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Beyond Lifetime Employment*

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1. Introduction

The industrial world is now rapidly aging. Figure 1 shows the past trend and the future projection of the aging population among OECD countries. The degree of aging is measured by the proportion of the population who are 65 years old and over.

This aging population has two conspicuous features. First, when this phenomenon reaches its peak, the proportion of older people in the industrial world will reach an unprecedented magnitude. It is expected that the proportion of people aged 65 years old and over will reach around 20–25 percent by the year 2020. Second, the speed at which the aging population has increased in the industrialized countries will accelerate still further in the future.

This rapidly aging population will increase the necessity for the employment of older people for several reasons. First of all, in order to keep the public pension system financially healthy, we need to keep an adequate ratio between the number of pensioners and the number of pension contributors within the public pension system. The increase in employment of older people will ameliorate this problem.

Furthermore, the size of the younger workforce will decline proportionately in the first two decades in the 21st century. To cope with the future labor shortage resulting from the declining younger population, employers will have to rely considerably on the labor supply from the older population.

This paper examines the possibilities for promoting the employment of older people. The feasibility of this will depend fundamentally upon the supply of and demand for an older workforce. On the labor supply side, the labor force participation rate of older people in the industrial world has been declining for a quarter century. Will older people increase their participation in the labor force in the future?

On the labor demand side, employers have been reluctant to employ older people so far. Will employers change their attitude and increase their employment of older people in the future? What reforms are necessary in the employment system and government policy to promote the employment of older people hereafter?

These questions are discussed in the following sections, and although they are raised for the whole of the industrial world, the analysis mostly focuses on the case of Japan. This is not only because the author is a researcher based in Japan, but also because the aging population is particularly conspicuous in Japan, as described below. The implications from the analysis of the Japanese case can apply to the rest of the industrial world.

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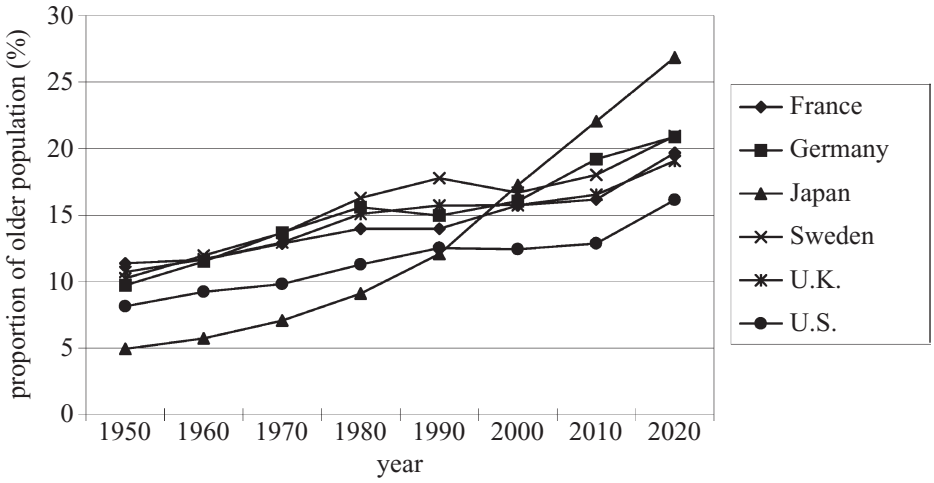

Figure 1: Proportion of the older population in the industry world
Source: National Institute of Population and Social Security Research (1998).

2. The aging population in Japan

As seen in Figure 1, Japan has had a relatively low proportion of older people so far, although it has caught up with other countries in recent years. In the future projection it can be seen that the proportion of older people in Japan will soon rise above that of other countries around the year 2000. After that point, the proportion of older people in Japan will increase quite rapidly and will reach more than 25 per cent of the whole population in 2020, which will make it one of the highest proportions of older people among OECD countries.

Figure 1 also shows that the speed at which the population is aging is faster in Japan than in other countries. Japan has increased its proportion of older people by 10 per cent within the past four decades, while its European counterparts increased this proportion by 5 per cent in the same period of time. In other words, the speed of aging in Japan has been double that of other OECD countries. And because the proportion of older people will increase by another 10 per cent within the coming 25 years, the speed of aging in Japan will accelerate even more.

