Retirement Systems in Japan

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CHAPTER 3

Social Security Retirement Benefit Systems

The Japanese social security system consists of the National Pension Plan, which provides a basic benefit to most persons, and five additional statutory pension programs that provide earnings-related benefits to retired employees in particular areas of the economy.[1] The Employees' Pension Insurance program, which covers most private employees, is the largest of these earnings-based benefit plans. Other earnings-related benefits are provided through statutory pension plans that cover specific groups of workers. These plans include the National Public Service Mutual Aid Association, Local Public Service Mutual Aid Association, Private School Teachers and Employees Mutual Aid Association, and Agricultural, Forestry, and Fishery Institutions Employees' Mutual Aid Association. These plans cover virtually all workers and their dependents.

The development of the Japanese social security system occurred much later than the implementation of such programs in Western Europe. For example, social security programs were instituted in Germany in 1889, in the United Kingdom in 1908, in France in 1910, in Sweden in 1913, and in Italy in 1919. By contrast, the first components of the Japanese system were instituted in the 1940s, only shortly after the start of similar programs in the United States in 1935.

The first continuing social security program to be established in Japan was the Employees' Pension Insurance system.[2] The Employees' Pension Insurance program was established in 1941 to cover private employees.[3] Other programs introduced in the 1950s and 1960s extended coverage to most employees. The largest of these programs is the National Pension Plan, which was implemented in 1961. Initially, the National Pension Plan covered only persons not included in other systems, primarily self-employed and family workers.

The social security system was fundamentally altered by the Pension Insurance Amendments enacted in April 1985. Principal objectives of the amendments were unification of pension systems, reduction of benefit costs, and establishment of pension rights for women. The changes mandated by this legislation became effective in April 1986. These amendments transformed the National Pension Plan from a pension plan for self-employed workers into a national retirement benefit system for all workers and dependents. The National Pension Plan now provides a flat benefit per year of contribution to all insured persons. The other pension programs cover different types of employees and provide earnings-related benefits to covered workers. Thus, under the new system, employees have both the basic benefit from the National Pension and an earnings-related benefit from their specific statutory plan. Self-employed workers and dependents are covered only by the National Pension.

The second objective of the 1986 legislation was to establish the social security systems on a sound financial basis for the long term and, thereby, reduce the projected rapid rise in the cost of the social security system.[4] The reforms altered the benefit formulas to gradually lower future benefits and, therefore, reduce the projected increases in the social security contribution rates.

The third objective was achieved by providing significant new coverage for women through their compulsory coverage in the National Pension Plan. Prior to the reforms, divorced women were often left without social security benefits. Under the new National Pension, all housewives are registered and will earn the right to be eligible to receive benefits in their own name. The increased reliance on the basic or flat benefit from the National Pension increased the importance of the wife's pension in the determination of family retirement income.

Table 3–1 presents a brief overview of the various social security programs. The Employees' Pension Insurance program and the National Pension Plan are by far the largest of these pension plans. In March 1988, the Employees' Pension Insurance program included 27.7 million insured workers, while the National Pension Plan covered an additional 30.6 million. These two pension programs covered 90 percent of the working population. Altogether, the mutual aid associations included 5.8 million insured workers with over 3 million in the Local Public Service Plan and just under 2 million in the National Public Service Plan. This chapter reviews the development of the social security system in Japan and examines the changes following

TABLE 3–1 Statutory Pension Schemes

	Wage or Salary Earners					*Others*
	Private Sector	*Public Sector*		*Private Sector*		
Name of scheme	Employees' Pension Insurance	National Public Service M.A.A.	Local Public Service M.A.A.	Private School Teachers and Employees M.A.A.	Agricultural, Forestry, and Fishery Institutions Employees' M.A.A.	National Pension
Year of enactment	1941–44	1958	1962	1953	1958	1959
Year of implementation	1944	1959	1962	1954	1959	1961
Persons insured	Employees in prescribed establishments	Employees of the central government, national railway, etc.	Employees of local government of various levels	Teachers and employees of privately established schools	Employees of cooperative and allied bodies in agriculture, fishery	All persons 20 to 60 except for students and pensioners
Administration	Social insurance agency	The federation of national public service M.A.A.	The federation of local public service M.A.A.	M.A.A.	M.A.A.	National government

Note: M.A.A. = Mutual Aid Association.

SOURCE: Japan Foundation for Research and Development of Pension Schemes, *National Systems of Old-Age, Disability, and Survivors' Benefits in Japan* (Tokyo: 1986), p. 6, and updated information.

TABLE 3–2 Employees' Pension Insurance Contribution Rates: Males*

Date of Establishment	*Total Contribution Rate*†
March 1942	6.4%
October 1944	11.0
September 1947	9.4
August 1948	3.0
May 1960	3.5
May 1965	5.5
November 1969	6.2
November 1971	6.4
November 1973	7.6
August 1976	9.1
October 1980	10.6
October 1985	12.4
January 1990	14.3

*Female contribution rates have typically been lower than male rates. In 1989, the female rate was 11.75 percent; however, this rate is now gradually being raised so that it will equal the contribution rate of men in 1994.

†Rate paid half by employer and half by employee.

SOURCE: Japanese Ministry of Health and Welfare, "Outline of Recent Japanese Policy on Pensions: The Background and Measures for Reform" (Tokyo: Japanese Government, 1985), p. 33 and updates based on unpublished governmental reports.

the 1985 amendments. Because of their importance, the discussion concentrates on the Employees' Pension Insurance program and the National Pension Plan.

