# POPULATION AGEING, EMPLOYMENT PRACTICES, THE LABOUR MARKET AND GOVERNMENT POLICY IN JAPAN

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**ABSTRACT**

The thesis is concerned with the impact of population ageing on the future trends of male employment and unemployment in Japan, since it is thought that rising unemployment amongst older people will increase the dependency rate, leading to a reduction in capital accumulation and slower economic growth. The study is based on material and data obtained while researching in Japan for one year and draws heavily on Japanese-language sources. First, the role of rapidly falling fertility in stimulating economic growth in Japan is examined, followed by a detailed analysis of employment practices across different sizes of company in Japan that draws on surveys published by government and private institutions. It is found that existing analyses of Japanese employment practices ignore the importance of workforce age structure in internal labour markets. An efficiency age structure hypothesis that stresses labour demand rigidities is formulated: it is hypothesised that large firms with internal labour markets attempt to maintain a given internal age structure to maximise workforce efficiency. This behaviour implies that as the population ages, the unemployment rate of older men will rise. The implications of this hypothesis are examined at a micro level through an analysis of the adjustments firms have made to employment practices; and at the macro level through an analysis of the macro labour market. The absorptive capacity of small companies and self-employment for older men was examined using cohort analysis. Finally the impact of government policy on the labour market for older men is examined and assessed. Government policy is divided into two main categories: labour market intervention and public pension reform. The thesis indicates that raising the pension eligibility age will not reduce dependency unless employment practices that generate unemployment of older people are changed.

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# CHAPTER 1  INTRODUCTION TO THE THESIS

## Section 1  Introduction to the subject of the thesis

Population ageing refers to the increase in the proportion of older people in a population. It is generally caused by a marked decline in childbearing and an decrease in mortality rates in the older age groups. The decline in childbearing is usually the primary cause and the fall in mortality adds to the effect. In the 1920s and 1930s, population ageing became a topic of concern in European countries, particularly in France and Britain. It was feared that population ageing would lead to a general stagnation of the economy and a decline in the vitality of the population (Reddaway 1934). In recent years interest in the social and economic implications of population ageing has increased dramatically in developed countries and in some developing countries such as China and Hongkong. Influential reports by respected bodies such as  the OECD (OECD 1988) have focused primarily on the social security implications, although labour market implications are not ignored. In Japan there has been a noticeable and growing awareness of population ageing: articles in newspapers have discussed the implications of population ageing for the provision of croquet grounds where the elderly can while away their free time; and population ageing has been used as one justification for the costly fifth generation computer project (Motooka and Kitsuregawa 1985 pp 23-25). If the proportion of the population above the age of 65 is taken as an indicator of ageing, population projections in Japan show that the proportion will rise from just over 10% in 1985 to a peak of approximately 24% in 2040 (Kōseishō Jinkō Mondai Kenkyūjo 1988). Until about 1995, Japan will still have a younger population age structure than many developed countries such as Germany, France and Sweden. By 2040, however, Japan will have one of the 'oldest' population age structures,

equalled only by Sweden and Germany. This comparison with other countries shows that not only will the population age structure be relatively 'old', but that the population ageing process in Japan will occur relatively rapidly: it is estimated that it will take 25 years for the proportion of the population above 65 to rise from 7% to 14% in Japan, compared with 70 years for the USA, 85 years for the UK and 130 years for France. The possible implications for the economies in these countries are extremely wide ranging.

The work of economists studying the impact of population ageing has been concentrated on the burgeoning public pension and health care costs that an ageing population implies; and the effects of these growing transfers to older dependents on the productive capacity of the economy (Spengler and Clark 1980). Feldstein's famous paper (Feldstein 1974) purported to show that the existence of public pensions funded by transfers from the economically active part of the population reduced the macro savings rate. Transfers that would have been saved to meet consumption expenditure after retirement would be spent by the current generation of old age pensioners. The implication of this finding was that increases in taxation to pay for social security programmes would further reduce the aggregate savings rate. It is clear, however, that older people in receipt of public pensions need not, and do not, draw on their own accumulated wealth to meet current consumption. Thus, a fall in saving of the supporting generation can lead to a decrease in dissaving of older dependents. Barro (1974) argued that inter-generational transfers would counteract the impact of pay-as-you-go social security schemes. The impact of ageing on savings is still a controversial topic. Public pension provision is also felt to reduce the labour supply of older people: as public pensions have become more generous, labour force participation of older people has declined

in most countries (OECD 1988). This fact supports the view, but it is also possible that public pensions have had to become more generous since older people are unable to find alternative means of support. As stated earlier, growing transfers imply higher taxation rates. Other economists have claimed that higher taxation will reduce the incentives for work of the active population. At the extreme, this negative incentive effect has been included in elegant, but misleading, general equilibrium simulations that give pessimistic results (Motoma et al. 1987). General equilibrium models compound the effects of an erroneous assumption: empirical studies of taxation and labour supply have not reached a consensus on the effects of taxation - some studies show that labour supply increases and Brown (1981) concludes that the effects are at best indeterminate.

The effects of population ageing on the labour market have been accorded secondary importance. The effect of public pension provision on the labour supply of the elderly has already been mentioned above. Some studies have attempted to gauge the falls in productivity that are felt to occur with individual ageing, but the results have been inconclusive (Schulz 1988). Thus, the effects on the efficiency of the aggregate labour force of an increasing proportion of older people are indeterminate. Others have attempted to gauge the effect of population ageing on the average worker's lifetime earnings profile (Martin and Ogawa 1988, Ermisch 1988, Freeman 1989). These studies show that there will be some flattening of the wage curve, but that non-demographic factors, such as the pace of economic growth tend be more important in determining wage profiles. The policy implications of such studies are not clear. In Japan, there has been concern over a growing labour shortage that may occur with population ageing (Nihon Kaihatsu Ginkō 1992). There

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has been some attention paid to the unemployment problems of older people (OECD 1988, 1990, 1992), but in recent years, it has been the unemployment problem of young people that has attracted the attention of labour economists (Layard et al. 1991).

## Section 2   The contribution of this research

The inspiration for this thesis came from a concern over the impact of population ageing in Japan and economic growth; and the following facts: a) the Japanese government has been attempting to raise the pension eligibility age of one of the main public pension schemes because of fears of escalating contribution rates; b) in Japan, there has been a concern about labour shortages and immigration while the unemployment rates of older men have been rising; and c) European governments have introduced early retirement incentives, apparently to improve the chances of employment for younger unemployed people. It seemed paradoxical that there were fears of labour shortage when older people were unemployed. This paradox indicated that the labour market in Japan is segmented by age and that even in times of labour shortage there was a reluctance to hire older workers. It also seemed paradoxical that governments in Europe were encouraging early retirement, in spite of burgeoning public pension expenditure, until it became clear that early pension receipt reduced the number of older unemployed people who tended to experience long-term unemployment, by encouraging such people to leave the labour force. It appeared that the Japanese government was attempting to reduce dependency rates merely by raising the pension eligibility age, whereas the European experience in reverse implied that the unemployment rate of older people would rise. Even if public pension contribution rates were to be reduced by the government's policy, the unemployed older workers would need to be supported by other public transfer schemes (eg unemployment benefit)

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or private transfers. In other words, the dependency problem could not be reduced simply by changing the law. To understand why dependency could not be easily reduced by this method, it is necessary to show why dependency occurs. It seemed that a supply-side based explanation was not adequate for explaining the unemployment problems of older workers. From a supply-side point of view, older workers tend to remain unemployed because they are less willing to move or retrain, since they have fewer years over which to earn a return on such investments. Alternatively older people would leave the labour market because they had alternative means of income support (pensions). In both of these cases the older worker remains out of work voluntarily and need not be dependent on external financial support. Mandatory retirement is particularly prevalent in Japan and it seemed unbelievable that a person's capabilities in work could disappear from one day to the next merely because of a particular employment practice. Therefore, it was necessary to provide a demand-side explanation of the age segmentation of the Japanese labour market and the relatively high unemployment rate of older people. A model of labour demand was developed with an appreciation of the prevalence of internal labour markets and the incentive efficiency of Japanese employment practices. This model I have called the efficiency age structure model - it is similar to efficiency wage models (Yellen and Akerlof 1986) in approach, but also includes the workforce age structure as a determinant in labour demand. This model implies that, with internal labour markets, firms will find a particular age structure the most efficient for motivating the workforce and improving labour productivity. Consequently large firms will attempt to maintain a given age structure and there will be little attempt to substitute older workers for younger workers, even if the older workers are relatively cheap. Older workers will find themselves cast into the

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external labour market and find employment in smaller firms where job security is low. In an ageing population age structure, the consequence is that unemployment of older people will increase, as will the macro unemployment rate. An examination of the Japanese labour market confirms this result. Cohort analysis also shows that the absorption capacity of smaller firms and self-employment has been over-estimated and it seems that absorbers of older people are reaching the limits to absorption capacity. Governments generally intervene to some degree in labour markets because of the high social costs associated with unemployment. Thus, the thesis includes a description and assessment of Japanese government labour market policies that are targeted at older men. The only noticeable effect of these policies has been the changes in employment practices that mitigate to some extent the rigidity of the efficiency age structure. The reforms of the public pension schemes are also examined since the pension eligibility age and the level of pension benefits will determine whether older men will leave the labour market or will remain unemployed or at risk of unemployment. It should be noted that the thesis relates to the labour market for men only, since women face different employment practices and the inclusion of a study on the impact of population ageing on women would require another thesis.

## Section 3  The organisation of the thesis

The thesis is divided into four parts. Part I is essentially an introduction to the main body of the thesis and comprises this chapter and Chapter Two. The first half of Chapter Two represents a survey of the economics literature pertinent to analysing the relationships between demographic change and economic growth, some of which have been mentioned in this introduction briefly. The last half comprises an attempt to assess the effects of initial

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population ageing on economic growth in Japan after the Second World War. The main, but tentative, finding is that the increasing proportion of the population that was economically active boosted growth.

Part II contains the micro labour market analysis that is necessary for understanding the behaviour of the macro labour market as it responds to population ageing. This Part contains Chapters Three to Six. Chapters Three and Four combine to give a detailed examination of firms' employment practices, with an emphasis on the differences and similarities of the practices of different-sized firms. This examination indicates that large firms operate internal labour markets and confirms the existence of a dual labour market. Chapter Five is the pivotal chapter of the thesis: it is a survey of the rationales that have been given for Japanese employment practices; and more importantly, it contains the development of the efficiency age structure model. The efficiency age structure model has implications for the impact of population ageing on employment practices and the state of the macro labour market, and so provides the framework for the remainder of the thesis. Chapter Six examines the adjustments in employment practices that firms have made in response to the ageing structure of the labour force. This examination shows that while large firms have attempted to reduce the degree of complementarity between older and young male workers, they have also devised means to regulate the internal workforce age structure.

Part III provides an analysis of the influence of population ageing on the macro labour market, and a detailed description of government policies that will affect the work and unemployment experience of older men. This Part comprises Chapters Seven to Nine. Chapter Seven

examines the behaviour of labour force participation rates and unemployment rates of men, both in the aggregate and disaggregated by age group. The main finding is that unemployment of older men has accounted for the majority of the rise in the aggregate unemployment rate despite a noticeable fall in the labour force participation rates of older men. The chapter also includes a study of the future variables that may affect the unemployment rate of older men: namely provision of public pensions; absorption by small firms; and self-employment. Chapter Eight describes government labour market policies aimed at improving the employment chances of older men through intervention in the labour market. It seems that the only successful policy has been that of encouraging a particular change in employment practices: namely a raising of the mandatory retirement age. Chapter Nine describes public pension reform and also includes an attempt to assess the impact of pension reform on post-retirement income levels.

Part IV represents the conclusion of the thesis, comprising Chapter Ten only. Chapter Ten summarises the findings of the thesis, which are described briefly in Section 2 of this chapter, and suggests areas for future research.

**CHAPTER 2   POPULATION AGEING AND ECONOMIC GROWTH IN JAPAN**

## Section 1   The Significance of this chapter

This chapter provides a background to the analysis of the effects of population ageing on the Japanese labour market that forms the main body of this thesis. In Section 2 stable population theory is used to show how changing fertility and mortality rates affect the growth rate of the population and its age structure. The section also includes a brief discussion of the transition from one stable population to another. Section 3 comprises a survey of analysis that relates to the effects of population ageing on economic growth. The survey is by no means exhaustive, since a  full survey would require a large amount of space. It does, however, show how population ageing can affect the main factors of growth, namely labour supply, capital formation and the use and creation of new technology. Section 3 also represents an attempt to show how the effects on one growth factor can lead to changes in the other factors, but without using a full general equilibrium model. It should be noted that models that can be used to analyse explicitly the effects of changes in population age structure on economic growth are scarce; and that empirical tests are generally inconclusive, since there are many factors outside demographic change that can affect the main variables (eg the macro savings rate). Nonetheless, such a survey is useful for giving insight into the effects of population ageing, even if the insight is incomplete. Section 4 is a summary of the Japanese experience of demographic change and economic growth. Section 5 represents an attempt to show that initial ageing of the population after 1947 contributed to economic growth. It is concluded that the rise in the proportion of the population gainfully employed positively aided growth. This conclusion is the

stimulus for analysing the effects of population ageing on the labour market.

## Section 2    Population growth and population age structure

The aim of this section is to analyse which demographic changes can cause population ageing and to show that the growth rate of the population and its age structure are linked. Such an explanation is important since the impact on the economy of population ageing will be felt in two ways: one is through the change in the age structure; the other is through the slowing or even negative population growth rate. The analysis presented here is based on the stable population growth theory developed by Ansley Coale (Coale 1972) amongst others. Although stable population growth is never likely to be experienced, it provides a framework in which to observe the effects of changing vital rates, independently of one another.

Let the population be growing at a constant rate per annum of $r$. The rate, $r$, will be determined by the difference between the annual birth rate and death rate. The birth rate at time $t$, will be given by

$$b(t) = \int_0^w c(a, t) m(a, t) \, da \qquad (2.1)$$

where:
$a$ = age;
$w$ = highest age attainable by a human being;
$c(a,t)$ = proportion in the population of women aged $a$ at time $t$;
$m(a,t)$ = annual rate of bearing children at age $a$ at time $t$.

The death rate at time $t$ will be given by

$$d(t) = \int_0^w c(a, t) q(a, t) \, da \qquad (2.2)$$

where $q(a,t)$ = annual death rate of women of age a in year $t$.

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The natural rate of increase will subsequently be given by

$$r(t) = b(t) - d(t) \tag{2.3}$$

As can be seen, the rate of growth, $r$, is determined by the birth schedules and death schedules of women and the proportion of women in each age group. For a stable population it is necessary for the birth and mortality schedules to remain unchanged and therefore the insertion of $t$ in the above functions is not necessary. This analysis of stable population only involves women. In the stable population case the population is continually renewing itself. Men do not replace themselves by giving birth and therefore, strictly speaking, they cannot be included in this continuous process. It is possible to derive 'birth schedules' for men also, and so derive a stable male population. Links between male and female stable populations are also possible, but the resultant complexity is not desirable here, since the structure and increase of the female population can stand as a proxy for the population as a whole. With a constant rate of growth, $r$, the proportion of women at any age will be given by

$$c(a) = be^{-ra}p(a) \tag{2.4}$$

where:
$b$ = birth rate;
$p(a)$ = survival rate at age $a$;
$p(a)$ is given by

$$e^{-\int_0^a q(x)\,dx} \tag{2.5}$$

so with $q(a)$, which are the mortality rates, unchanged, $p(a)$ will also be constant, as will $b$ and $r$. For any given age, the proportion $c(a)$ will be constant. It would now be instructive to examine the age structures of populations with different growth rates.

For this we need to partially differentiate $c(a)$ with respect to $r$. Let us rearrange;

since,

$$\int_0^w c(a)\,da = 1 \qquad (2.6)$$

and

$$c(a) = be^{-ra}p(a) \qquad (2.7)$$

then

$$\int_0^w c(a)\,da = \int_0^w be^{-ra}p(a)\,da \qquad (2.8)$$

and therefore,

$$b = \frac{1}{\int_0^w e^{-ra}p(a)\,da} \qquad (2.9)$$

So, $c(a)$ may be written

$$c(a) = \frac{e^{-ra}p(a)}{\int_0^w e^{-ra}p(a)\,da} \qquad (2.10)$$

Differentiating partially with respect to $r$,

$$\frac{\partial c(a)}{\partial r} = c(a)\left(\frac{\int_0^w ae^{-ra}p(a)\,da}{\int_0^w e^{-ra}p(a)\,da} - a\right) \qquad (2.11)$$

The first term in the brackets is the first moment of the stable population, or its mean age, $\bar{A}_r$ , so the above can be simplified to

$$\frac{\partial c(a)}{\partial r} = c(a)(\bar{A}_r - a) \qquad (2.12)$$

From this last equation, it can be seen that the proportion of people below the average age is greater, the greater the value of $r$. If $r$ falls, the proportions of age groups above $\bar{A}_r$ will increase: this effect is known as population ageing. It would also be interesting to examine the effect of $r$ on $\bar{A}_r$. Taking the derivative of $\bar{A}_r$ with respect to $r$,

$$\frac{\partial \bar{A}_r}{\partial r} = (\bar{A})^2 - \frac{\int_0^w a^2 e^{-ra} p(a)\, da}{\int_0^w e^{-ra} p(a)\, da} \qquad\qquad (2.12)$$

The second part of this is the second moment about zero, or the variance of the stable population. Since the variance is positive, $\bar{A}_r$ falls with an increase in $r$. There is a double effect causing the population to become younger with increases in $r$.

A brief comment on the effects of changes in mortality and fertility is now due. A decline in the age-specific fertility rates, $m(a)$, will reduce $b$ and as a consequence will reduce $r$, which in turn will cause population ageing at every given death rate, $d$. A decrease in the age-specific mortality rates could be considered analogous to an increase in fertility, since it will decrease the death rate $d$ and as a consequence lead to an increase in $r$. If age specific mortality rates decline by the same proportion across all ages, the proportions of the population in each age group will not be altered, except by the increase in $r$. It is possible, conceptually, that if mortality decline were felt only in the older age groups the direct ageing of the population would not be counteracted by the increase in $r$. When fertility and mortality rates are declining, as occurs during the demographic transition, the outcome on population structure is less clear, since the two trends are working in opposite directions. Usually population ageing is caused mainly by

falls in fertility rates, but when significant improvements in child mortality rates have already been achieved, further improvements in mortality affect mainly the upper age ranges and hence will have an increasing role in population ageing (Coale 1972).

So far the analysis has been concentrated on the effects of declines in fertility and mortality on stable populations. In other words, it has been assumed that the rates undergo a single change and then the pre-change population structure and the post-change population age structure are compared, *once the dynamic transition from one structure to the other has been completed*. Usually, however, fertility rates fall continuously as population ageing progresses and the visible population changes are caused by the transition from the original state to a new state that is continually changing. I will confine further discussion to the dynamic effects of fertility decline. The initial impact of fertility decline will be to produce a more aged structure than is implied by a stable population. It will have an immediate impact in the lower age ranges, reducing the proportion of the young, since the generation above was produced when the birth rate was higher and therefore the generation above will be larger than it would be in a stable population with the newer, lower fertility rate. This initial impact means that the proportion of people in the middle age ranges rises. As the reduced young cohorts age they will proceed into the middle age groups, thus reducing the proportion in the middle age groups. At the same time, the cohorts that were produced when fertility rates were high progress into the older age groups, increasing the proportion of the population in those groups. To clarify this explanation, the following simile is useful: the age structure will appear like a snake that eats a rat. The rat is gradually passed through the snake as it is digested until the remains are ejected at the rear (at the higher

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age ranges). These dynamic aspects are important for the discussion of labour force size and age structure given below, since the labour force is composed of people in the middle age groups - the initial impact of ageing is to increase the proportion of people of working age, but as the dynamic adjustment proceeds, the proportion of the working age population falls.

One finding of this stable population analysis should be stressed before proceeding to the next section: population ageing is characterised by both a  slowing of the population growth rate (or even a negative growth rate) as well as an increase in the proportions of the population in the higher age groups.

## Section 3    Demographic change and the impact on the factors of growth

### Sub-section 3.1  Demographic change and the size of the labour force

The percentage of a stable population in the labour force (L) is found by summing the multiples of the proportion of people in each age group by the requisite age-specific labour force participation rate, thus

$$L = \int_0^w c(a) \, l(a) \, da \qquad\qquad (2.14)$$

where $L$ is the aggregate labour force participation rate and $l(a)$ is the labour force participation rate at age $a$. The effects of population ageing on $L$ are not clear, a priori: the effects will depend on the cause of the ageing (decline in mortality or fertility or both). If the ageing is caused principally by a fall in fertility, then initially, the proportion of people below working age will fall and thus the proportion of the population available for work will increase (as explained above). Over time however, the

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fall in fertility will decrease the proportion of younger people who
are of working age. If age-specific labour force participation rates
decline with age (see Chapter 7) the decline in the proportion of
younger working-age people in the population will lead to a fall in
the aggregate labour force participation rate. Thus, eventually, for
a given size of population, an aged one will have a smaller labour
force than one that is not aged. Since population ageing and a
slowing population growth rate go hand-in-hand, the overall effect
of ageing is to reduce the growth rate of the labour force. It could
even lead to a negative growth rate of the labour force, depending
on the stage of the ageing process and the size of the fertility
decline.

So far it has been assumed that age-specific labour force
participation rates remain static as the population ages and
therefore the labour force size and structure is determined purely
by vital rates. It is likely, however, that age-specific labour force
participation rates will be affected by the changes in the vital
rates themselves. Lower fertility rates imply greater opportunity
for women to work outside the household and therefore a rise in the
participation rate of women, $L_w$. The shape of the fertility schedule
may also affect $L_w$. If births are concentrated in a few consecutive
years of a woman's life, $L_w$ over the woman's life span may be
increased. With a reduction in fertility rates, births are often
concentrated in a space of five or six years, leaving the woman more
time for outside work. "Empirical evidence on this point is mixed,
however, with participation rates of women aged 30 to 45 increasing
after fertility declined in some countries and decreasing in others"
(Bloom and Freeman 1987). The effects of mortality declines caused
by better health hardly need stating - more people in each age group
will be able (and, presumably, willing) to work. Studies of the

determinants of retirement, for example, show that poor health is an important element in the decision to retire (Clark *et al* 1978 pp 935-937).

Non-demographic changes caused by population ageing may also impinge on labour force participation rates. For example, a slowing growth of the labour force may lead to a rise in real wages, causing a rise in labour force participation rates, if the labour supply curve is upward sloping. On the other hand, population ageing could lead to a reduction in investment (see next section) and a subsequent fall in demand for labour. If young workers and older workers are complementary inputs, as is suggested by Ermisch's studies of the British labour force (Ermisch 1988), an ageing labour force could lead to a fall in wage levels, or an increase in unemployment, for older workers and withdrawal from the labour force. In many countries, the labour force participation of older men has fallen as the population has aged (see Appendix 7B). It is generally felt that the cause of this fall is the increase in generosity of government pension schemes that has occurred at the same time as ageing in many countries (Clark *et al* 1978 pp 931-935). As populations age, the level of benefits paid by the public pension schemes may be reduced to avoid large increases in contribution rates, encouraging older people to remain in the labour force and leading to a rise in their age-specific labour force participation rates.

The discussion so far shows that the effects of population ageing on labour force size are an empirical matter, since conceptually, the effects are indeterminate. Empirical studies are virtually impossible, since the other factors also impinge. For example, public provision of pensions can reduce the participation rate. If,

however, pension provision is a function of the population age structure (ie it is endogenous), empirical analysis becomes further complicated, unless an explicit link between pension provision and ageing can be found.

**Sub-section 3.2 Demographic change and labour productivity**

The sub-section above dealt with the effects of ageing on the supply of people available for work. The productivity of those people is determined by two main factors: the number of hours worked by each individual and the productivity of the hours supplied. This section covers the effects of ageing on these factors.

Let us take the case of a high fertility rate which leads to a rapid growth in population. The findings can then be reversed to find the effects of a decline in fertility. The most direct link between fertility levels and quantity of work per individual is the incentive effect of having responsibility for a family with many children. This effect is usually positive for the father in the household (Simon 1977). The elasticity of labour hours supplied per child varies according to tastes, cultural factors and environment (resources) and thus can vary substantially between different countries. The effect on the mother of increased childbirth is usually deemed to be a decrease in the supply of labour, due to extra care now needed in the rearing of the child. A distinction is often made between labour supply effects in developing and developed countries. It is argued that women in developing countries work at home and therefore the effect on her labour supply is indeterminate (this really means difficult to measure). An incremental child will nevertheless divert attention from other work. The labour-leisure trade off for males in developing countries is often held to be more important than in developed countries. This

may be attributable to work contracts and social contracts in a developed country which limit the degree of substitution between labour and leisure. Simon (1977) shows that in Britain the percentage of manual workers working overtime increased noticeably during child-rearing ages. The relationship may in fact run in the opposite direction, such that an increased desire for more leisure, or material goods, lowers the total fertility rate. Therefore the effect of decreasing fertility may be associated with a greater labour supply in exchange for material goods or a decreased labour supply in exchange for leisure. Generally the increase in male labour supply caused by an incremental child outstrips the negative effect on the woman's labour supply (Simon 1977).

Thus, in an ageing population a reduction in fertility and the declining proportion of the population accounted for by people of child-bearing ages will lead to a decrease in the number of hours of labour supplied, if indeed it is increased family size that stimulates labour supply, rather than a desire for material goods or leisure leading to a fall in fertility. The causality is indeterminate, however.

Productivity of labour may be influenced by both the change in the proportions of people at different ages and the slowing population growth that occurs with ageing. Labour productivity can be altered by many other factors, such as a new invention, however.

a)    The effects of changes in labour force size
With a larger work force and larger economy (population), division of labour becomes more feasible with an increasing scale of operation for certain industries (the implication here is that effective demand also increases). Thus for an increasing population

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specialisation will increase productivity and off-set diminishing returns to labour, should capital stock remain fixed. It should be noted however that for many types of divisions of labour, increased capitalisation of production is often also required. Thus a fall in the growth rate of population will diminish the chances for division of labour, but will possibly increase the capital per capita and levels of effective demand per capita.

Simon (1986) argues that learning by doing progresses faster, the larger the scale of initial production. Thus the faster the growth rate of the population, the larger the scale of initial production and the faster the speed of learning by doing. To the extent that learning by doing may also inversely be regarded as increasing utilisation of latent capital embodied in a piece of machinery, the degree of capitalisation of the particular industry is also important and therefore a slowing population growth can lead to greater capitalisation and greater chances for learning by doing.

Both the division of labour and the learning by doing aspects described above are two types of economy of scale. The implicit assumption is that an increasing population means increasing market size and increasing employment. Such economies of scale are quite possible without a growing population. If a country is open to world trade, then the economy can obtain increased productivity through increased specialisation. Thus improved productivity may be enjoyed by a smaller number of people. Diseconomies of scale can also be a problem.

Increased population density increases the subjective return on social infrastructure investment and thus this type of investment becomes more attractive. With better communications and transport,

efficiency should increase and specialisation of production becomes more possible. Increased infrastructure construction may however result in capital being diverted from other uses - crowding out may occur. Therefore effects on productivity are indeterminate, in anything but a partial study. Population may also create the need for infrastructure which does not increase productivity, but is necessary to cancel out the effects caused by increased density. A complex sewage system is a good example.

**b)     The effects of changes in the population age structure.**

One of the major concerns over population ageing is based on the view that older workers are less productive than younger workers. Thus if the age structure of the labour force ages, for a given size of work force, the labour force will become less productive. Younger people generally have better health, and are believed to have greater physical and mental stamina and greater mental adaptability to new ideas.

With greater morbidity at higher ages in a population, the health of young people will be better. Physical stamina is relatively more important in an economy which is mainly formed of industries requiring strenuous physical work, such as mining and construction. With increased mechanisation the physical advantages of youth are likely to disappear. The question of mental stamina is still much debated. A well-known study by Welford (1958), a psychologist, found that perception and response declined with age, as did the capacity for retaining information in the short term. Other studies found that the effect of age on productivity was insignificant for those below 60, that the capacity for reasoning was hardly impaired by age and that slowing of comprehension and reaction was counteracted by greater knowledge and experience (Clark et al 1978 pp 927-928).

Indeed Sparrow (see Schulz 1988 p 87) concluded that:

> ".. it is apparent from a number of well-designed studies that age often has no real influence on performance. Wide individual differences exist and experience often counteracts any age effects. Where age differences are found, it appears they may be caused often by psychosocial factors, such as reduced work commitment because of limited career advancement opportunities."

The greater mental agility of younger people may be confused with the fact that they have been trained and educated more recently in new ideas and technology, whilst older workers often do not receive specific training after a certain age. Thus the acceptance of new ideas will be just as much a matter of training as inherent qualities. Such considerations are known as vintage effects. Denton and Spencer (1975) in their simulation of economic growth with explicit population variables, define the effective labour force as the summation of the workforce at each age in period, with each group weighted by a labour productivity weight associated with age and sex and a labour productivity weight associated with the population cohort to which they belong. This last weight "allow(s) for improvements in the stock of knowledge imparted to successive cohorts as they pass through the educational system" (Denton and Spencer 1975 p 18), with the assumption that this weight will be larger, the younger the person. This assumption implies that workers do not absorb knowledge while at work that would be the result of the introduction of new practices or specific training. In other words, firms do not wish to train older workers because they view such training as more costly than training young workers. A 1963 study of 2,200 workers by the US Bureau of Labour Statistics quoted in Clark *et al* (1978) found that "age, by itself, is not a reliable or useful criterion for determining the suitability of workers for

training." Certainly for the individual firm, labour costs are reduced by recruiting staff trained in new knowledge by another source (ie the state education system), rather than retraining existing staff. It may also be argued that training of older staff is less profitable for a firm, since realisation of the investment will accrue over the fewer years an older worker has left to work. It is important to note, however, that in a growing economy with changing technology, investment in training will be amortised quickly regardless of age.

As can be seen, age-structure and labour force productivity is a fraught subject, due to the intangibility of age effects and also due to the indivisibility of purely technical aspects of productivity, the externalities accruing from education and the use of incentive schemes (eg promotion).

## Sub-section 3.3 Population ageing and capital formation

Some of the possible links and mechanisms responsible for an increase in capital stock will now be examined. It is assumed in this section that net borrowing from abroad for capital accumulation is zero, to simplify the discussion.

The simplest form of savings function relates savings as a constant proportion of total national income, that is $S = aY_t$. As this formula stands there is no explicit mechanism relating the value of present consumption to the value of future consumption, which is the essence of saving decisions. If the subjective discount rate of future consumption is high, then saving will be less desirable and the value of a will be small. It is plausible that the structure of the population will influence the evaluation of the discount rate. If the ratio of non-working age population to working age population

(the 'dependency ratio') is large, then the proportion of income of the working age population which needs to be spent on dependents will be greater. That is, present consumption needs for the support of children and/or the elderly will be greater for a given level of earnings per worker. This increased need to consume in the present increases the discount rate of future consumption and makes saving less attractive. Savings may be more attractive if the rate of return on capital investment (i) is also high. The determination of the demand for funds for investment will be discussed below.

Since the structure of the population is determined by the growth rate of the population, g, and the rate of change of growth over time, $\dot{g}$, the savings rate may be made a function of these two variables and the rate of return on capital. The savings function may be written as

$$S_t = a(g, \dot{g}, i) Y_t \tag{2.15}$$

such that $\dfrac{\delta a}{\delta g} < 0; \dfrac{\delta a}{\delta i} > 0$ when $\dot{g} = 0$.

If $\dot{g} < 0$, a will be greater and if $\dot{g} > 0$, a will be smaller. This savings function implies that if the growth rate of the population is high and i is small, savings will account for a small proportion of national income. With a large i however, the size of a will be indeterminate, depending on a specific time-preference function of a particular population. With $\dot{g} < 0$, that is, a slowing growth rate, the dependency ratio will be decreasing for a given g and i, savings being more attractive. This functional form captures both the steady-state effects of population growth and the dynamic aspects of demographic transition.

The theoretical results of the above savings function are opposite to those obtained from a simple application of the life-cycle hypothesis. In the life-cycle hypothesis, saving is carried out by young people in anticipation of a period when they are older and need to deplete savings due to lack of income from work. In a fast-growing population, the age distribution will be "younger" and therefore the proportion of those saving to those dissaving will be larger, resulting in a higher aggregate saving rate (saving rate = average propensity to consume). Conversely, an aged population structure will lead to a decrease in the aggregate saving rate, since the proportion of dissavers will rise. The results of the above specification and the life-cycle approach need reconciling. The above specification also offers no framework for analysing the effects of the growth rate of Y on savings. I shall deal with these two problems next.

I would now like to present a variable rate of growth model to which Mason (1987) has contributed. This model was originally developed to show the effects of high fertility on the aggregate saving rate. Figure 2.1 shows the consumption and earning patterns of a typical household over its lifetime.

Figure 2.1 showing lifetime consumption and earning patterns
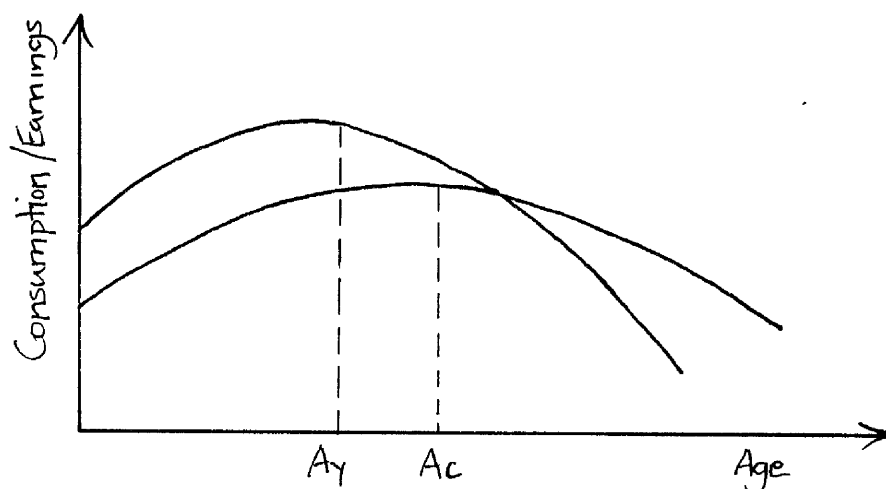


It is assumed that the savings accumulated in the younger years are exactly the same as the amount dissaved in later years: that is, there are no bequests. Lifetime earning patterns are known perfectly by each individual. In a population in which the proportion of each age-group is equal and there is no growth in income, aggregate savings will be zero. In a growing population, the imbalance of young to old households will lead to a positive savings rate. If income levels are also growing at the same time as population grows, the savings rate will be greater than when income growth is stationary, since the young households will have a greater lifetime income and will be saving more than the older households during their own previous period of saving (ie when they were young). The increase in aggregate savings is known as the rate of growth effect. In Figure 2.1, $A_Y$ shows the average earnings age and $A_c$ shows the average consumption age. The difference between these two ages is known as the consumption lag. The longer the delay between the average earning and consumption ages, the greater will be the effect of a growth in income, since at a given moment, saving will be carried out by younger generations at higher incomes and consumption (dissaving) will be carried out by older generations who had a lower life-time income. The aggregate saving rate of a population will be

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greater as average consumption at a given moment will be determined by the income levels of b years earlier, whilst average earnings will be determined by income levels for a life-span which started later and which therefore implies higher lifetime income brought about by economic growth.

It is now necessary to ask which variables may affect the earnings and consumption patterns of people such that $A_Y$ and $A_c$ shift. At this stage, we are concerned primarily with the effects of child dependency on consumption patterns. Old age dependency is not, strictly speaking, an aspect of the model, since it is assumed that people optimise consumption over the lifetime and therefore save for their own retirement. Mason divides consumption into two categories - activity 1 and activity 2. The first activity is child-bearing and the second activity is a proxy for all other consumption activities. The earlier in the lifespan that families have children, the earlier will be the average age of consumption for activity 1, $A_1$. The earlier is $A_1$, the greater effect it has on the overall average consumption age. If activity 1 accounts for a small proportion of the consumption budget, an earlier $A_1$ will have little effect. Thus the share, as well as the timing, of activity 1 is important. The overall average age of consumption is given by

$$A_c = s_1 A_1 + s_2 A_2 \qquad\qquad\qquad (2.16)$$

which is a weighted average of the average age of the two consumption activities weighted by the share of total income spent on each activity. It is important to mention that the lifetime pattern of consumption is not determined by price or income variables in this model, but by technological and cultural factors.

If $A_2$ occurs later in life than $A_1$, an increase in the share of the budget devoted to childbearing will bring forward the average consumption age with respect to the average earning age: savings decrease. With the cost of children subject to constant marginal cost (equivalent adult consumer cost), an increased child dependency rate unambiguously decreases savings. Mason conducted a cross-section regression over approximately 150 countries and found that the dependency ratio had a significant effect on savings ratios, particularly for countries with higher economic rates of growth – "Given a very high dependency ratio, say of 0.9, saving is much less influenced by growth: an additional percentage point in growth yields only one half a percentage point in additional saving. By contrast, a very low dependency ratio of 0.3 yields a rate of growth effect in excess of one half additional percentage points in saving for each percentage point in growth."

Such a model is elegant and manages to combine the effect of income growth and dependency rates on savings. It also gives more credence to Mason's results, since his empirical analysis can take into account differing growth rates as well differing dependency rates when making cross-section comparisons. The model also shows that as dependency decreases, $A_c$ will move further away from $A_Y$, increasing saving. This effect could cancel out the age structural effects that are stressed in the normal life-cycle saving models. Theoretically, however, the gross effect of population ageing on saving is indeterminate, but this approach does give a richer analysis than simple life-cycle models. There are other problems created, however. It is likely that under-estimation will occur in high growth economies, since the consumption gap may also be decreasing for other reasons. Rising productivity of labour (due to increases in physical capital, technology etc.) pushes $A_Y$ closer to $A_c$, since the

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optimal mean age at which an individual produces life-time wealth will now be later relative to consumption, because human capital will be accumulated over a longer period. Such a situation is more likely in a fast-growing economy. This brings us to two other failings of the model. The problem is further complicated if children are regarded as investments rather than consumption. In this case it would depend on whether the return on children (old-age support) is greater than the return on capital investment. Another facet is that organisations through which to channel savings may be non-existent in developing countries, or certainly unstable and children would represent least-risk investments. Finally, crucial to the functioning of the life-cycle model is that an individual has a personal rate of time preference used to discount future consumption to the present. Saving will be attractive, resulting in a delay of the average age of consumption, if the return i, after discounting at the personal rate of time preference is higher than the present value. Thus, the rate of return on investment should also be a consideration.

It is instructive to examine the effects of population growth on i, the rate of return on physical investment capital. With a high and stable population growth rate, the supply of labour will also increase at a rapid rate, assuming labour force participation rates are stable. The continually increasing labour supply will exert downward pressure on the wage rate and keep it low. Under neo-classical assumptions the low wage rate will lead to a substitution to the cheaper factor of production and capital investment will remain at low levels, relatively. Any capital investment that does occur will have a high rate of return because of the labour-intensive nature of production. Neo-classical theory assumes implicitly that the labour supply is fixed such that with capital

accumulation and a lowering of the marginal product of capital, the marginal product of labour will increase and therefore the wage rate increases. This case is the static equilibrium case. If, however, the labour force increases over time, keeping the wage level constant, the rate of return on additional investment will continue to be high. There is a continual movement towards a static equilibrium at which the marginal product per unit cost of labour and capital are equal, but due to a continually increasing labour supply, static equilibrium is never reached and the rate of return on investment remains high.

As stated above, a high rate of interest will make savings more attractive. With a high rate of population growth, the overall impact on the aggregate saving rate is indeterminate. An increased child dependency rate increases the subjective discount rate of future consumption, whilst increasing labour supply raises the interest rate accruing on savings, making saving more attractive and shifting the average age of consumption to a higher age. The two aspects of the same phenomenon work in opposite directions. There is one case in which the results of the analysis are unambiguous.

As a population moves from a high rate of growth to a low one, the age structure changes, so that the proportion of working-age people increases and the dependency rate falls, if such a structure is caused by a fall in the birth rate. The labour force will be growing at a faster rate than the general population, continuing to exert a downward pressure on wages. The rate of return on capital will remain high. The subjective discount of the households composing that labour force will decrease, since child dependency has now decreased: the consumption gap will widen. In such a situation savings should rise. If the drop in the fertility rate is

accompanied by a drop in mortality rates, as is usually the case, then the labour force will be increasing at an even greater rate. A decrease in mortality across all ages, however, will increase the proportion of old age dependency. Earlier it was stated that old age dependency was not relevant to examining the effects of dependency, since older people were self-supporting, as they drew on accumulated savings. With decreased mortality, the life-cycle will be extended. If the decrease in mortality had been anticipated, then savings would still be sufficient to meet living costs. Since anticipation of mortality decreases is unlikely, the elderly will now need supporting through either public or private transfer payments. To the extent that the elderly have made provisions for at least a part of their non-working lives, the degree of dependence should be low. During the transition period, the proportion of elderly dependents should remain low (despite the decrease in mortality). If the assumption of a perfect knowledge of the length of the lifecycle is removed, elderly dependence becomes an important factor, but its impact should be relatively slight at the initial stages of ageing of the population. So, in the initial stages of population ageing, the analysis shows that the aggregate saving rate will rise.

From the above discussion, it should become clear that, at least theoretically, the aggregate saving rate will be greatest when the dependency ratio is lowest.

**Sub-section 3.4 Population ageing and total factor productivity**
The title of this sub-section is deliberately broad, since it contains the many plausible effects of demographic change on economic growth that cannot be easily categorised into effects on labour and capital. Much of this section draws on work by Simon

(1977, 1986). Simon is concerned to show that rapid population growth can have positive effects on economic growth. Since population ageing and slowing population growth occur in tandem, the effects of population ageing can be viewed as the opposite to the effects given below.

## a)    Creativity and technical knowledge

Simon embarks on a theoretical exposition of the potential creation of ideas through the combination of existing ideas and links this to population growth, by positing that each person on average has one new idea in a given period.  Therefore each additional person has an idea resulting from the stimuli of existing ideas and this new idea will then provide the potential of n new ideas, when combined with the n existing ideas.  Formally,

$$M_t = \left( \sum_{t-\infty}^{t-1} \Sigma_{i\tilde{\imath}} I_{t,i\tilde{\imath}} \right) + \Sigma_{i\tilde{\imath}} I_{t,i\tilde{\imath}}$$     (2.17)

where:
$M_t$ = ideas existing in time $t$
$i$, $\tilde{\imath}$ = ideas, $i \neq \tilde{\imath}$
$I_{ti\tilde{\imath}}$ = new ideas created by people in time $t$, by combining some existing ideas, $i$ and $\tilde{\imath}$.

A $I_t$ in the previous period becomes a $i$ in the next one (i.e. it has been added to the stock of knowledge). Simon is aware that people have a tendency to invent the same idea and therefore the effect of additional people on the pool of ideas will be reduced. As the population grows however, the number of potential ideas becomes huge relative to the number of idea creators and therefore the likelihood of duplicated ideas recedes. Thus the production of potential ideas experiences increasing returns to scale to population growth at first, then returns become constant such that the number of new ideas per period will approach the number of new people. Simon states: "This suggests that additional people imply additional knowledge without limits.  And because an increment of technology

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has a cumulative effect in raising income through its effect on output and capital formation, a proportional increase in technology in t comes to have a more-than-proportional positive partial effect on income in t + x, where x = years after t".

The unit of observation is important in the above explanation. A country which has been isolated for various reasons from new development in other countries will find, if it is able, that it can acquire technology and apply it, at a rapid pace, without waiting for a new person to create a new idea. Through improved education and communication, a country will be able to increase productivity without any population growth and these factors are much more likely to be limiting rather than a slow growth in population. Thus, this theory applies to a unit such as the whole world rather than a particular country. Secondly, the length of time period is important. If people on average have two new ideas per lifetime (after all original ideas are hard to come by), then the period for an idea may be 25 years, during which time capital is accumulating year in year out - in forming an overall production function it is important to standardise explicitly the time period over which the factors contribute. Time lags are also important. In an extreme case, a population may be facing starvation before an increment to the population is producing ideas which substantially increase productivity.

For many countries accessibility to ideas is more important than their creation. Thus levels of education and communication, which are affected by per capita income, are more important considerations, as is the ability to actually use potential new ideas.

Simon (1986) derives a more realistic function for change in the stock of technology occurring in a period $t$

$$M_t - M_{t-1} = b L_{t-1}^\alpha M_{t-1}^\beta \left(\frac{Y}{L}\right)^\psi Y^\phi$$

(2.18)

where:
$b$ is a constant;
$L$ = number in labour force;
$Y$ = aggregate production;
$\alpha$, $\beta$, $\psi$ and $\phi$ are constants indicating the responsiveness of a change in the stock of ideas to a change in the respective variables.

In this reduced form, technology caused by population growth is not such an all embracing saviour. In developing countries, per capita income is low, by definition, and the accessibility to existing technology will be accordingly low, as will be the number of ideas created per person. Thus it is possible that an increasing population will diminish the ability to create new ideas and thus the result of population growth is indeterminate. The elasticity of labour to technology creation is not independent of $L$ itself and is not constant. Simon (1986) recognises this in saying "But the parameters of the technical progress function clearly change as economic development proceeds" - if indeed it does manage to proceed.


Finally, Simon (1986) believes that short-run data will not show the positive effects of population growth since these effects, such as the improvement of productivity, "happen in the long-run and are cumulative". If such is the case, then all countries should adopt a policy whereby the population continues to increase at a fast rate forever delaying the long-run, until when finally the long-run arrives, there is a huge cake to divide between each and every person. It is also ironic that those countries which have experienced remarkable increases in per capita income and enjoy the fruits of technology in production and everyday life, such as in

Europe, have also been experiencing slowing population growth for several decades.

Thus, although Simon's approach to technology creation is elegant, it appears that factors other than sheer numbers of people are important and that these factors can be functions of population growth: new ideas that lead to nuclear fusion can only occur once a large investment in human capital has been made and per capita human investment is likely to be high when the proportion of young people in a population is small or decreasing.

## b)    Total factor productivity and changes in industrial structure

It is possible that slow population growth leads to a rapid change in industrial structure – and consequently results in fast productivity growth (Yamaguchi 1982). This argument rests on the assumption that technological progress can and does occur much faster in the non-agricultural sector than in the agricultural sector. Thus any factor which hinders the movement of resources and effective demand from agricultural to non-agricultural goods  also hinders the rate of technological progress and the economic growth rate. In a stationary population economy, any rise in income due to increases in productivity will be spent in greater proportion on non-agricultural goods, if economic development has reached a stage at which the income elasticity of agricultural goods is small and the income elasticity of non-agricultural goods is large.   The increased demand in the non-agricultural high-productivity sector will result in a transfer of resources to that sector and industrialisation occurs.  If, however, population is increasing with a rising income due to productivity growth, demand for agricultural goods will also be increasing, despite their low income elasticity. Industrialisation will be hindered and economic growth

would slow. This is a little one-sided, since linkage effects are also important. Increased demand in the agricultural sector may result in increased demand for non-agricultural inputs. The resultant productivity gains in the non-agricultural sector cause an increase in the productivity in the agricultural sector. Incomes per capita will then rise, despite the increase in population. Studies of this process usually involve complex dual economy general equilibrium models. Yamaguchi (1982) finds that population growth in Japan since 1920 had a small, but negative, impact. Such a finding is almost inevitable given that capital stock and technology stock are taken as exogenous variables in his model: any increase in population will dilute such stocks.

Once again, an argument exists that slowing population growth will increase per capita economic growth rate, but refutation or support of the argument through empirical tests is extremely difficult, given the impact that other factors may have on changes in industrial structures. For example, an increase in foreign trade may increase the demand for manufactures, regardless of the age structure of the domestic population.

## Section 4  Demographic change and economic growth - the experience
of Japan 1920-1980

Having introduced some of the main theoretical links between population and economic growth, it is useful to examine the nature of demographic change in Japan since 1920 and data showing how the salient economic variables have changed since that time. This examination provides a background for the attempt made in the next section to explain the role initial population ageing played in post-war economic growth in Japan. The examination of statistics is made in the following order: a) vital rates, population growth, age-

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structure and share of national expenditure devoted to gross capital formation; b) labour supply, labour force participation rates and unemployment rates; c) gross domestic product growth rates; and d) structural change of employment.

Although crude birth rates and death rates are sufficient to explain the growth rate of a population, they cannot accurately describe the behaviour of the population, since they are dependent on the existing age-structure of the population. Total fertility rates (TFR) will be presented as a measure of fertility behaviour and life expectancy at birth as a simple measure of improvement or deterioration in mortality rates. Data for Table 2.1 for the period 1935-1945 are somewhat incomplete because of the disruption of war. The trends contained in Table 2.1 are:

a)    From 1925-1935 the rate of natural increase was historically high. The rate increased dramatically during the late 1940s and early 1950s and then fell quickly to a trendless level. Between 1975-1985 it dropped by nearly 50%.

b)    The total fertility rate shows a tendency to decline slowly from 1925 and then increases temporarily after the war resulting in the post-war baby-boom. It decreases rapidly during the 1950s and then more slowly through to the 1980s.

c)    Life expectancy at birth shows a continuous increase over the whole period, contributing to the natural increase rate during a period of fertility decline.

With a declining birth rate and rapidly improving mortality rate, the proportion of the population of working age can be expected to increase initially, implying a decrease in dependency rates. Table 2.2 shows the age structural change that has occurred in the Japanese population since 1920.

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Table 2.1 showing vital rates, total fertility, male life expectancy and the natural increase rate in Japan 1920-1985.

| | Crude birth rate (per 1000) (1) | Crude death rate (per 1000) (2) | Total fert- ility rate (3) | Life expec- tancy (male) (4) | Natural increase (per 1000) (5) |
|---|---|---|---|---|---|
| 1920 | 36.2 | 25.4 | - | - | 10.8 |
| 1925 | 34.9 | 20.3 | 5.1 | 42.0 | 14.6 |
| 1930 | 32.3 | 18.2 | 4.7 | 44.8 | 14.2 |
| 1935 | 31.6 | 16.8 | - | 46.9 | 14.8 |
| 1940 | 28.9 | 16.2 | 4.1 | - | 12.7 |
| 1945(47) | 34.5 | 14.7 | 4.5 | 50.1 | 19.9 |
| 1950 | 28.3 | 10.9 | 3.6 | 59.5 | 17.3 |
| 1955 | 19.5 | 7.8 | 2.4 | 63.6 | 11.7 |
| 1960 | 17.3 | 7.6 | 2.0 | 63.3 | 9.7 |
| 1965 | 18.7 | 7.2 | 2.1 | 67.7 | 11.5 |
| 1970 | 18.7 | 6.9 | 2.1 | 69.3 | 11.8 |
| 1975 | 17.1 | 6.3 | 1.9 | 71.7 | 10.8 |
| 1980 | 13.6 | 6.2 | 1.7 | 73.3 | 7.3 |
| 1985 | 11.9 | 6.2 | 1.7 | - | 5.6 |

Source:    Columns 1, 2 and 5 from Jinkō Mondai Kenkyūjo (1986) p 3, Table 1; column 3 from Jinkō Mondai Kenkyūjo (1986) p 8, Table 2; column 4 from Jinkō Mondai Kenkyūjo (1985).

Table 2.2 showing population age structure and dependency ratios in Japan 1920-1980.

| Year | 0 - 14 years old (%) (1) | 15 - 64 years old (%) (2) | 65 years old and above (%) (3) | Dependency ratio[1] (%) (4) | Share of gross capital formation in national expenditure (%) (5) |
|---|---|---|---|---|---|
| 1920 | 36.5 | 58.3 | 5.3 | 71.7 | - |
| 1925 | 36.7 | 58.2 | 5.1 | 71.8 | - |
| 1930 | 36.6 | 58.7 | 4.8 | 70.5 | 8.6 |
| 1935 | 36.9 | 58.5 | 4.7 | 71.1 | 14.2 |
| 1940[2] [3] | 36.1 | 59.2 | 4.7 | 69.7 | 21.7 |
| 1950[2] | 35.4 | 59.6 | 4.9 | 67.7 | 16.2 |
| 1955[2] | 33.4 | 61.2 | 5.3 | 63.3 | 19.8 |
| 1960 | 30.2 | 64.1 | 5.7 | 55.9 | 30.2 |
| 1965 | 25.7 | 68.0 | 6.3 | 47.1 | 30.6 |
| 1970 | 24.0 | 68.9 | 7.1 | 45.1 | 35.0 |
| 1975[2] | 24.3 | 67.7 | 7.9 | 47.6 | 32.4 |
| 1980[2] | 23.5 | 67.3 | 9.1 | 48.4 | 31.6 |

Source:  Sōrifu Tōkeikyoku (1983), columns 1 to 3 from page 48, column 4 from page 37. Column 5 up to 1970 from Ando (1975)p 7, Table 5b. Column 5 after 1970 from Nihon Tōkei Kyōkai (1985) p 553.

Notes:   Superscript numbers: 1) Dependency ratio = Sum of population in 0 to 14 and 65 plus age groups divided by total population.
2) Includes in the total population figures those uncertain of their age.
3) Not including people from foreign countries, apart from those returning from former territories.

It should be noted that the term 'dependency ratio' used in the table does not necessarily correspond to the true dependency ratio of dependants to working population, since the latter ratio will depend on the work status of individuals in each of the age groups - the dependency ratio used in the table does give a crude measure of true dependency rates, however. Until 1940, the age structure changed little, with just below 60% of the population belonging to the 15-64 year old age group (the working age group): thus the dependency ratio also changed little and remained at a high level when compared with later years. After 1940, however, the proportion in the young age group declines noticeably and the proportion in the old age group (65+) rises, but less than the fall in the young age group: therefore the proportion in the 15-64 age group rises by roughly 10% and the dependency ratio falls. By the mid-1970s, the proportion in the 65 plus age group starts to rise more quickly as population ageing progresses, leading to an upturn in the dependency ratio. Except for the war period, which is untypical, the percentage of national expenditure devoted to gross capital formation has risen as the dependency ratio fell and then started to fall as the dependency ratio rose. It is impossible to show that the fall in dependency caused the rise in the gross capital formation share - it is possible that a high level of capital formation brought about rapid growth, which in turn stimulated the rapidly falling total fertility rate. It is striking, however, that there seems to be a strong correlation between the two.

Table 2.3 demonstrates that due to the changing age structure of the population, the workforce grew much faster than the population itself during the post-war period, despite more or less static gross labour force participation rates.

Table 2.3 showing growth rates of the population and labour force; labour force participation rates; and unemployment rates in Japan 1920-1980.

| Year | Total popn. (%) (1) | Popn. over 15 (%) (2) | Lab-our force (%) (3) | Male lab-our force part-icip-ation rate (%) (4) | Female labour force part-icip-ation rate (%) (5) | Aggre-gate labour force part-icip-ation rate (%) (6) | Unem-ploy-ment rate (%) (7) |
|---|---|---|---|---|---|---|---|
| 1920-30 | 1.42 | 1.41 | 0.99 | 91.3 | 51.2 | 71.3 | 1.1 |
| 1930-40 | 1.26 | 1.34 | 1.36 | 90.3 | 50.8 | 70.4 | - |
| 1940-50 | 1.42 | 1.52 | - | 86.7 | 50.6 | 68.2 | 2.0 |
| 1950-55 | 1.38 | 1.99 | 1.89 | 84.2 | 49.6 | 66.3 | 2.5 |
| 1955-60 | 0.92 | 1.90 | 1.92 | 85.1 | 50.7 | 67.3 | 1.6 |
| 1960-65 | 1.02 | 2.27 | 1.84 | 84.1 | 50.3 | 66.7 | 1.2 |
| 1965-70 | 1.08 | 1.54 | 1.86 | 83.8 | 50.3 | 66.5 | 1.1 |
| 1970-75 | 1.35 | 1.27 | 0.40 | 83.8 | 48.5 | 65.6 | 1.9 |
| 1975-80 | 0.90 | 1.11 | 1.02 | 82.7 | 46.5 | 64.1 | 2.0 |

Source:     Sōrifu Tōkeikyoku (1983): columns 1, 2, 3 from page 6; columns 4, 5, 6 from page 42. The unemployment rate for 1930 and 1950 are from Hitotsubashi Kenkyūjo (1953) p 38, Table B-4. Unemployment rates after 1950 are from Kurosaka (1988) p 25, Table 1-2.

Notes:      The labour force participation rates show the average rate over the period. The unemployment rates shown in column 7 are aggregate unemployment rates and correspond to the last year of the period. The unemployment figures for 1930 and 1950 were based on slightly different definitions of unemployment than the later figures - therefore these figures should be viewed as a crude time series of unemployment over the period. The figure for 1920-30 should be viewed with extreme caution, since at that time much unemployment was disguised in the agricultural sector.

Table 2.4 showing real GDP (GNP)[1] growth rates 1920-1980.

| Period | Average growth rate of real GDP |
|---|---|
| 1921-1930 | 2.4 |
| 1931-1938 | 4.9 |
| 1956-1960 | 9.5 |
| 1961-1970 | 10.4 |
| 1971-1976 | 5.8 |
| 1977-1980[1] | 5.0 |

Source:    Up to 1976 from Minami (1981) p 80, Table 5-1. For period 1977-1980 from Kurosaka (1988) p 21, Figure 1.1.
Note:      Note to superscript 1: the figure for the period 1977-1980 is for real GNP rather than real GDP.

Unemployment rates remained relatively low throughout the period, but fell during the period when the dependency ratio of Table 2.3 was falling, thus reducing the true dependency rate even further. Table 2.4 shows the average growth rate of gross domestic product. The growth rate was faster in the post war period and tended to accelerate as the dependency ratio fell. Again, it is impossible to establish a direction of causality.

Finally, Table 2.5 shows the structural change that has occurred in Japan in terms of the percentage of total employment in each sector. The first sector is composed of the agricultural, forestry and fishery industries. The second sector accounts for mining, construction and manufacturing. The third sector constitutes transport and communications, energy and water services, retailing, wholesale trade, finance and insurance, real estate, service industries and public services. The second and third sectors have accounted for increasing proportions of employment, while the first sector has declined, concurrent with industrial development. During the 1950s, particularly during the first half of the decade, there was a decline in the industrial sector, in absolute numbers as well as proportionally and increases in the first and third sectors.

Table 2.5 showing the proportion of the work force employed in the first, second and third sectors, and the change in employment in each sector since 1920.

| Year | First sector (%) | Second sector (%) | Third sector (%) | First sector change (1000) | Second sector change (1000) | Third sector change (1000) | Contribution of first sector to second and third sectors (%) |
|------|------|------|------|------|------|------|------|
| 1920 | 54.9 | 25.2 | 19.9 | – | – | – | – |
| 1930 | 49.8 | 24.7 | 25.5 | + 39 | + 557 | + 2220 | – |
| 1940 | 44.6 | 30.9 | 24.5 | – 319 | + 2665 | + 368 | 10.5 |
| 1950 | 48.6 | 26.8 | 24.6 | + 3086 | – 313 | + 950 | – |
| 1955 | 41.2 | 28.5 | 30.3 | – 1187 | + 1644 | + 3145 | 24.8 |
| 1960 | 32.7 | 34.7 | 32.7 | – 1902 | + 3969 | + 2377 | 20.0 |
| 1965 | 24.7 | 38.1 | 37.2 | – 2524 | + 2989 | + 3444 | 39.2 |
| 1970 | 19.3 | 40.8 | 39.9 | – 1712 | + 3175 | + 3148 | 27.0 |
| 1975 | 13.9 | 41.1 | 45.0 | – 2799 | + 360 | + 2859 | 87.0 |
| 1980 | 11.0 | 40.5 | 48.5 | – 1243 | + 807 | + 3212 | 30.9 |

Source:     Sōrifu Tōkeikyoku (1983b) p 79.
Notes:      The first three columns show the percentage of employment in each sector. The industries belonging to each sector are described in the text. The numbers in columns 4, 5 and 6 show the absolute change in numbers employed in each sector in the time period up to that date: for instance, for 1965, column 4 shows that employment in the first sector fell by 2,524,000, indicating that it fell by that amount between the years 1960 and 1965. The last column is a crude measure of the contribution to the second and third sectors of labour migrating from the first sector.  The rate shown is exaggerated since the decline in numbers in the first sector is a result of death and withdrawal from the labour force, as well as migration. The increase in the numbers of workers in the second and third sectors is the number above that needed to cancel out natural wastage in these two sectors.

This reverse in the trend may be attributed to the labour intensive first and third sectors acting as labour absorbers during the economic downturn in this turbulent period. With the establishment of sound economic growth during the 1960s, the preponderance of second and third sector employment increased steadily, but at different rates, absorbing labour from the primary sector. In view of the generally higher productivity of these two sectors compared with the primary sector, higher productivity growth should have resulted, creating increases in effective demand.

In summary, total fertility rates fell rapidly in Japan after the Second World War, leading to a noticeable fall in the dependency ratio as defined in Table 2.2. As a consequence of this initial stage of ageing, the labour force grew more rapidly than the total population, in spite of a falling aggregate labour force participation rate. The unemployment rate remained low so that numbers in employment also grew faster than the total population. While dependency was falling, the share of national expenditure devoted to gross capital formation rose.

**Section 5  An examination of the effects of initial population ageing on economic growth in Japan**

There is very little written about the impact of demographic change on the growth of the Japanese economy. The material that does contain a partial study of demographic factors usually concentrates on the surplus agricultural labour approach of Ranis and Fei (1961). Minami (1973) and Yamaguchi (1982) are examples of these studies. From the perspective of this chapter, these studies are not enlightening, because they have little to say about the changes in the population in all sectors: Table 2.4 shows that much of the labour absorbed by the secondary and tertiary sectors was supplied

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by the non-agricultural population. This section contains two sub-sections. The first contains an introduction to a growth accounting study by Hatai (1975). Although this study does not take account of age structural change explicitly, it provides useful results for gaining an understanding of the contributions of demographic change in Japan to economic growth. The second sub-section represents an attempt to interpret Hatai's results on the basis of the possible influences of demographic change examined in the second section of this chapter.

## Sub-section 5.1 Hatai's growth accounting results

Hatai's paper is entitled "Capital accumulation, population and levels of consumption". In this paper, he uses a simple form of growth accounting, formulated through the following steps.

$$\frac{Y_c}{N} = \frac{Y}{N} \cdot w_c \qquad\qquad (2.19)$$

where:
$Y$ = national expenditure;
$Y_c$ = consumer expenditure;
$w_c$ = average propensity to save;
$N$ = total population.

Since the labour force = $lN$ ($l$ = labour force participation rate), $N = N_l/l$, giving

$$\frac{Y_c}{N} = \frac{Y}{N_l} \cdot l \cdot w_c \qquad\qquad (2.20)$$

such that $Y/N_l$ = labour productivity.

Introducing capital stock ($K$) into the above functional form, by using the capital/labour ratio ($K/L$),

$$\frac{Y_c}{N} = \frac{K}{N_1} \cdot \frac{Y}{K} \cdot 1 \cdot w_c \tag{2.21}$$

Equation 2.19 is transformed into a growth equation,

$$h_c = h + \omega_c \tag{2.22}$$

where:
$h_c$ = growth rate of per capita consumer expenditure;
$h$  = growth in per capita expenditure;
$\omega_c$  = change in the average propensity to consume.

Growth in aggregate expenditure, $h$, is given by

$$h = G - n \tag{2.23}$$

where:
$G$ = growth rate of the economy;
$n$ = growth rate of the population;

$G$ is given by

$$G = g_1 + n_1 \tag{2.24}$$

where:
$g_1$   = labour productivity growth rate;
$n_1$  = growth rate of the labour force.

$g$  being determined by

$$g_1 = k_1 + g_K \tag{2.25}$$

where:
$k_1$  = increase in capital/labour ratio;
$g_K$  = growth in productivity of capital.

Since the elements of Equations 2.24 and 2.25 above are difficult to quantify, Hatai resorts to this formula:

$$G = s \cdot y'_K \tag{2.26}$$

where:
$s$    = savings rate ( = investment rate);
$y'_K$ = marginal product of capital.

In Equation 2.26, no allowance is made for the effect of labour force growth on capital productivity. In other words, labour is not

a limited factor, a fact which Hatai believes is correct. Data for 1875 to 1969 are then examined under three main headings: a) Consumption levels, personal consumption levels and expenditure levels, b) per capita expenditure and population growth rates and c) economic growth rates and savings rates. The main comparison is between pre-war and post-war periods, the periods being 1) 1923 to 1946 (called the pre-war period) and 2) 1947 to 1969 (called the post-war period). I shall give a brief summary of these headings.

a)    For the pre-war period per capita consumption increased at a rate of 1.6% per annum whilst per capita expenditure increased at 3% per annum, the difference being accounted for by a 1.3%/annum drop in the average propensity to consume (APC). In the post-war period per capita consumption increased by 7.8%/annum, whilst per capita expenditure increased at a rate of 8.6%/annum with a 0.7%/annum drop in the APC. Thus 91% of the difference between the post-war and pre-war rates of per capita consumption growth of 6.2% is explained by the rise in per capita income.

b)    In the pre-war period per capita expenditure grew at a rate of 3%/annum, the economic growth rate was 4.3% and the population growth rate was 1.3%. In the post-war period per capita expenditure grew at a rate of 8.6%/annum, the economy at 10.0% and the population at 1.3%/annum. Therefore it is concluded that demographic change played no role in the differing rates of per capita expenditure.

c)    In the pre-war period the average economic growth rate was 4.3%/annum, labour productivity grew at 3.6% and the employed labour force grew at 0.72%/annum - the rise in labour productivity accounting for 82.6 % of the growth rate. In the post-war period labour productivity grew at 7.9% and the labour force grew at 1.9%, with 79.2% of the 10%/annum growth

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rate being accounted for by the labour productivity improvements. Thus capital stock growth and technological factors have four times as much effect as employed labour force growth, on economic growth. The difference in labour force growth rates accounts for 1.2% of the 4.4% difference in economic growth rates between the post-war and pre-war periods: in other words the difference accounts for approximately 27% of the difference in growth rates between the two periods.

So, Hatai shows that roughly a quarter of the difference between the pre-war and post-war growth rates is explained by the difference in growth rates of absolute numbers in the labour force. It is possible the age structural change also explains to some extent the contribution of the other factors of production to the difference in growth rates.


**Sub-section 5.2 An interpretation of Hatai's results**

Although in absolute terms the population growth rates in the pre-war and post-war periods hardly differ and thus account for no difference in per capita income through dilution effects, the change in the labour force growth rate does actually play a substantial role in the differing economic growth rates between the two periods. It is possible to deduce that the changing age structure that caused the difference in labour force growth rates (but no difference in the total population growth rates) was partially responsible for the impressive rise in per capita consumption in the post-war period: ageing of the population led to a greater proportion of people in the labour force for a given size of population and hence the addition to labour meant higher per capita income and per capita consumption. Had the increase in the labour force been caused by a faster population growth rate without age-structural change, per

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capita income would not have increased so rapidly. Indeed, per capita consumption was increasing rapidly, even though there was a continuous fall in the APC.

On inspection of the data provided in the tables of the previous sections, the pre-war period in Japan for which data exist shows little cause for remark, except for a gradual decrease in the total fertility rate and a gradual increase in average life expectancy at birth. The period from 1947 to 1960, however, is a period of remarkable demographic change, with the total fertility rate declining from 4.54 children to 2.00 children per woman, in a span of 15 years; and an average life expectancy increasing by over 13 years during the same period. The total fertility rate increased slightly during the 1960s, but was still low historically. These changes led to a change in the proportion of 15 to 64 year olds from 59.6% in 1950 to its peak of 68.9% in 1970, thus causing the labour force to increase at a rate of 1% or 0.8 percentage points above the population growth rate, despite decreases in the labour force participation rates. It should be noted also that this period saw extremely high rates of growth. It might be reasonably argued that it was the rapid rates of economic growth which brought about the fall in fertility, but I am concerned with the possibility of the fall in fertility contributing to the rapid GNP growth rate. The argument is simple.

So long as there is enough initial effective demand in the economy to absorb the growing work force, such a demographic change as described above will move the economy into a virtuous circle, with increasing demand for new products, increasing demand for investment, increases in savings, improvements in productivity and a higher rate of acquisition and adoption of new knowledge.

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As the proportion of people gainfully employed in the economy increases, the dependency rates decrease, making future consumption more attractive than previously and thus lowering the average propensity to consume. At the same time, the growth in the labour force slows the fall of the return on capital, which stops the average propensity to consume from rising. Consumption per capita rises as a consequence of a fall in the dependency ratio, however, and the proportion of consumption spent on income-elastic goods also rises. The increasing effective demand from consumption gives rise to a desire to invest in modern equipment, with the supply of loanable funds being provided by the drop in the average propensity to consume. The investment itself gives rise to a multiplier effect, but also increases the stock of capital and hence labour efficiency, which in turn increases income. Since investment is used for modern capital equipment, the efficiency of capital also rises. This process describes the initial impact of a move from a higher population growth rate to a lower population growth rate. If the proportion of working age people in the population continues to increase, the original multiplier effect will provide employment and the forces described above come into play once again. Thus the period over which this age structural change is occurring will see forever increasing domestic demand without real fear of factor supply shortages. While the age structural change is rapid, economic growth will be stimulated, as the economy makes continual adjustments. As the transition from one population growth rate to a lower growth rate proceeds, however, it is probable that the dependency rate will start to rise again, since the proportion of the population accounted for by age groups with lower labour force participation rates will increase.

Thus, as population ageing progresses, the virtuous cycle described above may be reversed, unless the labour force rates of older people can be raised (given a static unemployment rate). This interpretation can be expressed by a simple equation:

$$G = f((\dot{L}-\dot{P}),\dot{O}) \tag{2.27}$$

where $\dot{L}$ = labour force growth rate, $\dot{P}$ = population growth rate and $\dot{O}$ = growth rate of other factors.

That is, income growth is a function of the difference between the labour force growth rates and population growth rates, subject to the constraint of a constant unemployment rate. It should be stressed that if the unemployment rate rises, a rise in labour force participation rates may not raise growth since the dependency ratios would not necessarily change.

It might be felt that I have unnecessarily restricted the study of Japan to a period of 20 years (out of 60), but I have done so in the belief that no other period shows such a remarkable change in both economic and demographic factors and does not offer a clear possibility of establishing a link between population and economic growth.

## Section 6  Conclusion to Chapter 2

This chapter has covered a broad range of material and demonstrates the difficulty of establishing clear theoretical relationships between demographic change and economic growth. Empirical evidence is not easy to produce since other factors may dominate any effects of a changing population. The results of Mason's study suggest that dependency ratios influence savings and consumption rates. The debate about the effects of dependency ratios on capital accumulation still rages (see Leff 1969, 1984; and Ram 1982). I have assumed in Section 4, however, that a high dependency ratio will

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reduce saving. It is an important tautology to assert that a higher dependency rate means a smaller labour force for a given size of population. As a result, not only may the savings rate be lowered by a high dependency ratio, but per capita income will also be lowered. Thus, even if savings rates remain the same with a higher dependency ratio, the amount saved per capita will fall. The combined effects of a lower savings rate and lower savings per capita will reduce the speed of capital accumulation and embodiment of new technology. This view would appear to offer a pessimistic future for economic growth in Japan as old age dependency increases rapidly in the future with progressive population ageing. The increasing proportion of the population in the older age groups may reduce the aggregate labour force participation rate if age-specific labour force participation rates remain static, but it is possible that labour force participation rates within those groups or within other age groups will rise as the proportion of older people rises - labour force participation rates may fall, however. In this chapter, it was generally assumed that a rising aggregate labour force participation rate automatically lowered the dependency ratio, but such will not be the case if there is a rise in the unemployment rate. In the real world, unemployment does exist and it is generally the case older people experience longer durations of unemployment (OECD 1992 p 208; also see Appendix 7B). In the next few chapters I am concerned to show and explain the effect of population ageing on the aggregate unemployment rate in Japan. If unemployment rises as a result of population ageing in Japan, the dependency ratio will rise even if aggregate labour force participation rates stay the same. To understand the functioning of the Japanese labour market it is necessary to examine carefully the employment practices of companies. Such an examination is the subject of the next two chapters.

# CHAPTER 3  MICRO LABOUR MARKET FOUNDATIONS 1: WAGE CURVES, COMPANY WORKFORCE AGE STRUCTURES AND WAGE SYSTEMS

## Section 1  The significance of this chapter

In Chapter Two it was concluded that the percentage of the population gainfully employed had a significant impact on capital accumulation and economic growth. Therefore the future trends in labour force participation and unemployment need to be examined. The first step in such an examination is a detailed look at the employment practices of firms. This chapter and Chapter Four together represent such an examination. In the Section 2 wage curves over time and between different sizes of company are compared. These curves give an idea of the relative wages of older and younger workers, and moreover they are important because it is felt that one characteristic of Japanese employment practices is a steep wage curve (Ono 1988, Koike 1981). A comparison of wage curves in different sizes of company is also useful because the Japanese labour market is often characterised as being a dual labour market, in which there are closed internal labour markets formed by large companies and open labour markets facing smaller companies, which bear the brunt of labour market adjustment to shocks (see for example Nakamura 1981, Chapter Six).

The next section shows how the age structure of different size companies has changed as the general population age structure has itself aged. If young workers and older workers are complementary inputs, an ageing labour force should lead to lower relative wages for older workers, other influences held constant. The section allows for an examination of the relationship between age structure and wage curves.

Section 4 describes how wage levels are determined and how determination has changed over time, from an administrative point of view. This examination gives some insight into the role personal factors, such as age, and functional factors such as job-evaluation, have in determining wage levels.

Finally, it must the stressed that, from now on, only the employment practices and labour market for men will be the subject of analysis. Women experience different practices and different labour market structures to men, so an analysis of the impact of ageing on their labour markets is the subject of another thesis.

## Section 2  Wage Curves

Conceptually, the wage curve shows the wage levels of workers over their working life-span. The wage curve is determined by many factors in the labour market, such as supply and demand conditions for workers of different ages, employment practices, and the quality and skills of the worker over time, as discussed in Chapter Five. The trends over time in wage curves since the 1970s will be discussed in this section.

There are many types of wage curve, described below.

a)    The cohort wage curve. This wage curve shows the average wage levels of all people born in a certain period as they become older.

b)    The cross-section wage curve. This curve shows the wage levels of workers in each age group at a particular moment. As labour productivity increases over time the cross-section wage curve will shift upwards because a worker in each age group will receive a higher wage reflecting the efficiency gains. Figure 3.1 shows the relationship between the cohort wage curve and

the cross-section wage curve. The cohort wage curve is steeper since it includes productivity gains over time. In other words, an individual will experience a steeper wage curve than that implied by cross-section wage curves.

