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12 Labor Market Implications of Social Security: Company Pension Plans, Public Pensions, and Retirement Behavior of the Elderly in Japan

Atsushi Seike

12.1 Introduction

As the proportion of older people in the Japanese population increases, the need for employment of the elderly also increases, for two reasons. First, an adequate ratio must be maintained between the number of pensioners and the number of pension taxpayers within the public pension system in order to keep the system financially healthy. Second, the size of the younger workforce will decline after the mid-1990s. To cope with the possible consequent labor shortage, we will need more labor supply from the older segment of the population.

The reality, however, is that more and more older workers have been retiring early in the past three decades. Figure 12.1 shows that the labor force participation rate among Japanese males aged 60–64 has been declining since the beginning of the 1960s. In 1962 it was around 83 percent, but toward the end of the 1980s it had declined to 71 percent, although there has been a small recovery in the past few years.

In fact, neither the employment system nor the pension system is consistent with the policy of promoting the employment of older workers in Japan. Among firms with 30 or more employees, 90 percent have mandatory retirement systems, and within these firms only 5.4 percent have a mandatory retirement age above the age of 60.¹ In addition, employers generally try to reduce the number of older employees even before they reach age 60 through several practices, such as early retirement options.²

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1. According to the Employment Management Survey conducted by the Ministry of Labor, about 71 percent of firms with mandatory retirement have a mandatory retirement age of 60, about 12 percent have one of 56–59, and about 12 percent have one of 55.

2. According to the Severance Payment, Pensions and Mandatory Retirement Survey conducted by the Secretariat of Central Labor Arbitration Board, about two-thirds (66 percent) of large firms with 1,000 or more employees have some kind of early retirement option.

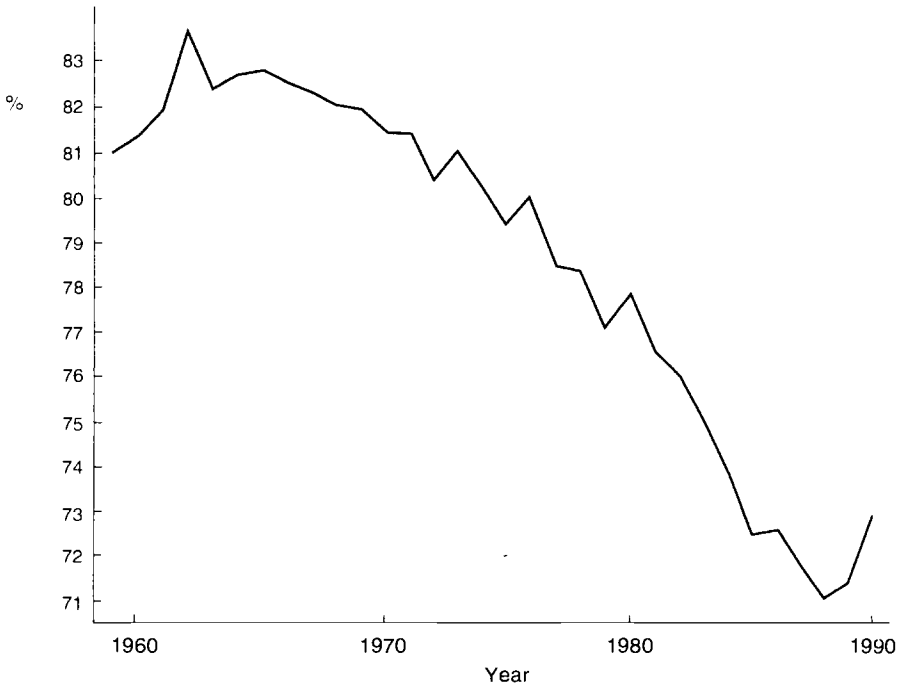


Fig. 12.1 Trend of labor force participation rate among males aged 60–64

Source: Management and Coordination Agency, *Annual Report on the Labor Force Survey* (Tokyo, 1960–90).

Furthermore, public pension policy may discourage older persons from continuing to work. Since the public pension plan has a rather strict earnings test, workers who are eligible for pension benefits cannot receive those benefits if their earnings exceed 250,000 yen per month. The typical male worker with a high school education who has contributed to the public pension plan for 32 years would have to forfeit a lifetime pension benefit equal to 10 percent of his annual salary each year if he worked full-time making more than 250,000 yen per month (Seike 1991).

The aim of this paper is to examine to what extent the ongoing institutional structures in Japan are inconsistent with the recent attempt to promote the employment of the elderly. For this purpose, we focus on one aspect of employment practice concerning older workers below the mandatory retirement age and on one aspect of the public pension scheme for older workers after mandatory retirement from their first job. These two aspects are the company severance payments of large Japanese corporations and the earnings test for the public pension plan.

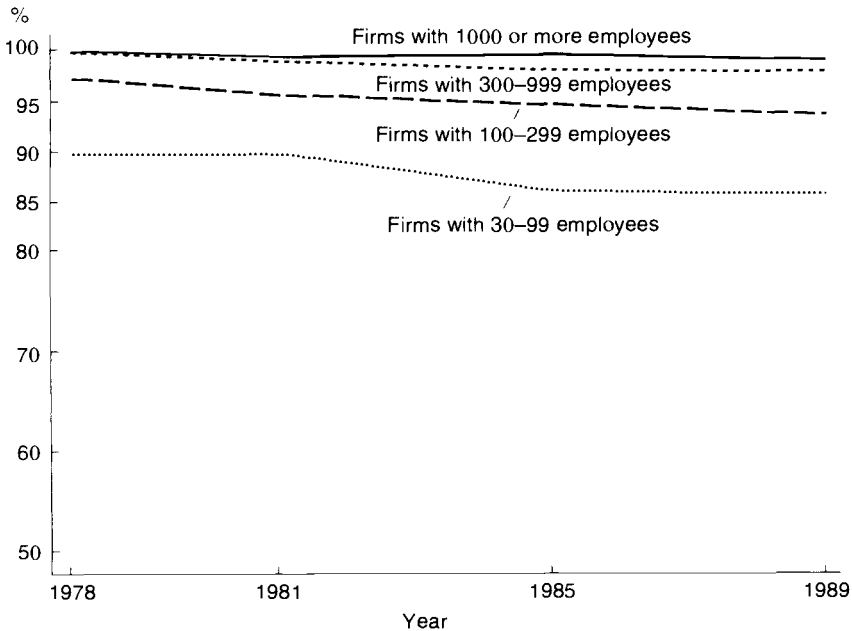


Fig. 12.2 Trend of proportion of firms with firm severance payments

Source: Ministry of Labor, *Retirement Allowance Survey* (Tokyo, 1978, 1981, 1985, 1989).