INCREASING COSTS AND THE NEED FOR REFORM

As in all developed countries, the maturing of social security systems and the aging of populations have required substantial increases in the real and relative costs of retirement benefits. Initially, the Employees' Pension Insurance program was established on a full-funding basis with total contribution rates of 6.4 percent in March 1942. Rates were quickly increased to 11 percent in 1944. In 1948, the program was reorganized and abandoned the full-funding principle. These changes, which shifted the Employees' Pension Insurance system away from full funding toward a pay-as-you-go method of financing, were implemented during a period of rapid inflation. These changes resulted in contribution rates being lowered to 3 percent. As shown in Table 3–2, rates have increased rapidly since that time, reflecting rising benefits and an aging population. Total contribution rates are divided equally between the worker and the firm.

The cost of the Employees' Pension Insurance system was rising rapidly in response to the maturing of the program and the aging of

TABLE 3–3 Trends and Projections of Participants, Beneficiaries, and Contribution Rates: Employees' Pension Insurance

Year	*Number of Participants (in millions)*	*Number of Beneficiaries (in millions)*	*Beneficiaries / Participants*	*Contribution Rate before 1985 Law**	*Contribution Rate after 1985 Reforms**
1960	13.2	0.04	0.3%	3.5%	
1965	18.4	0.2	1.1	5.5	
1970	22.3	0.5	2.3	6.2	
1975	23.6	1.0	4.4	7.6	
1980	25.2	2.0	8.0	10.6	
			Projected		
1986	26.9	3.4	12.7	12.4	12.4%
1990	27.9	4.6	16.5	12.4	12.4
2000	29.4	7.7	26.1	16.8	16.0
2010	28.5	10.8	38.0	24.9	23.4
2020	28.9	12.6	43.5	33.6	28.4
2030	28.2	12.8	45.4	38.8	28.9

*Contribution rates allow trust funds to decline to approximately one year's expenditures, in contrast to the seven years in trust fund in 1986. The trust fund stabilizes at around one year's expenditures.

SOURCE: Japanese Ministry of Health and Welfare, "Outline of Recent Japanese Policy on Pensions: The Background and Measures for Reform" (Tokyo: Japanese Government, 1985), pp. 34–36.

the population. Table 3–3 shows that the ratio of beneficiaries to active participants rose from 0.3 percent in 1960 to 8 percent in 1980. This ratio was projected to continue increasing to over 40 percent early in the next century. Without changes in the benefit formula, the contribution rate was projected to increase to 38.8 percent.

Expenditures and contribution rates for the National Pension Plan increased rapidly during this period. The trend in these rates prior to the 1985 reforms is shown in Table 3–4. Monthly contributions increased from between 100 and 150 yen in 1961 ($.28 and $.41 at an exchange rate of 360 yen per dollar) to 6,740 yen in 1985 ($28.26 at a rate of 238.5 yen per dollar).[5] During this period, the consumer price index rose by 350 percent. Accounting for inflation, the real 1985 contribution was 10 times the contribution in 1961.

Projections made by the Ministry of Health and Welfare indicated a rapid increase in the ratio of beneficiaries to active participants in the National Pension Plan. This ratio doubled between 1975 and 1980 and was expected to increase to 32.7 percent in 1990. The continued aging of the population was expected to increase the contribution in 1984 prices from 6,800 yen per month in 1986 to 19,500 yen in 2020 (see Table 3–5).

Despite the increase in contributions, reserves as a percentage of annual benefit expenditures in both of these programs declined rapidly. Reserves in the Employees' Pension Insurance system declined

TABLE 3–4 National Pension Contribution Amounts

Date of Establishment	*Monthly Contribution Amount (yen)*
April 1961	
Age 20–34	100
Age 35–59	150
January 1967	
Age 20–34	200
Age 35–59	250
January 1969	
Age 20–34	250
Age 35–59	300
July 1970	450
July 1972	550
January 1974	900
January 1975	1,100
April 1976	1,400
April 1977	2,200
April 1978	2,730
April 1979	3,300
April 1980	3,770
April 1981	4,500
April 1982	5,220
April 1983	5,830
April 1984	6,220
April 1985	6,740

SOURCE: Japanese Ministry of Health and Welfare, "Outline of Recent Japanese Policy on Pensions: The Background and Measures for Reform" (Tokyo: Japanese Government, 1985), p. 37.

TABLE 3–5 Trends and Projections of Participants, Beneficiaries, and Contribution Amounts: National Pension

Year	*Number of Participants (in millions)*	*Number of Beneficiaries (in millions)*	*Beneficiaries / Participants*	*Monthly Contribution Amount before 1985 Law* (yen)*	*Monthly Contribution Amount after 1985 Reforms* (yen)*
1965	20.0	—		100	
1970	24.3	—		450	
1975	25.9	2.7	10.6%	1,100	
1980	27.6	5.3	19.3	3,770	
			Projected		
1986	26.4	7.6	28.8	6,800	6,800 (1984 prices)
1990	26.2	8.6	32.7	10,400	8,000
2000	26.7	9.7	36.3	15,000	11,000
2010	24.5	10.3	42.1	18,500	13,000
2020	23.8	9.7	41.0	19,500	13,000
2030	23.3	9.2	40.0	19,500	13,000

*Contribution amounts are sufficient to maintain trust funds at one year's expenditure in long run.

SOURCE: Japanese Ministry of Health and Welfare, "Outline of Recent Japanese Policy on Pensions: The Background and Measures for Reform" (Tokyo: Japanese Government, 1985), pp. 38–40.