This aging population has already had an effect on Japanese society. The number of pensioners who receive the public pension (social security for employed workers) increased from 0.5 million in 1970 to more than 7.5 million in 1997 (Social Insurance Agency, 1997). This, of course, is expected to increase more rapidly in the years to come given the projection of an increasingly older population in Japan.

While this sector of the population increases as described above, the opposite side of the coin is the drastic decline in the number of the younger population. Figure 2 shows the past trend and the future projection of the older and younger population in Japan. The number of people aged 20–29 was about 19 million in 1995, an increase of 2 million from 17 million in 1990, mostly because of the children of the baby boom. It will then drastically decline by almost 7 million to just 12.5 million by 2015. This will mean a decline of one-third of the level of the population for this age group in 1995. In contrast, the number of people aged 60–69 was about 14 million in 1995 and will increase by 4 million to 18 million by 2015.

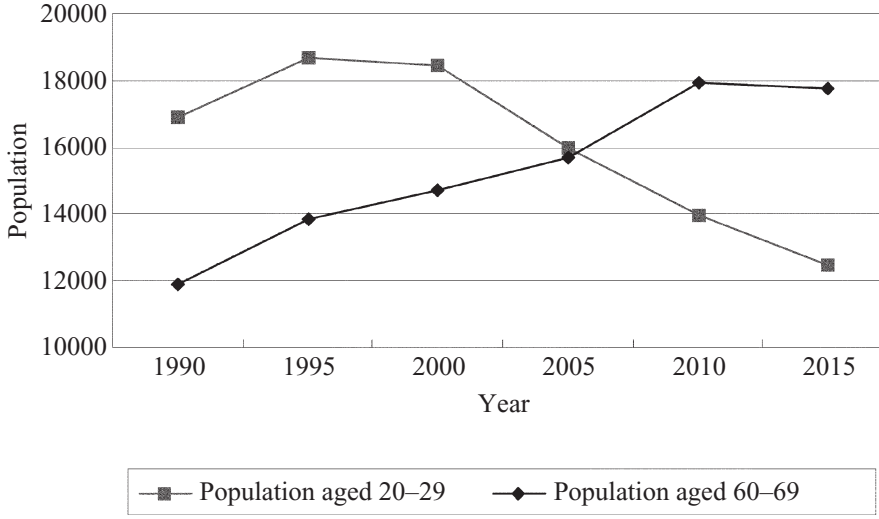

Figure 2: Trend of the older population and the younger population
Source: National Institute of Population and Social Security Research (1997).

As the younger population declines, the younger labor force is expected to decline unless, correspondingly, there is an unlikely social change such as, for example, a drastic reduction in the college attendance rate among younger people which causes a jump in labor force participation.[1] It is therefore important to promote the employment of the older population in the business community since companies will need to utilize older workers to cope with the shortage of a younger workforce, and society as a whole will need to ensure a financially healthy pension system.

3. The labor supply of older people

The employment of older people is determined by the interaction of their labor supply and demand. It is therefore essential to know about the labor supply of older people to analyse the feasibility of promoting their employment.

The following two sections describe the basic characteristics of the labor supply of older people in Japan. Although the labor supply of older women is by no means negligible, the focus here will be on that of older men for statistical reasons. Women of the older generation have limited experience of working as full-time employees. Therefore the number of older women who are fully eligible for employed workers' public pension benefit is correspondingly small. It would thus be difficult to include the labor supply of older women to examine the effect of the public pension on employed workers, which is the main theme of the next section.

The labor supply of older people in Japan has special characteristics compared to their

[1] Although the college attendance ratio has been stable in the past 15 years, it started to increase again in recent years according to the Ministry of Education (1995).

counterparts in other OECD countries. Table 1 shows the labor force participation rate of men aged 60–64 in the OECD countries. It is clear that the participation rate of older people in Japan is far higher than that of other OECD countries. The rate for Japanese males aged 60–64 years old is 75 per cent, whereas the rate for its USA and UK counterparts is around 55 per cent, and its European counterparts is 20–40 per cent. The level of labor force participation among older Japanese people is about one and a half times that of the U.S. and the U.K. and three to four times that of Germany and France. It could be said that older Japanese men have a much higher willingness to continue working beyond the age of 60.