12.2 Company Severance Payments

A company severance payment is a payment from a company to an employee at separation. It is a very widespread practice among Japanese firms. Separations happen for one of two reasons—by the employee's quitting or through company discharge—and severance payments are made in both cases. The payment is usually more generous in the case of discharge.

Figure 12.2 shows the proportion of firms with severance payment options among firms with 30 or more employees. As shown in figure 12.2, almost 100 percent of large (1,000 or more employees) and large-medium (300-999 employees) firms offer severance payments. Even among medium-small (100-299 employees) and small (30-99 employees) firms, almost 90 percent offer severance payments.

The separation payment at the age of mandatory retirement, which is regarded as discharge or termination of the employment contract due to the employee's age, is the most generous such severance payment and is called the "retirement allowance." Figure 12.3 shows the average retirement allowance of workers retiring at the mandatory retirement age, broken down by educational level and length of service. Workers with a college degree and more than 35 years of service receive 24 million yen. This amount is equivalent to 44

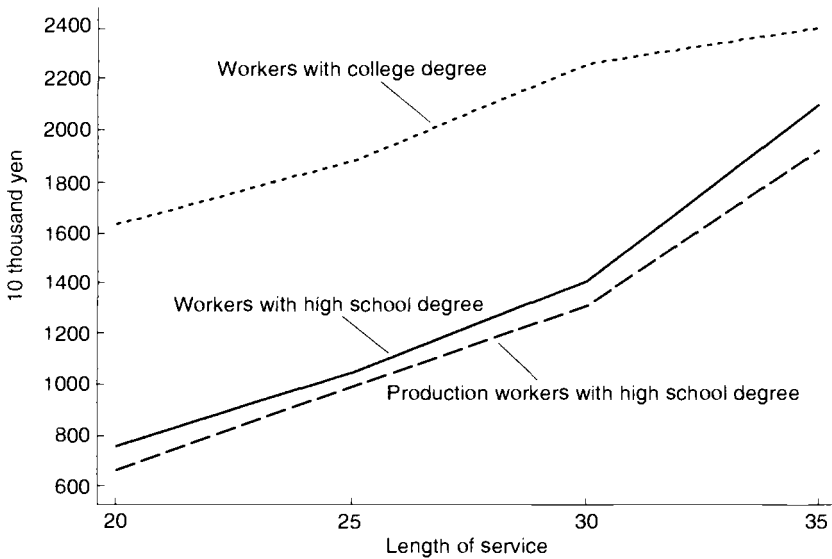


Fig. 12.3 Amount of retirement allowance by length of service

Source: Ministry of Labor, *Retirement Allowance Survey* (Tokyo, 1989).

months' salary at age 60. The amount of the payment clearly depends on the length of service, and payments increase disproportionately as the length of service increases. As the most extreme case in figure 12.3, a production worker with a high school degree who has more than 35 years of service will receive almost three times more than one who has 20–24 years of service.

These company severance payments, particularly the retirement allowance, are believed to be an important way for employers to encourage employees to stay with the same firm (e.g., see Odaka 1984). Lumsdaine and Wise (1994), however, described a conspicuous tendency among American employers to design company pension plans that encourage employees to leave the firm at the normal retirement age, which is designated by the employer. Japanese employers, who are legally allowed to institute a mandatory retirement practice, do not seem to have built this incentive into their companies' pension schemes.

Figure 12.4 shows company severance payments by age for regular workers with a college degree who have quit their companies. "Regular worker" is defined here to be a worker who joined the firm right after graduation from school (in this case from college) and who has been working for the same firm since. Thus, regular workers of the same age will have the same length of service. For example, regular workers who have a college degree and are 27 years old will always have 5 years of service, and those 55 years old will have 33 years of service. Here we observe company severance payments only in the case of employees who have quit because we are interested in the effect of the incen-

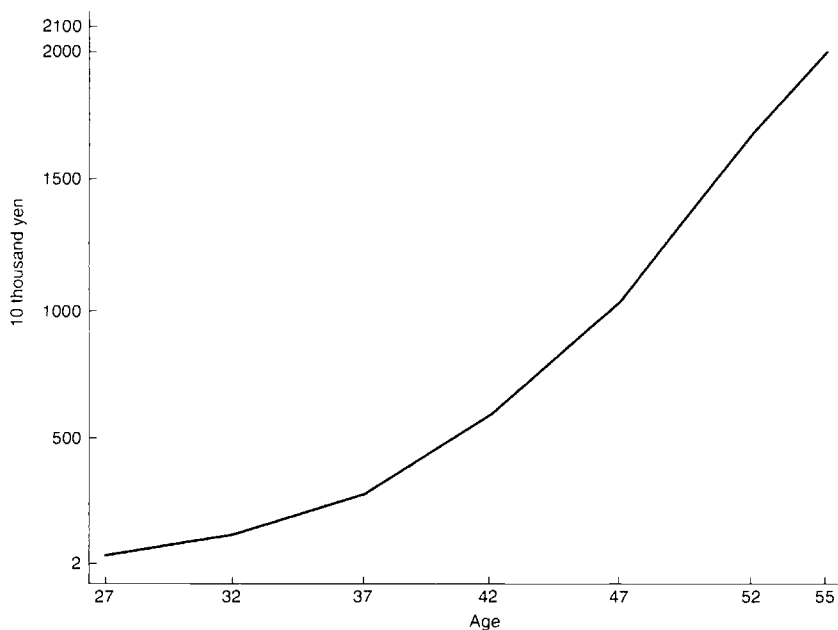


Fig. 12.4 Firm severance payment by age (regular workers with college degree)

Source: Secretariat of Central Labor Arbitration Board, *Severance Payment, Pensions and Mandatory Retirement* (Tokyo, 1992).

tive scheme of severance payments on the company attachment behavior of employees. No cases of separation by discharge are shown.

As seen in figure 12.4, the amount of the company severance payment increases as the employee ages within the firm. Thus the employee is rewarded for staying with the firm longer. Company severance payments certainly seem to be designed to promote employee attachment to the company.

Theoretically, however, firms that have age/tenure-related wage profiles may have an incentive to let employees leave when their wages exceed their marginal productivity (see Lazear 1982). In fact, in the current recession, many interesting casual observations suggest that Japanese employers are willing to let their middle-aged and older managers leave before the mandatory retirement age.

