

Study on Employment Situation of the Elderly:
Interim Report of Research on Employment Promotion of the Elderly
Summary

Contributing Authors (in order of authorship)

Hirokazu Fujii	Research Director, Japan Institute for Labour Policy and Training (Introductory Chapter)
Atsushi Seike	Professor, Faculty of Business and Commerce, Keio University (Chapter 1)
Kinkin Ma	Temporary Research Partner, Japan Institute for Labour Policy and Training (Chapter 1)
Tomoyo Takagi	Associate Professor, Faculty of Economics, Keiai University (Chapter 2)
Koji Hamada	Vice Research Director General, Japan Institute for Labour Policy and Training (Chapter 3)
Yanfei Zhou	Researcher, Japan Institute for Labour Policy and Training (Chapter 4)
Katsuhiko Iwata	Professor, Department of Primary Subjects for Specialized Knowledge, Shokugyo Dai Polytechnic University (Chapter 5)
Makoto Fujimoto	Researcher, Japan Institute for Labour Policy and Training (Chapter 6)
Atsuhiko Yamada	Associate Professor, Faculty of Economics, Keio University (Chapter 7)

Other members of the Study Group

Katsuya Yamamoto	General Manager, Fourth Division, Department of Theoretical Social Security Research, National Institute of Population and Social Security Research
Akira Ono	Professor Emeritus at Hitotsubashi University and Advisor of Japan Institute for Labour Policy and Training (former President)
Naomi Oochi	Senior Researcher, Japan Institute for Labour Policy and Training (until August 2007)

Haruhiko Hori Vice Senior Researcher, Japan Institute for Labour Policy and Training

Atsuki Matsubuchi Senior Research Officer, Japan Institute for Labour Policy and Training (until March 2008)

Observers

Junichi Miyano General Manager, Policy Planning Division, Employment Measures for the Elderly and Persons with Disabilities Department, Employment Security Bureau, Ministry of Health, Labour and Welfare (until August 2007)

Toshiaki Nagato General Manager, Policy Planning Division, Employment Measures for the Elderly and Persons with Disabilities Department, Employment Security Bureau, Ministry of Health, Labour and Welfare (from August 2007)

1. Study Period

Between 2007 and 2008

2. Objectives of Study

Population in Japan has been falling since 2005, and due to further progress of declining birthrate and aging population, it is expected that Japan will become a real depopulating society. Significant decrease in the number of labor force caused by depopulation may bring serious concern that the economic growth may be restricted or negatively affected.

With this background, the Minister of Health, Labour and Welfare has instructed the Incorporated administration agency, the Japan Institute for Labour Policy and Training, to conduct the “Research and Study of a Society in which All Demographics Could Participate in a Time of Population Decline” as one of the research projects in the Institute’s second medium-term (between 2007 and 2011) concerning the labor policy issues. The Japan Institute for Labour Policy and Training has launched the research project and is conducting a study on the development of an environment in which the elderly, women, youth and all people can maximize their motivation and skill set in order to control the declining labor force and to maintain and improve the vitality of the Japanese economic society.

In particular, a significant number of people in the baby-boom generation will reach their retirement age of 60 after 2007 and they will be 65 years old one after another in

2012 and thereafter, and therefore it is necessary to take immediate actions to utilize skills of the elderly.

In this respect, we have established the “Research on Employment Promotion of the Elderly” in 2007 as one of the subprojects of the above-mentioned research project, and have initiated study on the development of an environment in which the elderly can keep their motivation and exert their skills and abilities and can continue to work regardless of their age.

The employment rate of the elderly in Japan has been declining in a longer term. Therefore, in order to increase the employment of the elderly, it is necessary to analyze the changing factors of their employment rate and to develop countermeasures against them. To do this, we have decided in 2007 to analyze a wide range of issues, including reasons for the elderly to continue to work or retire, companies’ employment management and other activities concerning employment of the elderly, and relationships between these companies’ activities and the employment situation of the elderly, mainly by reanalyzing the most updated data available to us, in order to identify the changing factors of the employment rate of the elderly and to find the issues to be solved to develop an environment which contributes to increasing the employment rate of the elderly. In short, we have intended to identify the facts and to have an overview of the issues. In that sense, this report constitutes an interim report of the “Research on Employment Promotion of the Elderly.” In FY 2008, we are planning to carry on our study, on the basis of the results in 2007, to analyze the employment situation of the elderly, to carry out detailed analysis on the individual issues and to study for developing an environment in which the elderly can continue to work regardless of their age if they are willing and have the skills to do so. (Please refer to Table 1 for the framework of the research and the relevance between each chapter of the report.)