Figure 3.1 showing the relationship between cohort and cross-section wage curves.
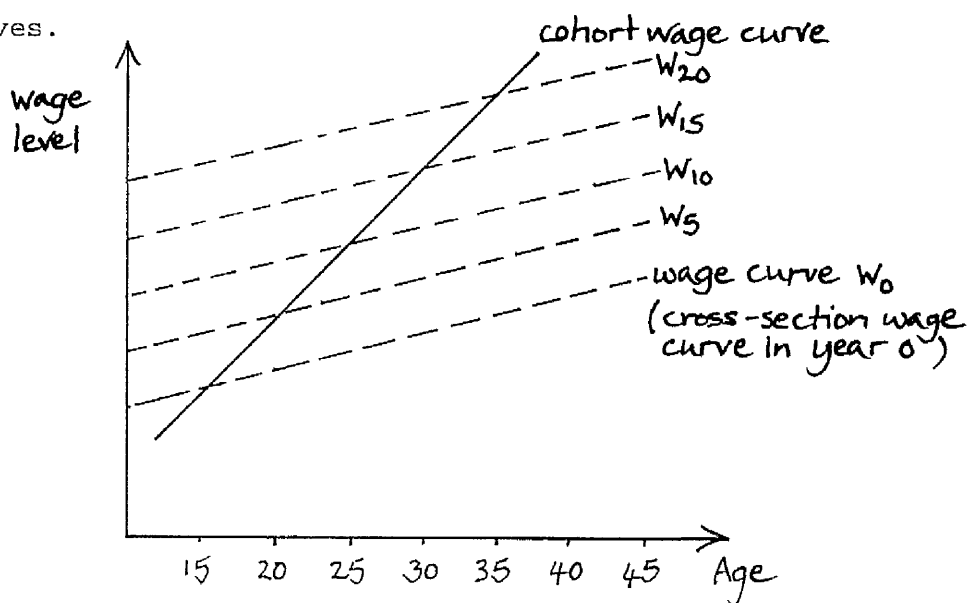


c)     Career wage curves. This type of curve shows the wage levels of a worker following a particular career pattern. In Japan there is particular emphasis on a wage curve of this type. As is discussed in Chapter Four, it is usually injurious for a worker to move companies during his career. A drop in wages usually accompanies the move. Thus wage curves can be constructed for workers who do not move over their career or for workers who move the average number of times. The former are often called model wage curves and the latter average wage curves. Average wage curves show the average wage levels of all types of worker.

d)   Dis-aggregated wage curves. At one extreme a wage curve can show the average wages of all types of workers, such as male, female, part-timers, blue-collar and white-collar. At the opposite extreme, wage curves can be constructed for each individual. Dis-aggregation can be carried out for example on the basis of sex, size of the company of the employer and geographical region or any combination.

e)   Wage curve by type of wage. Wage curves can be constructed using gross wages which include overtime and other types of non-regular pay or may be constructed for standard working hours under standard conditions. The wage amounts can be for different time units, such as months or hours.

f)   Relative wage curves. These curves can be any of the types discussed above, but rather than showing absolute wage levels at each age, they show the level of wages at one age as a percentage of the wage level of a particular age group (the base age). Such wage curves do not shift if efficiency gains are distributed evenly across all age groups, but their shape will change when the wage level of one age group changes relative to that of another.

Figure 3.2 shows the relative cross-section average wage curves for all types of male employees for the years 1970, 1975, 1980, 1985 and 1987. The average wage of a 22 year old is used as the base wage level: in other words an average 22 year old's wage level is equal to 100%. The wages used in calculating relative wages were monthly cash payments to employees excluding bonuses, overtime and other temporary payments (see Section 4 for a fuller description of these wage components). Since all the wage curves presented in this chapter are relative wage curves, I shall refer to them simply as wage curves.

Figure 3.2 showing the average wage curves for all male employees over time.
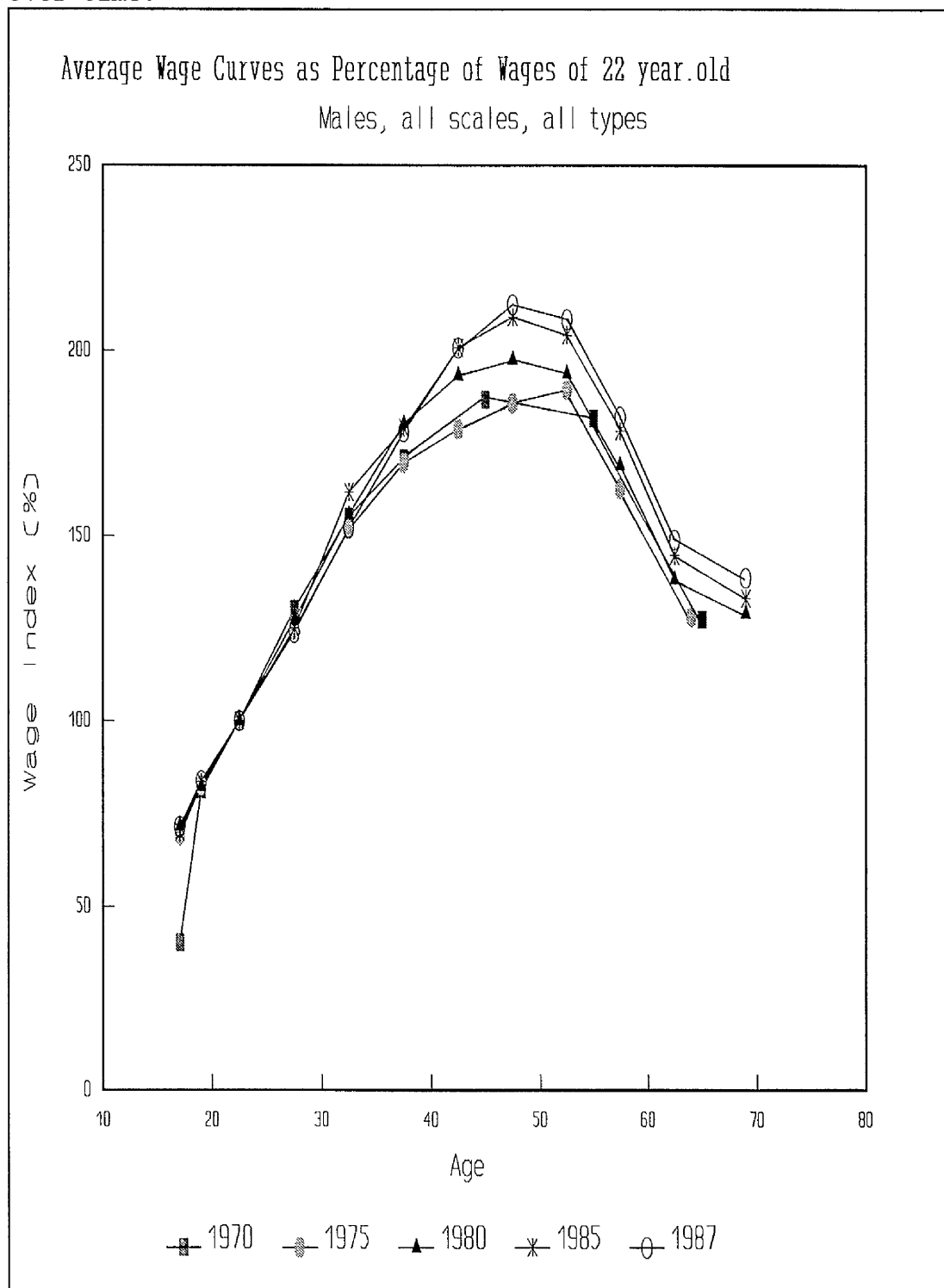


Average Wage Curves as Percentage of Wages of 22 year.old

Males, all scales, all types

Age

- 1970   - 1975   - 1980   - 1985   - 1987

Source:   Data from the *Chingin Kōzō Kihon Chōsa Hōkoku*, see Rōdō
          Daijin Kanbō Tōkei Jōhōbu Chingin Tōkeika (1971, 1976,
          1981, 1986, 1988), Table 1, except for the 1970 data
          which is from Table 2.

It is clear that since 1975 wage differentials by age have been increasing. Peak relative wage age fell from the mid-50s in 1975 to the late 40s during the 1980s. The steep reduction in relative wage levels after peak age is a another noticeable feature. Partly because of the detailed wage data in Japan, which allows the analysis of wages by size of the company of the employee, much attention has been paid to the wage differentials by scale of company in Japan and to the difference in the relative wage curves of employees employed by different size companies. During the 1960s wage differentials were decreasing, but since the 1970s there has been little change (Kurosaka 1988, Minami 1973). Figure 3.3 shows disaggregated wage curves for employees in different sized companies (measured by number of employees) for the years 1970 and 1985.

Figure 3.3 showing the average wage curves of male employees over time in different sizes of company.
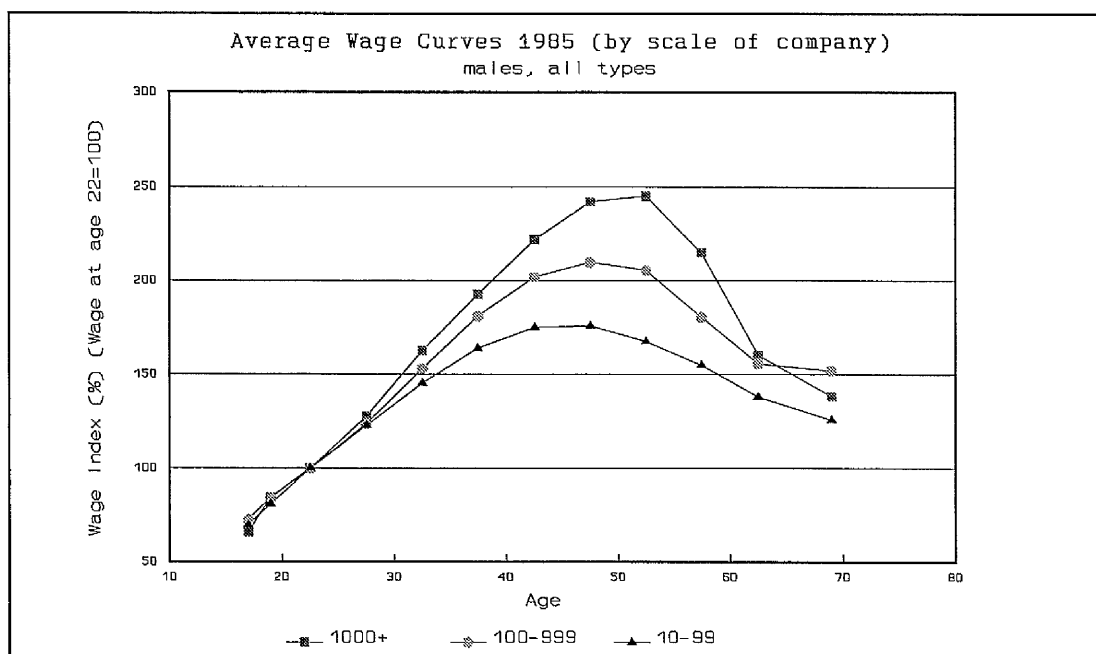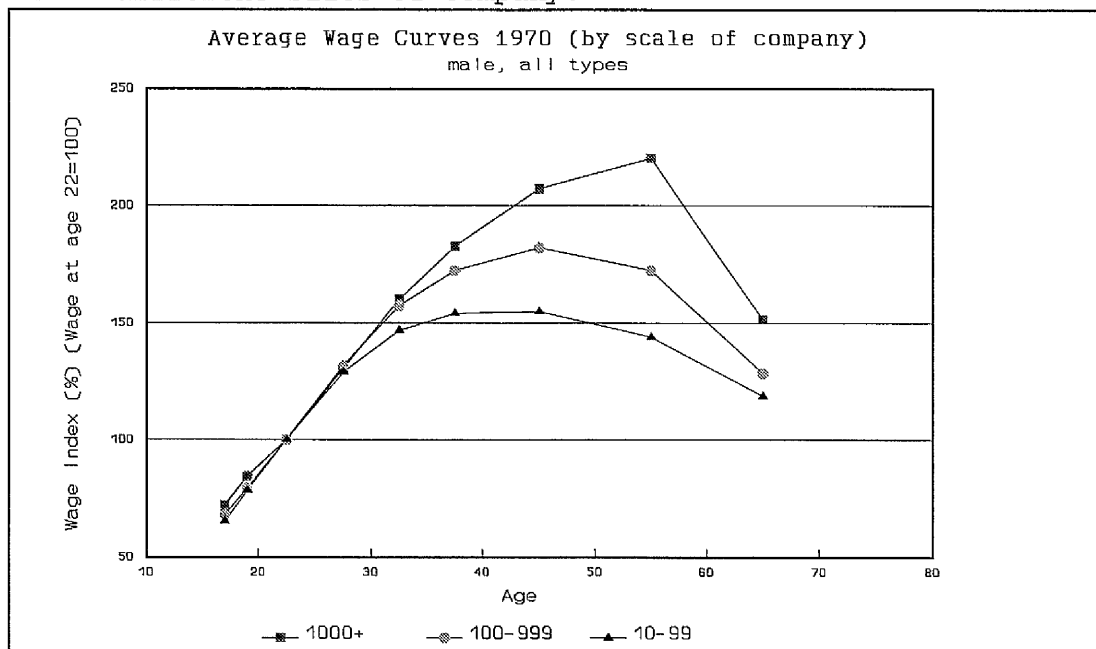


Average Wage Curves 1970 (by scale of company)
male, all types



Average Wage Curves 1985 (by scale of company)
males, all types

In both years, the smaller the company, the flatter the wage curve. The larger the company, the steeper the drop in wages after peak age. Although wage curves have become steeper in all sizes of companies over the 15 years, sizeable differentials at each age remain. The major difference in the 1985 wage curves compared with those in 1970 is that the wage differentials of older people in the largest company category (1000+ employees) actually fall below the wage differentials in the medium-sized companies (100 to 999 employees).

Figure 3.4a, 3.4b and 3.4c show the trends in average wage curves disaggregated by size of company. Since 1975 the wage curves in the 10-99 employee companies and 100-999 employee companies have become unambiguously steeper after the age of 40. Peak wage age increased during the 1980s in 10-99 employee companies. A trend in the shape of the wage curves in the 1000+ employee companies is less discernible because there is more variation in the shape of the curve over time, with the age of peak wage differential fluctuating noticeably. Certainly, the percentage change in peak age has been noticeably larger in companies below 1000 employee size.

Figure 3.4a showing the average wage curves of male employees in companies with more than 1000 employees, over time.

Average Wage Curves as Percentage of 22 Year Old's Wages

Males, all types, 1000+ employees

Wage Index (%)

300

250

200

150

100

50

10    20    30    40    50    60    70    80

Age

—■— 1970    —※— 1975    —▲— 1980    —✕— 1985    —○— 1987

Figure 3.4b showing the average wage curves of male employees in companies with between 100 and 999 employees, over time.



Average Wage Curves as Percentage of 22 Year Old's Wages

Males, all types, 100 to 999 employees

1970    1975    1980    1985    1987
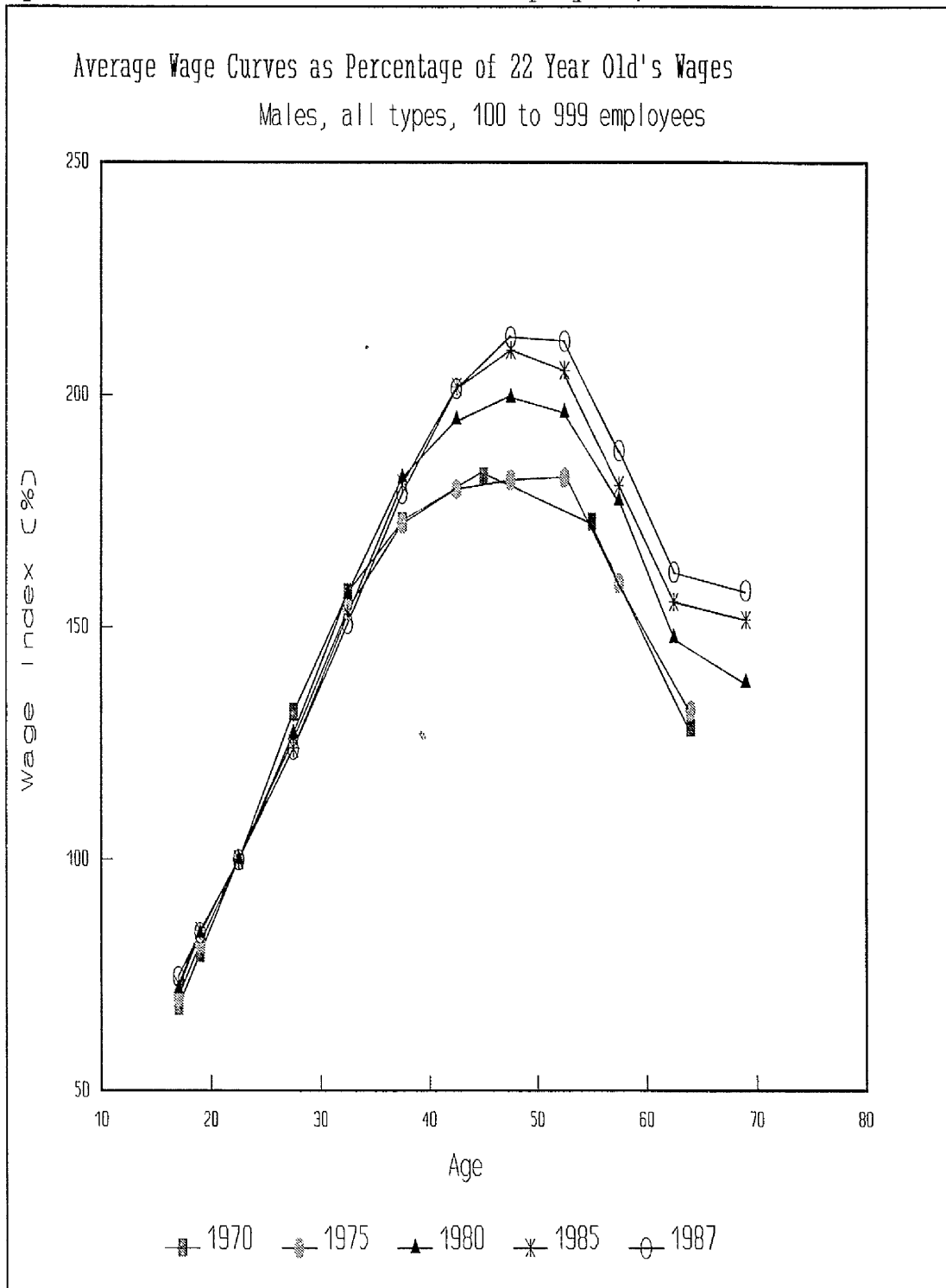
Figure 3.4c showing the average wage curves of male employees in companies with between 10 and 99 employees, over time.



Average Wage Curve as Percentage of 22 Year Old's Wages

male, all types, 10 to 99 employees

— 1970   — 1975   — 1980   — 1985   — 1987
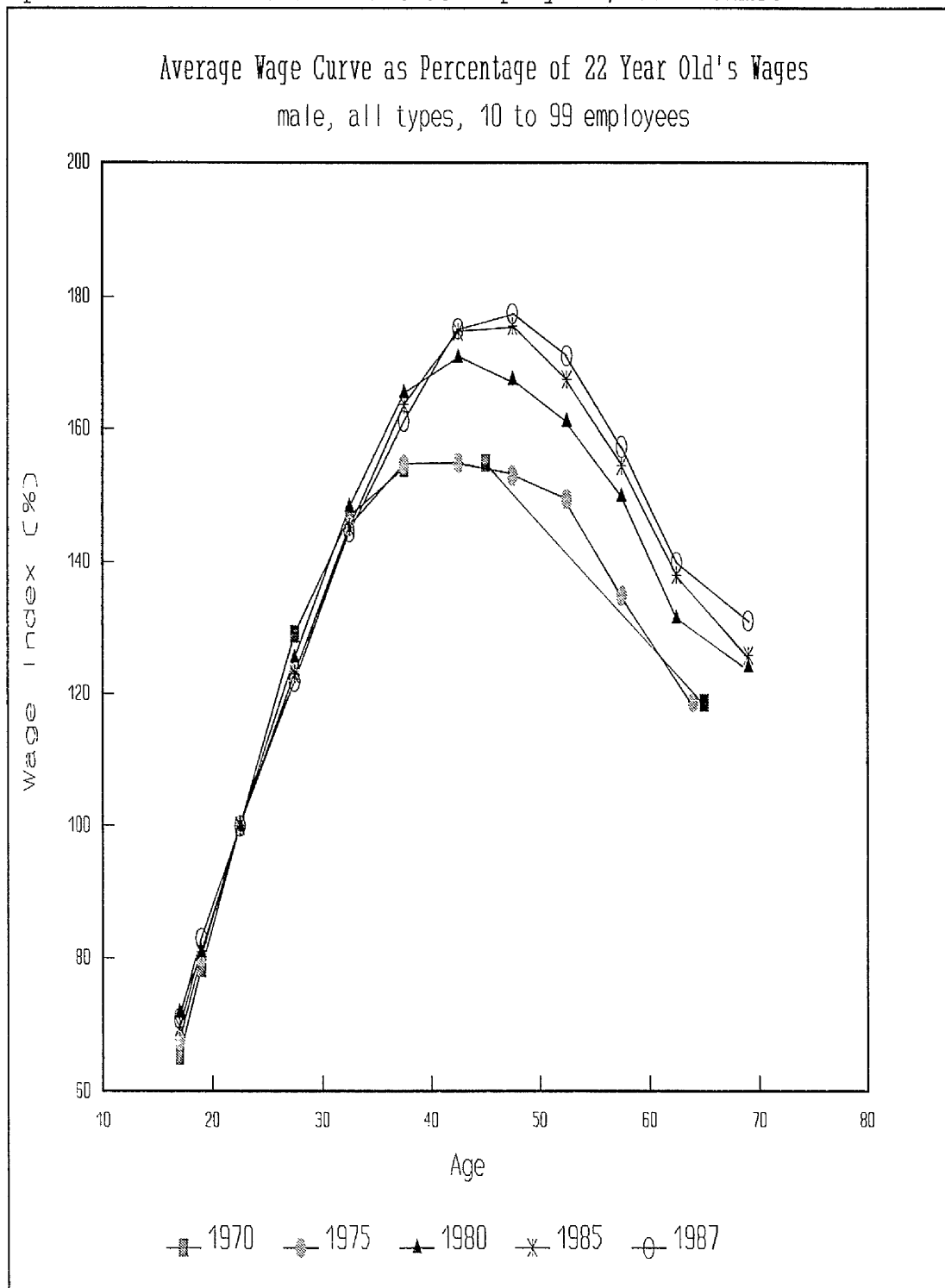
Source:     Data from the *Chingin Kōzō Kihon Chōsa Hōkoku*, see Rōdō
            Daijin Kanbō Tōkei Jōhōbu Chingin Tōkeika (1971, 1976,
            1981, 1986, 1988), Table 1, except for the 1970 data
            which is from Table 2.

As is discussed below in Section 4 wages in Japan are believed to be determined        personal factors such as length of service in the present company. It is felt that average wage curves have been steepening because of the increasing length of service of employees at each age over time. Figure 3.5 shows the wage curves of employees who have just joined the company (ie they have no length of service) over the period 1970 to 1987. Certainly the wage curves of those with no length of service rose during the period 1970 to 1980, but since then a consistent trend is difficult to discern. Therefore, the proposition that increasing length of service is causing the upwards shift of the wage curves seems to have some explanatory power.

Figure 3.5 showing the wage curves of employees with no length of service for all sizes of company over time.
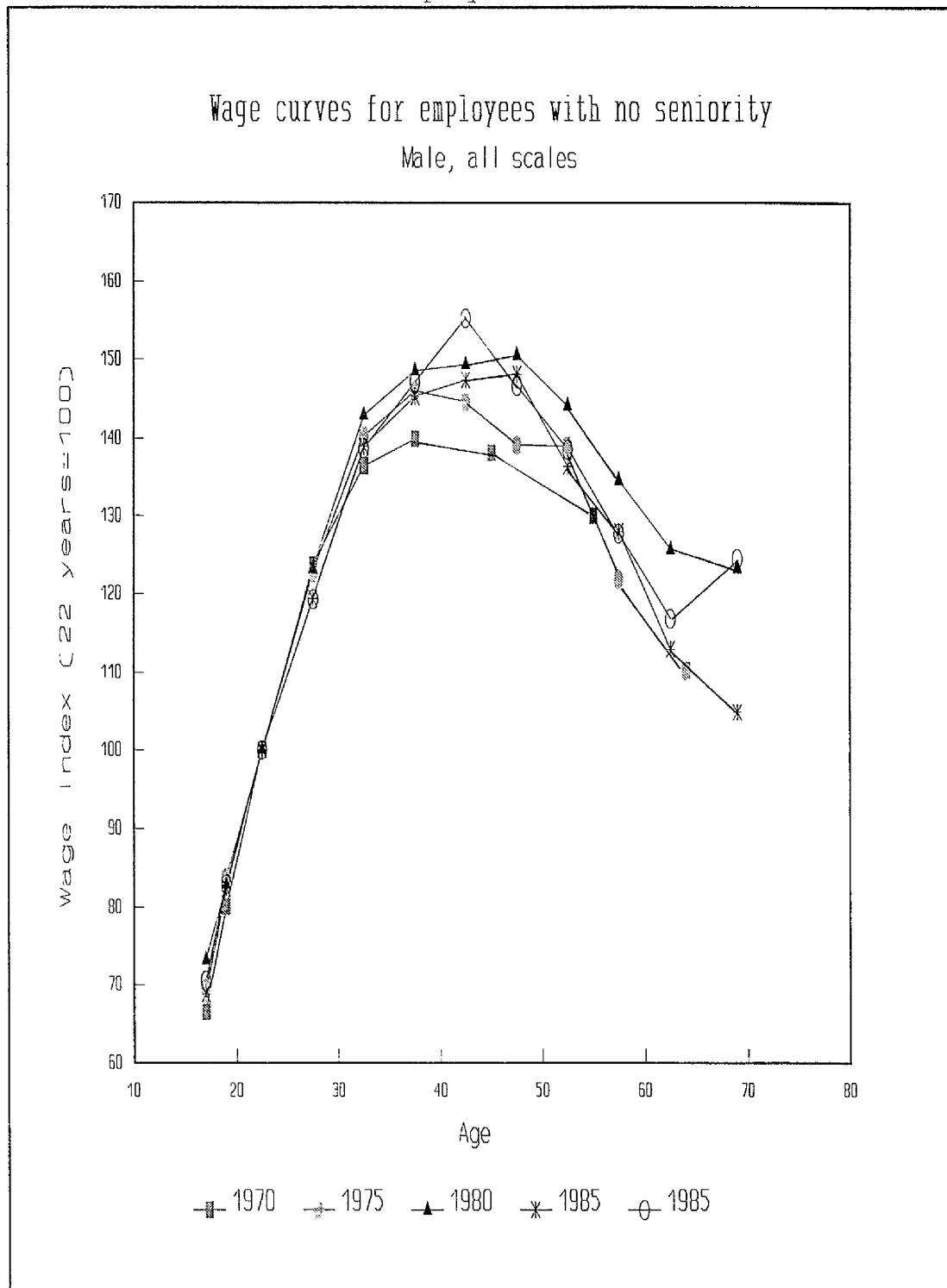


Wage curves for employees with no seniority

Male, all scales

Source:     Data from the *Chingin Kōzō Kihon Chōsa Hōkoku*, see Rōdō
            Daijin Kanbō Tōkei Jōhōbu Chingin Tōkeika (1971, 1976,
            1981, 1986, 1988), Table 1, except for the 1970 data
            which is from Table 2.

The wages of workers with no accumulated length of service can be compared with the wages of workers of average length of service, to show the disadvantage in moving company. Taking the wages of workers of average length of service as 100, Figure 3.6 shows the differential between the wages of workers who have just moved company and the wages of average length of service workers.

Figure 3.6 showing the wages of employees with zero length of service compared with those with average length of service.
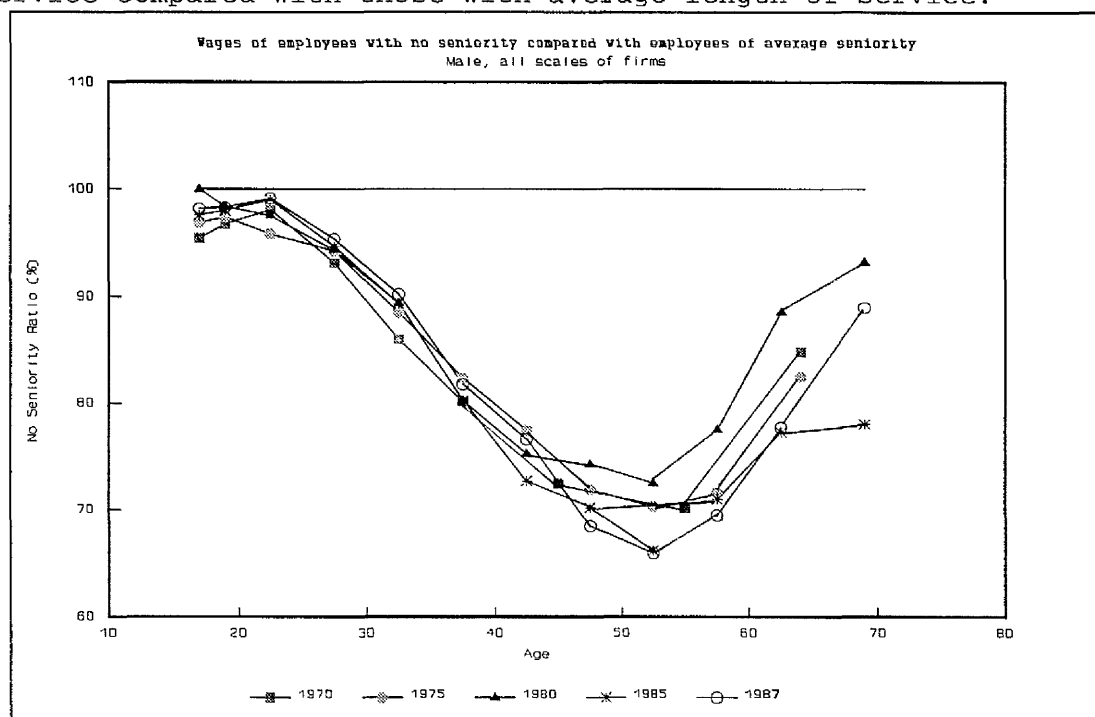


Wages of employees with no seniority compared with employees of average seniority
Male, all scales of firms

Source:    Data from the *Chingin Kōzō Kihon Chōsa Hōkoku*, see Rōdō Daijin Kanbō Tōkei Jōhōbu Chingin Tōkeika (1971, 1976, 1981, 1986, 1988), Table 1, except for the 1970 data which is from Table 2.

Figure 3.6 shows that it is detrimental to move company and becomes progressively more so as people age and average length of service increases in tandem. Moreover it shows that length of service is an important factor in wage determination.

## Section 3  The age structure of employees

The concern of this thesis is the ageing population of Japan. Although the aggregate population is ageing, it is not inevitable that the age structure of employees in general or of specific groups of employees will be the same as that of the general population. Employees only account for a proportion of the population and different groups of employees are formed under different circumstances. For example, during the 1960s, as Japan's economy grew rapidly and a labour shortage developed, larger companies adopted a policy of making their employee age structures younger (*wakageari*). Until the 1960s smaller companies tended to have a younger age structure, but due the policy of larger firms who were able to offer better conditions, this situation became reversed (Tsutsumi 1986). Figure 3.7 shows the age composition of all male employees for the years 1970, 1975, 1980, 1985 and 1987. Table 3.1 shows the average age of employees for the same years. The age structure of employees is ageing unambiguously, with average age increasing from  34.5 in 1970 to 39 in 1987. In 1970 the age distribution of employees was positively skewed, but the degree of skew has gradually decreased during the 17 years.

Figure 3.7 showing the age composition of male employees over time.
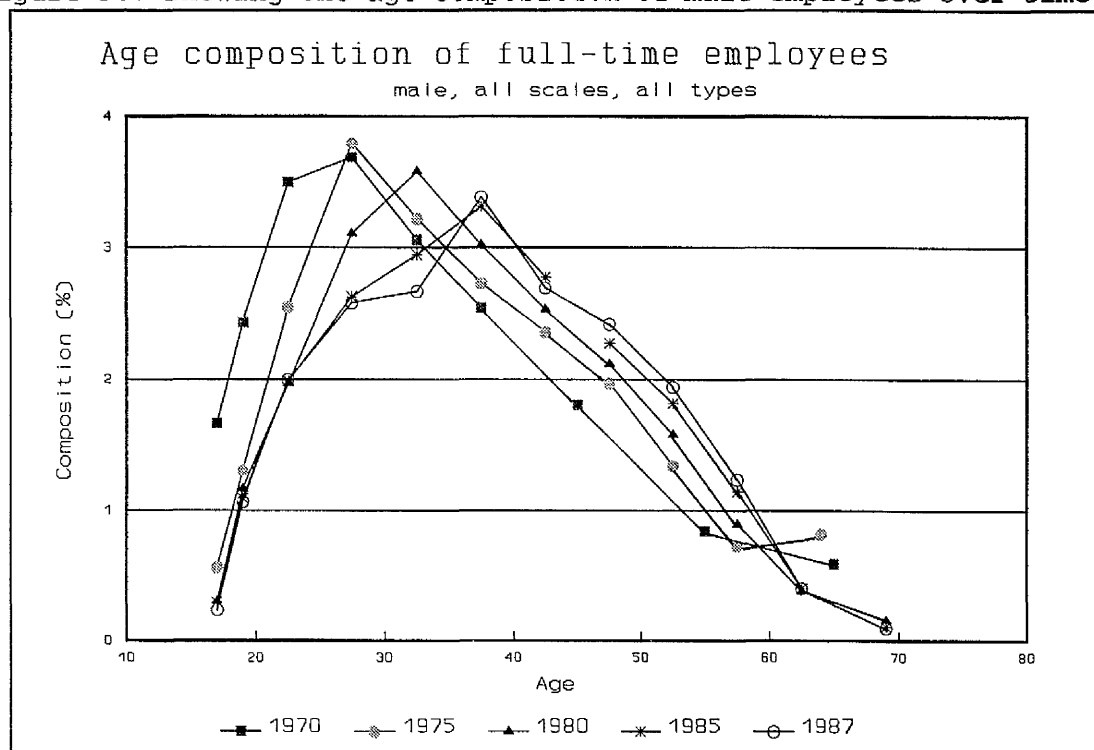


Age composition of full-time employees

male, all scales, all types

Table 3.1 showing age composition of employees in different sizes
of company.

| Scale | 1970 | 1975 | 1980 | 1985 | 1987 |
|---|---|---|---|---|---|
| 1000+ | 34.5 | 36.2 | 37.1 | 38.0 | 38.4 |
| 100-999 | 33.5 | 35.5 | 37.0 | 38.0 | 38.3 |
| 10-99 | 35.5 | 37.6 | 39.0 | 39.8 | 40.1 |
| All scales | 34.5 | 36.4 | 37.8 | 38.6 | 39.0 |

Figure 3.8a, 3.8b and 3.8c show the age structure of employees in
different sizes of companies over time. The employee age structure
in the 10-99 and 100-999 employee companies can be seen to be ageing
in a similar fashion to that of all employees, although the age
structure in 10-99 employee companies is ageing more rapidly than

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in 100-999 employee companies. The age structure in large companies
(1000+ employees) is generally ageing, but a clear trend is
difficult to discern. So long as the data   reliable, this would
imply that larger companies have a greater ability to maintain an
internal age structure divergent from that of the population as a
whole.

Figure 3.8a showing the employee age structure in companies with
more than 1000 employees, over time.



Age composition of full-time employees
male, 1000+ employee companies, all types
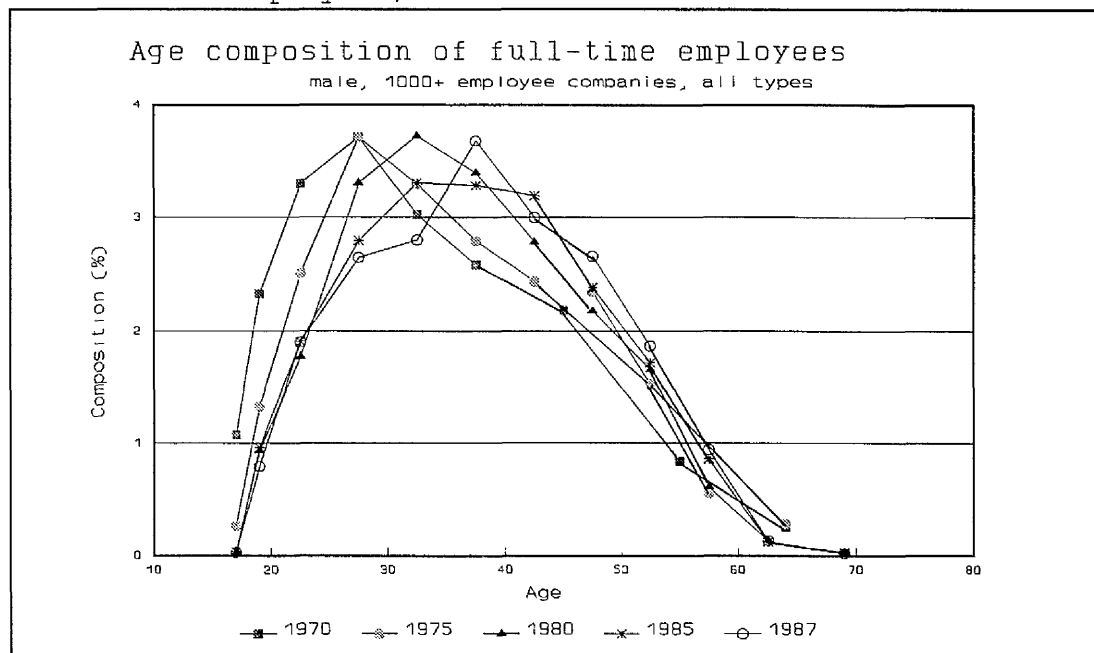
Figure 3.8b showing the employee age structure in companies with between 100 and 999 employees, over time.



Age composition of full-time employees
male, 100 - 999 employee companies, all types
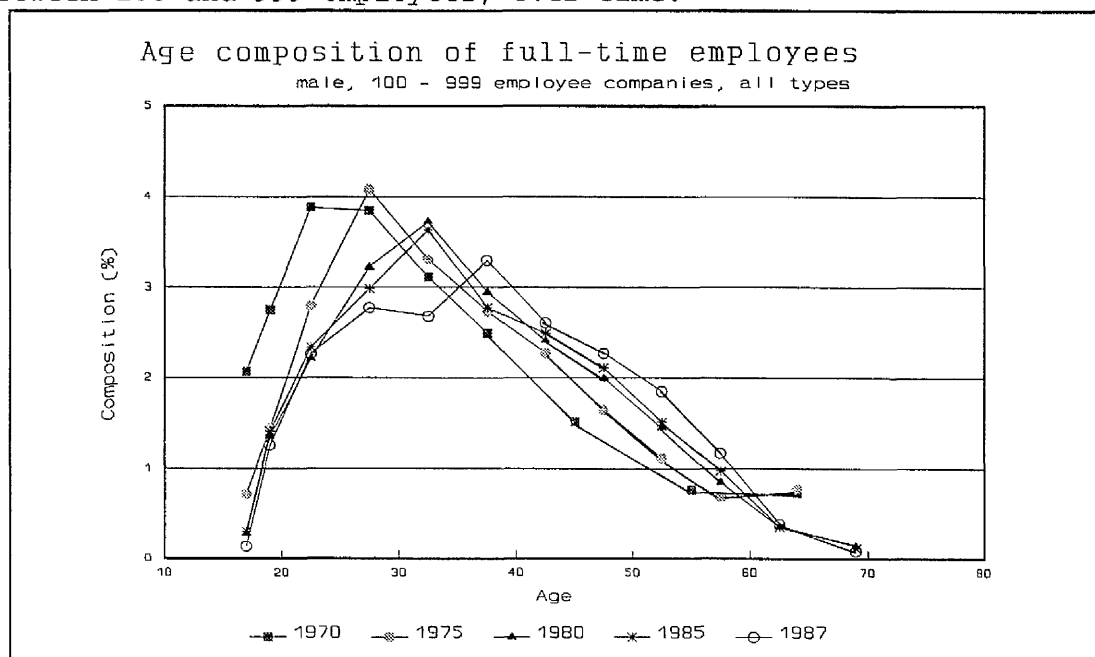
Figure 3.8c showing the employee age structure in companies with between 10 and 99 employees, over time.



Age composition of full-time employees
male, 10 - 99 employee companies, all types
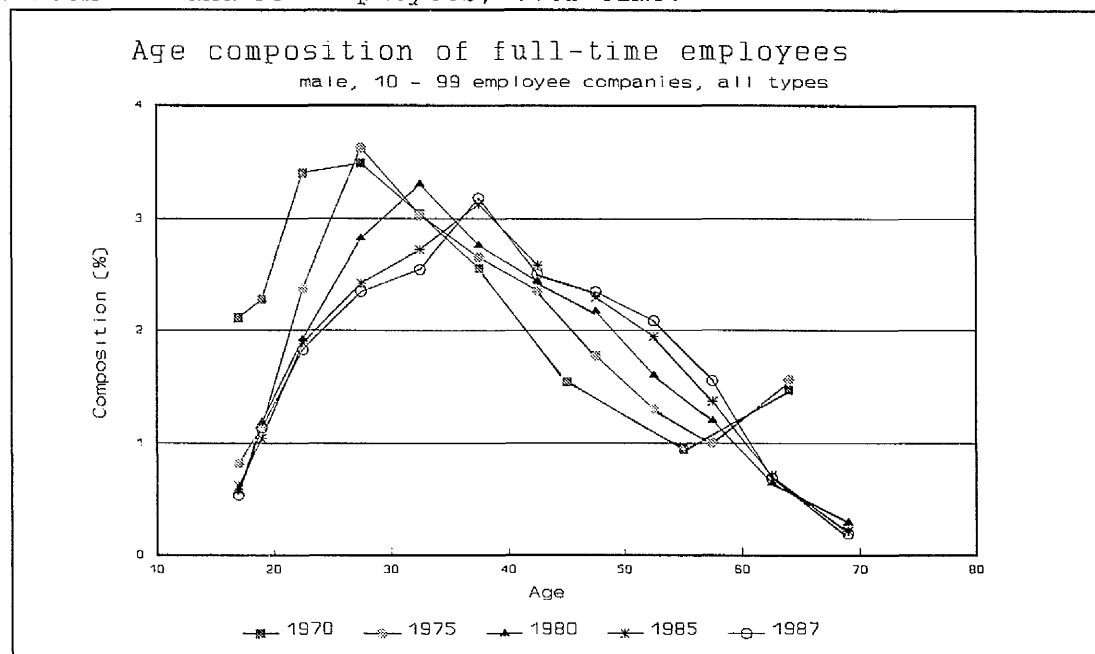
Source:    Data from the *Chingin Kōzō Kihon Chōsa Hōkoku*, see Rōdō
           Daijin Kanbō Tōkei Jōhōbu Chingin Tōkeika (1971, 1976,
           1981, 1986, 1988), Table 1, except for the 1970 data
           which is from Table 2.

It would be useful to see whether the employee age structure in
large companies has diverged significantly from that in the smaller
companies. Figure 3.9a, 3.9b and 3.9c show the employee age
structure for different sizes of company for the years 1970, 1980
and 1985 and Table 3.1 shows the average age of the employees. The
smallest size of company consistently has an older age structure
than the other two sizes of companies. Whether the age structure in
the 1000+ employee company is significantly different from that in
the 100-999 employee company is difficult to tell. Certainly the
large company (1000+) has a far smaller proportion of employees over
55 than the medium and small companies.

Figure 3.9a showing employee age structure in different sizes of
companies in 1970.



Age composition of employees in different scales of firms, 1970
male, all types
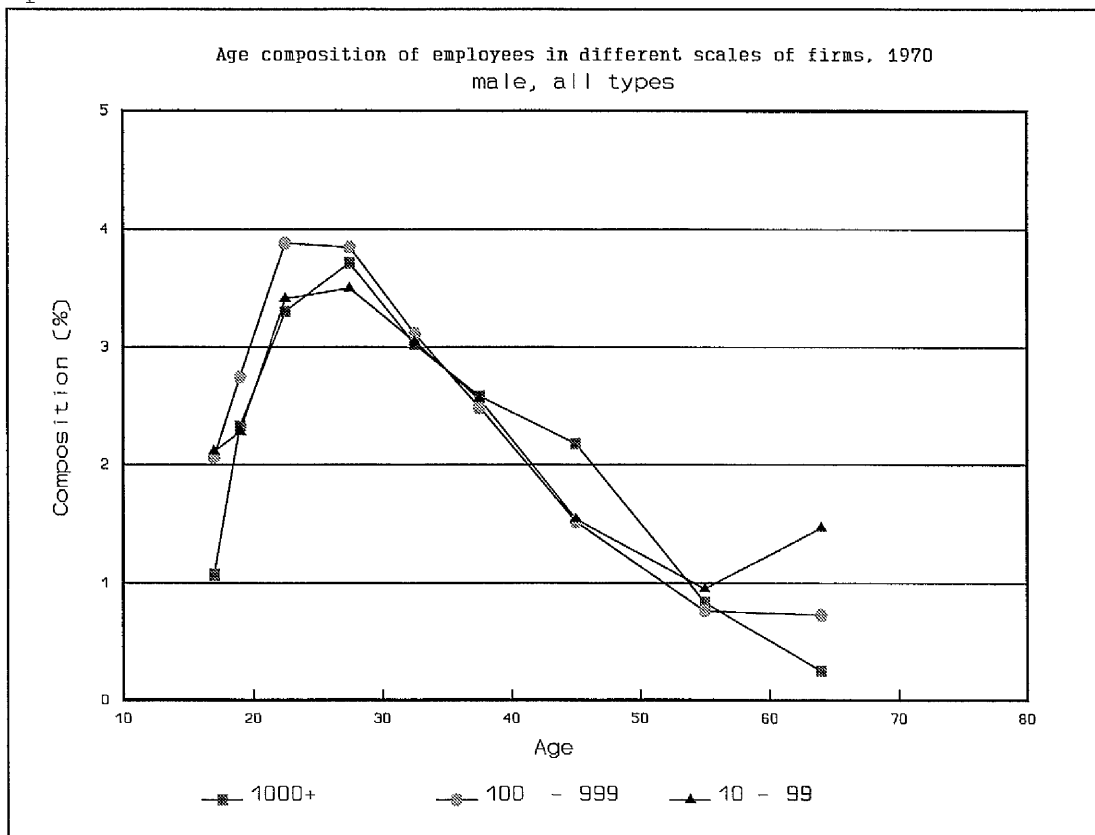
Figure 3.9b showing employee age structure in different sizes of
companies in 1980.



Age composition of full-time employees of different scales of firms, 1980
male, all types
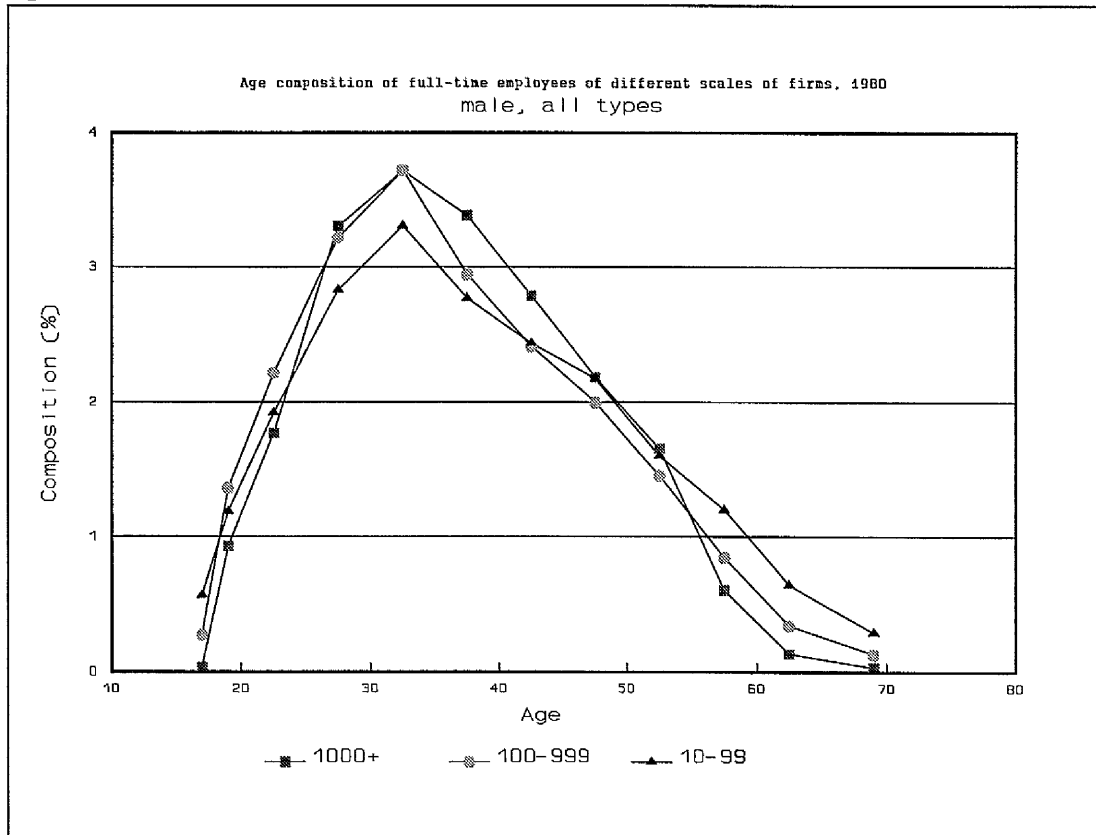
Figure 3.9c showing employee age structure in different sizes of companies in 1985.
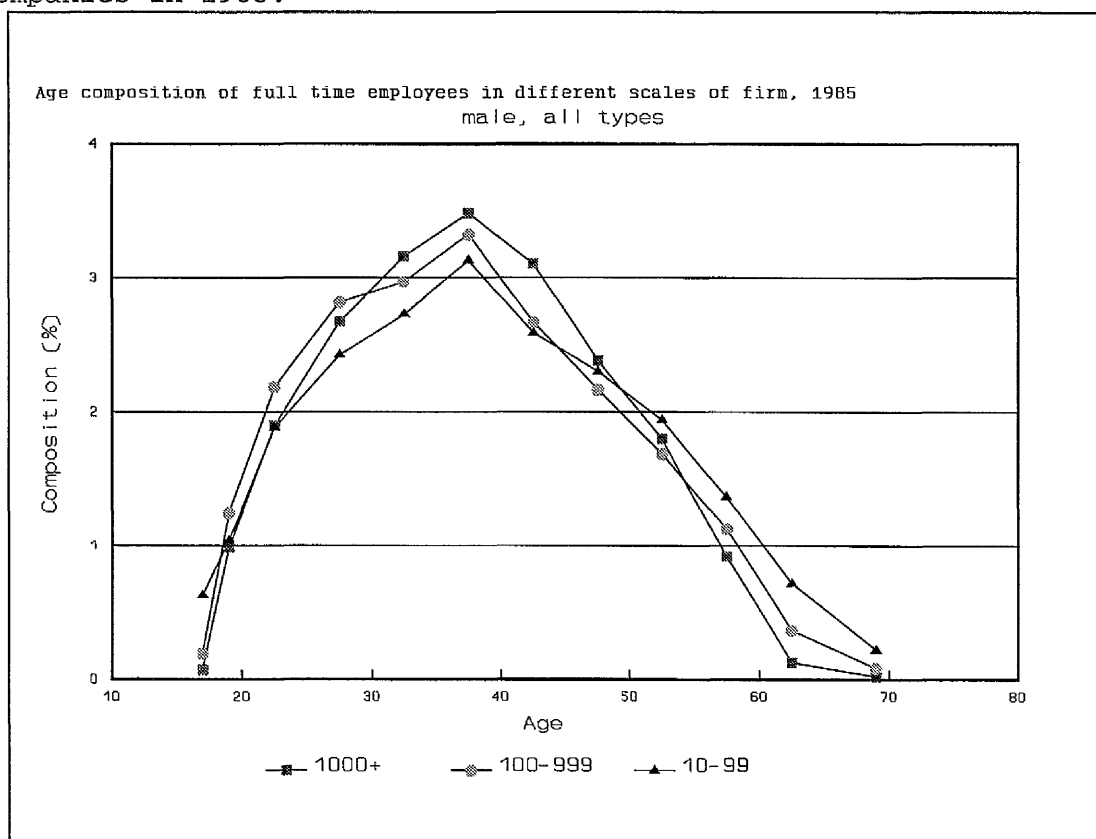


Age composition of full time employees in different scales of firm, 1985
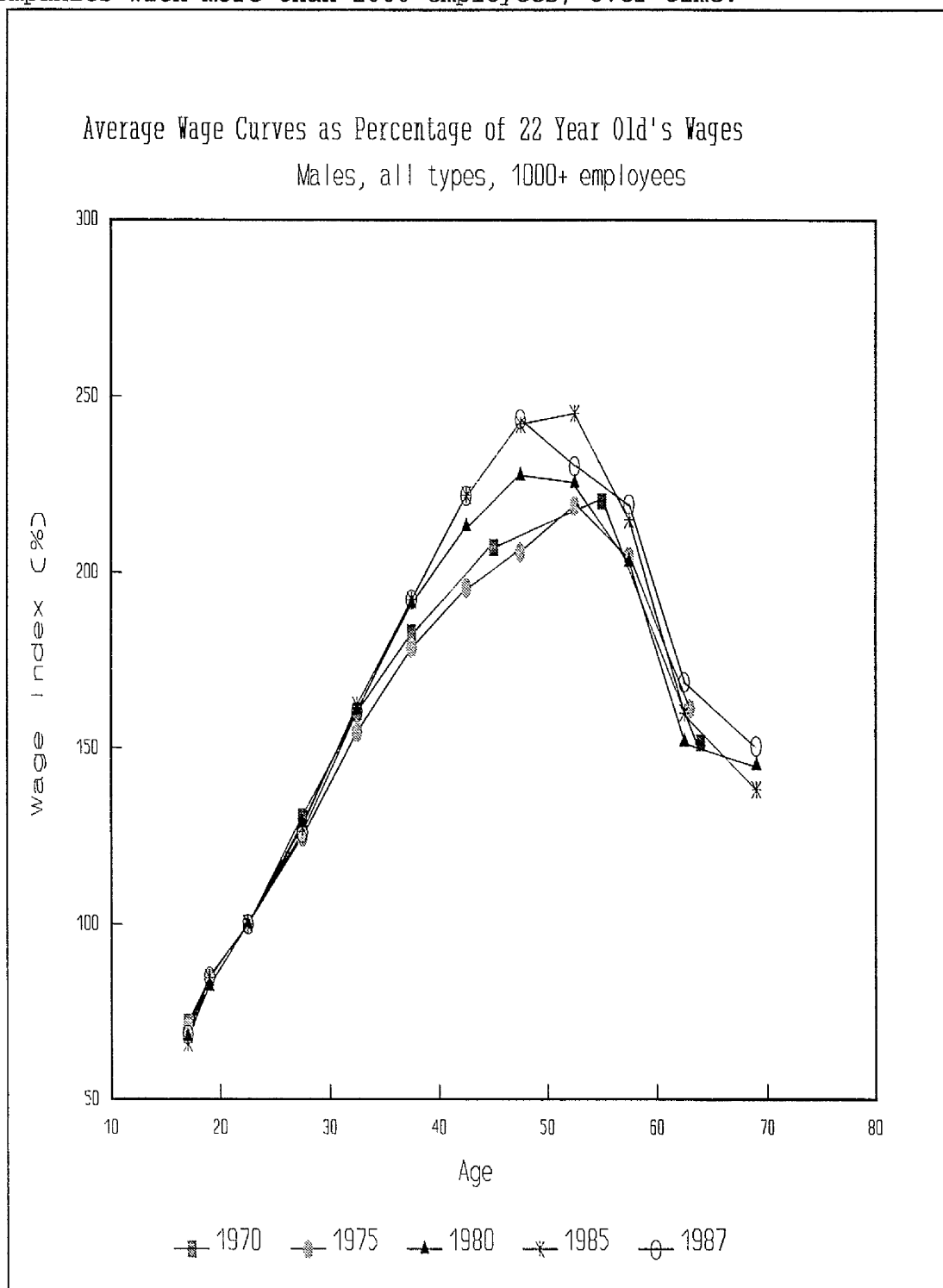male, all types

Source: Data from the *Chingin Kōzō Kihon Chōsa Hōkoku*, see Rōdō Daijin Kanbō Tōkei Jōhōbu Chingin Tōkeika (1971, 1976, 1981, 1986, 1988), Table 1, except for the 1970 data which is from Table 2.

## Section 4  Wage determination and wage systems

### Sub-section 4.1    Wage systems

This sub-section deals with the systems which are used to decide the wage of a regular worker in the company. Pay is generally split into two groups, these being 'basic pay' (*kihonkyū*) and then bonuses, overtime pay and various allowances, which tend to be more variable than basic pay. Basic pay accounts for approximately 80% (according to statistics shown in Hanaoka 1975 p 31) of the average pay received by workers and generally consists of two elements, although wages are sometimes decided using only one element. These two main

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elements are: 1) personal wages, based on the personal characteristics of the worker, which would remain unchanged even after a move to a new job, such as age, sex, familial circumstances and number of years length of service within the company and 2) functional (or work-related) pay, which is based on criteria such as type of work, level of skills and managerial position, which change with a change in job or promotion. The relative weights of the two elements used in wage determination are important in determining the life-cycle wage profile of a worker. If personal wages are prevalent, then there will be an extremely close relationship between age of the worker and the level of wages, whereas functional systems would tend to result in greater variability in wages for a given age group. It is the high weight of personal wages based on age or length of service in Japan that has been stressed in academic writings (Koike 1981) and such a pattern of wage determination is known as *nenkō joretsu*. These two wage systems cannot be separated easily on a basis of one being age determined and the other not, for the simple reason that promotion, experience and skills are strongly linked to age.

It is generally held that wages with a strong personal element became widely established during the Second World War with the passing of wage control orders in order to suppress inflation. In particular the second wage control order of 1940 required firms to present wage systems for the approval of the Ministry of Welfare, which had even stipulated starting salaries according to sex, schooling, age, experience, type of work and area (Shōwa Dōjinkai 1963). Following the war, in the latter half of the 1950s Japan experienced high inflation, with wages only at subsistence level and in 1946, the Japanese Electricity Industry Labour Union Association introduced a wage system which ensured the livelihood of workers

according to their age, known as *seikatsu hoshō* wages (Ono 1989 p 80, Nihon Koyō Shogū Kenkyū Sentā Teishō Mondai ni kansuru Iinkai 1985 p 48). This type of wage system became known as the *Densan-gata* (electricity industry type) wage system and basic pay comprised 63% living costs (i.e. personal type) and 34% functional pay (Ono 1989 p 80). This type of system spread to other industries such as the steel, chemicals and trading industries. By the 1960s, however, there was a move on the part of managers to introduce functional pay under the influence of American management theory. The electric power industry introduced an explicit *shokumukyū* (job-related) wage system in 1961 and by the mid-1960s, *shokumukyū* had permeated all the large chemical companies (Yamada 1983 p 196). However, functional pay did not replace personal pay, but was introduced alongside. Odaka (1984 p 249) estimates that in the manufacturing industries in 1966 work related pay amounted to 9% of basic pay, whereas by 1972 it had increased to 30%. Table 3.2 shows the composition of wages in 1973.

Table 3.2 showing the composition of the average monthly wage in 1973.

| Size of company (employees) | Standard Pay | Basic Pay | Func- tional Pay | Personal Pay | Com- bined Pay |
|---|---|---|---|---|---|
| 1000+ | 100 | 85.1 | 37.1 | 17.6 | 30.5 |
| 100-999 | 100 | 83.7 | 29.2 | 19.3 | 35.2 |
| 30-99 | 100 | 84.3 | 33.7 | 11.5 | 39.1 |
| All scales | 100 | 84.4 | 33.3 | 17.2 | 33.9 |

Source:     Hanaoka (1975) p 31.
Notes:      Standard pay (*shoteinai chingin*) does not include bonuses and overtime pay. Elements of standard pay not included in basic pay are various allowances and payments by results.

Table 3.3 shows the extent of different wage systems since 1970 (see notes to table for definitions of system categories).

Table 3.3 showing the percentage of firms using the different types of common wage systems over time.

| Year | Work type | Personal Type | Composite Type | Combination |
|---|---|---|---|---|
| 1000+ employees | | | | |
| 1970 | 14.3 | 17.7 | 40.6 | 27.5 |
| 1975 | 15.1 | 13.1 | 39.3 | 32.5 |
| 1980 | 8.1 | 6.9 | 40.4 | 44.5 |
| 1984 | 5.5 | 3.8 | 44.5 | 46.2 |
| 100-999 employees | | | | |
| 1970 | 17.4 | 19.7 | 48.3 | 14.6 |
| 1975 | 27.1 | 14.1 | 45.8 | 12.9 |
| 1980 | 8.8 | 8.2 | 59.2 | 23.8 |
| 1984 | 8.1 | 7.5 | 62.0 | 22.3 |
| 30-99 employees | | | | |
| 1970 | 20.7 | 17.4 | 56.3 | 5.7 |
| 1975 | 32.4 | 10.2 | 50.3 | 7.1 |
| 1980 | 15.9 | 6.4 | 63.6 | 14.0 |
| 1984 | 18.2 | 4.8 | 68.1 | 8.9 |
| All sizes | | | | |
| 1970 | 19.6 | 18.1 | 53.6 | 8.8 |
| 1975 | 30.5 | 11.4 | 48.8 | 9.3 |
| 1980 | 13.8 | 6.9 | 61.9 | 17.4 |
| 1984 | 15.2 | 5.5 | 66.0 | 13.2 |

Source:      Rōdō Daijin Kanbō Seisaku Chōsabu (1988).
Notes:       A composite type wage system is one having elements of
             work related and personal pay as a single system,
             whereas combined type is a system in which personal type
             elements and work-related type elements are applied in
             tandem. Work related type includes ability related wage
             systems as well as ordinary work related type systems or
             a combination of the two. The work type and personal
             type categories are for firms which only operate one of
             the two systems and no other system alongside. There is
             a slight change in the categories after 1979.

Although care needs to be taken in drawing conclusions from these figures since definitions changed in 1979, there has been a general shift from singular systems to composite systems amongst firms, with a particularly large drop in the use of pure personal wage systems.

A system in which the proportion of personal pay is high requires that wages are revised frequently, so that workers receive the wage corresponding to their age and other characteristics, even when there is no productivity increase or inflation. This gives rise to the practice of *teiki shōkyū* which entails revision of wages and promotion at a fixed time each year. Wage increases for an individual can thus be split into two parts. One is the increase due to inflation or productivity increase and the other is due to promotion, gaining another year of length of service, or other personal changes. These two parts are known as *base-up* and *teishō* (short for *teiki shōkyū* respectively). A system which places emphasis on personal wages should have high *teishō* rates, whereas they will be low for heavily functional pay schemes.

Table 3.4 showing the extent of the *teishō* system over time in different sizes of company.

| Scale of firm (number of employees) | 1973 | 1980 | 1982 |
|---|---|---|---|
| | Carry out *teishō* (%) | Have a *teishō* system (%) | Have a *teishō* system (%) |
| 1000+ | 96.3 | 87.2 | 88.6 |
| 100-999 | 94.4 | 88.6 | 89.8 |
| 30-99 | 93.0 | 86.2 | 85.7 |
| All Scales | 93.8 | 86.9 | 86.9 |

Source:    Nihon Koyō Shogū Kenkyū Sentā (1985).
Note:      Figures are percentages of companies surveyed.

Table 3.4 shows the extent of the use of a *teishō* system across different sizes of company from 1973 to 1982. There was little change in usage rates over this short period and the *teishō* system

is firmly rooted in all sizes of company. This does not mean, however, that companies have a highly length of service-based system or that the system is rigid, since the majority of firms do not raise the salary of an individual automatically according to a predetermined set of parameters such as age and years of service, but also add an element of appraisal (*jinji kōka*). The appraisal allows the company to vary wages to some extent according to ability or job content and is strongly linked to functional pay schemes which are operated in tandem with the personal pay. Table 3.5 shows the extent of the different methods used in the determination of *teishō* for 1983.

Table 3.5 showing the percentage of firms using various methods for determining amount of *teishō*.

| Scale of firm (number of people) | Only *kōka* | Only auto-matic *teishō* | Only *kōka*-aut-omatic | *Kōka* & auto-matic combined | Other |
|---|---|---|---|---|---|
| 1000+ | 17.3 | 15.4 | 35.9 | 11.5 | 2.8 |
| 100-999 | 22.3 | 13.9 | 46.3 | 17.2 | 0.4 |
| 30-99 | 32.1 | 13.7 | 42.5 | 28.6 | 0.2 |
| All scales | 28.9 | 13.8 | 43.4 | 13.6 | 0.3 |

Source:    Nihon Koyō Shogū Kenkyū Sentā (1985).
Notes:    *Kōka*-automatic *teishō* is the case when a fixed raise is guaranteed for an element of basic pay and any raise above the fixed amount is determined through appraisal. *Kōka* & automatic combined is the case when some raises in basic pay are determined by appraisal and some automatically. Automatically means there is a predetermined schedule for raising pay.

The majority of companies have a combined type of wage determination, allowing a degree of flexibility, although it is noticeable that smaller firms are more likely to rely purely on appraisal, perhaps implying that small firms practising *teishō* do not have a well-defined wage system. The use of automatic determination is low and does not differ noticeably across company

size. According to analysis in Nihon Koyō Shogū Kenkyū Sentā (1985),
the yearly rise in wages due to *teishō* has dropped slowly from 4.2%
in 1965 to 2.2% in 1983. This decrease is partly due to an ageing
population. Older people generally experience a smaller *teishō* and
so a greater proportion of older people in the work force will
naturally result in a declining *teishō* rate. The yearly proportion
of rising wages accounted for by *teishō* has been increasing since
1970 from 17% to 47% in 1983, although this is probably due to
slower rises in productivity during the early 1980s which in turn
reduced the base-up proportion of pay rises. Thus, even when
productivity gains have been low, the individual will experience
higher wage increases than the increase in labour productivity.

Thus, the most common wage systems in Japan combine a fixed or rigid
element which provides stability for the worker, with a
discretionary element which allows flexibility for the company to
attenuate wage differentials according to labour market conditions
(internal or external). Although both these elements have certainly
been present since the late 1940s, their relative weight has changed
gradually, with the discretionary element gaining importance
(Uchida 1989 p 131), along with the growing use of functional pay
systems. For a given age of worker, wages should then show
increasing variation. The deviation of the wages for male employees
in different age groups in the years 1970/75/80/85 for different
size companies are shown in Table 3.6 below.

Table 3.6 showing deviation of wages for different age groups in different sizes of company over time.

| Age | 1970 | 1975 | 1980 | 1985 |
|---|---|---|---|---|
| All scales | | | | |
| 20-24 | 0.37 | 0.25 | 0.25 | 0.24 |
| 45-49 | 0.48 | 0.43 | 0.55 | 0.51 |
| 50-54 | - | 0.55 | 0.58 | 0.58 |
| 1000+ employees | | | | |
| 20-24 | 0.36 | 0.22 | 0.21 | 0.20 |
| 45-49 | 0.42 | 0.35 | 0.51 | 0.45 |
| 50-54 | - | 0.45 | 0.55 | 0.51 |
| 100-999 employees | | | | |
| 20-24 | 0.35 | 0.26 | 0.24 | 0.22 |
| 45-49 | 0.43 | 0.48 | 0.48 | 0.46 |
| 50-54 | - | 0.53 | 0.53 | 0.54 |
| 10-99 employees | | | | |
| 20-24 | 0.41 | 0.33 | 0.31 | 0.29 |
| 45-49 | 0.51 | 0.5 | 0.47 | 0.45 |
| 50-54 | - | 0.53 | 0.5 | 0.49 |

Notes:     The data for the 45-49 age group for 1970 is for the age group 40-49 and so there is some discontinuity between the 1970 data and the later data. The variance is calculated as follows (9th decile-1st decile)/(2 x median).

As can be seen from Table 3.6, deviation of wages increases the older the age group, showing that the functional element of wage determination increases with age.

**Sub-section 4.2 Other forms of pay**

Having discussed basic pay, I would like to mention three supplementary types of pay. These are a) allowances b) bonuses and c) severance pay.

**a)    Allowances**

Allowances (*teate*) are usually payments for changes in circumstances which are not considered permanent or payments which cannot be standardised across the majority of workers. Family allowances can be finely adjusted for the number of children and other dependents and age of the children. Thus the amount of the allowance increases with age, by its very nature. Other allowances may be for commuting, subsidising housing expenses for those not living in company accommodation, for unpleasant work or for managerial positions (often to compensate for losing overtime pay).

**b)    Bonuses**

Bonuses are usually paid twice yearly and account for between two and four months' pay (Oki 1989). There has been much discussion in economics literature over the flexibility variable bonuses give companies in adjusting labour costs over the business cycle, but in recent years variability has decreased (Kurosaka 1988 pp 171 - 173). The amount of yearly pay accounted for by bonuses has risen over time and it is claimed that this trend is  the result of businesses trying to decrease the proportion of basic pay, which is used for calculating contributions to the state and for company welfare such as pensions. Bonuses are distributed according to the amount of basic pay and so maintain wage differentials.

## c)   Severance pay

Severance pay (*taishokukin*) may be considered a form of delayed pay. It is generally calculated as a multiple of severance base pay, which is a set percentage of monthly basic pay, although it is sometimes calculated using a points system based on length of service (Rōmu Gyōsei Kenkyūjo 1987 p 19). The multiple varies non-linearly with length of service and also according to the circumstances of severance. Retirement gives the most favourable multiple and quitting  the least favourable. Figure 3.10 below shows how severance pay varies over length of service and for different types of severance as multiples of the severance pay received after three years service. Severance pay multiples rise steeply at first, encouraging workers to remain in the company, but then the increment in the multiple begins to decline with an incremental year's service as retirement age is reached. The multiples for severance pay receivable upon quitting rise more steeply, but this is a reflection of the low levels of severance pay received when quitting with short length of service.

Figure 3.10 showing rising severance pay as length of service increases.



Severance pay multiples

**Figure 16**

Table 3.7 below shows quitting severance pay as a percentage of retirement severance pay. The table demonstrates that quitting results in much less favourable severance pay compared with retirement particularly when length of service is short, again encouraging employees to stay within the company for a long period. It is more difficult to show trends in the amount received in severance over time. Data of monthly pay multiples exist for people up to age 55 over times, but since retirement age has been raised in many companies, this would give a false picture of the trends in size of retirement severance pay. Certainly for those aged 55, severance pay has been decreasing as a multiple of monthly pay (Chūō

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Rōdō Iinkai Jimukyoku 1979) In recent years companies have been converting the severance pay system into a company pension scheme, usually leaving the choice of a pension or lump sum payment to the individual.

Table 3.7 showing quit severance pay as a percentage of retirement severance pay.

| Sen-iority | 3 years | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
|---|---|---|---|---|---|---|---|---|
| Ratio (%) | 49.9 | 56.0 | 65.2 | 74.6 | 83.3 | 88.3 | 90.8 | 91.7 |

Source:    Chūō Rōdō Iinkai Jimukyoku (1988).

## Section 5  Conclusion to this chapter

Section 2 shows that the relative wages of older workers have risen noticeably since 1970 in companies with fewer than 1000 employees. Wage curves have also steepened in companies with more than 1000 employees, but to a lesser extent than in smaller companies – also there is a less consistent trend in the changes of the wage curve in large companies. While wage curves have generally been steepening, the age structure of the workforce within companies has been ageing. This ageing is seen in both the lessening skew of age distributions and in the rising average age of employees. The age structure in companies with fewer than 1000 employees has aged more than in larger firms and has shown a consistent pattern. There is more variability in the age structure of employees in firms with more than 1000 employees. The fact that the age structure of employees in large firms has aged less noticeably than in small firms and that there is a less discernible pattern over time suggest that large firms are tending to make their age structures diverge from that of the general labour force.

Since the Second World War, wages in Japan have been determined largely by personal factors such as age. Such wages are known as *nenkō* wages. Section 2 shows that length of service seems to be important in determining wage levels, since the wage differential between those with no length of service and those with average length of service increases with age (average length of service increases with age). Section 4 also shows, however, that a certain proportion of wages is determined by functional factors such as type of job performed and managerial position. Moreover, the proportion of wages determined by personal factors has been declining and the use of appraisal has increased over time. It was shown that the proportion of wages accounted for by functional factors increased

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with age and this was confirmed by the increasing dispersion of wages as age increased. Fewer small firms tended to rely on appraisal than large firms, implying that personal elements in wage determination were less important for small firms.

Types of pay other than monthly cash payments were examined briefly. Bonus payments are clearly an important component of labour income, but the amount of bonus payment is related to monthly cash payments, so bonus payments were not examined in detail, since they should not affect the shape of the wage curves.

Severance pay is a form of postponed payment. The determination of severance pay is strongly related to the length of service and moreover, the relation is not linear. Severance pay rises slowly at first, then rapidly until retirement age (long length of service), when it stops rising. It seems that such a means of determination is designed to retain workers, since it implies that moving mid-career will mean giving up a rapidly accumulating severance pay.

The next chapter covers other employment practices such as hiring and promotion. This chapter and Chapter Four form the basis of the discussion of the rationality of these employment practices that is given in Chapter 4.

# CHAPTER 4  MICRO LABOUR MARKET FOUNDATIONS 2:  HIRING, MANDATORY RETIREMENT, PROMOTION AND EMPLOYMENT ADJUSTMENT

## Section 1  The significance of this chapter

This chapter continues that examination of employment practices that was started in Chapter Three. Hiring and retirement policies directly affect the age structure of a firm's workforce. If promotion is based on managerial (ie supervisory) posts, then the age structure of the company is likely to affect promotion. Thus, these three aspects are important for understanding the demand for labour and the impact of ageing on the state of the labour market. It was noted in the previous chapter that the Japanese labour market is often classified as a dual one. As this chapter progresses, the existence of a dual market seems to be confirmed. Therefore, the last two sections deal with labour market mobility and flexible forms of employment.

## Section 2  The hiring behaviour of companies

The labour market for many people in Japan is often described as being internal (Koike 1981 and Ono 1981). In an internalised market, workers join the company as raw labour with very little or with no experience. They stay in the company for a long time, accumulating skills and enjoying salary and promotional rises. Adjustment to market conditions is carried out by transfers within the company or company group to new and related jobs. This type of internal labour market implies that there is little scope for hiring new staff who are in mid-career ('mid-termers').

Ujihara (1985) stresses two main aspects of the recruitment behaviour of Japanese companies:

a)    *Teiki Saiyō*. Companies hire school leavers, graduates and people with very little experience at one period in the year, namely in April. Little consideration is paid to any specialist education or work preparation the candidates may have experienced, with the companies being more interested in health and a good general range of aptitude. Character and the ability to fit in with the character of the company are important.

b)    During the 1960s, with a rapid increase in demand for workers, hiring of experienced workers became more common and was stimulated by the decreasing supply of young people during the 1970s, particularly in the case of small and medium-sized enterprises. The desire for raw labour is still strong however.