Figure 12.5 shows the ratio of company severance payments by age for regular workers who have quit compared to those who have been discharged. This ratio should always be smaller than 1, and the gap between severance payments for workers who have quit and those for workers who have been discharged can be regarded as the penalty for quitting. The company severance payment in discharge cases is the severance payment paid when the employer wishes to let the employee leave. If the ratio between severance payments for workers

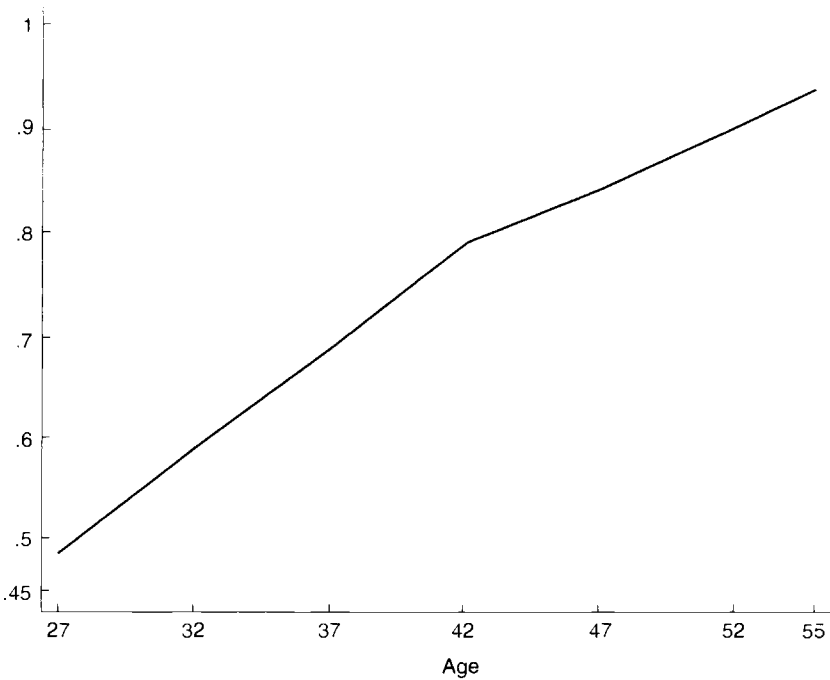


Fig. 12.5 Severance payments in quitting cases as a proportion of those in discharge cases

Source: Secretariat of Central Labor Arbitration Board, *Severance Payment, Pensions and Mandatory Retirement* (Tokyo, 1987).

who quit versus those for workers who are discharged equals 1, there is no motivation for employers to keep their employees or to penalize those who quit. In other words, the penalty for quitting should be zero when the ratio between firm severance payments for workers who have quit and those for workers who have been discharged is 1. As the employers' motivation to keep employees increases, the penalty becomes larger and the ratio becomes smaller. Figure 12.5 clearly shows that the proportion increases as the age of regular workers—that is, their length of service to the company—increases. The proportion goes up to 0.95 for regular workers aged 55.

This observation suggests that employers' motivation to encourage their employees to stay longer weakens as the employees get older. When regular workers reach age 55, employers have almost the same degree of motivation to let them leave the firm voluntarily as to discharge them. It seems that company severance payments in Japan encourage employees to stay longer while they are young but to leave when they get old. This hypothesis is examined in the next section.

2.3 Net Severance Payment Wealth

Kotlikoff and Wise (1985) calculated vested pension benefit wealth for U.S. company pensions. The same kind of calculation is not available in Japan because of data limitations and because most Japanese firms do not pay retirement allowances for employees who quit before the mandatory retirement age. Instead, as noted in the previous section, Japanese firms usually make severance payments to employees who quit. We can calculate “net severance payment wealth” by using the figures for these payments. There is a net gain in the amount of company severance payments if workers postpone quitting for one year.

Net severance payment wealth for regular workers is defined as

$$(1) \quad \text{NSPW}(a) = \text{SP}(a + 1) - \text{SP}(a) \times (1 + r),$$

where $\text{NSPW}(a)$ is the net severance payment at age a , $\text{SP}(a)$ is the severance payment at age a , and r is the market interest rate.³ If the principal and interest of the severance payment at age a is smaller than the severance payment at age $a + 1$, namely, if $\text{SW}(a + 1) > \text{SW}(a) \times (1 + r)$, the employee gains positive net severance payment wealth by postponing quitting for a year.

The data we used for calculating net severance payment wealth is from the Severance Payment, Pensions and Mandatory Retirement Survey conducted in 1985 and 1987 by the Secretariat of Central Labor Arbitration Board. These are the most detailed data currently available on company severance payments in Japan. One noteworthy limitation of this data set is that it comes from a survey only of large firms with 1,000 or more employees.

The observed company severance payment here, called the “model severance payment,” shows severance payments for workers who have quit. These are regular workers who joined the firm right after graduation from school and stayed with the firm until each observed age and length of service category. The age and length of service categories are observed as a pair. For example, they are observed as age 25 and 3 years of service, age 27 and 5 years of service, . . . , age 55 and 33 years of service, and so forth, for regular workers with a college degree. Therefore, both age and length of service are the same time variable, and here we just use age as the time variable.

Although age is categorized at two- or five-year intervals in this data set, we need severance payments by each age to calculate equation (1). To obtain that age through the age figures of firm severance payments, we must interpolate it from the age severance payments. Because the shape of severance payments is nonlinear, as seen in figure 12.4, we estimate the following quadratic equation as the firm severance payment function:

$$(2) \quad \text{SP}(a) = \alpha_0 + \alpha_1 a + \alpha_2 a^2 + u,$$

3. We used the government bond yield as the market interest rate.

Table 12.1 Estimated Results of Firm Severance Payment Functions

Industry and Type of Worker	Year	Constant	Age (<i>t</i> -value)	Age ² (<i>t</i> -value)	Adjusted R ²
Manufacturing					
Workers with college degree	1985	18,443.6 (4.54)	-1,346.53 (-6.57)	24.9618 (10.09)	0.9959
	1987	19,769.7 (7.73)	-1,425.32 (-11.05)	26.1744 (16.81)	0.9985
Workers with high school degree	1985	6,327.53 (4.43)	-599.823 (-7.86)	14.3442 (14.93)	0.9983
	1987	7,079.49 (6.70)	-651.216 (-11.53)	15.2529 (21.45)	0.9991
Banking					
Workers with college degree	1985	24,789.6 (1.83)	-1,723.15 (-2.52)	30.3828 (3.68)	0.9631
	1987	29,808.6 (3.82)	-2,028.04 (-5.16)	35.1522 (7.41)	0.9901
Railway and bus					
Workers with college degree	1985	23,847.7 (3.45)	-1,912.13 (-5.88)	37.9930 (9.05)	0.9959
	1987	21,700.5 (3.01)	-1,777.71 (-4.89)	36.0295 (8.20)	0.9953
Department store and supermarket					
Workers with college degree	1985	22,864.6 (3.36)	-1,607.15 (-4.67)	28.7393 (6.94)	0.9900
	1987	21,290.5 (3.49)	-1,514.01 (-4.92)	27.4003 (7.38)	0.9916

where $SP(a)$ is the firm severance payment at age a , $\alpha_0 \sim \alpha_2$ are parameters, and u is a normally distributed random term. Estimated results of severance payment equation (2) are shown in table 12.1. We estimated the equation by industry and by educational category for the manufacturing industry.