TABLE 3–6 Social Security Trust Fund Reserves

	Employees' Pension Insurance		*National Pension*	
Year	*Reserves at Start of Year (trillion yen)*	*Reserves / Benefits Paid*	*Reserves at Start of Year (trillion yen)*	*Reserves / Benefits Paid*
1960	0.3	27.3%		
1965	0.9	23.7	0.1	67.4%
1970	3.6	22.0	0.6	37.0
1975	10.1	10.6	1.7	3.7
1980	24.4	7.5	2.4	1.5
1983	36.6	7.3	3.1	1.4
1985	45.5	7.9	2.7	1.1

SOURCE: Japanese Ministry of Health and Welfare, "Outline of Recent Japanese Policy on Pensions: The Background and Measures for Reform" (Tokyo: Japanese Government, 1985), pp. 33–37. Data for 1985 are provided in Lillian Liu, "Social Security Reforms in Japan," *Social Security Bulletin*, August 1987, p. 30; and Social Insurance Agency, *Outline of Social Insurance in Japan*, 1986.

from over 20 times annual benefits in the 1960s to 7 times annual expenditures in the 1980s. A steeper decline occurred in the relative funds of the National Pension Plan, where reserves declined from 37 years of benefits in 1970 to just over 1 year in the 1980s (see Table 3–6). Reserves in the National Pension fund have declined in actual magnitude as well as relative to annual expenditures.[6]

Funds collected under these social security plans are deposited in the Trust Fund Bureau of the Ministry of Finance.[7] These deposited funds receive an interest rate set by the Ministry of Finance (6.05 percent in 1988). Invested funds are redeemable in seven years. These funds are used for investment in housing, environmental sanitation facilities, welfare facilities, and other projects believed to raise the nation's standard of living.[8]

Changes in the Japanese economy were one cause of the more rapid decline in National Pension system reserves. As late as 1960, 60 percent of the labor force was composed of self-employed, farmers, and other family workers. These workers were covered by the National Pension. By 1987, employees accounted for 75 percent of the work force, while self-employed and other workers were only 25 percent of the total.[9] This decline in self-employment reduced the coverage base of active participants in the National Pension. The decreased number of workers contributing into the system placed added financial pressure on the National Pension by exacerbating the increase in ratio of beneficiaries to workers covered by this pension system.

The impacts of the 1985 social security reforms are shown in Tables 3–3 and 3–5. Without the benefit changes, the contribution rate for the Employees' Pension Insurance system was projected to rise to 38.8 percent. With the changes, the contribution rates were projected to stabilize at 28.9 percent in 2030. The monthly contribution amount for the National Pension in 1984 prices was projected to increase to 19,500 yen under the prereform benefit structure. With the reforms, contribution amounts were projected to peak at 13,000 yen per month.

The sharp increase in projected costs without changes was the primary force leading to the 1985 amendments. Even with these changes, Employees' Pension Insurance contribution rates were projected to more than double in the next 30 years, while contributions to the National Pension were expected to increase by over 90 percent. These remaining large increases are the primary reason for the current attempts to raise the age of eligibility for Employees' Pension Insurance benefits to 65.

NATIONAL PENSION

The National Pension Plan was established by legislation in 1959 and implemented in 1961. Initially, this public retirement program covered only self-employed workers and persons not covered by any other statutory pension. Participation by spouses of these workers was voluntary. The 1985 amendments transformed the National Pension system into a universal pension system offering a flat benefit to all covered persons. Currently, it insures all persons between the ages of 20 and 60 except students and old-age pensioners, who are excluded from compulsory coverage. It is possible for students and persons age 60 to 65 to voluntarily participate in the program. Since the 1985 reforms, wage and salary earners have been insured by both the National Pension Plan and one of the earnings-related pension plans for employees. These changes in coverage imply that the financing of the National Pension will no longer be affected by such shifts in the industrial structure of the economy as the decline in self-employed and family workers.

Financing of National Pension

Revenues for the National Pension Plan are derived from self-employed worker contributions, employer contributions for employees, and government contributions. Persons insured by the National Pension are divided into three categories. The first group consists of insured persons covered only by the National Pension Plan, such as self-employed and nonemployed persons. For example, a self-employed man's wife is in this group whether or not she participates in the family business. The second category of insured persons includes employees covered by the National Pension and another of the statutory pension plans. The third class of insured persons consists of dependent spouses of insured workers in category two who do not work for pay.

In 1986, the contribution for persons in the first class was set at 6,800 yen per month, and this rate was scheduled to increase annually by 300 yen until it reached 8,000 yen per month in 1990. The 1985 reforms mandated an actuarial review to determine new contribution rates necessary to maintain the plan on a sound financial basis. Legislation passed in December 1989 raised the contribution rate to 8,400 yen per month. Future contributions are to increase each year by 400 yen per month plus an increase to maintain the real value of contributions. Current legislation authorizes an actuarial review at least every five years. Payment by self-employed workers is made monthly by the worker at a designated government office or banking institution.

All persons who are not employees or their spouses are considered to be in this first category. Thus, unemployed workers, their spouses, and spouses of self-employed workers are in this category and are required to make monthly contributions. These contributions provide credited service and lead to benefits for such persons. The universality of the social security system depends on compliance by such persons. Whether these persons actually contribute to this system on a regular basis is yet to be determined. Workers and spouses could opt out of the system by not making the required payments. A large number of persons covered by the National Pension appear to be opting not to contribute to this pension plan.

Contributions for salaried employees in class two are collected by their employer in conjunction with their other pension scheme, for example, Employees' Pension Insurance. The contributions for dependent spouses are covered by the contributions of their spouse in category two. Thus, the contribution rate for the earnings-related pensions (discussed below) cover their participation in both the National Pension Plan and their earnings-related plan. The Employees' Pension Insurance system is responsible for financing the basic benefit on behalf of these participants. Similar contributions are made for participants in other pension plans.

Class one participants who are disabled or receiving means-tested benefits under social assistance programs are exempt from paying contributions. Payments that have been skipped due to this exempt status may be paid retroactively up to a maximum of 10 years. Even if contributions are subsequently not paid, these contribution-exempt periods are used to determine the retirement benefit (see below).

The total cost of the basic benefit is calculated annually and allocated among the pension programs in proportion to the persons insured in them. In addition to these contributions, government subsidies are used to fund benefits through the National Pension. These subsidies equal one third of the contributions from insured persons in category one and one third of the contributions from workers covered by other pension plans as they relate to the basic benefit.