Note that the pension eligibility age of 60 for employed workers in Japan is even lower than that for most other countries, where it is usually 65 (although in these cases there are special options to receive benefits earlier than the formal eligible age).[2] In recent years, the Japanese public pension system has provided at least the same dollar value benefit as those of other OECD countries (Ministry of Welfare, 1995). Therefore the high labor participation rate of older people in Japan cannot be blamed on the poor pension benefit in Japan.

The natural interpretation of the internationally high participation rate of Japanese older people is that they have a greater desire or willingness to continue working despite having the same pension benefits for retirement as their counterparts in other OECD countries. This can be viewed as fortunate for Japanese society, in a sense, because older people in Japan wanting to stay in the workforce create added value for society, whereas if they retired, the increased pension benefit they would claim would cause more burden on society.

The proportion of older people in the Japanese workforce has declined, however, in the past three decades. The labor force participation rate of men aged 60–64 declined from 84 percent in the 1960s to 71 per cent at the end of the 1980s, a 13 per cent decline within three decades. In the past five years however, this downward trend seems, yet again, to have been reversed. The labor participation rate of men aged 60–64 has increased from 71 per cent in 1988 to 75 per cent in 1998. If this change in trend continues, Japan should expect to keep its internationally higher labor force participation rate of older people in the future.

Table 1:
The labor-force participation rate of men aged 60–64 in the major OECD countries

Country	**Per cent**
France	16.7
Germany	29.2
Italy*	31.4
Japan	74.5
UK**	52.2
USA	54.5

Source: ILO (1998).
Note: * as of 1994; ** as of 1993.

[2] In Europe, France keeps its pension-eligible age at 60.

Suppose this rate of men aged 60–64 were to remain at its current level of 75 per cent in 2015. The expected labor supply is calculated by the product of the expected population and the estimated labor force participation rate. There will be about 3.1 million men aged 60–64 in the workforce in 2015. If the labor force participation rate of men aged 60 to 64 increases 80 per cent that year, then the labor force for that age group would be about 3.3 million. If the rate declines again to the level of the late 1980s, however, there would be 2.9 million in the workforce. This means that a 10 per cent difference in the labor force participation ratio would result in an approximate difference of 0.4 million men in the labor force aged 60–64 in 2015.

On the other hand, it is expected that the male workforce aged 20–24 will decline from 3.8 million in 1995 to 2.3 million in 2015, a decline of 1.5 million, if their current labor force participation rate of 75 per cent keeps stable. From this point of view, it is desirable for Japan to keep or to increase the higher level of labor force participation of its older population in the future, even though it will not be enough to compensate for the decline of the younger workforce. Of course whether this scenario will be realized or not will depend upon the labor supply behavior of older people in the future.

4. The impact of public pensions and labor supply

There are many factors that determine the labor supply behavior of older people including preference for leisure time and such labor conditions as wage rate and working hours. One of the most important factors that has determined the labor supply of older people in recent years, however, is their public pension. This is also important in the context of the debate about whether society should provide more jobs or more social security in order to maintain the well-being of the relatively younger group of older people in their early 60s.

In order to examine the impact of the public pension scheme, let us look at the trend of labor supply and public pension benefit as seen in Figure 3. The longitudinal labor force statistics divide the age groups of the older population into 60–64 years old, and 65 years old or over. Since there is a "natural declining trend" for the age group 65 years old or over because of the inclusion in this group of the extremely aged who would not be working anyway, use of this age group would not produce clear data. The focus is therefore on the age group aged 60–64 who are less affected by the "natural decline".[3] Figure 3 shows that, up to the end of the 1980s, there was a decline in the labor supply of men aged 60–64 for at least a quarter of a century in Japan, as mentioned previously. There are several reasons which can explain this downward trend of labor force participation for older people. One is the decline of self-employed workers among the older population. Self-employed workers are not forced by mandatory retirement to leave the workplace and are able to make their own decisions about adjusting their working schedule depending on their preference for leisure time. This group thus tends to continue working until a later age than employed workers.

The decline in the proportion of the self-employed among the older population therefore reduces older people's participation in the workforce. In fact, the proportion of self-employed among the older population declined particularly in the 1960s, mainly because of the drastic drop in the farming population.