By using these equations, we can interpolate firm severance payments by age. Although equation (1) is the net severance payment wealth for one year, the interval of the survey data is two years. Therefore, we have to calculate net severance payment wealth as follows:

$$(3) \quad NSPW(a) = SP(a + 2) - SP(a) \times (1 + r)^2.$$

Thus $NSPW(a)$ actually calculated here is the net severance payment wealth gained by postponing quitting for two years.

Figure 12.6 shows the calculated net severance payment wealth of regular workers with a college degree in the manufacturing industry by age. As seen in figure 12.6, employees receive 100,000–1,550,000 yen of net severance payment wealth by postponing quitting for two years. The rate of increase of net severance payment wealth by age rises when employees are relatively young

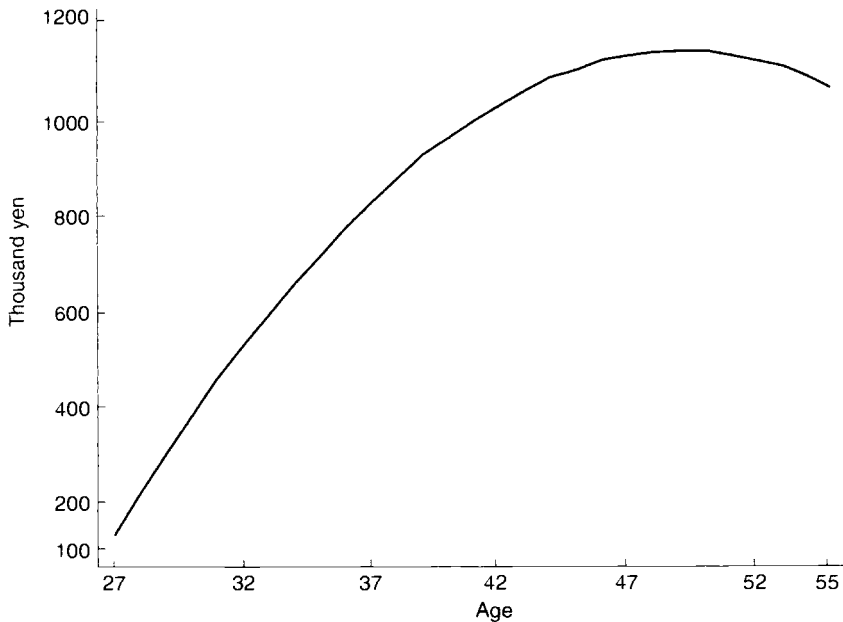


Fig. 12.6 Net severance payment wealth: regular workers with college degree in the manufacturing industry

and peaks in the mid-forties. After reaching this peak, the net severance payment wealth profile begins to decline.

Figure 12.7 shows the same calculated result of net severance payment wealth for regular workers with a high school degree in the manufacturing industry. Again the net severance payment wealth increases with age up to the mid-forties and begins to decline thereafter. Net severance payment wealth is distributed between 20,000–65,000 yen, a narrower range of distribution than for workers with a college degree, as shown in figure 12.6.

Figures 12.8, 12.9, and 12.10 show net severance payment wealth by industry for regular workers with a college degree. Figure 12.8 represents the banking industry, and unlike the manufacturing industry, net severance payment wealth increases steadily. Figure 12.9 shows the railway and bus industry, and figure 12.10 shows the department store and supermarket industry. For both these industries, net severance payment wealth peaks in the latter half of the thirties and the early forties and declines thereafter. Furthermore, net severance payment wealth turns out to be negative after age 50, and employees who postpone quitting for two years at age 55 have to sustain a 600,000-yen net loss.

The fact that net severance payment wealth is positive and increases in the earlier part of an employee's career within a firm suggests that employers have a growing motivation to keep employees in their twenties to mid-forties, when

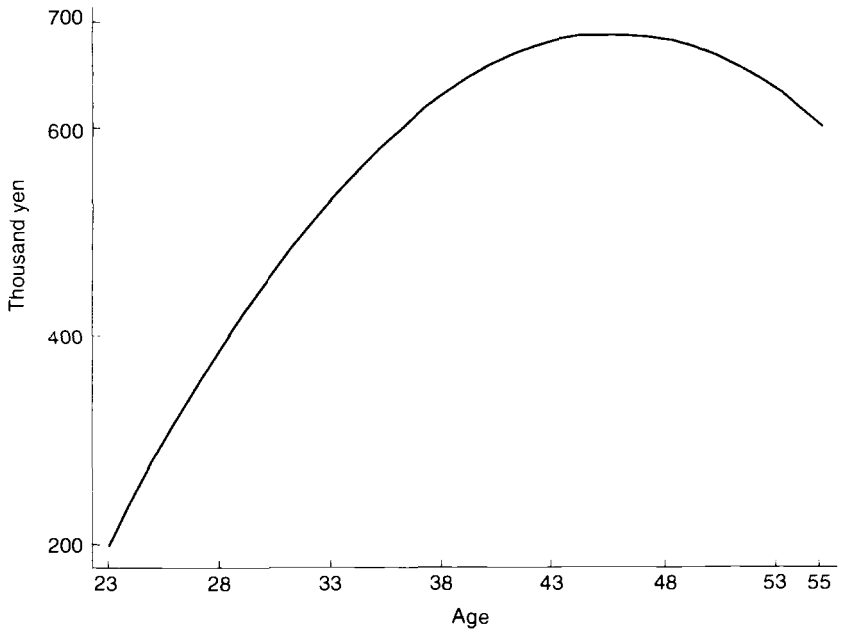


Fig. 12.7 Net severance payment wealth: regular workers with high school degree in manufacturing industry

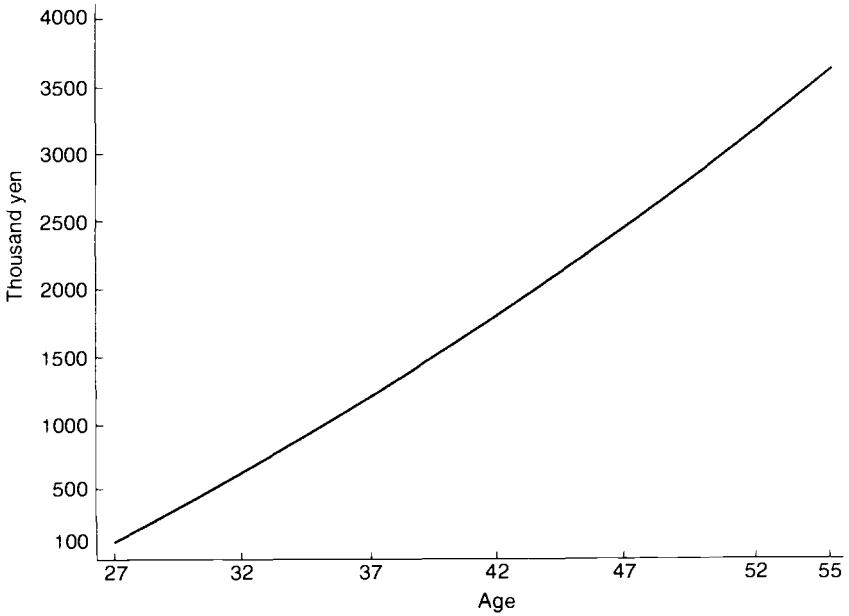


Fig. 12.8 Net severance payment wealth: regular workers with college degree in banking industry