A survey by the Nōristu Zōshin Kenkyū Kaihatsu Sentā (1988) was performed in 1987 to study the changes in the lifetime employment system used by companies by observing the situation for the recruitment of mid-termers and the attitudes involved. The companies surveyed were all listed on the First Section of the Tokyo Stock Exchange and 280 out of 800 companies responded, giving a response rate of 35%. Companies with fewer than 1000 employees accounted for only 16.4% of responders and thus, this survey is a large company survey. Experienced workers were divided into four groups comprising: a) office staff; b) operations staff; c) technical staff A (computer software and information processing); and c) technical staff B (general technicians). It was found that 86% of the companies had taken on mid-termers staff over the 5 years preceding the survey. The most popular type of mid-termer was technical staff B, with 60% of companies hiring in the last 5 years, followed by

office staff at 49%, business staff at 47% and technical staff A
with 23%. However, as Table 4.1 below shows, the percentage of new
staff accounted for by mid-termers is generally extremely small.

Table 4.1 showing the hiring of mid-termers by large companies.

| Mid-termer ratio (%) | Type of Employee | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Office | | | Operations | | | Technical A | | | Technical B | | |
| | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| No. of firms | 136 | 22 | 26 | 132 | 23 | 24 | 65 | 3 | 11 | 170 | 18 | 29 |
| less than 2% | 42.6 | 22.7 | 53.8 | 37.9 | 30.4 | 33.3 | 53.8 | 33.3 | 72.7 | 38.8 | 38.9 | 41.4 |
| 2 - 5 | 16.2 | 18.2 | 15.4 | 16.7 | 8.7 | 25.0 | 10.8 | 66.7 | 9.1 | 24.1 | 22.2 | 24.1 |
| 5 - 10 | 10.3 | 13.6 | 11.5 | 18.9 | 17.4 | 16.7 | 13.8 | - | 9.1 | 15.3 | 11.1 | 10.3 |
| 10 - 20 | 7.10 | 4.5 | 3.8 | 6.8 | 13.0 | 4.2 | 10.8 | - | - | 7.1 | 5.6 | 10.3 |
| 20 - 30 | 5.1 | 13.6 | 3.8 | 5.3 | - | 12.5 | 3.1 | - | - | 2.9 | - | 6.9 |
| 30 - 40 | 3.7 | 4.5 | 3.8 | 0.8 | 4.3 | - | - | - | - | 2.9 | - | - |
| 40 - 50 | 1.5 | - | - | 1.5 | - | 4.2 | - | - | - | 1.2 | - | 3.4 |
| 50 + | 11.0 | 22.7 | 3.8 | 10.6 | 26.1 | - | 1.5 | - | - | 5.3 | 16.7 | 3.4 |
| Not Known | 2.2 | - | 3.8 | 1.5 | - | 4.2 | 6.2 | - | 9.1 | 2.4 | 5.6 | - |

Notes:   The mid-term ratio = the no. of mid-termers hired in 1986
                              the no. of school-leavers hired in 1986

1 = all sizes of company
2 = companies with less than 1000 employees
3 = companies with 5000 - 9999 employees
Note that the number of companies repsonding in some of the categories is very small.

Source:   Nōritsu Zōshin Kenkyū Kaihatsu Sentā (1988) pp 85, 86.

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Table 4.1 above also shows that on the whole, the larger the
company, the lower the proportion of mid-term workers. This
reinforces the general perception that larger companies rely more
on the internal labour market. These results            are not
supported totally by the personnel management survey of the Ministry
of Labour (Rōdō Daijin Kanbō 1988) which asks companies whether they
view the recruitment of mid-term workers as important or not. The
percentage of companies viewing this type of labour as important
decreases gradually until the 100-299 employee establishments
category is reached, when it jumps significantly and continues to
increase for the 30-99 employee company to show the highest
percentage rate for all sizes. There is a polarisation of mid-term
recruitment behaviour. It is possible that the higher percentage of
larger firms making use of experienced workers can be explained by
people entering the company from smaller companies with strong ties
with a parent company. The larger companies are much more likely to
have developed such links. On inspection of the reasons for mid-term
recruiting, however, the percentage of firms doing so because of
relations with another company is small (around 6%), but it does
tend to increase the larger the company.

Although the role of mid-term recruits in overall recruitment is not
important, it is necessary to know the type of person the company
prefers and the reasons for wanting to hire a mid-termer. In
answering a question about the main considerations when hiring mid-
term workers, the three most popular objects of concern were 1)
specialist knowledge and experience, 2) the contents of previous
work experience and 3) age of the person, in order of popularity
(Nōritsu Zōshin Kenkyū Kaihatsu Sentā 1988 p 85). In order to
clarify the preferences in terms of age, Figure 4.1 below shows the
age distribution of mid-termers hired in 1986. It is striking that

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the age of these recruits is heavily skewed towards the younger ages, even for those with technical skills. (Nōritsu Zōshin Kenkyū Kaihatsu Sentā 1988 p 91). There is a clear adversion to taking on older mid-termers, regardless of their accumulated experience. The most popular reason for hiring is 'meeting new needs' (56%) followed by 'filling a place left by a retiree' (50%) and 'using experience and information gained by the person in another company' (45%). Mid-term hiring would seem to be for unplanned circumstances and strategical reasons and so is bound to be limited.

Figure 4.1 showing the ages for mid-term hiring.
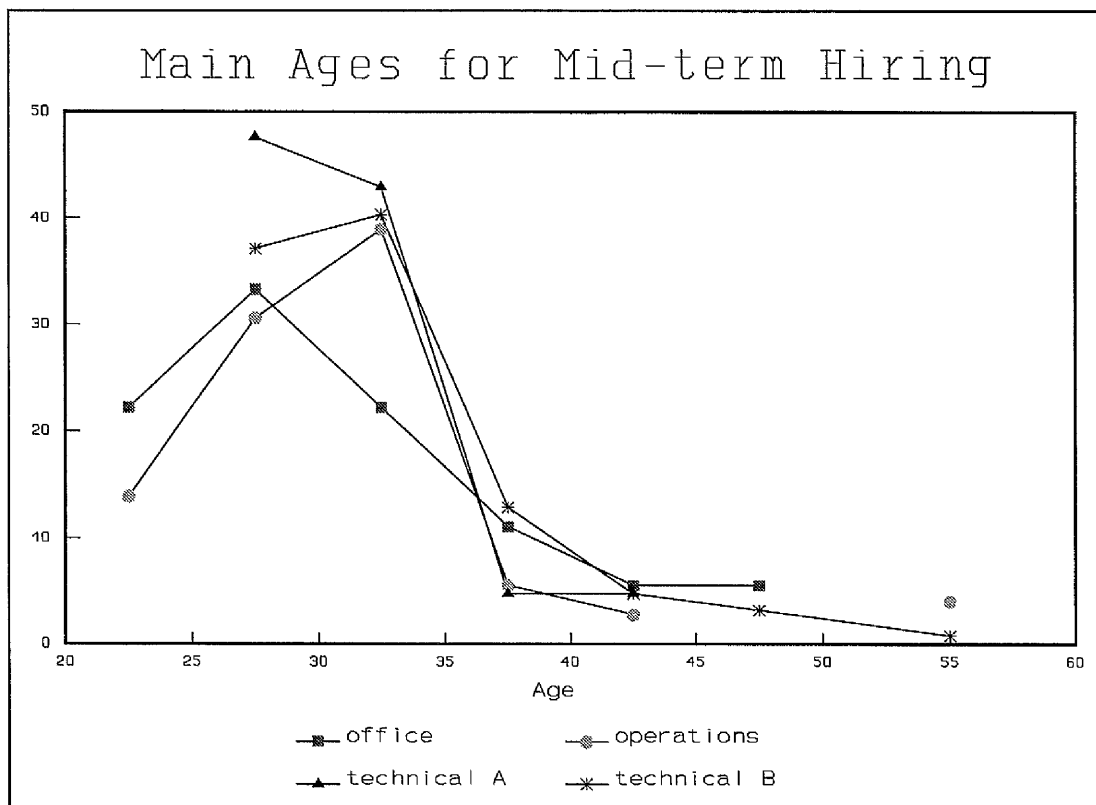


Source: Nōritsu Zōshin Kenkyū Kaihatsu Sentā (1988) p 91.

Treatment of mid-termers is often said to be inferior, further hindering such recruitment by reducing the supply of willing

applicants. Table 4.2 shows whether companies believe they treat the mid-termers in the same way as 'normal' staff, both in terms of salary and promotion. The majority believe that the treatment is the same. In terms of salary, the larger the company, the more likely it is to be the same, whereas the smaller the company, the greater equality in promotion opportunities. Also upon inspection of problems encountered when dealing with mid-term staff, the most frequent problem is 'difficulties in personnel and promotion management', implying that equal treatment is an ideal, not reality. This conclusion is supported by the wage curves given in Chapter Three, which show that in comparing two people of the same age, the person with no length of service has a much lower wage than an person with an average length of service. According to Chingin Seido Senmon Iinkai (1978), wages in the past have been decided by adding a given differential on top of the starting salaries of raw recruits with no experience – this is called *'agehaba kanri'*.

Table 4.2 showing the treatment of mid-termers with respect to pay and promotion.

| | All scales | Scale of Company (people) | | | | |
|---|---|---|---|---|---|---|
| | | 1000 & less | 1000 to 2000 | 3000 to 4999 | 5000 to 9999 | 10000 plus |
| Number of Firms | 242 | 34 | 94 | 40 | 42 | 32 |
| Wages (percentage of firms which) | | | | | | |
| Pay lower wages than in general | 27.7 | 38.2 | 33.0 | 17.5 | 26.2 | 15.6 |
| Pay the same as in general | 61.2 | 47.1 | 55.3 | 75.0 | 64.3 | 71.9 |
| Pay more favourably according to type of work | 10.3 | 14.7 | 10.6 | 7.5 | 7.1 | 12.5 |
| Pay more favourably than in general | 0.4 | – | 1.1 | – | – | – |
| Not known | 0.4 | – | – | – | 2.4 | – |
| Promotion | | | | | | |
| Treated less favourably than in general | 3.7 | 2.9 | 4.3 | 2.5 | 4.8 | 3.1 |
| Treated the same as in general | 90.1 | 94.1 | 87.2 | 97.5 | 90.5 | 84.4 |
| Treated more favourably according to job | 5.0 | 2.9 | 7.4 | – | 2.4 | 9.4 |
| Treated more favourably than in general | 0.4 | – | 1.1 | – | – | – |
| Not known | 0.8 | – | – | – | 2.4 | 3.1 |

Source: Nōritsu Zōshin Kenkyū Sentā (1988) p 92.

This type of personnel management seems to imply that the wages are distributed to the workers according to their relative position to each other, rather than on their specific abilities. Such a wage system makes it difficult for firms to calculate the wages of someone entering in midstream with other work experience, since it is difficult to assess their relative position. The next most frequent problem encountered was 'the difficulty in finding high quality people with ability' suggesting poor supply. 'High recruitment costs' came third with a much lower frequency than the other two.

Companies were asked whether recruitment of mid-termers had increased or decreased over the five years previous to the survey (1981-1986). The results are shown in Figure 4.2 which shows the distribution of answers: the majority stated that there was little change in the numbers of such hirings.

Figure 4.2 showing trends in mid-term hiring.



Trends in Mid-term Hiring
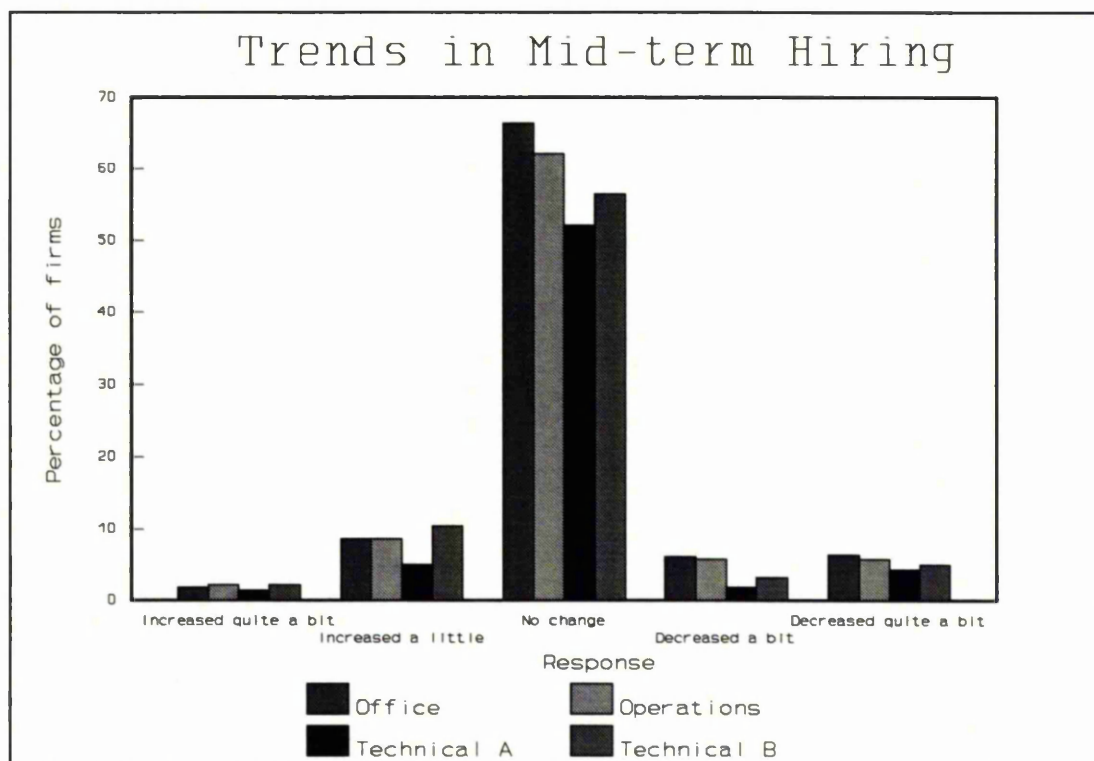
Source: Nōritsu Zōshin Kenkyū Sentā (1988) p 98.

In summary, this survey shows that large firms tend to recruit few
mid-termers and usually do so to meet unexpected personnel needs,
either for technological or strategic reasons. Younger mid-term
recruits are preferred, with the majority being under thirty.
Although in theory most of the firms would like to treat these mid-
termers equally with the normal staff, in practice they have
problems in placing the new staff within the existing management
structure. The firms also have difficulties in recruiting able
staff, implying that the supply of mid-termers is restricted, since
moving company appears disadvantageous in terms of career
development as well as salary. During the first half of the 1980s
there has been little increase in the practice of hiring mid-
termers.

The results from the survey above are also supported by Ono (1989 pp 145-158) who describes the concept of *kogai* or child-rearing. Firms take on young people and 'bring them up' in accordance with the company's wishes and promoting them as they mature (*haenuki toyo*): the company managers are home-grown and are called *haenuki*. The practice of *kogai* is strong and reinforces the need for an employee to stay in the same company from a young age. New people entering the company in midstream cannot be given equal rank without destroying the motivation of those below. Ono (1989 pp 145 -158) believes that *haenuki* is essential to the understanding of lifetime employment, that many management posts are occupied by *haenukis* and that this encourages highly motivated people to remain in the same company for a long time. He uses data from Dayamondosha (1984) to show that about 75% of all non-director managerial posts are held by *haenukis*. If people holding managerial posts with only one or two years' experience in another workplace are included, the proportion rises to over 80%. (This is for companies which are listed on the 8 stock markets in Japan).

It is difficult however to establish any cause and effect relationship here, since internal promotion would just seem a part of the same phenomenon – there is little mobility between firms and therefore promotion is bound to take place from within, although Ono believes it is the orignator of low mobility. He even derives a graph that demonstrates the negative relationship between the labour turnover rates and *haenuki* rate for various industrial sectors. Firms which were set up before the Second World War have a greater percentage of *haenukis* for all sectors than for newer firms established after the war. Looking at differences in promotion behaviour by size of company (measured by no. of employees), the larger the company, the higher the *haenuki* rate for non-director

managerial posts, although it is still high in small companies. Smaller companies tend to rely on directors recruited from outside the company.

Inspection of more aggregate data would tend to refute the lack of mid-term hiring. Figure 4.3 shows the percentage of new employment positions filled by mid-termers in the economy as a whole for each year from 1964 to 1986. The ratio of new positions accounted for by mid-termers has been roughly 50% on average over the whole period and in particular this rate increased noticeably over the 1970 to 1976 period, which was a period of economic unrest. These rates, which are in effect the same as mid-term hiring rates, appear to contradict the very low rates given by companies in the Nōritsu Zōshin Kenkyū Kaihatsu Sentā (1988) survey described above. These rates are however for all sizes of firms. It would appear that smaller firms do not have such an ·version to mid-termers since their recruitment behaviour must be the reason for such high rates. This supposition is borne out by the *Koyō Kanri Chōsa* (Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka 1988), which shows that a much higher percentage of small firms intended to take on mid-termers in 1987, and in particular the firms with 30-99 employees. It is also important to note that the Nōritsu Zōshin Kenkyū Kaihatsu Sentā (1988) survey only applied to male 'regular employees, which would imply that hiring decisions for women and 'temporary' staff are different and less rigid.

Figure 4.3 showing percentage of mid-term hirings in all hirings for the economy as a whole.



Percentage of Mid-termers amongst New Hirings

Year (1964-1986)
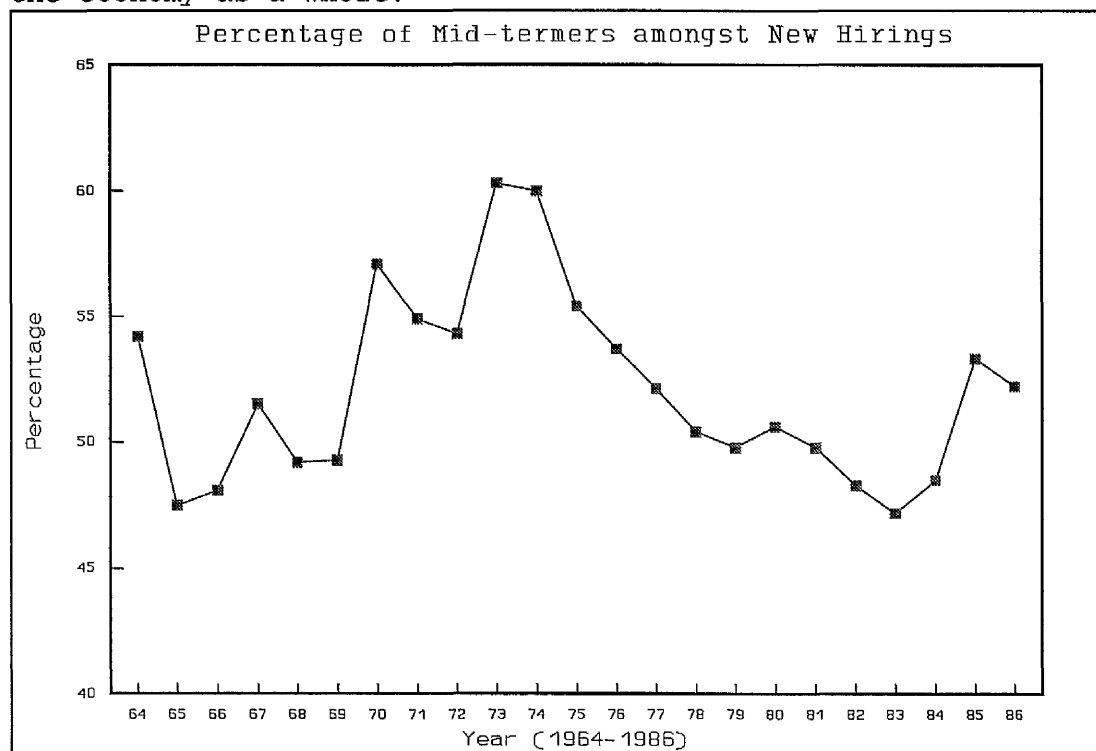
Source: Rōdō Daijin Kanbō Seisaku Chōsabu (1988) p 327.

Another indirect indicator of the behaviour of firms in the recruitment of mid-termers is the length of service of an employee. Table 4.3 shows the average length of service of male employees for different scale companies, adjusted crudely for age structure of the company. The smaller the company, the lower the average length of service, implying again that smaller companies hire mid-termers much more than large companies. Ono (1989 pp 56-58) analyses the proportion of male employees in various sizes of company which have the same number of years of work experience (for a particular type of work) as their length of service in 1980. The proportion of employees with no length of service (i.e. new intake) and no work experience is 90% in companies with 1000 or more employees out of all employees with no length of service. For 100-999 employee firms this percentage falls to 74.9%, dropping to 56% for firms with 10-99

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employees, the smallest size in the survey he uses. This again shows that larger companies do not take on many 'regular' male mid-termers, but that smaller companies do.

Table 4.3 showing length of service ratios in different scales of companies.

| Scale of firm (employees) | Year | | | |
|---|---|---|---|---|
| | 1975 | 1980 | 1985 | 1987 |
| 1000+ | 36.5 | 37.5 | 40.0 | 40.9 |
| 100 - 999 | 24.5 | 27.6 | 29.7 | 13.1 |
| 10 - 99 | 19.9 | 21.8 | 23.4 | 24.2 |

Source:     Rōdō Daijin Kanbō Tōkei Jōhōbu Chingin Tōkeika (1976, 1981, 1986, 1988) Table One.

Note:       The seniority ratio is calculated using the following formula – $\underline{\text{average seniority (years)}} \times 100$
                                        average age of employees
            The ratio is calculated to compensate for the different age compositions in different sizes of companies and multiplied by 100 in order to make the figures easier to read.

## Section 2  Mandatory retirement

The prevalence of automatic retirement (*teinen taishoku*) in Japan has often been quoted as another noticeable characteristic of Japanese employment practices, particularly since until recently the set retirement age has been low and is still low internationally. It is important to note that *teinen taishoku* does not usually result in withdrawal from the labour force as in many industrialised countries. Retired workers may be reinstated or become self-employed, as discussed below. Table 4.4 shows the extent of mandatory retirement schemes. This includes those companies with any one of the three types of scheme classified by the Koyō Kanri Chōsa (Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka 1988):

a)     *Ittsū*. The retirement age is the same for all employees regardless of type of work or sex.

b)     *Danjobetsu*. The retirement age is set differently according to sex.

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c)    *Shokugyōbetsu*. The age is set according to type of work.

The extent of these three types of system and change over time is shown in Table 4.5

Table 4.4 The percentage of companies with a retirement system by size of company.

| Size of firm (employees) | 1967 | 1978 | 1980 | 1982 | 1984 | 1985 | 1988 |
|---|---|---|---|---|---|---|---|
| 5000 + | 93.7 | 99.6 | 99.5 | 99.6 | 99.6 | 99.6 | 99.1 |
| 1000-4999 | 95.3 | 99.3 | 99.9 | 99.1 | 99.5 | 99.6 | 99.9 |
| 300-999 | 94.4 | 97.5 | 98.3 | 99.0 | 98.5 | 99.1 | 99.0 |
| 100-299 | 81.5 | 90.5 | 93.7 | 95.2 | 94.8 | 95.9 | 97.2 |
| 30-90 | 51.0 | 70.6 | 76.5 | 81.1 | 83.9 | 83.4 | 84.3 |
| All | 69.0 | 77.3 | 82.2 | 85.6 | 87.4 | 87.3 | 88.3 |

Source:    Data for 1967 is taken from Rōdō Daijin Kanbō Seisaku Chōsabu (1988) p 342 and was originally compiled from the Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōka *Koyō Kanri Chōsa* for 1967. Data for the other years is taken directly from the Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōka *Koyō Kanri Chōsa*.

As can be seen from Tables 4.4 and 4.5, there has been a general increase in the extent of retirement systems amongst the small and medium-sized companies, with little change for large companies during the last ten years. Moreover, there has been a move towards the *ittsū* system across all company sizes, with the proportion of the *danjobetsu* systems decreasing to a similar extent. These figures show a trend to increasing uniformity, with smaller companies following large companies with a time lag. The most noticeable change, however, has occurred in the age at which retirement is set, as shown in Table 4.6. Table 4.6 shows only the retirement age for *ittsū* retirement schemes, but coupled with the increasing use of *ittsū* schemes, it is sufficient for showing the majority trend to raising the retirement age.

Table 4.5 showing extent of different schemes over time.

| Scale of firm (number of employees) | 1978 | | | 1982 | | | 1985 | | | 1988 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | I | DJ | SH | I | DJ | SH | I | DJ | SH | I | SH |
| 5000 + | 76.5 | 16.6 | 3.6 | 83.9 | 8.2 | 3.0 | 88.4 | 4.4 | 1.5 | 90.7 | 6.4 |
| 1000-4999 | 69.0 | 25.3 | 2.1 | 74.0 | 21.4 | 2.1 | 80.1 | 14.5 | 3.1 | 94.4 | 2.8 |
| 300-999 | 66.1 | 29.9 | 4.3 | 72.7 | 20.5 | 5.1 | 76.5 | 18.2 | 2.5 | 92.3 | 4.4 |
| 100-299 | 68.0 | 26.1 | 4.5 | 72.8 | 23.7 | 2.6 | 77.8 | 16.9 | 3.5 | 90.1 | 5.9 |
| 30-99 | 73.4 | 21.3 | 3.6 | 78.2 | 17.7 | 2.9 | 81.8 | 14.9 | 2.8 | 89.8 | 4.8 |
| All scales | 71.3 | 23.1 | 3.9 | 76.4 | 19.4 | 3.0 | 80.5 | 15.6 | 2.9 | 90.1 | 5.0 |

Source: Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōka *Koyō Kanri Chōsa* for each year shown.

Notes: I = *Ittsū*, DJ = *Danjobetsu*, SH = *Shokugyōbetsu*.
Percentages do not add to 100 since those firms with other types of systems has been omitted, since they account for a very small proportion.

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Table 4.6 showing age of mandatory retirement over time.

| Scale | 55 | 56 | 57 | 58 | 59 | 60 | 60+ | 61+ |
|---|---|---|---|---|---|---|---|---|
| 1968 | | | | | | | | |
| 5000+ | 52.7 | 11.5 | 17.3 | 3.0 | – | – | 15.0 | – |
| 1000–4999 | 59.9 | 14.8 | 12.1 | 4.8 | – | – | 8.7 | – |
| 300–999 | 68.3 | 8.9 | 1.1 | 10.4 | – | – | 10.7 | – |
| 100–299 | 65.9 | 2.2 | 3.7 | 2.7 | – | – | 24.9 | – |
| 30–99 | 66.0 | 0.5 | 1.2 | 2.3 | – | – | 29.7 | – |
| All | – | – | – | – | – | – | – | – |
| 1978 | | | | | | | | |
| 5000+ | 38.1 | 11.1 | 14.3 | 13.8 | 0.5 | 21.2 | – | – |
| 1000–4999 | 41.8 | 8.5 | 18.0 | 9.2 | 0.6 | 19.7 | – | 1.3 |
| 300–999 | 47.6 | 5.5 | 12.9 | 7.6 | – | 23.1 | – | 2.5 |
| 100–299 | 42.0 | 6.5 | 10.1 | 7.8 | 0.1 | 30.1 | – | 3.1 |
| 30–99 | 40.3 | 2.9 | 6.9 | 6.0 | – | 36.9 | – | 5.9 |
| All | 41.3 | 4.2 | 8.4 | 6.7 | 0.1 | 33.7 | – | 4.8 |
| 1988 | | | | | | | | |
| 5000+ | 3.9 | 0.7 | 1.8 | 5.3 | 5.6 | 82.4 | – | 0.4 |
| 1000–4999 | 12.6 | 1.4 | 5.4 | 6.0 | 2.3 | 71.1 | – | 1.0 |
| 300–999 | 18.1 | 4.3 | 8.8 | 6.3 | 0.9 | 59.1 | – | 2.4 |
| 100–299 | 23.7 | 2.4 | 8.5 | 8.6 | 0.9 | 52.7 | – | 2.8 |
| 30–99 | 24.5 | 2.2 | 6.5 | 6.2 | 0.6 | 54.9 | – | 4.3 |
| All | 23.6 | 2.4 | 7.1 | 6.8 | 0.8 | 55.0 | – | 3.8 |

Source:    Sumiya (1983) for 1968.
Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka
*Koyō Kanri Chōsa* for 1978 and 1988.

From Table 4.6, there has been a steady raising of retirement age across all scales of company since 1968, when the most common retirement age was overwhelmingly 55. This raising of the retirement age is known as *teinen enchō* (literally, postponement of retirement age). In 1968 the percentage of companies which did have a retirement age of 60 tended to increase the smaller the size of company. During the 1970s the retirement age in large companies (5000+ and 1000-4999 employees) was much more evenly spread over the given age range, demonstrating that raising of the retirement age was a gradual adjustment process for these companies. Over the same period, however, small companies showed a tendency towards polarisation to ages 55 and 60+, with many more companies having the higher retirement age. Through to 1988, the medium-sized companies (300-999 employees) seem to have been slowest in revising their retirement age upwards, although there was rapid progress between 1985 and 1988 (see Chapter Eight on government labour market policy). By 1988, the pattern of retirement ages across company sizes had virtually reversed itself, with small companies more likely to have their retirement age set at 55 and larger companies at 60. Since 1978, there has been little progress in raising the retirement age above 60. In general terms, in 1978 an average of 33% of all firms had a retirement age of 60, whereas by 1988 the halfway mark had been passed, with an average of 55% of companies in this category.

As mentioned above the word retirement (*teinen taishoku*) does not imply retirement from the labour force in Japan, or even necessarily leaving the company. It generally describes a time in the employee's career when the company can revise the pay and position of the worker, but can still employ the person for some time under these revised conditions, or at its discretion weed out those older

workers it deems no longer necessary or useful. Those who do actually leave the company very often move to another company, or become self-employed. This last case is discussed in Section 5 below.

There are two main schemes used by companies when retaining workers after retirement age:

a) *Saikoyō Seido* or re-employment. Broadly and simply defined as in the *Koyō Kanri Chōsa* (Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōka) it is the practice of re-employment at the same company after retirement age having terminated the original contract. As is shown by the data below, re-employment usually means re-hiring under a new short-term contract and under inferior pay and conditions.

b) *Kinmu Enchō* or work extension. This is the practice of continued employment without terminating the original contract after retirement age, which according to Ujihara (1985) means that the workers should continue to be treated the same as pre-retirement workers. There do tend to be differences in pay and promotional aspects, but not as pronounced as in the case of *saikoyō*.

These both differ from raising the retirement age because it is easier for the company to select those who stay on and gives it more flexibility in their treatment. Table 4.7a-d shows the changes in treatment under the two schemes after retirement age for the years 1978 and 1988 with regard to status, work contents, wages and hours; and the years 1978 and 1982 with regard to base-up, *teishō* and bonuses and across company sizes.

Table 4.7a showing treatment of re-employed (saikoyō) workers for 1978 and 1988.

| Scale of firm (people) | Post/Status | | | Work contents | | | Wages | | | | Hours | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | C | NC | ND | C | NC | ND | → | - | ↑ | ND | → | - | ND |
| 5000+ | 86.8 | 8.4 | 4.8 | 32.9 | 40.7 | 26.3 | 91.0 | 6.6 | 1.2 | 1.2 | 1.8 | 94.5 | 3.6 |
| 1000-4999 | 76.7 | 8.5 | 14.8 | 23.0 | 46.0 | 31.0 | 82.9 | 10.5 | 0.1 | 6.5 | 1.4 | 94.6 | 3.9 |
| 300-999 | 73.8 | 13.5 | 12.7 | 20.3 | 58.5 | 21.2 | 78.0 | 14.2 | 0.9 | 6.9 | 2.0 | 93.4 | 4.6 |
| 100-299 | 66.1 | 18.0 | 15.9 | 17.8 | 60.5 | 21.8 | 67.6 | 20.2 | 0.5 | 11.7 | 2.5 | 91.6 | 5.9 |
| 30-99 | 56.4 | 23.7 | 19.9 | 17.8 | 63.6 | 18.6 | 50.0 | 30.1 | 2.9 | 17.0 | 2.0 | 85.3 | 12.7 |
| All sizes | 62.0 | 20.4 | 17.7 | 18.3 | 61.4 | 20.3 | 59.4 | 24.7 | 1.9 | 13.9 | 2.1 | 88.4 | 9.5 |
| 5000+ | 85.0 | 4.4 | 6.2 | 31.0 | 33.6 | 32.7 | 83.2 | 6.2 | - | 8.8 | 5.2 | 80.5 | 6.2 |
| 1000-4999 | 68.8 | 13.3 | 16.7 | 18.5 | 48.3 | 31.5 | 84.0 | 4.5 | - | 10.3 | 9.7 | 82.0 | 9.9 |
| 300-999 | 64.2 | 13.9 | 20.9 | 19.7 | 49.1 | 29.7 | 82.1 | 8.2 | - | 8.7 | 6.1 | 85.2 | 7.7 |
| 100-299 | 58.1 | 13.4 | 25.1 | 18.7 | 55.6 | 24.0 | 70.9 | 14.2 | 0.5 | 12.2 | 3.4 | 86.5 | 8.6 |
| 30-90 | 48.3 | 21.5 | 27.8 | 15.6 | 64.1 | 18.3 | 62.2 | 17.8 | - | 18.6 | 13.5 | 71.3 | 12.7 |
| All sizes | 52.7 | 18.4 | 26.2 | 16.9 | 60.0 | 21.0 | 66.6 | 15.8 | 0.1 | 15.9 | 10.0 | 76.8 | 11.1 |

Source: Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka Koyō Kanri Chōsa for 1978 and 1988.
Note: C = change, NC = no change, ND = not determined, ↓ = drop, ↑ = rise. The top half of the table is for 1978 and the bottom half for 1988. Figures show the percentages of firms for each category. Figures do not add to 100% since information not available responses have been omitted from the table (the percentage of such responses is very low).

Table 4.7b showing treatment of wokers who have had their employment extended (*kinmu enchō*) for 1978 and 1988.

| Scale of firm (people) | Post/Status | | | Work contents | | | Wages | | | | Hours | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | C | NC | ND | C | NC | ND | → | - | ↑ | ND | → | - | ND |
| 5000+ | 31.9 | 66.0 | 2.1 | 10.6 | 78.7 | 10.6 | 34.0 | 61.7 | 4.3 | - | - | 97.9 | 2.1 |
| 1000-4999 | 24.6 | 64.4 | 10.9 | 4.6 | 79.6 | 15.8 | 22.2 | 62.7 | 5.6 | 9.5 | - | 93.3 | 6.7 |
| 300-999 | 37.9 | 51.9 | 10.2 | 14.7 | 77.8 | 7.5 | 30.3 | 49.3 | 7.7 | 12.7 | 2.8 | 91.6 | 5.6 |
| 100-299 | 30.8 | 51.9 | 17.3 | 8.6 | 75.2 | 16.2 | 27.6 | 57.0 | 2.0 | 13.5 | 1.1 | 95.4 | 3.5 |
| 30-99 | 22.7 | 61.2 | 16.1 | 6.8 | 80.3 | 13.0 | 16.6 | 57.9 | 8.9 | 16.6 | 2.3 | 89.9 | 7.8 |
| All sizes | 25.4 | 58.6 | 15.9 | 7.6 | 79.0 | 13.4 | 19.9 | 57.3 | 7.2 | 15.6 | 2.0 | 91.3 | 6.7 |
| 5000+ | 45.5 | 45.5 | 9.1 | 13.6 | 68.2 | 18.2 | 54.5 | 36.4 | - | 9.1 | 4.5 | 86.4 | 9.1 |
| 1000-4999 | 38.7 | 39.2 | 19.8 | 10.4 | 64.0 | 23.0 | 39.6 | 37.4 | 1.8 | 19.4 | 4.5 | 77.5 | 15.3 |
| 300-999 | 45.4 | 35.4 | 17.9 | 7.6 | 69.8 | 21.5 | 56.6 | 34.0 | 2.1 | 7.3 | 4.7 | 90.9 | 4.0 |
| 100-299 | 36.1 | 36.9 | 24.5 | 9.1 | 66.9 | 19.7 | 43.5 | 35.4 | 1.2 | 16.8 | 6.4 | 78.6 | 12.4 |
| 30-90 | 26.0 | 47.2 | 20.9 | 10.9 | 72.4 | 14.7 | 35.9 | 44.8 | 1.9 | 17.0 | 5.3 | 82.4 | 9.6 |
| All sizes | 29.3 | 44.2 | 21.5 | 10.3 | 71.0 | 16.4 | 38.7 | 42.1 | 1.7 | 16.5 | 5.5 | 81.9 | 10.0 |

Source: Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka *Koyō Kanri Chōsa* for 1978 and 1988.
Note: C = change, NC = no change, ND = not determined, ↓ = drop, ↑ = rise. The top half of the table is for 1978 and the bottom half for 1988. Figures show the percentages of firms for each category. Figures do not add to 100% since information not available responses have been omitted from the table (the percentage of such responses is very low).

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Table 4.7c showing the treatment of re-employed (*saikoyō*) workers with respect to pay components.

| Scale of firm (people) | Base-up (rate) | | | | | Teishō (amount) | | | | | Bonus (multiple) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | S | ↓ | NC | ↑ | ND | S | ↓ | NC | ↑ | ND | S | ↓ | NC | ↑ | ND |
| 5000+ | 82.9 | 80.7 | 11.0 | 1.4 | 6.9 | 28.0 | 83.7 | 6.1 | 2.0 | 8.2 | 93.1 | 89.6 | 6.7 | 0.6 | 3.1 |
| 1000-4999 | 83.8 | 78.1 | 12.7 | 1.0 | 8.2 | 48.4 | 81.4 | 7.8 | 0.8 | 9.9 | 93.0 | 83.4 | 9.9 | 0.3 | 6.4 |
| 300-999 | 79.1 | 76.3 | 10.5 | 1.9 | 11.3 | 59.3 | 76.7 | 8.5 | 0.9 | 14.0 | 87.8 | 80.1 | 10.8 | 0.7 | 8.5 |
| 100-299 | 83.7 | 71.2 | 17.4 | 1.5 | 9.8 | 65.8 | 71.6 | 17.0 | 0.9 | 10.5 | 86.6 | 76.3 | 14.7 | 0.7 | 8.3 |
| 30-99 | 72.9 | 63.4 | 19.7 | 0.6 | 16.2 | 68.4 | 64.3 | 18.6 | 0.4 | 16.8 | 78.8 | 69.1 | 16.7 | 0.2 | 14.0 |
| All sizes | 77.1 | 67.9 | 17.7 | 1.1 | 13.3 | 65.9 | 68.0 | 16.9 | 0.6 | 14.5 | 82.5 | 73.2 | 15.2 | 0.4 | 11.5 |
| 5000+ | 86.4 | 53.1 | 20.4 | 0.6 | 12.3 | 32.7 | 24.1 | 1.9 | - | 6.8 | 96.9 | 72.8 | 14.8 | 0.6 | 8.6 |
| 1000-4999 | 88.1 | 65.6 | 12.7 | 0.5 | 9.4 | 46.5 | 37.6 | 2.1 | 0.1 | 6.8 | 97.0 | 74.6 | 14.0 | 0.3 | 3.0 |
| 300-999 | 86.5 | 63.7 | 13.3 | 0.2 | 9.2 | 55.4 | 45.7 | 2.6 | 0.3 | 6.8 | 97.9 | 77.8 | 13.4 | 0.1 | 2.1 |
| 100-299 | 83.2 | 60.3 | 10.9 | 0.6 | 11.3 | 70.3 | 52.3 | 7.2 | 0.8 | 10.0 | 92.7 | 69.5 | 14.1 | 0.6 | 7.3 |
| 30-99 | 82.8 | 48.8 | 15.3 | 0.8 | 17.9 | 74.7 | 44.6 | 12.0 | 2.0 | 16.1 | 93.8 | 55.8 | 19.9 | 1.0 | 6.2 |
| All sizes | 83.4 | 54.0 | 13.8 | 0.7 | 14.9 | 70.7 | 46.6 | 9.5 | 1.5 | 13.2 | 94.0 | 62.4 | 17.5 | 0.8 | 13.3 |

Source: Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka *Koyō Kanri Chōsa* for 1978 and 1982.

Note: NC = no change, ND = not determined, ↓ = drop, ↑ = rise, S = the firm has the system in question. The top half of the table is for 1978 and the bottom half for 1982. Figures show the percentages of firms for each category. Figures do not add to 100% since information not available responses have been omitted from the table (the percentage of such responses is very low).

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Table 4.7d showing the treatment of workers who have had their employment extended (kinmu enchō) with respect to pay components.

| Scale of firm (people) | Base-up (rate) | | | | | Teishō (amount) | | | | | Bonus (multiple) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | S | ↓ | NC | ↑ | ND | S | ↓ | NC | ↑ | ND | S | ↓ | NC | ↑ | ND |
| 5000+ | 81.3 | 46.2 | 51.3 | - | 2.6 | 41.7 | 40.0 | 55.0 | - | 5.0 | 91.7 | 36.4 | 61.4 | - | 2.3 |
| 1000-4999 | 88.9 | 30.4 | 61.9 | 1.6 | 6.2 | 65.4 | 27.5 | 64.0 | 2.1 | 6.3 | 93.4 | 27.0 | 63.3 | 1.5 | 8.1 |
| 300-999 | 81.1 | 49.5 | 38.3 | 9.2 | 3.0 | 73.1 | 50.4 | 36.0 | 5.7 | 8.0 | 80.6 | 50.0 | 40.2 | 2.0 | 7.8 |
| 100-299 | 73.3 | 41.8 | 41.5 | 3.6 | 13.1 | 68.9 | 47.9 | 39.4 | 1.6 | 11.1 | 80.5 | 43.4 | 42.9 | 1.3 | 12.5 |
| 30-99 | 74.3 | 44.6 | 37.2 | 1.5 | 16.7 | 73.5 | 45.8 | 37.3 | 1.3 | 15.6 | 79.2 | 41.4 | 41.9 | 1.0 | 15.7 |
| All sizes | 74.7 | 44.0 | 38.7 | 2.4 | 14.8 | 72.2 | 46.3 | 38.0 | 1.6 | 14.0 | 80.2 | 42.1 | 42.5 | 1.2 | 14.3 |
| 5000+ | 95.8 | 20.8 | 54.2 | 8.3 | 12.5 | 62.5 | 12.5 | 33.3 | 4.2 | 12.5 | 100 | 16.7 | 66.7 | 4.2 | 12.5 |
| 1000-4999 | 91.1 | 34.0 | 48.6 | 0.7 | 7.8 | 64.9 | 24.1 | 33.0 | 0.4 | 7.4 | 97.9 | 34.4 | 55.0 | 0.4 | 2.1 |
| 300-999 | 84.9 | 39.5 | 34.5 | 0.9 | 9.9 | 68.9 | 31.5 | 27.1 | 1.4 | 8.9 | 97.1 | 46.0 | 39.5 | 1.4 | 2.9 |
| 100-299 | 88.2 | 43.2 | 30.7 | 2.9 | 11.4 | 82.4 | 41.9 | 27.9 | 2.3 | 10.3 | 95.2 | 45.8 | 36.9 | 2.3 | 4.8 |
| 30-99 | 88.3 | 40.6 | 28.7 | 1.1 | 18.0 | 87.8 | 38.8 | 29.1 | 2.3 | 17.6 | 97.4 | 39.0 | 36.4 | 3.1 | 2.6 |
| All sizes | 88.1 | 41.1 | 29.7 | 1.5 | 15.9 | 85.2 | 39.0 | 28.7 | 2.2 | 15.3 | 96.9 | 40.9 | 36.9 | 2.8 | 16.2 |

Source: Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka Koyō Kanri Chōsa for 1978 and 1982.

Note: NC = no change, ND = not determined, ↓ = drop, ↑ = rise, S = the firm has the system in question. The top half of the table is for 1978 and the bottom half for 1982. Figures show the percentages of firms for each category. Figures do not add to 100% since information not available responses have been omitted from the table (the percentage of such responses is very low).

The most noticeable difference between re-employment and employment extension is that employment extension is much more favourable than re-employment. There is less likelihood of a change in status; most companies tend not to change work content; and although quite a sizeable percentage still reduce wages in the case of employment extension, the majority keep wages the same, whereas most companies reduce wages in the case of re-employment. Hours worked seem to be the same in both cases. In terms of differences between sizes and over time, the following trends are visible for-

a)  re-employment.

   i)   Fewer small firms change post/status and work contents or drop wages, base-up, *teisho* and bonus than large firms.

   ii)  On the whole there has been little change over the short time span of the two sets of figures, except that change in post/status has become less determined (i.e. less systematic), fewer smaller companies dropped wages in 1988 and there was a higher percentage of companies reducing hours worked, although they were still low in number.

b)  Employment extension.

   i)   There does not appear to be any particular trend across size of company except that generally fewer small companies seeem to have determined systems for status, work contents or wages. Also more smaller companies tend to reduce base-up, teisho and bonus than large companies, but again there is a higher percentage of small firms with non-determined systems.

   i)   In 1988 more firms were likely to change the status of workers and drop wages. There has been a noticeable increase in firms having an undetermined response.

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Generalising from the above, fewer small companies have well-defined systems and in the case of re-employment few small companies carry out changes in wages and conditions. In fact the differences in re-employment and employment extension are less clear at the small company level. Re-employment implies re-employment under less favourable conditions and work extension does usually entail continuity in conditions status and pay. Table 4.8 shows the percentage of firms adopting the two systems for 1978 and 1988. Unsurprisingly re-employment is by far the most common.

Table 4.8 showing the extent of employment types after *teinen*.

| Scale of firm (people) | Have *tei-nen* system | Have employment after *teinen* | | | | No emp after *teinen* | *Teinen* age at 60+ |
|---|---|---|---|---|---|---|---|
| | | All | Re-emp | Emp Ext | Comb | | |
| 5000+ | 99.6 | 78.5 | 75.3 | 9.8 | 14.9 | 21.5 | 21.2 |
| 1000-4999 | 99.3 | 80.9 | 73.7 | 8.7 | 17.7 | 19.1 | 21 |
| 300-999 | 97.3 | 83.5 | 73.7 | 12.3 | 14.0 | 16.5 | 25.6 |
| 100-299 | 90.5 | 85.1 | 65.9 | 21.3 | 12.8 | 14.9 | 33.2 |
| 30-99 | 70.6 | 75.8 | 52.3 | 31.6 | 16.1 | 24.2 | 42.8 |
| All scales | 77.3 | 79.0 | 58.6 | 26.4 | 15.0 | 21.0 | 38.5 |
| 5000+ | 99.1 | 39.9 | 32.9 | 3.8 | 3.2 | 60.1 | 82.8 |
| 1000-4999 | 99.9 | 59.9 | 45.0 | 6.1 | 8.8 | 40.1 | 72.1 |
| 300-999 | 99.0 | 70.4 | 48.7 | 11.3 | 10.4 | 29.6 | 61.5 |
| 100-299 | 97.2 | 76.2 | 46.3 | 16.7 | 13.2 | 23.8 | 55.5 |
| 30-99 | 84.3 | 73.5 | 39.1 | 25.4 | 8.9 | 26.5 | 59.1 |
| All scales | 88.3 | 73.5 | 41.6 | 21.9 | 10.0 | 26.5 | 58.8 |

Source:   Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka *Koyō Kanri Chōsa*, 1978 survey year pp 10, 11 and 20; and 1988 survey year pp 6 and 9.

Notes:   Comb = combination of re-employment and employment extension. 60+ in last column includes teinen at 60. Top half of table is for 1978 and bottom half for 1988.

Table 4.9a and b shows how companies determine which workers are eligible for further employment after official retirement age.

Table 4.9a showinng determination of those eligible for further employment after retirement for 1978.

| Scale | In principle for all who wish | For those who correspond to standards set by firm | Limited to those who the firm sees as particularly necessary | Other | No response |
|---|---|---|---|---|---|
| Re-employment | | | | | |
| 5000+ | 26.5 | 24.1 | 45.7 | 3.1 | 0.6 |
| 1000-4999 | 19.8 | 20.8 | 55.8 | 3.4 | 0.2 |
| 300-999 | 25.7 | 20.9 | 51.4 | 1.8 | 0.2 |
| 100-299 | 26.7 | 20.0 | 51.3 | 2.0 | - |
| 30-99 | 28.6 | 15.0 | 53.6 | 1.3 | 1.6 |
| All scales | 27.5 | 17.2 | 52.7 | 1.6 | 1.0 |
| Work Extension | | | | | |
| 5000+ | 16.7 | 25.0 | 50.0 | 8.3 | - |
| 1000-4999 | 18.4 | 17.0 | 59.9 | 4.3 | 0.4 |
| 300-999 | 20.6 | 21.2 | 55.8 | 1.9 | 0.5 |
| 100-299 | 31.5 | 18.4 | 46.7 | 2.8 | 0.6 |
| 30-99 | 32.5 | 12.5 | 52.1 | 1.0 | 1.8 |
| All scales | 31.5 | 14.4 | 51.1 | 1.5 | 1.4 |

Source:    Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka *Koyō Kanri Chōsa*, 1978 survey year

Table 4.9b showing determination of those eligible for further employment after retirement for 1988.

| Scale | In principle for all who wish | For those who correspond to standards set by firm | For those who the firm sees as particularly necessary | Other | No response |
|---|---|---|---|---|---|
| Re-employment | | | | | |
| 5000+ | 14.2 | 22.1 | 55.8 | 4.4 | 3.5 |
| 1000-4999 | 18.6 | 15.3 | 60.3 | 0.6 | 5.1 |
| 300-999 | 22.0 | 17.1 | 55.2 | 0.5 | 5.2 |
| 100-299 | 24.3 | 17.5 | 48.2 | 1.2 | 8.8 |
| 30-99 | 21.5 | 20.4 | 47.6 | 1.4 | 9.1 |
| All scales | 22.3 | 19.2 | 48.6 | 1.3 | 8.6 |
| Work Extension | | | | | |
| 5000+ | 9.1 | 36.4 | 54.5 | - | - |
| 1000-4999 | 14.0 | 15.8 | 62.2 | 0.9 | 7.2 |
| 300-999 | 24.9 | 17.5 | 53.3 | 1.0 | 3.4 |
| 100-299 | 26.5 | 17.5 | 47.2 | 0.2 | 8.6 |
| 30-99 | 33.2 | 14.7 | 43.9 | 1.2 | 7.1 |
| All scales | 31.1 | 15.5 | 45.2 | 0.9 | 7.2 |

Source:    Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka (1988) *Koyō Kanri Chōsa*.

Although the majority of firms use some form of re-employment system, usually at their own discretion, we cannot determine the proportion of workers who actually experience such treatment. The *Kōnenreisha Shūgyō Jittai Chōsa* (Rōdō Daijin Kanbō Seisaku Chōsaka Tōkei Chōsa Dai Ikka 1985) surveyed individuals and gives data for the work and employment experience of male employees after retirement (*teinen*) age. Table 4.10 shows that roughly 40% of employees experienced some form of further employment in the same company, although it is impossible to tell which out of re-employment (*saikoyō*) and work extension (*kinmu enchō*) was the most

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common.

Table 4.10 showing the percentage of workers experiencing further employment in the same company after retirement.

| Age | Have experienced *tei-nen* (%) | Were employed after *tei-nen* (%) | Had experienced *kinmu* or *sai-koyō* (%) | Are employed under *kinmu* or *sai-koyō* (%) | Col 4 plus col 5 (%) | Col 6 x col 3 (total %age experienced work extension) (%) | Average years of extension |
|---|---|---|---|---|---|---|---|
| 55-59 | 26.4 | 77.0 | 14.2 | 37.0 | 51.2 | 39.4 | 2 |
| 60-64 | 49.2 | 69.1 | 31.6 | 23.8 | 57.4 | 39.7 | 3 |
| 65-69 | 52.4 | 70.1 | 46.9 | 10.8 | 57.7 | 40.4 | 4 |
| 55- | 39.5 | 71.9 | 30.8 | 23.9 | 54.7 | 39.3 | 3 |

Source:    Data is from the individual statistics section of Rōdō Daijin Kanbō Tōkei Jōhōbu *Kōnenreisha Shūgyō Jittai Chōsa* (1985) p 28-29: Col 2 and 3 from p 28, Table 20; Col 4, 5 and 8 from p 29, Table 22.

Note:    The figures are for men who were employees at the age of 55.

## Section 4   Promotion systems

Promotional systems play an important role in the incentives offered to workers. In Japan there are three main promotion systems which I shall describe below.

### a)    The managerial promotion system

The *yakushoku* or managerial promotion system gives increased managerial responsibility in reward for good work and service to the company. This means that promotion involves a clearly visible rise in status. This system allows promotion only when there is an open managerial post and hence if the growth of the company slows or turnover of managerial positions slows for any other reason, promotion becomes inflexible and difficult to administer as an award system. Table 4.11 below shows that the average ages of standard posts have been increasing over the years along with the ageing of

employees in all scales of companies. It is also noticeable from inspection of the table that the smaller the company, the earlier the promotion age, although differences in promotion age by scale of company have been decreasing since 1970.

Table 4.11 showing increasing average age of post holders

|  | Buchō | | | Kachō | | | Kakarichō | | |
|---|---|---|---|---|---|---|---|---|---|
|  | A | B | C | A | B | C | A | B | C |
| 70 | 48.1 | 47.3 | 45.5 | 43.2 | 41.0 | 39.3 | 39.7 | 35.7 | 34.7 |
| 75 | 48.7 | 48.5 | 46.2 | 43.7 | 41.0 | 40.8 | 40.2 | 36.6 | 35.7 |
| 80 | 49.6 | 49.4 | 48.6 | 44.1 | 43.5 | 43.0 | 40.2 | 38.6 | 38.1 |
| 85 | 50.3 | 49.9 | 49.1 | 45.2 | 44.7 | 44.1 | 41.3 | 40.1 | 39.8 |

Source:    Rōdō Daijin Kanbō Seisaku Chōsabu *Chingin Kōzō Kihon Tōkei Chōsa Hōkoku* for the survey years shown in the table.

Notes:    A, B and C represent sizes of companies by number of employees such that A = 1000+ employees, B = 500-999 employees and C = 100-499 employees. *Buchō* = department head, *kachō* = section chief and *kakarichō* = chief clerk. Years are Western calendar.

## b)    The grade promotion system

The *shikaku* or grade system is a system of grades and classes strongly linked to the work-related and ability pay systems described above. Under the *shokumukyū* system, jobs are classified according to the value of the work. Under the *shokunōkyū* system grades are determined by ability in carrying work, either in the past or the future. Furthermore, since it does not involve managerial promotion it is much more flexible to use as a reward system. In the case of *shokumukyū*, classes represent the complexity and value of the work and within that class it is also possible to have a grade ladder up which a worker can progress as skill and experience progresses (Uchida p 125). In a pure *shokumukyū* system, pay is determined only by job classification, but if entry to a particular job classification is determined by experience and hence age, there should be a strong link between pay, promotion to a

higher classification of job and age. Since the number of classes and grades within a class is limited, older workers may reach the upper limit and since pay is linked to the job, there will also be a limit in increases in pay with age. Under the *shokunōkyū* system, the grades are determined by level of ability in carrying out work. This allows workers to change jobs within the company, without having their pay altered as might occur under a *shokumukyū* system. Assessment of ability is more subjective than assessment of work value and thus allows even more discretion in promotion through the grades and hence wage differentials within the company. Often the ability grades are linked in some way, either directly through the setting of minimum grades for a certain age, or indirectly through age of the person affecting the management's assessment of ability (Uchida 1989 p 131). A certain level of class or grade is often necessary to acheive a particular managerial post (Ujihara 1985 p 358), so although the systems can be managed independently in parallel, there may also be explicit links.

## c)    Specialist grade systems

The *senmonshoku* system was developed in response to the increasing need for technical specialists, particularly in research and development. It is in essence a specialist grade system and removes technical staff from the managerial promotion path, which generally requires more general training.

## Section 5 Periphery workers

The practices described above would appear to imply little flexibility for labour management in response to changing economic conditions. The 'regular' male worker is employed for a substantial part of his life by a firm where dismissal is anathema. A certain level of living wages is guaranteed to the worker regardless of

ability. It is for these reasons that many Japanese economists have expected to find another pool of labour which are less privileged and less stable and so would compensate for the rigidities of Japanese employment practices. They have not needed to look very far. As in most labour markets there are many types of these less stable types of employment for periphery workers. They range from contract work (*shitauke*), temporary work with rolling contracts (*rinjikō*), part-time work, work at home (*naishoku*) and work in small and very small companies which cannot offer much security. The majority of women workers are on the periphery.

A look at some of these periphery groups and their history would be useful before giving the more general trends in numbers and proportions.


a) *Rinjikō*

These are temporary workers with short-term contracts which can be and often are renewed. The majority of *rinjikō* work alongside a regular worker doing the same work, but at much lower levels of pay ranging between 30% and 60% of a regular worker's wage (Yamashita 1986). During the 1950s large companies' reliance on temporary workers increased noticeably. Yamashita (1986) gives an example of four large ball-bearing companies. In 1953, temporary workers accounted for 7.5% of total employees of all four companies, but by 1961 the percentage had risen to over 60%. Thus during the up-turn in the economy firms had expanded output by recruiting temporary labour. The figures also show greater variability in numbers of temporary workers when compared with regulars. During the 1960s, the labour market began to tighten with the continuing economic growth and many of the larger companies started a policy of converting temporary workers into regular workers (a process known as *honkōka*) in order to ensure sufficient labour (Tsutsumi 1986). At the same

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time, however, more reliance was placed on contracting out work on site to employees in small companies, a practice known as *shagaikō*. Much of the production work was also contracted out to be undertaken by small companies (*shitauke*). This also explains the large percentage of employees employed in small enterprises when compared with other industrialised countries.

Table 4.12 shows the division of employees into regulars and temporaries. During the 1960s, the percentage of temporary employees dropped slowly until 1975, after which there have been noticeable increases. Composition by sex has shown a steady trend, with the proportion of female temporaries increasing continually. This is a result of the rapid increase in women part-time employees from the mid-1970s onwards.

Table 4.12 Proportion of temporary and regular workers

| Year | Full-time | | | Temporary\Daily | | |
|------|-----------|-----|-------|----------------|-----|-------|
|      | All  | men  | women | All  | men | women |
| 1960 | 90.5 | 63.5 | 27.0 | 9.5  | 5.7 | 3.8 |
| 1965 | 91.0 | 63.6 | 27.4 | 9.0  | 4.7 | 4.3 |
| 1970 | 91.7 | 63.1 | 28.6 | 8.3  | 3.7 | 4.6 |
| 1975 | 92.0 | 64.6 | 27.4 | 8.0  | 3.4 | 4.6 |
| 1980 | 90.5 | 62.4 | 28.1 | 9.5  | 3.4 | 6.1 |
| 1984 | 89.8 | 61.1 | 28.7 | 10.2 | 3.3 | 6.9 |

Source:    Sōrifu Tōkeikyoku *Rōdōryoku Chōsa* for the survey years shown.

**b)    Women employees**

The percentage of all employees accounted for by women has been rising steadily since 1960, when it was just over 31% to nearly 37% in 1988 (Rōdōshō Fujinkyoku 1989 Appendix p 14). Women workers do not face the same wage curves as men, demonstrated by the virtual flatness of their wage curves after the age of 25 (Rōdō Daijin Kanbō

Seisaku Chōsabu 1986 p 92). This is in part due to a lower average length of service than men. Length of service tends to be markably lower than for men for all age groups, implying higher mobility. (Rōdōshō Fujinkyoku 1989 Appendix p 19). This is supported by the percentage of women leaving their job each year compared with men, which is usually 8% more than that of men (Rōdōshō Fujinkyoku 1989 Appendix p 45). Finally, a much higher percentage of women employees engage in part-time work and moreover this figure has risen from 12.2% of women employees in 1970 to 23.6% in 1988, along with the rise in the proportion of women employees (Rōdōshō Fujinkyoku 1989). Thus women are increasingly providing a flexible pool of labour outside the scope of Japanese employment practices.

## c)    Employees of small and medium-sized companies

There is a vast literature (eg Odaka 1984) on the dual nature of the labour market in Japan and I do not wish do discuss this in detail here. When discussing periphery and core employment however, the role of small enterprises in providing periphery employment cannot be overlooked. The proliferation of employment in small enterprises has often been noted, when Japan is compared with other developed countries. In 1982 the proportion of people employed in manufacturing establishments with less than 100 employees in Japan was 55.6%. The similar figure for the U.S.A. was 28.5% (1982), the U.K. 26.14% (1983) and West Germany (company base) 18.4% (1985). As a further check, the proportion of workers employed by companies with 10 to 99 employees can be obtained from the *Chingin Kōzō Kihon Tōkei Chōsa Hōkoku* (Rōdō Daijin Kanbō Seisaku Chōsabu 1971, 1976, 1981, 1986, 1988). The figures show a percentage of roughly 36% since 1980. This also shows that a high percentage of people are employed in small companies even though it is a company base statistic and does not include the many companies which employ less

than 10 people. The proportion of employees employed in companies of fewer than 100 people over time is shown below in Figure 4.4 below. The most noticeable change occurs in the first half of the 1970s after which the proportion remain relatively stable, except for the figures for 10 to 99 employee companies not including services.

Figure 4.4 showing proportion of workers employed in companies with less than 100 employees 1970-1987.



Proportion of employees in small establishments/companies

Legend:
- 10-99 (not inc. services)
- 10-99 (inc. services)
- 4-100 (all)

Note:        The figures for percentage employed in 4-100 person establishments for 1970 and 1975 are for proportion employed in 1-100 person establishments. The figures for 10-99 employees are for companies, whereas the figures for 4-100 (and 1-100) are for establishments.

This high proportion of people employed in small companies can be explained partly by the practice of larger Japanese firms of

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contracting out work to smaller companies and partly by the proliferation of small retailers in Japan (Chūshō Kigyōchō 1980). According to the 1980 *Chūshō Kigyō Hakusho* (Chūshō Kigyōchō 1980 p 155) just over 60% of all small and medium-sized manufacturing establishments were carrying out contract work. Moreover the proportion of small and medium-sized establishments on contracts rose during the 1970s. Table 4.13 shows the contracting proportion for different sizes of establishments for the years 1971 and 1976.

Table 4.13 showing contracting proportions for different sizes of company.

| Size of establish-ment (No. of employees) | Contracting Proportion | |
|---|---|---|
| | 1971 | 1976 |
| 1 -19 | 59.2 | 61.9 |
| 20 - 299 | 53.2 | 50.8 |
| 20 - 49 | 56.9 | 50.4 |
| 50 - 299 | 47.1 | 51.4 |
| All | 58.7 | 60.7 |

Source:     Chūshō Kigyōchō (1980).
Note:       Contracting proportion is given by the following:

$$\frac{\text{No. of small \& medium-sized co.s carrying out contracts}}{\text{Total number of small \& medium-sized companies}}$$

By 1987 however, the overall contracting proportion had fallen to 56.6% (Chūshō Kigyōchō 1989  p 102). During the same period (1971 - 1976), the overall proportion of companies of over 300 employees using outside contractors rose from 82.2 to 84.2%. For large companies this was particularly noticeable. For example for companies with 1000 employees or more the percentage rose from 83.7 to 89.4%. On the other hand the category of companies with 500 employees or more saw a decline in contracting out and also reduced the number of outside contractors, whereas the 300-499 employee category actually showed an increase in the proportion contracting

out and increased the number of contractors. Table 4.14 shows the trend between 1971 and 1976.

Table 4.14 showing trends in contracting out during the 1970s

| Size (no. of employ- ees) | Contract- ing out %age | | CO% 15 - 30% | | CO% 30% + | | no. of contractors (average) | |
|---|---|---|---|---|---|---|---|---|
| | 1971 | 1976 | 1971 | 1976 | 1971 | 1976 | 1971 | 1976 |
| 300+ | 82.2 | 84.2 | 19.2 | 19.1 | 13.7 | 11.0 | 88 | 71 |
| 300-499 | 80.5 | 80.2 | 19.9 | 22.4 | 10.2 | 10.2 | 36 | 39 |
| 500+ | 83.6 | 87.2 | 18.7 | 16.8 | 11.6 | 11.6 | 127 | 93 |
| 1000+ | 83.7 | 89.4 | 18.2 | 15.2 | 12.5 | 12.5 | 162 | 130 |

Source:     Chusho Kigyocho (1980).
Note:       Column 2 shows the percentage of companies contracting out. Columns 3 & 4 show the percentage of work contracted out.

As discussed in Chapter Three, workers in the smaller enterprises face less steeply rising wage curves. They also tend to move much more frequently, as shown by average length of service. These are just a few indicators that workers in this group provide a more flexible pool of labour than those in large companies and tend not to enjoy the same security or personnel management. This pool of workers increased during the 1970s and has remained large and relatively stable during the consistent economic growth of the 1980s. It is thus an important and enduring characteristic of the Japanese labour market.

## Section 6   Labour mobility

In this section I am primarily concerned with only two types of labour mobility, namely the employee mobility of different age groups and mobility between different scales of company. Whether these types of mobility also result in structural mobility, providing extra flexibility for a changing economy is regarded as a separate question. In Section 2 it was apparent that large

companies are much less likely to take on mid-termers than small companies. Such behaviour is likely to result in greater mobility between small firms than between large firms and more mobility from large to small than from small to large companies. Ono (1989 pp 162 - 166) undertakes an analysis to investigate such an hypothesis using data spanning the period 1962 to 1987, by constructing matrices of movement rates between different sizes of companies in the non-agricultural and non-forestry sector. Over the whole period mobility from small to small company is much greater than between large and large. The rate varies between 2.63% and 3.28% for movement between 1-29 employee companies over the period, whereas for companies of 1000 plus employees, the rate ranged between 0.42% and 0.77%. Also mobility rates decreased after the 1974 oil shock as shown by the data for 1979, but were then increasing again by 1987.

From 1962 to 1968, during the rapid economic growth period, mobility rates from small to large companies were on the whole greater than the mobility rates in the opposite direction. Since 1974, however downward mobility has been much greater than upward mobility. In 1987, the 1-29 employee to 1000+ employee company rate was less than 1/3 of the movement in the opposite direction.

Ono (1989 pp 165-166) also calculates the number and rates of all downward movement (from any size company to a smaller company) and upward movement between 1962 and 1987. Ever since 1968, both the number and rate of downward movers has been larger than those moving upwards.

Figure 4.5 shows the rate of job changes over one year for different age groups for men in 1974. These rates are not only for employees

but for all types of workers. Unsurprisingly the rates for the younger age groups are high and then rates decrease noticeably after the age of 40 until the 55 -64 age bracket is reached. This jump in job changing is due to employees reaching retirement age and then looking for a new job. Indeed, if the age bracket were 55-59, this rate would probably be even higher. Thus early retirement provides flexibility in two ways. Firstly, 'retiring' employees move to other companies, taking skills with them and secondly, they leave spaces which can then be allotted to different functions. The second is particularly important when the larger companies rely on inexperienced recruits when hiring new labour.

Figure 4.5 showing percentages changing jobs in different age groups



Labour Turnover Rates for different Age Groups
All Male Workers
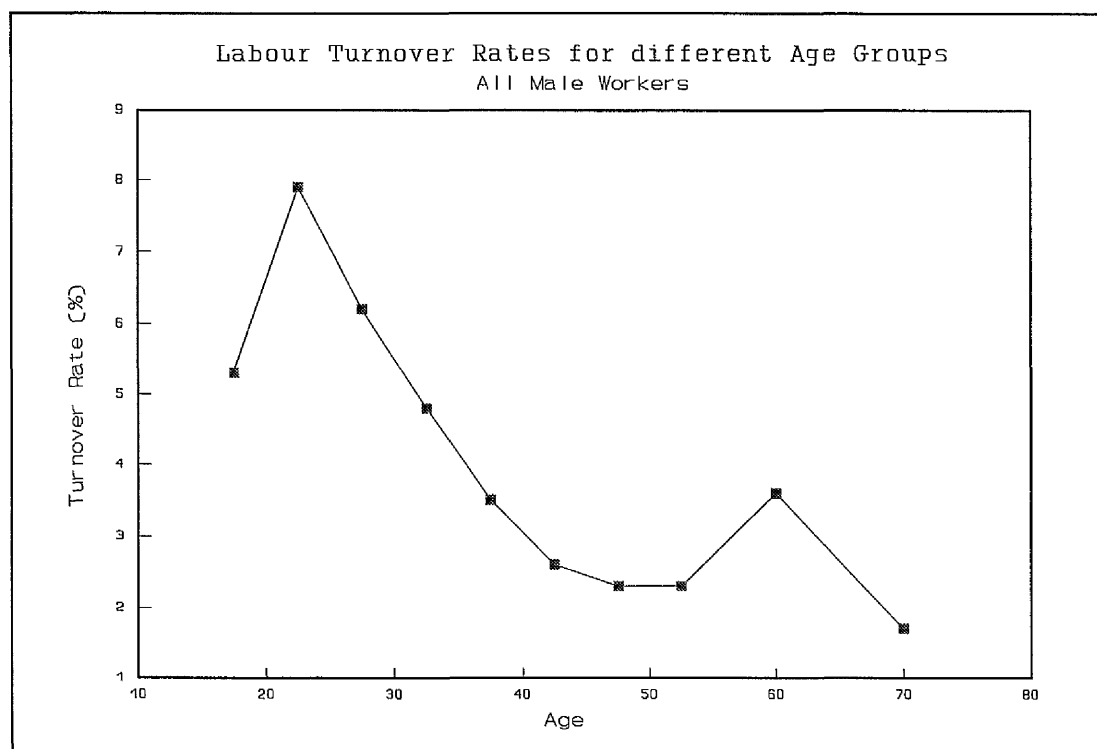
Source:    Tomoto 1978 p 129.

Matsushima (1983 p 111) gives data showing the scale of company

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before and after retirement for those retirees who changed company after retirement. For the 55-59 age group, 91.7% of retirees moved to a smaller company and for the 60-64 year age group this rate was 87.5%. From data given in Sumiya (1983), 88.2% of retirees who changed companies moved to a smaller company and indeed in the sample, 57.6% of employees were working in companies of more than 5000 employees before retirement (1.9% still worked in the same size of company after retirement (*teinen*)). Nearly 65% of those who had worked in companies of 5000 plus employees worked in companies of fewer than 300 employees after retirement. From the same data, just under 50 % of retirees remained employed and changed employee. The survey used by Matsushima (Rōdōshō *Teinen Tōtatsusha Chōsa* for 1979) is biased towards employees of larger companies and the downward movement is corroborated by age composition of employees in different size companies show in Chapter Three.

## Section 7   Conclusion to this chapter

A survey of large companies on the attitudes regarding the hiring of mid-termers showed that large companies prefer to hire young, inexperienced workers. Even when large companies do take on mid-termers, the majority of companies prefer the mid-termers to be below the age of 35. An examination of macro labour market turnover rates showed that around half of hirings were of mid-termers, implying that smaller companies do take on mid-termers. This supposition is supported by the fact that average length of service is lower in smaller companies. It was also clear that treatment of mid-termers tended to be inferior to that of those workers who stay in the same company. In particular, promotion was hindered in large firms by changing employer, since large firms tend to promote workers who have worked all their working life in that company. These facts indicate that large firms operate internal labour markets. This

indication is supported by the lack of mobility from small to large companies and between large companies. There is some mobility from large to small companies, particularly for older workers or those at retirement age.

There are two main promotion systems in use: i) grade systems and ii) managerial post systems. The average age of managerial post-holders has been increasing. Most companies operate mandatory retirement. The practice has become more widespread and more uniform since the 1970s. Also, the average age of retirement has risen and by 1988, the majority of companies had a retirement age of 60 or above. Many companies offer the chance of further employment after retirement, although the conditions of employment are inferior to pre-retirement conditions. *Kinmu enchō* is more favourable than *saikoyō* to the worker, but the practice of *saikoyō* is more widespread. The number of employees experiencing either of these re-employments is approximately 40%.

With internal labour markets, some workers become fixed factors of production, but other workers are employed under flexible terms. It was shown that there is a pool of flexible workers provided by women and temporary workers in Japan, although the second type has become less important. It should be noted that retirees who are re-employed by the same company also become a pool of flexible workers, since the are employed on short-term contracts. Their job-security is clearly lessened. The smaller companies also offer flexibility since their employees are not employed under such a rigid system and are less secure. Thus large firms contract out work to smaller firms and this gives larger firms the ability to adjust labour input, but indirectly.

Although the description of employment practices has been divided into two chapters, the practices described form an interactive set of practices. For instance, hiring and retirement practices affect length of service and hence wage levels, when wages are to some extent determined by length of service, as has been shown. Internal promotion can only work with an internal labour market, but also contributes to the creation of an internal labour market. It has become apparent from this chapter and the previous one, that large firms operate an internal labour market. Smaller companies also have practices that imply an internal labour market (for example, mandatory retirement), and so it is not easy to distinguish firms with internal labour markets from other firms purely on the basis of size. The extent of internal labour markets is difficult to determine, but in further discussion, it will be assumed that it is firms with more than 1000 employees that form internal labour markets.

The next chapter introduces the existing explanations of the employment practices described in Chapter Three and Four, and develops the explanations further to show why the age structure of the firm's workforce influences hiring and employee disposal decisions.

## CHAPTER 5   EXISTING EXPLANATIONS OF JAPANESE EMPLOYMENT PRACTICES AND A NEW DEMOGRAPHIC APPROACH

### Section 1   Significance of this chapter

This chapter plays a pivotal role in the thesis. By introducing a new demographic approach to explaining Japanese employment practices, it provides an explanation of the relationships between population ageing, employment practices and macro labour market variables such as unemployment. The implications furnished by this approach are examined in the next two chapters.

A detailed description of Japanese employment practices was provided in the previous two chapters. The nature of Japanese employment practices can be summarised by the following: firms prefer to hire younger workers at the beginning of their career; wages rise steeply with age and length of service; other forms of pay, such as severance pay rise exponentially with length of service; wages are determined by a mixture of personal and functional factors; most firms have a mandatory retirement age; and some retirees are re-employed by the same firm after retirement under inferior conditions. One other finding is important: the Japanese employment practices described above tended to be more prevalent in larger companies than smaller ones, although they did exist to a certain extent in smaller companies. Over time, there appears to have been a less discernible change in the steepness of average wage curves of employees in large companies than in smaller companies: certainly, the wage curves in smaller companies have steepened more than in large companies. On the other hand, the age structure of employees has aged in all sizes of firms, although the work force in larger firms has aged less compared to that in

smaller firms. The next section of this chapter represents a survey of the theories that have been used to explain the employment practices of Japanese firms. The third section gives an overview of the benefits that the practices provide without adherence to any given theory, in preparation for section four. Finally, Section Four provides a new approach to understanding the nature of Japanese employment practices and more importantly provides insights into the impact of population ageing on the labour market for old and young people. The implications drawn from the new approach are then examined in Chapters Six and Seven.

## Section 2   Theories used to explain Japanese employment practices

There have been two main approaches to analysing employment practices and more specifically the steep wage curves in Japan: a) human capital theory and b) living expenses wage theory. These can be broken down into further subsets and I will give an account below and a discussion of the efficacy of these theories.

