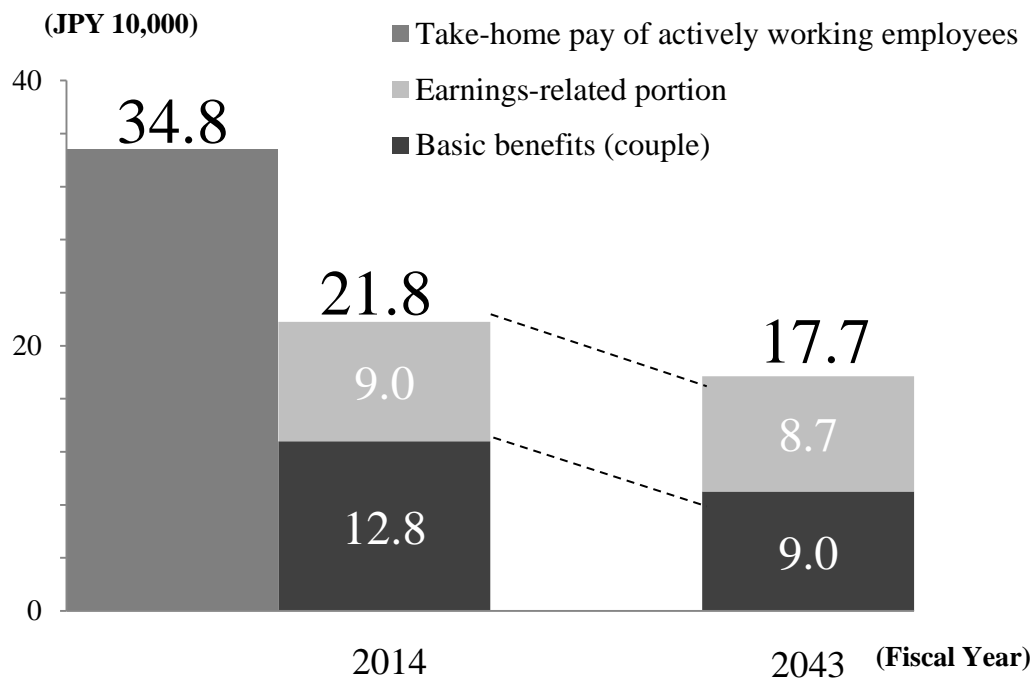
10.2 30% Cut of Basic Benefits?

The 2014 Actuarial Report on Public Pensions checked whether or not PP will maintain their adequacy for the next 100 years, and found that higher labor force participation rates for females and elderly males in the future would be a decisive factor for keeping their adequacy.

A healthy financing does not always promise an adequate level of pension benefits, however. The replacement rate of 50% is the minimum in the future which is guaranteed by law for the “model” employee couple who receive combined benefits of the basic pension (the first-tier) and the earnings-related portion (the second-tier). But, no minimum guarantee has yet been provided for the level of basic benefits solely.

According to the *2014 Actuarial Report*, the monthly amount of combined benefits for the “model” employee couple will reduce by 22% in thirty years from JPY 218,000 in 2014 to JPY 177,000 in 2043 in terms of the 2014 wages, whereas the monthly amount of basic benefits per person will reduce more drastically from JPY 64,000 in 2014 to JPY 45,000 in 2043, a 30% reduction in thirty years, as is demonstrated in Figure 16.

Figure 16 Level of Monthly Pension Benefits



Note: The amounts are in terms of the 2014 wages
Source: The author's own calculation

A long-term healthy financing of social security pensions is one of the most important factors for the sustainable system. The automatic balance mechanism introduced in 2004 was expected to be effective for PP to attain their financial sustainability. *The 2014 Actuarial Report* shows that it will be “too powerful” to do so, forcing an unexpected drastic reduction in the level of basic benefits.