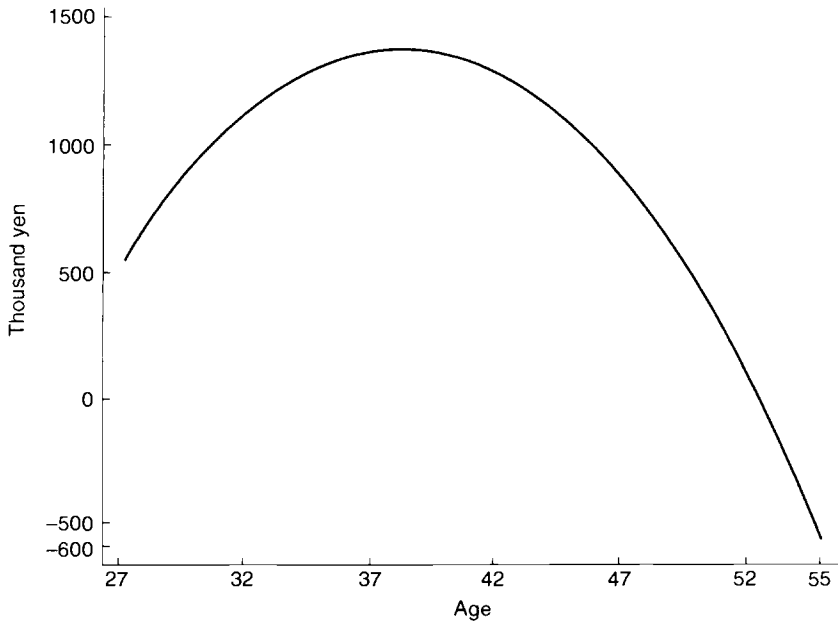


Fig. 12.9 Net severance payment wealth: regular workers with college degree in railway and bus industry



Fig. 12.10 Net severance payment wealth: regular workers with college degree in department store and supermarket industry

the marginal productivity of these employees is more likely to exceed their wages in the long-term labor contract. The fact that net severance payment wealth begins to decline after the mid-forties is consistent with the theory that employers' motivation to keep their middle-aged employees decreases when the wages of these employees are more likely to exceed their marginal productivity. In some industries, net severance payment wealth is even negative for workers aged 50 and over. This fact suggests that employers in some industries have a motivation to let their older workers leave the firm before mandatory retirement.

One curious case shown above is the banking industry, in which net severance payment wealth increases steadily up to age 55. Does the banking industry have a strong need to keep its older employees? On the contrary, it is a well-known phenomenon that in large banking firms, only several selected managers can survive after age 50. Most of the other workers aged 50 and over are transferred to other firms with which the banks have enough influence to force the hiring of these ex-employees. One possible explanation for the inconsistency is that the extensive use of this transfer practice gives employers in the banking industry room to cut an expensive middle-aged workforce without encouraging voluntary leave. And if only selected employees can be kept within a bank as higher-level managers, it is even wise for the employers to maintain a severance payment scheme that fosters strong loyalty and attachment to the bank in the remaining employees until their retirement.

The above results may have two implications. First, they reconfirm the theory that the firm severance payment is designed to encourage employees to stay longer, at least during the earlier part of their career within a firm. Second, it confirms that this characteristic of the firm severance payment—its use to promote firm attachment among employees—begins to weaken after workers are in their forties. Indeed, in some industries, firm severance payment schemes are designed to encourage employees to leave early, when they reach their fifties.

12.4 The Effect of Public Pensions on Labor Supply

Although in some cases described above firm severance payments give employees an incentive to leave the firm before the age of mandatory retirement, employees' jobs are usually guaranteed up until the mandatory retirement age. Now more than 80 percent of firms with mandatory retirement set the mandatory retirement age at 60. However, employment conditions for workers who are searching for second job opportunities beyond age 60 are relatively bad. For example, an average monthly wage may be as low as half of the employee's previous wage.⁴

4. Average monthly wages for a male worker with 1–2 years of service aged 60–64 are about 210,000 yen, whereas those for workers with 30 years of service aged 55–59 are about 420,000 yen.

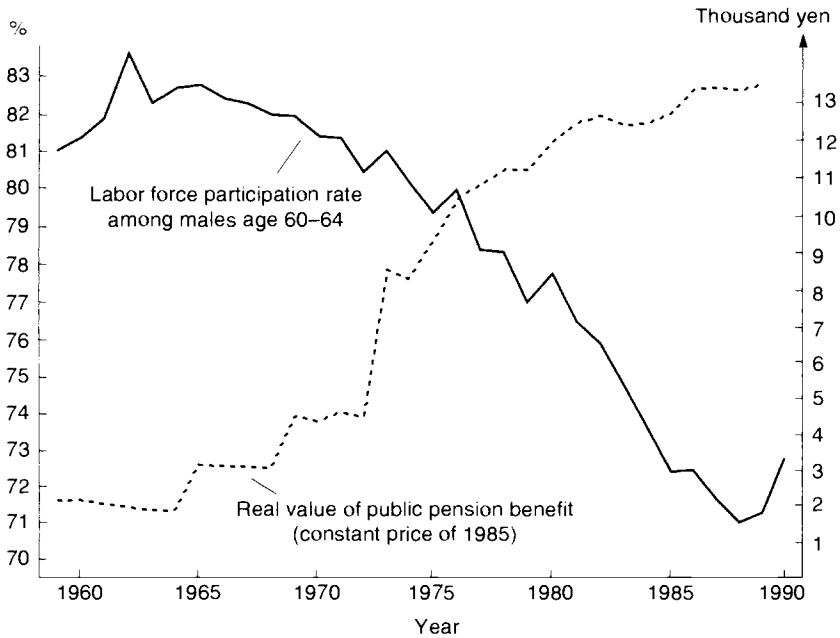


Fig. 12.11 Contrast between trend of labor force participation rate and public pension benefit

Sources: Social Security Agency, *Annual Report* (Tokyo, 1959-90); Management and Coordination Agency, *Annual Report on the Labor Force Survey* (Tokyo, 1959-90).