Benefit Determination

Benefits under the National Pension take the form of a flat amount per month of contributory status to all qualified persons. In determining the qualifying period, the following are taken into account: (1) periods during which contributions to the National Pension have been paid (contribution-paid periods) or periods during which the person was exempted from payment as indicated above (contribution-exempt periods); (2) periods insured under an Employees' Pension Insurance program; and (3) periods during which the person was a dependent spouse of a person insured by an Employees' Pension Insurance program. Periods noted in (2) and (3) are regarded as contribution-paid periods.

Prior to the 1985 amendments, the National Pension paid a flat benefit to all qualified persons of

$$\text{Monthly benefit (in yen)} = 1{,}680\,[A + (B/3)] \div 12$$

where A is months of contribution-paid status and B is months of contribution-exempt status. This benefit formula is still used for all persons born before April 2, 1926.

A person born after April 1, 1926, is entitled to a basic old-age pension on reaching the age of 65 and having completed 25 years of qualified coverage.[10] Qualifying periods include coverage by the National Pension, Employees' Pension Insurance, or any of the mutual aid associations. Benefits may be accepted at age 60; however, persons accepting benefits prior to age 65 have permanently reduced benefits. Benefits accepted at age 60 are 58 percent of age-65 benefits. Delayed acceptance of the pension after age 65 increases monthly benefits.

The penalties for early retirement along with the increases for delayed acceptance are shown in Table 3–7. The gain for deferred acceptance in Japan is considerably greater than that in the United

TABLE 3–7 Early Retirement Penalties and Delayed Retirement Credits for National Pension

Age of Acceptance	*Percent of Benefit at Age 65*
60	58%
61	65
62	72
63	80
64	89
65	100
66	112
67	126
68	143
69	164
70	188

States. The gains from delaying acceptance are also greater than the actuarially fair increase in benefits associated with a reduced life expectancy at the older ages, that is, the wealth value of National Pension benefits increases with delayed acceptance. Despite this economic incentive to delay acceptance, most Japanese accept benefits prior to age 65.

When the 1985 reforms are fully implemented, the basic monthly benefit in 1984 prices will be 1,250 yen times the number of insured years. This yields a maximum monthly benefit of 50,000 yen ($210.50 at an exchange rate of 237.5 yen per dollar) for a worker with 40 or more years of coverage. These values are in 1984 prices as specified in the 1985 amendments. They are increased to reflect increases in the consumer price index. For persons retiring after October 1989, the maximum benefit is 55,500 yen per month. With an exchange rate of approximately 140 yen per dollar, this produces a benefit of almost $400 per month for a person with 40 years of coverage. Thus, an older couple could receive a combined monthly benefit from the National Pension of approximately $800 per month.

At the time of the social security reforms, the National Pension had not fully matured, that is, retiring workers had not been covered by the pension plan for their complete work life. The average length of insured status for persons retiring in 1986 was only 32 years. Under the old benefit formula, they would have received a monthly benefit of 53,760 yen (1,680 yen x 32). With the new formula, their benefit would be only 40,000 yen (1,250 x 32). Thus, the changes in the benefit formula would have created a sharp reduction in benefits for persons retiring just after the new formula went into effect relative

TABLE 3–8 Insurable Period for National Pension

Date of Birth	*Insurable Period (months)*
1926	300
1927	312
1928	324
1929	336
1930	348
1931	360
1932	372
1933	384
1934	396
1935	408
1936	420
1937	432
1938	444
1939	456
1940	468
1941 and after	480

SOURCE: Japan Foundation for Research and Development of Pension Schemes, *National System of Old-Age, Disability, and Survivors' Benefits in Japan* (Tokyo: 1986), p. 32.

to persons retiring just before the reforms. To smooth this transition, the new formula was gradually phased in by varying the length of the insured period. The transition benefit formula is

$$\text{Monthly benefit (in yen)} = \frac{50{,}000\,[A + (B/3)]}{C}$$

where C is the insurable period expressed in number of months. The value of C for persons born in various years is shown in Table 3–8. For all persons born after 1940, C will equal 480 months or 40 years.

Since 1973, the benefit amount has been automatically adjusted to changes in the cost of living if there has been an increase of 5 percent or more in the national consumer price index. An increase of less than 5 percent per year is carried over until the cumulative rise in the consumer price index exceeds 5 percent. This indexation is comparable to that enacted in the United States in 1972 and effective in 1975.

EMPLOYEES' PENSION INSURANCE

The Employees' Pension Insurance program was established in 1941. The initial program was designed so that full pension benefits could only be received after 20 years.[11] The program initially covered only male, manual workers in private establishments having 10 or more employees. Coverage was extended in 1944 to include salaried employees, female workers, and persons employed in establishments with five or more workers.

Currently, workers in private industrial or commercial enterprises that regularly employ one or more workers are compulsorily covered by the Employees' Pension Insurance system.[12] Firms not covered by this pension program include those in agriculture, forestry and fishery, restaurants and hotels, professions such as lawyers and public accountants, and theatre and other entertainment industries. Workers employed outside these covered firms may be covered by the Employees' Pension Insurance if the employer obtains the consent of at least half of his employees and the approval of the prefectual governor. All persons regularly employed in a covered firm are included in the Employees' Pension Insurance system if they are under age 65. To be eligible for a retirement benefit, workers must have 25 years of insured coverage in the plan. Persons over the age of 65 can maintain insured status to achieve the minimum requirement of 25 years of coverage. Short-term workers are excluded from coverage.

Benefit Determination

In 1953, the first pension benefits from the Employees' Pension Insurance system became payable. These initial benefits included only earnings-related benefits. A flat benefit that was not a function of years of service was introduced in 1954. Beginning in 1964, this flat benefit was made a function of years of service. For persons age 60 or older prior to the implementation of the 1985 amendments, the Employees' Pension Insurance system provided a flat benefit of 2,400 yen per month for each year of contribution.[13]

In addition to the flat benefit, an earnings-related benefit was provided by the prereform Employees' Pension Insurance. The benefit formula was a career average formula with wage indexation. The benefit for a person reaching age 60 in 1986 was determined by multiplying the average monthly insured remuneration times .01 times the number of insured years. Insured remuneration is based on average regular earnings excluding bonuses and overtime pay. On August 1 of each year, an insured person's average remuneration is calculated on the basis of the remuneration paid during the preceding three months.