This will cause another difficulty in maintaining an adequate amount of pension benefits for self-employed persons or atypical workers who are qualified to receive basic pensions only in their old age as earned entitlements based on their contributions. An additional minimum guarantee for the level of basic benefits might be required to avoid adverse side-effects of the Japan's automatic balance mechanism.

There are mainly following 3 policy options under consideration.

A: Extending maximum covered years from 40 to 45

B: Increasing the NPA to 67/68 or shifting to automatic indexation to longevity

C: Inclusion of atypical employees in KNH who work less than 30 hours per week

Candid discussions on these options will continue in the future, as well.

PP benefits for the aged parents are financed mainly by contributions of their children and grand-children. The retired parents are expected to maintain their dignity, while actively working children should be rewarded for their labors. The PP system should prescribe the rules for satisfying these two needs. Neat income-sharing between them still remains a challenge in Japan.

11 Lessons from Japanese Experiences

First, the future is hardly predictable. Around 1970, few Japanese were able to predict that within the next 50 years Japan would have an annual increase of CPI more than 20%, negative changes of wages in nominal terms, a sharp price-downfall of stocks/shares to one fifth from the peak, long-lasting 0% rate of interest, a decrease of the total fertility rate down to less than 1.3, or the declining population. Our poor ability to predict the future remained little unchanged for the past 50 years. Thus, few Japanese can accurately predict what will take place in Japan within the next 50 years from now on. Policy makers are steadily required to flexibly adapt pension systems to changing and unpredictable world. This is a never-ending task for them.

Second, challenges sooner or later make a person well qualified to solve them. Mr. Kiyoshi Murakami and Mr. Shin-ichiro Yamaguchi were typical examples.¹⁶ Japanese are quite happy and should be proud to have such outstanding and selfless men of deep insight, working out pension reform plans with foresight. Be wise enough to distinguish such exceptional figures from not a few pretentious experts with no discerning eyes who often talk loudly for the sake of some specific group.

Third, policy makers are not almighty. They sometimes make mistakes. Such mistakes mainly come from their too strong obsessiveness with past commitments, too much political considerations, and arrogant policy formation with fast and loose enthusiasm. Once things turn out to be wrong, it is advisable not to hesitate to correct them.

Fourth, critical but insightful comments by pension researchers on the ongoing policy are often neglected or even induce groundless blames and/or evil-speaking. But if those comments are to the point, sooner or later they get accepted and are adopted in the policy making. Intensive scientific researches on pensions in academic circles are thus important.

Fifth, the full coverage of public pensions cannot be attained by contributions only. Rather, a subsidy from central and/or local governments is promising to encourage the remaining people to participate in the public pension programs. Incidentally, Japan introduced this subsidy as a pledge of government commitments to mandatory public pensions in order to finance a part of their benefits. The subsidy can be also justified to finance an income-tested non-contributory pension for aged persons who had no years or too short years to make pension contributions at the time of setup. The subsidy will be

¹⁶ Takayama (2009) briefly summarizes the remarkable work achieved by Mr. Kiyoshi Murakami. Prime Minister Yasuhiro Nakasone exceptionally attended the memorial service of the late Mr. Shin-ichiro Yamaguchi on 9 July 1984, deploring his loss with stating in the most respectful form that he was a mirror of all public officials.

better fund-raised by an earmarked value-added-tax (or consumption-based tax), since it can be regarded as a second “contribution” to pensions made throughout one’s life.^{17, 18}

My final words are: think deeply and behave cautiously with warm heart but cool head (博学之、审问之、慎思之、明辨之、笃行之 《礼记·中庸》).

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¹⁷ In France, Contribution Sociale Généralisée (CSG) has been used to partly finance public pension benefits since 1991. It is an income-based VAT.

¹⁸ If children and their parents participate in different pension programs both of which are fundamentally financed on a PAYG basis, social pooling of contributions (partial cost-sharing) among them can be justified, since children want to let their parents to first receive their pension contributions.