These undesirable employment conditions undoubtedly discourage older workers who are 60 years old or over from continuing to work. On the other hand, conditions that enable older workers to retire at age 60 and over have been established in the past two decades. Figure 12.11 shows the sharp contrast between the declining labor force participation rate among older males aged 60-64 and the improvement of public pension benefits in Japan in the past several decades. Particularly remarkable is the increase in the real benefit of public pensions after 1973, when the Japanese Ministry of Welfare substantially revised the pension system. This revision introduced an indexation of past wages, which is the principal determinant of public pension benefits, and introduced an indexation of the determined benefit level to allow the real value of future benefits to keep up with inflation.

The "model public pension benefit" for regular workers who have paid tax to the public pension system for 35 years is now about 220,000 yen per month. This is about 65 percent of the average monthly wage, not including bonus payments. Although this amount does not seem to be enough to live a comfortable life, pensioners are at least able to refuse undesirable jobs with low wages and are able to retire on their public pension benefits.

Table 12.2 Empirical Results of the Labor Supply of the Elderly

Variable	Participation Function	Market Wage Function
Constant	4.142 (11.348)	1.263 (4.321)
Age	-0.017 (-8.378)	-0.028 (-5.803)
Health dummy	-0.331 (26.861)	-0.282 (-4.935)
High school dummy	0.037 (2.745)	0.391 (15.438)
College dummy	0.087 (2.616)	0.670 (12.333)
Social Security eligibility dummy	-0.153 (-11.429)	
Other nonearned income	-0.0002 (-4.386)	
Mandatory retirement dummy	-0.177 (-13.103)	-0.361 (-8.298)
Tokyo metropolitan residence dummy	0.056 (3.688)	0.211 (7.338)
Lambda		0.544 (5.143)
Sample size	7,014	4,559
Log-likelihood	-3859.3	
Adjusted R^2		0.1273 ($F = 96.073$)

Source: Seike (1989).

The impact of the public pension on labor supply behavior has already been confirmed by a cross-sectional study. Table 12.2 shows estimated results using Heckman's labor supply model for older male workers in Japan. Table 12.2 has two parts: (1) the estimated result of the probit function of the labor supply, which includes a public pension eligibility variable, which is free from the simultaneous bias that the pension benefit variable has, and (2) the estimated result of the market wage function, which is free from sample selection bias by including the lambda variable, which eliminates the bias (Heckman 1979).

As seen in table 12.2, all parameters were estimated in a statistically significant fashion, and eligibility to receive pension benefits reduces the possibility of labor force participation by 15 percent. It is clear that the public pension has a significant negative impact on the labor supply.

The effect of the public pension on the labor supply includes not only the income effect of benefits but also the effect of the earnings test, which may discourage labor supply more than the income effect alone would. The public pension system has an earnings test, which is not an implicit tax scheme like the U.S. Social Security System, but a lump-sum tax at several pensioner earn-

Table 12.3 Earnings Test of Public Pension System in 1983

Earnings (thousand yen)	Rate of Reduction (%) = Lump-Sum Tax Rate on Benefits
0	0
-95	20
95-130	50
130-155	80
155+	100

Source: Health and Welfare Statistics Association, *Trends of Insurance and Pension* (Tokyo, 1985).

ings levels. For example, in the scheme that was used until 1985, public pension benefits had to be reduced by 20–100 percent depending on the earnings level of the pensioner (table 12.3). This lump-sum tax makes the budget line of pensioners kinked as in figure 12.12. In figure 12.12, suppose the original budget line of a person is OE (market wage rate is w). The person becomes eligible to receive public pension benefits, and the full pension benefits for the person, shown as OA, may shift his or her budget line from OE to AE'. However, the earnings test described in table 12.3 makes this person's budget line like AA'BB'CC'DD'E.

The kinked budget constraint shown in figure 12.12 may allow pensioners to reach an equilibrium at a kinked point of the budget line, for example, point B. This means that the beneficiary chooses to reduce labor supply to avoid the lump-sum tax at the earnings level of 95,000 yen per month. We confirmed the equilibrium of public-pension-eligible workers at the kinked points in a previous study.

Figure 12.13 shows the earnings distribution of public-pension-eligible and noneligible workers in 1983.⁵ The earnings distribution of public-pension-eligible workers has a clear mode at the earnings level of 90,000–100,000 yen per month, which corresponds to the kinked point of the budget constraint, beyond which pension-eligible workers had to pay 50 percent of a lump-sum tax on their pension benefits. Because the earnings distribution of noneligible workers does not have this shape, the characteristics of the earnings distribution of pension-eligible workers could be regarded as singular. This shows that there was a clear effect of the earnings test on the labor supply behavior of public-pension-eligible workers under the earnings test scheme of 1983.

12.5 The Revision of the Earnings Test

The effect of the earnings test on the labor supply may not be consistent with the current policy that attempts to promote the employment of older people in

5. We controlled the data to include only workers in good health and with mandatory retirement experience from their previous job.

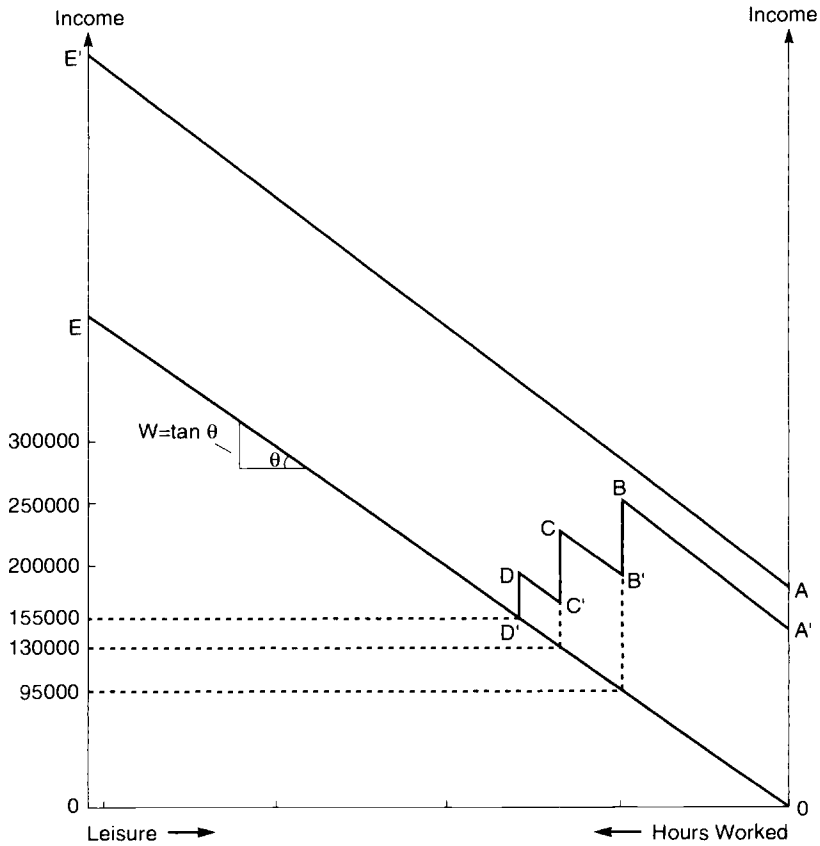


Fig. 12.12 Budget constraint line of public-pension-eligible workers under earnings test scheme in 1983

Japan. Although the improvement in public pension benefits that enables older workers to retire is an important achievement of our society, it is not necessary to discourage the working incentive of older people excessively by the lump-sum tax of the earnings test. We need to have a more neutral earnings test scheme so as not to unduly influence labor supply behavior.