Table 1: Framework of the Research on Employment Promotion of the Elderly and the relevance etc.
between each chapter of the report in 2007

Theme of Study	Study on the development of an environment in which the elderly can, keeping up their motivation, exert their skills and abilities and can continue to work regardless of their age					
Study subject in FY 2007	(Employment rate of the elderly shows a long declining trend.) → It is necessary to analyze the changing factors of the employment rate. (Identification of the facts and presentation of an overview of the issues)					
Report	Viewpoint of analysis	Position	Subject	Data used for analysis	Purpose	Main results and policy implications
Chapter 1: Factors affecting the decision of elderly males on their employment and changes of such factors in the period between 1980 and 2004	Analysis of supply-side	General remarks	To grasp general and long-term image of elderly males	“Survey on Employment Condition of the Elderly Persons” conducted by the Ministry of Health, Labour and Welfare in each year of 1980, 1988, 1992, 1996, 2000 and 2004	To verify influence on employment of the elderly given by factors, such as pension system, market wage rate, fact that they experienced mandatory retirement or not, effect of aging, etc.	<ul style="list-style-type: none"> • Pension amount has negative influence on employment, but the influence has recently been diminishing. Reform in public pension systems is necessary to prevent suppressing effect on employment of the elderly. • The market wage rate has positive influence on employment. There is a larger influence on people in their late 60s. Policy measures raising market wage rate are important (such as reform in old-age pension system for active workers, education and training). • The experience of mandatory retirement has negative influence on employment, but the influence has recently been diminishing. Abolishment of mandatory retirement age is one of the important subjects to be studied in the future. • Effect of aging exists (with a negative influence on employment). Effect of aging is larger on people in their late 60s. • Health condition has a positive impact on employment. • Career history in large corporations or small-sized companies provides positive influence on employment.

<p>Chapter 2: Diverging point of employment or non-employment after retirement at the age of 60: employees' preliminary examination of employment probability by "self-selection"</p>	<p>Analysis of supply-side</p>	<p>Particular subject</p>	<p>To study older employees' wishes to work and possible satisfaction of their wishes</p>	<p>"Survey on the Baby-Boomer Generation's Work and Life Vision" conducted by the Japan Institute of Labour Policy and Training in 2006</p>	<p>To analyze older employees' wishes to work and possible satisfaction of their wishes and to verify deciding factors</p>	<ul style="list-style-type: none"> • Many older employees wish to continue their jobs that they are currently doing. • Their voluntary withdrawal from possible continuous employment is caused by their family circumstances, such as their obligations to provide family-care. It is required to implement some policy measures addressing to family-care issues. • Corporate restructuring has a negative impact generally on employees' willingness to work. • Whether older employees are able to be employed continuously or not depends on their human resource (higher professional skills) which is formed in their long-term professional career until their retirement age. Companies are required to provide human resource development from a longer perspective and human resource management which encourages their employees to design their professional lives and which pays attention to their employees' mentality and to their entire career history from entrance into the company to retirement.
<p>Chapter 3: "Impact on willingness of the elderly to continue to work given by the old-age pension for active workers and the employment continuation benefits for the aged"</p>	<p>Analysis of supply-side</p>	<p>Particular subject</p>	<p>To analyze the impact on employment of the elderly given by the amendment to the pensions systems</p>	<p>"Questionnaire Survey on Continuous Employment and Professional Lives after the Age of 60" conducted by the Japan Institute for Labour Policy and Training in 2007</p>	<p>To analyze what impact on the continuous employment of elderly males there is by the old-age pension for active employees and the old workers' salary supplement by using the most recent available data</p>	<ul style="list-style-type: none"> • Pension entitlement has a suppressing effect on employment of the elderly, but the effect has recently been diminishing due to the old-age pension for active workers and the employment continuation benefits for the aged. • Abolishment of the blanket 20% reduction of the old-age pension for active workers in their early 60s is estimated to have an effect of increasing the older employees' willingness of continuing employment by 0.3%.

<p>Chapter 4: “Does the employment of elderly male restrict the labor supply of their wives?”</p>	<p>Analysis of supply-side</p>	<p>Particular subject</p>	<p>To analyze labor supply behavior of elderly females</p>	<p>“Questionnaire Survey on Works and Lives of Persons Who Reached Their Retirement Age” conducted by the Japan Organization for Employment of the Elderly and Persons with Disabilities (Association of Employment Development for Senior Citizens) in 2002</p>	<p>To verify influence by employment of elderly males on the labor supply of their wives</p>	<ul style="list-style-type: none"> • Employment of elderly males does not have any effect of restricting employment of their wives, and labor supply of the elderly couples has rather synergetic effect. • Earned income and working hours of elderly males do not have any significant influence on the labor supply of their wives. • Age of wives, their health condition, existence of house loan or amount of their husband’s retirement lump sum are the key factors which have an impact on their employment rate.
<p>Chapter 5: “Situation and issues of continuous employment of the elderly”</p>	<p>Analysis of demand-side</p>	<p>Continuous employment after implementation of the Amended Law</p>	<p>Quality of continuous employment</p>	<p>Survey on the results of various research conducted in the past</p>	<p>To study the current situation and issues in quality aspects of continuous employment</p>	<ul style="list-style-type: none"> • Employment continuation of the elderly has been developed steadily in quantity. There remain issues of wage and other quality issues in continuous employment. • Increase of productivity of the elderly is the key to improve quality of continuous employment. Development of jobs for the elderly, review of employment conditions, improvement in morale and competency development are also important.
<p>Chapter 6 “Conditions under which the framework of continuous employment can function to promote employment of the elderly”</p>	<p>Analysis of demand-side</p>	<p>concerning Stabilization of Employment of Older Persons</p>	<p>Framework of continuous employment</p>	<p>“Survey on the situation of Continuous Employment of the Elderly” conducted by the Japan Institute for Labour Policy and Training in 2006</p>	<p>To study the framework of continuous employment to promote employment of the elderly</p>	<ul style="list-style-type: none"> • Companies which do not limit the scope of older employees for continuous employment and which employ them under higher conditions are advancing in arrangement of the working environment for older employees and are taking actions for improvement in their health conditions.