A formula is used to convert actual earnings into insured remuneration. Insured remuneration is used to determine contributions to

TABLE 3–9 Schedule of Monthly Insured Remuneration for Employees' Pension Insurance System (000s of yen)

Average Remuneration		*Class*	*Insured Remuneration*
Equal or More Than	Less Than		
455	—	31	470
425	455	30	440
395	425	29	410
370	395	28	380
350	370	27	360
330	350	26	340
310	330	25	320
290	310	24	300
270	290	23	280
250	270	22	260
230	250	21	240
210	230	20	220
195	210	19	200
185	195	18	190
175	185	17	180
165	175	16	170
155	165	15	160
146	155	14	150
138	146	13	142
130	138	12	134
122	130	11	126
114	122	10	118
107	114	9	110
101	107	8	104
95	101	7	98
89	95	6	92
83	89	5	86
78	83	4	80
74	78	3	76
70	74	2	72
—	70	1	68

SOURCE: Social Insurance Agency, *Outline of Social Insurance in Japan* (Tokyo: 1988), p. 68.

and benefits from the Employees' Pension Insurance system. The formula has both minimum and maximum levels of insured earnings (see Table 3–9).

The prereform Employees' Pension Insurance benefit formula was

$$\text{Monthly amount (in yen)} = [2{,}400 \times Y] + [.01 \times E \times Y]$$

where E is average insured monthly remuneration and Y is the number of insured years.

In 1985, this system was substantially revised and coordinated with the National Pension Plan. The primary cost-reducing measure

TABLE 3–10 Coefficients and Unit Amounts under the Transitional Provisions of the Employees' Pension Insurance Scheme

*Date of Birth**	*Coefficient*† *(× 1/1,000)*	*Unit Amount (yen)*
	(1)	(2)
1926	10.00	2,400
1927	9.86	2,323
1928	9.72	2,249
1929	9.58	2,176
1930	9.44	2,106
1931	9.31	2,039
1932	9.17	1,974
1933	9.04	1,910
1934	8.91	1,849
1935	8.79	1,790
1936	8.66	1,733
1937	8.54	1,676
1938	8.41	1,623
1939	8.29	1,570
1940	8.18	1,520
1941	8.06	1,471
1942	7.94	1,424
1943	7.83	1,379
1944	7.72	1,334
1945	7.61	1,291
1946	7.50	1,250

*Date of birth in 12-month period beginning April 2 of each year indicated and ending April 1 of the following year.

†Coefficient is the generosity factor in the benefit formula: retirees born prior to 1926 receive .01 times average earnings per year of contributions, and retirees born after 1946 will receive .0075 times average earnings per year of service.

SOURCE: Japan Foundation for Research and Development of Pension Schemes, *National System of Old-Age, Disability, and Survivor's Benefits in Japan* (Tokyo: 1986), p. 34.

imposed by these changes was the reduction of the benefit formula for future retirees. The flat benefit from the Employees' Pension Insurance eventually will be replaced by the new, lower National Pension benefit. To avoid sharp declines in the total benefit of participants in the Employees' Pension Insurance program, the reduction in the flat benefit component is gradually phased in through a 20-year transition period. Thus, it will be 2006 before the fixed benefit associated with coverage by the Employees' Pension Insurance is equal to the basic National Pension benefit. The reduction in this unit amount is shown in column (2) of Table 3–10. These values are reported in 1984 prices and adjusted upward with increases in the consumer price index.

The earnings-related benefit was reduced by altering the benefit formula. This modification ultimately reduces benefits by 25 percent. The benefit for persons reaching age 60 in 1986 was determined by multiplying the average monthly insured remuneration times .01 times the number of insured years. The benefit factor will be gradually lowered to .0075 in 2006 [see column (1), Table 3–10].

In 2006, when the reforms have been fully implemented, the earnings-related Employees' Pension Insurance benefit formula will be

$$\text{Monthly amount (in yen)} = .0075 \times E \times Y.$$

The average monthly insured remuneration is determined by all the insured remuneration during all insured years. When the retirement benefit is computed, past earnings are reevaluated to reflect increases in average wages of workers covered by the Employees' Pension Insurance system. The factors used in this reassessment of remuneration are revised at the regular actuarial review of the Employees' Pension Insurance system. Reviews must be conducted at least every five years.

The changes in the pension systems altered the benefit formulas of both the National Pension and the Employees' Pension Insurance. Their objective was to reduce future costs by restricting the growth in future benefits. The formulas in both pension systems included a factor indicating the number of years of credited service. Benefit increases had produced a formula that yielded a relatively high replacement ratio for years of covered service since the program had been instituted. Thus, the average married workers retiring in 1986 had 32 years of service and received a benefit equal to 68 percent of average lifetime earnings. With no change in the benefit formula, the replacement ratio would have risen to over 80 percent. The changes in the benefit formula were an attempt to maintain the replacement ratio at approximately the same level despite the expected increase in average covered service to around 40 years.

The effect of the 1985 amendments is shown by examining the pre- and postreform benefits for a single worker who earned average wages in the nonagricultural sector throughout his career (average monthly earnings of 254,000 yen), contributed for 32 years into the Employees' Pension Insurance system, and retired in 1986. This worker's total benefit would have been 158,000 yen per month in 1984 prices ($666 at an exchange rate of 237.5 yen per dollar). If married, the retiree would receive an additional 15,000 yen per month for a total of 173,000 yen per month. These benefits yield replacement ratios of 62 percent for the single worker and 68 percent for the married worker. The calculation of the benefit for a married retiree is shown in Figure 3–1.