Of course the earnings test does not always cause an equilibrium of public-pension-eligible workers at the kinked point that corresponds to earnings of 95,000 yen, as described in figure 12.13. The equilibrium point depends particularly on the full level of pension benefits for pensioners. For example, if the full level of pension benefits is small enough, as shown in figure 12.14, the point C or D could be chosen as the equilibrium point. However, it is not adequate for us to reduce the level of original full pension benefits in order to

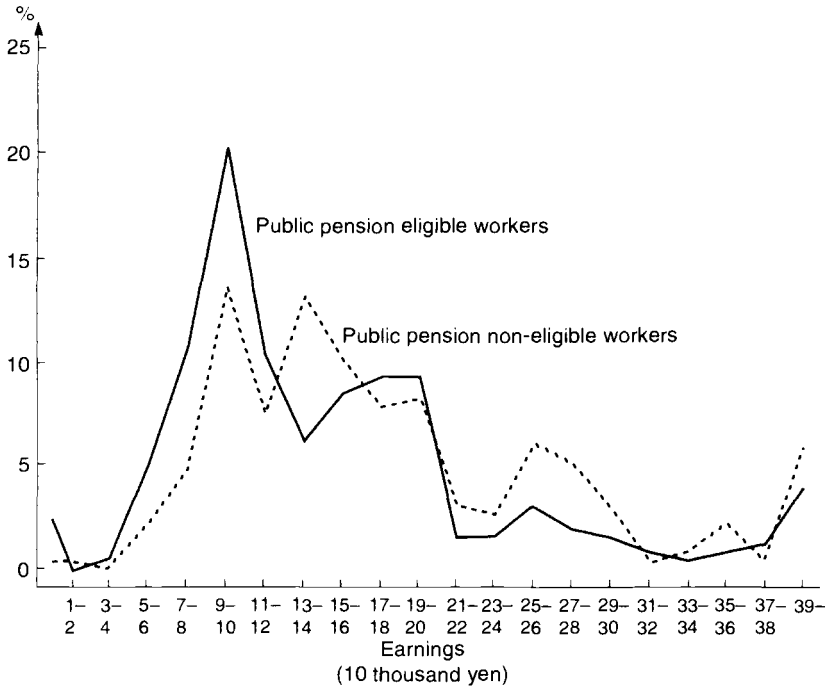


Fig. 12.13 Earnings distributions of public-pension-eligible workers and noneligible workers in 1983

minimize the likelihood that an individual equilibrium will fall at one of kinked points of the budget line corresponding to lower earnings levels.

The other way to minimize the influence of the earnings test is to subdivide the its steps. In fact, the Ministry of Welfare revised the earnings test scheme in this way in 1985. The revised scheme is shown in table 12.4. The graduations in the earnings test were increased from three steps under the previous scheme to seven steps under the revised scheme.

According to this revised earnings test the budget line of the public-pension-eligible person is as shown in figure 12.15. Unlike the three steps in the budget line in figure 12.12, which is based on the previous earnings test scheme, the budget line of an eligible person under the revised earnings test scheme becomes more precise, as described by AA'BB'CC'DD'EE'FF'GG'HH'J in figure 12.15. As figure 12.15 shows, it is not only the kinked point B that represents lower earnings but also the kinked points C to H, which, corresponding to higher earnings, could be chosen as equilibrium points of public-pension-eligible workers, although the reward for working past point B is still very small.

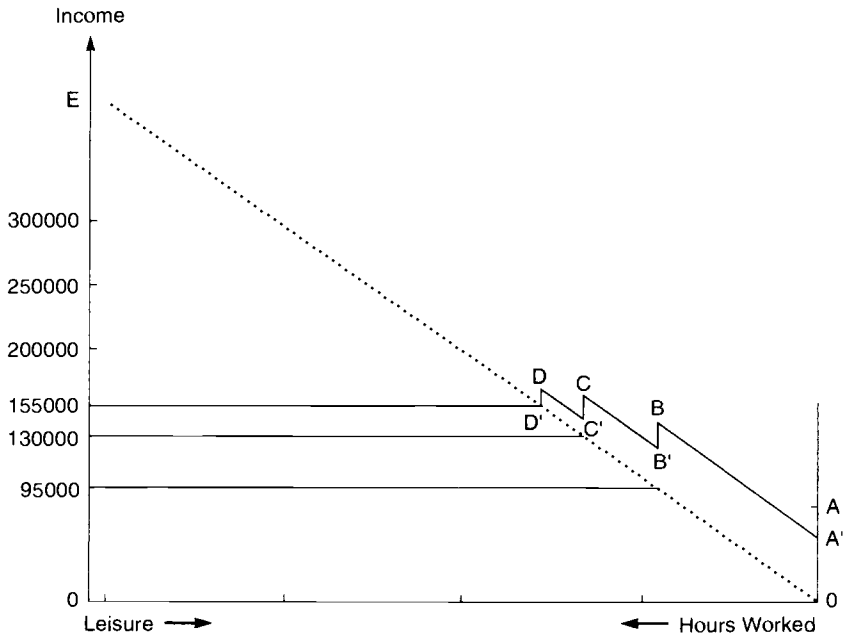


Fig. 12.14 Budget constraint line of public-pension-eligible workers with relatively low level of full pension benefit

Table 12.4 Earnings Test of Public Pension System in 1988

Earnings (thousand yen)	Rate of Reduction (%) = Lump-Sum Tax Rate on Benefits
0	0
-95	20
95-114	30
114-138	40
138-165	50
165-185	60
185-210	70
210-250	80
250+	100

Source: Health and Welfare Statistics Association, *Trends of Insurance and Pension* (Tokyo, 1985).

If the distribution of equilibrium points of public-pension-eligible workers becomes more widely spread under the revised scheme than under the previous scheme, the distribution of earnings should also be more widely spread than it was under the previous scheme, as shown in figure 12.13.