<p>Chapter 7 “Impact on continuous employment of the elderly given by changes in working conditions: observations and evaluation of significant reduction of wage and annual income on the basis of the employee survey”</p>	<p>Analysis of both supply- and demand-side</p>		<p>Changes in working conditions and continuous employment</p>	<p>“Questionnaire Survey on Continuous Employment and Professional Lives after the Age of 60” conducted by the Japan Institute for Labour Policy and Training in 2007</p>	<p>To verify the impact on the decision of the elderly on their employment given by changes in working conditions (such as reduction in their wage)</p>	<ul style="list-style-type: none"> • Employees do not desire continuous employment in the same company if their wage will be significantly reduced. • If employees do not desire continuous employment in the same company, they wish to be employed by another company rather than choosing retirement. • The probability that older employees choose continuous employment is also influenced by other working conditions than wage (they do not desire continuous employment in the same company if their desirable working conditions are not satisfied).
<p>Study subject in FY 2008</p>	<p>In FY 2008, we will carry on our study, on the basis of the results in FY 2007, to analyze the employment situation of the elderly, to carry out detailed analysis on the individual factors, to summarize issues under discussion and to study for developing an environment in which the elderly can continue to work regardless of their age.</p>					

3. Composition of the Report and its Summary

It is considered that the decision of the elderly on their employment is influenced by factors both in supply and demand of the labor force.

Firstly, we analyze the supply-side of the labor force. In Chapter 1 titled “Factors affecting the decision of elderly males on their employment and changes of such factors in the period between 1980 and 2004,” we analyze the factors that affect the employment rate of elderly males in a longer term and summarize the general and long-term development of labor supply. On the basis of that, we analyze the following individual points that are considered important for future labor supply in Chapters from 2 to 4. In Chapter 2 titled “Diverging point of employment or non-employment after retirement at the age of 60: employees’ preliminary examination of employment probability by “self-selection,”” we analyze the employees’ willingness or non-willingness to be employed after 60 years old and the factors affecting to the possibility of employment. In Chapter 3 titled “Impact on willingness of the elderly to continue to work given by the old-age pension for active workers and the employment continuation benefits for the aged” we analyze the effects on the employment of the elderly given by the amendment to various pension systems. In Chapter 4 titled “Does the employment of elderly male restrict the labor supply of their wives?” we analyze the supply of the labor force of elderly females.

Secondly, we analyze the demand-side of the labor force as follows: In Chapter 5 titled “Situation and issues of continuous employment of the elderly,” we analyze the qualitative aspects of continuous employment focusing on the situation of continuous employment after the implementation of the Amended Law concerning Stabilization of Employment of Older Persons. In Chapter 6 titled “Conditions under which the framework of continuous employment can function to promote employment of the elderly,” we examine and summarize the situation and issues of the framework of the continuous employment systems. Finally, in Chapter 7 titled “Impact on continuous employment of the elderly given by changes in working conditions: observations and evaluation of significant reduction of wage or annual income on the basis of the employee survey,” although our analysis primarily concerns the supply-side of the labor force, we analyze the employees’ decision on employment in relation to the companies’ activities on the employment continuation systems.

On the basis of our analysis, we can point out roughly as follows. The decision of the elderly on employment is significantly influenced by the systems (such as pension system, retirement system, etc.). It is also affected by the employees’ willingness and ability to work. Companies’ personnel management also has significant influence on

their decision on employment, and in relation to that, there are issues in the qualitative aspects of continuous employment. The career history of employees before the age of 60 (both companies and employees need to take actions in this respect) has an impact on the employment of the elderly. An overview of each chapter is introduced below.

(1) Chapter 1 “Factors affecting the decision of elderly males on their employment and changes of such factors in the period between 1980 and 2004”

In this chapter, utilizing the data of individual responses to the “Survey on Employment Conditions of the Elderly Persons” conducted by the Ministry of Health, Labour and Welfare in each year of 1980, 1988, 1992, 1996, 2000 and 2004, we identify the factors affecting the decision of elderly males in their 60s on their employment at each point in time when the survey was conducted, and examine the changes of the influence given by each of such factors over the period of time mentioned above.

More concretely, by conducting the quantitative analysis, we clarify the influence on the employment activities (or employment probability) of elderly males by various factors, such as age, market wage rate (hourly rate gained by individual employees in the market), career history, whether they experienced mandatory retirement or not, health condition, pension systems, family structure, macro-economic environment (using metropolitan dummy), etc., and observe the changes of the influence by each of such factors over a period of time. In doing so, we form hypotheses concerning the influence on their employment probability given by (I) pension, (II) market wage rate, (III) fact that they experienced mandatory retirement or not and (IV) effect of aging, and test the hypotheses.