FIGURE 3–1 Change in Total Social Security Benefits due to 1985 Pension Reform: Average Married Retired Employee*

	Prereform Monthly Benefit	
	(1) Earnings-related component	81,300 yen
Total benefit	(254,000 × .01 × 32 years)	
	(2) Fixed-rate component	76,800 yen
	(2,400 x 32)	
	(3) Increment for wife	15,000 yen
	Total benefit:	173,000 yen
	Replacement ratio: 68 percent	
	Benefit When Changes Fully Implemented	
	(1) Earnings-related benefit	76,200 yen
Total benefit	(254,000 × .0075 × 40 years)	
	(2) Basic benefit, worker	50,000 yen
	(3) Basic benefit, wife	50,000 yen
	Total benefit:	176,200 yen
	Replacement ratio: 69 percent	

*Benefits are in 1984 prices. The worker is assumed to have average earnings in both examples of 254,000 yen per month. In 1986, the average worker had 32 years of credited service. When the changes in benefit are fully implemented, the average worker is expected to have 40 years of credited service.

SOURCE: Ministry of Health and Welfare, *Health and Welfare in Japan* (Tokyo: Japanese Government), p. 21.

If the benefit formula had remained unchanged, replacement ratios would have risen over time due to the increased coverage period. The average number of insured years of coverage at retirement will eventually reach 40. Under the prereform benefit structure, the monthly benefits for workers with average earnings of 254,000 yen per month would have risen to 212,600 yen for a married worker and 197,600 yen for a single worker. These benefits represent replacement ratios of 83 percent for the married retiree and 78 percent for the single retiree.

After the changes in the benefit formula have been fully implemented, future married retirees with a full work life of participation will receive a total benefit of 176,200 yen per month in 1984 prices, or a replacement rate of 69 percent. Figure 3–1 shows that the earnings-related benefit is substantially reduced, as is the worker's own flat benefit. By contrast, there is a large increase in the basic benefit of the wife. This restructuring of benefit formulas yields a benefit of only 126,200 yen for the single worker, or a replacement rate of 50 percent. This example indicates that single persons face larger benefit reductions than do couples.

Supplemental benefits are paid to beneficiaries with a dependent spouse under age 65 or children under age 18. The incremental benefit is 15,000 yen for a spouse and each of the first two dependent children. Each additional child increases the benefit by 5,000 yen. All values of these benefits are reported in 1984 prices as specified in the 1985 amendments. These values are automatically indexed to the consumer price index.

It is important to remember that these replacement rates compare social security benefits to gross preretirement earnings. Murakami estimates that the current benefit structure yields a benefit equal to about 80 percent of net aftertax earnings. This assumes a tax rate of 15 percent (including government taxes and social security contributions). If no changes had been made in the social security, total benefits would have exceeded net earnings as gross replacement rates rose and increases in taxes reduced net pay. Even with the 1985 changes, net replacement rates are expected to approach 100 percent in the future. The rise in net replacement rate occurs due to the increase in taxes on earnings as the costs of social security rise. Holding the gross replacement rate constant while reducing net earnings raises the net replacement rate.[14]

Retirement Age and Earnings Test

Men are able to start their Employees' Pension Insurance benefit at age 60. The basic benefit from the National Pension is not paid until age 65. The Employees' Pension Insurance system pays workers retiring at age 60 a combined benefit equal to the earnings-related benefit plus the basic benefit until age 65. At that time, the National Pension system begins to pay the basic benefit. Thus, employees can retire at age 60 without having benefits reduced. To qualify for an earnings-related benefit, an insured worker must satisfy the eligibility conditions for the basic benefit from the National Pension.

Prior to the 1986 legislation, women were able to receive a benefit beginning at age 55. The new laws raise the pensionable age for women by one year every three calendar years until 2000. At that time, the pensionable age for women will be 60, the same age as for men. Consideration has been given to raising the age of benefit acceptance to 65 for both sexes by 2010. The government proposed an increase in the retirement age as part of the 1989 actuarial review and subsequent legislation. This provision of the bill was deleted prior to its passage.

If a person eligible to receive a benefit continues to work beyond age 60, the combined benefit may still be paid but at a reduced rate. The amount of the reduction depends on the level of earnings. The rate of reduction is 20 percent if the average remuneration is less than 95,000 yen; 50 percent if earnings are between 95,000 and 155,000 yen; and 80 percent if earnings are between 155,000 and 210,000 yen. For earnings in excess of 210,000 yen, the benefit is suspended.

This structure of benefit reductions in response to earnings results in discrete drops in the net gain from working. As a result of the earnings test, the value of working declines from compensation paid by the employer to compensation minus the loss in pension benefits. This lower net compensation provides incentives for older persons to alter their working behavior.[15] This earnings test formula differs from the earnings test in the United States, which is uniform. The U.S. earnings test reduces benefits one dollar for each three dollars of earnings above a specified amount.[16] Just as in the United States, the earnings test in Japan is less restrictive for workers age 65 and older. Persons age 70 and older are not subject to the earnings test in the United States.

Evidence from both countries indicates that the earnings tests influence the labor supply decisions of affected workers. In the United States, the decline in labor force participation of older men has resulted in fewer people continuing to work and, therefore, actually facing the earnings test. In Japan, the participation rates of men age 60 to 64 continue to be 70 to 80 percent. Thus, many workers will be affected by the earnings test. Several recent studies have found that Japanese men do respond to the earnings test by altering their work behavior.[17] However, the labor force participation data reported in Chapter 2 do not indicate declines in participation rates associated with the social security programs.