### Sub-section 2.1 A survey of human capital theories

Human capital theory regards workers not as undifferentiated people with the same levels of skills and ability, but as people of differing quality. Although part of the quality of an individual can be assigned to innate ability, background and personality, quality is also enhanced by acquiring skills and knowledge, otherwise known as human capital. In the narrow sense, human capital embodies skills acquired through formal education and work experience, whilst in a broader sense it may include information networks and trust relations built up by an employee over time. The main purpose of human capital theory is to explain wage differentials under the neo-classical assumption of the

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marginal worker receiving wages equal to his marginal product. Thus two workers similar in all aspects (eg innate ability) may receive different wages due to different levels of accumulated human capital. In the Japanese context, human capital theory needs to explain rising wages with age; falling wages after peak age; mandatory retirement; and steeper wage curves in large companies than in small companies

## a) The skilling hypothesis

This was one of the earlier human capital type of hypotheses used by economists such as Ujihara (1966). Due to a skills shortage, particularly in a rapidly modernising economy, companies needed to foster skills within the company rather than raising the requisite labour inputs from the open labour market. Inside the company, skills were passed on as a craft and tended to be company specific, hence years of service reflected the skill or human capital level of the employee. If there were little mobility, then seniority and age would be strongly correlated and hence under this condition, wages would rise with age. Moreover, since seniority would be negligible for a worker in a second job after retirement, wages should drop to reflect short service and loss of specific human capital in the new company. So falling wages after peak age are also explained by this hypothesis if "retirement" coincides with peak age. Finally, if employees in larger companies display less mobility than employees in small companies, average age-wage curves will be steeper in large companies due to the greater average length of service at the same age for large company employees. Greater mobility of workers in small companies is not explained, however, and needs to be taken as given. Alternatively, workers are applying skills to more capital in larger companies and thus the return is higher.

Thus, the three main characteristics of the average wage curve in Japan seem well explained, by this hypothesis, so long as the skills acquired by the worker are almost totally company specific and so long as the requisite skills can only be acquired fully over a long number of years. With the new technology that was introduced rapidly after the Second World War, the age-wage differentials were expected to decrease since skill formation over a long number of years would not be necessary and older workers would find that their skills depreciated rapidly. Certainly wage differentials by age peaked in 1958 (Ono 1989 p 21), but they still remain large and have in fact been widening during the 1980's as shown in Chapter Three, Section Two. The implication of the weight assigned to length of service in wage determination is examined statistically by Ono (1989, Chapter Two) and his results will be summarised below, since they appertain to all of the human capital theories.

### b) Job rotation and career formation

Koike (Koike 1981 and Koike 1988 for example) stresses that workers are moved through a series of jobs, widening their skills and understanding of the whole manufacturing process in which they are involved. The longer the person remains in the company, the higher the wages since the quality of the employee is constantly improving. Ono (1989 p 183) criticises this by remarking that this approach cannot explain why length of service should be long (ie why there is little mobility between firms). The theory does not need to. It is sufficient that length of service is long and hence skills increase with age and so do wages. A worker will only move elsewhere if pay and opportunities are better. There is a long-standing myth that firm-specific human capital is necessary to keep a person in the same company,

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but it is merely one sufficient condition. If the acquired skills are general, then it is often held that the worker will bear the cost of training through lower wages since he will be able to use the skills in another company (Elliott 1991). While the worker is training he will not be able to move elsewhere, since he will not have sufficient skills to offer another employer. Once his skills are sufficient, then the company which currently employs him will raise the wages to meet his improved productivity (Elliott 1991). Thus there is no incentive for the employee to leave. Koike's skill formation scenario is quite adequate for explaining rising wages with age, but it is not sufficient in explaining a decrease in wages after peak age. Certainly, wages may stop rising as the period for recouping the costs of investment in human capital is short for older people and investment thus ceases (Sano 1981 p 153), but they need not fall. The approach cannot explain mandatory retirement either. A more steeply rising wage curve in larger companies may be explained by greater opportunities given for rotational training and greater job stability allowing for faster acquisition of skills.

c)    **Internal labour markets and firm-specific human capital**

Doeringer and Piore's (1971) approach is based on the internal labour market within a company. The market becomes internal because the company requires firm-specific skills and therefore hires raw recruits and then trains them. The recruits are not happy to bear the full costs of their training since their new skills will not be useful in another company. The worker and the company share the costs of training. The longer the worker remains, the more firm-specific skills he acquires and wages rise. If the worker leaves the company, wages will drop, as would

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be the case on retirement. Compulsory retirement cannot be explained. If firm-specific training has higher returns and training in larger companies is highly firm specific, the wage curve may be steeper in large companies than in small companies. See Figure 5.1 below.

Figure 5.1 showing conceptual wage curves under the assumptions of firm-specific human capital and general human capital.
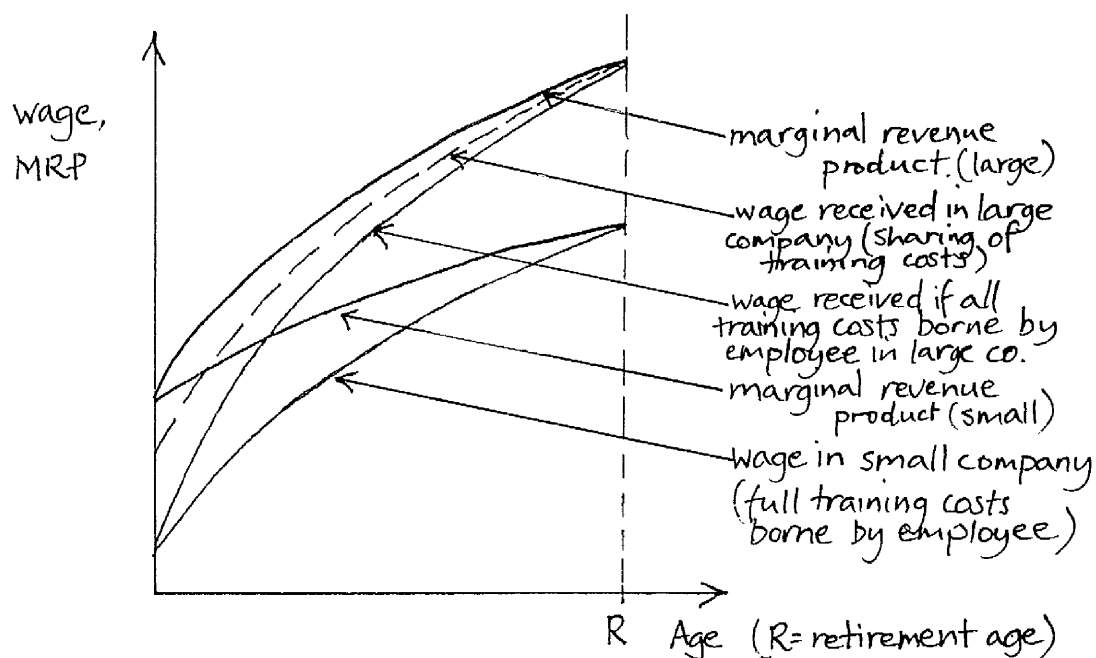


Figure 5.1 shows that if the increments in productivity resulting from the accumulated human capital with age were the same in both large and small firms, the wage curve would be steeper in small firms since employees would bear all the costs of training (the training is non-firm specific in small firms). If, however the skills accumulated in a large company lead to greater increments in productivity than in the small companies, the wage curve in the large company would be steeper, even though the company bears some of the training costs.

A further implication of the existence of firm-specific human capital should be noted. Since the wages of an employee would fall if he moved to another company, mobility is reduced. This means that the firm can set wages at levels that are not necessarily determined by the present productivity of the employee. It does not mean that the employees' lifetime pay can be less than marginal productivity, since if it were, employees would not join that company when young - other companies would be prepared to pay higher lifetime wages. As a consequence of the ability to pay wages that are not equal to marginal productivity, it is possible for the wages of young people to be suppressed below, and the wages for older workers to be raised above marginal product levels. If the internal age structure were young, such a bureaucratic wage structure would reduce total labour costs. See Figure 5.2 below.

Figure 5.2 showing steep wage curves when wages diverge from marginal productivity
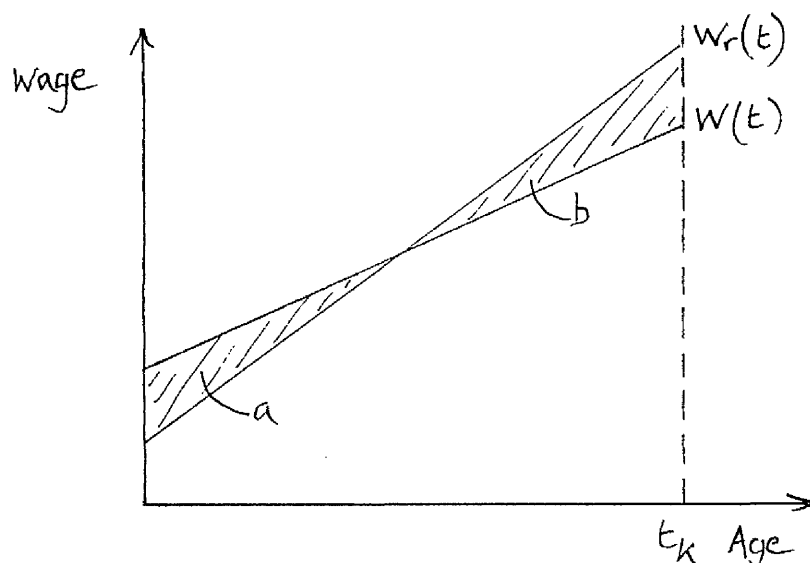
w(t) is the wage curve achieved when training costs are being shared at a fixed proportion during the length of service of the employee; $w_r(t)$ is the revised wage schedule with younger workers bearing a higher proportion of training costs than older workers. $t_k$ represents retirement age and the areas a and b will be the same, such that lifetime earnings are the same under the two wage schedules. Thus wage curves may be steeper in the Doeringer and Piore case with a high preponderance of firm-specific human capital and an internal labour market, such as those created by large firms. This approach will be discussed in more detail in the next section.

## d)   The trust-building and loyalty approach

This approach is, strictly speaking, a subset of the firm-specific human capital theory of Doeringer and Piore. It is described separately since trust and loyalty are not normally regarded as firm-specific skills, but they certainly are one element of human capital. Loyalty and trust may be viewed as ethereal entities which belong to the company as whole, but it is apparent that should an individual leave the company, some trust and loyalty will also leave and will need to be built up in a new recruit. Ono (1989 pp 141 - 146) uses the trust-building hypothesis to explain why it is necessary to stay at one company for a long time rather than for explaining rising wage curves but states clearly the basic proposition (Ono 1989 p 142, my translation):

> "In order that the firm as an organisation is able to perform decision-making efficiently and then act on those decisions, it is important to establish an informal network based on the trust-relationships between the people who form that organisation."

In other words, mutual trust relations give the chance to express sincere opinions and thus reduce the time and effort needed for adjustment and compromise. As the length of service increases, relationships become rooted more firmly and the employee comes to understand the characters of other workers more clearly. The employee thus becomes more productive with the passing of years in the same company and wages rise with length of service and if length of service is correlated with age, wages will rise with age. Wages will fall if the person moves to another company after retirement, but compulsory retirement cannot be explained. Since employees of a larger company will have a longer length of service than those in small companies for a given age, wages will rise more steeply in larger companies.

### e)   A short critique of the human capital theories

One of the general results of human capital theory is that wage profiles are not affected by supply and demand conditions in the labour market. The productivity of the worker is determined solely by innate ability and the amount of human capital he or she possesses, so that the worker will receive a wage commensurate to that productivity. This implies that with an increase in the proportion of young workers, for example, the employee age structure will change and the input mix of different age groups into production will change. Productivity of the individual worker is not determined by combination with other types of worker and therefore a lower productivity worker (with a lower level of accumulated human capital) is perfectly substitutable with a higher productivity worker, although obviously not on a one-to-one basis.

An indirect method of testing the general human capital theory

is to test the effects of demographic changes (supply) and growth (demand) on average wage curves. Freeman (1989, Chapter 4) studies the American labour market and finds that in the 1960's and 1970's when the number of young workers increased rapidly, the wage profiles of male employees steepened noticeably, bringing into question the human capital approach. Martin and Ogawa (1988) carried out a similar study on the average wage curves of male employees in Japan and also found that change in the population structure affected the steepness of the average wage curves, but that economic cycles also had strong effects.

The results are not conclusive. There may have been technological effects changing the profiles during economic cycles or training profiles may have changed, but these results do give reasonable grounds for doubt. The ability to determine the wage structure institutionally in an internal labour market with specific human capital would appear to be a special case, particularly since both papers use data for employees in all scales of company.

Ono's (1989) examination of various factors in wage determination also question the specific human capital theories and his results will be given after a description of the living expenses hypothesis, since Ono compares the explanatory power of the two approaches described here.

**Sub-section 2.2 Living expenses wages**

**a)   The living expenses wages approach**

The belief in living expenses wages is essentially based on the historical development of wage systems during the interwar period the Second World War and the reconstruction period afterwards. During the period of preparation for war and during the war,

standards of living fell and wages came under bureaucratic supervision in order to suppress inflation. Examples of wage systems given in Shōwa Dōjinkai (1963) show explicit links between age of a worker and the necessity of ensuring a sufficient wage to meet living expenses. After the war, again under conditions of inflation, the *Densan-gata* wage system was established in the electricity industry: it guaranteed a living wage fixed according to age and also with allowances for dependants (Ono 1989 p 80). This type of wage system became popular in other types of industries.

Ujihara (1966) and Funabashi (1967) advocate the living expenses hypothesis. Funabashi assumes that the labour market in large firms is segmented (internal). Therefore with a surplus population such as existed after the Second World War, starting salaries would be low, since it is only at the entry stage that wages are determined by supply and demand in the labour market. In order to ensure reproduction of the labour force, wages needed to rise with age, so that a family could be supported. As Japan entered the period of high speed growth and a labour shortage appeared however, starting wages rose and age-wage differentials decreased. Ono (1989 p 24) suggests that by the period of high speed growth, this sort of wage determination had become an established practice and thus continued to exist even though the initial conditions which had brought about this way of thinking had disappeared. There are also other approaches which view living expenses wages as a reflection of the paternalism of Japanese companies (Sano 1981).

Ono (1989 p 45) feels that living cost wages can be interpreted as the outcome of an efficiently operating labour market, since

such wages reflect supply and demand factors. Workers with families have to supply their labour at a higher price than a young person without familial commitments or than an older worker whose children have become independent. This explanation would appear to assume that a worker with a family is able to withdraw labour if wages are not high enough, whereas the opposite case is more likely to hold, with a growing pressure to supply labour at _any_ wage with increasing familial commitments. Ono is implicitly assuming that firms are willing to pay a higher wage for higher age groups: the argument then returns to questions of the productivity of different age groups or behaviour based on habit or paternal concepts, rather than purely the function of different types of labour. The rationale for living expenses wages can be found in the motivational aspects of such a system and thus the most appropriate way to explain the living expenses wage system would be as a type of efficiency wage system. A sense of security would increase morale and loyalty, resulting in greater work efforts. Such an approach is similar to the theories of gift exchange expounded by some proponents of efficiency wages (Akerlof 1984).

**b)    A short critique of the living expenses wages approach**

There are various types of evidence which are produced to support the living expenses claim. Ono (1989 p 25) notes that wage profiles in Japan peak later than in other countries and that this fact helps to support Funabashi's claim that wages are maintained to support living expenses even once accumulation of skills has stagnated. The noticeable flatness of women's wage curves is another element in the support for living expenses wages (Ono 1989 p 25). Since women are not the main providers in a household, it is not necessary to pay them wages that guarantee

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living expenses, as it is with men. There are other studies (Sumiya 1973 for example) which compare wage profiles with life-cycle living expenses and find that the two profiles have very similar shapes (Ono 1989 p 31). This similarity is used to further support the existence of living expenses wages, regardless of the fact that the main limit to expenditure is income, even when capital markets are efficient.

It is difficult to establish why the average wage curves of workers employed by different size companies should differ as shown in Chapter Three, since it seems highly unlikely that an employee in a small firm would have a lesser requirement for income to support a family than the employee of a large firm. Furthermore, if an explicit living expenses wage were in operation in large companies, there would be little need to retire workers at a mandatory and often early age: reduction in wages would suffice.

Concrete evidence is hard to find, either in support or denial of the living expenses hypothesis. Ono (1989, Chapter Two) carries out a statistical examination of the two major approaches described above. His results are given next.

**Sub-section 2.3 Ono's statistical examination of the human capital and living expenses wages approaches**

Ono uses data gathered on magnetic tape for the Basic Wage Structure Survey (*Chingin Kōzō Kihon Tōkei Chōsa*) which allows for combinations of data not available in the tables published for public consumption. The public data gives years of occupational experience and age for each type of work, whereas Ono is able to use the individual responses of those surveyed to

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find out the wages of each individual categorised by years of occupational experience, age and length of service. This enables him to estimate the contribution to wage levels of company size (SZ); years of schooling (age of leaving school, ED); years of experience in present company, which is a proxy for internal experience (IE); years of occupational experience (OE); and age (AGE). Since age of leaving school is included, he could not run a regression using all the variables, since AGE = ED+EE+IE (where EE is external experience) and thus he uses two regression models, one in which ED,EE,IE and OE are the explanatory variables (called the IE*EE model) and the other in which ED, IE, OE and AGE (the IE*AGE model) are explanatory variables. Ono then runs two estimations for each model, one which excludes OE as a variable (estimation A) and one which includes OE (estimation B).

## a) The results of testing the IE*EE model

The IE*EE model can be used to examine the human capital hypotheses (both general and firm-specific types). The general results of Ono's OLS regression for this model are as follows:

1) with estimation A it is not possible to derive the weight of firm-specific human capital in the length of service variable. The length of service variable (IE) contains elements of both general human capital and firm-specific human capital. If the total contribution to wages of IE is taken to be the contribution of firm-specific human capital, then it is likely to be an over-estimation. With estimation type B, occupational experience (OE) is included as a variable and thus the general human capital element in IE is taken out of IE, turning IE into an explanatory variable which represents only the firm-specific human

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capital element in the determination of wages. Ono finds that the contribution of IE to wages falls dramatically for all sizes of company when regression type B is used as opposed to regression type A. This result implies that it often seems that length of service is highly explanatory in wage determination only because general skills are being absorbed during service in the company.

2)    The contribution to explaining wages of external experience, EE, also drops when occupational experience is included in the regression, particularly for small companies where the average employee has more years of occupational experience than length of service (Ono 1989).

3)    Both the wages accruing from internal experience and external experience are greater in larger companies. If rising wages with length of service represents the return to increasing firm-specific human capital, external experience would not contribute to the level of wages. As Ono points out, from his results, external experience increases with shorter length of service (internal experience) by definition and since external experience has explanatory power, low wages due to short length of service can be compensated to some extent by external experience.

The general conclusions from the IE*EE model are as follows. Explanations of wage curves which rise with length of service and particularly those of employees in large companies, which stress

firm-specific human capital lose their significance. Theories based on the accumulation of general human capital over the life-span are well supported by the effects that the inclusion of occupational experience has on the regression results.

**b)     The results of testing the IE\*AGE model**

The IE\*AGE model can be used to investigate the living expenses hypothesis represented by AGE versus the human capital hypothesis. The result's of Ono's estimation are as follows:

1)     The IE\*AGE model has greater explanatory power than the IE\*EE model. The power of the first model (type B) which split AGE into internal experience and external experience is inferior to the model in which AGE is left unsplit (IE\*AGE, type B). Thus the contribution to wages given by adding IE and EE together is still less than the contribution of AGE, which implies that AGE contains elements other than human capital which contribute to the level of wages. The contribution to wages of IE and EE does not change much over the life-cycle, whereas the contribution of AGE does. Since the type B regression for the IE\*AGE model removes the effects of occupational experience that increases with age from the AGE variable, it is difficult to argue that the AGE variable is acting in this regression a proxy for total human capital, other than a type of human capital variable broader still than occupational skills (eg ability to understand other people's behaviour and form working relationships with them; authority).

2)    Ono gives data for 1980 across all scales showing the contribution to wages of the various variables. See Table 5.1 below.

Table 5.1 showing the results of Ono's empirical analysis

| Factor of wage determination | Contribution to wage levels (%) | |
|---|---|---|
| | with fixed coefficent | no fixed coefficient |
| fixed coefficient | 27.0 | - |
| education | 2.1 | 2.9 |
| internal exp. | 3.8 | 5.2 |
| occupational exp. | 5.7 | 7.8 |
| age | 61.8 | 84.0 |

Source: Ono (1989) p 41, for all categories of male employees.

Since it is difficult to attach a specific meaning to the fixed coefficient term, Ono uses his results to calculate the contribution of the factors to the difference in wages between a raw middle-school leaver on starting wages and a worker with average attributes, designated as someone having graduated from high school or old middle school, with a length of service of ten years, occupational experience of over ten years and forty years of age. The results are shown in Table 5.2 below.

Table 5.2 showing Ono's estimates of the contribution to the difference in wages of a school-leaver and an average employee of various factors

| Factor of wage determination | Contribution to wages (%) by size of company (no. of employees) | |
|---|---|---|
| | 10 - 99 | 1000 + |
| education | 10.0 | 9.5 |
| internal exp. | 5.4 | 12.1 |
| occupational exp. | 23.8 | 15.6 |
| age | 60.8 | 62.8 |

Source: Ono (1989) p 42.

Age is the main explanatory variable although length of service does carry a much heavier weight in wage determination in large companies, showing that firm-specific human capital is more important in large companies.

Ono's overall conclusion from this detailed and unique analysis is that the AGE variable represents living expenses and thus the living expenses hypothesis for wage determination is more powerful than the human capital hypotheses, although human capital does undoubtedly play a role in wage determination.

Ono continues to provide a rationale for the *nenkō* system (the embodiment of the living expenses hypothesis) by describing two main benefits of the *nenkō* system. One is the role it plays in smoothing the introduction of new technology as described later in this chapter. The other is an argument based on the necessity of fairness in a group setting. Ability pay is difficult to administer, since it is very difficult to establish an objective evaluation scheme. Evaluation of a person's ability and potential is inevitably subjective and therefore it is necessary in a group setting to choose some general measure of evaluation which is not affected by favouritism and other behaviour which causes indignation amongst workers. Ono stresses that the most objective meter of ability is age - therefore wages based on age are the best for maintaining fairness. This is really a reinstatement of the human capital hypothesis that age reflects skills and that is why wages rise with age.

**Sub-section 2.4 Conclusion to Section 2**

It is clear from Ono's analysis that the human capital approaches have some power in explaining the rising average wage curves in

Japan. Each of the human capital approaches provided only a partial explanation of the observed phenomena, however. Two results of Ono's analysis are particularly important: the first is that the age of the employee determines more of the wage level than do the individual components that add up to give the age of the employee; the second is that firm-specific human capital was more important in the case of large firms. The second result implies that large firms are more likely to embody internal labour markets, the importance of which will become clear later. Ono believes that the first result is a vindication of the living expenses wage approach. As explained above, Ono's explanation of living wages expenses reduces to nothing more than a sophisticated (and useful) version of human capital theory. The result itself, however, seems to suggest that the productivity of workers is not purely a function of their skills and accumulated human capital (in whatever form), but also of incentives and motivation created by a wage determination scheme that leads to a steeply rising average wage curve. In other words, rising wages with age engender increases in productivity that are not associated with increased skills, but increased efficiency emanating from other sources. The next section explains the motivational aspects of Japanese employment practices.

## Section 3  Japanese employment practices as incentive schemes and allocative devices

Firms attempt to devise employment practices that gain the maximum efficiency from the workforce. Many of the practices aim to increase the efficiency of the workforce as a whole rather than the efficiency of an individual. Below I shall survey theories that show how wages that rise with age provide

incentives and information that could improve efficiency. It is usually difficult to test these theories because the effects of incentives are often impossible to measure.

**Sub-section 3.1 Skill, knowledge diffusion and technology absorption**

The use of wage curves that rise with age and the explicit use of personal wage systems imply that workers of different age groups are essentially non-competing or, alternatively, non-substitutable. If younger workers are not competing with older workers, then the older workers will not be constrained in passing on their accumulated skills and knowledge to younger workers, since their wages are strongly determined by age rather than any direct comparison with the productivity of younger age groups. The relationship is also symmetrical. Younger age groups are able to pass on specific knowledge to older workers without jeopardising their own chances of promotion in the future, or of lowering their wages. There is competition engendered by the promotion system (discussed in detail below) within age groups, which is sufficient in providing incentive for effort. The smooth transmission and diffusion of knowledge ensures greater efficiency in the use of inputs and the continuity of production. Knowledge becomes embodied in the company as a whole rather than in specific individuals (Imai and Komiya 1989). Although competition within age groups may hinder horizontal communication and integration, age-vertical integration increases efficiency compared with a situation in which all workers are potential competitors.

There is another important technological aspect to a wage system in which the emphasis is placed on personal factors and potential

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rather than on job-evaluation. In an environment in which technology is changing rapidly, under a functional wage system a worker may find that his assigned job classification becomes downgraded or redundant upon the introduction of new technology. He may remain in the job classification but at lower wages since part of his skills have become useless, or he may be moved to a new job for which new skill accumulation is required and therefore he will start at a low grade and at lower wages. With such considerations, the worker will naturally be opposed to the introduction of new technology and the ensuing resistance results in inefficiency and industrial relations problems. Under a personal wage system or one based on potential, a worker can be re-allocated to a new job without a concomitant drop in wages or status. In the personal wage system a given level of wages will be guaranteed by age and under a potential ability system, attention will be paid to accumulated general skills and ability in previous work, again resulting in a maintained level of wages. If there is a tendency, as Ujihara (1985) claims, towards judging potential by reference to personal characteristics, such as age and educational background, there is little difference in the two systems other than in name. They both aid the introduction of new technology, which retains the competivity of the company and the prosperity of the individual worker.

It should be noted here that the adoption of new technology would seem to require a different set of conditions to that necessary for the creation of new technology. Incentive is necessary for the individual to allow the company to use the new technology which she or he has created. That is, there is need for a reward to be given for the fruition of a specific piece of new technology. This implies that whatever the age or personal

characteristics of the creator, there needs to be a recognised reward to the individual in terms of pay and/or status.

## Sub-section 3.2 Resolution of the agency problem and the reduction in labour turnover costs

This approach is used to show how wage payments can increase the efforts of workers in situations where it is difficult to measure individual productivity. The approach also explains how labour turnover costs can be reduced and why there is a need for mandatory retirement. Strictly speaking it is assumed in this approach that wages rise with length of service rather than with age; and moreover that wages rise steeply. It is argued that young workers are paid a wage that is less than their marginal productivity, while older workers are paid a wage greater than their marginal productivity (Elliott 1991 pp 368-9). Such a practice means that quitting will be reduced since younger workers will want to stay on to enjoy higher real wages. It also means that workers will make more effort than otherwise, since they will wish to reduce the chances of sacking before they are able to enjoy higher wages. This wage system will be particularly effective if other firms also use the same system, in which case a move to another firm will lead to a substantial reduction in wages and a postponement of future high earnings. This phenomenon of reduced wages with a change in job has been shown to exist in Japan in Chapter Three.

The effect of this wage system is to produce a wage curve that is rising, and moreover rising steeply, as shown in Figure 5.3 below. The shallow upward-sloping line shows the marginal productivity of a worker with the length of service shown on the x-axis. It is upward-sloping because it assumed that the worker

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accumulates more human capital as length of service increases. The steep upward-sloping line shows the wages paid. The dotted line shows the wage that would be received if such a wage system were not in use. It is lower than the marginal productivity, because the wage system itself increases overall efficiency of the work force by reducing turnover costs and encouraging employees to work harder: if the system were not used, the marginal productivity of all workers would be lower. The extra product created by the system could be distributed according to length of service, since such a distribution would enhance the incentives of the system.

Figure 5.3 showing how wages can be used to increase worker efficiency and decrease labour turnover.
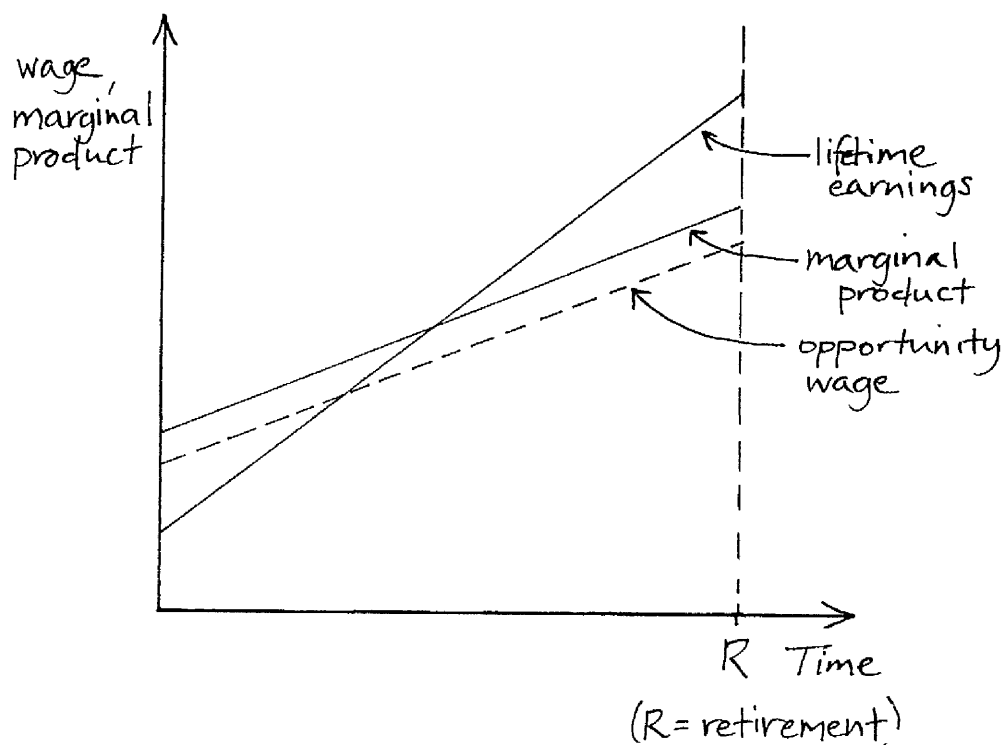


One aspect of this wage system is important. It would be profitable for the firm to sack older workers before they enjoy the full benefits of their investment made when young (the difference between productivity and wage). Therefore, for the system to be effective, firms must guarantee employment up to a certain length of service. The firm, on the other hand, will be harmed if workers continue to work for too long: therefore a mandatory retirement age is agreed (Lazear 1979). Workers must be guaranteed employment up to retirement and firms must be assured that they can discharge workers at that age. Implicit in this argument is that length of service and age will be closely correlated. Such a correlation will exist, because it is implicitly assumed that workers are hired at a young age: once they are hired they will not leave the company, because of the

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wage system and because of the guaranteed employment until mandatory retirement.

Thus, although this theory is used to show why wages rise steeply with length of service, it does in fact show why wages rise steeply with age, because of the correlation between the two. Age will have a particularly important role in the determination of wage level if efficiency gains are distributed by age. The retirement severance payment in Japan reinforces the effects of

this wage system. Although severance pay is payable at any age, there is a large addition made for mandatory retirees. Also, severance pay rises slowly with the first few years of service, then rises rapidly towards mandatory retirement age and flattens at that age. This schedule for severance pay means that a large reward is paid for staying on until retirement.

Finally two further aspects should be noted: the first is that total labour costs will be lower when the internal work force has a young age structure; the second is that the benefits accruing from a reduction in labour turnover are likely to be largest for firms that require the accumulation of firm-specific human capital.

**Sub-section 3.3 Gift exchange and morale**

Wages that rise with length of service mean that with each year in the company, a worker will receive a pay rise, whether or not there has been an increase in labour productivity in the company (leaving aside questions of inflation). There are psychological benefits to a raise in pay each year. Disputes are less likely over wage settlements, particularly when an individual's raise cannot be split into productivity and length of service elements,

as is often the case in Japan (Chingin Seido Senmon Iinkai 1978 p 35). The individual worker has received a raise in pay and feels rewarded for effort over the previous year. It is reasonable to assume that the larger the rise in pay each year the greater the satisfaction of the employee. Employee satisfaction results in greater commitment to the company and stimulates effort. This explanation differs from the agency problem resolution described above, since it is not necessary for wages to diverge from marginal product. Certainly commitment receives much attention in Japanese literature on labour management and is felt to be important. Table 5.3 shows the attitudes of management to the *nenkō* wage system. The two most popular reasons for regarding *nenkō* wages as important are a) people are able to work without worry; and b) they are a reward for loyalty and past service. Suffice us to assume that in terms of morale, a rising wage curve is more attractive than a flat one. This is intuitive, but then so is much in management decision-making.

Table 5.3 showing the reasons for using *nenkō* wages.

| Scale of firm (no. of employees) | Ability increases with seniority | Rewards loyalty and past service | Allows people to work without worry | Labour unions demand *nenkō* wages | Helps firm organisation to work well | Suits Japanese customs |
|---|---|---|---|---|---|---|
| 5000+ | 33.3 | 48.1 | 75.9 | 20.4 | 28.9 | 53.7 |
| 3000-5000 | 6.3 | 31.3 | 62.5 | 18.8 | 43.8 | 37.5 |
| 1000-3000 | 11.4 | 34.3 | 74.3 | 21.4 | 35.7 | 44.3 |
| 300-1000 | 23.4 | 41.1 | 71 | 15 | 29 | 40.2 |
| -300 | 23.6 | 50 | 74.6 | 10.7 | 27.1 | 32.1 |
| All scales | 21.8 | 43.6 | 73.3 | 15.6 | 31.5 | 39.7 |

Note:     Figures show the choices of firms which had previously answered that they viewed *nenkō* wages as important. The number of firms in the 3000-5000 employee category is small (16). The number of firms responding in other categories is above 30.

Source:   Rōdō Daijin Kanbō Seisaku Chōsabu (1987) *Nihonteki Koyō Kankō no Henka to Tenbō*, Tōkyō: Ōkurashō Insatsukyoku, p 126.

## Sub-section 3.4 Security, competition and promotion

So far the wage systems have been required to ensure that wages rise with age to create efficiency gains. Such wage systems may appear to lack incentives for engendering competition amongst workers. Why should an individual worker make an effort to produce better work when it would not be reflected in individual pay differentials? Liebenstein (1984) appeals in part to anthropological characteristics of the Japanese such as a sense of obligation to the peer group, but more visible sources of competitive pressure exist. First it was shown in Chapter Three that personal wages only account for a certain proportion of wages and the remainder of the wages are determined by assessment of the employee's performance and future performance. So long as relative pay levels are more important to the employee than absolute pay levels, worker assessment will stimulate

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competition. Furthermore promotion may be used as an incentive system. Indeed, much of the results of performance assessment may not be directly reflected through a raise in pay without change in status, but through promotion and consequently through higher pay. Ono (1989 p 83) contends that since assessment includes future performance, a strong personal element such as age enters into the standards used for assessment. In other words assessment is not scientific, but subjective and thus leads to the reliance on personal factors. The implication is that although wages are split into personal and job-evaluation elements, both elements are in fact of a personal nature. Although it is true that many grade (*shikaku*) systems specify a particular class for someone of a particular age, there are usually grades within that class which reflect ability. It is difficult to maintain, however, that managerial promotion (*yakushoku seido*) is based purely on age. Again, the attainment of a certain age may be a prerequisite, but only a percentage within the specified age groups become *buchō* or *kachō*. This is reflected in the widening dispersion of wages for higher age groups of workers (see Chapter Three). Thus managerial promotion provides strong incentives for competition.

Internal promotion also creates further labour efficiency since it enables the firm to have a good knowledge of the people who are chosen for promotion. In other words, internal promotion is an efficient means of minimising information costs and the risk of hiring a poor manager. Thus, those who are promoted internally should receive a higher wage than someone hired from outside the firm, because their productivity will be higher (this is similar to the case of 'lemons' (Akerlof 1970), where the price of secondhand cars is suppressed because buyers have less information about the cars than the sellers and therefore they

discount the price by the probability that the car is of poor quality). Since workers have to acquire skills before they are promoted, it will be older workers who are promoted and their wage will rise accordingly. Thus because of internal promotion, wages will rise on average with age and, moreover, will rise more steeply than when management and supervisor roles are filled by outsiders.

For a hierarchical managerial promotion system to work effectively however, two conditions are necessary: the first is that managerial posts are on the whole filled by employees of the company through internal promotion; the second is that the internal work force has a young age structure. The emphasis on *kogai* in promotion as described in Chapter Four certainly ensures the first condition. Moreover *kogai* is felt to create a sense of unity between all classes of workers and thus avoid many adversarial problems (Imai and Komiya 1989) The first condition is only possible if the second condition is also held. With an age distribution skewed towards the higher ages, open posts become scarce and thus a consistent link between individual performance and promotion becomes difficult to maintain without creating mock managerial positions. Early retirement is one method of maintaining a flow of employees through managerial positions (see Chapter Six for early retirement provisions in Japan). Finally, it should be noted that as long as it is possible for a high percentage of employees in the higher age groups to hold managerial posts, steeply rising average wage curves will be maintained, since pay is not only determined by age, but by job-evaluation.

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## Sub-section 3.5 Conclusion to Section 3

This section represents a survey of explanations for the efficiency increases that may be gained from using wages that rise steeply with age. It also included an attempt to correlate Japanese employment practices with these explanations. Strictly-speaking, it is only the first explanation based on technology diffusion arguments that establishes a link between age, wages and efficiency gains. The other explanations do show such a relationship when labour markets are internal and length of servie and age become highly correlated, however. Promotion is also important in engendering competition and the promotion must be internal, otherwise there will not be an explicit link between performance and reward. In several places it was noted that a younger internal population age structure would lower the cost of maintaining the motivational system or would actually be necessary for the system to act effectively.

Finally, it should be noted that most of the practices required an internal labour market or created an internal labour market. In some cases the company benefited if it had an internal labour market more than otherwise. For example, reduced labour turnover benefits those firms with firm-specific human capital and it is precisely these firms that will have an internal labour market. The conditions necessary for internal labour markets to be formed are:

1)   The firm needs to be large in terms of number of personnel, so that it has a choice of allocation of the right person to the right function. It also needs to be large enough to have a hierarchical managerial structure, such that promotion can be used as a reward system.

2)   The firm needs to be able to guarantee long-term stability.

Stability of company is usually related to market power in its particular industry and other factors such as stability in financing. These factors tend to require that the company is large.

3) The company needs some means of regulating inputs according to market conditions during business cycles, including the ability to adjust labour input. There are two main ways in which it can maintain flexibility:

a) As well as a core of long-term, internalised employees, it may also hire temporary workers or use other types of less stable employment, such as part-timers, whose numbers can be easily adjusted to cycles. Such behaviour results in the splitting of the work force into two main groups requiring different management structures.

b) The firm may contract out much of the processes of production to other smaller companies which will then bear the brunt of any cyclical downturn. The firm only needs to maintain a highly-skilled workforce to perform functions not possible for a small company, such as operation of capital equipment not used by small companies, product development, marketing and co-ordination (Komiya 1989).

In other words the firms generally need to be large and need to have some form of flexible labour inputs. Thus the explanations of motivational effects above apply to large Japanese firms (generally over 1000 employees). A new approach which builds on the explanations given in this section, and includes demographic aspects, is developed in the next section; and like these approaches, it applies to large firms in the main. It should be remembered that many smaller firms (less than 1000 employees)

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also have the same employment practices as large firms, and therefore it appears that many smaller firms will also have an internal labour market.

## Section 4 Demographic factors and efficient employment practices: a synthesis

### Sub-section 4.1 The efficiency age structure

Much of the thought in this part is based on a paper by Keyfitz (1973). The paper by Keyfitz analyses the effect  different stable populations will have on the speed of promotion when there are fixed proportions of people in two grades, one junior, the other senior. The following exposition is based on the following assumptions:

1) There are internal labour markets within each firm. Only young people are recruited and enter the company at the bottom of the company hierarchy. Wage levels for new recruits are determined by labour market conditions of supply and demand, and higher managerial posts are given to those already working for the company (internal promotion). The decision to promote someone is based on two main factors: a) the experience, knowledge and authority of the person in question and b) the number of people under the promotee's control.

2) Younger workers and older workers are not totally substitutable. This is another way of saying that human capital is not a homogeneous putty-like substance, but that older people possess skills, knowledge and qualities (eg authority) that can only be acquired over time as they age.

Thus certain combinations are required for production.

$$P = f(l_o, l_y, k, x) \tag{5.1}$$

$l_o$ = number of older workers
$l_y$ = number of younger workers
$k$ = capital
$x$ = all other factors

Such a production function, together with the assumption of diminishing marginal returns, leads to the supposition that given a fixed number of older workers, an increase in the supply of younger workers due to demographic factors will reduce the marginal productivity of younger workers and thus reduce their wages relative to older workers. Conversely, the marginal productivity of an older worker will be greater the larger the number of less experienced and younger employees working with him. A good example of this is the following: an older employee is promoted to a supervisory role since over the years he has acquired the knowledge and experience to guide less experienced (younger) people. His knowledge and experience applied to several people has greater productivity than when it is applied to one person. Indeed, a set number of people to be supervised is often needed before a person is promoted to a supervisory role.

3) Pay is not only determined by age but also by function of the employee. This ensures that if two people belong to the same age group and one person holds a managerial position, but the other does not, then the manager will receive a higher wage. It is important to note that the higher the percentage of a particular age group holding managerial posts, the higher the average wage of that age group.

In the preceding sections, the motivational aspects of the Japanese Employment Practices were discussed mainly in terms of wage levels and status (promotion). Under the three assumptions listed above, it becomes clear that the internal population structure of a company is important in deciding promotion and in the determination of wage profiles. When the age structure is young, promotion of an individual is more likely to progress with age than in an ageing population structure and average wage curves will also be steeper. Thus the two main motivational factors operate smoothly in tandem. Shown below are two simplified cases of an age structure within a company with one level of promotion. The corresponding hypothetical average wage curves are also shown alongside.

Figure 5.4 showing hypothetical work force age structures and corresponding average wage curves

a)
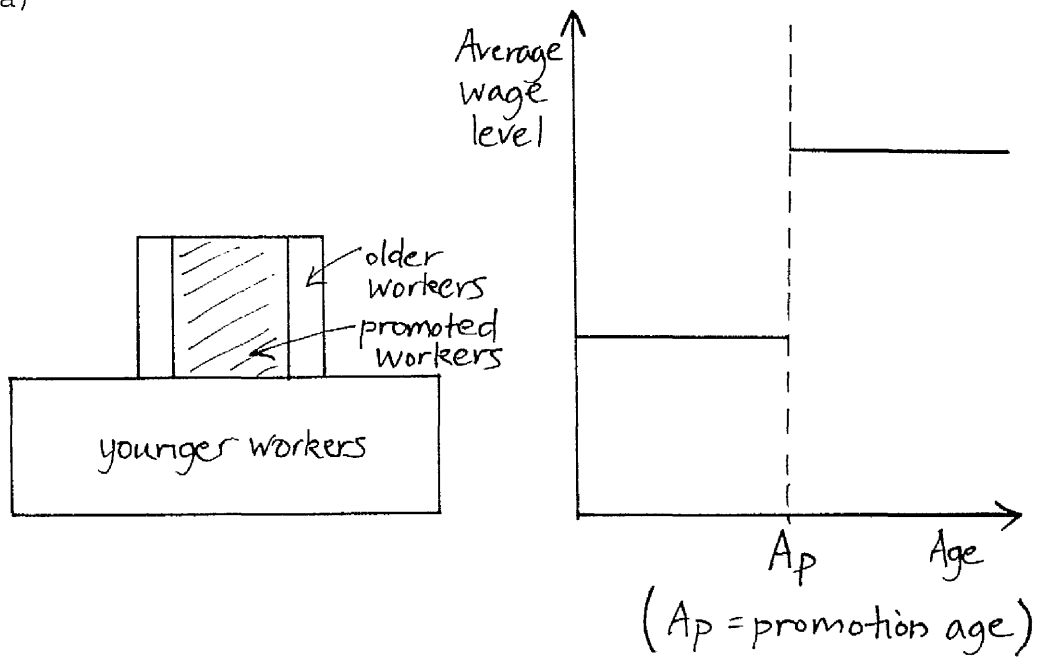


$(A_p = \text{promotion age})$

b)
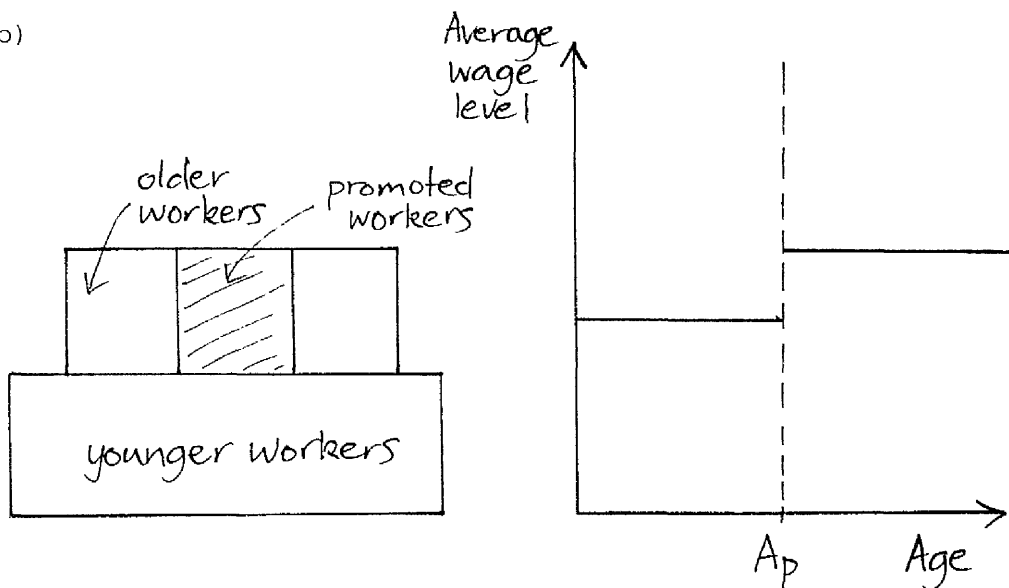


lower box = younger workers
upper box = old workers
in parts a) and b).

In example a) the average wage curve is steeper and people in the experienced age group are more likely to be promoted than in example b). Thus promotion as a reward is easier to operate and the average worker experiences a steeply rising wage curve. A higher average wage for the older age group clearly does not mean that all workers in that age group will receive a high wage, but it does mean that the probability of receiving a high wage is greater and therefore the incentive effects of a steeply rising wage curve are maintained.

Keyfitz derives a more formal framework for determining the promotion possibilities with different internal age structures. Since only young people are recruited at or near the beginning of their career, the age structure of a company workforce can be analysed in terms of stable population theory, with the age structure being determined by "births" (new recruits) and "deaths" (retirement, death, quits etc.). There are two career stages as shown in Figure 5.4 and the ratio of those in stage one (k) to those in stage two (u) is fixed at k. Everyone passes to the upper stage at the age of x and survival probability is a function of a (age) given by l(a). The population of the company is growing at a constant rate r. b represents the proportion of births (new recruits) in the population. Thus the proportion of births $\underline{a}$ years ago is given by

$$be^{-ra}l(a) \tag{5.2}$$

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let $\beta$ be the retirement age and $\alpha$ the age at joining the company

$$u = b\int_{x}^{\beta} e^{-ra}1(a)\,da \qquad\qquad (5.3)$$

$$v = b\int_{\alpha}^{x} e^{-ra}1(a)\,da \qquad\qquad (5.4)$$

therefore

$$k = \frac{\int_{x}^{\beta} e^{-ra}1(a)\,da}{\int_{\alpha}^{x} e^{-ra}1(a)\,da} \qquad\qquad (5.5)$$

Keyfitz then lets $r$, the growth rate vary in order to see the effect on $x$ (promotion age) given a fixed promotion rule ($k$). He finds, using different populations, that a faster company population growth rate reduces the promotion age noticeably, although the smaller the ratio of upper grade to lower grade, the smaller the effect of a faster growing population, and draws the conclusion that "promotion at the top is not as much affected by population growth at middle ranks". Keyfitz then analyses the effects of different mortality schedules. Let us define the death probability function as

$$1(a) = 1(\alpha)\,e^{-(a-\alpha)\mu} \qquad\qquad (5.6)$$

which is saying that the number of people after ageing ($a-\alpha$) years is the number there was at age alpha multiplied by the cumulative death rate. The integrand of equation 4 becomes $e^{-(\mu+r)a}$. Thus since $\mu$ and $r$ enter the integrand as a sum shows that they

have the same effects - an increase in the mortality rate advances promotion age as does an increase in the natural rate of increase.

Thus, for a company with an internal labour market and internal promotion, there are two main factors determining careers of the personnel: a) population structure determined by births and deaths and b) the setting of promotion ages which is the same as fixing the ratios of those in the upper grade (supervisors) to those in the lower grade (supervised). The company can control the age structure by controlling the number of births (new recruits), but if it wishes to maintain a young age structure, it will need to increase the new intake each year. It is only possible to support a growing number of recruits if the company is growing. The other means of controlling the age structure is by controlling mortality and this is the only means if the company is not showing any growth. Thus there is a direct link between the growth of the company and employment practices, such as recruitment behaviour and mandatory retirement. If a company wishes to use promotion as a motivational system (rather than purely functional) with an ageing employee structure it will need to maintain a fixed proportion of managerial posts for a certain age group and this will require a falling ratio of managerial posts to non-managerial posts and a widening gap between wages and productivity unless the wage differential for managers is reduced and thus the average wage curve is made less steep. Alternatively, the company could maintain the ratios, but this will result in a later age of promotion or less chance of promotion. The wage of the manager will remain the same, but because promotion age is later or fewer people are promoted, the average wage curve will still flatten out.

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I would like to clarify the above discussion under the title of efficiency age structures. The concept of the efficiency age structure is similar to the concept of efficiency wages, a concept that became popular amongst economists during the 1980s (Yellen and Akerlof 1986). With efficiency wages, the productivity of the worker is no longer uncorrelated with the wage paid to the worker. With higher wages the worker is less likely to shirk, morale will increase and labour turnover costs fall. In other words, as the wage level is increased, the productivity of workers increases. Thus, although labour costs rise with a rise in wages, labour costs per unit of production may fall. After wages have risen beyond a certain level, however, the increment to productivity is outweighed by the increase in labour costs and therefore unit labour costs rise. Consequently, there is an optimal wage level that firms wish to maintain. Firms will not lower the wages offered even when there is a pool of unemployed people wishing to work for lower wages. With efficiency age structures, there is an optimal ratio of older to younger workers at which the labour input is the most efficient, in terms of labour costs. This can be represented by the figure below.

Figure 5.5 showing the hypothetical relationship between age
structure and work force efficiency
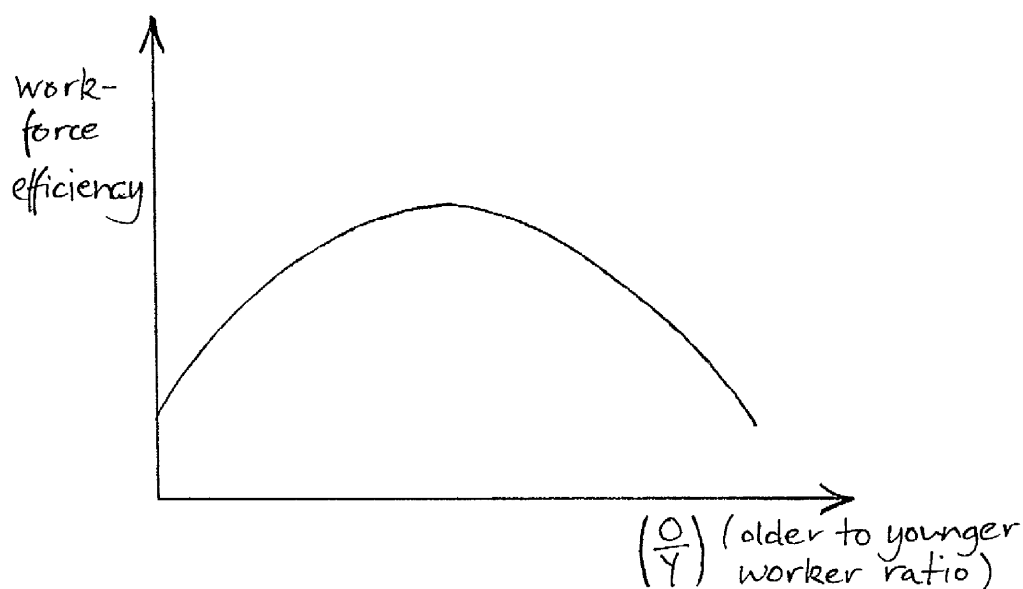


Crucial to the explanation that follows is the assumption that
a steeply rising average wage curve improves the efficiency of
a firm's workforce in the ways discussed earlier: a flattening
of the wage curve reduces the efficiency of the workforce as a
whole. I will explain the shape of the figure first based on the
assumption of workers in each age group being paid their marginal
product. As the old worker to young worker ratio rises from a low
level, efficiency rises. This rise is caused by an improved
supervisor to supervisee ratio, which means that more experience
is combined with the work of younger workers and therefore their
productivity rises. At the same time the average wage curve
flattens since the productivity of younger workers rises relative
to that of older workers. The increase in efficiency accruing
from the improved supervisor to supervisee ratio outweighs the
effects of a flattening wage curve, however. After maximum

efficiency is reached, the rising older worker to younger worker ratio leads to a further flattening of the wage curve. Since there are only small marginal gains to applying more experience to younger workers, the disincentive effects of a flattening wage curve outweigh the effect from the rise in average skill and the efficiency of labour falls. In other words, as the proportion of older workers increases, wage differentials contract, and although each worker is paid his marginal product, overall productivity falls.

It is possible that the firm will try to mitigate the effect of changing wage curves by maintaining a certain wage differential between young and old workers, whatever the internal age structure. In other words, the firm could allow for a divergence of wages from marginal productivity as the age structure aged. This would imply, however, that as the age structure passed the optimum ratio shown in Figure 5.5 above, older workers are paid more than their productivity and so the labour costs per unit of production would rise.

In both the case where the wage level reflects productivity and the case where wage levels are allowed to diverge from productivity, once the optimum ratio is surpassed, unit labour costs rise. Strictly speaking, such an efficiency age structure means that firms will try to maintain an optimal age structure within the firm, whatever the age structure of the macro labour market. The next few pages examine the effects of growth and stagnation on a single firm, ignoring external constraints on hiring and firing.

## Sub-section 4.2 The implications of the efficiency age structure

### a)   Growth and stagnation, hiring and firing

With rapid growth, the firm will be increasing its intake each year. If the growing yearly intake led to a fall below the optimal older worker to younger worker ratio, the firm would either attempt to hire more older workers or would attempt to reduce the 'mortality' of older workers by relaxing retirement rules or by increasing re-employment after retirement. It might alternatively age its employees more rapidly by increasing the intensity of training, but this measure would lead to a diversion of resources away from production.

If the firm was stagnating, it would be reducing its intake and thus the internal age structure would be ageing, leading to a reduction in labour efficiency. The firm would then attempt to increase the mortality of its older workers through taking such measures as early retirement provisions or straight-forward sacking.

The above discussion suggests that firms will attempt to maintain a given age structure within the firm, whatever its growth rate and the growth rate of other firms. It is possible that the optimal age structure could change over time with the introduction of new technology, the nature of the business or the creation of other incentive systems. These aspects will be discussed in more depth later in the chapter. The next sub-section analyses the implications of efficiency wage structures for the macro labour market.

## b)    Efficiency age structures, population ageing and the macro labour market

The following discussion is based on the rather limiting assumption that all firms are identical. The implications of relaxing such an assumption will be discussed later. Let us first take the case where aggregate demand is growing at a constant rate, but the general population is ageing, leading to a slowing growth rate of the intake age group. In such a case firms would attempt to reduce their older work force rather than bid up the wages of the intake group, since flattening the wage curve would decrease labour efficiency. As a consequence, output growth would slow and the price level in the economy would rise. Older workers would find themselves retired or unemployed. Even if the reservation wage of the unemployed older workers were low, firms would not hire the older workers at much lower wages since the incentive effects of the steeply rising average wage curve would be lost. Thus, an ageing labour force will lead to the increase in unemployment or the withdrawal from the labour force of older workers. A decrease in the growth rate of aggregate demand with a constant age structure and constant population growth would have a similar effect, except that younger workers would also find themselves unable to find a job.

## c)    Caveats to the effects of efficiency age structure on the macro labour market

The first important caveat is that firms need not be, and are highly unlikely to be identical. For example, many small firms will not have the capital-intensity or complex organisational structure that lead to the existence of firm-specific human capital that takes years to accumulate. As a consequence, a high labour turnover does not increase costs significantly, and

therefore, it is not necessary to maintain an efficiency age
structure. In an economy where there are many small firms,
workers will find themselves displaced to smaller firms as the
larger firms attempt to adjust to fluctuations in demand and
labour force age structure. An increasing supply of older workers
to the smaller firms will reduce the wages of older workers,
leading to a flattening of the economy-wide average wage curves,
in spite of the attempt of large companies to maintain a given
age structure and hence a given wage curve. To put this in more
general terms, a dual labour market will exist, because of the
difference in production techniques between firms and workers
will move from the core to the periphery when the population age
structure changes.

A second caveat is that firms with an internal age structure may
find alternative forms of incentive that are not reliant on
changing pay structures. It is possible that satisfaction derives
from a rise in status without a rise in pay. Therefore, the
creation of a new status system that is not linked to pay will
alleviate the need to maintain a given wage curve and hence the
need to maintain a given age structure. Alternatively forms of
work for older people could be found that reduce the fall in
their efficiency, even though the older worker to younger worker
ratio has increased.

A third caveat is that a change in the nature of business may
change the optimal age structure at the same time as the
population age structure is changing. As was noted earlier, a
move to creating technology rather than adopting technology will
alter the incentives required from employment practices. If the
ability to create new technology becomes more important than the

firm's ability to introduce new technology, the benefits of a
rising wage curve are reduced, since rewards must be paid to
whoever is able to create, regardless of their length of service
or company-wide experience (this claim is based on the assumption
that creativity is not related to age).

## Section 5 Conclusion to this chapter

This chapter provided a survey of existing theories that are used
to explain Japanese employment practices in general and steeply
rising average wage curves in particular. The two main sets of
theories were human capital and living expenses wages theories.
It was argued that these theories tended to ignore the
motivational element of employment practices, as well as other
efficiency considerations. Section 3 outlined these motivational
and efficiency aspects. The first three sections indicated that
demographic factors are important and Section Four represents a
new theoretical approach that includes aspects of internal age
structure. This new approach suggests that large firms will
attempt to maintain an efficient (and invariant) age structure
and that, as a consequence, average wage curves will tend to
remain invariant to age structural changes in the macro labour
force. These two phenomena imply that a stagnating large firm
will reduce its (young) intake and will also rid itself of some
older workers. They also imply that when all large firms are
expanding they will face constraints if the young population is
not also expanding at a similar rate. Thus, with population
ageing, large firms will be more likely to raise prices than
output when demand increases. It also became clear that the dual
nature of the labour market in Japan was important: workers cast
off from the large firms would find employment in smaller firms
whose nature did not lead to strict complementarity between

different age groups. This transfer to smaller companies implies that aggregate wage curves for all workers in the economy would change with economic cycles. For example, older workers would find themselves cast off by large firms during a slow-down, increasing the supply of older workers to the small firms and so depressing the wage level of older workers. The rather rigid implications of the new approach were softened to some extent by a few caveats, the principal one being that a move to technology creation, rather than technology absorption might change the efficient wage structure.

The trends in wage curves and the labour market analysed in Chapters Three and Four tend to support to some extent the predictions uncovered by the new approach: the steepness of average wage curves of employees in large firms did not show any consistent trend, whereas it increased in the smaller firms during the slow-down that started in the late 1970s; it was older workers who were laid off during the economic downturns in the 1970s and early 1980s; and the age structure of employees in small firms has aged more than that in large firms. The age structure of employees in large firms was not invariant as the theory predicted, however.

To gain more insight of the applicability of this approach, it is necessary to study the effects of an ageing labour force on companies at a micro level: the next chapter comprises such a study. Given that jobs in smaller firms tend to be more unstable (see Chapter Three) than in large firms, it can be expected that unemployment of older men will rise in periods during and after large firms are ridding themselves of these workers. Indeed, even though many large firms re-hire older men once they have retired,

these older men are no longer part of the core work force, since they only hold short-term contracts. The rise in unemployment will be more severe if smaller firms also have limits to their capacity to absorb low-wage older workers. Unemployment will not necessarily rise, however, if income supports (pensions) are available for older men so that they can leave the labour force upon becoming jobless. The past trends in the unemployment and labour force participation of older workers, and an assessment of important factors behind future trends are given in Chapter Seven.

# CHAPTER 6    AGEING INTERNAL WORKFORCE AGE STRUCTURES AND CHANGES IN EMPLOYMENT PRACTICES

## Section 1    The significance of this chapter

In the previous chapter I examined the theories relating to Japanese employment practices. The main aspects of employment practices covered were the average wage curves of employees and promotion practices. I then developed a demographic model of the firm's age structure which linked the shape of the average wage curves with promotion prospects. With this demographic model I concluded that wages could be explained using the concept of the wage being equal to the marginal product of the worker. Workers of a young age and workers of an older age were complementary inputs so that the age structure within the company affected the productivity of each age group and, thus, the average wage curves. The steepness of the average wage curves in turn affected the efficiency of the work force as a whole. As a consequence, large firms would attempt to maintain an efficiency age structure. It was shown in Chapter Three that large companies with internal labour markets appear able to control the age structure of the internal work force. Nonetheless, there has been a degree of ageing of the work force in larger companies. With an ageing work force, the relative productivities of younger and older workers will change, leading to a flattening of the wage curve. In this chapter I aim to examine in detail how firms have been adjusting their employment practices with the ageing of their work forces. This examination will show whether the efficiency age structure hypothesis is useful for understanding how firms will adjust to an ageing labour force structure and cyclical downturns in the economy.

It should be noted that recently the ability of companies to

attenuate their internal age structure has been curtailed to some extent by Government policy. Recent Government policy has been geared to ensuring the employment of older workers and will be discussed in Chapter Eight. One result of such a policy is that control of the age structure has become much more complex than the simple measure of laying off older workers.

From the discussion above it is clear that the examination of changes in employment practices falls into two main categories. The first category consists of changes in wage determination and promotional systems that would produce a flattening of the wage curve. The second category consists of practices used to attenuate the age structure. These two categories provide the subject for the next two sections. The final section will examine the response of Japanese firms to the downturns in economic growth caused by the oil shocks in the 1970s.

It is necessary to mention an important caveat to the contents of this chapter. In recent years, Japanese firms have been altering their employment practices for a variety of reasons (see for example Rōdōshō 1988). Many of the changes have been introduced to deal with more than one problem. Most of the changes described here are of this nature. For example, the introduction and strengthening of ability pay systems have been carried out in order to deal with slower economic growth and a higher level of technology as well as to deal with an ageing employee age structure. The fact that these changes have been discussed in the specific context of ageing, however, does indicate that one of the major motivations for the changes has been preparation for an ageing labour force.

## Section 2  The flattening of average wage curves

There are two categories of changes in the wage systems with which it is possible to bring about a flattening of the wage curve. The first is the introduction or strengthening of a wage system which is not based on length of service. In other words the *nenkō* element in wages can be reduced. The primary system which has been introduced to this end is ability pay (*nōryokukyū*). Although the introduction of ability pay does not necessarily lead to lower wages for older workers, it should become clear through a description of its implementation that lower wages are likely to be the result on average. The second category of changes is the explicit lowering or stabilisation of wages after the worker has reached a certain age through various measures. I shall describe these changes in detail in the following sub-section. The sub-section describes how firms are changing the methods used for calculating severance and retirement payments.

## Sub-section 2.1 Ability pay

The concept of ability pay was introduced into Japan from America in the late 1960s (Yamada 1989) and provided the basis for a more rational and scientific approach to personnel management. During the 1970s the adoption of ability pay systems increased with the need to increase efficiency during and after the oil shocks by providing a clearly defined incentive system for workers. It was also during the 1970s that companies started to become aware of the problem of ageing employee structures, particularly since they had reduced the intake of new young workers during the economic stagnation. Ability pay systems were viewed as a means to deal with the burgeoning labour costs that would result from ageing under the *nenkō* wage system (Umino 1989; Takahashi 1989). There are few explicit statements of the reasons for the adoption of ability pay systems

and the reasons given are often vague, but they seem to be generally to increase the ability and efficiency of workers and to deal with more aged workers. Certainly there is a strong perception that older workers have been paid wage levels above their contribution to productivity (Nihon Seisan Honbu 1981; Rōdō Daijin Kanbō Seisaku Chōsabu 1988 p 8). Ability pay systems apparently present a means of equating the productivity of older workers with their wage levels by explicitly stating their contribution to output. I am not able to produce data which explicitly show  that ability pay is being used for these reasons, but a  study of the appendix to this chapter shows they are one set of perceived reasons. Certainly in academic and government literature it is stated that ability pay was introduced and strengthened for this reason (see Takahashi 1989 p 24; Umino 1989 p 162; Rōdō Daijin Kanbō Seisaku Chōsabu 1986 p 163; Nihon Koyō Shogū Kenkyū Sentā 1985 pp 21, 23).

Ability pay can be implemented in various forms. For example, ability pay can be determined in an informal way through subjective appraisal of each worker by superiors. Alternatively, an explicit grade system can be created: as the worker progresses up the grade ladder with promotion, wage levels rise accordingly. Objectives and prerequisites are established which are necessary for the attainment of each grade. Thus, the level of ability pay is determined using a clearly defined framework. It is this grading system which is used most frequently in large companies in Japan for the determination of ability pay and it is known as the *shokunō shikaku seido* or ability grading system. The ability grading system has been created in Japan not only for the purpose of wage determination, but also as a means of devising a promotional system which can be used alongside or as a substitute for managerial promotion systems (Hanaoka 1983). I will discuss this aspect in Sub-section 2.4.

The grades are established through the following process. First, job areas are defined. A range of ability grades are then assigned to each job area (Yamada 1989). If, for example there are ten grades overall, the full range of grades will not necessarily be assigned to each job area. Some jobs might have a range of 2 to 6 and others a range from 6 to 10, depending on the complexity and responsibility required for the job. In many cases, increments are also established within each grade. The ability grade system in its pure form implies that pay is purely determined by the type of job in which the worker is engaged and the ability of that worker in performing the job, regardless of age or length of service of the worker. The grade position of a worker in Japan is, however, determined to some extent by age and length of service. Within each grade, the worker moves up one increment with each additional year to length of service. Moreover grades often have age limits (Ujihara 1985; Funabashi 1983 p 18). When the worker has proceeded through the full number of increments in each grade, it is then possible for him to proceed to the next grade. It is quite feasible, however, for the worker to stay at the top of a certain grade and remain there if it is felt that he has reached the peak of his abilities (Yamada 1989 p 131). Thus, for people in the higher grades it is quite possible for the company to stop wage increases with an increase in age or length of service. Only those workers with particular ability will be able to proceed to the very top grades. Through the use of such a grade system, it becomes possible to equate the perceived contribution of older workers with the wage received. The complexity of the system also gives management the chance to redefine grades and job spheres in a situation of technological change (Hanaoka 1989 p 105; Yamada 1989).

As was noted in Chapter Three, functional wages generally account

for only a proportion of basic pay, with the other element being personal pay based on age and schooling etc. The proportion of these elements does not remain static across all age groups. In younger age groups, the proportion of personal pay is high, whereas it becomes lower in the older age groups, with ability pay becoming more important. This type of structure is often supported with two main arguments. The first is that differences in ability only emerge from the mid-30s onwards. The second is based on the concept of living expenses wages. In the younger age groups it is necessary to take account of living costs which are rising with age, but after a certain age, wage levels are so high that it is not necessary to take into account living costs.

With the advent of population ageing and the raising of mandatory retirement age (*teinen enchō*), there has also been a move to increase the average proportion of ability pay in wage determination in order to move further away from the *nenkō* type of wage determination. Yamada (1989 p 162) quotes the example of four major steel companies strengthening the ability pay system in 1988. Previously the average proportion (over all age groups) of personal wage to functional wage (ability pay and job-evaluation pay) had been 50:50. It was changed to 40:60 and the personal wage level was frozen after the age of 50. These changes were implemented to " lessen the natural increase in labour costs which would result from the ageing of the employee age structure over the medium and long term". Further examples are given in the appendix to this chapter. The freezing of wages is also discussed in sub-section 2.2.

## Sub-section 2.2 The attenuation of average wage curves to maintain falling wages after peak wage age

This sub-section relates primarily to the partial revision of the wage system under the process of *teinen enchō*. *Teinen enchō* is the process of raising the mandatory retirement age as described in Chapter Three and implies that all workers will continue to work until a later age under the same wage system and personnel management system, but such is not the case. Many large companies have established employment extension systems (*saikoyō* and *kinmu enchō* - see Chapter Three) which came into effect after the old retirement age of 55. Under these systems, wages and conditions were usually changed so that wages fell, as did status. The result can be seen in the wage profiles which slope downwards after the mid-50s. The workers also worked under short-term contracts renewable yearly. Certainly, under *teinen enchō*, the insecurity of a short-term contract has been removed, but changes in other conditions have remained, despite the older person remaining a regular worker. In other words, many companies are attempting to maintain the previous practices relating to older workers which were the result of *saikoyō* and *kinmu enchō* systems. In this sub-section I am primarily concerned with the effect on wage levels, although changes in status and grade must also be considered, since these indirectly affect wage levels.

Usually a target reduction in total wages or a freezing of wages is set to come into effect after the previous retirement age has been reached by the worker. If the previous retirement age was 55 and the new retirement age is 60, then these measures are adopted between the ages of 55 and 60. The principle means of reducing wages are the following:

a)    A straight forward reduction in wages to a specified

percentage of previous wages, regardless of job, grade or position held.

b)    Downgrading within the ability grade system, removal to a new and lower paid job or removal from managerial post. With a portion of wages determined by job-evaluation and ability pay, these measures will result in an automatic fall in pay.

c)    A freezing of the personal element of pay so that there is no increase in wages resulting from the natural increase in length of service.

d)    A reduction in the base-up rate. Wages for those over 55 will thus fall relative to those below 55, since workers over 55 will not be compensated for inflation or increases in productivity to the same extent as those under the age of 55.

From the case studies given in the appendix, it would appear that generally a percentage reduction is set and then methods b, c and d are used to achieve that reduction. For example, the reduction in pay is not a result of revised ability ratings, rather the change in ability rating is a result of the need to lower wages. Whatever wage system or combination of wage systems is used for all the workers, wages are set arbitrarily after previous retirement age. The system provides a useful framework in which to achieve those reductions.

Table 6.1 shows the results of a 1977 survey of large electronics companies which were published in table form in Nihon Seisansei Honbu (1978). The survey inquired into the changes in personnel management after the raising of the mandatory retirement age to 60. All of the firms have initiated a reduction in wages for workers past the previous retirement age. Many of the electronics companies

do not distinguish between base-up and *teishō*, so in many cases the two columns are combined. It is clear, however, that yearly rises in pay are much lower than for those age groups younger than the previous retirement age. There is some heterogeneity regarding the treatment of managerial posts and grades. This is partly a result of the use of different management systems and the financial state of the company (Nihon Seisansei Honbu 1978 p 207).

Table 6.1 A summary of results of a survey into the personnel management of workers after previous retirement age, following the raising of the retirement age to 60 in 9 large electronics companies.

| Name of firm | lose managerial post | lose grade | wage target | base up | teishō | age when these come into effect |
|---|---|---|---|---|---|---|
| Hitachi | yes | no grade | 85% of 56 yr | 85% of 55 yr raise. Wage gtd not to fall below that of 40 yr | | 56 |
| Toshiba | yes | no grade | freeze at 56 yr | Raise of 50% of average 40 year work-related pay. Level gtd 40 year + | | 56 |
| Fujiden | yes | normal | freeze at 56 yr | 60% of normal base up | no | 56 |
| Nippon Denki | no | normal | | 56-58 normal pay rise, 58-59 90% of 58 yr rise | | 56 |
| Fujitsu | no | | freeze at 56 yr | no | no | 56 |
| Oki Denki | yes | | 56-58 freeze at 56 yr level, 59+ =90% | Up to 57 pay 50% of average salary rise | | 56 |
| Matsushita | no | normal | | Up to 58 normal pay rise. 58+ rise in pay at least 25 yr rise in pay gtd | | 58 |
| Sanyo | no | | | Same as Matsushita | | 58 |
| Nippon Gakki | no | | 10% less than 57 yr after 57 | | | 57 |

Table 8.1 (cont.)
Source:     Nihon Seisansei Honbu (1978).
Notes:      yr denotes those of 00 years of age. Normal denotes the
            same treatment as for employees below the age of 55.

Tables 6.2 through to 6.4 show the results from the *Koyō Kanri Chōsa*

(Rōdō Daijin 1978, 1985) regarding the changes in personnel

management carried out by companies consequent to raising the age

of retirement  These results allow some comparison of trends over

time and over scale of company. There is some discontinuity in the

question asked with respect to managerial post, grade and position

in the company. The 1978 survey asked whether the managerial post or

status changed after the previous retirement age and did not ask

about grade. The 1985 survey made a distinction between grade and

managerial post. The 1978 results can probably be thought of as

combining the two questions of the 1985 survey.

For both years it is difficult to find a trend in the treatment of

position across company scale, except that in 1985, large companies

were less likely to change the grade of the worker after reaching

the old retirement age. In 1985, however, more companies were likely

to change position of the worker than in 1978, although roughly a

half maintained the previous position.

A trend in the treatment of wages is not distinguishable over

company scales. In 1985, fewer companies maintained the same wage

level and more reduced wages. Fewer companies in 1985 allowed wages

to rise after reaching the old retirement age. Moreover, the modal

percentage decrease in wages for those companies which reduced wages

rose from 10% to 20% from 1978 to 1985.

A trend in use of *teishō* and base-up is also not clear across

company scales. Compared with 1978, the proportion of companies in

1985 that reduced the *teishō* amount increased. It is striking that

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the proportion of companies not carrying out *teishō* after the old retirement age is large, compared with the proportion of companies which generally use *teishō* (see Chapter Three; approximately 86% of all companies in 1982 undertook *teishō*). The proportion of companies which institute base-up for this age group has increased over time, although a higher proportion also reduce the base-up rate.

In summary, about half the companies change managerial post and roughly one third change the job or ability grade. About one third of companies stop *teishō* and out of the two-thirds which maintain *teishō*, roughly half reduce the amount. Between 80 and 90% of firms maintained base-up in 1985 with about a half of those reducing the base-up rate. In 1985 approximately half of firms maintained the same level of wages in contrast to firms in 1978, when 80% maintained the same level. Moreover, out of firms which reduced wage levels, more firms in 1985 reduced the amount by 20% than in 1978. Generally, firms which raised the mandatory retirement age in 1985, were more likely to change the employment conditions of those workers who had passed the old retirement age. This trend might be explained by the fact that those firms which found it more difficult to raise the retirement age, did so later and thus the later firms also tended to offer inferior conditions to those firms which carried out *teinen enchō* earlier. The slower and more stable growth of the economy in the 1980s may also have had an impact on the conditions under which older workers could be employed.