After the mid-1970s, however, there was a more important factor which contributed to the downward trend. Japan substantially improved public pension benefits for employed

[3] In fact, the labor force participation ratio of men aged 65 years and over declined from 56.4 per cent in 1963 to 37.7 per cent in 1993 as the proportion of very old increased among the age group.

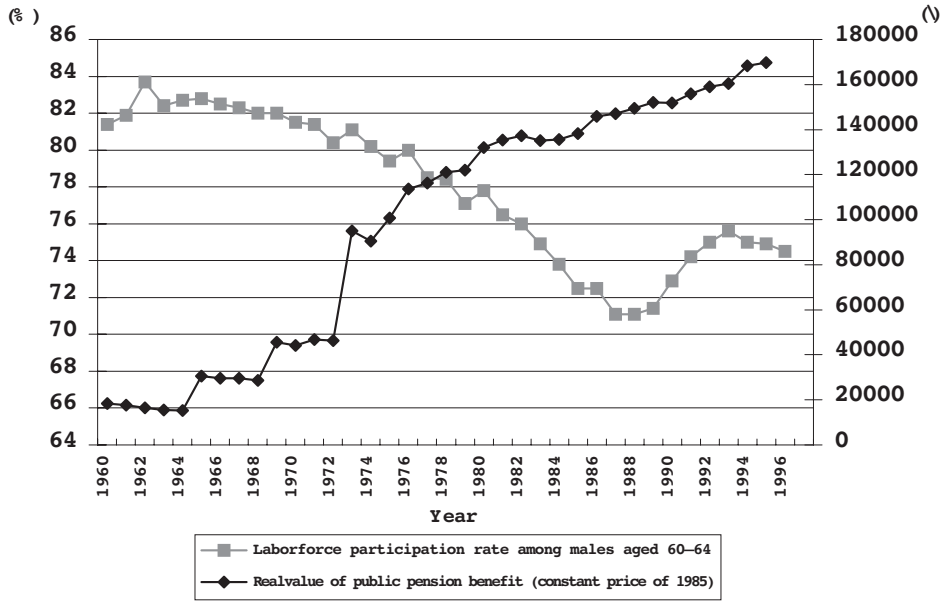

Figure 3: Trend of the labor force participation ratio of older men and public pension benefit
Source: Social Security Agency (1959–97).

workers in 1973, when it made a major revision of its public pension system. Indexation was introduced for the retiring workers' past wages to determine the amount of their pension benefit at retirement. Following the determination of benefit level at retirement, benefits were index-linked in order to maintain the benefits' real value.

This revision caused a significant jump in pension payments as can be seen in Figure 3. Because the average benefit seen in the figure still includes beneficiaries with very low benefits being paid as a result of their short period of contributions, standard workers are receiving more benefit than shown in Figure 3. In fact, the so-called "model" benefit available to the career worker who continues working from the age of 18 through to 60 is higher now, at about 220,000 yen per month.

As can also be seen in the figure, there is a sharp contrast between the downward trend of older people in the labor force and the substantial improvement in the public pension benefit. This suggests that people who used to be unable to retire if this meant relying only on public pension benefits became able to retire through these improved benefits. Of course, this is arguable because this contrast could just be a historical coincidence. It is therefore necessary for us to conduct a more rigorous analysis to test the effect of the public pension on the labor supply of older people in Japan.

In order to examine this, the author conducted an econometric analysis with cross-sectional microdata[4] using the Heckman-type model of standard labor supply functions to

[4] For details, refer to Seike (1993) in Japanese or Seike (1989) in English. For Heckman's theory, see Heckman (1974).

estimate the labor force participation and the market wage equation together. The data used here comes from *The Employment Status Survey of the Elderly* (1993) by the Ministry of Labor.

Table 2 shows the results of the labor supply function (probit estimation of the par-

Table 2:
Estimated results of the labor supply model

Variables	**Participation function**	**Market wage function**
Constant	4.145	1.263
	(11.348)	(4.321)
Age	−0.017	−0.028
	(−8.378)	(−5.803)
Health dummy	−0.331	−0.282
	(26.861)	(−4.935)
High school dummy	0.037	0.391
	(2.745)	(11.438)
College dummy	0.087	0.670
	(2.616)	(12.333)
Public pension eligible dummy	−0.153	—
	(−11.429)	—
Other non-earned income	−0.0002	—
	(−4.386)	—
Mandatory retirement dummy	−0.177	−0.361
	(−13.103)	(−8.298)
Tokyo Metropolitan residence dummy	0.056	0.211
	(3.688)	(7.338)
Lambda	—	0.544
	—	(5.143)
Sample size	7,014	4,559
Log likelihood	−3,859.3	—
Adj-*R*- square	—	0.1273
		($F = 96.073$)