Financing of Employees' Pension Insurance

Prior to the 1985 amendments, the Employees' Pension Insurance system was financed by equal contributions from employers and employees plus a general revenue subsidy equal to 20 percent of costs. The revised Employees' Pension Insurance system no longer receives transfers from the general fund. In 1989, the Employees' Pension Insurance contribution rate for male workers was 12.4 percent of the insured remuneration, half of which was paid by the worker and half by the employer. The contribution rate was 11.75 percent for female workers; however, this is scheduled to rise gradually until the rate is equal to that for men in 1994. These rates are similar to the 1989 U.S. total contribution rate of 11.06 percent of covered earnings for the old-age and survivors' portion of social security.

In December 1989, the tax rate for the Employees' Pension Insurance program was raised to 14.3 percent for men effective in 1990. In 1991, the rate will increase to 14.5 percent. This rate will remain in effect until the next actuarial review of the system in 1993 or 1994.

Employee contributions are collected by the employer through deductions from earnings. The employer is responsible for the payment of the employee and employer contributions. These payments are made through an approved financial institution, such as a bank or postal office. Overdue contributions may be coercively collected by the government.

The Ministry of Health and Welfare estimated that contribution rates would have risen to 38.8 percent by 2030 without the benefit reductions imposed by the 1986 reforms. With the benefit reductions, projections in 1985 indicated that the Employees' Pension Insurance contribution rates would peak at 28.9 percent in 2030. Even this increase implies a substantial increase in social security taxes. The projected rise in labor costs associated with higher social security taxes remains a cause for concern and is the principal factor driving the discussion to further increase the age of eligibility for social security benefits.

SOCIAL SECURITY: PROBLEMS AND PROSPECTS

The 1985 amendments to the Japanese social security system transformed these separate pension schemes into an integrated plan providing a basic benefit to all workers coupled with an earnings-related supplement for employees. Future benefits were substantially lowered in an effort to reduce projected costs.

When the new system has reached maturity, the replacement ratio for an employee with a dependent spouse and average insured earnings of 254,000 yen per month in 1984 prices ($1,069 at an exchange rate of 237.5 yen per dollar) and 40 years of coverage will be 69 percent. This follows from an earnings-related benefit of 76,200 yen (254,000 x .0075 x 40) plus the worker's basic benefit of 50,000 yen and the basic benefit for the spouse of 50,000 yen. This yields a total benefit (based on 1984 prices) of 176,200 yen per month ($742 per month), or 69 percent of the 254,000.[18] This relatively high replacement rate is based on the lifetime average of regular earnings excluding bonuses. Thus, in comparison to actual annual earnings including bonuses, the replacement rate is probably closer to 50 percent.[19]

In the United States, a worker with average earnings would receive benefits at age 65 equal to 42 percent of average earnings. If married and the wife, who is also age 65 or older, receives a spouse benefit, the family replacement ratio rises to 63 percent.[20] Thus, the typical Japanese retired employee with a nonworking spouse receives a somewhat lower replacement rate from social security than does a retiree in the United States. These replacement rates for Japan refer only to persons covered by both the National Pension and the Employees' Pension Insurance system. Self-employed workers are covered by only the National Pension and, therefore, will receive only the basic benefit for the worker and his spouse. Obviously, the replacement rate of these retirees depends on their preretirement earnings.

In addition, persons who experience years of unemployment, who switch between self-employment and salaried work, and who enter and leave the labor force will have fewer than 40 years of credited service in the Employees' Pension Insurance system and will not receive the maximum benefit. By comparison, the benefit formula in the United States drops the lowest five years of earnings from the determination of average income, and years of service do not directly enter the benefit formula. Therefore, several years outside the work force do not have much effect on the retirement benefit.

A second key feature of the social security reform was the changed treatment of women. The new system provides dependent spouses a basic benefit in their own right. Previously, a dependent wife insured under the Employees' Pension Insurance system was not entitled to disability benefits or to any benefit in the case of divorce. She was protected merely by her marriage to an insured worker. Under the new system, spouses are individually and compulsorily covered by the National Pension Plan and will be entitled to their own benefit. The discussion in this chapter has shown the importance of the spouse's basic benefit to total social security income. Sex differences in contribution rates and retirement ages are gradually being phased out.

Without the 1985 amendments, Employees' Pension Insurance contribution rates were projected to increase to 38.8 percent. Even with the 1985 modifications, the Employees' Pension Insurance contribution rate was projected to increase to 28.9 percent in 2025.

In 1989, the mandated five-year actuarial review of the social security system was conducted. New cost projections showed future social security costs rising more rapidly than anticipated. The required tax rate to finance the Employees' Pension Insurance program was projected to be 31.5 percent in 2020 instead of the 28.4 percent shown in Table 3–3. This large increase of over 3 percentage points was due primarily to a more rapid than anticipated aging of the population.

Required contributions for the National Pension were also found to be higher than expected.

In response to these higher projected costs, the government proposed to raise contribution rates for the Employees' Pension Insurance system to 14.6 percent and for the National Pension to 8,400 yen per month. The bill was modified in the Diet to increase the Employees' Pension Insurance contributions to 14.3 percent in 1990 and to 14.5 percent in 1991.

To further lower projected expenditures, the government proposed increasing the age of eligibility for pension benefits to 65. Raising the age of eligibility for benefits to 65 for both men and women is estimated to lower the projected contribution rate to 26.1 percent in 2020. The proposed increase in the age of eligibility for benefits was deleted from the bill in the Diet. It is expected that a similar proposal will be introduced at the next required review of the social security system in 1993 or 1994.

In summary, the National Pension Plan provides almost universal retirement coverage for the Japanese. The Employees' Pension Insurance and the other occupational pension schemes provide additional pension coverage to employees in most sectors of the economy. The level of income replacement for workers covered by the Employees' Pension Insurance system approximates that found in the United States. Benefits are automatically adjusted for inflation increases. The social security system redistributes income toward lower-paid workers through the use of the basic benefit, which is not determined by past earnings, and the use of minimum and maximum insured earnings.