Points clarified by our analysis and their policy implications can be summarized as follows (please note that the hypotheses we formed concerning the above-mentioned four factors are all verified):

(I) At any point in time in the surveys, the higher the amount of pension the elderly are entitled to receive, the lower the employment probability. However, the influence by the pension amount has recently been diminishing.

The policy implication from this is that the pension systems should be reformed if the employment of the elderly should be further promoted. In particular, reform in public pension systems, such as employees’ pension, is necessary to prevent the pension systems from suppressing the employment of the elderly.

(II) Higher market wage rate increases the employment probability. There is larger influence by market wage rate on the people in their late 60s than on those in their early 60s.

The policy implication from this is that a policy raising the market wage rate is required to promote employment of elderly males. Abolishment of the blanket 20% reduction of pension by an amendment to the old-age pension system for active workers has an effect of increasing the market wage rate. Reform in the old-age pension system for active workers also nullifies the wage-cutting effect, and thus is expected to increase the employment probability. The policy to promote utilization of and reinvestment in human capital of elderly males is also important (Shunichiro Umetani and Hiroyuki Fujimura, 1994). The policy on public vocational education and training for individual elderly is one of the important subjects to be studied in the future, and policy on subsidy for companies' education and training for the elderly should also be considered.

(III) At any point in time in the surveys, the employment probability of older employees who once experienced the mandatory retirement becomes lower. However, influence of retirement has recently been diminishing.

The policy implication is that it is a known fact that employment of the elderly is influenced by the employment systems on the demand-side of the labor force (Atsushi Seike, 1993; Atsushi Seike and Atsuhiko Yamada, 2004). Abolishment of mandatory retirement system is one of the important subjects to be studied in the future.

(IV) The effect of aging exists, meaning that the employment probability is lowered when people become older. The effect of aging has a larger influence on the people in their late 60s than on those in their early 60s.

(V) Health condition has a significant impact on the employment probability. If people are healthy, it has a positive effect on their employment. The influence on employment of elderly males by health condition remains unchanged at any point in time in the surveys.

(VI) Among the older employees, not only the rate of people who were white-collar workers (such as specialized engineers or managers) at the age of 55 but also of those who were engaged in other jobs than white-collar workers have recently been increasing. It suggests that the job categories for the elderly are expanding.

The policy implication from this is that the needs for vocational policies for the middle-aged and older employees will increase in the future. Policy supporting employees in their career development and policy promoting public vocational education and training will become important.

(VII) Career history in large corporations (and public offices) or in small-sized companies has recently been providing positive influence on employment of the elderly in their 60s, while employment probability of older employees working for medium-sized companies has been relatively low.

The policy implication from this is that operational aspects of the policy for employment promotion of the elderly and factors existing on the demand-side of the labor force with respect to companies of medium size (i.e. companies with 100 to 999 employees) should be reviewed with employment of the elderly in large corporations and small-sized companies being promoted.

(2) Chapter 2 “Diverging point of employment or non-employment after retirement at the age of 60: employees’ preliminary examination of employment probability by “self-selection”

In this chapter, we study from what viewpoints of human resource management continuous employment of the elderly should be considered in order to realize that as many older employees as possible who choose an option to continue to work after age 60 will be actually employed by the company continuously based on the fact that the company is entitled to employ or not to employ them. For this purpose, we analyze the differences of human capitals, etc. between the older employees who wish to continue to work and believe that they will be employed after the age of 60 and those who do not believe so, by using individuals’ data collected in the “Survey on the Baby-Boomer Generation’s Work and Life Vision” conducted by the Japan Institute of Labour Policy and Training in 2006. Results of the analysis provide us with the following implications:

(a) Barriers between older employees’ wishes for continuous employment and satisfaction of their wishes (or possibility of satisfaction): self-selection

(i) With regard to the general tendency of older employees’ wishes to be employed continuously after the age of 60 and possibility of their continuous employment,

1) corporate restructuring has a negative impact generally on employees’ willingness to work, and companies should pay attention to the fact that some of the companies’ measures may diminish older employees’ willingness for continuous employment after the age of 60; and

2) companies should take into account the fact that many older employees wish to continue their jobs that they are currently doing and to continue to work by utilizing the knowledge and skills that they have acquired (if their wishes are likely to be satisfied, this has a significant positive influence).

(ii) With regard to barriers between older employees’ wishes for continuous employment and satisfaction or possibility of satisfaction of their continuous employment,

1) one of the barriers is their voluntary withdrawal from possible continuous employment because of their family circumstances, such as their obligations to care for,

or provide nursing care to, their aged parents or other family members. It is required to implement some policy measures addressing family-care issues from the viewpoint of employment promotion; and

2) other barriers concern older employees' self-evaluation on their characteristic features as human resource.

i) specialists or professionals are currently considered highly possible to be employed continuously, and thus it can be pointed out that one of the important diverging points of employment or non-employment is whether the older employees have acquired higher functional skills in a specialized area or for a specific job.

ii) it is found that many older employees who live a well-planned and steady economic life tend to believe that they will be employed continuously (in other words, older employees "who recognize increasing possibility of their continuous employment after the age of 60 due to the amendment to the Act on Stabilization of Employment of Older Persons," "who have saved a targeted amount of funds set by themselves for their life after retirement," and "who know the amount they are entitled under the public pension system" are given significantly positive influence on their self-evaluation of possibility of their continuous employment in companies they are currently working for.)