Source: Seike (1989).
Notes: The data used in this analysis were extracted from *The Employment Status Survey of the Elderly*; which was conducted by the Japanese Ministry of Labor in 1983. The sample population surveyed was chosen as representative of persons 55–69 years old by a two-phase sampling method. Participation: 1 if employed; 0 otherwise. Working hours = [(daily hours worked) × (days worked per week) × 52]/12. Market wage = (monthly earnings)/working hours. Age: Each individual's actual age. Health dummy: 1 if health problems exist; 0 otherwise. High school dummy: 1 if completed high school; 0 otherwise. College dummy: 1 if received college degree; 0 otherwise. Public-pension-eligible dummy: 1 if eligible to collect public pension; 0 otherwise (this includes all those who satisfy the months-of-contribution requirements). Other non-earned income: Non-wage income except public pension benefit. Mandatory retirement dummy: 1 if had experienced mandatory retirement; 0 otherwise. Tokyo Metropolitan residence dummy: 1 if living in the Tokyo metropolitan area; 0 otherwise. Lambda: inverse of the Mill's ratio. Figures in parentheses are *t*-values.

ticipation function). The coefficient of the indicator variable of the public pension eligibility (public pension eligibility dummy), which, from estimates, has been shown to be statistically significant, reveals a negative effect on the probability of labor force participation in the participation function. The magnitude of the effect shows that eligibility for public pension reduces the participation probability by 15 per cent. The negative impact which public pension has on the labor supply is quite consistent with micro-economic theory and with previous results found in the U.S. and in the U.K.

Table 2 also shows the impact of other variables on labor supply. The negative coefficients of the age variable (Age) and the health variable (Health dummy), which are the two most significant, and the mandatory retirement variable (Mandatory retirement dummy), can be attributed to the increasing preference for leisure time and the reduction in market wage. Coefficients of the education variables (High school dummy, College dummy) and the variable for residence in the Tokyo metropolitan area (Tokyo Metropolitan residence dummy) show a positive effect on the labor supply because they increase the market wage of older people.

In addition to the pension benefit effect, one aspect of the public pension scheme itself has an impact on the decision of workers eligible for a pension to continue working, particularly on those aged 60–64. This is the earnings test scheme which accompanies the public pension benefit for working beneficiaries aged 60–64. The scheme asks pension-eligible workers aged 60–64 to give up a proportion of benefit in relation to their earnings. In the previous earnings test scheme, eligible workers who earned more than 250,000 yen per month had to give up all the benefit given to them. Even for workers who were earning less than 250,000 yen a month, the pension benefit was reduced depending on their earnings to the extent that, ultimately, workers were only able to receive 80 per cent of their full pension if their earnings had become as low as 95,000 yen per month.

Figure 4 shows the effect of this scheme on the labor supply of men aged 60–64. A quarter of pension-eligible workers are working just at the point where their monthly earnings are about 95,000 yen, while those workers in this age group not eligible for pensions do not show such an earnings distribution.[5] This means that these pension-eligible workers reduce their labor supply so as not to exceed the ceiling of earnings that allows them to receive 80 per cent of their pension benefit.

Thus the labor supply of older people is clearly dependent on their eligibility for the public pension and its related earnings test scheme, as well as on available wage levels and their preference for leisure. Given this information, let me briefly forecast the future trend of the labor supply of older people in Japan.

In 1994, the Japanese Government revised the public pension system to include a moderation of benefit level, an extension of eligible age from 60 to 65, and a relaxation of the earnings test. The moderation of benefit level will be done by changing the method of indexing past wages of retiring workers. The system now indexes past wages based on the after-tax earnings of public pension tax-payers instead of before-tax earnings, which was the previous practice. The extension of the eligible age has been accomplished by introducing a new partial pension for those between the ages of 60 and 64 which provides about a half the full pension for those who would like to retire before age 65. As for the relaxation of the earnings test, the new scheme lifts the ceiling for collecting pension benefit from 250,000 yen

[5] The pattern of distribution between that of pension-eligible workers and that of non-eligible workers is significantly different by statistical test.