Table 6.2 showing the treatment of workers past the previous retirement age after the company raised the mandatory retirement age: managerial post and grade.

| Scale of firm | | Managerial Post | | | | Job/ability Grade | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | C | NC | ND | NA | C | NC | ND | NA |
| All | 78 | 8.7 | 85.0 | 6.3 | – | – | – | – | – |
| | 85 | 32.4 | 49.7 | 10.8 | 7.1 | 17.9 | 66.5 | 6.7 | 8.9 |
| 5000+ | 78 | 10.3 | 89.7 | – | – | – | – | – | – |
| | 85 | 36.5 | 55.8 | 3.8 | 3.8 | 7.7 | 84.6 | – | 7.7 |
| 1000–4000 | 78 | 27.3 | 72.7 | – | – | – | – | – | – |
| | 85 | 41.7 | 52.9 | 2.0 | 3.4 | 11.8 | 81.4 | 0.5 | 6.4 |
| 300–999 | 78 | 31.0 | 68.3 | 0.7 | – | – | – | – | – |
| | 85 | 37.8 | 56.2 | 4.1 | 1.8 | 14.9 | 79.5 | 3.0 | 2.6 |
| 100–299 | 78 | 11.5 | 81.2 | 7.3 | – | – | – | – | – |
| | 85 | 38.6 | 42.3 | 13.7 | 5.4 | 29.1 | 56.9 | 6.0 | 8.0 |
| 30–99 | 8 | 0.9 | 91.6 | 7.5 | – | – | – | – | – |
| | 85 | 28.9 | 51.8 | 10.7 | 8.6 | 14.0 | 68.3 | 7.7 | 10.0 |

Source:  Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka (1978, 1985); for 1978, Table 15 p 132–135; for 1985, Table 6 p 30–37.

Notes:  C denotes change; NC denotes no change; ND denotes not determined, meaning the company does not have an established rule; and NA denotes not applicable.

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Table 6.3 showing the treatment of workers past the previous retirement age after the company raised the mandatory retirement age: wages

| Scale of firm | | Wages | | | | | Extent to which wages fall | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | fall | NC | rise | ND | NA | <10% | 10-20% | 20-30% | 30%+ | NA |
| All | 78 | 7.5 | 81.3 | 6.5 | 4.7 | - | 43.5 | 25.8 | 30.6 | - | - |
| | 85 | 35.5 | 48.0 | 4.6 | 5.5 | 6.3 | 20.8 | 43.3 | 26.3 | 6.2 | 3.4 |
| 5000+ | 78 | 10.3 | 72.4 | 17.2 | - | - | 66.7 | 33.3 | - | - | - |
| | 85 | 38.5 | 53.8 | 3.8 | - | 3.8 | 10.0 | 55.0 | 25.0 | 10.0 | - |
| 1000-4999 | 78 | 13.3 | 73.4 | 13.3 | - | - | - | 88.2 | 11.8 | - | - |
| | 85 | 46.6 | 43.1 | 7.4 | 0.5 | 2.5 | 20.0 | 38.9 | 23.2 | 16.8 | 1.1 |
| 300-999 | 78 | 20.1 | 67.6 | 7.4 | 4.9 | - | 21.1 | 49.1 | 29.8 | - | - |
| | 85 | 46.4 | 40.7 | 8.8 | 2.3 | 1.8 | 26.2 | 40.0 | 31.5 | - | 2.3 |
| 100-299 | 78 | 13.1 | 74.9 | 6.7 | 5.3 | - | 54.2 | 8.5 | 37.3 | - | - |
| | 85 | 45.2 | 39.8 | 2.8 | 7.1 | 5.1 | 17.1 | 36.2 | 27.9 | 9.4 | 9.5 |
| 30-99 | 78 | 1.0 | 88.9 | 5.4 | 4.7 | - | 92.9 | - | 7.1 | - | - |
| | 85 | 30.1 | 52.2 | 4.8 | 5.5 | 7.5 | 22.3 | 48.3 | 24.6 | 4.8 | - |

Table 6.4 showing the treatment of workers past the previous retirement age after the company raised the mandatory retirement age: *teishō* and base-up

| Scale of firm | | Teishō | | | | | | Base-up | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | have | fall | NC | rise | ND | not | have | fall | NC | rise | ND | not |
| All scales | 78 | 66.9 | 23.1 | 67.3 | 1.2 | 8.4 | 33.1 | 69.6 | 17.8 | 72.5 | 1.9 | 7.8 | 30.4 |
| | 85 | 76.1 | 34.8 | 33.9 | 1.5 | 6.0 | 23.9 | 85.1 | 39.4 | 36.8 | 1.5 | 7.4 | 14.9 |
| 5000+ | 78 | 65.5 | 26.3 | 68.4 | 5.3 | – | 34.5 | 93.1 | 33.3 | 59.3 | 7.4 | – | 6.9 |
| | 85 | 67.3 | 28.8 | 34.6 | 1.9 | 1.9 | 32.7 | 92.3 | 26.9 | 57.7 | – | 7.7 | 7.7 |
| 1000-4999 | 78 | 74.8 | 30.8 | 66.3 | 2.9 | – | 25.2 | 83.5 | 12.1 | 79.3 | 8.6 | – | 16.5 |
| | 85 | 61.3 | 34.3 | 24.5 | 0.5 | 2.0 | 38.7 | 89.7 | 43.6 | 42.6 | 0.5 | 2.9 | 10.3 |
| 300-999 | 78 | 64.1 | 34.7 | 57.7 | 0.8 | 6.7 | 35.9 | 71.8 | 23.5 | 67.9 | 0.7 | 7.8 | 28.2 |
| | 85 | 62.8 | 28.0 | 29.6 | 3.0 | 2.1 | 37.2 | 93.6 | 37.4 | 50.3 | 1.8 | 4.1 | 6.4 |
| 100-299 | 78 | 61.9 | 12.9 | 64.2 | 3.1 | 19.7 | 38.1 | 64.1 | 8.0 | 69.9 | 4.3 | 17.8 | 35.9 |
| | 85 | 71.5 | 33.7 | 28.6 | 1.0 | 8.2 | 28.5 | 84.4 | 39.9 | 35.7 | 1.0 | 7.7 | 15.6 |
| 30-99 | 78 | 70.1 | 26.2 | 70.9 | – | 2.9 | 29.9 | 71.4 | 22.6 | 74.6 | – | 2.8 | 28.6 |
| | 85 | 80.0 | 36.1 | 36.8 | 1.5 | 5.7 | 20.0 | 84.3 | 39.4 | 35.3 | 1.8 | 7.8 | 15.7 |

Source:  Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka (1978, 1985), for 1978: Table 17, pp 146-156, for 1985: pp 40-41, Table 8.

Notes:  have denotes that the company has such a system; C denotes change; NC denotes no change; ND denotes not determined, meaning the company does not have an established rule; and NA denotes not applicable.

**Sub-section 2.3 Changes in severance pay systems**

Severance pay has traditionally been calculated using multiples of severance base pay, as described in Chapter Three. Severance base pay is often composed of some, but not necessarily all, of the elements of basic pay. Alternatively, severance base pay is a set percentage of total basic pay. The multiples are usually based on length of service to the company. With a high percentage of base pay determined by personal factors and in particular, length of service, an increasing average length of service brought about by extending the employment period of an employee by five years would mean a large natural increase in labour costs devoted to severance pay. A simple formulation of the severance pay calculation is shown below.

$$SP = SBP(BP(LS)).M(LS)$$

where: $SP$ = severance pay, $SBP$ = severance base pay, $BP$ = basic pay, $LS$ = length of service and $M$ = severance pay multiple; brackets denote 'function of'.

The increase in payments would be exacerbated by the increasing numbers of retirees from the company brought about by ageing of the employee age structure. Companies have devised various methods of suppressing the increase in payment amounts. The most common are the following:

a) Reducing the amount of severance base pay relative to the amount of basic pay by reducing the calculation percentage rate or by reducing the amount of base-up and *teishō* of basic pay which feeds into severance base pay.

b) Only using elements of basic pay which are not based on length of service, such as ability pay, for the calculation of severance base pay. This may be in the form of a points system.

c) Freezing severance pay at the previous retirement age. In other words setting the marginal increase in M to

zero after a certain age point, regardless of the length of service of the individual.

In the past many companies have met severance payments from current expenditure. With the increasing number of retirees, many companies have also set up company pensions to smooth out the payment costs through actuarial funding (see Chapter Nine). This section concentrates on lump sum severance payments, however. When a company pension scheme is established, the pension provided is based on the level of severance pay the retiree would have received as a lump sum. Retirees are able to choose whether they take their severance pay in the form of a lump sum or in the form of a pension: most take it in the form of a lump sum (see Chapter Nine). The changes to severance pay systems can be divided into two categories. The first category consists of changes to the whole system which affect workers of all age groups. The second category covers changes in the system which only apply to older workers and which come into force after a set age, usually around 55. Table 6.5 shows the amount of basic pay which is used in the calculation of severance base pay and the trend in the various options over time.

Table 6.5 showing the extent that basic pay is used in the calculation of severance base pay over time.

| Year | All of basic pay is used (%) | Part of basic pay is excluded from severance base pay (%) | A points system or a fixed amount system is used (%) |
|------|------|------|------|
| 1980 | 41.4 | 47.9 | 10.7 |
| 1982 | 28.9 | 55.3 | 15.8 |
| 1984 | 32.6 | 49.5 | 17.9 |
| 1986 | 31.9 | 50.0 | 18.1 |

Source:    Rōmu Gyōsei Kenkyūjo (1987) p 20.
Note:      Data is for all sizes of company.

The proportion of firms using the whole of basic pay has decreased during the 1980s. The clearest trend however, is the increase in the use of a points system and other systems which remove the direct

link between basic pay and severance base pay. Chūō Rōdō Iinkai
Jimukyoku surveys (1978, 1988) also show an increase in these
systems, with 7.3% of companies using them in 1977, increasing
monotonically to 22.8% by 1987. Severance pay systems which are
independent of basic pay are varied, but the majority of the systems
use a combination of points for length of service and points for
ability or job grade to which the worker belongs (Rōmu Gyōsei
Kenkyūjo 1987 pp 22, 23). Table 6.6 shows the use of each type of
severance base pay across different scales of firms for 1986.

Table 6.6 showing the use of various types of severance base pay
across scale of company (1986).

| Scale (no. of employees) | All of basic pay is used (%) | Part of basic pay is excluded from severance base pay (%) | A points system or a fixed amount system is used (%) |
|---|---|---|---|
| 3000+ | 19.5 | 60.9 | 19.5 |
| 1000-2999 | 28.3 | 50.4 | 21.2 |
| <1000 | 45.2 | 40.4 | 13.5 |

Source:     Rōmu Gyōsei Kenkyūjo (1987) p 20.
Note:       Data is for all sizes of company, the numbers of each
            size for 1986 are as follows: 3000 employees and above
            87, 1000-2999 employees 113 and less than 1000 employees
            104.

The larger the company, the more likely it is to exclude a portion
of base pay from severance base pay and also the more likely it is
to use an independent system for calculation of base pay. The Rōmu
Gyōsei Kenkyūjo (1987 p 21) survey inquired in detail which method
was used for deciding the proportion of basic pay to be used. The
three most popular methods were a) basic pay less specific elements
of basic pay (28.5%), b) basic pay multiplied by a set rate (23.2%)
and c) basic pay plus only a fixed proportion or amount of wage
increases (12.6%; 12.6%). The average amount of basic pay used was
67.2%. Finally, Table 6.7 shows the use of each type of severance
base pay according to the average age of employees.

Table 6.7 showing the use of various types of severance base pay according to the average age of employees in the company (1986).

| Average age of employees | All of basic pay is used (%) | Part of basic pay is excluded from severance base pay (%) | A points system or a fixed amount system is used (%) |
|---|---|---|---|
| <30 | 38.9 | 33.3 | 27.8 |
| 30-34.9 | 30.6 | 46.3 | 23.1 |
| 35-39.5 | 25.9 | 58.5 | 15.6 |
| 40+ | 42.1 | 44.7 | 13.2 |

Source:   Rōmu Gyōsei Kenkyūjo (1987) p 20.
Note:     Data is for all sizes of company, the number of each size for 1986 are as follows: 3000 employees and above 87, 1000-2999 employees 113 and less than 1000 employees 104.

Until the average age of 40 plus is reached, the proportion of companies which use all of basic pay decreases and the proportion using only a part of basic pay increases. The proportion using points systems decreases with average age of the employees. These results perhaps demonstrate that firms will generally try to suppress the level of severance base pay, the older the average age of employees, but in companies with a very high average age, it is not possible to change the system, since the majority of the workers have worked under the old system for most of their working lives. In other words, it is too late to change. The increase in the use of other systems the younger the average age may in part be explained by the fact that larger companies generally have a younger age structure (see Chapter Three) and larger companies also use these other systems to a greater extent.

Severance base pay is only one element in calculating severance pay. The other main element is the multiplier. The Rōmu Gyōsei Kenkyūjo (1987 p 28) shows that there is an inverse relationship between the amount of basic pay which feeds into severance base pay and the multiplier (see Figure 6.1). Thus, it is difficult to show that

reducing the severance base pay through the methods described above
will necessarily lead to a reduction in severance pay itself. It
should be noted, however, that over time the level of severance pay
relative to basic pay has been decreasing (see Chapter Three).

Figure 6.1 showing the relationship between the multiplier and ratio
of severance base pay to wages.



The Relationship between Multiplier and the Ratio of SBP to Wages
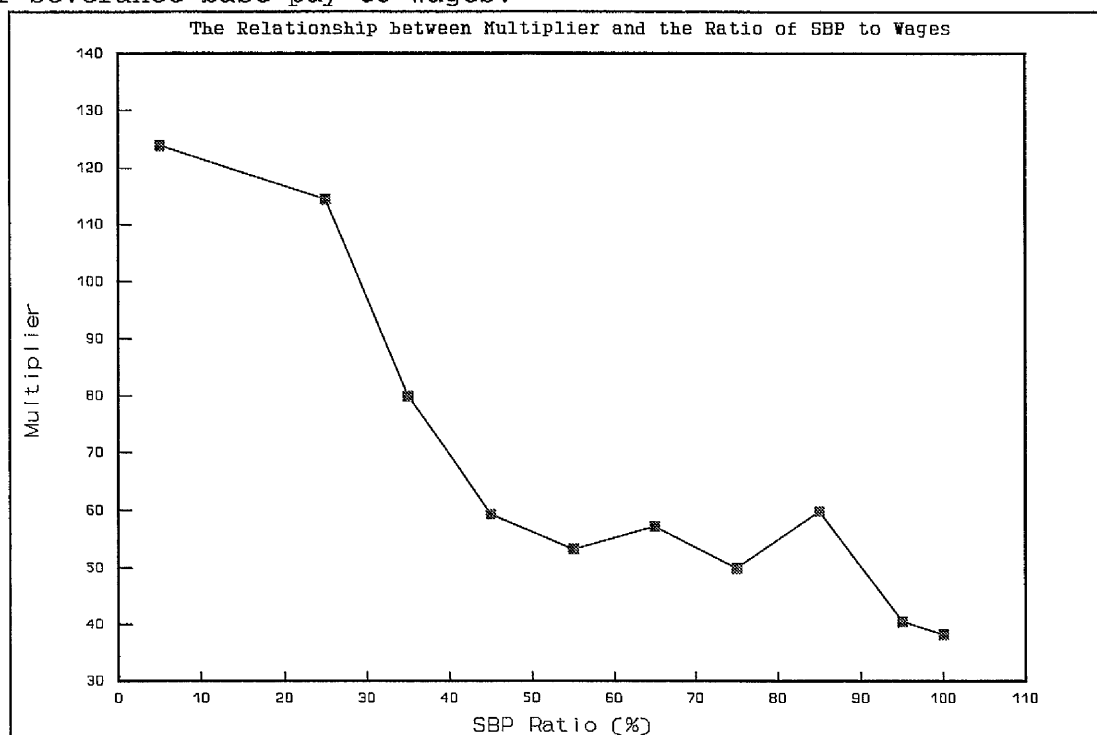
Source:     Rōmu Gyōsei Kenkyūjo (1987) p 28.
Notes:      The wages used for the calculation of the severance base
            pay ratio are regular wages (*shoteinai chingin*). The
            severance base pay ratio gives a rough estimate of the
            extent to which basic pay feeds into severance base pay.
            Only three companies out of 137 had a ratio of 100%,
            indicating that regular pay is based on a broader
            definition than is basic pay.

The other category of changes to severance pay calculation is
changes that only relate to people above the old retirement age that
was in force before the mandatory retirement age was raised. Table
6.8 shows the results of two Chūō Rōmu Iinkai Jimukyoku surveys
(1984, 1986) for 1983 and 1985.

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Table 6.8 showing the policies adopted with respect to severance pay following *teinen enchō*.

| Severance pay policy | 1983 | 1985 |
|---|---|---|
| Revised severance pay system | 79.35% (=100) | 75% (=100) |
| Freeze severance pay amount | 31.7 | 44.4 |
| Freeze multiplier | 15.4 | 11.1 |
| Reduce multiplier | 12.2 | 22.2 |
| Other (freeze SBP etc) | 37.4 | 37.8 |
| Freeze SBP | | (15.5) |
| Other | | (22.2) |

Source:    Chūō Rōdō Iinkai Jimukyoku (1984, 1986): data for 1983 came from p 14 (1984) and pp 15 and 16 (1986).

Notes:     SBP = severance base pay.
The category "other" included freezing of SBP in the 1984 survey, whereas freezing of SBP was separated for the 1986 survey. Therefore, the data on "other" for the 1985 results covers the same category as for the 1984 survey, but it is also broken down into the separate components used in the 1986 survey (figures in brackets). All companies questioned in the survey have over 1000 employees.

The most popular measure is a straightforward freezing of severance pay once the employee has reached the old retirement age, followed by reducing the multiplier and other.

## Sub-section 2.4 Changes to deal with stagnation of managerial promotion systems

As was mentioned above, companies view the problems of an ageing workforce in two lights. One is the increase in labour costs and the measures to reduce these costs have been described above. The other is the problem of a dearth of management posts, which hinders the use of managerial promotion as a reward and also may lead to a divergence between wages and the productivity of older workers. This problem will be referred to as the managerial stagnation problem henceforward. Expelling older workers from the company in some way is one means to solving this management problem, but this route is described in Section Three. This section deals with practices which

have been introduced to facilitate a smooth turnover of managerial posts without expelling the worker in question from the company. It should be noted here that these practices imply a lower <u>proportion</u> of workers of each age belonging to managerial posts and therefore average productivity of older workers will decline, leading to a relative decline in average wages if the company wishes to maintain a balance between wages and productivity. In other words, changes in promotion practices and wage systems have been separated in this chapter for ease of exposition, but in fact they are inextricably linked.

## a)    Grade systems

The main characteristics of grade systems were described in Subsection 2.1 above. In the past, when these systems were introduced, there were strong links between grade and managerial post (Ujihara 1985 p 358). Belonging to a high grade would also mean holding a managerial post. Companies have often reformed the system to separate these two systems (*yakushoku to shikaku no bunri*), so that an individual can still achieve grade promotion, but not managerial promotion. Effectively such a policy would lead to a split in the treatment of older workers. In order to make such a policy more palatable, the grade system was conceived as a specialist grade system (*senmonshoku seido*) which was to be run as a parallel promotion system for workers specialising in research and technology development (for example  Rōdō Daijin Kanbō Seisaku Chōsabu 1987 p 9). Thus, the system was not only introduced to deal with managerial promotion stagnation, but also to develop specialised staff. In many cases the primary aim was to deal with promotion problems, leading to dissatisfaction (Rōdō Daijin Kanbō Seisaku Chōsabu 1987 p 9; Yamada 1983 p 205). Despite these problems, many large firms still plan to use such a system (see Section 4, Table 6.22).

## b)    Manager retirement practices

A straightforward means of maintaining a managerial turnover  is to remove the incumbent from a managerial position at a set age or establish a set period for holding a managerial post. These two practices are known as *kanrishoku teinensei* and *kanrishoku ninkisei* respectively. Tables 6.9 through to 6.11 below show the extent of such practices in large companies (over 1000 employees) in 1987 and position and wages of the ex-manager after retirement from the post. The average age for retirement is also shown.

Table 6.9 showing the extent of managerial post retirement and average age of retirement.

| Percentage of companies with manage-ment retire-ment practice | By regu-lation | By custom | According to individual | Average age for *buchō* | Average age for *kachō* |
|---|---|---|---|---|---|
| 52% (=100%) | 71% | 29% | 4.6% | 55.9 | 55.5 |

Source:    Chūō Rōdō Iinkai Jimukyoku (1988) p 75, Table 20.
Notes:     By regulation means that the practice is stipulated whereas by custom means that it is not stipulated, but occurs as a matter of accustomed practices. Figures are only for companies with a set retirement age of 60.

Table 6.10 showing treatment of manager after retirement from post.

| Stay on until retirement age as a general worker | *Shukkō* | Retirement |
|---|---|---|
| 77.1% | 9.2% | 13.7 |

Source:    Chūō Rōdō Iinkai Jimukyoku (1988) p 75, Table 20.
Notes:     *Shukkō* is the practice of transfer to another company whilst still recognised as a member of the original company.

Table 6.11 showing the changes in wages after retirement from managerial post.

| Same level as when held managerial post | Reduced by managerial post allowance | Reduced in other ways apart from deducting managerial post allowance | Reduce wages by changing wage system |
| --- | --- | --- | --- |
| 15.3% | 28.2% | 11.4% | 22.1% |

Source:    Chūō Rōdō Iinkai Jimukyoku (1988) p 75, Table 20.
Notes:     A managerial post allowance is often paid, since managers cannot claim for overtime and also to compensate for increased responsibility (Kawano 1975 p 43).

Around one half of the companies practice managerial post retirement. It is noticeable that the average age for post retirement is approximately 55, which is the most common age of retirement before *teinen enchō* became common from the mid-1970s (see Chapter Three). A large majority of the retirees face reductions in wages. The proportion of companies planning to use such practices in 1989 is shown in Section 4, Table 6.23.

## Section 3   Control of the work force age structure

In the previous section, the means of attenuating wage levels and changes in promotion practices were discussed. In this section practices introduced to control the internal population structure will be discussed. It should be made clear that controlling the work force age structure has a direct impact on promotional systems and that often the company views such control as a means to alleviating some of the problems arising in the adopted promotion system. One of the most common reasons for using the practices that will be described  is that they are a means of lessening the problem of *posuto fusoku* (a dearth of available promotion positions). The three main means of altering the internal population structure are the following:

1)    *Shukkō*. This is the practice of sending employees to

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other companies with which the present employer has some connection.

    2)    The establishment of new subsidiary companies specifically for employing older employees sent from the original parent company.

    3)    The implementation of early retirement schemes.

The significance and extent of these practices will be discussed in the next three sub-sections.


## Sub-section 3.1 *Shukkō*

*Shukkō* is the practice of releasing an employee to work in a company with connections with the employer company. The transferred worker maintains his status as an employee of the original company and various aspects of pay and employment conditions are still met by the original company (Nagano 1989 p 3). There is also a related form of transfer in Japan, known as *tenseki*. In this case, the employee is transferred to the pay-roll of the receiving company (Nagano 1989 p 4). This sub-section will deal mainly with aspects of *shukkō*, but *tenseki* will sometimes be included. According to Nagano (1989 p 5), the practice of *shukkō* first started to draw attention during the first oil shock of the early 1970s, when companies used *shukkō* extensively to maintain the employment of workers. *Shukkō* drew further attention in the late 1970s when it was used to deal with the problem of an ageing workforce and the raising of the mandatory retirement age (*teinen enchō*) in many large companies, which occurred during that period. During the 1980s, the mechanism for *shukkō* became more complex. Companies started diversifying and establishing new subsidiaries in order to develop new lines of business (*betsukaishaka* or *bunshaka* Nagano 1989 pp 42-44, 73). *Shukkō* was also used for labour adjustment along with structural adjustment in the economy and continued to be used to deal with

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promotion stagnation problems.

Table 6.12 shows the results of several surveys inquiring into the use of *shukkō* carried out during the 1980s.

Table 6.12 showing the extent of the use of *shukkō* by scale of company (no. of employees).

| Scale of firm | Koyō Kanri Chōsa (1981) | Kōnen Koyō Chōsa (1983) | Shokken Chōsa (1986) | Koyō Kanri Chōsa (1987) |
|---|---|---|---|---|
| All Scales | 16.4% | 70% | 83.7% | 14.2% |
| 5000+ | 94.5 | | 97.1 | 91.6 |
| 3000-4999 | 76.6 | 91 | 96.0 | 49.4 |
| 1000-2999 | | | 92.7 | |
| 300-999 | 46.0 | 78 | 73.6 | 49.4 |
| 100-299 | 24.5 | 42 | 48.8 | missing |
| 30-99 | 9.5 | | | 7.8 |

Source:     Nagano (1989) p 45.
Notes:      The Shokken Chōsa refers to Koyō Shokugyō Sōgō Kenkyūjo (1987) *Kigyō Gurūpunai Jinzai Katsuyō ni kansuru Chōsa Kenkyū Hōkusho*. Koyō Kanri Chōsa refers to Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka (1981, 1987) *Koyō Kanri Chōsa Hōkoku*, Tōkyō: Rōdō Daijin Kanbō Seisaku Chōsabu. The Kōnen Koyō Chōsa refers to Kōnenreisha Koyō Kaihatsu Kyōkai (1985) *Kōreika Shakai ni okeru Jinji Kanri no Tenbō*.

The Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka surveys differ from the other two surveys in the average results, since the weighting of smaller companies in the survey is much higher. The other two surveys are essentially large company surveys and the results point to the fact that *shukkō* is a large-company practice. It is quite clear that nearly all of the large companies had transferred workers to other companies under *shukkō* arrangements. The Kōnenreisha Koyō Kaihatsu Kyōkai (Kōreikyō) survey (1985) results recorded in Nagano (1989 pp 45-46) also show the type of company to which employees were transferred. On average 70% of the companies which received a transferee were either subsidiaries or

related companies (a subsidiary is defined as a company in which the parent holds more than 50% of the paid up capital and related company is one in which the parent company holds 20% - 50% of the capital). In terms of the proportions of transferees to each type of company, 57% went to subsidiaries, 22% to related companies and 21% to other companies. These figures demonstrate that the practice of *shukkō* is operated as a means of achieving labour mobility within the *keiretsu* groups. The extent of *shukkō* in terms of the percentage of the total number of employees is shown in Table 6.13 for all scales of companies.

Table 6.13 showing percentage of employees experiencing *shukkō* by scale of company (no. of employees).

| Scale of firm | Shokken Survey | Koyō Kanri Survey |
|---|---|---|
| All | 6.5 | 5.9 |
| 5000+ | 8.2 | 7.6 |
| 3000-4999 | 6.2 | 5.4 |
| 1000-2999 | 6.0 | |
| 300-999 | 6.1 | 4.2 |
| 1000-299 | 4.9 | 4.1 |
| 30-99 | | 7.6 |

Source:     Nagano (1989) p 47.
Notes:      The Shokken Survey refers to Koyō Shokugyō Sōgō Kenkyūjo (1987) *Kigyō Gurūpunai Jinzai Katsuyō ni kansuru Chōsa Kenkyū Hōkusho*. Koyō Kanri Chōsa refers to Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka (1987) *Koyō Kanri Chōsa Hōkoku*, Tōkyō: Rōdō Daijin Kanbō Seisaku Chōsabu. Figures are for 1987.

The proportion of employees being transferred declines with the size of the company, but the average is surprisingly high. Just under seventy percent of the transferees were under 50 years of age and the rest were over 50 (Nagano 1989 pp 48, 49). These figures have not been normalised for the age structure within the companies. The proportion of all employees over 50 years of age who experienced *shukkō* in 1987 was 13.6% whilst the figure calculated on the same basis for employees under the age of 50 was 6.5% (Nagano 1989 p 49).

Thus, older workers are more likely to be transferred under a *shukkō* arrangement.

Nagano also gives the composition of jobs held by the transferees before transfer: directors accounted for 0.5%; managers 29.4%; office and operations staff 25%; technical workers 16.9%; and skilled workers 28.2%. From these figures, it can be concluded that *shukkō* is more likely to be experienced by white-collar staff. Figures (including transfer by *tenseki*) are also given for the job held at the receiving company. Generally, the higher the position in the receiving company, the more likely the person holding the position has been transferred from another company under *shukkō* arrangements. This trend is more likely in companies the more recently they have been established, suggesting that *shukkō* is often used to help the company in its early days. The older the company, the more likely it is that managerial posts are filled by internal promotion (Nagano 1989 p 51).

According to the results of a survey by the Koyō Shokugyō Sōgō Kenkyūjo (1986) reported in Nagano (1989 p 53) in 7.2% of cases, the total wages of the transferee were borne by the original employer. In 39.4% of the cases, the receiving company paid the normal wage level for that company and the difference between that wage and the wage that would be paid by the original company was met by the original company. Finally, in 36.1% of the cases, the wages were paid by the receiving company (the remainder used other means of determining pay or did not answer). Thus, through *shukkō* the original employer is often able to ensure the continued employment of the employee in question but at a reduced cost.

During 1982, the Koyō Shokugyō Sōgō Kenkyūjo surveyed firms on the reasons for using *shukkō*. Table 6.14 shows the results for different scales of company.

Table 6.14 showing reasons for *shukkō* by scale of company.

| Size of firm (no of employees) | To avoid promotion problems | To adjust age structure | For training | For intro of management techniques and technology | Because of surplus labour | To ensure re-employment of staff | Other |
|---|---|---|---|---|---|---|---|
| 3000+ | 41.9 | 7.5 | 41.9 | 79.6 | 7.5 | 42.5 | 11.8 |
| 1000 to 2000 | 35.6 | 10.2 | 31.4 | 64.4 | 23.7 | 30.5 | 20.3 |
| 300 to 999 | 29.5 | 8.6 | 31.1 | 65.6 | 15.9 | 15.2 | 19.2 |
| 100 to 299 | 32.5 | 7.8 | 28.6 | 62.3 | 15.6 | 13.0 | 16.9 |
| 30 to 99 | 19.4 | 3.2 | 41.9 | 48.4 | 16.1 | 9.7 | 19.4 |

Source:     Koyō Shokugyō Sōgō Kenkyūjo Koyō Sokushin Jigyōdan (1982) p 102.
Notes:      Respondents were asked to choose the three most apposite reasons.

It is clear that the foremost reason for *shukkō* is to introduce new management techniques and technology. This primary role can be fulfilled in conjunction with a secondary role. There seem to be three secondary roles. The three are to avoid promotion problems; to train staff; and to re-employ staff. The third and first reasons seem to be closely linked. In the third case the employee is leaving the company, probably due to retirement, but the company wishes to ensure that the employee has a chance for re-employment. Workers are retired at a mandatory age in order to ensure that there is no stagnation in the promotion ladder. The same survey also inquired into which age groups were targeted for *shukkō* (Koyō Shokugyō Sōgō

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Kenkyūjo Koyō Sokushin Jigyōdan 1982 pp 84-88). For companies with more than 1000 employees, a higher number of companies had transferred employees over 40 years of age than the number of companies which had transferred people under 40. For companies with less than 1000 employees more companies had transferred people under 40. These results are supported by the results in Table 6.14 which show that large companies are much more likely to use *shukkō* to stop managerial stagnation and to ensure re-employment opportunities.

Nagano (1989 pp 76-81) presents the results of a later survey by the Koyō Shokugyō Sōgō Kenkyūjo (1987) which asked about the reasons for *shukkō* for age groups below 50 years of age and for age groups over 50 years of age. The results show clearly that reasons vary according to the age of the employee in question. The survey also asked the sales growth performance of the company over five years preceding the survey. This enables an inspection of the reasons for *shukkō* categorised not only by age but also by the growth of the company. In Chapter Three, it was concluded that growth was an important variable in determining the employment policies of companies. It was noted that if the company was stagnating, there would be an ageing of the employee age structure, since the recruitment of young staff would either be reduced or remain at the same level. The company would then try to prevent the ageing of the workforce by expelling older workers from amongst the core employees. The survey results offer an opportunity to examine if the second option has been followed, to the extent that *shukkō* is one means of casting off older workers. Tables 6.15 and 6.16 show the results of the survey.

Table 6.15 showing the reasons for *shukkō* according to size of company and age group of workers who experience *shukkō*.

| Company size (no. of employees) | To streng-then ties | Setting up new company for diversi-fi-cation | To intro manage-ment tech-niques and new tech-nology | To meet person-nel short-ages | To im-prove workers' ability | To prevent manger-ial stag-nation | To reduce labour costs | Labour adjust-ment during reces-sion | Provide employ-ment oppor-tunity after retire-ment | No ans-wer |
|---|---|---|---|---|---|---|---|---|---|---|
| 5000+ | 47.8 | 59.7 | 91.0 | 55.9 | 64.2 | 16.4 | 19.4 | 9.0 | 1.5 | 1.5 |
| 3000-4999 | 33.3 | 64.6 | 89.6 | 60.4 | 72.9 | 14.6 | 20.8 | 6.3 | 2.1 | - |
| 1000-2999 | 37.3 | 54.5 | 78.2 | 53.6 | 59.1 | 14.5 | 20.0 | 9.1 | 6.4 | - |
| 300-999 | 32.2 | 47.1 | 60.9 | 62.1 | 46.0 | 18.4 | 25.3 | 8.0 | 4.6 | 1.1 |
| 5000+ | 50.7 | 55.2 | 88.1 | 38.8 | 23.9 | 32.8 | 26.9 | 17.9 | 52.2 | - |
| 3000-4999 | 31.9 | 57.4 | 80.9 | 27.7 | 34.0 | 40.4 | 23.4 | 6.4 | 44.7 | - |
| 1000-2999 | 43.9 | 47.7 | 74.8 | 30.8 | 17.8 | 33.6 | 32.7 | 13.1 | 50.5 | 2.8 |
| 300-999 | 36.8 | 43.4 | 65.8 | 31.6 | 17.1 | 35.5 | 35.5 | 18.4 | 38.2 | 1.3 |

Source: Nagano (1989) p 78, Table 4-2; p 80, Table 4-3.

Note: The part of the table above the dotted line shows figures for men below the age of 50 and the part below the dotted line shows figures for those above 50.

Table 6.16 showing reasons for *shukkō* according to growth performance of company and age group of workers who experience *shukkō*.

| Growth index of company. | To streng-then ties | Setting up new company for divers-ifi-cation | To intro manage-ment tech-niques and new tech-nology | To meet person-nel short-ages | To im-prove woker's ability | To prevent manger-ial stag-nation | To reduce labour costs | Labour adjust-ment during reces-sion | Provide employ-ment oppor-tunity after retire-ment | No ans-wer |
|---|---|---|---|---|---|---|---|---|---|---|
| less 100 | 28.0 | 42.0 | 70.0 | 62.0 | 62.0 | 16.0 | 40.0 | 24.0 | 2.0 | 2.0 |
| 100-124 | 37.8 | 55.9 | 71.2 | 55.9 | 52.3 | 18.0 | 25.2 | 7.2 | 4.5 | - |
| 125-149 | 42.7 | 61.8 | 80.9 | 59.6 | 60.7 | 13.5 | 19.1 | 3.4 | 4.5 | 1.1 |
| 150+ | 37.2 | 51.3 | 82.1 | 56.4 | 56.4 | 12.8 | 9.0 | 5.1 | 3.8 | - |
| less 100 | 33.3 | 37.5 | 70.8 | 27.1 | 25.0 | 39.6 | 47.9 | 35.4 | 41.7 | 2.1 |
| 100-124 | 41.7 | 50.9 | 71.3 | 29.6 | 15.7 | 39.8 | 34.3 | 16.7 | 39.8 | 2.8 |
| 125-149 | 45.8 | 50.6 | 78.3 | 33.7 | 22.9 | 33.7 | 25.3 | 4.8 | 60.2 | - |
| 150+ | 40.0 | 52.9 | 84.3 | 35.7 | 24.3 | 25.7 | 18.6 | 7.1 | 41.4 | 1.4 |

Source: Nagano (1989) p 78, Table 4-2; Table p 80, 4-3.
Note: The part of the table above the dotted line shows figures for men below the age of 50 and he part below the dotted line shows figures for those above 50.

Table 6.15 shows that regardless of age, the two most popular objectives of *shukkō* are for providing skills necessary for the establishment of a new company and for introducing management techniques and new technology. The third most popular for those over 50 is for providing employment opportunities after retirement, whereas it is for improving the workers' ability for those under 50. It is striking that older workers are more likely than younger workers to experience *shukkō* for the following reasons: a) to prevent managerial stagnation b) to reduce labour costs c) for labour adjustment during recession. In terms of variation over size of company for these three reasons, there seems to be no noticeable trend accept for labour adjustment, in which case, the smaller the firm, the more likely *shukkō* will be used for this reason. For those over 50, the faster growing the company, the more likely they are to be transferred in order to meet personnel shortages. The faster growing the company is, the less likely it is to use *shukkō* in order to avoid managerial stagnation. The same pattern applies to *shukkō* which is used to reduce labour costs or for labour adjustment reasons. Using *shukkō* as a means of providing an employment opportunity after retirement does not seem to be related to the growth performance of the company.

The survey also questioned which company asked for *shukkō* to take place. Nagano (1989 p 88) breaks up the possible answers into two categories - push type and pull type. Push-type *shukkō* occurs when the original employer makes the request, whereas pull-type *shukkō* takes place when the receiving company asks. Table 6.17 shows the incidence of these two types of *shukkō* for the two age groups (those below 50 and those above 50 years of age). The older the transferee, the smaller the company and the lower the growth rate of the company, the more likely push type *shukkō* is to occur.

Table 6.17 showing the extent of push and pull-type *shukkō* by age group, scale of company and growth performance of company.

| | Below 50 years of age | | | Above 50 years of age | | |
|---|---|---|---|---|---|---|
| | Push | Pull | NA | Push | Pull | NA |
| All scales | 30.7 | 66.6 | 2.7 | 51.6 | 45.2 | 3.2 |
| 5000+ | 18.0 | 77.5 | 4.5 | 43.7 | 51.8 | 4.5 |
| 3000-4999 | 25.0 | 75.0 | - | 46.8 | 53.2 | - |
| 1000-2999 | 30.0 | 65.5 | 4.5 | 50.5 | 43.9 | 5.6 |
| 300-999 | 43.7 | 56.3 | - | 61.8 | 38.2 | - |
| less 100 | 42.0 | 58.0 | - | 63.6 | 36.4 | - |
| 100-125 | 25.2 | 73.9 | 0.9 | 51.9 | 45.3 | 2.8 |
| 125-150 | 32.6 | 61.8 | 5.6 | 54.2 | 41.0 | 4.8 |
| 150+ | 29.5 | 66.7 | 3.8 | 40.0 | 55.7 | 4.3 |

Source:     Nagano (1989) p 88.
Notes:      The top half of the graph shows type of *shukkō* by scale
            of company (number of employees) and the bottom half is
            by growth performance (index:100 is equal to total sales
            five years previously). Push-type figures are derived by
            adding the percentage answering a) *shukkō* is mainly
            necessary for the original company and b) *shukkō* is more
            or less necessary for the original company. Pull-type
            figures are derived by adding the percentage answering
            a) *shukkō* is mainly a result of a request from the
            receiving company and b) *shukkō* is more or less the
            result of a request from the receiving company. The
            total number of respondents was 329 and the number of
            respondents for each category always exceeded 30.

Companies were also asked about the particular problems resulting

from the use of *shukkō*. For transferees below the age of 50, the

most common problem faced by the companies was the adjustment of

conditions of employment, followed by a tendency to view *shukkō* as

a demotion. For transferees over the 50, the most common problem

faced by the companies was the limit to absorption of transferees

followed by the adjustment of conditions of employment (Nagano 1989

pp 84-85).

In summary, older workers are more likely to experience *shukkō* as

a form of expulsion from the original employers and this is

particularly so the slower the growth rate of the original company. This expulsion-type image is reinforced by the fact that older workers are more likely to experience push-type *shukkō*, particularly when the growth rate of the company is slow. The characteristics of *shukkō* seem to support the supposition made in Chapter Five that stagnating companies will attempt to prevent the ageing of their internal work force that is a consequence of a fall or freeze in employee recruitment. The percentage of older workers experiencing *shukkō* is significant in demonstrating the ability of companies to alter the age structure, but will need to increase with ageing of the workforce. It is questionable that *shukkō* for older workers can be increased due to the problem of limited absorption ability of receiving companies. The age structure in the receiving companies will be more aged than in the original company. The receiving company is likely to be small, since it is usually a subsidiary or has contractual ties with the original company. It was shown in Chapter Three that workers in smaller companies have shallower average wage curves than in large companies. Thus, it would appear that employment practices in small companies allow for an older age structure and so the small company can use the older transferees and at the same time this allows the larger companies to continue using employment practices which require a younger age structure.

**Sub-section 3.2 Old people companies**

Large companies have also taken the expedient of setting up subsidiary companies primarily for the absorption of older workers from the parent company (Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka 1981). These companies are known as *kōreisha kaisha* which translates literally as old people companies. Old people companies started flourishing in the mid 1970s as companies adjusted

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to the recession caused by the oil shock and also raised the mandatory retirement age (Ujihara 1985). Information on the extent of the use of old age companies is scanty. According to the *Koyō Kanri Chōsa Hōkoku* of 1985 (Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka 1985), the percentage of companies having an old age company subsidiary in 1985 amounted to 2.2%. This figure is for all scales of company, however. For companies with more than 5000 employees the figure was 21.0% and for companies with between 1000 and 4999 employees the figure was 11.7%. Compared with the *Koyō Kanri Chōsa Hōkoku* of 1981, the proportion of firms with old people companies has fallen over four years. The overall percentage in 1981 was 2.4% and the percentage of firms with over 5000 employees with these companies amounted to 26.4%. The use of old age companies increases with the size of the company, which is not surprising, since small companies are much less likely to have subsidiaries and many small companies are themselves subsidiaries of the larger companies in question.

The types of business in which these companies are involved are diverse, but they are generally work which previously would have been carried out in the parent company itself. Thus, old people companies can be considered one element of the *bestukaishaka* described in Sub-section 3.1. The main categories of business are the following (Ujihara 1985 p 407):

1) Employee welfare services such as the supervision of dormitories and company housing and the management of dining rooms and sales kiosks (59.5%).

2) Work involving care of the work environment and company instalments such as cleaning, gardening and building maintenance (57.1%).

3) Secondary work for the parent company such as packing

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and transport of products and the maintenance of plant
and equipment (53.6%).

4) Printing of packaging, translation, interpreting and
   information and technological surveys (45.2%).

5) Sales (11.9%).

6) Work which constitutes one part of the main operations
   of the parent company (53.6%).

7) Work in new areas of business of the parent company
   (40.5%).

The figures in brackets show the results of a survey undertaken by
the Tōkyōto Rōdō Keizaikyoku, published in 1983 and presented by
Ujihara (1985 p 408). The companies were asked which type of work
they carried out and were allowed multiple answers. The figures show
the percentage of firms carrying out each type of work. It is
striking that many of the types of work performed by old people
companies are akin to work that would have been carried out by
*rinjikō* during the 1960s (see Chapter Four).


Although the companies are called old people companies, the
employees are not all of old age. This is for two main reasons. The
first reason is that the companies hire workers independently of the
parent company and tend to hire younger workers. According to the
Tōkyōto Rōdō Keizaikyoku survey approximately 53% of the workers in
old age companies were hired externally (Ujihara 1985 p 410). The
second reason is that workers are often transferred (often through
*shukkō*) to the old age companies before retirement. Out of all the
workers originating from the parent company, only 23% have been
transferred after retirement. The remainder are accounted for by
transfer of pay roll before retirement ( = *tenseki*) (36%), and
*shukkō* (41%) (Ujihara 1985 p 413). Figure 6.2 shows the age
structure of workers originating from the parent company and of

workers who were hired externally. The modal age for workers originating from the parent company is 55-60 years of age after which the proportion of workers drops noticeably. The young age structure of the externally hired workers complements the aged structure of the workers originating from the parent company. Even though the companies are set up specifically to employ older people, it appears that they still find it necessary to maintain a much younger age structure than their name would imply. Consequently the absorptive capacity for older workers is limited. Regardless of the ability to attenuate the naturally aged structure through hiring external staff, the most often cited problem facing the old age companies was that "it is difficult to maintain the vitality of the company since there are so many older employees" with 42.9% of companies indicating such (Ujihara 1985 p 416). The next most commonly cited problem was "placement and management of personnel is difficult since there are so many older workers" (39.3%).

Figure 6.2 age composition of workers in old people companies according to origin
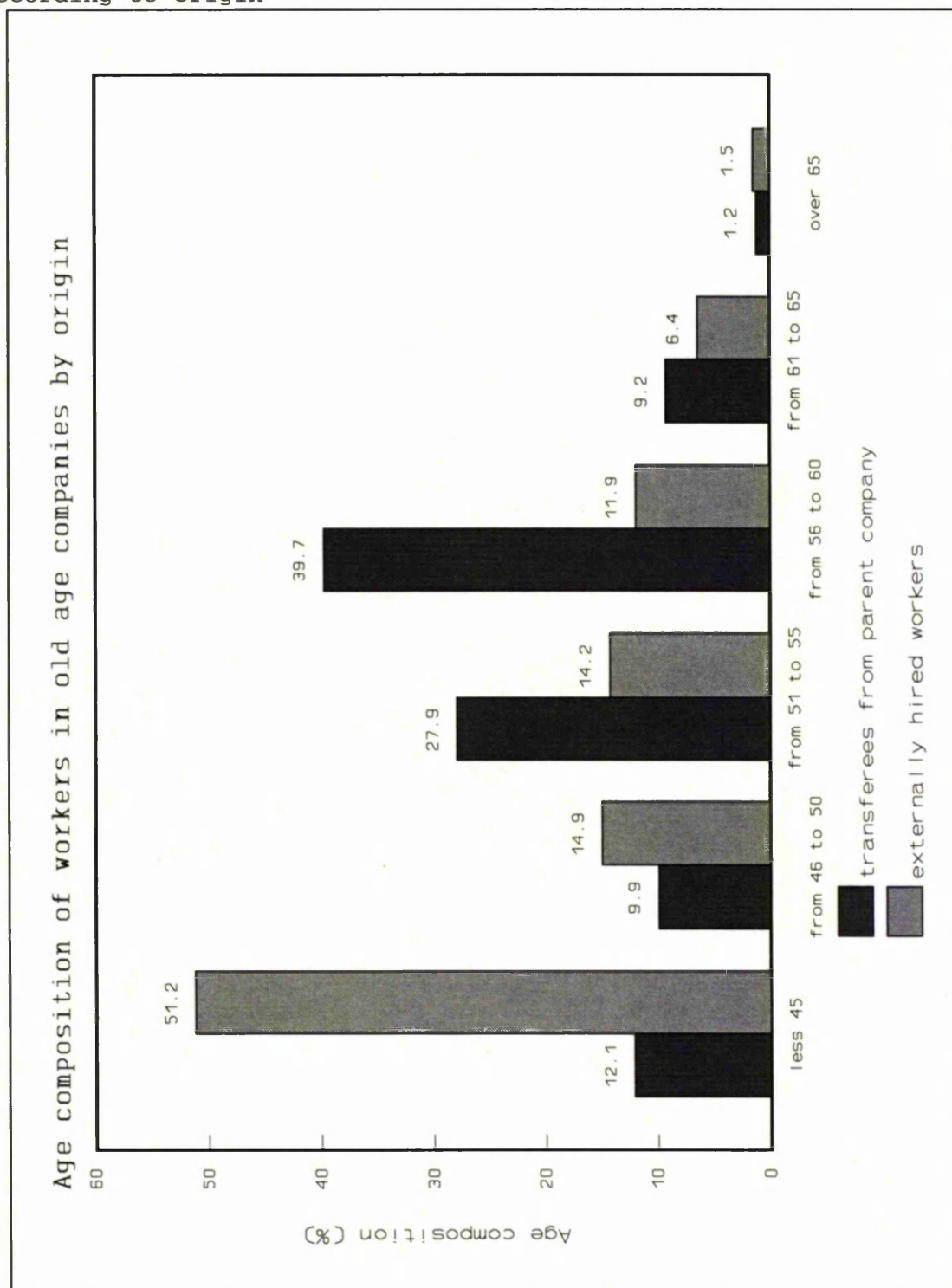


Source:     Ujihara (1985) p 414.

Finally, it is noted by Ujihara (1985 pp 407, 409) that these companies are not operated as charities. They are required to make a profit and compete with many other companies which carry out the same work, but which are not forced to have an aged employee structure. According to the 1981 Tōkyōto survey, the average profit rate on sales only amounted to 1.9% (Ujihara 1985 p 409). Thus the scope for an increasing use of old people companies to absorb older workers from the ageing employee structure of the parent company would appear limited. Unfortunately there do not seem to be any figures showing the proportion of older workers (55 years and above) being sent to old people companies, but a large proportion are sent through *shukkō* and would be included in the *shukkō* figures given in Sub-section 3.1 above. Ujihara (1985 p 405) gives figures for the number of people undergoing transfer and the place of transfer. Approximately 16% were transferred to old people companies. If this figure is multiplied by the percentage of older people transferred under *shukkō* arrangements given above, the proportion going to old people companies is around 2%, but this an extremely rough estimate.

In summary, the use of old age companies can be considered a special case of *shukkō*. The scope for using these companies for hiving off older workers seems limited. The concept of an old age company does, however, demonstrate the diversity of methods that are used to regulate the age structure of the core, parent company.

**Sub-section 3.3 Early retirement provisions**
Another option for altering the internal age structure of a company is to provide incentives for early retirement. The percentage of large firms with early retirement provisions increased rapidly during the late 1970s and early 1980s, concomitant with a move towards a retirement age of 60 (*teinen enchō*). Figure 6.3 shows when

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early retirement provisions were started and the percentage of firms with a retirement age of 60.

Figure 6.3 showing the cumulative distribution over time of the introduction of early retirement practices; and the percentage of companies having a retirement age of 60 and above over time.



The Establishment of Early Retirment Provisions by Date
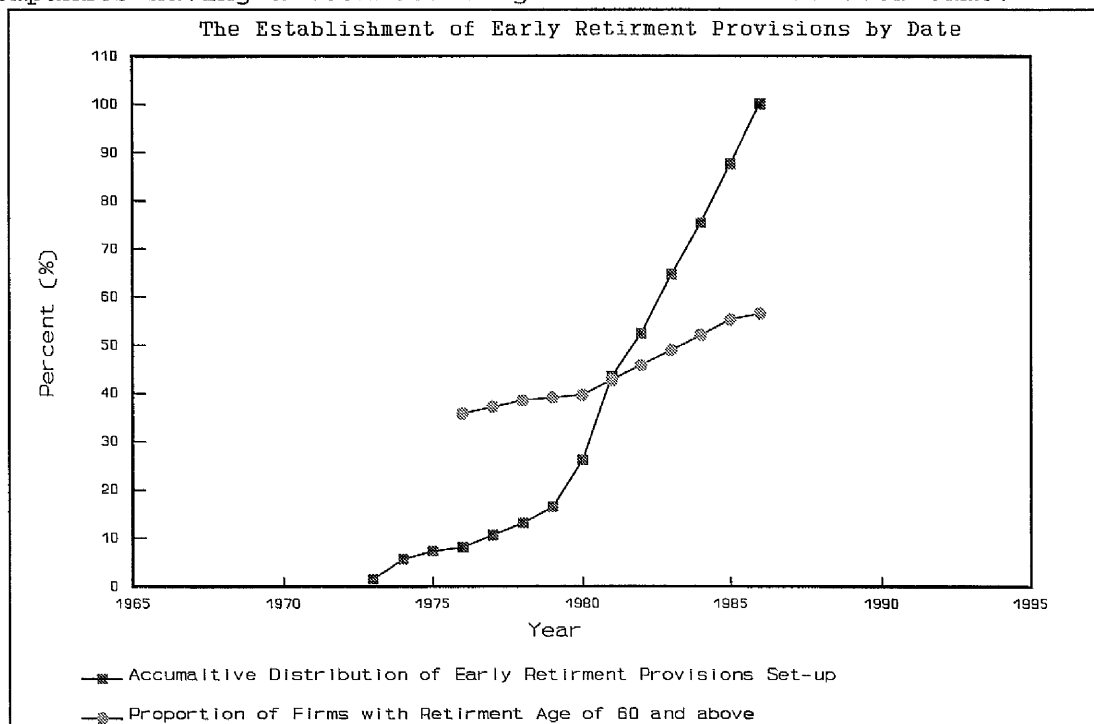
Source:    For the accumulative distribution of early retirement provisions over time, the data came from Rōmu Gyōsei Kenkyūjo (1987) p 47. Data for the percentage of firms with a retirement age of 60 and above came from Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka (1988) *Koyō Kanri Chōsa Hōkoku*.

In terms of scale, the larger the company, the more likely it is to have early retirement provisions. The survey by the Rōmu Gyōsei Kenkyūjo (1987 p 46) shows that in 1976, out of all companies with over 3000 employees, 58.6% had early retirement provisions. The proportion for companies with 1000 to 2999 employees was 45.5% and for companies with less than 1000 employees amounted to 33.7%. Data from the survey also enable  an examination of the extent of early retirement provisions according to the average age of company employees and the retirement age set by the company. Table 6.18 shows the results.

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Table 6.18 showing the percentage of companies with early retirement according to average age of employees and mandatory retirement age.

| Age groups or retirement age | No of Responses | Percentage of firms with early ret prov's. |
|---|---|---|
| less than 30 | 18 | 16.7 |
| 30 - 34.9 | 108 | 44.4 |
| 35-39.9 | 135 | 51.9 |
| above 40 | 38 | 39.5 |
| 55 | 25 | 12.0 |
| 56 | 6 | 16.7 |
| 57 | 18 | 22.2 |
| 58-59 | 19 | 42.1 |
| 60 and above | 234 | 51.3 |

Source:     Rōmu Gyōsei Kenkyūjo (1987) p 46.
Note:       Some of the categories only have very small numbers of respondents. The part of the table below the dotted line shows figures according to the mandatory retirement age.

It is clear from the table above that the older the age structure of the employees, the more firms have early retirement provisions. This trend does not extend to firms with an average age of over 40, however. Also, the higher the retirement age, the higher the percentage of firms with early retirement provisions. Both these results point to the conclusion that firms are using early retirement to attenuate the age structure within the company.

The most commonly used term in Japanese for early retirement provisions is *sōki taishoku yugū seido*. The Japanese term contains an element of preferential treatment. The preferential treatment manifests itself in the calculation of severance pay. Most companies (approximately 80% – Rōmu Gyōsei Kenkyūjo (1987) p 48) calculate the amount on a retirement severance pay basis: that is they chose a retirement multiplier. Moreover, approximately 90% of firms use the length of service the employee would have had at the normal retirement age in calculations. Approximately three-quarters of

firms also add a further payment amounting to between 40 and 60% of the normal retirement severance pay. The larger the firm, the more likely it is to pay this additional payment. Firms clearly feel that the costs of providing early retirement provisions are outweighed by the benefits accruing to the management of the company through attenuating the age structure. The modal age in 1986 for the start of eligibility for early retirement provisions was 50 according to the Rōmu Gyōsei Kenkyūjo survey (1987 p 49), although 45 and 55 were also popular ages. These results are confirmed by the Chūō Rōdō Iinkai Jimukyoku surveys (1984, 1886 and 1988).

As in the case of the old people companies, it is difficult to determine the number or proportion of people who experience early retirement. Ujihara (1985 pp 371-372), on this matter, presents the results of two surveys. The Kōnenreisha Koyō Kaihatsu Kyōkai survey (1983) concludes that when the provisions were first introduced, there were a few who took advantage of early retirement, but since then numbers have dwindled almost to nothing. The Tōkyōto Rōmu Keizaikyoku survey (1983) shows that out of all male, regular workers over 50 who left before retirement or left at retirement, only 6.6% took advantage of the early retirement provisions. The 1989 labour white paper (Rōdōshō 1989 pp 159-160) gives figures for people who left work in the year previous to the survey. The composition of the leavers can be broken down into the percentage of non -retirement company leavers who left under early retirement provisions. For the 50-54 year old age group, 70% of workers who left a company left before retirement age. Out of those, approximately 15% left under early retirement provisions. For the age group 50-59 leavers before retirement accounted for 40%, out of which 30% left under early retirement provisions. The percentages of early retirees for large companies are higher. For both these age

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groups, the proportion of early retirees is greater than the 6.6% given by the Tōkyōto survey above (roughly double). From these results it is difficult to draw firm conclusions as to the extent of early retirement. Certainly, the practice would appear to encourage quitting the company before the official retirement age, but it is impossible to know how many of the early retirees would have left the company, regardless of beneficial provisions.

**Section 4   Problems in raising the mandatory retirement age and future policies for the management of older workers**

This section covers the information gathered from Koyō Kanri Chōsa (Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka 1985) survey regarding the reasons for companies not raising the mandatory retirement age, and management policies towards middle-aged people that the firms are likely to follow in the future. Thus, this section serves to summarise many of the problems and policies of companies as they deal with ageing of their work forces.

Table 6.19 through to 6.21 show the reasons why companies had not raised the retirement age in 1985.

Table 6.19 showing the reasons for not raising retirement age that are related to wages determination problems.

| Retirement age | All | Adjustments to the wage system for older people are not complete | The introduction of job-related and ability pay has been delayed | Reform of the severance pay system is not complete | Management-labour discussions are not progressing | Other |
|---|---|---|---|---|---|---|
| All | 31.1 | 15.3 | 3.9 | 10.4 | 2.4 | 6.2 |
| <55 | 44.5 | 22.8 | 5.9 | 15.8 | 4.7 | 7.3 |
| 56-59 | 33.8 | 19.3 | 4.9 | 12.6 | 6.0 | 2.2 |
| 60 | 24.2 | 10.3 | 2.8 | 7.4 | 0.1 | 7.1 |
| 60+ | 11.0 | 6.4 | - | - | - | 4.5 |

Source:    Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka
           (1985) *Koyō Kanri Chōsa Hōkoku* p 10.
Notes:     The figures are for companies with the same retirement
           age for all groups of workers (*ittsū teinen*). The
           companies were allowed multiple answers.

Table 6.20 showing the reasons for not raising the retirement age that relate to personnel management problems

| Retire-ment age | All | Types of jobs and environ-ment are not suit-able for older workers | Cannot re-structure the jobs in favour of older workers | Management stagnation | Redeploy-ment of older workers cannot be done smoothly | Management-labour discussions are not progressing | Other |
|---|---|---|---|---|---|---|---|
| All | 41.5 | 22.4 | 7.9 | 7.6 | 5.3 | 1.6 | 5.4 |
| <55 | 50.9 | 26.1 | 11.0 | 10.6 | 6.1 | 3.4 | 6.5 |
| 56-59 | 44.6 | 21.1 | 11.3 | 9.6 | 8.9 | 3.0 | 3.0 |
| 60 | 36.0 | 21.1 | 5.2 | 5.1 | 4.0 | 0.2 | 5.9 |
| 60+ | 29.5 | 16.7 | 4.4 | 7.2 | 0.3 | - | 0.9 |

Source:   Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka (1985) *Koyō Kanri Chōsa Hōkoku*, p 10.
Notes:    The figures are for companies with the same retirement age for all groups of workers (*ittsū teinen*). The companies were allowed multiple answers. Management stagnation denotes the problem of a dearth of managerial posts.

Table 6.21 showing the reasons for not raising the retirement age for other reasons.

| Retire-ment age | All | Company has labour surplus to require-ments | Because company has *kinmu enchō* and *saikoyō* | Present retire-ment age is adequate | Average age of employ-ees is low | Other com-panies in the same business have not | Other | No answer |
|---|---|---|---|---|---|---|---|---|
| All | 79.7 | 4.1 | 36.7 | 35.1 | 10.0 | 2.5 | 8.7 | 8.7 |
| <55 | 81.1 | 5.4 | 47.6 | 16.4 | 21.7 | 3.9 | 7.8 | 5.7 |
| 56-59 | 78.6 | 6.0 | 48.9 | 21.0 | 11.0 | 3.5 | 8.0 | 8.1 |
| 60 | 79.7 | 3.1 | 27.7 | 49.5 | 3.7 | 1.6 | 9.7 | 10.0 |
| 60+ | 73.3 | - | 19.0 | 50.3 | - | - | 4.5 | 16.1 |

Source: Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka (1985) *Koyō Kanri Chōsa Hōkoku*, p 10.

Notes: The figures are for companies with the same retirement age for all groups of workers (*ittsū teinen*). The companies were allowed multiple answers.

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The most common reasons given for not raising the retirement age come in the category entitled "other", followed by reasons relating to personnel management and promotion problems. The most common response in the other category is because the company has *kinmu enchō* and *saikoyō* systems instead. This appears to be an inadequate explanation, however, since it still begs the question as to why the relevant companies prefer to continue using these systems instead of instituting a rise in the retirement age. The next most popular answer is that the companies have a young age structure and therefore raising the retirement age is not necessary. This answer is particularly popular amongst firms with a retirement age under 55, which in itself would seem to result in those companies having a young age structure. In the other two categories, the most common reasons are because adjustment to the wage system to accommodate older workers is not yet complete and because the types of jobs and environment are not suitable for older workers. The implications of the latter reason are vague, since it is not clear whether suitable jobs implies managerial and higher paid jobs or jobs which have physical requirements suitable for older workers. Upon examination of the sectors which favoured this answer the most, the wholesale and retail, transport and communications and service industries show the highest response rates (Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka 1985 p 44). These industries traditionally use low wage labour. The higher the retirement age, the greater the proportion of firms that felt it was not necessary to answer the question. Discounting the answers to the "other" category, because of their inability to throw light on the problems involved in raising the retirement age, wage systems and lack of suitable jobs appear to be the greatest restraints to instituting *teinen enchō*. The results on the question of future management policy give more useful insights to the problems involved.

Table 6.22 showing direction of personnel management policy in the future, by scale of company.

| Scale of company | Reinforce discrimination of workers according to ability, only promote the elite | Planning the intro or strengthening of specialist grade system | Complete the split between manager-ial post and grade through the intro or completion of ability grade system | Delay promotion, no change in promotion system itself | Maintain present promotion system and increase the number of posts | Abandon a personnel policy based on managerial posts | No answer |
|---|---|---|---|---|---|---|---|
| All | 58.3 | 28.8 | 25.1 | 3.1 | 4.5 | 0.9 | 10.4 |
| 5000+ | 45.6 | 58.9 | 56.6 | 0.6 | 0.3 | - | 6.0 |
| 1000-4999 | 51.7 | 51.6 | 62.2 | 2.4 | 2.5 | 0.1 | 3.9 |
| 300-999 | 53.3 | 41.2 | 56.5 | 3.1 | 4.7 | 0.3 | 3.1 |
| 100-299 | 56.7 | 32.2 | 37.3 | 4.5 | 5.5 | 0.4 | 6.8 |
| 30-99 | 59.5 | 26.0 | 17.6 | 2.7 | 4.2 | 1.1 | 12.4 |

Source:   Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka (1988) *Koyō Kanri Chōsa Hōkoku*, Table 22 pp 108, 109.

Notes:    Companies were allowed more than one answer, but no more than three.

Table 6.23 showing the direction of policies for dealing with middle-aged employees, by scale of company.

| Scale of firm (no. of employ-ees) | Maintain promotion by length of service up to retire-ment age | Intro-duce or streng-then manage-ment post retire-ment | Intro-duce or streng-then fixed period for manage-ment posts | Intro-duce or streng-then early retire-ment system | Intro-duce or streng-then career track options system | Promote *shukkō* or transfer of middle-aged employ-ees to sub-sidiaries | Present practices are sufficient for dealing with middle-aged workers | No ans-wer |
|---|---|---|---|---|---|---|---|---|
| All | 17.2 | 14.6 | 8.1 | 10.2 | 4.9 | 6.5 | 40.1 | 11.3 |
| 5000+ | 1.9 | 31.3 | 8.2 | 45.9 | 20.9 | 47.8 | 13.3 | 4.4 |
| 1000-4999 | 4.4 | 31.6 | 9.5 | 40.9 | 20.0 | 31.1 | 15.8 | 6.3 |
| 300-999 | 11.3 | 27.9 | 10.6 | 30.9 | 11.8 | 15.7 | 22.7 | 6.3 |
| 100-299 | 13.3 | 19.7 | 8.7 | 15.8 | 7.2 | 8.9 | 36.3 | 8.2 |
| 30-99 | 19.2 | 11.3 | 7.6 | 5.8 | 3.2 | 4.2 | 43.4 | 12.8 |

Source: Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka (1988) *Koyō Kanri Chōsa Hōkoku*, Table 22 pp 108, 109.

Notes: Companies were allowed more than one answer, but no more than three. Introduction of career track options means using more than one promotion system.

The answers to questions regarding future management policy in general are given in Table 6.22. The three most numerous answers relate to the increasing use of ability appraisal and ability grade systems. It appears that the larger the company, the greater the desire to split managerial posts from ability grades and to introduce or strengthen specialist grade systems. It is dangerous to draw conclusions about these policies over scale of company, however, since multiple answers were allowed and smaller companies tend to choose fewer answers per question. This can lead to the proportions of larger companies choosing a particular answer appearing larger.

Answers on management policy for middle-aged workers are shown in Table 6.23. The most popular answer in general is to maintain promotion by length of service, although the proportion of larger companies choosing this option is negligible. Larger companies favour policies such as introducing management retirement, early retirement practices and *shukkō* or transfer. It is striking that the smaller the company, the greater the proportion that are satisfied with present practices for dealing with middle-aged workers. This last observation appears to support the supposition that smaller firms tend to have employment practices which do not rely on a young age structure and therefore smaller firms have an older age structure than larger firms and flatter wage curves.

### Section 5   Labour input adjustment practices

In Chapter Five it was noted that the growth rate of firms is important in determining the treatment of older workers. In a climate of slower economic growth, hiring of younger workers is reduced and companies would also attempt to reduce the number of older workers in the work force, to an efficiency age structure. In

this section, the reaction of Japanese firms to cyclical downturns and the implications for employment of older people are examined.

Table 6.24 shows the percentage of firms making labour input adjustment measures and the percentage of those firms taking each type of measure over the period 1975 to 1986. This period contains three cyclical downturns. The first two downturns originate from the oil shocks in the 1970s and the third stems from the appreciation of the yen in 1985. The main concern here is the policy of voluntary redundancy and involuntary redundancy. It is clear that this policy is the least popular means of dealing with labour adjustment. The use of this policy increases noticeably during recession periods. Figure 6.4 shows the percentage of employees who left companies at the request of the company (*keiei no tsugō*), over time. Again, the rise in the percentage over cyclical downturns is noticeable. In Japanese writings on these

Table 6.24 showing policies of companies for reducing labour input.

| | Percentage of firms with emp adjustment | Overtime adjustment | Adjustment of holidays | Adjustment of part-time and temporary workers | Reduce or stop mid-term hiring | Transfer or shukkō | Temporary lay-offs | Voluntary redundancy or redundancy | Other |
|---|---|---|---|---|---|---|---|---|---|
| 1975 | 67.75 | 48.25 | 10.5 | 14.25 | 46 | 21.75 | 14.75 | 4.5 | 1.25 |
| 1976 | 36.75 | 22 | 3.25 | 4.25 | 25 | 13.5 | 2 | 1.75 | 0.5 |
| 1977 | 34 | 18.75 | 2.25 | 4 | 21.75 | 13.25 | 1.25 | 1.75 | 1 |
| 1978 | 30.5 | 17.25 | 2.25 | 4 | 19.25 | 13 | 1.5 | 2 | 1 |
| 1979 | 18.5 | 9 | 1.75 | 2 | 10 | 7.75 | 0.25 | 1.25 | 0.25 |
| 1980 | 14.5 | 7 | 2 | 1.5 | 5.5 | 5 | 0.25 | 0 | 0.75 |
| 1981 | 17.25 | 8.25 | 2.25 | 2 | 6.25 | 5 | 1 | 0.75 | 1 |
| 1982 | 26.75 | 15.25 | 3.25 | 4 | 11.75 | 7.5 | 1 | 1 | 1.25 |
| 1983 | 24 | 13.25 | 1.5 | 2.75 | 9.75 | 8.75 | 1.25 | 1 | 2 |
| 1984 | 15.25 | 7 | 1.25 | 1.75 | 5.5 | 6 | 0.5 | 0.75 | 1 |
| 1985 | 18 | 9.25 | 2.25 | 2.75 | 5.75 | 5.75 | 0.5 | 1 | 1 |
| 1986 | 32.25 | 20.75 | 3.75 | 4.5 | 10.75 | 14.25 | 1.5 | 1.5 | 1 |

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periods of labour adjustment, it is often stated (Namie 1986 p 189; Yamada 1983 p 205) that it is the older and middle-aged workers who bear the brunt of redundancies and consequently are also likely to become unemployed. Direct indicators which can demonstrate these claims are difficult to find.

Figure 6.4 showing the percentage of all workers leaving the company at the request of management.



Percentage of employees leaving the company at request of management
(men and women)
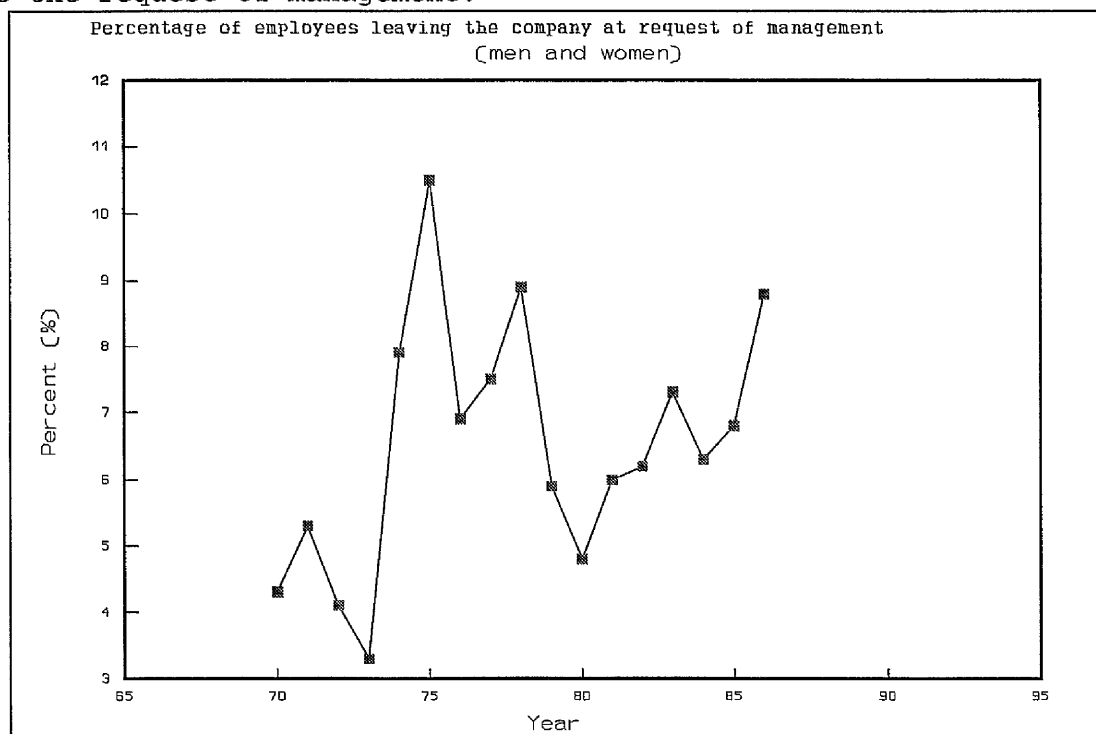
Source:    Rōdō Daijin Kanbō Seisaku Chōsabu (ed.) (1988) p 328.

The 1979 labour white paper (Rōdōshō 1979) does, however, give a detailed analysis of the state of employment and unemployment during the economic downturn induced by the first oil shock. Table 6.25 shows the proportions of each age group who left companies over the period 1976 to 1988, according to the reason for leaving. The older the age group, the larger the proportion who have been made redundant due to a management decision (ie. involuntary redundancy).

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Table 6.25 showing the reasons for leaving previous employment by age group (1976-78).

| Age group | On request of firm | Contract ending | Management decision | Retirement | Own accord |
|-----------|--------------------|-----------------|--------------------|-------------|------------|
| All ages | 21.6 | 6.3 | 9.6 | 5.6 | 78.4 |
| <20 | 7.8 | 5.7 | 2.0 | - | 92.2 |
| 20-29 | 9.3 | 4.3 | 5.0 | - | 90.7 |
| 30-44 | 15.2 | 5.8 | 9.5 | - | 84.8 |
| 45-54 | 32.9 | 14.2 | 18.7 | - | 67.1 |
| 55+ | 57.9 | 7.3 | 17.8 | 32.9 | 42.1 |

Source: Rōdōshō (1979), Appendix, p 112.
Notes: These percentages are based on figures for the period 1976 to 1978 inclusive.

Thus it is clear that older workers were more likely to lose their job through redundancy during the downturn. Not only were older workers more likely to lose their job, they were also less likely to find another. Over the period 1974-1978, 80-85% of male workers who lost their job in the age group 25-44 found another job. Only 76% in the 45-54 age group succeeded in finding a job and the proportion for men over 55 years of age only amounted to 63% (Rōdōshō 1979 p 64). The white paper also gives staying-on rates for each age group over the period 1973-1978 and compares them with those for the period 1969-1972 (a high economic growth period). The staying-on rates for male middle-aged and older workers were lower in the later period, indicating, together with their greater propensity to lose their job, that this age group bears the brunt in periods of depressed economic growth. Staying-on rates for older workers drop further in large companies, when compared with staying on rates for younger age groups, than in small companies (Rōdōshō 1979 p 63).

**Section 6  Conclusion to this chapter**

This chapter has described the changes in employment practices which companies have undertaken to deal with ageing work forces. The chapter also examines future policies for changing employment practices and finally gives an account of labour input adjustments carried out by companies during the turbulent period of the 1970s. The structure of the chapter is based on hypotheses derived from the demographic model of employment practices given in Chapter Four. In Chapter Four it was hypothesised that ageing of the labour force would lead to the expulsion of older workers, so that large firms could maintain an internal efficiency age structure. If it were not possible to maintain the efficiency age structure, it was asserted that the relative wage levels of younger and older workers would change. Changes in employment practices that may lead to an alteration in average wage curves can be summarised under the following points:

1)  A large proportion of large firms have either introduced or furthered the use of ability grade systems. The ability grade systems are used to reduce the *nenkō* element in wage determination. Increment points within grades are often established, so that with each additional year of length of service, the pay of a worker rises. There are, however, limits to the number of increments in each grade. Thus after a certain length of service wages stop rising automatically. Further increases in pay are only paid to the worker if the worker is promoted to a higher grade. Promotion to a higher grade is dependent on appraisal of ability. It is not clear how the use of ability grade systems will affect the wage curve of employees. If there is a strong element of age and length of service factors used in the appraisal of ability, then promotion through the grades will be linked to age and

wages will continue to rise steeply. The effects of increment limits and appraisal are more likely to be felt by older workers, who have experienced more slowly rising wages in the past. Over the 1980s wage curves have been steepening with the increasing use of ability grade systems and this would appear to demonstrate that wage attenuation is not the result of using ability grade systems. Hence conceptually, the use of ability grades would appear to lead to a flattening of wage curves, but in practice this is not yet visible.