Another important diverging point of employment is not resultant from their profession at the time of their retirement, but is a logical consequence of whether they have deliberately and steadily built their professional career over a long period of time, at the end of which they reach retirement age, and whether they have been conscious about building such career.

(b) Start of self-selection (grasping and fixing the diverging point of employment or non-employment)

Regardless of whether older employees are willing to be employed continuously or whether they think it possible to be employed continuously, their service period in their current company is very long. Therefore, they are able to preliminarily examine whether they will possibly be employed after the age of 60 by evaluating their current circumstances in light of the companies' evaluation standard that they have learned over a long period of time. If they can find it highly possible that they will be employed, they will express their willingness for continuous employment to the company and will eventually be employed by the company. If they find any barriers to hinder their continuous employment, they will refrain from expressing their desire of continuous employment and will eventually retire. This is the process of self-selection they are following.

(c) Possibility to be employed by other company than that they are currently working for

It is found that people who have experienced many job changes or who have a career in a multi-functional profession believe that it will be highly possible to be employed by another company than for the one in which they are currently working (there is a significant positive influence of those careers on their perception of successful employment by other companies). However, this results from their projection, and therefore it is possible that they “mistakenly imagine” that they will successfully be employed. It seems that in many cases older employees successfully move to another company that has transactions or human relationships with their current company with the support of the latter company (i.e. utilizing the strong-tie with their current company). Those people seem to be employees who have worked for their current company for a long time and have a deep relationship with it. Companies expect older employees who may join them to have “specialized skills in certain job functions” or “management or negotiation capability.” The way of working in which people gain specialized skills is to accumulate considerable working experience in a specific job while being deeply involved in the main businesses of the company. It cannot be denied that people who are able to utilize a strong tie with the company that they have built for a long period of time or who have gained highly specialized skills have more advantage to move to another company or to start new business.

(d) Policy measures necessary to promote many older employees to choose continuous employment and to be actually employed

(i) It is important for companies to develop their human resource management so that they foster many employees who are able to gain highly specialized skills and who are asked by the companies to continue to work after the age of 60. These useful employees also contribute to the development of the companies. While maintaining a long-term and stable employment relationship with employees, companies are required to provide consistent human resource management and to develop the competency of each employee in a planned and designed manner.

(ii) Companies are also required to encourage their employees to review their skills gained in their professional lives from time to time and to design their economic lives during their employment and after their retirement from a long-term perspective.

(iii) Dismissing or similar policy measures cause negative feelings among their employees and diminish their willingness to work. Companies should carry out their human resource management taking their employees' mentality into account.

(iv) Basic factors which determine whether older employees are able to be employed continuously after their age of 60 are formed in their long-term professional career. In order to promote employment after the age of 60, companies are required to provide not only employment management at around their retirement age but also human resource management which pays attention to the entire career history of their employees from entrance into the company to their retirement.

(3) Chapter 3 “Impact on willingness of the elderly to continue to work given by the old-age pension for working employees and the employment continuation benefits for the aged”

In this chapter, it is analyzed what impact on the continuous employment of elderly males is made by the old-age pension for active workers and the employment continuation benefits for the aged under the current systems by using the most recent available data.

With regard to the impact on continuous employment of the elderly by the old-age pension for active workers, on the one hand, pension entitlement has an impact on the choice of whether they will continue to work or not, and on the other hand, there is an issue of interdependence (endogeneity) in that the amount of pension is reduced if the elderly continue to work. Some researches were conducted in the past to deal with this endogeneity, such as Hiroshi Ogawa (1998), Yoshio Higuchi and Isao Yamamoto (2002), etc. We adopt the same analytical method in this chapter, in which the actual amount of pension (the old-age pension for active workers) and the original amount of pension from which deduction is made due to employment are set as explanatory variables. More concretely, we estimate the reservation wage function by setting the amount of pension, the employment continuation benefits for the aged, etc. as explanatory variables, and also estimate the employment function by setting wage, reservation wage, etc. as explanatory variables. Analysis is made by using data concerning the choice of continuous employment made by elderly males which are extracted from the “Questionnaire Survey on Continuous Employment and Professional Lives after the Age of 60” conducted by the Japan Institute for Labour Policy and Training in 2007. Based on the results of analysis, we run a simulation on the hypothesis that the recent regulatory amendment had not been made, and estimate the impact of the recent amendment.