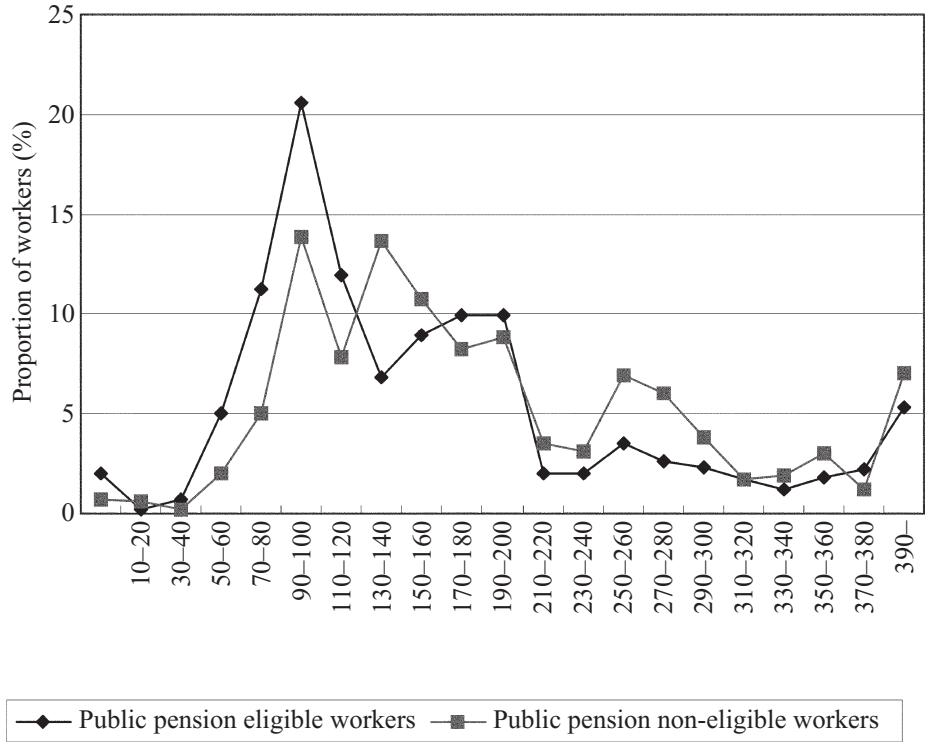

Figure 4: Earnings distribution for public-pension-eligible workers and non-eligible workers
Source: Seike (1989).

per month to 350,000 yen. Furthermore, under this new ceiling, the total income, that is earnings plus pension benefit, does not decrease as earnings increase.

This revision of the public pension system is expected to increase the labor supply of older people. Both moderating the pension benefit and raising the eligible age level will increase the probability of labor force participation. The relaxation of the earnings test will help those pension-eligible workers who have previously reduced the number of hours they work in order to avoid a large reduction in their benefit, and will thus increase the labor supply of pension-eligible workers.

The educational level of and healthcare for older people will improve in the future. These, along with the extension of the mandatory retirement age, will bring about a rise in their market wage. This improvement in wages for older people will also increase their labor supply.

5. The labor demand for older workers

On the labor demand side of the employment of older workers, there has been a substantial improvement in employment opportunities for workers up to the age of 60 in the

past decade. As seen in Table 3, the age for mandatory retirement, which on average used to be 55, became 60 in part because of a strong campaign by the Ministry of Labor. Now, almost 100 per cent of firms with mandatory retirement systems set 60 years of age (and over) as the mandatory retirement age.[6]

Continuation of employment in the same firm beyond the mandatory retirement age of 60, however, has not been practised so far. Only 10 percent of firms have a mandatory retirement age over 60. Table 4 shows the proportion of firms that have some kind of employment continuation after the mandatory retirement age or a re-employment program

Table 3:
The age of mandatory retirement

	Year			
Age of mandatory retirement	**1990 (%)**	**1995 (%)**	**1998 (%)**	**1999 (%)**
−54	0.5	7.6	3.3	0.5
55	19.3			
56–59	16.2	6.6	3.4	0.4
60	60.1	78.6	86.7	91.2
61–64	1.1	1.7	1.4	1.8
65	2.7	5.4	5.1	6.2
66–	0.0	0.1	0.0	0.0
60 and over	63.9	85.8	93.3	99.2

Source: Ministry of Labor (1999).