2) A large percentage of firms have introduced parallel promotion systems. Some older workers continue to hold managerial posts, whereas others, who might have held managerial posts had the age structure within the company been younger, are promoted through specialist grade systems. Thus, in spite of a lack of managerial posts, workers may still be rewarded with promotion. The implication for wages is important. As was postulated in Chapter Four, the productivity of older workers is dependent on the number of younger workers they supervise. Promotion through specialist grades implies promotion to higher levels of specialist work, but does not lead to control of large number of younger workers. Thus, promotion along specialist grades does not lead to as great an increase in productivity with age as promotion to a managerial post. Therefore wages for those on specialist grades can be expected to be lower than for those in managerial posts. With ageing of the work force, the proportion of managers within each age group inevitably declines and thus the average wage curve will flatten. While introduction of specialist grade systems does allow promotion to be used effectively as a reward, it does not enable the maintenance of a steeply rising wage profile with age.

3) A large proportion of firms have introduced changes to employment practices which only affect employees in the higher age groups. These practices include the reduction or freezing of wages after a certain age point and the relinquishing of grades and managerial posts. These changes only have an impact on the wage curve after the age at which these adjustments come in to force and seem to have been instituted in order to maintain the steep falls in the wage curve that occur after peak wage age. Even with an ageing workforce structure, it is possible for firms to keep the rising portion of the wage curve rising steeply, if at the same time firms can increase the steepness of wage falls for older workers correspondingly. Such a practice would entail an income transfer from older to younger workers and may reduce the incentive effects of steeply rising wage curves at younger ages.

Changes to employment practices that allow control of the internal age structure of the firm have also been described. The use of *shukkō* and old people companies appear to have limitations in the future and unfortunately the extent of early retirement is difficult to quantify. It is clear, however, that it is the larger firms which use these practices. This leads to the supposition that employment practices in large firms require a young age structure, whereas a young age structure is not so necessary for smaller firms.

The final section of the chapter, showed that with downturns in growth, it is older workers who are made redundant, regardless of practices used for their expulsion. Moreover, it is large firms that are more likely to sack older workers. In Chapter Four it was postulated that slower growth leads to an ageing of the internal labour force and so large firms, which need to maintain a younger age structure, would respond by expelling older workers. This

postulate is borne out by the experience of older workers and the lower average age of workers in large companies. The ability of companies to control the age structure of their employees also has an impact on the wage curve. There are also important implications for the working of the macro labour market and unemployment as the population ages in Japan. It should be noted that the major factor that led to changes in employment practices to deal with ageing was the government policy of encouraging raising of the retirement age. It was this policy which led to the rapid ageing of workforces in large companies. Thus, the ability to control the internal age structure has been curtailed by government policy.


The behaviour of the macro labour market under population ageing will be examined in the next chapter, now that firms' labour demand behaviour has been examined. Government policy will be described in Chapter Eight and Chapter Nine.

**APPENDIX 6A**    **CASE STUDIES OF FIRMS' RESPONSES TO AGEING WORKFORCES**

The data given in Chapter Six gave a clear picture of the general changes in personnel management and wage systems that have occurred with ageing of the workforce. The data are of an aggregate nature and therefore tend to obscure the variety and detail of changes that have been made. To clarify the picture of changes that have been made, this appendix provides descriptions of actual changes that have been made by three large companies. These case studies come from a collection of sixteen case studies made by the Nihon Seisansei Honbu (1981). A knowledgeable person in each company involved was asked to describe the changes made in employment practices subsequent to raising the mandatory retirement age. The descriptions were expected to include four main points: a) introduction to the company, b) the history surrounding the raising of the retirement age (union discussions and demands etc), c) the revisions made to each system and d) problems and future topics for consideration. I will emphasise point c). The company names were not given and each company was assigned a letter of the alphabet. The nature of the survey also means that the descriptions are not necessarily comprehensive and the reforms which are described were chosen according to the subjective evaluation of the person giving the description. The companies given here were chosen on the basis of clarity and comprehensiveness. These descriptions are not direct translations and have been edited to illuminate points which are relevant to this chapter.

**COMPANY M**

**Business of Company**

Car industry.

**Date of raising retirement age and new retirement age**

1977, retirement age = 60.

**Revisions to wage and promotion systems after the previous retirement age.**

In this company the revisions differed according to whether the worker was a member of the managerial staff or not. In fact, the managerial staff did not have their retirement age extended. Furthermore non-managerial staff are divided into two groups - a) general workers (probably non-skilled) and b) workers belonging to the grade system (skilled and supervisory).

After the previous retirement age (55), general workers continue to do the same job and receive the same wages. Graded workers loose their grade and become general workers at the age of 55. They also lose their grade allowance (ie. wages are reduced). Both groups have *teishō* stopped. Base-up for both groups is 50 percent of the level for general workers who are below 55, if they are 55 or 56. After 57 years of age, base-up is also stopped. The severance pay multiplier is extended for another five years. If the worker quits the company after 55, retirement severance pay is paid. In other words, there are early retirement provisions.

At 55, managers undergo a re-appraisal exercise. Each manager is given an appraisal rank and the employment contract is renewed (*saikoyō*) on terms depending on the allocated appraisal rank. The top rank continue to do the same job and receive a salary amounting

to 90-100% of their pre-55 salary. The next rank down stay on the same grade but lose the managerial position. The salary ranges from 70 to 80% of previous salary. The third rank manager becomes a general worker (ie. loses grade and managerial position) and receives 60% of previous salary. The lowest ranking manager receives the same treatment as a third rank manager, but only receives 50% of previous salary. Reasons given for not raising the retirement age of managers are the following: a) a higher retirement age will hinder the practice of *shukkō*, which this company uses extensively; and b) the company has not revised its practices enough to avoid managerial stagnation. It is intended to push up the retirement age of managers in the future, by allowing early retirement which would facilitate *shukkō* and by increasing the amount of ability pay in managers' pay before the age of 55.

**General revisions to personnel and wage systems**

The perceived goals of reform and problems which need solving are shown below. These are described in a vague and repetitive manner in the original case study, but give some idea of the comprehensive nature of the problems.

1)   The business environment and technology facing the firm is changing rapidly and therefore, the firm must have a flexible organisation.

2)   The employee age structure, organisation of the company and work categories have all been pyramidal structures. With the ageing of the employee structure, these pyramidal structures will lead to contradictions in the concepts and reality of personnel management, which will result in a loss of morale. Disaffected middle-aged workers might emerge.

3)   The economy has moved into an era of low growth (compared with the high-speed growth era) and therefore decisions regarding

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not just quantity expansion, but the development of new areas of business and new technology are needed. Therefore specialist knowledge needs to be used to the full.

4)    The ageing of the workforce and the higher levels of education of the workers means that the amount of ability extant within the company will increase.

5)    The company needs to have a flexible organisation which allows the use of high ability people to the full.

6)    Managerial posts and promotion need to be separated for the reason given in 5 above and promotion needs to be flexible.

The policies adopted to solve these problems are as follows (not necessarily in the same order):

1)    The organisation will not be based purely on a pyramidal structure. Topics and problems will be solved by groups made up of specialists from several departments and fields. The work assigned to these groups will be called topic work. Operations will be run by a general works department (ie. a specialist operations management section).

2)    The policy of weakening the *nenkō* nature of promotion will be clarified through the increasing use of ability appraisal for personnel management purposes. This will be achieved by establishing an independent ability grade system. A parallel grade system for supervisory and specialised staff will also be set up. Promotion to posts and grades will be decided on the basis of performance appraisal.

3)    Introduce an ability development system which is linked to the ability levels mentioned in 3).

I shall not describe the topic groups in any more detail. They are essentially a form of *senmonshoku seido* which enables promotion through grades without promotion to a specific managerial post. In other words, a specialist management system and a parallel grade

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system have been established. The supervisory grade system was established in order to "give a ranking of positions within the company to workers which have the ability to perform work of a managerial kind" (p 140), but are not promoted to managerial positions, because there is a dearth of such positions. This avoids the problems with the general managerial promotion system which would occur with ageing. A select few will become managers in the old sense and other older employees will be assigned to specialist grades and can become supervisors of topic groups.

The ability promotion system is based on promotion through set levels. Each type of work is assigned ability levels. General workers are assigned to levels and are moved up one level each 2 or 3 years. Workers on the supervisory grade system (ie. graded workers) progress up an ability level every 4 or 5 years and promotion to another ability level occurs automatically with a grade promotion. Generally, promotion through the ability levels is not automatic, however. The worker must fulfil certain conditions before promotion is allowed. Thus, it is possible for a worker to remain on the same ability level regardless of the number of years already spent on that level. After the age of 55 there is no ability level promotion.

The introduction of an ability promotion system allows the use of ability pay. This would mean that if ability falls then wages should fall. The company cannot avoid a strong *nenkō* element in wage determination, however, since it is required by Japanese society in general (p 141). Wages are composed of basic pay, additional ability pay and a grade allowance. The following describe the methods for determining each component of pay.

1) Basic pay is determined by ability and length of service. The

calculation of the length of service includes years for schooling. For example, a university graduate with ten years of work in the company is given a length of service of 18 years, 8 of which are given for being a university graduate. Each ability level is represented by a number of points. The lowest possible number of ability points is 50 and the highest 100. The amount of pay for a person who never acquires more than 50 points then rises according to length of service. After 29 years of service (age of standard employee = 43), the marginal increase declines and then stops after 40 years of service (age of standard employee = 55). Thus, wages stop rising when ability points are equal to 100 and length of service is equal to 40.

2)    Additional ability pay is determined according to ability level. At age 55 and 56, the increase in additional ability pay that occurs with the pay round discussions each year (ie. base-up) is reduced to half the amount of that of a person of less than 55 years of age. After the age of 56, there is no increase in additional ability pay.

3)    A grade allowance is paid according to supervisory grade. Supervisory grades are dropped at the age of 55 and the grade allowance is no longer paid.

At special times, an adjustment amount is also paid on top of basic pay (possibly performance related, although it is not clear from the case study). The adjustment pay amount is calculated by multiplying basic pay by a multiplier. The multiplier is decreased with each marginal year of age over 55. In the example given, the multiplier for those below 55 was 0.22597 and was 0.04475 for workers of 59 years of age.

Retirement severance pay is calculated by multiplying monthly pay

at the point of retirement by a multiplier based on the length of service and by a fixed coefficient. The length of service multiplier stops rising after 35 years of service and between 31 and 35 years of service rises very little. A university graduate entering the company at 22 would find that, after the age of 55, the multiplier would stop rising. Also wages after 55 decline if the worker is graded (since he loses his grade allowance). Wages for general workers also stop rising after 55 and in real terms fall, since base-up is not maintained at full levels.

In summary, the company has attempted to solve managerial stagnation through the introduction of a non-managerial grade system with promotion decided through appraisal. Early retirement provisions have been provided and *shukkō* of managers has been practised for a long time. The problem of natural increases in wages has been lessened through the use of pay based on ability as well as length of service.

**COMPANY O**

This company is of particular interest, because it carried out *teinen enchō* very early. The terms of extending the retirement were very generous compared with the revisions which other companies carried out. With the oil shocks and recession during the 1970s, however, the company had to revise the employment practices for older workers.

**Business of Company**

Textile industry.

**Date of raising retirement age and new retirement age**

1966, retirement age = 60.

**Revisions to wage and promotion systems after the previous retirement age.**

At age 55 the job category and grade of the employee were re-evaluated. The re-evaluation was not automatic, according to the case study. This appears to mean that the job and grade of a worker was only re-evaluated if the worker was not able to continue with the previous job. Wages were equal to the average wages for the grade to which the worker was assigned after re-evaluation, which would amount, on average, to 80% of wages before reaching 55, but with a range of between 70 and 100%. The worker only received *teishō* after 55 with promotion. *Nenkō* type *teishō* was stopped. Base-up was 80% of the base-up given to workers under 55. Retirement severance pay was paid at age 55. In 1973, after requests from the union, the company abolished the re-evaluation of work grade, so that there was no adjustment of wages after the age of 55. The employees faced a continuous wage system up to the retirement age of 60.

With the oil shock in 1973 and the rise in the value of the yen, the company had to resort to emergency measures which included selling land and securities, stopping new hiring of workers and transferring employees to other companies. After making losses in 1975 and 1977, the company adopted survival plans. One of the plans consisted of reforms in practices to deal with ageing. The reforms to deal with ageing consisted of the following:

1) Set up a subsidiary company (a service company) which carries out suitable work for older workers. Employment conditions were to be independent of conditions in the parent company.

2) Treatment of workers over 55 was to be the same as in other companies belonging to the same industry.

3) Early retirement provisions to be available for those over 45 years of age and help provided for changing jobs.

Wage and personnel adjustments for workers over 55 were re-introduced. Appraisal was made of the ability, performance, health and desire to work of the employee and transfer to another job was carried out if necessary. Wages were reduced to between 70 and 78% of the wages paid before the employee reached 55, depending on the individual. Another re-appraisal before reaching 60 was possible, but wages could only be reduced to 90% of the wages before the second appraisal occurred. Grade re-appraisal was also re-instituted and could be performed more than once. In principal, managers were expected to relinquish their post on reaching the age of 55. Base-up was to be 80% of the amount that corresponded to basic wages and grade of the worker. No retirement severance pay was to be paid for the period of work after the age of 55.

**General revisions to personnel and wage systems**

The company introduced a grade system in 1966 along with *teinen enchō*, but it was not introduced to deal with the problem of an ageing employee structure which was a consequence of *teinen enchō*. Concurrent with the reform of employment practices for older workers described above, however, the grade system was also revised to deal with the middle-aged workers. The revision was based on the "necessity of maintaining a balance between jobs and wages, achieved through weakening the *nenkō* elements in conditions of employment" (p 158).

There are five job levels. Seven grades are instituted and linked to job level. Promotion through the grades is dependent on the number of people already assigned to the grade in question and is dependent on the proportions of people in each grade. For people who were re-allocated or transferred to another company (*shukkō*), the present grade is maintained for a fixed period of two years. After

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two years the worker is treated according to his newly assigned grade.

In order to dampen the rise in wages with age, there is an upper limit to the wage level for each grade. The upper limit is set with living costs in mind and it is guaranteed that wages greater than minimum living costs would be maintained. The company believes that living costs peak between the age of 45 and 49, so in order to stop wages rising continuously after peak age, grades and wages are managed according to the age group to which the worker belongs. For those under 50, there is one type of basic pay, with an upper limit. For those between 50 and 55, there are three types of pay – two basic pay amounts and adjustment pay. The first basic pay has an upper limit corresponding to the wage for the job within the textile industry. The limit on wages when the two basic pays were combined is the same as the limit for workers under 50. It is not clear from the case study exactly what the second basic pay amount is for, though it is possibly paid only to workers assigned to the higher grades. Adjustment pay seems to be wages paid to maintain the wages of a worker who was on wages above the upper limit for the 50-55 age group before reaching 50. Adjustment pay is paid for a fixed period. After the age of 55, there is one basic pay, the upper limit of which is the same as the upper limit on the first type of basic pay for those between 50 and 55 – see Figure 6A.1 below.

Figure 6A.1 showing the determination of pay for different age groups
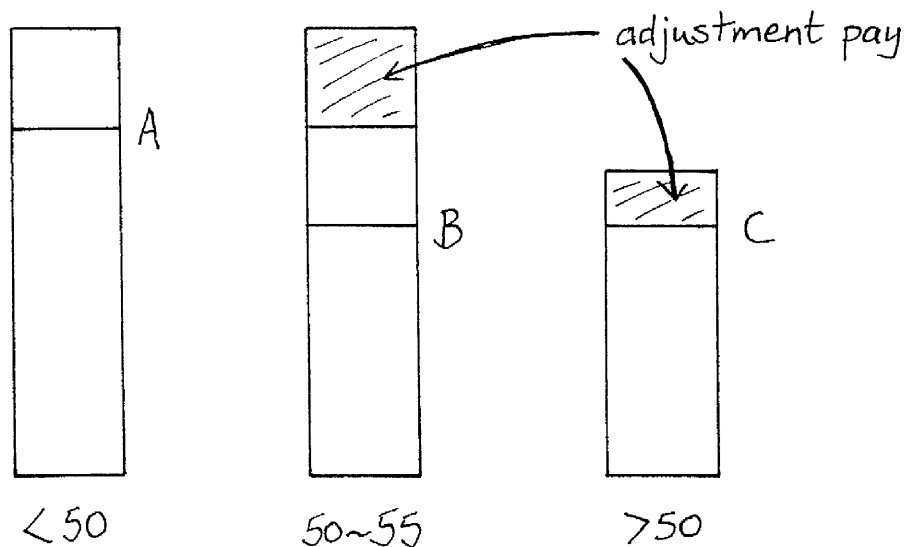


If the worker has not proceeded to the higher grades by the age of 50, then wages are limited to point B, whereas they would be limited to the higher amount at point A if they were below the age of 50. After the age of 55, regardless of grade, wages are limited to point C (= B).

In 1966 a company pension was set up. Workers would be paid a lump-sum payment and a pension. The payment amount was calculated by multiplying the wage at retirement by a multiplier based on length of service.

In summary, this company was initially ambitious in treating workers over 55 in the same way as those under 55. With slower growth and a rapidly ageing work force, which itself was a consequence of a

slow-down in hiring, the company had to introduce measures to limit the wages of older workers and weaken the *nenkō* nature of employment practices. This was achieved primarily by placing direct limits on wage levels for each grade according to age. It is not clear, however, whether promotion through grades was determined by the length of service of the employee. If such were the case, then *nenkō* elements would not have been substantially reduced. Promotion to a higher grade was considered only when the proportions in each grade was deemed to be suitable. In view of the fact that the workforce age structure was ageing, however, promotion under these conditions could not have been wholly determined by length of service.

## COMPANY J

This company totally revised its wage and personnel management systems at the same time as raising the retirement age. *Teinen enchō* was viewed as one part of, and inseparable from, the other revisions, although the revisions were not carried out solely to cope with an ageing workforce. It was felt that, with the advent of slower, more stable economic growth and population ageing, the best way to support the standard of living for workers was to improve productivity. Improvements in productivity would be achieved through clarifying the contents of jobs, developing workers' ability and paying workers in proportion to their ability. The company had not previously had a clearly-defined wage and promotion system. Wages were determined by age, irrespective of the job the worker was doing. The general revisions, and revisions made that apply only to older workers, will not be described separately in this case.

## Business of Company

Precision instruments.

**Date of raising retirement age and new retirement age**

1979, retirement age = 60.


**General revisions to wage and promotion systems and revisions to
these systems for workers past the previous retirement age.**

The five goals of the revisions were the following:

1) establish systems to reward ability;

2) reduce the burden of labour costs through the introduction of
a new wage system;

3) support life-time employment and Japanese values as far as is
possible;

4) establish a work plan system; and

5) revise customs.

The revisions that were carried out to deal with these goals were:

1) An ability development system. This comprises training and
education policies, job rotation and the laying down of
requirements for promotion through the grades. Courses were
set up specifically for older workers (over 50 years of age)
to help them retrain or gain new qualifications which would be
necessary for finding a new job after retirement from the
company. Fees for attending approved courses are paid.

2) The establishment of a grade system. Pre-requisites for
progression to each grade were established. The shortest
number of years for staying in one grade is fixed and a limit
is set on the number of years in each grade over which wages
rise (in other words, limits are set on the level of wages for
each grade). Standards necessary for each grade relating to
performance and ability are clarified. As well as the orthodox
management posts, there are also positions such as (topic)
group leaders. These positions are graded rather than given a
managerial post name. After transfer to another job, the new

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grade is decided according to job evaluation and the age of the transferee.

3) A revision of the worker appraisal (*jinji kōka*) system. Appraisal is used for determining bonus, pay raises and grade promotion. The company plans its operations each year. Workers then are assigned specific goals that need to be achieved and are appraised on the results. Workers are also appraised on attitudes and ability. The results of appraisal are given as a number of appraisal points. The appraisal also throws light on development needs of the individual worker.

4) The establishment of a job evaluation system.

5) A new wage system. Prior to overhaul, total wages consisted of basic pay and various allowances. The determination of basic pay was not clear and depended largely on age and length of service. Under the new system, basic pay comprises three types of pay: a) personal pay; b) job pay; and c) ability pay. Personal pay is based on living expenses, which are determined by reference to standardised living expenses tables. These tables show that the peak age for living expenses is around 50, so the company wished to reduce the absolute amount of personal pay after this age. The unions strongly objected however, so the company started negative *teishō* after the age of 57. Negative *teishō* was not introduced to suppress the wages of middle-aged workers. Rather, it was introduced to be consistent with the concept of personal pay providing a high enough level of wages to meet living expenses.

Job pay is determined by job evaluation. Each job is assigned a job grade. Within each job grade, there are increments through which the worker rises as length of service increases. If a worker is moved to another job and the job grade is

lower, the company will make up the difference in pay for one year. This transfer subsidy does not apply to workers over 55. The company has a managerial post retirement scheme. When a manager loses his post, his job grade is lowered and wages fall accordingly. Other workers are re-appraised at age 57 and if the new job grade is lower, again job pay is reduced.

Ability pay is paid according to ability grade. Within each grade there are yearly increments. For a set number of years, pay rises steeply as the worker progresses through each increment within the grade. After the set number of years, the incremental pay rises are reduced to 60% of the previous level. After five years of reduced increments, incremental pay rises are stopped. If the worker progresses to a higher ability grade, yearly increments are started again. Ability pay is reduced each year for people over 57. For 57 year olds, ability pay falls to 76% of previous level. For 58 year olds, ability pay falls to 94% of the level that it was when the person was 57 and so on. These pay reductions were felt to be a better way of reducing wages than by forcing older workers into a lower grade, since demotion might be viewed as a punishment and hence be bad for morale.

The drop in personal pay after 57, along with a drop in job grade, managerial post retirement and drops in ability pay are calculated so that under model conditions, the wages of workers between the ages of 57 and 59 will amount to 75% of the highest level of wages paid to them. The intention is to give the following weights to each component of basic pay: a) personal pay = 50%; b) job pay = 25%; and c) ability pay = 25%.

6) The raising of retirement age. Early retirement provisions are available for workers between the age of 50 and 57 with more than 15 years of service to the company. The amount of retirement severance pay is equal to the amount that would have been paid if the worker had left the company at age 57. The multiplier for severance base pay continues to increase after the age of 57, but because wages fall after the age of 57, the severance base pay amount is frozen at the 57 year old point. Managers relinquish their post at age 57 for a *buchō* and 55 for lower managerial positions.

7) A re-employment system for retirees. For retirees with special skills, there is contract renewable yearly. Wages are equal to 80% of the state pension that the worker would be able to receive.

8) The distribution of bonus by results.

9) The establishment of a company pension scheme. One quarter of retirement severance pay has been transformed into a pension, payable for 15 years.

In summary, it appears that this company has introduced grade systems in order to increase efficiency and still relies on qualifying the system for workers over a set age in order to reduce wages and stop managerial stagnation. This case study also demonstrates that is often difficult to disentangle changes in employment practices made because of ageing and those made for other reasons.

## CHAPTER 7  JAPANESE EMPLOYMENT PRACTICES, POPULATION AGEING AND THE MACRO LABOUR MARKET

### Section 1  Significance of this chapter

In Chapters 3, 4, 5, and 6 I examined the employment practices of Japanese companies, the rationale behind the adoption of such employment practices and the response of Japanese companies in relation to their employment practices to the advent of population ageing, respectively. I concluded that firms have adopted these employment practices because they are the most efficient practices for motivating employees. I also proposed that these efficient practices required a young population age structure within the company and that companies would attempt to control the age structure rather than change employment practices. Although companies have moved to new wage and promotion systems to some extent, I also showed in Chapter Six that companies have instituted schemes for regulating the age structure of employees. Evidence of firms' desire to maintain a young age structure was given in the form of a description of firms' response to the cyclical downturns following the first oil shock.

It is my intention in this chapter to analyse the effect of the combination of Japanese employment practices and population ageing on the macro labour market. Primarily, I am concerned with the behaviour of the rate of unemployment, which I believe will rise as a consequence of population ageing. A rise in unemployment reflects an inefficient use of resources and a rise in the dependency rate: it can be expected to have in impact on future economic growth, as well as on the role of government. It is ironic that large companies' pursuit of efficiency may lead to the inefficient use of labour resources, from a macroeconomic perspective. Chapter Eight

will describe the Japanese government's attempt to improve the workings of the labour market through various intervention policies.

Before more specific analysis, I would like to quote the following from Creedy (1981 p 18):

> In addition to their influence on the stock of unemployed through the scale of hiring and firing, firms will affect the composition of the stock because of preferences for the particular sorts of workers that they hire and fire.

Another quote from Creedy (1981 p 26) is also enlightening:

> How far the stock of unemployed rises when there are redundancies depends on the overall state of the labour market and on the composition of redundant workers. Some workers, such as older persons and married women may withdraw from the labour force. Furthermore, the skill composition of those joining the unemployed will influence the duration patterns.

With respect to the first quote, it is useful in that it states quite clearly just how important it is to analyse firms' behaviour in order to have an understanding of the causes of unemployment and also to derive a clear picture of the *composition* of the unemployed. In this chapter, however, I am primarily concerned with the behaviour of unemployment in relation to changes of *labour supply* under conditions of static product demand, although I will attempt to discuss the impact of changes in aggregate demand as well. The second quote asserts that the composition of the unemployed will also be important in determining the aggregate unemployment rate. Thus, if the number of older workers becoming unemployed grows and that of other age groups declines, we might expect the unemployment rate to fall since older workers tend to leave the labour force. On the other hand, older workers tend to have a longer duration of unemployment, leading to a net increase in the stock of unemployed.

These factors are discussed in detail in the following sections.


**Section 2   The search for an analytical framework**

**Sub-section 2.1 A discussion of common approaches used to explain**
**unemployment and an explanation of the methodology**
**adopted in this chapter**

In recent years, following the rise of unemployment rates in most
industrialised countries including Japan, economists have tended to
stress two main approaches for reaching a satisfactory explanation
of this trend. The first approach stresses    the rise in the
natural rate of unemployment. The natural rate of unemployment is
a theoretical construct and cannot be measured. It refers to the
rate of unemployment that will occur when the labour market is in
equilibrium. It is assumed that unemployment exists even when labour
market equilibrium is reached because information is imperfect and
because individuals will take time to acquire new skills or to move
from one geographical area to another. In a dynamic economy, there
will be a constant flux of employees between different companies,
sectors and regions. With imperfect information, this transfer
process takes time, resulting in unemployment. The second approach
stresses nominal wage and price rigidities that are a result of
rational economic decisions. An example of such an approach is the
efficiency wage hypothesis that asserts that firms do not adjust
nominal wage levels following an aggregate demand shock for fear of
reducing the average productivity of their workers (through loss of
morale or increased staff turnover). Such nominal wage rigidity
leads to demand-deficient unemployment which can be reduced through
government policies to stimulate aggregate demand. In contrast to
this approach, the natural rate of unemployment approach denies the
effectiveness of aggregate demand policy and results in the policy
prescription of increasing the efficiency of labour transfer through

the provision of more information in the labour market and subsidised retraining. Finally, a more eclectic approach also exists, known as U-V analysis. This approach allows for the existence of both a natural rate of unemployment and demand-deficient unemployment - it can be used to disaggregate unemployment figures into the two main types of unemployment.

As regards the impact of population ageing on the macro unemployment rate, there is very little material. The usual approach is to calculate the effect of population ageing on the size of the labour force. Labour force participation rates are taken as given and the projected numbers in each age group are then multiplied by the participation rates to yield an aggregate level of labour supply. Future labour demand is calculated using an empirical estimation function. Net labour demand is calculated by subtracting the labour supply estimate from the labour demand estimate. Such a study was carried out by the Japan Development Bank (Nihon Kaihatsu Ginkō 1992). This study used an estimated Cobb-Douglas function for the whole economy, taking the GDP growth rate, factor productivity, the capital stock growth rate and the average hours worked per person as given. Labour force participation rates were fixed at the 1990 level. It was estimated that excess labour demand would reach 3,430,000 (approximately 5% of estimated labour force) people by the year 2000. Clearly, such an estimate is very sensitive to the assumptions made with respect to the GDP growth rate. The study also included other estimates based on differing scenarios, all of which gave an unemployment rate of approximately 2%.

It is not necessary to discuss the merit of the various scenarios, since the approach is flawed. Such an approach assumes that labour of different age groups are perfectly substitutable, so that the

productivity of an older person is the same on average as that of a younger person. I have already discussed the hiring decisions of Japanese firms, which show clearly that workers of different age groups are not substitutable in the eyes of company personnel managers. Furthermore, the study assumes that labour force participation rates are invariant with respect to the population age structure. Once the assumption that workers of different age groups are not perfectly substitutable is accepted, it becomes feasible to separate the labour market into several labour markets corresponding to different age groups. With such segmentation of the labour market, it is possible for there to be a situation of excess demand in one labour market and excess supply in another, as supply in the different age groups changes. Excess demand in one segment will lead to an increasing labour force participation rate and to a falling participation rate in the segments that experience a rise in supply (the discouraged worker effect). It is quite feasible that a fall in unemployment in the excess demand market will be outweighed by the rise in unemployment in the excess supply market. Thus, even in times of a macro labour shortage, the macro unemployment rate can rise. It might be asserted at this point that each segmented labour market will clear through adjustment in the wage levels received by each age group. Because of the efficiency age structure hypothesis explained in Chapter Five, however, wages and age structure in internal labour markets will tend to remain within certain limits, whilst wages will adjust in secondary labour markets. Employment in secondary labour markets is less secure, however, so the natural rate of unemployment can be expected to change. As the general population ages, for a given level of aggregate demand, excess demand in the 'young' labour market will increase, as will excess supply in the 'old' labour market. Excess supply in the 'old' labour market will lead to a fall in relative wages throughout the whole

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of the 'old' labour market, but older workers will also find themselves in jobs with less security and, hence, will tend to become unemployed more often than if they had been able to remain in the internal labour market from which they were cast.

The above paragraph describes how unemployment will rise concomitant with population ageing. Other developments may soften the rise in unemployment. For example, rising old age pension levels and early retirement provisions may lead to reductions in labour force participation rates for older workers. A rising unemployment rate amongst older workers may also reduce the participation rate through the discouraged worker effect, as was mentioned above in the second of the quotes from Creedy. It is also possible that older workers will tend to become self-employed if conditions in their segment of the macro labour market worsens. Self-employment may become more likely if there is a growing proportion of older people with sufficient assets to enable them to secure loans for business development. In other words, because of the behaviour of Japanese firms it is expected that the flow into unemployment will increase amongst older workers, but it is also feasible for the flow out of unemployment to rise. In fact, some older workers may leave the labour force when they leave their job. So, in attempting to estimate the impact of population ageing on unemployment, it is necessary to consider the factors affecting the flows out of, as well as into, the unemployment pool.

It is clear from the above discussion that a more formal approach is required to analyse the future impact of population ageing on the macro unemployment rate in terms of flows into and out of the pool of unemployment. The following presents a more formal framework and is based mainly on a paper by Marston (1976), but also relies on

Ehrenberg and Smith (1988) and Mizuno (1982). This formal framework is independent of the type of unemployment that is thought to exist.

## Section 3    The unemployment flow approach

The stock of unemployed at any time is given by multiplying the number of people entering the unemployment pool in one particular period by the duration of unemployment. This calculation is analogous to multiplying the number of first year students by the length of the degree course to derive the total number of students in the university. Thus, U, the stock of unemployed, is given by

$$U = D(NU + EU) \tag{7.1}$$

where: $D$ = duration (measured in a particular unit of time, often months); $NU$ = the number of people flowing from outside the labour force (non-labour force participation) into the unemployment pool; and $EU$ = the number of people flowing from employment into the unemployment pool.

Clearly, if the flows remain the same, but the duration rises, so will the stock of unemployed. The duration of unemployment will depend on the probability of leaving the unemployment pool. If 20% of the unemployed leave the unemployment pool per period of time, the probability of leaving the unemployment pool will be 20%. Therefore, it will take five periods for all the new entrants to leave the unemployment pool. Thus the duration of unemployment is given by

$$D = \frac{1}{(ue + un)} \tag{7.2}$$

where: $ue$ = the probability of finding employment and $un$ = the probability of deciding not to leave the labour force. Both $ue$ and $un$ are also called transition rates, because they show the rate at

which  people change from one state to another (eg *ue* is the rate
at which unemployed people find employment – the meaning of these
rates is described in detail in the notes to Table 7.1 below). It
would now be possible to analyse the effects of population ageing
on the unemployment rate, by examining the likely future behaviour
of EU, NU, *ue* and *un*, but other flows and transition rates cannot
be ignored. For example, the transition rate of flowing from
employment to non-participation will affect the transition rate
flowing into unemployment, rather than finding a job immediately.
The higher is this transition rate, the lower will be the number of
people entering the unemployment pool. Thus, we need to derive a
more comprehensive means for determining the unemployment rate.

First, a summary of all possible flows is necessary. Table 7.1 shows
all the possible transition rates. Figure 7.1 that follows is a
diagrammatical representation of the transition rates.

Table 7.1 showing possible transition rates.

|  | $E_t$ | $U_t$ | $N_t$ |
|---|---|---|---|
| $E_{t-1}$ | ee | eu | en |
| $U_{t-1}$ | ue | uu | un |
| $N_{t-1}$ | ne | nu | nn |

Notes:   E = the stock of the employed, U = the stock of
unemployed and N = non-participants in the labour force.
The transition rates are given by dividing the number
flowing from one state to another by the number in the
original state before the flow occurred. For example, *ue*
= $UE/U_{t-1}$, where UE is the number of unemployed, U, in
period t-1 who became employed by time t. The direction
of flow is from the first letter of the transition rate
to the second. For example, *ue* is the transition rate
from U to E, that is from unemployment to employment.
The rate *nu* is the rate of transition from N to U, that
is, the rate of transition from non-labour force
participation to unemployment.

Figure 7.1 showing all possible labour market transition rates
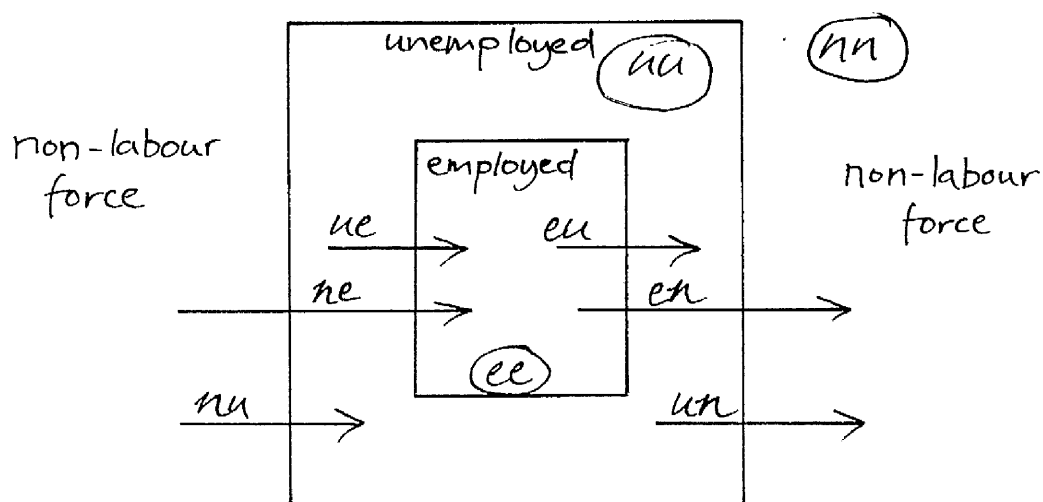
Note:      The transition rates enclosed by a circle are the
           transition rates of not chan.    labour market status.

Marston (1979) developed the tool for examining the effect of
changes in the transition rates shown in Table 7.1 on the rate of
unemployment by first making the assumption that the unemployment
rate is static. In other words, the numbers flowing into
unemployment are equal to the number flowing out of unemployment,
and the size of the labour force is static. Such an analysis is
analogous to the stable population analysis described in Chapter
Two. This enables us to write the following identity:

$$eu.E + nu.N = (ue + un)U \qquad (7.3)$$

which shows that the number who become unemployed is equal to the
number leaving unemployment. The converse of this situation in the
unemployment pool is that the number entering employment will be
equal to the number leaving employment, given the assumption of a
constant labour force participation rate. Thus, the following will
also hold:

$$ue.U + ne.N = (eu + en)E \qquad (7.4)$$

With these two equations, it is possible to derive an expression for the rate of unemployment, which is given by

$$u = \frac{U}{(U + E)} \qquad (7.5)$$

where $E$ = the stock of employed people.

We can use Equation 7.3 to find an expression for $N$ and then substitute $N$ into the Equation 7.4. This gives the following equation:

$$ue.nu.U - eu.ne.E = (eu + en)nu.E - (ue + un)ne.U \qquad (7.6)$$

which can be rearranged to give:

$$[ue.nu + ne(ue + un)]U = [eu.ne + nu(eu + en)]E \qquad (7.7)$$

If the Equation 7.7 is rearranged, an expression for $E$ is given by the following:

$$E = U\frac{[(ne + nu)ue + ne.un]}{[(ne + nu)eu + nu.en]} \qquad (7.8)$$

This Equation 7.8 can now be substituted into the expression for $u$ (Equation 7.5) and simplified to give:

$$u = \frac{1}{1 + \left[\dfrac{(ne + nu)ue + ne.un}{(ne + nu)eu + nu.en}\right]} \qquad (7.9)$$

This equation shows that, *ceteris paribus*, an increase in $eu$, $en$ and $nu$ will lead to increases in the unemployment rate while *decreases* in $ue$, $un$ and $ne$ also will lead to *increases* in the unemployment rate. Increased departure rates from firms will increase $eu$ and $en$, although it is difficult to say which transition rate will be affected the most. The higher pension benefits are, the more likely retiring older workers will move from employment to non-participation, rather than into the unemployment pool. Increased

possibility of employment is likely to increase the *nu* transition rate. It is possible, however, that the *nu* transition rate will not change and that a more favourable labour market for older people will result purely in increase in the *ne* rate. In either case, the unemployment rate will fall. If *eu* is rising, *ue* is likely to be falling, unless the rise in *eu* purely reflects an increase in labour turnover amongst the older age groups. An increase in the rate of becoming self-employed amongst older workers would raise *ue*. Finally, *un* can be expected to rise if finding a job becomes more difficult (discouraged worker effect) or non-work income (pension benefits) rises, but the latter factor is more likely to affect *en* than *un*.

With this formal framework it is possible to make statements regarding the future unemployment rate for older workers. Anything that is likely to affect the transition rates will affect the unemployment rate of older workers. If the unemployment rate for older workers is rising whilst the proportion of the labour force represented by older workers is also rising due to population ageing then the aggregate unemployment rate will also be increasing. It is necessary now to investigate in more detail the factors that affect the various transition rates to ascertain whether they will conspire to increase the unemployment rate of older workers or not. First, however, a survey of the trends in unemployment rates in Japan and other labour market indicators will prove useful.

**Section 4  Unemployment and labour market conditions in Japan since 1965**

**Sub-section 4.1  A general description**

Table 7.2 below gives a summary of important macro labour market statistics. It is clear from the table that although labour force participation rates have been declining gradually over twenty years, there has been a concomitant rise in the aggregate unemployment rate. Compared with rates in other OECD countries the aggregate unemployment rate is still low (Table 7B.4 in Appendix 7B gives some indication of unemployment rates in OECD countries). There has been some controversy over the comparability of unemployment rates between countries and several studies have attempted to provide comparable statistics by adjusting published figures to provide numbers calculated on a common basis (Sorrentino 1984, Taira 1983), but Kurosaka surveys these studies and concludes that the low unemployment rates are not a statistical artefact (Kurosaka 1988 pp 49 – 61). Appendix 7A to this chapter explains the definition of unemployment used in this chapter in detail and also surveys the studies that have attempted to compare Japanese unemployment rates with the rates in other countries. In this chapter, an unemployed person is anyone who wishes to work, is capable of work, is available for work, has looked for a job in the week before the labour force survey and has not worked even one hour in the week of the survey. Thus, a person who does not receive unemployment benefits but fulfils the above criteria is unemployed. This definition is the one used in the labour force survey (*Rōdōryoku Chōsa*) and the population census (*Kokusei Chōsa*) in Japan.

Table 7.2 showing macro labour market statistics.

| Year | Labour force partici- pation rate | Unemploy- ment rate (1) | Unemploy- ment rate (2) | Vacancy/job search ratio |
|------|------|------|------|------|
| 1965 | 65.7 | 1.19 | 1.94 | 0.64 |
| 1966 | 65.8 | 1.33 | 2.12 | 0.73 |
| 1967 | 65.9 | 1.26 | 2.01 | 1.00 |
| 1968 | 65.9 | 1.17 | 1.84 | 1.12 |
| 1969 | 65.5 | 1.12 | 1.75 | 1.30 |
| 1970 | 65.4 | 1.14 | 1.75 | 1.41 |
| 1971 | 65.0 | 1.23 | 1.84 | 1.12 |
| 1972 | 64.4 | 1.40 | 2.06 | 1.16 |
| 1973 | 64.7 | 1.28 | 1.85 | 1.76 |
| 1974 | 63.7 | 1.37 | 1.97 | 1.20 |
| 1975 | 63.0 | 1.88 | 2.67 | 0.61 |
| 1976 | 63.0 | 2.01 | 2.83 | 0.64 |
| 1977 | 63.2 | 2.02 | 2.84 | 0.56 |
| 1978 | 63.4 | 2.24 | 3.16 | 0.56 |
| 1979 | 63.4 | 2.09 | 2.93 | 0.71 |
| 1980 | 63.3 | 2.02 | 2.79 | 0.75 |
| 1981 | 63.3 | 2.21 | 3.03 | 0.68 |
| 1982 | 63.3 | 2.36 | 3.21 | 0.61 |
| 1983 | 63.8 | 2.65 | 3.66 | 0.60 |
| 1984 | 63.4 | 2.72 | 3.64 | 0.65 |
| 1985 | 63.0 | 2.62 | 3.49 | 0.68 |
| 1986 | 62.8 | 2.77 | 3.67 | 0.62 |

Source:    Kurosaka (1988) p 27, Table 1.2 and p 28, Table 1.3.

Table 7.2 (cont.):

Notes:    Unemployment rate (1) corresponds to the *kanzen shitsugyōritsu* and gives the macro unemployment rate calculated by dividing the number of unemployed by the number in the labour force, including the self-employed and family employees.
Unemployment rate (2) corresponds to the *koyō shitsugyōritsu* and gives the unemployment rate calculated by dividing the number of unemployed by the labour force, excluding the self-employed and family workers. This second rate is calculated because it is assumed that the self-employed tend to represent surplus labour.
The vacancy-job search ratio corresponds to the *yūkō kyūjin bairitsu* and shows the ratio of vacancies to job searchers recorded by the Labour Exchanges in Japan.

This ratio also indicates the development of a looser labour market, particularly after the first oil shock in 1974. It is also striking that the labour market indicators do not improve during the next 12 years after the oil shock. These developments in the macro labour market are no different from those in many other OECD labour markets following the first oil shock, but before attempting to put forward any explanations, a more disaggregated examination of the labour market will throw light on the subject. In accordance with the nature of this chapter, special emphasis will be placed on the labour market conditions for different demographic groups, in particular the older age groups.

## Sub-section 4.2 Disaggregating the macro labour market statistics according to gender and age.

**a)** **Labour force participation rates and unemployment rates disaggregated by gender**

Table 7.3 shows the labour force participation rates and unemployment rates disaggregated by gender. The female labour force participation rates and unemployment rates rise and fall together. This can partly be explained by the propensity for women to leave the labour force rather than register as unemployed (Eguchi 1988; Ono 1981, 1989) in cyclical downturns. Thus, labour force participation rates and unemployment rates become strongly correlated because of the common link of macro-economic cycles. Recent attempts in explaining the behaviour of the aggregate unemployment rate have also cited the secular rise in female labour force participation rates as one of the major factors, particularly since female labour force participation rates seem to have become less affected by conditions in the labour market (Eguchi 1988; Kurosaka 1988 p 42). The male unemployment rate has risen in spite of a secular decline in labour force participation of almost 4%, although it is possible that participation rates have fallen because of the rise in unemployment.

Table 7.3  Labour force participation rates and unemployment rates
disaggregated by gender

| Year | Male LF Partici-pation Rate | Male Unem-ployment Rate | Female LF Partici-pation Rate | Female Unemploy-ment Rate |
|------|------|------|------|------|
| 1965 | 81.7 | 1.11 | 50.6 | 1.31 |
| 1966 | 81.7 | 1.26 | 50.9 | 1.44 |
| 1967 | 81.6 | 1.17 | 51.2 | 1.41 |
| 1968 | 82.1 | 1.21 | 50.7 | 1.15 |
| 1969 | 81.9 | 1.16 | 50.1 | 1.10 |
| 1970 | 81.8 | 1.21 | 49.9 | 1.04 |
| 1971 | 82.2 | 1.29 | 48.8 | 1.15 |
| 1972 | 82.1 | 1.49 | 47.7 | 1.26 |
| 1973 | 82.1 | 1.32 | 48.2 | 1.18 |
| 1974 | 81.8 | 1.42 | 46.5 | 1.30 |
| 1975 | 81.4 | 1.98 | 45.7 | 1.71 |
| 1976 | 81.2 | 2.20 | 45.8 | 1.69 |
| 1977 | 80.6 | 2.13 | 46.6 | 1.84 |
| 1978 | 80.3 | 2.38 | 47.4 | 2.02 |
| 1979 | 80.2 | 2.15 | 47.6 | 1.99 |
| 1980 | 79.8 | 2.05 | 47.6 | 1.97 |
| 1981 | 79.8 | 2.26 | 47.7 | 2.13 |
| 1982 | 79.5 | 2.39 | 48.0 | 2.31 |
| 1983 | 79.4 | 2.67 | 49.0 | 2.62 |
| 1984 | 78.8 | 2.68 | 48.9 | 2.77 |
| 1985 | 78.1 | 2.59 | 48.7 | 2.66 |
| 1986 | 77.8 | 2.73 | 48.6 | 2.80 |

Source:   Kurosaka (1988) p 27, Table 1.2 and p 28, Table 1.3.
Notes:    The unemployment rate here corresponds to the *kanzen shitsugyōritsu* and gives the macro unemployment rate calculated by dividing the number of unemployed by the number in the labour force, including the self-employed and family employees.

The figures might, however, show that the fall in participation rates have helped to mitigate the rise in unemployment. It is necessary to look at disaggregated labour force statistics to gain any insight into the reasons for a falling participation rate and a rising unemployment rate over time. First, I will examine the impact of ageing and changing labour force participation rates for different age groups. I will confine the examination to the male labour force only, since that is the object of study in this thesis.

## c) Male labour force participation rates disaggregated by age groups

It is possible to estimate to an approximate degree the role of demographic change and the role of changing labour force participation behaviour in determining the aggregate labour force participation rate. In the following analysis, the role of demographic change on unemployment is meant in a narrow sense: it means the effect of the changing proportions of age groups with differing specific labour force participation rates. For example, if participation rates for all age groups remain the same over time, an increasing proportion of the very young or the very old in the working age population will reduce the aggregate labour force participation rate, since these groups have a low labour force participation rate compared with other age groups. If the working age population age structure remains the same, but all age-specific labour force participation rates fall, then the fall in the aggregate labour force participation will be explained totally by the changing labour force participation rates. Thus, it is possible to calculate the contribution of the two trends to explaining changes in the aggregate labour force participation rate.

More formally, the aggregate labour force participation rate, $\lambda$, is given by:

$$\lambda = \sum_{1}^{n} w_i l_i \qquad (7.10)$$

where: $n$ = the number of age groups; $l_i$ = the age-specific labour force participation rate for the $i$th age group; and $w_i$ = the proportion of the total working-age population accounted for by the $i$th age group.

The change in $\lambda$ resulting from a change in $l$ or $w$ in any age group will be given by the following total differential

$$d\lambda = \frac{\delta \lambda}{\delta w} dw + \frac{\delta \lambda}{\delta l} dl \qquad (7.11)$$

and hence, a change in $\lambda$ resulting from changes in l and w in all age groups will be given by

$$\Delta \lambda = \sum_{1}^{n} l_i \Delta w_i + w_i \Delta l_i \qquad (7.12)$$

For the total differential to give accurate values, the changes in l and w need to be small and these variables should be independent of each other. It is not clear that the first of these two conditions hold in the following examination, since the years of comparison are ten years apart, leading to large potential changes in the variables. The second may not hold since a changing working age population structure may lead to changing labour market conditions, as a result of which, the labour force participation rate also changes, as explained above. Despite these problems, I feel that it is a useful exercise to attempt to disentangle the population effects and labour force participation rate effects on the aggregate labour force participation rate.

Two periods were taken for comparison. The first period was 1965 to 1975 and the second, 1975 to 1985. First, the population structure of the earlier year was held constant and multiplied by the age-specific labour force participation rates for the second year of comparison. The differences between the actual values for the second year and these calculated values were then summed to give a figure for the total effect on $\lambda$ brought about by changing labour force participation rates. The labour force participation rates were then held constant at those for the starting year of the comparison and multiplied by the age structure obtaining in the last year of the period. The difference between the actual values for the final year and these calculated values were then summed to give a figure for the total effect on $\lambda$ brought about by a change in the working-age population age structure. The two effects can then be compared to ascertain their role in changing the aggregate labour force participation rate. Tables 7.4 and 7.5 show the results.

Table 7.4 showing results of analysis to find the cause of changes in the aggregate labour force participation rate

| Age range | For the period from 1965 to 1975 | | | |
|---|---|---|---|---|
| | diff in popn. (%) | diff in LFP (%) | diff in λ if 1965 popn. | diff in λ if 1965 LFP rates |
| 15 to 19 | -5.75 | -15.3 | -2.38 | -2.22 |
| 20 to 24 | -1.55 | -8.0 | -1.02 | -1.35 |
| 25 to 29 | 1.42 | -0.1 | -0.01 | 1.39 |
| 30 to 34 | -0.46 | 0.3 | 0.04 | -0.45 |
| 35 to 39 | -0.30 | 0.3 | 0.30 | -0.30 |
| 40 to 44 | 2.43 | 0.1 | 0.01 | 2.39 |
| 45 to 49 | 2.58 | 0.1 | 0.01 | 2.53 |
| 50 to 54 | 0.17 | 0.3 | 0.02 | 0.10 |
| 55 to 59 | -0.36 | 0.9 | 0.05 | -0.33 |
| 60 to 64 | 0.06 | 0.2 | 0.01 | 0.05 |
| 65 plus | 1.76 | -5.4 | -0.41 | 0.97 |
| Total | - | - | -3.66 | 2.84 |

| Age range | For the period from 1975 to 1985 | | | |
|---|---|---|---|---|
| | (2) diff in popn. (%) | (3) diff in lab. force part. (%) | (4) diff in λ if 1975 popn. | (5) diff in λ if 1975 LFP rates |
| 15 to 19 | 0.17 | -4.1 | -0.40 | 0.04 |
| 20 to 24 | -2.12 | -4.4 | -0.49 | -1.68 |
| 25 to 29 | -4.60 | -0.8 | -0.11 | -4.50 |
| 30 to 34 | -1.39 | -0.6 | -0.07 | -1.37 |
| 35 to 39 | 1.50 | -0.3 | -0.03 | 1.48 |
| 40 to 44 | -0.21 | 0 | 0.00 | -0.20 |
| 45 to 49 | 0.01 | -0.1 | -0.01 | 0.01 |
| 50 to 54 | 2.19 | -0.4 | -0.03 | 2.13 |
| 55 to 59 | 2.30 | -1.6 | -0.08 | 2.17 |
| 60 to 64 | 0.47 | -7.1 | -0.33 | 0.40 |
| 65 plus | 1.70 | -8.1 | -0.76 | 0.84 |
| Total | - | - | -2.30 | -0.68 |

Table 7.4 (cont.)

Notes:     The term population in the table refers to the working
           age population, which is assumed to be the population
           above and including the age of 15. Column (2) gives the
           differences between the percentage of the working age
           population of the first year and the last year of the
           period – the proportion of the total working age
           population each age group represents in the last year
           minus the same in the starting year. Column (3) shows
           the difference between the labour force participation
           rate (LFP) in the last year of the period and the
           starting year. Column (4) shows the difference in the
           age-specific term which is summed to give the aggregate
           labour force participation rate, $\lambda$, if the population
           age structure had not changed over the period. Column
           (5) shows the difference in the age-specific term which
           is summed to give the aggregate labour force
           participation rate, $\lambda$, if the age-specific labour force
           participation rates had not changed over the period.

Table 7.5 showing results of analysis to find the cause of changes
in the aggregate labour force participation rate

| Item | 1965 to 1975 | 1975 to 1985 |
|---|---|---|
| Actual difference in $\lambda$ | 0.08 | -3.08 |
| Difference in $\lambda$ if popn. held constant | -3.66 | -2.30 |
| Difference in $\lambda$ if LFP held constant | 2.84 | -0.68 |
| Total estimated difference in $\lambda$ | -0.82 | -2.98 |
| Proportion in estimated difference accounted for by LFP changes | -446% | -77% |
| Proportion in estimated difference accounted for by changes in the population age structure | 346% | -23% |

Sources:   Same as for Table 7.4.
Note:      For method of calculation see text above.

From 1965 to 1975, the change in the working age population age
structure (ageing) led to a rise in the aggregate labour force
participation rate ($\lambda$), since the proportion of the working age
population in the age groups with high age-specific labour force
participation rates increased greatly. This effect was so great that
it more or less cancelled out the large negative effect on $\lambda$ caused

by falling age-specific labour force participation rates amongst the very young (15-24) and the old (65+). From 1975 to 1985, however, age-specific labour force participation rates fell for all age groups. This trend explains roughly 77% of the fall in $\lambda$. Furthermore approximately 50% of the fall in $\lambda$ attributed to falling age-specific labour force participation rates is accounted for by those above the age of 50, although this age group accounted for only 25% of the working age population in 1975 and 32% in 1985. Unlike in the 1965-1975 period, this fall in $\lambda$ due to changes in labour force participation was not mitigated by an ageing working age population. The population effect also had a negative effect, caused by a large fall in the proportion of the under-40 age groups in the working age population that wiped out the positive age effect caused by the higher proportions of the working age population in the older age groups.

In summary, the aggregate labour force participation rate has been falling over time and in particular since 1975. Furthermore, the analysis above shows that approximately 77% of the change in $\lambda$ since 1975 is accounted for by falling age-specific participation rates and that much of this effect can be attributed to the falling participation rates of the older age groups.

d)    **Male unemployment rates disaggregated by age**

A similar analysis was performed to gauge the role of different age groups in producing the rise in the aggregate male unemployment rate. Tables 7.6 and 7.7 summarise the results.

Table 7.6 showing results of the analysis to find the causes of the secular rise in the unemployment rate.

|  | 1965 to 1975 | 1975 to 1985 |
|---|---|---|
| Actual difference in unemployment rate | 1.4 | 0.6 |
| Difference if labour force structure held constant | 1.6 | 0.6 |
| Difference if unemployment rate held constant | -0.03 | -0.02 |
| Total estimated difference in unemployment rate | 1.57 | 0.58 |
| Percent of change accounted for by change in unemployment rates | 102% | 103.4% |
| Percent of change accounted for by change in age structure of labour force | -2% | -3.4% |

Source:     The figures used were taken from the *Rōdōryoku Chōsa* for the relevant years. See Sōrifu Tōkeikyoku (1966), (1976) and Sōmuchō Tōkeikyoku (1986).

Note:       The figures for 1965 are yearly averages of monthly figures. Yearly figures were not published until the 1968 survey (see Sōrifu Tōkeikyoku 1977 p 173). The figures are for men.

From Table 7.6 it can be seen that over the whole period of 1965-1985 the trend rise in the unemployment rate is explained by rises in the unemployment rates for all age groups. In fact, the impact of a changing labour force age structure was very slightly negative, caused mainly by the large falls of men below the age of 25 entering the labour force, and falling labour force participation rates in the older age groups. Table 7.7 shows the proportion of men above 55 in the male labour force; the percentage of unemployed men above 55 out of all male unemployment; and the contribution men above 55 made to the rise in the aggregate male unemployment rate, calculated from the results of this analysis.

Table 7.7 showing results of the analysis to find the causes of the secular rise in the unemployment rate.

|  | 1965 | 1975 | 1985 |
|---|---|---|---|
| Percentage of men above 55 in labour force (A) | 15.9% | 15.5% | 18.5% |
| Percentage of men above 55 in total male unemployment (B) | 11.1% | 21.2% | 30.1% |
| Difference between rows A and B (C) | -4.8% | 5.7% | 11.7 |
| Percentage of change in unemployment rate accounted for men above 55 (D) | - | 21% | 52% |
| Percentage of D accounted for by changing unemployment rates | - | 100% | 70% |

Source:    The figures used were taken from the *Rōdōryoku Chōsa* for the relevant years. See Sōrifu Tōkeikyoku (1966), (1976) and Sōmuchō Tōkeikyoku (1986).

Note:      The figures are for men. The last row shows the contribution of the above 55 age group to the rise in the unemployment over the preceding ten years to the date given in the respective column.

Table 7.7 above shows that the older age groups accounted for a lower proportion of total unemployment than of the aggregate labour force in 1965. The situation reversed itself by 1975 and the divergence continued to increase up to 1985. Moreover the percentage of the total rise in the unemployment rate accounted for by the older age groups increased from 21% to 52%. The proportion of these two figures accounted for by changes in the unemployment rates was 100% and 70% for the two periods.

These results combined with the results of the analysis for the labour force participation rates indicate that although labour force participation rates were falling for the older age groups, causing much of the fall in the aggregate labour force participation rate, the rise in the unemployment rate came to be explained to a greater and greater extent by the increase in unemployment experience of the older age groups.

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### e) Other labour market indicators disaggregated by age

Another useful measure of labour market conditions for each age group is given by the vacancy-job search ratio (*yūkō kyūjin bairitsu*). The statistics are collected by public labour exchanges (*kōkyō shokugyō anteisho*) throughout Japan and the ratio shows the number of vacancies recorded by the offices divided by the number of job searchers making an application to the offices. Additional vacancy and job search information gleaned from newspapers and private agencies is not included. Furthermore, vacancies for school leavers are not included (Rōdōshō 1992). Table 7.8 below shows the vacancy-job search ratio for years spanning 1973 to 1985 for each age group. The ratio given shows the ratio of the number of vacancies to job searchers over a three month period.

Table 7.8 showing male vacancy-job search ratios from 1973 to 1985.

| Year | All | 15-29 | 30-44 | 45-54 | 55-59 | 60-64 | 65+ |
|------|------|-------|-------|-------|-------|-------|------|
| 1973 | 2.26 | 2.54 | 2.98 | 1.91 | 0.75 | 0.51 | 0.16 |
| 1975 | 0.65 | 0.91 | 0.92 | 0.40 | 0.15 | 0.08 | 0.03 |
| 1980 | 0.77 | 1.19 | 0.94 | 0.58 | 0.26 | 0.16 | 0.06 |
| 1981 | 0.72 | 1.14 | 0.89 | 0.50 | 0.21 | 0.13 | 0.05 |
| 1982 | 0.59 | 0.92 | 0.79 | 0.40 | 0.16 | 0.10 | 0.04 |
| 1983 | 0.61 | 0.98 | 0.86 | 0.42 | 0.14 | 0.09 | 0.04 |
| 1984 | 0.66 | 1.03 | 0.92 | 0.47 | 0.16 | 0.10 | 0.04 |
| 1985 | 0.67 | 0.91 | 0.97 | 0.49 | 0.16 | 0.10 | 0.15 |
| A(%) | 70.35 | 64.17 | 67.45 | 74.34 | 78.67 | 80.39 | 6.25 |

Source:    Rōmu Gyōsei Kenkyūjo (1986). Originally from Rōdōshō *Shokugyō Antei Gyōmu Tōkei*, for the years given.
Notes:    The last row labelled A shows the percentage fall in the ratio between 1973 and 1985 and is calculated using the following formula:
((1973 rate - 1985 rate)/1973 rate) x 100.

It is clear from Table 7.8 that the ratio deteriorated over the period for all age groups. Even in 1973, the ratio for the older age groups (55+) was much lower than for the younger age groups and by

1985 fell to extremely low levels. The last row of Table 7.8 shows the percentage fall in the ratio for each age group that was calculated to give a crude measure of the severity of the deterioration in the labour market for each age group. Over this period, the older groups faced a much sharper deterioration in the labour market conditions, since the fall in ratio is between 10 and 16 percent greater for the older age groups than for the youngest age group. Furthermore, the 1992 Labour White Paper (Rōdōshō 1992 p 25, and Appendix p 20) notes that although the ratio improved dramatically from 1989 onwards for all age groups, the ratio for the 55-64 age group still remained low, in spite of the increase in aggregate demand in the economy during the years following 1988.

Sakurai and Suzuki (no date) analyse the trends in various types of mismatch that have occurred in the period 1971 to 1985 using U-V analysis in an attempt to explain the secular rise in the macro unemployment rate in Japan. One form of mismatch that they analyse is the mismatch between age groups. For male labour force participants they found that mismatch increased over the period largely because of an increasing surplus demand for labour amongst the 20-24 and 25-29 year old age groups and an increasing excess supply of labour in the 55-64 year old age group. The indicator of mismatch that was used did display a procyclical nature. In other words when aggregate demand was high, the amount of mismatch declined, since some of the excess supply of older workers was eliminated. Nonetheless, the secular increase in mismatch across the business cycle in the period 1971-1985 does indicate that the natural rate of unemployment has increased because of growing age mismatch concurrent with population ageing.

**f)    Conclusion from detailed analysis of the labour market by disaggregation**

The results of the component analysis undertaken above show that it is the rising unemployment of older age groups that is responsible for much of increase in the male aggregate unemployment rate in Japan. The increasing proportion of the older age groups in the labour force have contributed slightly to this rise in unemployment. The section showed that the rise in unemployment of older men has occurred while their labour force participation rates have been falling rapidly. It is possible that a discouraged worker effect has led to the fall in labour force participation rates, or other factors, such as fuller pension coverage, may be responsible. It is clear, however, that unemployment of older men has increased <u>despite</u> the fall in labour force participation rates. This fact appears to confirm the implications of the efficiency age structure hypothesis that was discussed in Chapter Five.


**Section 5   An examination of the future trends in labour market transition rates of older men**


**Sub-section 5.1 Further discussion of transition rate**

To be able to gauge the future effect of ageing on the aggregate male unemployment rate, I shall use the unemployment flows framework developed in Section Three above. In this sub-section, I shall examine the possible behaviour of labour market and employment transition rates of older men. Ideally, I would like to use the transition rates of different age groups estimated from survey data. Unfortunately, only flow data for the whole of the working-age population and not disaggregated by age group are available (Mizuno 1982 p 14). Hence the following examination will go no further than suggesting the future trends in the transition rates. Although there

are six transition rates that explain the unemployment rate, the headings for the sections below only refer to two main transition rates. This is because the factors which affect these transition rates also affect the other transition rates: to avoid repetition, the other transition rates are mentioned briefly under the two main headings. The discussion of the *ue* transition rate also pertains to the *eu* and *ne* transition rates and the discussion of the *un* transition rate is also pertinent for the *un*, *en* and *nu* transition rates, as will be explained in the following two sub-sections.

## Sub-section 5.2  The *ue* transition rate

The emphasis of this sub-section is placed on the *ue* transition rate, but first, I will briefly summarise the arguments given in this and past chapters that relate to the *eu* transition rate, since the reasons for a rising *eu* transition rate are also relevant for a falling *ue* transition rate. It is expected that with the ageing of the population, firms will attempt to maintain an efficiency age structure, for reasons explained in Chapter Five. Thus, with a rising proportion of the labour supply occupied by men over the age of 55, the proportion of that age group expected to leave the company either upon retirement or earlier or shortly after retirement, will rise. This rise will in turn result in a rise in the *eu* rate.

The *ue* transition rate will be affected by the likelihood of being hired by a company or setting up one's own business. For people in the older age groups, hiring by the larger companies is very unlikely since it is precisely these companies that wish to rid themselves of older workers. It is often believed that employment in smaller companies and self-employment are the main means of avoiding unemployment for older people in Japan. I will try here to

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examine the likelihood of the future absorption of older people into these two types of employment separately.

## a)     Employment in smaller companies

Here, the term smaller companies refers to companies with less than 100 employees. There seems to be much evidence showing that older workers are absorbed by smaller companies. Most evidence is less than perfect, however. Smaller companies have a much older employee age structure than larger companies, as shown in Chapter Three. Such a fact is taken to imply that the age structure is older because smaller companies take on the older workers that other companies do not want. It is equally possible, however, that the age structure is older because smaller companies tend to keep on their older workers. Also, as discussed in Chapter Four, older workers from larger companies may be transferred to smaller companies that have contractual relations with the larger company, either upon retirement or a few years before reaching retirement age. Such transfers have probably been beneficial to the smaller companies in the past and they have been able to absorb the low number of older workers that were pushed their way. Chapter Four also presents figures relating to the movement between companies following retirement. A more indirect piece of evidence is provided by following a retirement age cohort in the labour force. The number in that age group employed in each size of company falls as they age, except for the number employed in companies with fewer than 100 employees, which, conversely, actually increases. This is discussed in more depth in Chapter Four. From these observations, it seems that the claim that smaller companies are absorbers of older workers is to some extent correct, but that also their absorption role might not be as large as is thought. It is also possible that smaller companies will not be able to absorb ever increasing numbers of

retirees. Unfortunately, there is very little survey material relating to employment of older people in smaller companies and the extant Surveys are relatively old. Two surveys carried out by the Tokyo Metropolitan Council (Tōkyō Toritsu Rōdō Kenkyūjo 1979 and 1984) do throw some light on the possibilities presented above. The sample numbers are small, but the surveys are better than no material at all.

### i)    General survey comments

The survey carried out by Tokyo Metropolitan Council in 1978 (Tōkyō Toritsu Rōdō Kenkyūjo 1979) covered firms with between 1 and 29 workers in the Tokyo area. The survey was split into three parts. One part of the survey was sent to the company, another part consisted of interviews with the owners of the businesses and the third part consisted of interviews with employees. The results of the second part will be presented later, when the possibility of becoming self-employed is examined. The questions were all related to the nature and views of workers aged over 50 years of age. Only the results relating to men will be presented, unless it is impossible to disaggregate the data by gender. Table 7.9 below shows some general figures showing the nature of employment and the ratio of older workers in each size of establishment.

Table 7.9 showing the proportion of employees and the self-employed who are over the age of 50.

| No. of employ -ees | Self-employed | | Employees | | All | |
|---|---|---|---|---|---|---|
| | A | B | A | B | A | B |
| 1-4 | 59.3 | 35.4 | 5.7 | 12.1 | 27.7 | 28.7 |
| 5-9 | 19.8 | 36.0 | 13.3 | 13.4 | 16.0 | 19.6 |
| 10-19 | 9.0 | 34.7 | 16.2 | 15.0 | 13.2 | 17.8 |
| 20-29 | 3.3 | 36.9 | 9.6 | 15.2 | 7.0 | 17.1 |
| 30-99 | 5.6 | 40.0 | 24.5 | 13.4 | 16.8 | 14.7 |
| 100+ | 3.0 | 50.0 | 30.6 | 9.5 | 19.3 | 10.1 |
| All | 100 | 36.0 | 100 | 13.7 | 100 | 16.7 |

Source:    Tōkyō Toritsu Rōdō Kenkyūjo (1979) p 9.
Notes:     The self-employed here consist of the owners of individual businesses, family members working for the family business and paid directors. The employees here consist of normal employees, temporary and day workers. Column A shows the percentage of all older workers in each size of establishment. Column B shows the proportion of workers in each category accounted for by older workers (50 years of age and above). The figures presented here are not the results of the survey, but are figures calculated by the authors of the survey for general illustration purposes. The proportion of older workers (50 years of age and above) in each category (see column B) are proportions for the whole of Japan, whereas the structure of establishments by size is that for Tokyo only.

Table 7.9 shows that the proportion of workers who are above 50 does indeed rise the smaller the company. The rise however, is largely explained by the proportion of workers who are self-employed in smaller companies. This high proportion compensates for the smaller percentage of all self-employed who are above the age of 50.

**ii)    Are older workers more likely to stay with smaller companies?**
Establishments were also asked whether they had a mandatory retirement age or guidelines for retirement. Of the 2-4 employee establishments, 96.7% had no retirement policy. The figure fell as the size of the establishment increased and for companies of between 20 and 29 employees, the figure was 53.2%. Out of the 53.2% of 20

to 29 employee companies that did have a retirement policy, however, 62.7% of companies only enforced retirement on a discretionary basis (Tōkyō Toritsu Rōdō Kenkyūjo 1979 p 306). In other words, small companies are much less likely to have a strict retirement policy. This fact is also borne out by the long length of service that their employees had: 33% of men over 50 had a length of service of over 20 years. In the Tokyo Metropolitan Council 1982 survey, 15 of the 18 manufacturing companies had a retirement policy of which 8 had a retirement age of 60 and the others had retirement ages below 60 (Tōkyō Toritsu Rōdō Kenkyūjo 1984 p 38). Thirteen of these companies had some form of re-employment system with one year renewable contracts for retirees, so that some firms have employees well into their seventies. It should be noted, however, that those companies which re-employed a large number of their retirees also had a relatively young workforce age structure.

## iii) Evidence of movement across company scale

The establishment survey enquired into the previous workplace in which employees had worked for the longest period. The present workplace accounted for 41.5% of previous workplaces, another establishment (as employee) for 35.1% and self-employment for 11.2% (the rest were unknown) (Tōkyō Toritsu Rōdō Kenkyūjo 1979 p 41). The figure for the present workplace tends to fall as the age of the employee rises, from 52.6% for the 50 to 54 age group to 24.1% for the 75+ age group (Tōkyō Toritsu Rōdō Kenkyūjo 1979 p 147), which would tend to imply that many of the older workers have moved from other companies with the coming of retirement age.

Table 7.10 below shows the size of the company in which those questioned worked longest, previous to the present small company.

Table 7.10 showing workplace of longest service.

| Age | Public co. | 1-9 | 10-29 | 30-99 | 100-299 | 300+ | NK |
|-----|------------|-----|-------|-------|---------|------|-----|
| 50-54 | 7.9 | 29.4 | 17.5 | 11.9 | 7.9 | 20.6 | 4.8 |
| 55-59 | 4.9 | 29.2 | 20.8 | 14.6 | 4.2 | 20.8 | 5.6 |
| 60-64 | 9.4 | 18.0 | 12.8 | 14.5 | 9.4 | 30.8 | 5.1 |
| 65-69 | 7.9 | 15.8 | 12.9 | 9.9 | 9.9 | 36.6 | 6.9 |
| 70-74 | 5.6 | 22.2 | 13.9 | 5.6 | 11.1 | 27.8 | 13.9 |
| 75+ | 6.3 | 25.0 | 0.0 | 6.3 | 18.8 | 37.5 | 6.3 |
| All | 7.2 | 23.7 | 15.7 | 12.2 | 8.2 | 26.9 | 6.1 |

Source: Tōkyō Toritsu Rōdō Kenkyūjo (1979) p 160.
Notes: NK denotes not known. Public co. are public corporations. The headings to each column show the size of the workplace in terms of employee numbers.

Moreover, the percentage of those replying that they moved because they reached retirement age rises with age from virtually zero for those in the 50-54 age group to 20.1% in the 55 to 59 age group, 37.6% in the 60 to 64 age group and 46.5% in the 64 to 69 age group (Tōkyō Toritsu Rōdō Kenkyūjo 1979 p 163).

Roughly a quarter of all older workers come from companies with more than 300 employees and the proportion tends to rise with age. It seems that the role of these smaller companies in absorbing retirees and older workers from larger firms is confirmed, but it should also be noted that approximately 40% of older workers that moved transferred from small company to small company. Unfortunately, Table 7.10 above only gives the provenance of all transferees and it is not possible to give accurate figures for the provenance of retirees (rather than transferees) from the available data. Table 7.11 below summarises the reasons for transfer and shows that roughly 25% of those who have moved, moved when they reached

retirement age in their previous company. In the light of the data presented above, the percentage of such workers would be higher in the higher age groups.

Table 7.11 showing reason for moving of older employees.

| | |
|---|---|
| Continuing and long length of service | 41.5 |
| Moved after collapse of own business | 11.2 |
| Was a helper in the family business, previously | 0.3 |
| Found work after retiring from previous company | 14.3 |
| Found work after employment adjustment in previous firm | 9.3 |
| Moved because of dissatisfaction | 4.5 |
| Moved for mental, physical or family reasons | 7.1 |
| Not known | 11.9 |

Source:    Tōkyō Toritsu Rōdō Kenkyūjo (1979) p 51.

The results of the Tokyo Metropolitan Council 1982 (Tōkyō Toritsu Rōdō Kenkyūjo 1984) survey seem to support strongly the hypothesis that smaller companies, particularly in the service sector hire older workers who have been retired from other companies. The average age of older workers is about 60 years of age and the average length of service   lies between 5 and 7 years. Thus, it would appear that these older workers transferred to their present position at the age of 55, the most common retirement age for that age group (Tōkyō Toritsu Rōdō Kenkyūjo 1984 pp 49, 53).

iv)    **Absorption capacity of smaller firms**

The Tokyo Metropolitan Council 1978 survey also asked the companies whether they intended to hire workers above the age of 50 in the future or not. Approximately 16% responded that they would hire older workers, whilst the remainder, 81% excluding non-response,

replied that they had no such intention (Tōkyō Toritsu Rōdō Kenkyūjo 1979 p 107). It was felt by the surveyors that many of the companies had no intention of hiring, regardless of the age of prospective employees. Therefore, another measure was computed to reflect more closely the willingness of companies to hire older workers. This measure was obtained by deducting the number of firms not intending to hire any workers at all from the number not intending to hire older workers and adding this number to the number of firms willing to hire generally. The number of firms giving a positive response to the hiring of older workers question was then divided by this new denominator to give a measure of willingness. The results of these calculations are presented below in Table 7.12, disaggregated by size of establishment.

Table 7.12 showing willingness of small companies to hire new workers.

| Size of firm (No. of workers) | Willingness to hire older workers (%) |
|---|---|
| 1 worker | 11.8 |
| 2 to 4 | 19.9 |
| 5 to 9 | 33.7 |
| 10 to 19 | 47.9 |
| 20 to 29 | 50.0 |
| 30 plus | 33.6 |
| All sizes | 29.4 |

Source:   Tōkyō Toritsu Rōdō Kenkyūjo (1979) p 107, Table 1-31.
Notes:    See above for derivation of the willingness to hire measure.

The results show that on average only 30% of the firms intended to hire older workers in future. There are noticeable differences in the willingness to hire across size of company, with the companies with between 10 and 29 workers most willing to hire. The firms that responded positively to the hiring question were also asked the

reason for their positive attitude. The most popular reason given was that they wished to hire younger workers, but were unable to do so (33.8%). The next two most popular reasons were: a) older workers have superior skills (17.3%); and b) they are meticulous (10.9%). The most prevalent reason for hiring older workers and the willingness to hire figures combined do not indicate a large future capacity of smaller firms for absorbing older workers.