Results of analysis reveal that it is significant that the factor of pension amount before deduction is positive against reservation wage, the factors of the old-age pension for active workers and the employment continuation benefits for the aged are negative

against reservation wage, and the factor of difference between wage and reservation wage is positive against willingness of continuous employment, and these signs of positive or negative are the same as the theoretical estimation. On the basis of these results, it is estimated that the elasticity and variation width of willingness for continuous employment (both are estimated at an average value) are negative against the original amount of pension before deduction (i.e. elasticity is minus 0.048 and variation width is minus 0.038%), are positive against the old-age pension for active employees (i.e. elasticity is plus 0.021 and variation width is plus 0.015%) and are positive against the old workers' salary supplement (i.e. elasticity is plus 0.022 and variation width is plus 0.016%), and all are as estimated in theory. Absolute values of elasticity and variation width are larger against the original amount of pension before deduction, and there is not much difference between absolute values of elasticity and variation width against the employment continuation benefits for the aged and those against the old-age pension for active workers. However, accumulated absolute amounts against the old-age pension for active workers and the employment continuation benefits for the aged are very similar to those against the original amount of pension before deduction, and therefore the impact of the original amount of pension before deduction is set off considerably.

According to the simulation which is run with individual samples under the results of estimation in this chapter, it is found that:

(I) abolishment of the blanket 20% reduction of the old-age pension for active workers in their early 60s which is applicable since the fiscal year of 2005 is estimated to have an effect of increasing the percentage of older employees' willingness of continuous employment by 0.3%; and

(II) looking at the impact made by the difference between the system for those in their early 60s and that for those in their late 60s, older employees' willingness for continuous employment in their late 60s is estimated to increase by 7.0% if compared to those in their early 60s because of a lower deduction of pension and higher amount of old-age pension for active workers on the one hand, and on the other hand, older employees' willingness for continuous employment in their late 60s is estimated to decrease by 2.1% due to higher amount of pension before deduction and to decrease by 1.5% because the employment continuation benefits for the aged is not applicable.

In the past, if workers in their early 60s insured under the employees' pension system were in employment, they were not entitled to receive any pension payment. In 1965, the old-age pension for active workers was established, under which older employees who earned less than a certain amount of income were entitled to receive a part of

pension payment, and some amendments were made to relax the deduction of pension payment for the reason of continuous employment. In 1995, the employment continuation benefits for the aged system was started for employees in their early 60s. Under the effect of current systems of the old-age pension for active workers and the employment continuation benefits for the aged, a restricting impact of pension on employment has been diminishing these days.

(4) Chapter 4 “Does the employment of elderly male restrict the labor supply of their wives?”

It is one of the important policy subjects in the aging population with falling birthrate to expand employment opportunities for elderly who are willing to work and who have skills. However, even though the employment rate of elderly males can be increased as politically targeted, the employment rate of the elderly as a whole has a possibility not be improved if the employment rate or income of elderly males is negatively correlated with the labor supply of their wives, because the employment rate of elderly females may decrease due to an increase of employment of elderly males.

With this background, we clarify what influence is made by the employment rate or earned income of elderly males in their 60s on the labor supply of their wives by using the data extracted from the “Questionnaire Survey on Works and Lives of Persons Who Reached Their Retirement Age” conducted by the Japan Organization for Employment of the Elderly and Persons with Disabilities (Association of Employment Development for Senior Citizens) in 2002. The Organization conducts the research on employment status etc. mainly of husbands as well as those of their wives.

Main results obtained from the empirical analysis are as follows:

(I) As a result of aggregation of base data, the trade-off between employment rate of elderly males and that of their wives is not observed, and the employment rate of the wives is not very much influenced by the earned income of their husbands. Rather, the employment rate of wives is negatively correlated with their husbands’ unearned income or retirement lump sum.

(II) Estimating the wives’ employment rate function by using the Bivariate Probit Model which takes into account synchronicity of employment probability of their husbands and that of wives, the employment probability of elderly males has a positive influence on their wives’ employment probability. Therefore, contrary to the presumption, the elderly males’ participation in the labor force has an effect of promoting the labor supply of their wives, and the labor supply of the elderly couples has synergistic effect.

(III) Results of estimation of influence (by using two-step model) made by earned income

and working hours of elderly males (which represent density of the labor supply of elderly males) on their wives' employment rate indicate that neither variable has any significant influence on the labor supply of wives. The age of wives, their health condition, existence of house loans or the amount of their husband's retirement lump sum are the key factors which have an impact on their employment rate, but an increase of the elderly males' working hours or of their earned income does not restrict their wives' employment.

(5) Chapter 5 "Actual situation and issues of continuous employment of the elderly"

In this chapter, we consider mainly possible improvement in the quality aspects of continuous employment situation of the elderly on the basis of the results of various research conducted in the past. We present our opinion that improvement in labor productivity is the key to promote continuous employment in quality and quantity and that the improvement in morale, development of jobs, competency development and review of employment conditions are also important.

Continuous employment situation of the elderly has been developed steadily in quantity (the percentage of employees who reach retirement age and who are forecast to be employed continuously significantly increased from 48.4% in 2005 to 76.7% in 2007).

With regard to the quality aspect of continuous employment, although their job contents do not change very much after their employment is continued, their wage and bonus, types of employment, grading, etc. change significantly. So, there remain issues of wage and other quality issues in continuous employment.