Table 4:
Proportion of firms with continuation of employment after mandatory retirement or re-employment programs

Size of firm (no. of employees)	**Continuation of employment (%)**	**Re-employment (%)**	**Both programs (%)**	**Total (%)**
Total	13.4	37.7	16.7	67.8
5,000 or more	0.6	54.2	6.3	61.1
1,000–4,999	3.8	48.5	6.5	58.8
300–999	8.2	46.7	11.7	66.6
100–299	12.9	43.0	15.1	70.9
30–99	14.6	34.4	18.2	67.1

Source: Ministry of Labor (1999).

[6] Mandatory retirement is defined as company-enforced retirement from one's first job, and does not necessarily mean retirement from the general workforce.

beyond the age of 60. Although the proportion of firms with programs is not small, the proportion decreases as the size of the firms increases. Furthermore, even among firms with these programs, many of these keep the right to select those who can remain. There are very few firms which automatically accept applications for job continuation or re-employment programs by workers.

There are too few opportunities for full-scale continuation of jobs for workers beyond the age of 60 to satisfy their labor supply, and therefore the labor market for older workers is more difficult than for other groups of workers. For example, the applicants for jobs/vacancies ratio for workers aged 60–64 was 0.06 per cent at the end of 1999 while the average ratio for all workers is 0.49 per cent. The unemployment rate for men aged 60–64 is more than 10 per cent now, over double the average unemployment rate for all men.

Under these circumstances, even those workers who find a "second job" after mandatory retirement from the first job cannot utilize their full ability and have to accept a sharp decline in the wage level. Table 5 shows the wage gap that exists between the money men are paid before and after the mandatory retirement age of 60. Comparisons are made between men aged 55–59 with 30 years' length of service and men aged 60–64 with zero years' length of service because when they are hired for the second job they are starting from zero.

Table 5:
Wage decline after mandatory retirement from first job

Age	Length of service	Firm size	Monthly wage (thousand yen)
55–59	30 years	All	489.1
60–64	0 years	All	229.0
55–59	30 years	Large firm	525.9
60–64	0 years	Small firm	221.1

Source: Ministry of Labor (1998).

As seen in Table 5, the wage level declines sharply by 50 per cent after the age of 60. Because there are very few job opportunities for older workers in large firms, one typical professional change at age 60 is from a large firm to a smaller firm. In this case, wages decline by almost 60 per cent after the age of 60. In any case, the labor conditions of older workers drastically change at the age of mandatory retirement.

The current situation could be changed if a concerted effort were to be made to promote the employment of older workers. This will be particularly so after 2000 when the Japanese Government will gradually start to extend pension eligibility age from 60 to 65, and it will be important to extend the mandatory retirement age to 65. What are the obstacles to extending the mandatory retirement age, and what kind of reform of employment practices should be undertaken to cope with the problem?

6. Why employers are reluctant to employ older workers

There are several reasons for employers' reluctance to substantially expand employment of their older workers by extending the mandatory retirement age.

First of all, particularly in recent years, there has been little necessity for employers to expand employment of older workers. Unlike the economic boom period of the "bubble economy", employers have actually been trying to reduce the total workforce, including those below the age of 60 and at least up until the mid-1990s, the number of young workers continued to grow. There will be no urgent necessity for employers to rush to employ older workers.

The other factors are institutional obstacles. The factor which most impedes employers from expanding the older workforce is the seniority wage system. It is certainly costly for employers to extend the age of mandatory retirement beyond 60 with a seniority wage scheme in which the wage levels are increased in part either by age or by length of service.

With the seniority wage system, employers and workers have made an implicit long-term contract.[7] This system, in which the company hires new school graduates, trains them and keeps them until mandatory retirement, is intended to balance the relationship between contribution and total wage in the long run. The company pays wages even to young people fresh from school while they undergo training programs. In return, they are asked to work for a lower wage, relative to their contribution or productivity from their late 20s onward, thus returning the training costs the employer has invested in them. Furthermore, through their 30s, as they maintain their productivity, they in effect lend funds to their employers by continuing to receive lower wages. Subsequently, however, the employer pays them higher wages relative to their actual contribution when they become middle-aged and older. This "balance sheet" between employers and workers is designed to be equal at the age of the current mandatory retirement age.