The Tokyo Metropolitan Council 1982 survey also was concerned with the future hiring intentions of the companies that were questioned. Eleven out of eighteen manufacturing firms responded that they had no desire to hire older workers (Tokyo Toritsu Rodo Kenkyusho 1984 p 29). Three of the eleven companies said that they needed to create a younger workforce, one firm was concerned that in the future it would have many retirees that it would be expected to keep on, one firm felt that its present age structure was ideal. These replies indicate that a large proportion of the firms showed concern for the age structure of their workforce and moreover did not want an older age structure. Two of the firms that said they would hire older people said they would do so only because it was difficult to hire younger people. The results for the same question posed to service companies show that only two out of twelve firms were interested in hiring older workers in future (Tokyo Toritsu Rodo Kenkyujo 1984 p 86). Moreover, all of the firms that did not intend to hire older workers expressed a desire to either concentrate on hiring younger workers or to maintain their present age structure. It should be borne in mind that, on average, the proportion of workers above the age of 55 in the service companies was 35% compared with 23% in the manufacturing companies. These results were supported by the fact that in all companies but two, the number of older people retiring was much higher than the number of older people being hired over a

one year period, in spite of the fact that 3/4 of the firms did hire new staff. This trend was also believed to have been occurring for 2 to 3 years previous to the survey (Tokyo Toritsu Rodo Kenkyujo 1984 p 59).


**b)    The self-employed**

A high proportion of older workers have been, and still are, self-employed (including those working for the head of a family business) and owners of businesses. For example, in 1980, 42.8% of male workers in the 60 to 64 age group were employees, 10.6% were company directors and 46.5% belonged to the self-employed and owners of businesses. These proportions compare with 75%, 5.5% and 19.5% respectively for the 35 to 39 age group (Sōrifu Tōkeikyoku 1983b p 102). There are two main problems with this interpretation of the data. Firstly, the presence of a cohort effect, rather than a flow effect, may be more important in explaining the high proportion of older workers in some form of self-employment. In other words, the people who are currently above 55 years of age started work when the industrial structure and employment structure in Japan was rather different. For example, some of the present older workers who are self-employed work in the agricultural sector. These workers would have started agricultural work when the primary sector accounted for a much larger part of the Japanese economy and they have become "locked in" to this type of work. The self-employment rate amongst younger cohorts is not expected to be as high when they reach the same age as the present cohort, since they started work in different sectors of the economy that have a lower prevalence of self-employment. This cohort effect may be particularly large in Japan because of her rapid economic development since the Second World War. The second problem is that it is not at all clear that the proportion of older workers who are self-employed is high because

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of an inflow of ex-employees. These two problems are examined below. Finally, however, I would like to add that the proportion of older workers who are self-employed may be higher than in other age groups purely because it is these older workers who are able to continue working at an older age, since they decide their own retirement age.

The table below shows the distribution of the workers in each age group across three categories of employment, which are employees, directors and self-employed. The self-employed category includes the individual self-employed, owners of businesses that employ other people and people who work for the family business.

Table 7.13 showing the work status of different age groups.

| Age group | Employees | Directors | Selfemployed (1) | Selfemployed (2) | Family workers |
|---|---|---|---|---|---|
| All | 70.8 | 5.6 | 4.8 | 15.1 | 3.6 |
| 15-19 | 90.7 | 0.4 | 0.5 | 0.8 | 7.6 |
| 20-24 | 90.1 | 0.7 | 0.7 | 1.7 | 6.9 |
| 25-29 | 86.4 | 1.7 | 1.7 | 4.1 | 6.0 |
| 30-34 | 80.2 | 3.6 | 3.9 | 7.7 | 4.6 |
| 35-39 | 75.0 | 5.5 | 5.9 | 10.9 | 2.7 |
| 40-44 | 69.9 | 6.6 | 6.7 | 14.8 | 2.0 |
| 45-49 | 65.9 | 7.3 | 6.9 | 18.7 | 1.3 |
| 50-54 | 64.0 | 7.7 | 6.2 | 21.3 | 0.8 |
| 55-59 | 56.5 | 9.5 | 6.2 | 26.9 | 0.9 |
| 60-64 | 42.8 | 10.6 | 6.4 | 37.2 | 2.9 |
| 65-69 | 33.4 | 10.9 | 6.8 | 44.7 | 4.4 |
| 70-74 | 23.4 | 11.7 | 6.8 | 49.6 | 8.5 |
| 75-79 | 16.0 | 13.8 | 6.6 | 49.6 | 14.1 |
| 80-84 | 11.3 | 16.0 | 6.9 | 48.2 | 17.5 |
| 85+ | 10.4 | 16.9 | 7.6 | 43.9 | 18.2 |
| 65+ | 27.4 | 11.7 | 6.8 | 46.8 | 7.3 |

Source:    Sōrifu Tōkeikyoku (1983b) p 102, Table 5-10.
Notes:     Self-employed (1) employ other workers as well, whereas
           self-employed (2) do not employ any other workers.

Table 7.13 above shows very clearly that as age increases, the
percentage of the working population who are employees falls very
noticeably and the percentage who are self-employed and without
employees rises the most dramatically. In order to examine whether
a cohort effect is one of the major causes of this trend across age
groups, it is necessary to have the data shown in the table above,
but for earlier years. It would then be possible to see if the
proportion of older workers in self-employment is falling over time,
indicating that the changing industrial structure of the Japanese
economy is responsible for the seemingly high propensity of older
workers to become self-employed. Unfortunately, data for the

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percentage of the working population in each form of employment and also disaggregated by age group (as shown in Table 7.13 above) is only available from published census data since the publication of the 1980 population census. It is possible, however, to examine the cohort effect indirectly by using the data presented in earlier population censuses relating to the form of employment in each industry and also using data from the same censuses giving the number of people in each socio-economic group for five year age groups. The first step in the procedure is to identify the industrial classification categories in which the prevalence of self-employment is high. The second step is to then identify which socio-economic groups defined in the census survey correspond to the industrial classifications with high self-employment rates. The third and final task is to calculate the proportion of each age group that belong to the different forms of employment (employee, self-employed etc). The following describes the results of following this procedure using data from the 1965 and 1975 population censuses.

Table 7.14 below shows the broad industrial classifications which contain the highest proportion of self-employed people for the whole of the male working population. The shares of the number of self-employed in each industry out of the total number of self-employed are shown, as is the cumulative distribution of the self-employed across the industries with large shares. The table shows that nearly all of male self-employment occurs in five major industrial classifications, with much more than half of the self-employed working in agriculture and the wholesale and retail trade.

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Table 7.14 showing the ranking of broad industrial classifications with the largest share of self-employed and the corresponding cumulative distribution.

| Ran-king | IC let-ter | Industrial classification (IC) | Share of total self-employed (%) | Cumulative distribution of self-employed (%) |
|----------|------------|--------------------------------|----------------------------------|----------------------------------------------|
| 1 | A | Agriculture | 37.63 | 37.63 |
| 2 | G | Wholesale & retail | 23.41 | 61.04 |
| 3 | E | Construction | 11.45 | 72.49 |
| 4 | F | Manufacturing | 11.14 | 83.63 |
| 5 | L | Services | 10.47 | 94.1 |

Sources:    Sōrifu Tōkeikyoku (1978) pp 214 - 223, Table 6.
Notes:      The survey was undertaken in 1975. The figures are for the male population. Here, self-employed workers are those belonging to the following categories (the proportion of the total number of self-employed accounted for by each category is shown in brackets): a) owners of businesses who employ other people (17.15%), b) owners of businesses with no employees (66.13%), c) family workers (people who work for a business whose head is a member of the family) (16.47%) and d) out-workers (0.25%). The industrial classification letter corresponds to the letter used in the population census. There are 14 classification categories in total.

In the 1970 and 1975 population censuses there are 22 socio-economic classifications. Here the following socio-economic classifications are believed to correspond most closely to the self-employed in the industries identified above: a) agricultural workers (agricultural employees not included), b) shop proprietors, c) factory proprietors and d) service shop and other proprietors. Other socio-economic categories also include the self-employed as well as employees, but are excluded from this list since they do not seem to correspond closely to the relevant industrial classification and the requirement that the majority of the people included in such a classification are self-employed. For example, the category "sales workers" does correspond to the industrial classification of the wholesale and retail trade, but it includes employees as well as the self-employed and moreover, the majority of the self-employed in

this industrial category is probably already counted in the socio-economic groups "shop proprietors" and "service shop and other proprietors". Hence, the male working population is divided into two groups, one being the self-employed belonging to the socio-economic groups listed above and the other being those workers belonging to all other socio-economic groups. The working age population is also split into two age groups: a) those below the age of 55 and b) those above the age of 55. Table 7.15 below shows the proportion of the people in the two age groups in the self-employed and non-self-employed categories for the years 1970 and 1975.

Table 7.15 showing the proportion the two forms of work accounted for by the above and below 55 year old age groups.

| Age group | Year | Self-employed (%) | Other (%) |
|-----------|------|-------------------|-----------|
| Above 55  | 1970 | 43.69 | 56.31 |
|           | 1975 | 38.30 | 61.70 |
| Below 55  | 1970 | 16.16 | 83.84 |
|           | 1975 | 13.58 | 86.54 |

Sources:  For 1970: Sōrifu Tōkeikyoku (1974) pp 728 -259, Table 24; and for 1975: Sōrifu Tōkeikyoku (1978) pp 978 – 1009, Table 14.

Notes:  The figures do not include people who are out-workers, since they account for such a small proportion of the male self-employed. Here, column 4, the self-employed, corresponds to those in socio-economic groups 1, 4, 5 and 6 as defined in the population censuses. Column 5, other, represents those in all other socio-economic groups, excluding number 18 (out-workers).

It appears from Table 7.15, that there is a very strong cohort effect. In only five years, the percentage of the self-employed in the 55 plus age group has fallen by nearly 5%, indicating that as present younger generations become older, the rate of self-employment will fall. The population below 55 has an extremely low self-employment rate, suggesting that as these lower age groups become older, the self-employment rate will also drop sharply. If the trend in the self-employment rate is examined for five year age

groups, it is clear that the rate almost always increases with age (see Table 7.16 below). Thus, the low self-employment rate for workers below the age of 55 does not necessarily mean the rate will remain low as they become older.

Although Table 7.15 above does show a cohort effect, a more detailed attempt to assess the size of the cohort effect was undertaken. The change in the self-employment rate was calculated for each age group as they aged by five years from 1970 to 1975. These rates were subsequently used to calculate the self-employment rate that would have obtained in 1975 if there had not been any cohort effect. In other words, the changes in SE rates were calculated by following a single generation over time and so these changes are the changes that could be expected if there were no cohort or generational effects that are present in any cross-sectional data. If the changes in the SE rate that occur over the life-time of one cohort are assumed to remain constant, the self-employment rate of a particular age group in 1975 can be multiplied by the changes in the SE rate for the same cohort to obtain the SE rate that would occur in the next age group above, if there were no cohort effect. The hypothetical SE rate calculated to show the rate when no cohort effect is present can be subtracted from the rate actually obtaining in 1975 (ie including the cohort effect) to isolate the cohort effect. The cohort effect can then be divided by the total change in the SE rate that occurred in each age group between 1970 and 1975.

The results of this exercise and figures for the SE rates in each age group obtained from the 1970 and 1975 population censuses are given in Table 7.16 below. The table shows that a large percentage of the change in the SE rates for each age group is explained by the

cohort effect, which accounts for between just over 50% and 140% of the change in SE rates, depending on the age group. Thus, the cohort effect is extremely important in explaining the high self-employment rate amongst older workers. Hence, the proportion of older workers who are self-employed will fall in the future, since the cohorts who will form the older part of the workforce will be occupied in jobs in industries which are unlikely to have a high self-employment rate.

Table 7.16 showing the results of analysis used to determine the magnitude of the cohort effect.

| Age group | (A) per-cent self-employed 70 | (B) percent self-employed 75 | (C) % age change in SE rate after ageing 5 yrs | (D) if no cohort effect (75) | (E) cohort effect (B-D) | (F) change in SE rate 70 to 75 | (G) Cohort effect (%age) ((E/F)x100) |
|---|---|---|---|---|---|---|---|
| All | 20.54 | 17.45 | | | | | |
| 15 - 19 | 7.53 | 4.90 | | | | | |
| 20 - 24 | 6.31 | 4.84 | -35.80 | 3.15 | 1.69 | 1.47 | 114.82 |
| 25 - 29 | 8.17 | 6.46 | 2.36 | 4.95 | 1.51 | 1.71 | 88.03 |
| 30 - 34 | 14.10 | 10.13 | 23.96 | 8.01 | 2.12 | 3.97 | 53.44 |
| 35 - 39 | 19.85 | 15.07 | 6.86 | 10.82 | 4.24 | 4.79 | 88.67 |
| 40 - 44 | 23.58 | 19.53 | -1.62 | 14.82 | 4.71 | 4.04 | 116.43 |
| 45 - 49 | 27.10 | 22.34 | -5.24 | 18.51 | 3.83 | 4.76 | 80.58 |
| 50 - 54 | 30.73 | 25.44 | -6.14 | 20.97 | 4.46 | 5.29 | 84.38 |
| 55 - 59 | 34.73 | 30.81 | 0.27 | 25.50 | 5.30 | 3.92 | 135.43 |
| 60 - 64 | 42.03 | 36.75 | 5.82 | 32.60 | 4.15 | 5.28 | 78.48 |
| 65 - 69 | 51.16 | 43.61 | 3.76 | 38.13 | 5.48 | 7.56 | 72.53 |
| 70 - 74 | 57.95 | 51.10 | -0.13 | 43.55 | 7.55 | 6.85 | 110.12 |
| 75 - 79 | 63.84 | 55.33 | -4.52 | 48.79 | 6.54 | 8.51 | 76.85 |
| 80 - 84 | 64.71 | 54.60 | -14.48 | 47.32 | 7.28 | 10.11 | 72.00 |
| 85+ | 53.41 | 48.05 | -25.74 | 40.54 | 7.51 | 5.36 | 140.13 |

Table 7.16 (cont.):

Sources: For 1970: Sōrifu Tōkeikyoku (1974) pp 728 -259, Table 24; and for 1975: Sōrifu Tōkeikyoku (1978) pp 978 - 1009, Table 14.

Notes: The self-employment (SE) rates were calculated in the same manner as for Table 7.15 above. Column C shows the percentage change in the SE rates that occurred as each age group aged by five years - the same cohort is being followed as it ages. Column D shows the SE rates that could be expected without a cohort effect. For example, the SE rate for the 20-24 age group (1970) is multiplied by the rate given in column C for that age group and the result gives the SE rate for the 25-29 age group in 1975 with the cohort effect removed.

Above, the cohort effect was examined and shown to be large, therefore bringing in to question the ability of the self-employment sector to absorb the increasing number (and proportion) of older workers in the future. As was discussed in the introduction to this section it is also not clear that a large number of retired employers and older employees do become self-employed. Again data which can be used to refute or support this proposition is scanty. The Tokyo Metropolitan Council 1978 survey (Tōkyō Toritsu Rōdō Kenkyūjo 1979) used in the earlier part of this section does provide some usable data, although it is somewhat dated and the sample number is small (25 people interviewed). The general characteristics of the self-employed are similar to the results from the population censuses given above, in spite of the small sample size. Table 7.17 shows the percentage of the owners of small businesses and family business workers who are above the age of 50 for different sizes of small companies.

Table 7.17 showing the percentage of owners of small businesses and family business workers who are above 50 for different sizes of businesses

| Number of workers | Owners of businesses | Family workers |
|---|---|---|
| 1 person | 60.2 | – |
| 2-4 | 47.5 | 22.2 |
| 5-9 | 57.4 | 24.5 |
| 10-19 | 59.3 | 22.6 |
| 20-29 | 69.1 | 22.5 |
| 30+ | 44.0 | 12.2 |
| All | 53.1 | 22.9 |

Source:     Tōkyō Toritsu Rōdō Kenkyūjo (1979) p 20, Table 1-13.
Notes:      Figures are for men and women.

These figures are not sufficient, however, to show whether self-employment provides a chance for ex-employees to earn a living. The owners of businesses interviewed for the 1978 survey were asked when

the business was started and whether they were responsible for the founding of the business. For those who started the business themselves, it is possible to calculate what age they were at the time. Sixteen out of twenty-five owners started their own business and the average age at that time was 34 years of age. In fact only 3 of the 16 were over the age of 40 at start of business and none were over 50.

## c) Conclusion to the examination of factors influencing the ue transition rate

Small companies do appear to have taken older people from other companies, but their older age structure can also be explained by the fact that their employees tend to stay at the company in to old age. The surveys showed that smaller companies were unwilling to hire more older people, particularly if they had a relatively old age structure. Thus, the future absorption capacity of smaller firms is unlikely to increase.

The cohort analysis indicated that the high proportion of older men in self-employment is a generational phenomenon. As younger people become older, the proportions of the older age groups in self-employment will fall. This is supported by the Tokyo Metropolitan 1978 survey showing that most self-employed people started their self-employment in their 30s. Thus, the role of self-employment in providing an exit from unemployment for older men has been over-estimated in the past, because cohort effects have been ignored.

## Sub-section 5.3 The un transition rate

For older participants of the labour market, one of the principle factors influencing the decision to continue or relinquish participation in the labour market is the availability and

purchasing power of an old age pension. The other main determinant of labour force participation is the availability of jobs. Rises in the level of pension benefits can be expected to reduce participation for a given level of wages, whereas a lower level of wages or a more menial job will lower participation, given the level of pension benefits.

## a)    Pension provision

An examination of the effect of the level of pension benefits on labour force participation is limited by the data available. Only the change with the real level of benefits in the employment rate and not the participation rate can be examined properly. Table 7.18 shows the employment rate for men above 60 and the level of pension they are receiving across time. The pension bands have been converted to 1980 values and the employment rate figures were estimated for each pension band for 1983 and 1988 so that a direct comparison could be made. The notes to the table describe the method used.

Table 7.18 showing the employment rate of pensioners according to the level of pension they receive.

| Pension level | 1980 | | 1983 | | 1988 | |
|---|---|---|---|---|---|---|
| | 60 to 64 | 65 to 69 | 60 to 64 | 65 to 69 | 60 to 64 | 65 to 69 |
| 22500 | 80.4 | 69.3 | 81.6 | 69.3 | 83.3 | 69.2 |
| 70000 | 66.2 | 59.5 | 68.9 | 61.1 | 66.0 | 60.2 |
| 120000 | 51.1 | 47.6 | 52.0 | 49.8 | 47.4 | 57.3 |
| >120000 | 57.0 | 42.2 | (49.8) | (44.6) | (40.7) | (39.3) |
| Average | 67.2 | 60.2 | 64.2 | 57.8 | 58.9 | 53.2 |

Sources:    The data for employment rates came from government surveys on the characteristics of older people and their work (*Kōnenreisha Shūgyō Jittai Chōsa Hōkoku*) for the corresponding years. For more detail, see Rōdō Daijin Kanbō Tōkei Jōhō-bu Jōhōkaiseki-ka (1981), Rōdō Daijin Kanbō Seisaku Chōsa-bu Tōkei Chōsa Dai-Ikka (1985) and Rōdō Daijin Kanbō Seisaku Chōsa-bu (1990) for the 1980, 1983 and 1988 data, respectively. The consumer price indexes used for deflating the pension levels to 1980 values came from Statistics Bureau, Management and Co-ordination Agency (1984) and (1990).

Notes:      Different pension bands are used for each survey year. The employment rates that correspond to the real pension bands used in the 1980 survey are estimated in the following manner. Once the pension ranges have been converted to 1980 values by deflating by the consumer price index, the middle value of each range in calculated. The given employment rates are assumed to correspond to this mid-point, rather than being an average value for a particular range. It is also assumed that the employment rate values for each mid-value can be joined by a line. The employment rate corresponding to 1980 limits is calculated by taking the employment rate corresponding to the mid-value of the range nearest to the mid-value of the 1980 range and adding to it the change in the value of the employment rate that occurs with movement along the line-segment to the actual mid-value of the 1980 pension band. This method cannot be used for the upmost band which has no upper limit. Therefore the untreated employment rate for this band is given in brackets, but these rates are not directly comparable.

Table 7.18 shows that there has been little discern ble change in the employment rate for people belonging to each pension band, except for possibly the upmost band. The average employment rate, however, has been declining over time. This trend suggests that as the various pension systems mature, the percentage of pensioners belonging to the high pension bands is increasing, thus reducing the

average employment rate. In other words, a greater proportion of pensioners will have contributed for the full contribution period. The trend indicates that in future, with further maturing of the pensions system and an increasing proportion of pensioners receiving the more generous *kōsei nenkin* (welfare pension), the probability of leaving the labour force and unemployment pool (that is, the transition rates *en* and *un*) will increase, exerting a downward influence on the number of older workers remaining unemployed. The pension systems are expected to impose an ever increasing burden on the Japanese fiscal system, leading to the possibility of a reduction in benefit levels. Moves to lower the level of future contributions have already taken place and further changes to the pensions systems can be expected in the future to reduce the generosity of benefits. These policy changes are discussed in more depth in Chapter Nine. It is thus possible to conclude that prediction of the *un* and *en* transition rates is impossible, but the noticeable trend in the rising level of real pension benefits is not likely to continue and therefore continuing rises in these transition rates are also unlikely.

The second important factor mentioned above was the effect of the conditions in the labour market for older workers on their withdrawal from the labour force. If demand for workers is weak, workers will tend to leave the labour force, including those in the unemployment pool due to the discouraged worker effect. One indicator of such behaviour is a correlation between the labour force participation rates and estimates of the degree of slack in the labour market. Both women and older male workers in Japan show a strong tendency to become discouraged from remaining in the labour force when there is a cyclical downturn (Ono 1981). It is not clear, however, how labour force participation rates of older males would

respond to a permanent deterioration the labour market they face. It is probable that the discouraged worker effect is strongly correlated with the level of pension benefits that are receivable. Thus, this discouraged worker effect can be viewed as being secondary to the effect of the level of pension benefits on the *en* and *un* transition rates.

### b)    Unemployment benefit

Another factor that may have an effect on the *un* transition rate is the availability of unemployment benefit. The impact of unemployment benefit could reduce the *un* transition rate by encouraging people to stay in the unemployment pool. The *ue* transition rate may also be similarly affected.  According to job search theory (Elliott 1991), one factor that is deemed to be important in determining the duration and level of unemployment is the level and duration of unemployment benefits provided by the social insurance system. People searching for jobs will continue to search for a worthy job so long as the expected benefits of search (higher wages or a more amenable job) outweigh the cost of being unemployed. The main cost of being unemployed is the wage foregone. If the job searcher receives social security benefits, the cost of job search is reduced and the searcher will raise the standards of acceptability for job offers and thus will search  . for longer, raising the stock of the unemployed in the aggregate. I shall not attempt here to gauge the effect of the unemployment insurance scheme (*koyō hoken seido*) myself, for it is not the aim of this chapter. A brief account of Shinotsuya's (1977, 1982) work is sufficient for the purposes of this chapter. Shinotsuya attempted  to show that the unemployment insurance scheme in Japan would lead to higher unemployment and a lower employment rate. Her first results showed only that there was a negative correlation between the employment rate and the total

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expenditure of the government allotted to unemployment benefit (Shinotsuya 1977). In a later paper (Shinotsuya 1982) Shinotsuya attempted to show that unemployment would tend to last while the unemployed person was eligible to receive benefits and that as soon as the unemployment benefits were stopped the unemployed would take a job. She found that 45.2% of unemployed men took a job in the month after unemployment benefits were stopped. The proportion of men taking jobs after termination of benefits was lower for the higher age groups and was particularly low for men above the age of 55. One interpretation is that such results show that older males are not affected by unemployment benefit, since they tend to continue to be unemployed even when benefits are terminated. Shinotsuya prefers to interpret the results as indicating that unemployment benefit is treated by the older unemployed as a retirement bonus, while it lasts. Finally, Shinotsuya notes that only one in four unemployed are eligible for unemployment benefit. One important point emerges in relation to the high unemployment rate of older workers. Shinotsuya notes that the proportion of all male unemployment benefit receivers who are above 55 is greater than the proportion of men enrolled on the unemployment benefit scheme above the age of 55. Given that older people receive benefit for a longer period than younger people, the nature of the unemployment scheme may be responsible for increasing the duration of unemployment amongst older people and hence their weighting in the aggregate stock of unemployed, as was noted earlier in this chapter. It should also be borne in mind, however, that the expected benefits of job search for older workers are relatively low, since they have a shorter time than younger workers in which to recoup the cost of their investment (job search). Thus, the usefulness of job search theory in explaining unemployment of older workers is limited.

Although it is possible that the longer duration of unemployment of older men is caused by the longer availability of unemployment benefit for this age group, the effect is unlikely to be large, particularly when it is considered that roughly 25% of the unemployed receive any benefit. Secondly, if there is no change to the benefit system or the level of benefits, any effect that the unemployment scheme has on older men is likely to remain constant.

The *en* transition rate is affected by pensions in a similar way to the *un* transition rate. The availability of pensions and their level will also encourage older men to leave the labour force upon retirement, so that they by-pass the unemployment pool altogether. In the past, there has been a five year gap between the mandatory age of retirement set by companies and the eligibility age for old age pension benefits. This gap lowered the *en* transition rate. In recent years, the eligibility age and retirement age have converged as the retirement age was raised by most companies (see Chapter Four and Chapter Nine). In the future, however, the government intends to raise the eligibility age further and thus recreating the gap. This measure is discussed in more depth in Chapter Nine. So, depending on the government's success in implementing the policy, the *en* rate can be expected to remain the same as at present or to rise.

If the *un* level increases because of rising pension levels, it is likely that the *nu* level will decrease, given the level of aggregate demand in the economy.

c)    **Conclusion to the factors influencing the *un* transition rate**
The evidence suggests that labour force participation rates of older men are influenced by the level of old age pension benefits and that

participation rates have been falling because a proportion of older people are receiving higher levels of benefit. Thus the *un* transition rate will be sensitive to changes in the public pension schemes. The changes in pension schemes are difficult to predict, but Chapter Nine shows that the government wishes to reduce the generosity of public old age pension benefits.

## Section 6 Conclusion to this chapter

In this chapter I have attempted to give some insights into the future trends in the unemployment rates of older men and, by extension, trends in the future macro unemployment rate. The inspiration for the chapter came from a number of projections with respect to the labour market that have appeared recently. These projections point to a future excess labour demand under the assumption that unemployment rates will remain constant. Given the employment practices of Japanese companies and the ageing of the population, I feel that this important assumption cannot be overlooked and that such projections fail to come terms with the true nature of the labour market problems that will be caused by population ageing.

In Section Two, the most common macro labour market approaches were discussed and a more appropriate framework for analysis was described. With this framework it is not yet possible to estimate number series for future trends in unemployment, given the data that is available in Japan, but a quantitative and qualitative examination of important factors was given in Section Five. Section Four consisted of an analysis of unemployment during 1965 to 1985 that showed that much of the rise in the macro unemployment rate can be explained by the rising unemployment rates of the older age groups that occurred as the population aged over this period, in

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spite of falling labour force participation rates amongst older men. Section Five examined the factors that would influence the labour market transition rates (and hence unemployment) of the older age groups and concluded that the trends in all the factors indicate an increase in unemployment given increasing flows out of employment in large firms: there appears to be a limit to the absorption capacity of smaller firms; and the incidence of self-employment amongst older men will fall as the younger generations become older. Appendix 7B compares the trends in unemployment and labour force participation rates of men in OECD countries. As the populations of OECD countries have aged, the unemployment experience of older men has worsened. It seems, however, that unemployment and job-loss of older men has been noticeably high.

Changes in employment practices and changes to the pension systems could decrease the unemployment rate among older people, but these two factors are difficult to predict. If larger Japanese companies do not wish to change their employment practices substantially, the only means of decreasing unemployment would be to maintain a low pension eligibility age. With an ageing population however, such a policy would lead to rapidly growing government expenditure and higher taxes. A substantial change in employment practices is likely to result in lower productivity growth within firms, since the efficiency of existing practices will disappear. The next chapter describes and assesses government attempts to reduce unemployment amongst older workers; and Chapter Nine examines old age pension coverage and recent public pension policy.

**APPENDIX 7A     IS THE LOW JAPANESE UNEMPLOYMENT RATE A STATISTICAL ARTEFACT?**

There has been some active debate over the question of whether the macro unemployment rate in Japan is really much lower than in other countries or not (Taira 1983, Shiraishi 1982, Nagayama 1984 and Sorrentino 1984). The results of the debate to date suggest that unemployment is lower in Japan because of differences in the behaviour of potential labour market participants. The debate is discussed in more detail below.

Unemployment rates for OECD countries used for international comparisons are generally Standardised Unemployment Rates (SURs). SURs are calculated using data from labour force surveys that are based on a Resolution of the Eighth International Conference of Labour Statisticians which was convened by the ILO in Geneva in 1954. The recommendations of the resolution are commonly referred to as the "ILO Guidelines" (OECD 1987 p 125). The basis for the international standard is the classification of each individual above a minimum age into one of three categories. The categories are: employed; unemployed; and those not in the labour force. Some important points which are used to survey and classify people are the following (OECD 1987 p 125-127):

   a)   A specified brief period should be used for classifying people. In other words, the labour market status of people as recorded in the survey is determined by their status during a fixed short period, usually one week. The particular week is normally called the "reference week".

   b)   Anyone who worked for pay or in a business for as little as one hour in the reference week is classified as

employed.

c) Those deemed to be unemployed must meet the following criteria:

    i) they are without work

    ii) they are currently available for work and

    iii) they must have taken specific steps in a specified recent period to seek paid employment or self-employment.

Much of the debate regarding Japanese unemployment rates centres around small differences in survey methodology and definitions. I will discuss the attempts that have been made to adjust for such differences below, but examples of the differences include the following: countries choose different reference weeks, so that seasonal factors will complicate comparisons, and the recent period over which people must have actively sought work to be classified as unemployed differs between countries. The results of adjustment in Japanese unemployment numbers to eliminate differences in survey methods and definitions do not show conclusively that low Japanese unemployment rates are a statistical artefact. Consequently, explanations of the low unemployment rate have centred around arguments based on the concept of "hidden unemployment". The ILO guidelines attempt to set clear conceptual boundaries between the three classifications used, but practical considerations lead to a blurring of the classifications. I quote from *OECD Employment Outlook* (OECD 1987 p 127):

'One of the main criticisms of the "activity" definition of unemployment is indeed that it does not include certain "hidden unemployed" who, while not actively searching for paid work, would begin to search were more jobs available. [Table 5.2 shows that] there are many people who say they want a job and are available for work, but who are not officially

categorised as unemployed. For Australian and Japanese women, in particular, their numbers exceed the official unemployment count'

and;

'Eventually, many may stop looking altogether - in which case, under the 1982 ILO Guidelines, they will cease to be counted as "unemployed". This tendency for some of the jobless whose prospects are poorest to "fall out" of the definition of unemployment is one important reason for taking care not to rely solely on measures based on the 1982 Guidelines for unemployment to assess distress caused by the paucity of job openings'.

Kurosaka (1988 pp 49-63) provides a useful summary of the attempts to adjust Japanese unemployment data so that international comparisons (mainly with the USA) can be made. My account here draws heavily from Kurosaka's account and is not exhaustive. I will give a detailed description of Taira's 1983 paper (Taira 1983) to exemplify the nature of the debate. Taira adjusted the Japanese labour force survey figures so that they corresponded more closely (in his view) to America's BLS figures. Both the surveys are based on the ILO Guidelines described above. Taira concluded that if Japanese unemployment statistics were adjusted to correspond to US definitions, the official unemployment rate would be higher. The main adjustments that Taira made were the following:

a)  In the US, people working for less than 15 hours per week in a family business are categorised as not being in the labour force, whereas in Japan they are included in the labour force. Taira excluded these people from the labour force, therefore reducing the denominator used in calculating the unemployment rate. The effect of

this exclusion was to raise the unemployment rate.

b)   In the US, lay-offs are counted as unemployed, whereas
the Japanese equivalent (according to Taira), *ichiji
kikyū* and *kyūgyō*, were not included in the unemployed
category in Japan. These people were added to the
numerator of the unemployment rate.

c)   In the US, people are only deemed to be unemployed if
they are without work and have carried out active job
search in the last 4 weeks. If they have not actively
sought jobs during that period, they belong to the non-
labour force category. In Japan, people who were not
active in job search during the 4 weeks previous to the
survey date, but who were active more than 4 weeks
previously and are waiting for the results of their
activity are categorised as unemployed. Taira removed
such people from the unemployment figures, thus
decreasing the unemployment rate.

d)   In Japan, people who are planning to take up a job
during the next month are categorised as belonging to
the non-labour force, whereas in the US they are counted
as unemployed. These people were added to the Japanese
unemployment figures, raising the unemployment rate.

e)   Taira also removed the following people from the non-
labour force and added them to the unemployed: people
who were mainly occupied in housework and study, but who
were actively seeking a job that month and moreover were
able to take up a job during that month. This adjustment
also raised the unemployment rate.


Taira's results showed that the above adjustments led to
unemployment rates (*kanzen shitsugyoritsu*) for the years 1977-1980

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that were between 1.04% and 1.86% higher than the official figures. Separate adjusted unemployment rates (AURs) for men and women were also calculated. For men, the adjusted unemployment rate was between 0.51 and 0.83% higher than the official figure; for women, it was between 2.88% and 6.46% higher. The greater effect on the unemployment rate for women is unsurprising, given adjustments a) and e) described above, since the people falling into these categories are more likely to be women. I shall return to this issue below.

Shiraishi (1982) also calculated adjusted unemployment rates based on US definitions. The principle differences between his study and Taira'a are: a) he excluded people "who actively sought a job more than 5 weeks previous to the survey date and are waiting for the results" from the unemployed and

b)   he excluded school leavers from those who "intended to take up a job within 30 days" from the unemployment figures. Taira had included school leavers.

c)   He did not include Japanese "lay-offs" (*ichiji kikyū* and *kyūgyō*) in the unemployment figures, claiming that a lay-off system did not exist in Japan.

The adjustment was performed for 1980 and 1984-86. For 1980, the macro adjusted unemployment rate is 0.2% higher than the official figure, the mens' AUR is 0.6% lower and the women's AUR is 1.3% higher. For the period 1984-86, the difference between overall AUR and the official figure ranges between -0.2% and 0.2%, for men the same ranges between -0.6 and -0.5% and for women it ranges between 0.3 and 1.3%. The principle reason for the difference in the adjusted figures of Shiraishi when compared with Taira is Shiraishi's exclusion of school leavers from the unemployed category (Kurosaka 1988 p 55).

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Nagayama's article (Nagayama 1984) on the problems of standardising unemployment rates focused on Taira's assumption that *ichiji kyūgyō* corresponded to lay-offs in the USA and hence should be categorised as unemployed; and on the problem of school leavers described above. Nagayama claimed that unlike American lay-offs, *ichiji kyūgyō* people received pay and so were not the same as lay-offs. With respect to school leavers, he pointed out that the *Rōdōryoku Chōsa Tokubetsu Chōsa Hōkoku* survey was carried out in March each year and because school leavers also graduated in March and traditionally started a new job on the first of April, many school leavers would be included in the category of those who intended to take up a new job within 30 days and which Taira classified as unemployed. Nagayama viewed the inclusion of school leavers in this category as atypical and a result of the fact that the survey fell at the end of the Japanese academic year. Nagayama's view was that even though there was a spell between graduation and taking up work, such a spell could not be considered a spell of unemployment (ie the spell was really a holiday). Nagayama estimated that exclusion of school leavers from Taira's adjusted unemployment figures would reduce Taira's AUR by approximately 1% (Kurosaka 1988 p 52, Table 2.1). Nagayama accepted Taira's decision to include those who had "searched for a job between 2 and 4 weeks ago and did not look during the survey week" in the unemployment count, but felt that many of these people should not be included since they are only looking for a part-time job (ie they are being fussy). Nagayama seems to have strayed from the point of Taira's study. Taira is attempting to provide figures that can be compared with American figures with confidence, whereas Nagayama appears to be more concerned with the problems of defining unemployment. Nagayama is clearly assuming that American people in that category are always looking for full-time work, which is unlikely. He certainly believes that this aspect shows the

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difference between the US and Japanese labour markets, since he assumes implicitly that this category will contain many discouraged job seekers and that discouraged job seekers are more prevalent in Japan (see below for further discussion of this issue). Finally, Nagayama criticises Taira for including those who looked for work more than 5 weeks previously and are awaiting the results as unemployed, since the American survey makes it clear that people must have been actively looking for work during the four weeks previous to the survey date.

Sorrentino (1984) also attempted a comparison of US and Japanese unemployment rates. Unlike Taira, he excluded those working for less than 15 hours in the family business from the labour force. Job searchers in Japan whose main method of searching for a job was to look at advertisements and to apply through friends also were excluded from the labour force, as were those mainly doing house work or studying, but able to take up work immediately. Like Shiraishi and Nagayama, Sorrentino is wary of using a survey that is carried out in the month that corresponds with the end of the academic year, since he believes that it does not reflect average unemployment conditions. Sorrentino's adjusted unemployment rate for Japan is between 0.2 and 0.4% higher than the official figure. When disaggregated by gender, Sorrentino's figures indicate an unemployment rate for men that is lower than the official figures (by between 0.4 and 0.6%) and an unemployment rate for women that is higher than the official figures (by between 1 and 2%).

Taira's adjustment to the unemployment figures led to the highest upward revision. The debate over the comparison of Japanese and USA unemployment rates has centred around two main aspects: the timing of the labour survey in Japan and the definition and concept of lay-

offs. The inclusion of those who searched for a job between two and four weeks previous to the survey week in the unemployed is less controversial and is recognised in the OECD report (OECD 1987 p 135):

> 'Virtually all countries included in the list of SURs (OECD standardised unemployment rates) are able to provide data meeting the job search criterion with a four week reference period. Japan uses a one week reference period for job search and Norway uses two months. The evidence quoted above for the UK and Australia indicates that this type of difference can have significant consequences for estimates of the numbers of unemployed – of the order of 10 percent for the two countries quoted. However this does not necessarily imply that the OECD SUR for Japan is understated by comparison with other countries because of other factors involved'

It is not clear from the studies described above that the lower unemployment rate in Japan is a statistical artefact. Thus, the studies' authors have tended to look for other reasons for Japan's low unemployment rate. Nagayama's view is that Japanese employment practices explain the low values. He claims that in an economic downturn, firms tend to adjust labour input by reducing the number of hours worked, rather than reducing the number of people employed. The firing of workers is also lessened by practice of re-posting. On the labour supply side, there is a strong tendency for discouraged workers to leave the labour force. Shiraishi (1987) is also of this view. Both Sorrentino and Taira stress the discouraged worker effect and their view is supported by the fact that it is women who tend to leave the labour force in a recession and it is the adjusted unemployment rate for women that are adjusted upwards in their studies.

Ono (1981 p 27) investigates the discouraged worker effect in Japan for the period 1974-75 following the oil shock. He calculates the divergence of the labour force participation rate from the trend labour force participation rate for both men and women together and separately. Out of seven countries, Japan's overall labour force participation rate shows the largest fall in that period. When the figures are disaggregated by gender, the fall in the male labour force participation rate from trend is in the middle of the range for all countries, whereas the fall in the female labour force participation rate from trend is comparatively large (Japan -1.88%; Canada -0.64%; USA 0.23%; France NA; West Germany -0.07%; Sweden -0.34% and UK 0.84%). In other words, the fall in the overall labour force participation rate from trend is largely explained by the tendency for women to leave the labour force rather than for them to push up the number of unemployed. After further investigation, Ono concludes that the behaviour of women during an economic downturn is explained by the "pre-modern" employment structure (*zenkindaiteki na shūgyō kōzō*) of Japan (Ono 1981 p 62). More specifically, the proportion of people who are self-employed or work for family businesses is high and in a downturn, with the family business facing a drop in demand, the family worker will turn to concentrate on housework rather than actively look for a new job outside the family business. In a later study (Ono 1989 p 272), Ono states that another important factor explaining the tendency for women to drop out of the labour force during an economic downturn is the relative job-security of the main income earner of the household (her husband). The relative security of the husband is explained by the Japanese employment practice of 'lifetime employment'. If the husband's employment were not secure, there would be greater pressures on the wife to enter the labour market during economic downturn in order to compensate for the lost income

of the husband. Indeed, the figures quoted from Ono (1981) above show that the labour force participation rates of women increased above trend in the UK and USA, where employment practices are very different.

Eguchi (1988) analyses the links between the macro performance of the Japanese economy and its macro labour market. One aspect of the macro performance of the economy is the change in unemployment that occurs following a demand or supply shock. Eguchi is particularly concerned with the behaviour of unemployment following supply shocks and the speed of adjustment of real wages. He surveys various attempts to calculate the difference between the actual real wage and the real wage required to ensure full employment. The results of these attempts show that real wages are relatively rigid in Japan and that the excess level of real wages in Japan is similar to that in European countries for the period 1965 to 1985. Given these results, Japan would be expected to experience a large rise in unemployment. Although unemployment did rise, it remained much lower than in the European countries compared. To explain this phenomenon, Eguchi uses Japan's Labour force Survey (*Rōdōryoku Chōsa Nenpō*) data to examine how labour input (number employed multiplied by hours worked) is adjusted.

He finds that, for the period 1968-86, changes in male labour input tend to be met by changes in hours worked rather than numbers employed. For women, however, changes in labour input are more likely to be met through changes in numbers employed, rather than changes in hours worked. The labour force participation rate for women is more sensitive to changes in labour input, so that even though the changes in female labour input are met through changes in numbers employed, the unemployment rate for women remains low

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because women leave the labour force. In other words, with a reduction in labour input that occurs during a macroeconomic downturn, women lose their jobs, but leave the labour force and hence do not add to the unemployment figures. Men, on the other hand, do not lose their jobs and so tend not to add to the unemployment figures. The effect of changing male labour input on the male labour force participation rate is small, so that the effect of changing male labour input on male unemployment is greater than in the case of women. The table below summarises these results. It shows Eguchi's elasticities of the rate of change of hours per person, numbers employed and labour force with respect to changes in labour input, for both sexes and for men and women separately.

Table 7A.1 showing the elasticity of the rates of change of hours worked, number employed, number in labour force and the change in the unemployment rate with respect to changes in labour input (number of people working multiplied by hours worked)

| | hours | number employed | labour force | unemployment |
|---|---|---|---|---|
| men and women | 0.580 | 0.420 | 0.367 | 0.054 |
| men | 0.891 | 0.109 | 0.035 | 0.074 |
| women | 0.224 | 0.776 | 0.762 | 0.015 |

Source:    Eguchi (1988) p 68.
Notes:     The figures are calculated using labour force data for the period 1968-1986. The table shows that if rate of change of labour input falls by one percent, for example, the rate of change of hours worked by men falls by 0.891%.

The studies described above seem to show that Japan's low unemployment rates are not a statistical artefact – rather they are the product of the nature of the labour market in Japan. Nagayama's claim that the existence of lifetime employment leads to a low level of unemployment is confirmed by Eguchi's figures that show that changes in male labour input are met through changes in hours worked. The claim of Sorrentino, Taira and Ono that the low unemployment rates are caused by the procyclical nature of the female labour force participation rate is also confirmed and Ono's view that the procyclical nature is explained by women's husbands having stable jobs is particularly apt. Finally, I would like to add one further comment. If the behaviour of the Japanese labour market does not change (ie employment practices remain the same as do labour supply decisions), a rise in the unemployment rate will be caused by a rise in the number of men, rather than women, losing their jobs.

In summary, Japan's relatively low unemployment rate does not appear to be a statistical artefact. The authors of comparative studies emphasize the labour supply and demand characteristics peculiar to

Japan to explain the low unemployment rate.

**APPENDIX 7B    A BRIEF INTERNATIONAL COMPARISON OF POPULATION**
**AGEING, LABOUR FORCE PARTICIPATION AND UNEMPLOYMENT**
**IN OECD COUNTRIES**


The purpose of this appendix is to describe the unemployment and
labour force participation experience of older men in other
industrialised countries that are experiencing population ageing.
This description places the Japanese trends analysed in Chapter
Seven in a comparative context. As Layard *et al* (1991) note:
"Unemployment is, of course, almost everywhere more common among
young people than among adults. Very often the difference results
from higher inflow rates - and certainly not from unusual duration.
The youth unemployment problem was accentuated in the 1980s by a big
rise in the relative number of youths, reflecting the baby boom of
the late 1950s and 1960s. In consequence much more attention has
been devoted to youth unemployment than to any other aspect of
unemployment". As a consequence of this focus of attention, material
on the relationship between population ageing and the increase in
aggregate unemployment rates is scarce. A cursory look at the
contents of the OECD *Employment Outlook* for the 1980s will confirm
this phenomenon: it is only in 1988 that these volumes turn to
employment aspects of the older age groups, rather than
concentrating on youth unemployment problems. The data and
information used in this appendix are drawn mainly from OECD
publications published in the late 1980s and early 1990s. The survey
presented here is necessarily broad and covers a short time span,
since a more substantial study would deflect from the main purpose
of this dissertation. Thus, a detailed discussion of the factors
which may explain the trends is not given, because each country has
its own set of social security policies and labour market
institutions that will influence participation rates and

unemployment. A short discussion of important factors common to most countries that affect the unemployment experience of older men is given towards the end of the appendix.

First, it is necessary to show that most of the OECD countries have experienced population ageing. Table 7B.1 below shows the proportion of people over 65 in 24 OECD countries for the years 1950 and 1990 and shows the percentage point change over the decade.

Table 7B.1 showing the proportion of the population over the age of 65 for the years 1950 and 1990; and the percentage point change over the three decades.

| Country | 1950 A | 1990 B | Percentage point change (B -A) |
|---|---|---|---|
| Australia | 8.1 | 11.1 | 3 |
| Austria | 10.4 | 14.6 | 4.2 |
| Belgium | 11.0 | 14.2 | 3.2 |
| Canada | 7.6 | 11.4 | 3.8 |
| Denmark | 9.1 | 15.3 | 6.2 |
| Finland | 6.6 | 13.1 | 6.5 |
| France | 11.3 | 13.8 | 2.5 |
| Germany | 9.3 | 15.5 | 6.2 |
| Greece | 6.7 | 12.3 | 5.6 |
| Iceland | 7.6 | 10.3 | 2.7 |
| Ireland | 10.6 | 11.3 | 0.7 |
| Italy | 8.0 | 13.8 | 5.8 |
| Japan | 5.2 | 11.4 | 6.2 |
| Luxembourg | 9.8 | 14.6 | 4.8 |
| Netherlands | 7.7 | 12.7 | 5 |
| New Zealand | 8.9 | 10.8 | 1.9 |
| Norway | 9.5 | 16.2 | 6.7 |
| Portugal | 6.9 | 11.8 | 4.9 |
| Spain | 7.3 | 12.7 | 5.4 |
| Sweden | 10.2 | 17.7 | 7.5 |
| Switzerland | 9.6 | 14.8 | 5.2 |
| Turkey | 3.3 | 4 | 0.7 |
| United Kingdom | 10.7 | 15.1 | 4.4 |
| United States | 8.1 | 12.2 | 4.1 |
| Average | 8.5 | 13 | 4.5 |

Table 7B.1 above shows that all countries have experienced

population ageing between 1950 and 1990. Japan has experienced the fourth largest percentage point change and this change is 1.7 points above the average for all 24 OECD countries.

Table 7B.2 below gives the overall aggregate labour force participation rates, and the aggregate labour force participation rates for each sex in 1965 and 1984, for most of the OECD countries. The majority of countries, including Japan, show an increase in the aggregate labour force participation rate. All but one country, however, show a decrease in the male labour force participation rate; and all but one country show an increase in the female labour force participation rate. Thus, it is clear that in most countries, the fall in the male labour force participation rate has been offset by an increasing proportion of women entering the labour force. To ensure consistency with the rest of the thesis, further analysis will cover trends in the male labour force only.

Table 7B.2 showing aggregate labour force participation rates (percentages) for the years 1965 and 1984

| Country | Total | | Male | | Female | |
|---|---|---|---|---|---|---|
| | 1965 | 1984 | 1965 | 1984 | 1965 | 1984 |
| Australia | 67.7 | 69.9 + | 94.1 | 85.6 − | 40.0 | 52.7 + |
| Austria | 67.7 | 67.3 − | 87.2 | 79.9 − | 50.1 | 55.2 + |
| Belgium | 63.0 | 63.9 + | 88.2 | 77.8 − | 38.0 | 49.6 + |
| Canada | 63.9 | 72.8 + | 88.0 | 84.5 − | 39.7 | 61.2 + |
| Denmark | 73.0 | 81.7 + | 96.8 | 87.6 − | 49.3 | 74.2 + |
| Finland | 74.7 | 78.3 + | 87.6 | 82.7 − | 62.6 | 74.0 + |
| France | 67.2 | 66.0 − | 89.7 | 77.4 − | 45.7 | 54.7 + |
| Germany | 70.5 | 64.3 − | 94.1 | 79.3 − | 49.0 | 49.4 + |
| Ireland | 67.3 | 62.6 − | 98.7 | 87.1 − | 35.2 | 37.9 + |
| Italy | 61.8 | 60.1 − | 90.5 | 79.7 − | 34.6 | 41.1 + |
| Japan | 71.9 | 72.7 + | 88.6 | 88.3 − | 55.8 | 57.2 + |
| Netherlands | 59.3 | 59.5 + | 76.0 | 80.1 + | 25.8 | 39.8 + |
| New Zealand | 63.7 | 65.2 + | 92.5 | 84.6 − | 34.2 | 45.8 + |
| Norway | 63.5 | 76.3 + | 89.9 | 86.3 − | 36.9 | 66.1 + |
| Portugal | 61.2 | 65.6 + | 103.3 | 84.0 − | 23.6 | 53.2 + |
| Spain | 61.5 | 55.5 − | 96.4 | 78.6 − | 29.2 | 32.7 + |
| Sweden | 72.9 | 81.5 + | 91.4 | 85.5 − | 54.1 | 77.4 + |
| Switzerland | 78.6 | 68.7 − | 106.5 | 89.9 − | 51.6 | 48.8 − |
| UK | 72.8 | 73.3 + | 97.1 | 87.6 − | 49.0 | 59.0 + |
| US | 66.2 | 73.4 + | 88.7 | 84.9 − | 44.3 | 62.8 + |

Source:    OECD (1988) p 55, Table 26.
Notes:     The participation rate is found by dividing the number in the labour force by the population aged 15 to 64. Data for some countries are for dates that are different, but close to, the dates shown in the column headings – for more detail see data source. Participation rates greater than 100% occur when labour force data include people not included in population data. For example, in the case of Switzerland, foreign and seasonal workers who are included in the labour force figures are not included in the population figures. The – and + signs in the 1984 columns show whether the rate has fallen or risen.

Table 7B.3 shows the male labour force participation rates for specific age groups. With the exception of Canada and the United States, male labour force participation rates for the 15-24 age group have shown a decline between 1965 and 1985. This falling labour force participation rate can be largely explained by an increasing participation in post-compulsory education (OECD 1988 p 58). Participation rates for the 25-54 age group (called the prime age group in OECD publications) have fallen slightly, but there have been noticeable declines for the 55-64 and 65 plus age groups, with Japan showing the smallest change for both of these age groups. Given that all of these countries have ageing populations, the majority of the fall in the male aggregate participation rate can probably be explained by the fall in the participation rates of older men.

Table 7B.3 showing male labour force participation rates of four age groups for the years 1965 and 1985

| Country | Date | 15-24 | 25-64 | 55-64 | 65+ |
|---------|------|-------|-------|-------|-----|
| Australia | 1965 | 78.9 | 97.3 | 85.8 | 23.3 |
| | 1985 | 73.7 | 93.5 | 60.4 | 8.9 |
| Canada | 1965 | 57.2 | 97.1 | 86.4 | 26.3 |
| | 1985 | 70.1 | 93.8 | 70.2 | 12.3 |
| Finland | 1965 | 65.8 | 94.8 | 81.5 | 18.0 |
| | 1985 | 62.6 | 93.5 | 57.8 | 10.6 |
| France | 1965 | 65.3 | 96.1 | 76.0 | 28.3 |
| | 1985 | 49.0 | 95.9 | 50.1 | 5.3 |
| Germany | 1965 | 78.1 | 96.6 | 84.6 | 24.0 |
| | 1985 | 60.5 | 91.4 | 57.5 | 5.2 |
| Italy | 1965 | 60.9 | 94.7 | 54.8 | 18.4 |
| | 1985 | 48.1 | 92.1 | 38.2 | 8.9 |
| Japan | 1965 | 59.0 | 96.7 | 86.7 | 56.3 |
| | 1985 | 42.6 | 96.7 | 83.0 | 37.0 |
| Netherlands | 1970 | 64.8 | 96.4 | 80.8 | 11.4 |
| | 1985 | 48.6 | 93.3 | 53.8 | 4.0 |
| Spain | 1970 | 70.6 | 96.5 | 84.2 | 25.9 |
| | 1985 | 64.4 | 94.1 | 66.3 | 5.9 |
| Sweden | 1965 | 71.7 | 96.2 | 88.3 | 37.7 |
| | 1985 | 65.7 | 95.2 | 76.0 | 11.0 |
| United Kingdom | 1965 | 77.4 | 98.4 | 92.7 | 23.7 |
| | 1985 | 71.6 | 95.2 | 66.4 | 7.6 |
| United States | 1965 | 70.9 | 95.7 | 82.9 | 26.6 |
| | 1985 | 75.3 | 90.8 | 59.7 | 10.3 |

Source:    OECD (1988) pp 56-57, Table 27.
Notes:     The participation rate for a given age group is the ratio of the total civilian labour force to the population for that age group. Data for some countries are for dates that are different, but close to, the dates shown; also the age groups differ for some countries slightly: for more detail see data source.

The OECD *Employment Outlook 1992* contains a study of the relationship between labour market participation of older workers and the increasing prevalence of early retirement. The study concentrates on an analysis of the supply side decisions of older workers and concludes that the fall in participation rates has been caused mainly by the increasing generosity of social security systems towards older people. The factors leading to such a conclusion will be examined in more depth below. First, a description, using data provided in the study, of the trends in unemployment of older workers is given. Such a description is important, since those in the labour force are either working or unemployed and the number of unemployed might be reduced by the existence of social security benefits that ease the withdrawal from the labour force.

Table 7B.4 shows male unemployment as a percentage of the labour force for older and prime-age groups; and Table 7B.5 shows the change in percentages between 1980 and 1990, for 16 OECD countries. It is difficult to establish a common pattern for the unemployment percentages and change in those percentages, but some general comments can be made: first, the unemployment rate for either the 55-59 age group or the 60-64 age group is higher than for the prime-age group in 1990 in the majority of countries; second, in the majority of countries, the increase in the unemployment rate of the older age groups was greater than for the prime-age group; and thirdly, but less significantly, the increase in unemployment rates for men aged 60-64 was less marked than for the other age groups.

Surprisingly, Japan is the only country that shows a fall in the unemployment rate of the 55-59 age group over the ten years, but this is probably explained by the rise in the mandatory company retirement age that occurred during the same period (see Chapter Four). More generally, it is clear that over the 1980s, the unemployment experience of the older groups worsened.

The difficulty in establishing a general trend in the change in unemployment rates amongst older age groups can partly be explained by early retirement schemes and similar schemes introduced by the governments of each country. For example, it is believed that the fall in the unemployment rate of the 60-64 age group in the UK is explained by the introduction of the Job Release Scheme 1976 and a relaxation of the scheme regulations in 1983 (OECD 1992 p 216 and White 1983 p 26). Originally, the Job Release Scheme allowed older workers to retire early if the employer replaced the retiree with a person under the age of 30. From 1983, the retiree could be replaced with any other worker.

Table 7B.4 showing male unemployment rates of different age groups for the years 1980 and 1990.

| | 1980 | | | 1990 | | |
|---|---|---|---|---|---|---|
| | 55-59 | 60-64 | 25-54 | 55-59 | 60-64 | 25-54 |
| Australia | 3.2 | | 3.2 | 6.3 | | 4.9 |
| Canada | 4.2 | | 4.9 | 6.2 | | 7.1 |
| Finland | 3.8 | 2.7 | 3.9 | 3.9 | na | 3.4 |
| France | 4.3 | 5.6 | 2.8 | 7.0 | 3.0 | 6.2 |
| Germany | 3.8 | 5.8 | 1.8 | 9.0 | 6.4 | 5.5 |
| Ireland | 8.8 | | 10.5 | 15.2 | | 16.8 |
| Japan | 3.1 | 4.6 | 1.5 | 2.3 | 5.1 | 1.4 |
| Netherlands | 2.6 | 5.2 | 3.4 | 5.6 | 3.8 | 4.5 |
| Portugal | 0.0 | 0.7 | 2.0 | 2.6 | 3.2 | 2.1 |
| Spain | 6.5 | 5.3 | 7.7 | 9.0 | 7.2 | 9.3 |
| Sweden | 1.0 | 2.3 | 1.1 | 1.1 | 1.4 | 1.1 |
| UK | 6.0 | 14.9 | 5.0 | 8.9 | 3.5 | 6.7 |
| US | 3.3 | 3.5 | 5.0 | 3.9 | 3.5 | 4.4 |

Source:     OECD (1992) p 207 Table 5.9.
Notes:      Data for some countries are for dates that are different, but close to, the dates shown; also the age groups differ for some countries slightly: for more detail see data source.

Table 7B.5 showing the percentage point change in the male unemployment rates of different age groups between 1980 and 1990

| Country | 55-59 | 60-64 | 25-54 |
|---|---|---|---|
| Australia | 3.1 | | 1.7 |
| Canada | 2.0 | | 2.1 |
| Finland | 0.1 | -2.7 | -0.6 |
| France | 2.7 | -2.6 | 3.5 |
| Germany | 5.2 | 0.6 | 3.7 |
| Ireland | 6.4 | | 6.3 |
| Japan | -0.8 | 0.5 | -0.1 |
| Netherlands | 3.0 | -1.4 | 1.1 |
| Portugal | 2.6 | 2.4 | 0.1 |
| Spain | 2.5 | 1.9 | 1.6 |
| Sweden | 0.1 | -0.9 | 0.0 |
| United Kingdom | 3.0 | -11.4 | 1.7 |
| United States | 0.7 | 0.0 | -0.6 |

Source:    OECD (1992) p 207, Table 5.9.
Notes:     Data for some countries are for dates that are
           different, but close to, the dates shown; also the age
           groups differ for some countries slightly: for more
           detail see data source.

Another potent indicator of the worsening unemployment experience of older workers is the percentage of the unemployed accounted for by the long-term unemployed for each age group. Table 7B.6 shows these percentages for men for the two years 1983 and 1989, and the change in the percentage between these years. In virtually all the countries, a larger percentage of older men experience long-term unemployment than prime-age men. Moreover, in virtually all countries, the percentage point change in the percentage of long-term unemployed has increased more than the same percentage point change for prime age workers.

Table 7B.6 showing the proportion of male unemployed who are long-term unemployed and the percentage point change over the years 1983-1989

| Country | 1983 | | 1989 | | Percentage point change '83-'89 | |
|---|---|---|---|---|---|---|
| | 55-64 | 25-54 | 55-64 | 25-54 | 55-64 | 25-54 |
| Australia | 36.2 | 32.6 | 48.7 | 30.6 | 12.5 | -2.0 |
| Belgium | 81.7 | 66.4 | 74.8 | 82.5 | -6.9 | 16.1 |
| Canada | 15.0 | 12.9 | 16.7 | 8.2 | 1.7 | -4.7 |
| Denmark | 36.5 | 32.3 | 37.5 | 26.0 | 1.0 | -6.2 |
| France | 66.5 | 38.5 | 67.1 | 43.2 | 0.6 | 4.7 |
| Germany | 47.2 | 45.0 | 73.4 | 55.5 | 26.1 | 10.5 |
| Greece | 25.6 | 27.2 | 49.3 | 46.5 | 23.7 | 19.3 |
| Ireland | 57.8 | 49.7 | 82.7 | 76.1 | 24.9 | 26.4 |
| Italy | 45.4 | 53.5 | 59.4 | 66.3 | 14.0 | 12.8 |
| Japan | 24.0 | 13.3 | 33.3 | 22.5 | 9.3 | 9.2 |
| Netherlands | 64.7 | 55.5 | 80.9 | 69.3 | 16.3 | 13.8 |
| Spain | 41.5 | 49.7 | 58.8 | 53.1 | 17.3 | 3.4 |
| Sweden | 30.3 | 8.4 | 25.7 | 6.9 | -4.6 | -1.4 |
| UK | 58.7 | 56.7 | 69.7 | 55.1 | 11.0 | -1.6 |
| US | 22.4 | 19.5 | 12.0 | 9.9 | -10.4 | -9.6 |

Source:     OECD (1992) p 208, Table 5.10.
Note:       Long-term unemployment is defined as unemployed for twelve months of more.

An examination of unemployed job losers and withdrawal from the labour force also contributes to the understanding of the unemployment of older age groups. Job-losers account for a large proportion of    all (men and women) unemployed in most OECD countries: the proportion ranges from a low of 28.7% for Italy (followed by 28.9% for Japan) and a high of 68.4% for Denmark OECD 1990). Unfortunately, data for the percentage of the unemployed accounted for by job-losers that are disaggregated by sex and age group are not available. The *OECD Employment Outlook 1990* (OECD 1990 p 49) does, however, provide a series of statistics for 14 countries showing the relative risk of becoming an unemployed job-loser for

men and women in different age groups. The relative rate of risk is calculated by dividing the percentage of total unemployed job-losers accounted for by that particular group by the percentage of total labour force accounted for by the same group. If the rate of risk is one, then that group has an average risk; if the rate is above one, the group faces an above-average risk of becoming an unemployed job-loser. Table 7B.7 shows the rate of risk of job loss for men in different age groups in 1987 (some figures are for 1986).

Table 7B.7 showing the relative risk of becoming a male unemployed job-loser for different age groups.

| Country | Total | under 25 years | 25 to 44 years | 45 years plus |
|---|---|---|---|---|
| Australia | 1.0 | 2.3 | 0.7 | 0.8 |
| Belgium | 0.7 | 1.0 | 0.7 | 0.6 |
| Denmark | 0.9 | 1.1 | 0.8 | 0.9 |
| France | 0.9 | 1.9 | 0.7 | 0.8 |
| Germany | 1.0 | 1.1 | 0.9 | 1.0 |
| Greece | 0.9 | 1.5 | 0.9 | 0.8 |
| Ireland | 1.2 | 1.6 | 1.2 | 0.9 |
| Italy | 0.7 | 1.8 | 0.7 | 0.4 |
| Japan | 1.2 | 0.6 | 0.6 | 2.2 |
| Portugal | 0.7 | 1.5 | 0.6 | 0.4 |
| Spain | 0.9 | 1.9 | 0.8 | 0.6 |
| Sweden | 1.1 | 2.0 | 0.8 | 0.9 |
| United Kingdom | 1.3 | 1.9 | 1.1 | 1.2 |
| United States | 1.2 | 1.7 | 1.3 | 0.9 |

Source:     OECD (1990) p 49, Table 2.2.
Notes:      The rates of risk for Denmark, Greece and the UK are for 1987. The rate of risk for Sweden is for 1986. The total rate of risk shows the risk of becoming an unemployed job-loser for men relative to the risk for women. Thus, it is possible for the risk rates for every age group of a given country to be greater than one.

For virtually all the countries, the age group most at risk is the under 25 age group. The exceptions to this finding are Japan and Germany: for Germany, the rate of risk of the over 45s is equal to

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that of the under 25s; whereas for Japan, the rate for the over 45s is nearly three times that of the rate for the under 25s. It should be stressed that this data cannot be used to show which age groups are more likely to lose their job: rather, it shows the risk of losing a job and then remaining unemployed. Thus, if those in a particular age group have the same risk of losing a job as those in another age group, but tend to leave the labour force upon job loss, the rate of risk of becoming an unemployed job-loser will be lower for that group than for the other group. Due to the existence of early retirement benefits (both private and public), the older job-losers are more likely to leave the labour force than remain unemployed. Table 7B.8 shows the ratio of job-losers not in the labour force to job-losers remaining unemployed, for men belonging to different age groups.

Table 7B.8 showing the ratio of the number of job-losers who left the labour force to the number of job-losers who remained unemployed.

| Age group | Aus-tralia 1988 | Belgium 1988 | Canada 1988 | Denmark 1987 | France 1988 | Ger-many 1988 |
|---|---|---|---|---|---|---|
| All men | 0.5 | 1.0 | 0.8 | 0.7 | 0.4 | 0.9 |
| under 25 | 0.7 | 0.1 | 1.3 | 1.6 | 0.4 | 0.3 |
| 25-44 | 0.6 | 0.1 | 0.8 | 0.5 | 0.2 | 0.2 |
| 45+ | 2.3 | 4.3 | 1.0 | 1.2 | 3.6 | 2.3 |

| Age group | Greece 1987 | Ireland 1988 | Italy 1988 | Japan 1981 | Nether-lands 1983 | Por-tugal 1988 |
|---|---|---|---|---|---|---|
| All men | 0.2 | 0.1 | 0.5 | 0.8 | 0.3 | 0.3 |
| under 25 | 1.3 | 1.1 | 1.1 | 1.1 | 0.3 | 1.2 |
| 25-44 | 0.7 | 0.3 | 0.3 | 0 | 0.2 | 0.4 |
| 45+ | 1.3 | 2.8 | 2.7 | 1.5 | 4.5 | 1.9 |

| Age group | Spain 1988 | UK 1987 | US 1988 |
|---|---|---|---|
| All men | 0.2 | 0.4 | 0.7 |
| under 25 | 0.7 | 0.3 | 1.8 |
| 25-44 | 0.2 | 0.2 | 0.3 |
| 45+ | 2.9 | 2.9 | 1.75 |

Source:    Calculated from data in OECD (1990) pp 45-47.
Notes:     Disaggregated data for Japan later than 1981 is not available. Age groups for Canada are: under 25, 25-54 and 55+. See OECD (1990 pp 73-75) for country-specific definitions.

Table 7B.8 above shows quite clearly that, for all countries, older men are more likely to leave the labour force than younger men following job-loss. There are two important implications arising from these results: the first is that the low rate of risk of becoming an unemployed job-loser is probably explained by the high propensity to leave the labour force, rather than a low risk of job loss; and the second is that despite the high propensity of older

male job-losers to leave the labour force, the older male unemployed experience a longer duration of unemployment.

It is feasible that the rise in unemployment amongst older men during the 1980s is partly explained by a fall in the in the propensity to leave the labour force. For some of the countries listed in Table 7B.8 above, it is possible to calculate the labour force leaver ratio for an earlier year in the 1980s (usually 1983). My calculations show that for 5 countries the ratio remained unchanged or rose, whereas for 5 countries that ratio fell. Thus, there is no clear trend in the propensity of the older job-losers to leave the labour force. Furthermore, the change in ratios may be misleading, since 1983 was a year of sluggish output growth for most countries, whereas 1988 was a year of relatively high growth.

In the chapter on labour force participation and early retirement in the *OECD Employment Outlook 1992* it is suggested that the high propensity of the 60-64 and 65+ age group to leave the labour force is the result of expanding early retirement programmes during the 1980s; and that many of the programmes were expanded to deal with rising unemployment in the early 1980s (OECD 1992 p 222). This suggestion is supported by figures for the 1980s showing the percentage of older age groups receiving some form of early retirement benefit (OECD 1992 p 214). Out of seventeen schemes, all but four show a rise in this percentage between 1980 and 1990. One of the most striking examples is the early retirement pay scheme in Denmark: in 1980, 15.9% of the 60-66 age group were receiving early retirement pay; by 1990 the percentage had risen to 28.5%. More generally the percentage point increases range from a low of 0.6 to a high of 14.8. It is difficult to establish the direction of causality between the expansion of up-take in early retirement

benefits and propensity to leave the labour force: the schemes were expanded in period when unemployment was rising and the high propensity to leave the labour force may merely be a reflection of the increasing difficulty in finding jobs, leading to a discouraged worker effect. Data on discouraged older workers is scanty, but the same chapter provides data that suggest that discouragement is much higher amongst older workers (55-64) than amongst other age groups (OECD 1992 p 211, Table 5.13). Nonetheless, it seems reasonable to assume that the relative ease of access to income support for older workers has contributed to the high propensity to leave the labour force. In other words, the unemployed are more likely to become discouraged if there are sources of income support other than employment.

It has not been possible to provide data that cover the same time-span for each aspect discussed above, but in conclusion, it is clear that the population of all OECD countries has aged in the last thirty years. The male labour force participation rates have fallen and the most dramatic falls can be seen in the older age groups. While the labour force participation rates of older men have fallen, the likelihood of experiencing unemployment has increased; and moreover, the unemployment is more likely to be of a long-term nature. This rise in unemployment has occurred in spite of the high propensity for older people to leave the labour force upon job-loss; and in spite of the introduction and high up-take of early retirement provisions in many countries. Although the risk of job-loss followed by unemployment for older males tends to be lower than for prime age men, the high propensity to leave the labour force of older men suggests that the risk of job-loss for this age group is substantially higher than for prime age men; but this hypothesis cannot be confirmed. In general, it can be concluded from this short

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appendix that unemployment amongst older men would be much more severe without the existence of early retirement schemes.

Japan was one of the countries experiencing relatively rapid ageing in the past 30 years. The unemployment rates of older men in Japan are relatively high compared with the unemployment rates of prime-age men (when compared with other countries). Japan has a strikingly high relative risk of unemployed job-loss for older males. This high risk rate can in part be explained by the relatively low propensity to leave the labour force of older Japanese men (when compared with older men in other countries). Nonetheless, given that the propensity to leave the labour force is lower for prime-age Japanese men than for older men, the high risk rate suggests that older men are far more likely to experience job-loss than prime-age men. Although most countries have displayed a worsening unemployment problem for older men, Japan appears to have been one of the worst. The lack of early retirement provisions and short contribution span of Japanese workers to pension funds must be important in explaining the low propensity to leave the labour force. On the other hand, Japanese older males appear to face a higher relative risk of job-loss than older men in other countries.

**CHAPTER 8   THE DEVELOPMENT OF GOVERNMENT LABOUR MARKET POLICIES IN RESPONSE TO THE AGEING OF THE LABOUR FORCE AND AN ASSESSMENT OF THEIR SUCCESS**

## Section 1   Significance of this chapter.

In the previous chapter, the likely behaviour of unemployment as the population ages was examined. It was argued that the employment practices of firms will lead to an increasing macro unemployment rate as employment opportunities for older people become more difficult to find and that other factors which could soften this rise in unemployment were unlikely to have a significant effect. One of the main factors that was not discussed in Chapter Seven was that of the government policies that have been initiated to deal with the growing problem of unemployment amongst older people. The Japanese government, particularly during the 1980s, has become increasingly aware of the growth in unemployment caused by the increasing number of older people seeking unsuccessfully for employment. The main response of the government has been to try and enhance the functioning of the labour market through encouraging employers to change their employment practices and to increase the amount of information available to both job-seekers and prospective employers. Most of the policies have been the result of piecemeal revision to the existing laws that were introduced to deal with the general problem of unemployment that occurred after the second world war. Section 2 describes briefly the main elements of post-war labour market intervention, to provide an understanding of the policy framework in which older person employment policies were made. In Section 3 are described the main elements of the policies introduced to alleviate the unemployment problem of older people. There is also an attempt in Section 3 to assess the performance of the policies, although it should be stressed that there seems to be little

available government material that reports on the effects of the policies that have been introduced. Hence, it is only possible to attempt a partial assessment.

**Section 2 The Post-war Framework of Government Labour Market Policy.**

Before describing the policies that have been formulated to alleviate unemployment amongst older workers, it is necessary to give a brief introduction to the general framework of labour market policy which was developed after the Second World War. It is within the framework set out below that these policies have been developed. There are five main strands to government intervention in the labour market in Japan. These five strands are a) the establishment of public labour exchanges, b) the provision of a state unemployment insurance scheme, c) the implementation of public works programmes to alleviate unemployment, d) special temporary measures to deal with specific short-term unemployment problems and e) an occupational training system. These five aspects and their conception are described in more detail below.

<u>a)</u>    <u>The Job Introduction Scheme (*Shokugyō Shōkai Taisei*).</u>

The Job Introduction Law (*Shokugyō Shōkai-hō*) was established in 1922. Job introduction services were undertaken by local government, but with a revision to the law in 1938, the central state took over their duties (Shimizu 1991 p 37). Between 1941 and 1944, the names of the job exchanges changed. Particularly important were the Labour Offices (*kinrōchō*) which were used to place workers within the planned war-time economy. In 1945, with the end of the war, two central bureaux were set up - the *rōseikyoku* and the new Labour Bureau (*kinrōkyoku*), which replaced the war-time *kinrōkyoku*. The new *kinrōkyoku* oversaw to job introduction services and the assignment

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of disbanded service men and job-losers to new work, through the *kinrōchō* (Shimuzu 1991 p 37). In 1947, the Rōdōshō was established, the *kinrōkyoku* became the Bureau for Labour Stability (*shokugyō antei-kyoku*) and the *kinrōchō* became the Local Public Labour Exchange (*kōkyō shokugyō antei-sho*). The local public labour exchanges were to provide a free job introduction service and non-state agencies were banned from such work. The guiding principles, set out in the new Labour Stability Law (*shokugyō antei-hō*) of the labour exchanges were as follows (Shimizu 1991 p 38):

i)  The exchange must deal with any new requests from employers for workers, regardless of the number of applications for workers the exchange already has on its books. The prospective employer must give details of the nature of the work on offer and details of wages and working conditions.

ii)  The exchange cannot refuse job applicants.

iii)  The exchange will introduce the job applicant to work that complements his skills and ability and introduce workers who are fit for the nature and conditions of the work on offer to employers.

iv)  The exchange must make all efforts to introduce work to the job searcher that would not require the worker to relocate.

v)  The job introduction must make the terms of the job on offer clear.

vi)  The exchange must adopt a neutral stance towards labour disputes.

vii)  The exchange must not divulge any confidential information it possesses regarding either job applicants or employers.

A committee, called the Labour Stability Council (*Shokugyō Antei Shingikai*) was established to debate the role of the labour exchanges. Also a revision to the Law in 1949 allowed schools and labour exchanges to co-operate with each other and also permitted

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schools to undertake free job introduction services.