Looking at the relationship between wage and productivity at each point of age with respect to male employees who graduated from college, there are many companies observing that labor productivity of the elderly at the age of 55 exceeds their wages on average.

In order to encourage companies to utilize the elderly further, it is necessary to reduce the difference between wage and productivity of the elderly. Improvement in morale, competency development and development of jobs are considered as the main ways to realize this. Following is a summary of companies' views and actions toward each issue and our thought on possible solutions:

(I) Improvement in morale of the elderly: Companies evaluate the elderly severely. Assuming that lowering capability of the elderly results from the difficulty for companies to find jobs that are suitable for them and motivating them, it is necessary that at a certain time before their retirement the companies should set the objectives of the jobs which stimulate their motivation for continuous employment.

(II) Development of jobs: Development of jobs that are suitable for the elderly is not very advanced in companies. Many companies replied to the questionnaire that “it is difficult to secure the jobs to be performed by the elderly within the company.” A solution is to develop jobs matching the attributes of the elderly. We believe that there are many jobs which are suitable for the elderly. For example, a “trainer’s job” that meets their wishes to teach their juniors, “servicing job for individuals” that satisfies their desire to please people, etc. It is important to develop such jobs for the elderly.

(III) Vocational skills development for the elderly: Many companies do not recognize very much the necessity of education and training for middle-aged and older workers. A solution is to make the employment period longer so that vocational training costs can easily be recovered. It is also necessary to design training programs for the elderly taking their attributes and functions into account.

(IV) Review of employment conditions (wage level, wage difference among individuals, etc.): With regard to review of employment conditions after the age of 60, many of the companies hire older employees as non-regular employees in the period of continuous employment after their retirement age of 60. Advancement of employment continuation after implementation of the Amended Law concerning Stabilization of Employment of Older Persons does not necessarily accompany improvement in wage level, and the wage earned by employees who are continuously employed after their retirement age is lower than that of employees at the age of 55 to 59. This situation does not change much even after the implementation of the amended law. A solution we would like to propose is to review their employment conditions by evaluating capabilities and aptitude of individual older employees.

With the solutions we have proposed in this chapter, it is important to realize improvement in their productivity and continuous employment of higher quality.

The issue in the near future where utilization of the elderly is urgently required due to rapid aging of the population is that real employment extension until the age of around 65 should be realized urgently mainly by means of continuous employment. This means that we have come to the stage that the job contents in continuous employment should also be reviewed. As mentioned above, there are many issues to be solved to improve the productivity of older employees to be employed continuously and to realize full-fledged continuous employment of high quality. In this respect, it is very important to study the measures to develop competency of older employees (it is important to develop their competency at the age of 40s or 50s as preparatory steps for their continuous employment after their retirement age) and to improve their morale.

(6) Chapter 6 “Conditions under which the framework of continuous employment can function to promote employment of the elderly”

In this chapter, we categorize the companies that responded to the company questionnaire of the “Survey on Continuous Employment of the Elderly” conducted by the Japan Institute for Labour Policy and Training in 2006 according to the scope of employees covered by their continuous employment systems and the level of their employment conditions (as a result, the companies are categorized into 6 types in combination of limited scope or unlimited scope of older employees for continuous employment with high, medium or low wage level), and look into each type of company with respect to the companies’ personnel management for older employees and their observations and evaluation of older employees. Taking this approach, we would like to identify what factors are supporting the framework of companies’ continuous employment systems that promote employment of the elderly.

As a result of our analysis, it is found that the companies which do not limit the scope of older employees for continuous employment and which employ them continuously under higher conditions than other companies are advancing in arrangement of the working environment for older employees, such as preparation of equipment, working manuals, etc., and are taking actions for improvement in their health conditions. These companies are considered to take actions for the purpose of making older employees work actively in return for offering higher conditions. On the other hand, companies’ observations and evaluation of older employees do not seem to have much influence on the framework of continuous employment systems, and if we stretch a point, the companies’ evaluation of older employees’ working attitude and their observation on individual difference in capabilities and physical strength among older employees (among other question items) may have some influence.

However, the analysis in this chapter is made with cross tabulation, and therefore it should be confirmed whether the contents of the companies’ personnel management for older employees and their observations and evaluation of older employees are really relevant to the framework of continuous employment systems, by controlling basic variables of the companies that responded to the questionnaire, such as their categories of industry, number of employees, recent performance, etc. In addition, the question of whether older employees’ willingness to work is really affected by difference in the framework of continuous employment systems is left for future verification, which should use the data of the employee survey that are able to match the data of the company survey.

(7) Chapter 7 “Impact on continuous employment of the elderly by changes in working conditions: observations and evaluation of significant reduction of wage and annual income on the basis of the employee survey”

Continuous employment of the elderly in the same company is one of the desirable employment styles in the old age from the viewpoint of effective utilization of human capital accumulated in the company. The Amended Law concerning Stabilization of Employment of Older Persons is expected to play an important role in promoting continuous employment, and in this regard, in order to evaluate whether the amended law functions as expected or not, it is important to look into how older employees are smoothly “connected” from their status of employees to pensioner.