The social security system has recently been modified in the face of rising costs due to the aging of the population and the maturing of the system. The continued rapid aging of the Japanese population implies that the contribution rates needed to finance the benefits from the formula specified in the present system will more than double in the coming years.

Some nongovernmental economists argue that the government projections of future costs are too optimistic. The Nihon University Population Research Institute's macroeconomic model of Japan estimates that future tax rates for the Employees' Pension Insurance program may rise to 40 percent of payroll. These projections indicate that Japan continues to face the same challenges confronting other developed countries concerning the high cost of providing adequate retirement income to an aging population. How the government resolves these issues will directly affect the rate of economic growth and the economic well-being of older persons in Japan.[21]

ENDNOTES

1. This section is based in part on Social Insurance Agency, *Outline of Social Insurance in Japan* (Tokyo: Japanese Government, 1988) and Japan Foundation for Research and Development of Pension Schemes, *National System of Old-Age, Disability, and Survivors' Benefits in Japan* (Tokyo: 1986).
2. In 1940, the Seamen's Insurance System was the first social security system to be implemented in Japan. The old-age pension component of this program was eliminated in 1986. Participants are now covered by Employees' Pension Insurance system.
3. This program was initially called Workers' Pension Insurance; however, the name was changed in 1944 to Employees' Pension Insurance.
4. The financial problems that confronted the social security systems are described by Mitsuhiro Fukao and Masatoshi Inouchi, "Public Pensions and the Savings Rate," *Economic Eye*, June 1985, pp. 22–25; and Yukio Noguchi, "Problems of Public Pensions in Japan," *Hitotsubashi Journal of Economics*, June 1983, pp. 43–68.
5. All conversions of yen values to dollars prior to 1988 reported in this study are based on the average exchange rate for the appropriate year as reported in the 1988 *International Financial Statistics Yearbook*. These rates are annual average exchange rates for the year. Rates for 1988 and 1989 are from the monthly issues of *International Financial Statistics* and are typical of the average exchange rate for a specified quarter of the year.
6. Lillian Liu, "Social Security Reforms in Japan," *Social Security Bulletin*, August 1987, p. 30. Also see Randall Jones, "The Economic Implications of Japan's Aging Population," *Asian Survey*, September 1988, pp. 958–69, for a review of the growth in the cost of social security in Japan. Alicia Munnell and Nicole Ernsberger, "Public Pension Surpluses and National Saving: Foreign Experience," *New England Economic Review*, March 1989, pp. 16–38, review the build-up of social security trust funds in Japan. They report that the combined Employees' Pension Insurance and National Pension reserves exceeded 18 percent of gross domestic product in Japan.
7. Beginning in 1989, some of these reserves will be invested with private financial institutions. The objective of this trans-

fer is to increase returns to the trust funds. Hiroshi Murakami and Shunichiro Toda, "Public Pension Schemes," *Benefits and Compensation International*, April 1989, p. 3.

8. Munnell and Ernsberger, "Public Pension Surpluses and National Saving," p. 27, provide a detailed accounting of the uses of these pension accounts.
9. Japanese Ministry of Health and Welfare, "Outline of Recent Japanese Policy on Pensions: The Background and Measures for Reform," p. 7; and Hiroshi Murakami and Shunichiro Toda, "Retirement," *Benefits and Compensation International*, April 1989, p. 3.
10. For the pension of spouses, months of coverage by the insured person in the Employees' Pension Insurance or any of the mutual aid associations prior to the 1985 reforms are counted toward this minimum coverage requirement. In addition, time spent abroad prior to 1985 can also be used to qualify for the minimum coverage. However, these periods are not included in the calculation of benefits.
11. Yoshitaka Yujta, *Employee Benefits and Industrial Relations* (Tokyo: Japan Institute of Labor, p. 10).
12. If the establishment is owned by an individual as opposed to a judicial person, coverage is compulsory if the firm regularly hires five or more workers.
13. Laurence Kotlikoff, John Shoven, Toskiaki Tachibanaki, and Kunio Takeuchi, "A Comparison of the Japanese and U.S. Pension Systems," unpublished paper, 1984, provide a review of the early development of the Employees' Pension Insurance system.
14. Kiyoshi Murakami, "Aging and Pensions in Japan," paper presented to Employee Benefit Research Institute Policy Forum, "Aging in Japan: Lessons for the U.S.?" July 26, 1989, Washington, D.C.
15. The labor supply effect of the earnings test in Japan is examined by Tetsuji Yamada and Tadashi Yamada, "Social Security and Earlier Retirement in Japan: Cross-Sectional Evidence," National Bureau of Economic Research Working Paper no. 2442, November 1987.
16. For evidence of the effect of the earnings test on retirement in the United States, see Alan Blinder, Roger Gordon, and Donald Wise, "Reconsidering the Work Disincentives of Social Security," *National Tax Journal*, December 1980, pp. 431–42;

and Gary Burtless and Robert Moffitt, "The Joint Choice of Retirement Age and Postretirement Hours," *Journal of Labor Economics*, April 1985, pp. 209–36.

17. For example, see Atsushi Seike, "The Effect of Employees' Pension on the Labor Supply of the Japanese Elderly," paper presented at Population Association of America meetings, Baltimore, March 1989.
18. Ministry of Health and Welfare, *Health and Welfare in Japan* (Tokyo: Japanese Government, p. 21).
19. Kotlikoff et al., "A Comparison of the Japanese and U.S. Pension Systems," found that the prereform replacement rate was 57 percent for workers with average monthly earnings. They estimated that including bonuses would reduce the replacement rate to 44 percent. Replacement rates were much higher for lower-paid workers with high years of credited service.
20. If the wife has been working, this replacement ratio overstates the total family social security benefit compared to total family earnings prior to retirement.
21. This underestimation of the government projections arises because of an underestimation of the pace of population aging, not accounting for the expected decline in labor force participation of older persons, and the use of a relatively high rate of economic growth.