In order to extend the retirement age to 65 from the current 60 years of age, it is important to reduce the gap between the productivity and wages of middle-aged and older workers. Table 6 shows the results of a survey which asked firms about the feasibility of extending the mandatory retirement age to 65 depending on whether a gap existed between the productivity and the wage of their employees at the age of 55. As seen in the table, firms without a gap between productivity and wage for employees aged 55 say that they are more willing to extend their mandatory retirement age to 65 than those with such a gap. It is important, therefore, to make the wage profile less steep in order to extend the mandatory retirement age to 65.

Table 6:
Feasibility of retirement at age 65 and the gap between productivity and wage at age 55

Is it possible to extend retirement age to 65?	**Percentage of firms with positive, zero and negative gaps between wage (W) and productivity (P) at age 55**		
	$W > P$	$W = P$	$W < P$
Possible	39.90	49.71	59.38
Not possible	60.10	50.29	40.62
All firms	100.00	100.00	100.00

Source: Association of Employment Development for Senior Citizens (1995).

[7] This explanation about seniority wage here is based on the theory of Lazear (1979).

Related to the seniority wage scheme is the seniority promotion scheme, in which most older workers take managerial positions. This creates another obstacle, because employers need to ask older employees to retire to create room for the promotion of younger employees. Human-resource training practice in many firms allots most of the training resources to younger workers, which may also discourage older workers from retraining, and lead to their being perceived as less attractive as workers in the job market.

Nevertheless, these obstacles for promoting the employment of older workers look as though they will decrease in the future. First, as mentioned earlier, the age population structure will change. There will be a sharp decline in the younger population in the coming decades. Employers will need to depend more on older workers to cope with the decline in a younger workforce.

Seniority wage and promotion schemes will also change, partly because of the change in the age population structure, but also because of the change in the industrial structure. In the new industrial structure, employers will need more professional workers who move between employers depending on the wages offered to them. Employers will have to pay for workers' contributions or abilities in the short run, instead of using the seniority wage scheme which equalizes workers' contributions and wages over their lifetime employment with that company.

As long as there is this fundamental restructuring of wage and employment systems in the long run, the employment of older workers will expand automatically. In this case, the private sector would be the engine promoting the employment of older people in Japan as an integral part of each company's human-resource strategy.

7. Policy implications

Taking into account all the situations relating to the employment of older workers both on the labor supply side and the labor demand side, it is very difficult to see the employment of older workers expanding immediately. However, the possibility that circumstances will change in the future gives us a more optimistic view of the employment of older workers in future decades.

Different kinds of policies to promote the employment of older people should be applied to different time-spans. In the short term, labor market conditions for older workers will not change much, motivation to employ older workers not increasing enough and the wage and employment system preventing the employment of older workers. It is therefore important for the government to encourage reluctant employers to expand the employment of older workers by, for example, paying wage subsidies to firms that employ them.

In the mid-term, the first decade of the 21st century, more substantial policies to promote the employment of older people will be needed. The population structure will have changed drastically and employers will be facing a sharp decline in the younger labor force. First of all, public systems must be reformed to work well with efforts to promote employment of older people. Specifically, this means reforming the public pension system so that they are not penalized by having their pension benefits reduced.

Under these circumstances, wage schemes and employment practices in many firms will change to utilize the workforce of older workers. Policies will be needed to support these favorable trends towards the employment of this group. For example, if individuals are really going to remain on the front lines of their fields in their 60s, they will almost certainly require thorough retraining and professional development in their middle age, say in their late 40s, a time that tends to be a turning point in people's working lives. To assist them, the government

could provide loans that would enable them to take a half or full year off to get the professional development they need. Similarly, the government can play an important role in establishing senior-friendly work environments by providing low-cost funding for investment in such amenities as barrier-free factory floors and easy-to-read gauges.

In the longer run, when market forces fully promote the employment of older people, policies that intervene in the market (paying subsidies for example) should be minimized as much as possible. The most important policy for the government under these circumstances is to eliminate obstacles, which may prevent market forces from expanding the employment of older workers. If we can construct a society in the future where the willingness of older people to continue working is fully utilized, surely this would be an achievement matching our economic growth of the past.

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