In this chapter, following three issues, which concern employees’ perception of decline in wage, possibility of phased retirement and continuous employment in their old age, are analyzed, by using the data from the “Questionnaire Survey on Continuous Employment and Professional Lives after the Age of 60” conducted by the Japan Institute for Labour Policy and Training in 2007 with the scope of male workers of the age between 57 and 59 currently working for the companies which have continuous employment systems (either in the form of reemployment system or employment extension system): (1) whether employees do not wish to be employed continuously if their wage or annual income is likely to be significantly reduced at the time of their continuous employment, (2) whether employees who do not wish for continuous employment are willing to retire or to be employed by another company, and (3) whether there are any other working conditions than decline in the level of wage or annual income which hamper employees’ continuous employment.

(a) The following is revealed by the cross-tabulation analysis:

(i) With regard to the level of wage or annual income that is most probably paid to older employees when they are continuously employed after their retirement age, 80% of them are paid less than 60 to 70% of the level of wage or annual income which they earn before they reach retirement age. In most cases, the level of wage or annual income at the time of employment continuation is lower than that they wish to be paid at minimum.

(ii) About 10% of employees expect that the most probable level of wage or annual income they will be paid when their employment is continued is less than 30% of their wage or annual income before their employment is continued. This means that there are a certain percentage of the elderly who cannot expect that their wage at the time of continuous employment would not be properly connected to pension payment.

(iii) With regard to the way of working under which employees who reached retirement

age wish to work in their continuous employment, they wish to work as a regular employee status (62.1%) or a full-time worker (57.2%), or they wish to work in the same business establishments or in the same section (78.8%) or to do the same job (80.8%). Many employees wish to work in the same manner as they did before they reached retirement age except for working styles (working hours).

(iv) With regard to likely discrepancy in the way of working between what employees wish most and what they are most likely to be offered by the company after they reach retirement age, employees replied to the questionnaire (1) that they wish to work as a regular employee status but they are most likely to be employed as a limited-term contracting worker (47.3%), (2) that they wish to work for reduced days (maintaining working hours a day) but they are likely to be employed as a full-time employment pattern (10.9%), (3) that they wish to work in the same business office or in the same section but they are likely to work in another section (11.1%) and (4) that they wish to do the same job but they are likely to work doing a different job (12.8%).

(v) Employees have relatively stronger wishes for, and at the same time, dissatisfaction with wage level at the time of employment continuation, rather than other working conditions.

(b) As a result of analysis by multinomial logit model, the following is revealed:

(i) Employees do not wish for continuous employment in the same company if their anticipated annual income is lower. If their anticipated annual income is 40 to 50% of their current salary, the probability that they choose continuous employment is 17.1%, and if it is less than 30%, the probability is reduced by 35.0%.

(ii) If employees do not wish for continuous employment in the same company, they wish to be employed by another company rather than choosing retirement. If their anticipated annual income level is 40 to 50% of their current salary, the probability that they wish to be employed by another company is 19.4%, and if it is less than 30%, the probability is decreased by 35.6%.

(iii) A larger influence on their choice of employment continuation is made, not simply by wage and bonus, but by total annual income which includes benefits of the public pension plan (i.e. the earning-related component of the old-age pension for active workers, the employment continuation benefits for the aged, etc.)

(iv) The probability that older employees choose continuous employment is also influenced by other working conditions than wages and bonuses, such as “employment status (position at work),” “working pattern (working hours),” “workplace,” “job contents,” etc. The probability that they choose continuous employment in the same company decreases if their wishes to work as other employment types than a regular

employee status, in other working pattern than a full-time employment pattern, or in another working place are not satisfied. It should be noted that the probability that they choose to retire increases particularly when their wishes to work in other working patterns than a full-time worker are not satisfied.

As seen above, a company's significant reduction in employees' annual income or wage levels causes the elderly not to wish for continuous employment in the same company, but to wish to be employed by another company rather than choosing retirement.

However, the reservation that we should have about the result of analysis in this chapter is (1) that a decrease in annual income or wage levels is anticipated by employees when they responded to the questionnaire and it is possible that the actual annual income or wage which they will be offered at the time of employment continuation may be lower than their anticipation; and (2) that it is possible that, although they wish to be employed by other companies, no company may offer any jobs to them and then they may be forced to retire.

From the viewpoint of proper connection between employment and pension entitlement, although the Amended Law concerning Stabilization of Employment of Older Persons plays a certain role in increasing the employment rate, issues concerning income security in the future remain to be solved, and we have to further study what the wage level should be at the time of employment continuation. Reduction in wage level at the time of employment continuation will become more important as a challenge of income security in 2013 when the raise of the pensionable age for the fixed-amount portion of the specially provided old-age employees' pension is completely finalized and when the pensionable age for the remuneration-based portion of the specially provided old-age employees' pension is started to be raised. It should be carefully observed whether employment and pension entitlement are properly connected after 2013.

As one of the future research subjects, it is necessary to analyze phased retirement that is desirable both for older employees and companies since it is clear that the percentage of employees who choose to retire after they reach retirement age increases if their wishes to work in other working hours than a full-time employment pattern are not satisfied.