Figure 12.16 is the earnings distribution of working pensioners in 1988. The

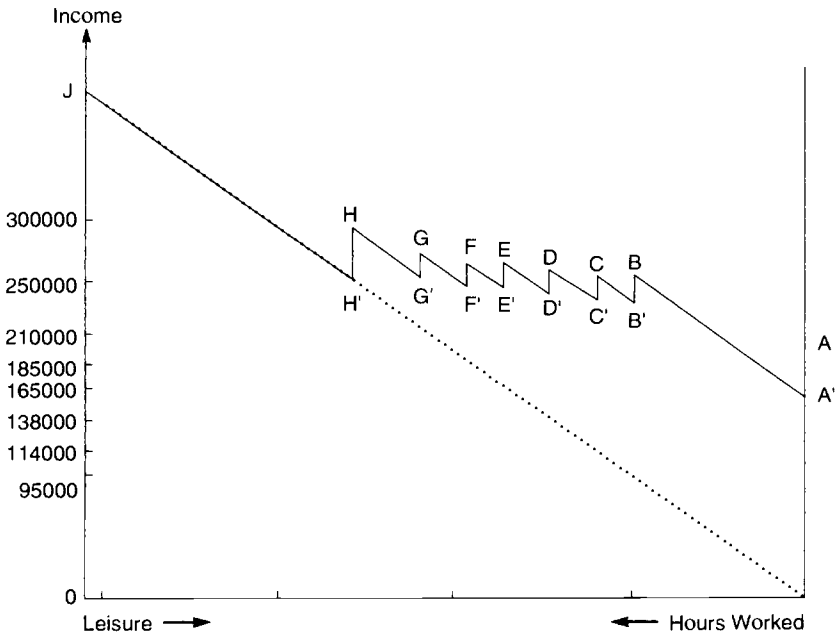


Fig. 12.15 Budget constraint line of public-pension-eligible workers under revised earnings test scheme

data we used to make the distribution here are from the Survey on the Working Situation of the Elderly (1988) conducted by the Ministry of Labor. Unfortunately, unlike those from the previous survey in 1983, which we used to describe the distribution of public-pension-eligible workers shown in figure 12.13, the data from 1988 do not identify public-pension-eligible workers but only workers who are actually receiving pension benefits. The distribution of earnings of working pensioners under the revised earnings test scheme has a clear mode at the earnings level 90,000–100,000 yen, which is quite similar to that of pension-eligible workers in 1983. This suggests that the revision introduced by the Ministry of Welfare to reduce the likelihood of equilibria at the kinked points corresponding to lower earnings had little effect on the labor supply behavior of public-pension-eligible workers. This difficulty may be that the revision provided a very limited increase in reward for working beyond the first kinked point of the budget line (point B of figure 12.15).

12.6 Conclusions

It is important for us to promote more employment of older people in order to cope with the growing number of elderly in the years to come. But employ-

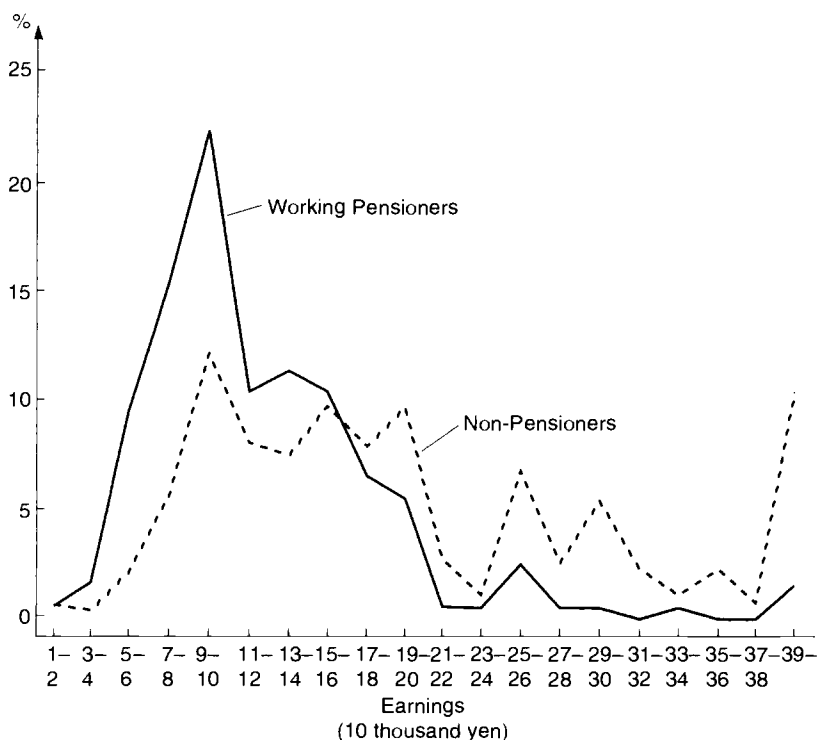


Fig. 12.16 Earnings distribution of working pensioners and nonpensioners in 1988

ment practice in Japanese firms—designed as an efficient instrument for focusing on younger workers within a pyramid-shaped population—has not utilized older workers and has not offered them attractive employment conditions so far. Also, public systems, including the public pension system, were designed when we did not need to promote the employment of older people.

In this paper we examined to what extent systems that were established under the old circumstances of the Japanese economy are disturbing the policy target under new circumstances. Of these systems we focused on firm severance payments and public pension policies.

Our analysis of firm severance payment policy suggests that employers are motivated to keep younger workers whose wages are relatively cheap and to let older workers whose wages have become expensive relative to their productivity leave the firm.

The Japanese public pension system has given older people the freedom to choose retirement in the past two decades. However, its earnings test scheme, particularly its lump-sum tax on pension benefits according to the pensioner's

earnings level, excessively discourages pension-eligible workers from supplying more labor. The 1985 revision that tried to minimize this negative effect seems not to have succeeded in its original purpose so far.

References

- Heckman, J. J. 1979. Sample selection bias as a specification error. *Econometrica* 47:153–62.
- Kotlikoff, L. J., and D. A. Wise. 1985. Labor compensation and the structure of private pension plans: Evidence for contractual versus spot labor markets. In *Pensions, labor and individual choice*, ed. D. A. Wise. Chicago: University of Chicago Press.
- Lumsdaine, R. L., and D. A. Wise. 1994. Aging and labor force participation: A review of trends and explanations. In *Aging in the United States and Japan: Economic trends*, ed. Y. Noguchi and D. A. Wise. Chicago: University of Chicago Press.
- Lazear, E. P. 1982. Severance pay, pensions, and efficient mobility. NBER Working Paper no. 854. Cambridge, Mass.: National Bureau of Economic Research.
- Odaka, Konosuke. 1984. *Labor market analysis* (in Japanese). Tokyo: Iwanami Shoten.
- Seike, Atsushi. 1989. The effect of the employee pension on the labor supply of the Japanese elderly. Rand Note no. 2862. Santa Monica, Calif.: RAND Corporation.
- . 1991. Pension wealth and labor supply (in Japanese). *Economic Review* 42:12–20.