During the late 1940s and early 1950s, the main purpose of the labour exchanges was to smooth the path of disbanded military personnel into civilian jobs and to meet the requirements of prospective employers in certain industries that were vital to the recovery of the Japanese economy (eg coal mining) (Shimizu 1991 p 39).

b)    The Unemployment Insurance Scheme (*Shitsugyō Hoken Seido*).
The Unemployment Insurance Law (*Shitsugyō Hoken-hō*) was established in 1947 in response to the large surplus labour supply that existed following the end of the war. The law made way for the establishment of a compulsory state-run unemployment insurance scheme. In 1949 an unemployment insurance scheme was also established for day workers (Shimizu 1991 p 40).

c)    Unemployment Countermeasure Works (*Shitsugyō Taisaku Jigyō*).
In 1946 the government passed a resolution on a Framework for Emergency Measures to Increase Employment (*kinkyū shūrō taisaku yōkō*) which aimed to lessen unemployment by implementing public construction works (*doboku jigyō*) and public works for those with special knowledge (*chishiki kaikyū shitsugyō ōkyū jigyō*) (Shimizu 1991 p 40). With the deflation caused by the Dodge Line in 1949, unemployment rose and an emergency law to deal with the problem, the *Kinkyū Shitsugyō Taisaku-hō*, was passed in the same year. This law not only allowed for the establishment of a comprehensive public works programme, but it also required that the percentage of people hired for public works projects who were unemployed should reach a target level (Shimizu 1991 p 40). Thus, projects had to be formulated on the basis of their unemployment absorption capacity

as well as their effects on the economy as a whole. During this period, the number of day workers who were unemployed was particularly high. The public works projects managed to absorb 70% of these people searching for day work (Shimizu 1991 p 40).

d)    Special Measures to Deal with Unemployment arising from Structural Change.

It was felt that it was not possible to avoid the unemployment of large numbers of workers who were made redundant from certain declining industries through the usual measures of public works and registration at a local public labour exchange. Therefore laws were passed in the late 1950s to allow special measures to be taken for designated declining industries. More concretely, the Coal Mining Industry Redundancy Temporary Measures Law (*Tankō Rishokusha Rinji Sochi-hō*) was passed in 1959 (Shimizu 1991 p 41). Based on this law, a new, far-reaching labour exchange scheme was introduced, special public works were instigated to absorb redundant workers and provisions for re-training were established. Following a revision to the law in 1962, allowances for re-training were established, financial aid was given for relocation, subsidies were paid to employers who took on the redundant workers and special housing was provided for their use (Shimizu 1991 p 42).

Another similar law was passed in 1958 for workers made redundant from jobs connected with the occupying forces (*Chūryūgun Kankei Rishokusha-tō Rinji Sochi-hō*), following the start of the withdrawal of the occupying forces in 1957. Similar measures to those described above were implemented (Shimizu 1991 p 42).

e)    The Occupational Training System.

The Occupational Training Law (*Shokugyō Kunren-hō*) was passed in

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1958 (Shimizu 1991 p 42). The aim of the law was to contribute to the economic development of Japan by raising the level of skills in the labour force and encouraging job stability. Three main measures were introduced to these ends: public training institutions were established; a skills qualification scheme was introduced; and employers received public assistance for developing the skills of their workers at the workplace (Shimizu 1991 p 43).

## Section 3    Old Age Unemployment Policies

This section describes the development of policies instigated to alleviate the unemployment of older people and an assessment of their effectiveness is attempted. In order to increase the employment of older people, the government gradually developed an older worker employment ratio scheme, which required employers to strive to ensure that a given percentage of their employees was above a certain age. The government also encouraged companies to raise the mandatory retirement age and to help retirees find new jobs. These policies I have termed administrative guidance measures and they are examined first. To bolster these administrative guidance methods, changes were made at local labour exchanges, a range of grants and subsidies were started and a number of quasi-public institutes were opened.

## Sub-section 3.1 Administrative Guidance Measures

### a    Older worker employment ratios

The policy of using older worker employment ratio targets evolved gradually from the early 1960s to form one of the main policies for dealing with the unemployment problem of older people. In 1960, the Ministry of Labour started a survey that showed the number of job vacancies, job searchers and hirings for each age group. This survey provided the basic data for devising measures to encourage the

employment of middle-aged and older workers (Shimizu 1991 p 45). In response to the results of the first survey, the Ministry of Labour notified the heads of the local public labour exchanges in 1961 that the introduction of older workers to prospective employers needed to be improved. The Ministry of Labour made concrete provisions to support this policy. During 1960 and 1961, it set up a discussion panel with the *Nikkeiren* to identify the types of work for which older workers were particularly suitable and also to generally improve the understanding of the business world of the labour market problems that older workers faced. The Ministry of Labour made a list of the types of work that were judged to be suitable and the local labour exchanges were expected to encourage employers to hire older people with reference to this list. Moreover, if employers with vacancies for school leavers were to find that the vacancies could not be filled, the labour exchange was expected to urge them to hire older workers (Shimizu 1991 p 45).

It was also felt that government-related institutions should give an example to private employers by hiring older workers. To this end, Council for the Promotion of the Employment of the Aged and Middle-aged (*Chūkōnenreisha Koyō Sokushin Kyōgikai*) and consisting of the heads such institutions as the public road works groups (*dōro kōdan*) was founded to discuss the problems of hiring older workers and to define the types of jobs that were suitable for older people (Shimizu 1991 p 47).

In 1964, a cabinet resolution was passed which required central, local government and government-related institutions to set the private sector an example by hiring older workers (Shimizu 1991 p 65). Subsequently, in 1965, 33 types of work were designated by the Ministry of Labour as suitable for older workers. Targets were set

for the proportion of people above the age of 35 employed in these types of work in the public sector. The targets were to be fulfilled within 3 years (Shimizu 1991 p 65). Also a list of 76 types of work suitable for older workers was created for use by the private sector as a guideline (Shimizu 1991 p 65).

In 1966 these types of work and older worker ratio targets were codified in law with the passing of the Employment Measures Law (*Koyō Taisaku-hō*). The following describes the setting of the middle-aged worker employment ratio and measures used to encourage the employers to respect and honour the duty assigned to them (Shimizu 1991 p 75).

i)    The older worker employment ratio.

      The middle-aged worker employment ratio was set according to the type of work in question, depending on the suitability of the job for older workers and also the feasibility of employing older workers in such a job. For example, the ratio for jobs such as office cleaning and supervision of delivery drivers was set at 95%, whereas for jobs such as the collection of fees and ticket payments (eg in museum ticket booths) and driving passenger cars and small vehicles, the ratio was set at 65%. It is also important to note that these ratios were only applied to jobs in the public and state-related sector.

ii)   Encouraging employers to meet the older worker employment ratio targets.

      Employers could be requested by the Minister for Labour to undertake measures to meet the older worker employment ratios. Such a request might be made when the labour exchanges found that they were receiving a large number of older job searchers, but their employment prospects were diminishing.

The request could only be made to places of employment with more than 100 employees, since there would be little division of labour in establishments with fewer than this number of employees. Finally, the request could only be made when it was recognised that it was not particularly difficult for the employer to meet the target ratio. The request would consist of a demand for the employer to draw up a plan for achieving the ratio and to register with the local labour exchange when a need for new employees arose (Shimizu 1991 p 78).

In 1971 the older worker ratio scheme was revised so that private sector employers were also expected to meet the target ratios. The government set 29 types of work that were deemed to be suitable for middle-aged and older workers (above the age of 45). These types of work were published and private employers were expected to make all due effort to ensure that the older worker employment ratio was met for any one of the set types of work (Shimizu 1991 pp 106-112).

It was decided not to establish a set of legal punishments for those employers who did not meet the required ratio, since such a system would force employers to hire older workers regardless of whether the older people were suitable for the job or whether the necessary adjustments to the terms and conditions of the job had been made or not. Some form of coercion was felt to be necessary, however, so a scheme of bureaucratic intervention was devised. The two main forms of intervention were the following.

i)   If an employer approached a labour exchange in search of a new employee and the employer had not by that time attained the older worker employment ratio, the labour exchange was entitled to refuse to deal with any application from that employer. This was a new exception to article 16 of the

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*Shokugyō Antei-hō*, that stated that labour exchanges had to deal with any such application (see Section 2 above). The labour exchange had to encourage the employer to employ an older worker by giving advice and guidance on the efficient placement of older workers and the necessary work environment. Only when the employer remained stubbornly disinclined to hire an older worker would the labour exchange refuse to deal with the application.

ii) The Minister for Labour could also request employers who had not reached the older worker employment ratios to adopt measures to employ older workers. Such measures might include the preparation of a formal plan for increasing the proportion of older workers or to seek for older workers through the public labour exchange (Shimizu 1991 pp 106-112).

The older worker ratio scheme was further revised in 1976. The different ratios for each worker type were replaced by a single ratio for the proportion of older workers in the total number employed. Older workers were now defined as those above the age of 55 and the ratio was set at 6%. This ratio applied to all employees belonging to one company, rather than to employees belonging to one particular place of employment, since some companies would wish to concentrate the employment of older workers in particular workplaces belonging to the company (eg old people companies - see Chapter Six). In other words, the ratio applied to consolidated employee numbers (Shimizu 1991 pp 159-161). There was still no legal scheme of punishments for employers who did not meet the target ratio, but the degree of possible bureaucratic intervention was strengthened. In times when the labour market for older people was particularly bad, the labour exchange could demand that employers who had not reached the ratio should hire older workers or should adopt other measures to ensure the security of employment for older workers. For

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example, if such an employer came to a public labour exchange in search of new workers, it was possible to demand that the employer should adopt some type of re-employment scheme (*kinmu enchō* or *saikoyō*) or improve their personnel management so that retirement could be set at a higher age (Shimizu 1991 p 162-165). Labour exchanges could also demand a report from employers regarding the state of older worker employment in their workplaces.

**b      Raising of mandatory retirement age and encouragement for companies to find retirees other jobs**

The unemployment problem for older people was felt to be partly caused by the employment practices of companies and in particular, the practice of mandatory severance from the company at a relatively early age (see Chapter Four). Therefore, it seemed that it was necessary to promote a higher mandatory retirement age in companies. From the early 1970s onwards, a protracted debate continued between the business world, employees, bureaucracy and members of parliament regarding the desirability of using the law to force employers to raise their company's retirement age (Shimizu 1991 pp 116-170). The ultimate outcome of such debate did not result in a recommendation to use legal enforcement, since such a measure was viewed as an infringement of employers' liberty. In 1973, however, the Employment Measures Law was revised so that the state could use various measures to promote and encourage the adoption of a later mandatory retirement age through administrative guidance. The target retirement age was set at 60 years of age. Employers were also encouraged to help retirees find new work after retirement. The state was to supply information and other assistance with respect to raising the mandatory retirement age to employers. A main example of such assistance is the Retirement Age Raiser's Grant (*teinen enchō shōreikin*) payable to small and medium-size employers who

raised their mandatory retirement age (Shimizu 1991 p 143). The state would also provide occupational training <u>before the advent of retirement</u> and pay a grant to people undergoing such occupational training.

The head of a public labour exchange could demand that an employer present a plan for assisting retirees to find another job after retirement, if the mandatory retirement age was below 60 and if the number of employees facing mandatory retirement was over 100 in number. The plan had to include the number of people the employer intended to retire in two years time. It was expected to indicate the various approaches that the employer was taking to find the retirees another job, and to state the number of retirees being dealt with under each approach. Moreover, the employer was asked to describe the steps taken to assist in the re-employment of retirees who it was felt would need to make use of the public labour exchanges and public training institutes, together with their name, sex, age, work-type and date of retirement. Finally, the employer was obliged to listen to the opinions of the retirees and any union to which they belonged, when preparing the plan (Shimizu 1991 pp 143-146).

An employer who was requested to make a plan was also required to appoint a supervisor for assisting retirees to find another job (*saishūshoku enjo tantōsha*, called a retiree supervisor hereafter). The retiree supervisor had to find and cultivate new employers for retirees, provide possible new employers information regarding the retiree and, likewise, furnish the retiree with information about the new employer. The supervisor was expected to give any advice to the retiree that would facilitate re-employment and make contact with the public labour exchange and public training institutes when

necessary (Shimizu 1991 pp 143-146).

In 1976, further administrative powers were granted to the labour exchanges. In times when the labour market for older people was particularly bad, the labour exchange had the right to demand that employers who had not reached the 6% older worker ratio should hire older workers or should adopt other measures to ensure the security of employment for older workers. For example, if such an employer should come to a public labour exchange in search of new workers, employers could be demanded to adopt some type of re-employment scheme (*kinmu enchō* or *saikoyō*), or improve their personnel management so that retirement could be set at a higher age.

In 1986 the administrative guidance to encourage raising the mandatory retirement age and promote continual employment past the age of 60 was strengthened further. Now, the authorities could demand an employer to raise the retirement age to 60. The employer would have to complete a report on the progress in raising the retirement age within three months. If the report were not completed on time and the employer had paid no heed to advice, the employer would be ordered to prepare a plan for raising the retirement age. If the plan were judged to be unsatisfactory, the employer would be told to change it. Such an order would be given if the timescale of the plan were over 3 years, the retirement age were still below 60 on completion, and improvements and changes needed to raise the retirement age were not included in the plan. Once the plan had been accepted, the employer could be ordered to keep to the timetable of the original plan if procrastinating. Employers who failed to respond would have their names made public (Shimizu 1991 pp 296-301).

Further demands were placed on the employer to ensure continued employment up to the age of 65. The employer was expected to appoint an officer (*kōnenreisha koyō suishinsha*) who would supervise the introduction of changes in the working environment and equipment that would be necessary to employ people to the age of 65. Local Employment Centres for the Elderly (*todōfuken kōnenreisha koyō antei sentā*) were set up to instruct and advise employers in the continued employment of people beyond the age of 60 (Shokugycho p 73). Advice was given on a wide-range of issues relating to the employment of older workers, such as changes in the wage and promotion systems, development of skills and improvements to the workplace. On the request of the employer, specialists were loaned to the employer to undertake a survey, for which the employer paid some of the costs. The centres collated and presented data and information relating to the employment of older people (through the establishment of "Labour Information Corners"). Awareness of the employers was to be developed by holding Work Redesign Contests (*shokumu saisekkei kontesuto*) and using other promotion methods (Amakasu 1987 p 74). Finally, the payment of government subsidies and grants for encouraging the continued employment of older people (specifically, the Older Workers Employment Rate Grant and the Older Persons Employment Maintenance Subsidy, see Part 3). A similar Central Employment Centre for the Elderly (*chūō kōnenreisha koyō antei sentā*) was established to perform similar duties at a national level and to co-ordinate and oversee the development of the local employment centres for the elderly.

Employers were also expected to act like private labour exchanges to help retirees find new work (Shimizu 1991 p 303). In particular circumstances, the local labour exchange could demand the employer to prepare a plan for helping retirees to find another job (Shimizu

1991 p 304). There would have to be a person appointed to oversee the help given for re-employment (*saishūshoku enjo tantōsha*) (Shimizu 1991 p 305). If the employer planned to make redundant a large number of older workers, the public Employment Office for the Elderly would have to be informed.

An employer was also expected to make due efforts to educate and prepare the retiree for retired life (here, retirement refers to permanent withdrawal from the labour force). Consequently, the employer had to create a Retirement Preparations Programme (*taishoku junbi puroguramu*) which included the provision of information relating to life cycle planning, the maintenance of mental and physical health and the economic aspects of retired life, such as severance pay and pensions. Financial assistance should be provided for education relating to retired life and paid leave should be given for such purposes as taking qualificational examinations and developing hobbies and interests (Shimizu 1991 p 307). Employers were required to provide an annual report on the state of employment of older workers at their establishment. Previously, such a report would only have to be provided upon specific request from the local labour exchange (Shimizu 1991 p 314).

During the period following the enactment of the Employment Stability of Older Persons Law and the revision discussed here, attempts were made to raise the official starting age of state pensions to 65. A timetable for the upward revision of the starting age was included in the 1985 revision to the public pension laws, but approval for the timetable to be activated could not be obtained, because of the fierce opposition of the business world and labour organisations (see Chapter Nine for full details). It was feared by the business world that the raising of the pension

eligibility age to 65 would ultimately lead to a rise in the mandatory retirement age to the same age and, hence, the business world were against such a high retirement age. Labour organisations feared that the security of people between the age of 60 and 65 would be compromised, as it had been in the days when the mandatory retirement age was generally set at 55 and the pension eligibility age at 60. As a result of the failure to enact the upward revision of the pension starting age, it was decided that further measures should be introduced to promote the continuous employment of workers up to the age of 65.

The main purpose of the 1991 revision was to establish a basic set of policies (*kōnenreisha-tō shokugyō antei taisaku kihon hōshin*) to be used by employers for fostering a suitable environment for labour organisations and employers to co-operate in maintaining stable employment opportunities up to the age of 65. In more concrete terms, employers were obliged to make all due efforts to provide re-employment opportunities for those employees reaching mandatory retirement age. Also a concerted effort was planned for ensuring that all firms had a retirement age of 60 or above by 1994 (Shimizu 1991 p 414). Rather than establishing a set of penalties and orders from the authorities for employers who did not make all due efforts to provide re-employment opportunities, the local labour exchange would make recommendations that would encourage the adjustments that were felt to be necessary for the employment of older people. Financial assistance was to be given to employers who managed to introduce the measures set down in the basic plan.

c)      **Performance of policies used to raise the mandatory retirement age and encourage employers to help retirees**

Data presented in Chapter Four shows that there has been a continual

rise in the percentage of firms with a mandatory retirement age of 60 or above: in 1978, the percentage was 38.5; by 1988 it was 58.5. Thus, it seems that the government's attempt since 1973 to raise the retirement age through the policies described above has been largely successful. It should be remembered, however, that labour unions and other pressure groups will also have had some impact on the decisions of personnel managers. There seems to be no direct method of ascertaining the extent to which government policy itself has been responsible for the raising of the retirement age.

It is extremely difficult to measure the effects of measures such as encouraging employers to find new employment for their retirees. It is possible to attempt an indirect assessment of the effectiveness of some of these measures, however. One of the surveys of the Ministry of Labour (Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka, 1985 and 1988) gives the percentage of firms which have some scheme for preparing employees about to retire for post-retirement life. These schemes include sending the retiree to work in another company, re-training and other schemes. Table 8.1 below shows the change in the percentage of companies that had any of the schemes between the years 1985 and 1988. As can be seen, the percentage of firms having each scheme has decreased across nearly all schemes for nearly all sizes of company. Unfortunately, it is not possible to surmise from the data why such a fall in the use of these various schemes had occurred, but government encouragement does not seem to have been successful. The fall in the use of these schemes may be explained in part by the raising of the retirement age in companies. Such a trend will reduce the pressures the companies feel for them to make efforts to ensure the future employment security of their older workers.

Table 8.1 showing the change in the percentage of companies having schemes for preparing retirees for post-retirement employment and life.

| Size of company (no. of employees) | Send to another company (assen) | | | | Other | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | All types of company | Old Age Company | Related Company | Other Company | Training for new job | Advice on finding a new job | Help given for self-employment | Advice on post-retirement life | Other |
| all | -2.6 | 0.1 | -2.3 | -1.3 | -0.3 | -11.0 | -0.6 | -0.5 | -6.4 |
| 5000+ | -6.4 | -7.8 | -2.5 | -4.1 | 2.0 | -2.3 | 0.9 | 1.6 | -2.3 |
| 1000-4999 | -7.5 | -1.8 | -7.4 | -3.1 | -2.7 | -3.3 | 0.0 | 3.2 | -2.7 |
| 300-999 | -3.2 | -1.0 | -2.5 | -2.2 | -0.4 | -6.9 | 1.0 | 1.9 | -6.6 |
| 100-299 | -3.0 | -0.9 | -2.7 | -0.4 | 0.0 | -9.4 | -0.4 | -0.6 | -6.0 |
| 30-99 | -2.4 | 0.5 | -2.0 | -1.4 | -0.5 | -12.2 | -0.9 | -0.8 | -6.7 |

Source:   Rōdō Daijin Kanbō Seisaku Chōsabu Sangyō Rōdō Chōsaka (1985) p 14, Table 15 and (1988) pp 36-37, Table 3.

Notes:   The figures are only for companies that have mandatory retirement. It is not possible from the 1988 data to give a figure for the percentage of all companies that have at least one of these schemes, so the percentage of companies with each type of scheme has to be compared directly.

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## Sub-section 3.2 Special measures in labour exchanges

The fulfilment of government obligations to facilitate older people in finding work could be seen in the appointment of specialist staff in the local labour exchanges. This policy started in 1963 and by 1964 there were 570 such case workers (Shimizu 1991 p 64). In 1973, this policy was strengthened with the appointment of advisors for the promotion of employment (*shūshoku sokushin shidōkan*) and employment advisors (*koyō shidōkan*), who were responsible for promoting continuous employment, advising on raising the company retirement age and helping companies to formulate Re-employment Assistance Plans (*saishushoku enjo keikaku*). A video introduction service (*jiko shōkai bideo*) for older workers was started at local public labour exchanges in 1984. A video tape with information of the job-searcher was made and circulated to employers (Amakasu 1987 p 79). In the same year, post-retirement employment programmes (*saishūshoku junbi puroguramu*) were also initiated. These programmes consisted of lectures, advice and the presentation of information on looking for work. With the passing of the 1986 Employment Stability of Older Persons Law these programmes were also made available to older employees who were about to leave their job following a spell of working under a work-extension or re-employment (*saikoyō*). From 1986 staff were designated to visit employers and instruct and encourage them to employ older people (*kōnenreisha koyō sokushinin*). Others were designated to collect information of employers with vacancies (*kōnenreisha koyō kyōryokuin*). Also 1986 saw the commencement of publication of magazines with information of employers with vacancies for older people and older job searchers (Amakasu 1987 p 81).

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## a)    The Performance of the Local Labour Exchanges.

The Sōmuchō (1988) surveyed 43 local labour exchanges in order to assess the degree to which the duties recorded in the 1986 Employment Stability of Older Persons Law were being fulfilled. Some of the results of the survey are described in the following.

It was asked whether the local exchanges had managed to collect information on the work-type and sex of job-searchers and the work-skills and sex of the employee required by the employer for each of the older age groups. Out of the 43 exchanges surveyed, 30.2% had not managed to undertake such work at all, 30.2% had only managed to find the work-type and sex of the job-searchers according to age and did not have information relating to prospective employers (Sōmuchō 1988 p 8). Only 39.5% had managed to meet the remit laid down in the 1986 Law.

Twenty exchanges (those with more than 3,000 employers and 60,000 insured under the unemployment insurance scheme in their district) were also asked how many employers they had visited over a period of one year in order to promote the hiring of older people. The median number was less than 100 employers (9 exchanges), two exchanges had not undertaken any visits, two had managed more than 300 visits and 6 had visited between 100 and 300 employers (Sōmuchō 1988 p 12). If promotion of hiring of older people that was undertaken by telephone is also included in the figures, each of the 20 exchanges had, on average, contacted 0.109 employers for each newly registered older job-seeker and 14.2 employers for each member of staff working in the relevant section of the labour exchange over the year (Sōmuchō 1988 p 10).

The survey also included questions relating to work undertaken by

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labour exchange staff to encourage employers to relax their age
restriction when applying to the labour exchange for a person. In
the 43 labour exchanges, there were 1,228 cases of employers who had
expressed a wish for a person below the age of 55, who had not been
able to fill the vacancy after 3 months and whose vacancy was for
a job designated as one suitable for older workers under the 1971
Law. In just under 60% of these cases the labour exchange had
attempted to make the employer relax the age restriction (although,
unfortunately, it is not possible to know in how many cases the
attempt was successful in finding a job for an older person).
Reasons for not giving guidance to the employer were i) the labour
exchange would only give guidance if an older job-seeker so wished
(14.8%), ii) the desire of the employer for a young worker was very
strong (8.6%), iii) the number of older job-seekers with the
relevant qualifications and experience was low (2%), iv) the actual
contents of the job were difficult for an older person (8%) and v)
other reasons.

One means of gauging the success of the policies enacted to improve
the ease of finding  employment for unemployed older people is a
comparison of the number and proportion of the older unemployed
finding a job through the labour exchange over time. Table 8.2 shows
such data for the period 1971 to 1986. It shows clearly that the
number of older job-seekers registering at the local labour
exchanges has risen approximately three-fold over the 15 years
between 1971 and 1986. The success of the labour exchanges in
finding work for these unemployed has remained roughly constant over
a period in which many policies have been introduced to the labour
exchanges in order to enhance their performance. It is particularly
striking that the ratio of those introduced who manage to be hired
remains at about the 40 percent level. It seems that the new

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measures have allowed the labour exchanges to maintain a consistent performance in the face a rapidly rising number of older job-seekers, but have not been sufficient to improve their performance.

In more general terms, from amongst the total number of older people who found work, the proportion who did so through the introduction of a local labour exchange fell from 24.1% to 20.1% from 1983 to 1986, while, over the same period, the percentage who found work through replying to advertisements rose from 14.2% to 17.6% (Sōmuchō 1988 p 29). This trend indicates a decreasing reliance on the labour exchanges and hence a reduction in the effectiveness of many of the policies introduced by the government that are designed to ameliorate the unemployment problem of older people by strengthening the functions of the labour exchanges.

Table 8.2 showing the percentage of older job-seekers registered at local labour exchanges finding work within one month.

| | 71 | 74 | 75 | 83 | 84 | 85 | 86 |
|---|---|---|---|---|---|---|---|
| Effective job seekers during month (A) | 134,915 | 171,315 | 296,435 | 458,048 | 462,475 | 391,415 | 426,068 |
| Index (A) | 100 | 127 | 220 | 339 | 343 | 290 | 316 |
| Number of job-seekers finding work (B) | 5,586 | 7,617 | 6,573 | 11,450 | 12,818 | 12,245 | 11,563 |
| Index (B) | 100 | 136 | 118 | 205 | 230 | 219 | 207 |
| %age finding work (C) | 4.1 | 4.4 | 2.2 | 2.5 | 2.8 | 3.1 | 2.7 |
| Number of new job-seekers (D) | - | 397,993 | 463,786 | 639,885 | 650,576 | 680,695 | 690,316 |
| Number introduced (E) | - | 163,249 | 160,502 | 269,536 | 295,680 | 295,247 | 280,996 |
| Number finding work (F) | - | 68,378 | 63,000 | 109,013 | 116,398 | 115,315 | 106,410 |
| %age introduced (G) | - | 41.0 | 34.6 | 42.1 | 45.4 | 43.4 | 40.7 |
| %age finding work (H) | - | 17.2 | 13.6 | 17.0 | 17.9 | 16.9 | 15.4 |

Source:  Sōmuchō (1988) p 28, Table 2 - (1) and p 29, Table 2 - (2) Reference.
Notes:   The figures are for people registered at the local labour exchanges and above the age of 55. Rows with A, B and C are for the month of October in each year only. Other rows are for the whole year.

The two most common examples of the answers given when employers were asked why they tended to use advertisements rather than register at the labour exchange are as follows: a) we wanted a wide selection of applications, b) when we are looking for a new person, we need to find someone as quickly as possible, but if we register at the labour exchange, a long time can pass without an application or even any contact, so because of the uncertainty we cannot use the labour exchange (Sōmuchō 1988 p 28-29). When people above the age of 45 were asked in 1984 why they did not view using labour exchanges as a favourable means of finding a job, the two most popular answers were: a) vacancies at the labour exchanges do not correspond to my wishes (45 -59 years old: 50.5%, 60 years old: 54.4%) and b) it is only possible to know superficial details of the prospective employer (45 -59 years old: 19.8%, 60 years old: 14.6%)(Sōmuchō 1988 p 32).

**Sub-section 3.3  Subsidies and Grants**

A range of subsidies and grants were established in response to the policies described in Sub-section 3.1 above. (Shimizu 1991 p 112). In 1971, with the passing of the first law for dealing specifically with the employment problems of middle-aged and older workers (*chūkōnenreisha-tō no koyō no sokushin ni kansuru tokubetsu sochi-hō*), central and local government were expected to subsidise the costs of training incurred by employers that hired older workers and retrained them so that they could adapt to their present job and environment. Such a system of consideration payments was introduced to improve the adaptability of older workers. Furthermore, special consideration would be given to applications for loans to public bodies if the loan was to be used for providing training facilities, housing, health facilities and other facilities for older employees employed in the work types that had been designated as suitable for

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older workers (Shimizu 1991 p 112). In the same year the Retirement Age Raiser's Grant (*teinen enchō shōreikin*) was paid to small and medium-size companies that raised the mandatory retirement age. Larger companies were also eligible for the grant from 1976. The Older Persons Employment Grant (*kōnenreisha koyō shōreikin*) was started in 1975. In 1976, another grant became available to employers with a retirement age of 60 and above who implemented re-employment schemes, called the Continuing Employment Grant (*keizoku koyō shōreikin*). In 1977, further payments were introduced. For employers who managed to increase the proportion of older employees within a certain period designated by the Ministry of Labour, an Older Persons Employment Security Payment (*kōnenreisha koyō antei kyūfukin*) was made available (Shimizu 1991 p 171). These mid-1970s grants were all established alongside the introduction of the new older worker employment ratio that required 6% of employees to be above the age of 55.

In 1981 a subsidised loan scheme (*kōnenreisha shokuba kaizen shikin yūshi seido*) was established in order to lessen the costs faced by employers who were trying to improve the working environment and equipment to facilitate the employment of older workers (Amakasu 1987 pp 74-78). Loans were made available to employers who were i) raising the retirement age to 60 and above or abandoning the custom of mandatory retirement and ii) expecting to increase the number of older employees by 2 or more (4 or more in the case of employers with more than 300 employees). Loans were made available to corporate employers who i) made provisions for re-employment for a period over 3 years or more after retirement or abolished mandatory retirement; ii) were expecting to increase the number of older employees by 10 or more (or expecting the proportion of older employees to rise above 40%); and iii) received more than 50% of

equity from a parent company or had a close relationship with a parent company. Although I have not been able to find explicit references, it seems that these loans were meant to encourage *shukkō* and the establishment of old age companies (discussed in Chapter Six). A loan of up to 100,002,000 yen would be made for the building of new work facilities, the acquisition of land or the purchase of new plant for accommodating older workers. The interest rate was set at 5.2% per annum for small and medium-sized enterprises and 5.45% per annum for large enterprises (these rates were revised downwards as of April 1988 to 4.2% and 4.45% respectively). The repayment period was between 15 and 20 years for buildings and 5 years for new plant and equipment.

Another two subsidies were started in 1981 to promote the rapid hiring of older workers following separation from their original employer because of retirement (Amakasu 1987 pp 88-89). The first was the Subsidy for the Promotion of the Employment of Particular Job-searchers (*tokutei kyūshokusha koyō kaihatsu joseikin*). This subsidy paid half of the employee's wages to the employer for the first year following hiring, provided that the employee had been hired through the local labour exchange and was between the ages of 55 and 65. It was also a condition that the new employer was not related to the original employer (ie it is not a subsidiary). In the case of small and medium-sized employers, the subsidy rate was set at two-thirds of wages paid. The second subsidy was the Subsidy for the Part-time Employment of Older People (*kōnenreisha tanjikan koyō joseikin*) (Amakasu 1987 pp 88-89; Sōmuchō 1988 p 70). Under this scheme, a subsidy would be paid to an employer who employed a person between the age of 60 and 65 as a part-time worker, provided that the employee was introduced by the local labour exchange.

The Older Persons Employment Maintenance Subsidy (*kōnenreisha koyō kakuho joseikin*) was established in January 1982 (Amakasu 1987 pp 77-78). This subsidy was to be paid to employers who were establishing schemes to provide continual employment for workers up to and beyond the age of 60, either through raising the retirement age or through the use of re-employment schemes (*saikoyō* and *kinmu enchō*) and out-placement (*shukkō*). The subsidy was based on the number of workers who benefited when the schemes to continue their employment were established and who were between the ages of 60 and 65. The subsidy amounts were set as follows; a) for each full time worker 450,000 yen (600,000 yen for small- and medium-sized employers) and b) for each part-time worker 225,000 yen (300,00 yen for small- and medium-sized employers).

In 1984, the Subsidy for Retirees (*teinen taishokusha-tō joseikin*) was started. Under this subsidy scheme, employers who hire an older employee before mandatory retirement age through agreement (*assen*) with the original employer may receive a subsidy for each person. As in the case of the Subsidy for the Development of the Employment of Particular Job-searchers, the new employer could not be connected in any way to the original employer. Initially, the person hired had to be between the ages of 55 and 65, but following the enactment of the 1986 Employment Stability of Older Persons Law the lower age limit was raised to 60. After 1986, the subsidy amount was set at 450,000 yen for a full-time appointment (600,000 yen for small and medium-sized enterprises) and 150,000 yen for a part-time appointment (225,000 yen for small and medium-sized enterprises) (Sōmuchō 1988 p 76).

A grant was to be made available in October 1986 to employers who managed to reach the ratio of older employees to all employees of

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6% (*kōnenreisha tasū koyō hōshōkin* - the Older Worker Ratio Grant).
For each person over the age of 60 and below the age of 65 (Amakasu
1987 p 76), 20,000 yen would be paid to the employer.

## a)    Performance of the grants and subsidies

It is difficult to obtain data on the up-take of specific subsidies
without intimate connections with the Ministry of Labour. The little
evidence that exists of more recent grants suggests that subsidies
have played an insignificant role in encouraging the employment of
older workers. Neither the Subsidy for Retirees and Others (*teinen
taishokusha-tō joseikin*) nor the Subsidy for the Part-time
Employment of Older People (*kōnenreisha tanjikan koyō joseikin*) has
proved to be successful. In the case of the Subsidy for Retirees and
Others, the budget was set to cater for 993 people in 1984, but
there was only one claimant. In 1985 the budget was large enough for
6,702 claims and the number of actual claims rose to 24. The
equivalent figures for 1986 were 7,351 and 27 respectively (Sōmuchō
1988 p 78). According to the local labour exchanges, the most common
reason for lack of claimants was that most companies do not find new
jobs for their workers in firms with which they do not have any
connection: therefore, they will not be able to claim the subsidy
(Sōmuchō 1988 p 79). Another reason, from the point of view of the
employed person, was that the person must not be eligible for
unemployment benefit. There is also the problem of the existence of
overlapping subsidies. The Subsidy for the Development of the
Employment of Particular Job-searchers (*tokutei kyūshokusha koyō
kaihatsu joseikin*) is more generous (Sōmuchō 1988 p 82).

There was also little use of the Subsidy for the Part-time
Employment of Older People. In 1985, 336,800,000 yen was budgeted
for the this subsidy, but only 600,000 yen was claimed in three

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cases. In 1986 there were only 2 claimants (Sōmuchō 1988 p 68). The main reasons given for the disappointing figures are: a) the wages received for part-time work are often lower than unemployment benefit and therefore people do not wish to work part-time and b) companies have not adjusted to hiring part-time workers above the age of 60 and as a result the number of employers registering with the labour exchanges in search of part-time older workers has been extremely low (Sōmuchō 1988 pp 68-69).

## Sub-section 3.4 Public Works

The use of Public works in absorbing older workers who were unemployed has been limited since 1963. In the early 1960s it became clear that, in spite of general labour shortage conditions, the number of people employed in public works programmes was continually increasing. Moreover, the average age of those employed in such programmes was gradually rising, such that by 1962 the average age was nearly 50. Also, by this date, the average number of years of work on public works programmes for these employees was over six years (Shimizu 1991 p 51). These trends were particularly alarming because the public works programmes had originally been devised to provide temporary employment security. Moreover, the above trends showed that older workers who found it difficult to find employment in the private sector were being left to find long-term employment in the public works programmes. The placement in local labour exchanges of advisers specifically for the purpose of advising older workers was started in 1963. Allowances were also paid to older workers who were re-training whilst unemployed. If these measures failed after a certain period to result in employment, the person was employed in public works programmes. In other words, an unemployed older person could not request to be employed in public works programmes immediately and be accepted (Shimizu 1991 p 64).

In 1971 further changes led to a lessening of the role of public works in reducing older age unemployment: public works would only be used to absorb unemployed older people under special circumstances. These circumstances are described next. Before 1971, special measures for unemployment black spots had already been introduced, but these measures had concentrated primarily on relocating the unemployed to other regions. In the case of middle-aged and older workers it was thought that relocation was not a feasible option and that therefore, new measures to facilitate employment in these particular areas were necessary. One of the measures was the unemployed absorption rate scheme (*shitsugyōsha kyūshūritsu seido*). Under this scheme, the number of older workers employed by public works projects had to reach a target percentage of the total employed on the project. The percentage was set according to the type of work being undertaken and the special area, and was known as the unemployed absorption rate. In the case of unskilled workers, for example, the rate was set at 40% (Shimizu 1991 p 114).

**Sub-section 3.5 Other Policies and Measures used to Improve the Employment of Older Workers**

It was recognised relatively early in the process of formulating policies to improve the functioning of the older labour market that older people were less mobile than younger people and could not be expected to migrate. With this characteristic of older workers in mind, Older Persons Work Consultancies (*kōnenreisha shokugyō sōdanshitsu*) were established in local government buildings of all major towns. The consultancies were permitted to undertake job introduction work as part of their general role of giving advice on welfare issues for the elderly (Amakasu 1987 pp 79-80). These consultancies were started in 1973 and by 1988 numbered 281

employing 3,983 advisors. Another work introduction scheme was the Talent Bank (*jinzai ginkō*) (Amakasu 1987 p 80). These banks were established in major towns and cities between 1967 and 1980 and their primary purpose was to modernise and improve the efficiency of small and medium-sized enterprises by giving advice and introducing middle-aged and older workers who possessed special knowledge, managerial expertise or particular skills. Other institutions (*kōnenreisha muryō shokugyō shōkaisho*) were also permitted by the Ministry of Labour to undertake gratis job introduction services for the elderly (above the age of 65) as part of the elderly welfare services overseen by the Ministry of Welfare (Amakasu 1987 p 80).

Silver Talent Centres (*shirubā jinzai sentā*) were first established in 1980, following the example of centres established earlier by the Tōkyō Metropolitan Government. The function of the centres at that time was, in principle, to provide temporary or short-time work opportunities for people above the age of 60 in order to maintain their health and allow them to participate in the local community. It was not the primary aim of the centres to provide a source of income and job security. The centres were managed by the older people themselves as a type of club or co-operative. Employers asked the centre for a worker and paid the centre. The centre in turn paid the member remuneration according to the type of work undertaken (Amakasu 1987 p 92). The government would pay half of any expenses incurred by the local councils in assisting the running of the centres (Amakasu 1987 p 91). In 1986, the Silver Centres were permitted to undertake gratis job introduction work and the state became responsible for expanding the number of centres. To encourage expansion, the state       paid part of the expenses of councils that gave council work to members of Silver Centres. By 1988 there

were 340 such centres (Amakasu 1987 pp 93-94).


a)    The Performance of Other Centres.

The Older Persons Work Consultancies were expected to introduce work to people over 55, but in 1985, 38.2% of people making use of the consultancies were under 55. Thus, the role these consultancies played in ameliorating the unemployment of the older age groups appears to be limited. Conversely, the percentage of members of the Silver Centres over 65 was approximately 69% (Sōmuchō 1988 p 56). The Silver Centres also seem to have been successful (compared with the local public labour exchanges) in finding work for their members. In 1985, the centres had managed to provide 63.5% of their members with a job, on average. It should be remembered, however, that the Silver Centres are not intended to fulfil the same role as other job introduction centres. Indeed, the average length of a job was 58 days for management jobs and between 5 and 20 days for other types of jobs (Amakasu 1987 p 172). The main problem encountered by the centres was that the types of jobs offered to them tended to be menial and did not allow members to use their skills and abilities to the full (Amakasu 1987 p 174).


Section 4   Conclusion to this chapter

The main body of the chapter is a description of the development of government policy in the labour market that was initiated to deal with the unemployment problems of older workers; and there is also an attempt to assess the effectiveness of the policies, despite the lack of information and data that seems to exist on this particular aspect of the ageing population in Japan. As the description of policy development shows, the present-day policies are direct descendants of the policies introduced to deal with the unemployment problems that followed the Second World War. The policies

immediately following the war tended to be designed either to deal with very specific problems or to improve the mobility of labour (both in a geographical and occupational sense); or were devised to improve the general functioning of the labour market through the use of labour exchanges. The policies related directly to older people are similar and differ only in the extent to which coercion, administrative guidance and re-education of employers has been incorporated. Although these policies were probably appropriate for the immediate post-war period, they seem to be inappropriate for dealing with the ageing of the workforce, which is not a phenomenon which affects only a few sectors of the economy. The need for a more macro-oriented policy will be discussed in the conclusion to the thesis. The assessment of the policies, however incomplete it may be, points to a significant failure of the policies adopted to date.

## CHAPTER 9    POPULATION AGEING,   THE   JAPANESE   PENSION   SYSTEM   AND
REFORM

## Section 1    The Significance of this Chapter

In Chapter Seven, I concluded that the availability of adequate
pensions was an important factor affecting the future unemployment
rate of older men. Chapter Eight described the labour market
intervention policies of the government carried out to reduce old
age unemployment, and contained an attempt to measure the
effectiveness of such policies. Although data of the performance of
government labour policy are scarce, it seemed that the policies were
not particularly successful. The findings of Chapter Seven indicate
the importance of pension provision in determining the unemployment
rate of older men in Japan. In this chapter, I will describe the
development of the public and occupational pension schemes in Japan
and the recent reforms that have been made to the pension systems
in Japan in preparation for the rising demands on public expenditure
that will accompany population ageing. The chapter also includes an
examination of pension benefit levels. These aspects will provide
some insight into the future effect of public and private pensions
on the labour market participation of older men.

## Section 2    The Development of Public Pension Schemes in Japan

Before the Second World War, a public pension scheme, known as
*onkyū*, had been established for military forces personnel and
government officials; civil servants were also enrolled in a
friendly society scheme, the *kangyō kyōsai kumiai seido*. Pension
schemes were not provided for the majority of workers, however
(Yamasaki 1985 p 174). The Seamen's Pension (*senin hoken yōrō
nenkin*), the first public pension scheme to cover employees in the
private sector, was established in 1940 (Campbell 1992, appendix).

A contribution period of 15 years was required, entitlement age was 60, contributions were split between employer and employee and the government treasury was responsible for covering 20% of benefit payments (Yamasaki 1985 p 175). In 1941, the Workers Pension Insurance scheme (*rōdōsha nenkin hoken*) was introduced, partly as an element of deflationary policy. The scheme covered men employed in establishments with more than 10 workers and working in manufacturing, mining and transportation industries. Enrolees had to contribute for over 20 years to receive benefits, entitlement age was set at 55, contributions were split 50:50 between employer and employee and the treasury was to meet 10% of benefit payments (regulations for miners were different). A bonus was added for every ten years worked in the same establishment (Yamasaki 1985 p 175). In 1944, coverage of the workers' pension was extended to women, non-manual staff and those employed in establishments with more than 5 employees. The scheme's name was changed to the Welfare Pension Insurance Scheme (*kōsei nenkin hoken*) and benefit rates were raised, as were contribution rates. After the end of the Second World War, the welfare pension scheme suffered from the high inflation rates. The value of funds was continually falling and attempts to raise the upper income bracket failed to raise contribution revenue significantly. Demands on the scheme were also low, since claims for old-age benefits would not start until 1954. With the fall in inflation by the early 1950s and the forecast start of benefit payments in 1954, the scheme was heavily revised in the same year (Yamasaki 1985 p 178).

The 1954 reform of the welfare pension laid the foundations of the welfare pension scheme that exists today. To receive a pension, enrolees had to make contributions for a minimum of 20 years, the benefit entitlement age was set at 60 for men not working in mines

and 55 for women and miners. The Monthly benefit payments comprised two parts: a fixed amount and an earnings-related amount. The earnings-related amount was calculated by multiplying the average monthly earnings by the contribution period and multiplying this multiple by 5/1000. Average monthly earnings were calculated by dividing the sum of monthly earnings for every month of the contribution period by the contribution period (measured in months). Contributions were earnings-related, set at 3% for all workers except miners, whose contribution rate was 3.5%. Benefits were not only met from enrolees' contributions: the treasury was to pay 15% of all non-miner benefits and 20% of miners' benefits. The treasury was also responsible for administration costs. The pension scheme was to be managed on a 'modified funded basis' (*shūsei tsumitate hōshiki*) (Yamasaki 1985 pp 179-180). In practice, the 'modified funded basis' meant that the scheme was a predominantly pay-as-you-go scheme with an accumulated fund used by the Fiscal Investment and Loan Programme (see for example Kōseishō Nenkinkyoku 1985).

Public sector employees were covered by friendly society (*kyōsai kumiai*) pension schemes. The central government civil servants friendly society pensions were first established in 1948 and revised in 1958. These pension schemes provided retirees with benefits calculated purely on an earnings-related basis. Calculation on a flat rate plus earnings-related benefit basis was introduced in 1974, but the method that gave the highest benefit was used (Shakai Hoshō Kenkyūjo 1982 p 58). The treasury was responsible for providing part of the funds and entitlement age was set at 55. Again, the scheme was predominantly pay-as-you-go, with a small accumulated fund (Kōseishō Daijin Kanbō Tōkei 1991 p 262). Regional civil servants were covered by the same scheme until 1962, when new and separate friendly society schemes were established (*chihō kōmuin*

*kyōsai kumiai nenkin*). Other groups of employees were enrolled in friendly society schemes that were managed on a similar basis to the civil servants' schemes. Public corporation employees were also covered by the central government civil servant pension scheme, until 1956, when friendly society pensions (*kōkigyōtai shokuin kyōsai kumiai*) were established for each corporation. Teachers in private schools were also opted out of the welfare pension and enrolled in their own friendly society pension scheme (*shiritsu gakkō kyōshokuin kyōsai kumiai nenkin*) in 1954. In 1959 clerical staff and officials working for agriculture and fishery co-operatives were opted out of the welfare pension and joined their own friendly society pension scheme (*nōringyōgyō dantai shokuin kyōsai kumiai nenkin*) (Sōrifu Shakai Hoshō Seido Shingikai 1989 pp 76–77).

In 1955, 38.9% of the work force were involved in agriculture, another 12.3% were self employed, 8.7% were employed in the family business, the remaining 40% were employees (Kōseishō Nenkinkyoku 1985 p 49). Many of the employees were employed in establishments of fewer than 5 employees, so in 1955, public pension schemes covered less than 40% of the work force. It was not until 1961 that an attempt was made to provide universal public pension insurance. In that year, the public national pension scheme (*kokumin nenkin*) was established. The national pension scheme covered those not insured by the other public pension schemes: this meant effectively that it was for agricultural workers, the self-employed, family workers and the jobless. Enrolment was compulsory for these people, but other people, such as the spouses of employees enrolled in the welfare pension or a friendly society could enrol on a voluntary basis. In principle, enrolees had to contribute for 25 years for eligibility. Entitlement age was 65 and benefits were calculated by

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multiplying a flat rate by the contribution period: benefits were not earnings-related, nor were contributions. Transitional measures were established to cover people who could not complete 25 years of contributions before reaching the age of 60. For those above the age of 50, a non-contributory national pension (*fukushi nenkin*) was provided, albeit at reduced benefit levels. For those between the age of 50 and 55, the ten-year pension (*jūnen nenkin*) was provided: enrolment was voluntary; ten years of contributions were required for eligibility and benefits were enhanced to ensure comparability with the national pension. A pension transfer scheme (*tsūsan rōrei nenkin*) was created to ensure that people moving between public pension schemes would not lose their eligibility. Without such a scheme, it would have been possible for a worker to contribute for long periods to two separate pension schemes without attaining a long enough contribution period to qualify for a pension from either scheme. The pension transfer scheme allowed contribution years in all public schemes to be summed together - a benefit level would then be calculated accordingly (Kōseishō Nenkinkyoku 1985 pp 9-13).

1961 was the year of universal public pension scheme coverage (*kokumin kon nenkin*). The schemes described above remain to this day the basis of public pension provision. In 1985 there was a major revision of the schemes: these revisions will be described in detail below. Three new developments occurred between 1961 and 1985 that should be mentioned. First, was the creation of private occupational pension schemes that received tax incentives, in 1962 and 1965. Occupational pensions are described below in Section 5 below. The second is the payment of welfare pension benefits (*zaishoku rōrei nenkin*) to people above entitlement age who are still working. The benefits were reduced according to the level of labour earnings. The third is the large increases in the generosity of benefits and in

the level of contributions. I will describe this third development in more detail, for the welfare and national pensions.

In 1965, the welfare pension was reformed, with the aim of meeting ILO guidelines on pension levels. More specifically, ILO clause 102 stated that the minimum level of a public pension should provide 40% of previous earnings for an insured person who had made contributions for 30 years. The reform was undertaken to provide a 40% replacement level after 20 years of contributions (Yamasaki 1985 p 189). In order to achieve such a level, the flat rate benefit was raised, the multiplier for calculating the earnings-related benefit was raised, the upper labour earnings bracket was raised and contribution rates were raised. One more important change in the law was the inclusion of an obligation to revise pension benefits when circumstances changed dramatically, in order to maintain the living standards of pensioners (Yamasaki 1985 p 190). In 1969, the generosity of pension benefits was raised further by raising the flat rate benefit; excluding earnings before 1957 when calculating average earnings; and raising monthly earnings below 10,000 yen to 10,000 yen: contribution rates were also raised. In 1971, raises in benefits were introduced to cope with the high inflation and the additional expense was met by the treasury. The year 1973 saw more substantial changes to the welfare pension. The aim of the changes was to provide a pension that replaced 60% of pre-retirement earnings for a model retiree (a person making contributions for 27 years). Again, flat rate benefits were raised and the upper average earnings limit was raised. The significant change leading to more generous benefits came with an upward adjustment of earnings that had been received before 1971 (*heikin hyōjun hōshū no saihyōka*). This measure ensured that average earnings of retirees would approach the average earnings of present workers, in spite of the

large rises in wages that had occurred during the high growth period. An automatic benefit adjustment was introduced to raise benefits when inflation rose above 5% in any year (*bukka suraido*). Contribution rates were again raised to pay for these changes (Yamasaki 1985 p 196). From 1973 to 1982, benefit levels were adjusted to meet the 60% rule by raising flat rate benefits, revising previous earnings levels and applying inflation-indexation. In 1985, a reversal was undertaken: measures were introduced to reduce the generosity of the welfare pension. These measures and the reasons for their adoption are described in the Section 3 below. A summary of the revisions to the welfare pension is given in Table 9.1.

The national pension underwent a development of increasing benefit levels, similar to the welfare pension. Table 9.2 below shows the rise in flat rate benefits and contributions. Until the 1973 reforms, benefit levels were raised to maintain parity with the welfare pension, but since then, there has been a relative decline. In 1973 the model national pension for a couple was 82.7% of the model welfare pension (103.4% if a voluntary additional contribution pension is included); by 1980 it had declined to 74.1% of the model welfare pension (82.9% if a voluntary additional contribution pension is included) (Shakai Hoshō Kenkyūjo 1982 p 46).

Table 9.1 showing major changes to welfare pension scheme 1954-1979

| Year | Flat rate benefit (CP = contribution period (months) (figures = yen) | Earnings related benefit information | | | | contribution rate[4] |
|---|---|---|---|---|---|---|
| | | multiplier | lower earnings limit (1000 yen) | upper earnings limit (1000 yen) | revisions of previous monthly earnings (yen) | |
| 1954 | Fixed benefit[1] | 0.5% | na | na | | 3 |
| 1965 | 250 x CP[2] | 1.0% | 7 | 60 | | 5.5 |
| 1969 | 400 x CP | " | 10 | 100 | below 10,00 = 10,000 | 6.2 |
| 1971 | 460 x CP | " | 10 | 134 | | 6.4 |
| 1973 | 1000 x CP | " | 20 | 200 | below 20,000 =20,000 | 7.6 |
| 1976 | 1650 x CP[3] | " | 30 | 320 | before 1975 earnings revised, below 30,000 = 30,000 | 9.1 |
| 1980 | 2050 x CP | " | 45 | 410 | before 1979 earnings revised, below 45,000 = 45,000 | 10.6 |

Source:    Yamasaki 1985, Table 2, p 203.

Table 9.1 (cont):

Notes:         Notes to superscript numbers are as follows:
               1) Originally, the flat rate benefit amount was not
               dependent on the length of the contribution period.
               2) lower contribution period = 240 months, upper
               contribution period = 360 months
               3) lower contribution period = 240 months, upper
               contribution period = 420 months
               4) the contribution rates are for men who are not
               miners. Women pay lower rates and miners pay higher
               rates.
               General note: Contributions are based on 'standard
               remuneration' (*hyōjun hōshū*) classes. Standard
               remuneration is calculated by taking remuneration for
               labour services received in May, June and July and
               dividing by three. The amount is assigned one of the
               classes ranging between the lower and upper limits shown
               in the table above. Standard remuneration does not
               include half-yearly bonus payments, since they are
               payments that cover a period of greater than three
               months (see Ariizumi and Takano 1982 and Kōseishō Tōkei
               Kyōkai 1989 p 368).

Table 9.2 showing changes in the national pension contributions, percentage change on previous level and change in consumer prices.

| Year | Monthly contribu-tions | Percent change on previous amount | Model benefit payment (monthly) | Percent change in benefit levels | Consumer price change (%) |
|------|------|------|------|------|------|
| 1961 | 100 | - | 2,000 | - | - |
| 1966 | 200 | 100 | 5,000 | 150 | 33.8 |
| 1968 | 250 | 25 | 5,000 | 0 | 9.5 |
| 1970 | 450 | 80 | 8,000 | 60 | 13.3 |
| 1972 | 550 | 22.2 | 8,000 | 0 | 10.9 |
| 1973 | 900 | 63.6 | 20,000 | 150 | 11.7 |
| 1974 | 1,100 | 22.2 | 23,220 | 16.1 | 24.5 |
| 1976 | 1,400 | 27.3 | 32,500 | 40 | 22.2 |
| 1977 | 2,200 | 57.1 | 35,558 | 9.4 | 8.1 |
| 1978 | 2,730 | 24.1 | 37,925 | 6.6 | 3.8 |
| 1979 | 3,300 | 20.9 | 39,225 | 3.4 | 3.6 |
| 1980 | 3,770 | 14.2 | 42,000 | 7.1 | 8.0 |
| 1981 | 4,500 | 19.3 | 45,276 | 7.8 | 4.9 |
| 1982 | 5,220 | 16.0 | 47,124 | 4.1 | 2.7 |
| 1983 | 5,830 | 11.7 | 47,124 | 0 | 1.9 |
| 1984 | 6,220 | 6.7 | 48,048 | 2 | 2.2 |
| 1985 | 6,740 | 8.4 | 49,686 | 3.4 | 2.0 |

Source:     Contribution    and   benefit    amounts    from    Kōseishō
            Nenkinkyoku   (1985)   p   12,   consumer   price   changes
            calculated from Kurosaka (1988).
Note:       The monthly benefit payment shown is the amount received
            by people with 25 years of contributions.

## Section 3  Reform of the Public Pension  Schemes

### Sub-section 3.1 Reasons for the 1985 reform

In 1985, both the national and welfare pensions were reformed noticeably. The main aim of the reform was to reduce the generosity of benefits so that future contribution rates could be kept at a lower level than that implied by the existing benefit calculation formulae. The 1980 reforms were originally intended to address the problem of rapidly rising contribution rates by raising the pension eligibility age to 65, but this part of the reform did not  survive the amendments made to the original bill by the lower house of the Diet. Indeed, consideration of raising the eligibility age was postponed until the next review of public finance accounts (*zaisei saikeisan*) to be held in 1985. Moreover, while benefits were increased, the rise in contribution rates was held below the level suggested in the original bill: the amendments were made shortly after the government had collapsed and had been re-elected. (Kōseishō Tōkei Kyōkai 1989 p 34). Table 9.3 below shows the estimates of future contribution rates for the welfare pension calculated in successive reviews of the public finance accounts.

Table 9.3 showing the estimates of welfare pension contribution rates made in the reviews of the public finance accounts in 1973, 1976, 1980 and 1984.

| Year | 1973 | 1976 | 1980 | 1984 |
|------|------|------|------|------|
| 1973 | 6.4  | –    | –    | –    |
| 1976 | 7.6  | 9.1  | –    | –    |
| 1980 | 9.1  | 9.1  | 10.6 | –    |
| 1985 | 10.6 | 10.9 | 12.4 | –    |
| 1986 | 10.6 | –    | 12.4 | 12.4 |
| 1990 | 12.4 | 12.7 | 14.2 | 12.4 |
| 1995 | 14.2 | 14.7 | 16.0 | 14.2 |
| 2000 | 16.0 | 16,7 | 17.8 | 16.0 |
| 2005 | 17.8 | 18.7 | 19.6 | 18.0 |
| 2010 | 19.6 | 20.7 | 30.4 | 24.9 |
| 2015 | –    | –    | 33.9 | 30.3 |
| 2020 | –    | –    | 34.8 | 33.6 |
| 2025 | –    | –    | 34.8 | 35.9 |
| 2030 | –    | –    | –    | 38.8 |

Source:     Yamasaki (1988) p 149, Table 13.
Notes:      The figures 1984 show the contribution rate estimates based on the welfare pension scheme unchanged by the 1985 reforms. Post-reform rates are shown in Table 7.5 below. The finances of the pension schemes are reviewed during the general review of public finances (*zaisei saikeisan*) that takes place every five years in principle. Often reviews are made earlier than every five years in periods of rapid change, however.

The estimates for 1973 and 1976 do not diverge noticeably, but there is a large increase in the estimates for each year in the 1980 review, compared with the 1976 review. The principal reason for the discrepancy was that the Ministry of Welfare had underestimated the rapid increase in life expectancy that started during the mid-1970s. The rise in life expectancy would lead to a greater number of pension beneficiaries than had been expected in 1976: hence in a pay-as-you-go scheme a rising beneficiary to contributor ratio would lead to a rise in contribution rates (Yamasaki 1988 pp 154-155). The review of the pension scheme in 1984 again showed an increase in contribution rate estimates over the 1980 estimates. In this case, the large increases were caused by an underestimation, in the 1980 review, of the rapid decline in fertility that occurred after 1973 (Kōseishō Nenkinkyoku 1985 pp 119-121; and Yamasaki 1988 pp 155-156). The decline in fertility would lead to a reduction in contributors and again, a rise in the contribution rates necessary to maintain pension benefits at their existing levels. The ffects of these demographic changes on contributor and beneficiary numbers are shown in Table 9.4 below.

Table 9.4 showing the estimates of the number of contributors and beneficiaries of the welfare pension scheme in the 1976, 1980 and 1984 recalculations of public finance.

| Year | No. of contributors(1000s) | | | No. of beneficiaries (1000s) | | | Beneficiaries/Contributor Ratio (%) | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1976 | 1980 | 1984 | 1976 | 1980 | 1984 | 1976 | 1980 | 1984 |
| 1980 | 25,920 | 24,718 | - | 1,659 | 1,992 | - | 6.4 | 8.1 | - |
| 1985 | 27,639 | 26,345 | - | 2,569 | 3,267 | - | 9.3 | 12.4 | - |
| 1986 | - | 26,577 | 26,863 | - | 3,514 | 3,409 | - | 13.2 | 12.7 |
| 1990 | 29,446 | 27,676 | 27,881 | 3,686 | 4,614 | 4,600 | 12.5 | 16.7 | 16.5 |
| 1995 | 30,736 | 29,144 | 29,006 | 5,055 | 6,137 | 6,108 | 16.4 | 21.1 | 21.1 |
| 2000 | 31,430 | 30,334 | 29,350 | 6,413 | 7,672 | 7,670 | 20.4 | 25.3 | 26.1 |
| 2005 | 31,430 | 31,059 | 28,989 | 7,642 | 9,131 | 9,260 | 24.3 | 29.4 | 31.9 |
| 2010 | 31,430 | 31,045 | 28,451 | 8,681 | 10,462 | 10,808 | 27.6 | 33.7 | 38.0 |
| 2015 | 31,430 | 31,029 | 28,471 | 9,896 | 11,363 | 11,955 | 31.5 | 36.6 | 42.0 |
| 2020 | 31,430 | 31,624 | 28,877 | 9,707 | 11,681 | 12,556 | 30.9 | 36.9 | 43.5 |
| 2025 | 31,430 | 32,100 | 28,892 | 9,854 | 11,757 | 12,806 | 31.4 | 36.6 | 44.3 |
| 2030 | - | - | 28,174 | - | - | 12,791 | - | - | 45.4 |
| 2035 | - | - | 27,276 | - | - | 12,690 | - | - | 46.5 |
| 2040 | - | - | 26,938 | - | - | 12,581 | - | - | 46.7 |
| 2045 | - | - | 27,115 | - | - | 12,441 | - | - | 45.9 |
| 2050 | - | - | 27,327 | - | - | 12,301 | - | - | 45.0 |

Table 9.4 (cont.):

Source: Yamasaki (1988) p 152, Table 16.
Note: 1984 figures are estimates corresponding to pre-reform pension rules.

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From Table 9.4 it is clear that the principal cause of the increase in estimated maturity of the scheme between 1976 and 1980 was the increase in beneficiaries, whereas the increase in estimated maturity between 1980 and 1984 is largely explained by a decrease in contributors. As a result of these two demographic changes, the estimate of maturity in the year 2025 had risen by over 13% percentage points.

It was not only the unexpected speed of the increase in the ratio of beneficiaries to contributors in the welfare pension scheme that concerned the Ministry of Welfare: it was also felt that future pensions would become over-generous and lead to an unequitable distribution of income between generations (Kōseishō Nenkinkyoku 1985 pp 53-55). The average contribution period for newly qualifying beneficiaries had risen steadily since the scheme's inception. In 1969, the average contribution period was approximately 24 years and it had risen to 30 years by 1980. It was expected that this trend would continue and that when the scheme reached full maturity, the average contribution period would be 40. Given a contribution period of 40 years, the average pension benefits would have given a replacement ratio of 83% and when voluntary enrolment of a spouse for 40 years in the national pension scheme was included, the replacement ratio rose to 109%. Unfortunately the source of these estimates does not indicate when average maturity will reach 40 years (Kōseishō Nenkinkyoku 1985 pp 53-55).

The national pension scheme suffered similar problems caused by the more rapid ageing of the population than had been expected. These problems were exacerbated by the nature of the national pension scheme's contributor base. The national pension scheme was established to provide pensions in the main for the self-employed

and jobless women, but because of the decline in self-employment (including farmers) brought about by structural change in the economy, and because of the increasing employment of women, the scheme's contributor base was shrinking even faster than a decline in the birth rate would imply (Kōseishō Nenkinkyoku 1985 pp 16-19, 49).The need to change benefit levels was made more urgent by problems faced in the 1970s and early 1980s: in 1976, 1977 and 1981, benefit expenditure was greater than contributions (excluding Treasury contribution) and in 1983 the national pension funds were reduced (Kōseishō Nenkinkyoku 1985 p 25).

## Sub-section 3.2 The 1985 pension reform

According to explanations provided by the Ministry of Welfare (Kōseishō Nenkinkyoku 1985 pp 56-57) the purposes of the reforms were fourfold:

a)    Unification of the pension systems.

b)    The establishment of a basic pension for married women that was independent of her husband's pension. Until 1985, married men enrolled in the welfare pension scheme received an additional payment for their spouses. If the couple became separated, the wife would not receive a pension.

c)    A reduction in future contribution rates and future benefit levels

d)    Ensuring adequate invalidity pension benefits.

According to Yamasaki (1988) one further aim was to reduce the dependence of the welfare pension scheme on transfers from the Treasury. I will describe the reforms enacted to meet aims a) and c).

The first step towards unification of the schemes was to establish a basic pension scheme (*kiso nenkin*) that would receive

contributions from everybody and would pay out a non-earnings related pension on eligibility. In other words, the national pension scheme was converted into a scheme that covered not only the self-employed, but also private-sector and public-sector employees. For employees, this meant that the non-earnings related component of the pension was converted into a basic pension that was to be paid by the national pension scheme and only the earnings-related pension was to be paid by the welfare pension scheme and friendly society pension schemes. The latter two schemes were to transfer contributions into the basic pension scheme. Treasury contributions were re-directed to the basic pension (1/3 of contributions), except for transitory payments to the other public pension schemes (Kōseishō Nenkinkyoku 1985 pp 66-67).

To reduce the generosity of benefits, three devices were proposed: a gradual reduction in the unit amount used for calculating the basic (non-earnings related) pension over 25 years for welfare pension contributors (for national pensions the period necessary to obtain a full pension was extended, having the same effect); a graduated reduction in the multiplier used for calculating the earnings-related welfare pension from 1% to 0.75%, over 25 years; and a raising of the men's pension eligibility age to 65 and women's pension eligibility age to 60. The first two alterations were passed by the Diet, as was the raising of the women's eligibility age; but yet again, the raising of the men's pensionable age to 65 was deleted from the bill and added to the agenda for consideration in the next review of public finance due in 1989. The reduction of benefits was calculated so that, with 40 years of contributions, a couple would receive roughly 69% of average labour earnings. This percentage was nearly the same as the percentage before the reforms received by a pensioner who had contributed to the welfare pension

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for 30 years (the average contribution period of eligible contributors in 1985)(Kōseishō Nenkinkyoku 1985 pp 62, 71-73; and Kōseishō Tōkei Kyōkai 1989 pp 40-48): the enrolee now had to contribute a further ten years, however. The net effect of these changes was to reduce substantially the contributions that would become necessary in the future. Table 9.5 below shows the Ministry of Welfare's estimates of future contributions under pre-reform and post-reform conditions, together with estimates of the contributions for a men's pension eligibility age of 65.

Table 9.5 showing the effect of the 1985 reforms on future contribution rates and amounts for the welfare pension and national pension.

| Year | Welfare pension | | | National pension | |
|------|-----------------|---|---|------------------|---|
| | Pre-reform (%) | Post-reform (%) | Post-reform (65)(%)[1] | Pre-reform (yen)[2] | Post-reform (yen) |
| 1986 | 12.4 | 12.4 | 12.4 | 6,800 | 6,800 |
| 1990 | 12.4 | 12.4 | 12.4 | 10,400 | 8,000 |
| 1995 | 14.2 | 14.2 | 14.2 | 13,250 | 9,500 |
| 2000 | 16.0 | 16.0 | 16.0 | 15,000 | 11,000 |
| 2005 | 18.0 | 18.7 | 17.8 | 16,750 | 12,500 |
| 2010 | 24.9 | 23.4 | 19.6 | 18,500 | 13,000 |
| 2015 | 30.3 | 26.3 | 21.4 | 19,500 | 13,000 |
| 2020 | 33.6 | 28.4 | 23.2 | 19,500 | 13,000 |
| 2025 | 35.9 | 28.9 | 23.9 | 19,500 | 13,000 |
| 2030 | 38.8 | 28.9 | 23.9 | 19,500 | 13,000 |
| 2035 | 38.8 | 28.9 | 23.9 | 19,500 | 13,000 |
| 2040 | 38.8 | 28.9 | 23.9 | 19,500 | 13,000 |
| 2045 | 38.8 | 28.9 | 23.9 | 19,500 | 13,000 |
| 2050 | 38.8 | 28.9 | 23.9 | 19,500 | 13,000 |

Source:     Kōseishō Nenkinkyoku (1985) pp 154-165, Tables 7-3, 7-4, 7-5 and 7-7.

Notes:      Notes to superscript numbers: 1) this column shows the estimated contribution rates for a pension starting age of 65, 2) the contribution amounts are given in 1984 yen.
General notes: the welfare pension contribution rates are for male employees, not including miners; and the contributions are split 50:50 between employer and employee.

## Sub-section 3.3  The 1989 reforms

The 1989 reforms were not so comprehensive as the 1985 reforms. The main elements were: introduction of completely automatic inflation-indexation of benefits, raising of income limits for calculation of the working pension (*zaishoku rōrei nenkin*), compulsory enrolment of students (to ensure a contributions period of 40 years), an upward revision of contribution rates and an attempt to raise the pension age to 65, for both men and women (Kōseishō Nenkinkyoku 1990 p 24). The increase in contribution rates was greater than that envisaged in the 1985 reforms - the men's welfare pension contribution rate was raised to 14.6 (instead of 14.2 by 1991). This raise in contributions implied that the 1985 re-estimation had again been an under-estimation of the speed with which the welfare pension scheme was maturing. This implication is backed by the new estimated contribution rate corresponding to the highest contribution rate which reached 31.5% (as opposed to 28.9%) (Kōsei Tōkei Kyōkai 1989 pp 50-53). The original reform bill not only proposed the rise in the pensionable age for men to 65 again, but also proposed the raising of the women's pensionable age to 65. To improve the acceptability of this policy, the reform bill also introduced an early retirement option: a person could choose to claim pension benefits at any age between 60 and 65, and the pension amount would be reduced according to the number of years before reaching 65, using a formula that would avoid making early receipt of benefits more expensive than receipt at the normal age (65). Despite this early payment option, this part of the reform was again rejected by the lower house in the Diet. As a result, the reform act only showed the plans for graduated introduction of the higher pensionable age and actual implementation was left to a "separate revision of the law at another time" (Kōsei Tōkei Kyōkai 1989 p 52).

## Section 4   The Payment and Level of Pensions

The sections above described the old age pension schemes and the reforms that have been undertaken recently. There was no attempt to assess which pensions a pensioner is likely to be receiving and nor at which level the pension is set. Indeed, the pension levels mentioned above were model pension levels and it is certainly not the case that all pensioners will be receiving the model pension. The aim of this section is to is to fill the lacuna, given available data.

Table 9.6 below shows the percentage of people receiving a pension from each pension scheme over time.

Table 9.6 showing the percentage of pension beneficiaries receiving an old age pension from each pension scheme over time.

| Year | Welfare | Welfare tsūsan[2] | National | National tsūsan[3] | Non-contributory | National + Non-contributory | Sea-men[1] | Friendly |
|---|---|---|---|---|---|---|---|---|
| 1970 | 13.2 | (14.9) | 0 | (0) | 74.7 | 74.7 | 0.3 | 11.8 |
| 1975 | 15.4 | (31.6) | 28.7 | (3.1) | 47.0 | 75.7 | 0.3 | 8.7 |
| 1980 | 24.0 | (40.0) | 41.5 | (8.8) | 25.1 | 66.6 | 0.4 | 9.1 |
| 1985 | 29.8 | (38.7) | 46.6 | (18.0) | 12.5 | 59.1 | 0.5 | 10.6 |
| 1987 | 30.6 | (39.4) | 48.4 | (19.8) | 9.7 | 58.1 | 0.1 | 11.2 |

Source:  Data for the welfare pension and the seamen's pension come from Kōseishō Daijin Kanbō (1990) p 259, Table 260 and pp 258-259, Table 259. Data for contributory national pension from Sōrifu Shakai Hoshō Seido Shingikai (1971) p 152 Table 110 and p 151, Table 108; ibid (1978) p 160, Table 113 and p 159, Table 111; ibid (1983) p 170, Table 113 and p 169, Table 111; and ibid (1989) p 168, Table 103 and p 167, Table 101. Data for the non-contributory national pension come from Sōrifu Shakai Hoshō Seido Shingikai (1971) p 153, Table 111; ibid.(1978) p 161, Table 114; ibid.(1983) p 171, Table 114; ibid.(1989) p 169, Table 104. Data for the friendly societies come from Sōrifu Shakai Hoshō Seido Shingikai (1971) p 113, Table 59; ibid.(1978) p 120, Table 63; ibid.(1983) p 130, Table 63; ibid.(1989) p 130, Table 58.

Notes:   Note to superscript 1) the Seamen's pension was merged with the Welfare pension in 1985; 2) this column shows the proportion of welfare pension beneficiaries who are claiming a tsūsan pension; 3) this column shows the proportion of national pension beneficiaries who are claiming a tsūsan pension (see Section 2 above for explanation of a tsūsan pension).
General notes: National refers to national pension benefits received by pensioners who have made contributions in the past. Non-contributory refers to national pension benefits received by pensioners who have not contributed to the scheme but receive payments under safety-net arrangements.

Throughout the period 1970-1987, the majority of pensioners have been receiving a national or non-contributory national pension and since 1980 the welfare pension beneficiaries have accounted for approximately 30% of all pensioners. The figures after 1985 are slightly mis-leading since new welfare pension beneficiaries will receive both a national pension (*kiso nenkin*) and a welfare pension (the earnings-related pension): thus the rise in the proportion of welfare pension beneficiaries will appear smaller than when compared with the pre-1985 figures. It is clear, however, that the proportion of old age pension beneficiaries receiving the more generous welfare pension has been increasing. As a result, the average level of old age pensions will have been rising.

The percentage of pensioners receiving a welfare pension in future will increase, mainly due to the changing work structure of the Japanese economy that has occurred during the post-war period and that has resulted in a decreasing proportion of self-employed workers. Table 9.7 below shows the proportion of contributors enrolled in each pension scheme since 1970. It is likely that, given the distribution of contributors, the proportion receiving a welfare pension in future will rise. Again, caution must be exercised with the post-1985 figures because of the effect of the 1985 reforms on welfare pension contributors: such contributors pay into both the national pension scheme and the welfare pension scheme after 1985, thus (artificially) depressing the rise in the proportion of welfare pension scheme contributors.

Table 9.7 showing the proportion of contributors in each scheme 1970-1987.

| Year | welfare pension (%) | national pension (%) | seamen's pension (%) | friendly society pension (%) |
|------|---------------------|----------------------|----------------------|------------------------------|
| 1970 | 47.5 | 51.9 | 0.6 | - |
| 1975 | 47.5 | 52.0 | 0.5 | - |
| 1980 | 47.6 | 52.0 | 0.4 | - |
| 1985 | 51.8 (46.8) | 47.8 (43.2) | 0.3 (0.3) | (9.7) |
| 1987 | 47.5 (43.3) | 52.3 (47.7) | 0.3 (0.2) | (8.7) |

Source:    Welfare pension figures from Kōseishō Daijin Kanbō Tōkei (1989) p 258, Table 259; national pension figures for 1970, 1975 and 1980 from Sōrifu Shakai Hoshō Seido Shingikai (1971, 1978, 1983), national pension figures for 1985 and 1987 from Kōseishō Daijin Kanbō Tōkei (1989); seamen's pension figures from Kōseishō Daijin Kanbō Tōkei (1989), p 260, Table 266. Friendly society figures from Sōrifu Shakai Hoshō Seido Shingikai (1989), Tables 109 (p 174), 121 (p 186), 133 (p 199), 144 (p 210) and 157 (p 220).

Notes:    1)   I do not have data for the number of contributors in the friendly society pension schemes for the years prior to 1985. The figures not in brackets show the proportion of contributors with a denominator that does not include those enrolled in friendly societies, whereas the figures in brackets indicate the proportions in each scheme when friendly society contributors are included in the denominator.

2)   Figures for 1987 are misleading, since those enrolled in the welfare pension also became enrolled in the national pension scheme, with the creation of a basic pension common to all schemes in the 1985 reforms.

As shown in Table 9.8 below, the value of average contributory national pensions is far lower than that of welfare pensions; and in turn, the value of non-contributory pensions is lower than contributory national pensions. Furthermore, those who receive a transfer (*tsūsan*) pension from either scheme receive far lower benefits than ordinary pensions, implying that there is a high penalty imposed for those moving between schemes. The replacement ratio for the welfare pension is consistently below the level of the model welfare pension. The welfare pension level is lower than the model pension, because the model pension is calculated using the

average contribution period of newly qualifying pensioners, while the actual average pension received will be for existing pensioners whose average contribution period was shorter than of new qualifiers.

Table 9.8 showing average old age pension benefits, replacement ratios and model pension replacement ratios 1970-1987.

| Year | Welfare old age pension | | | | | National old age pension | | | |
|---|---|---|---|---|---|---|---|---|---|
| | old age pension (yen) | old age pension replace-ment ratio (%)[1] | tsūsan old age pension (yen) | tsūsan old age pension replace-ment ratio (%) | model old age welfare pension replace-ment ratio (%)[2] | old age pension (yen) | old age pension replace-ment ratio (%)[3] | tsūsan old age pension (yen) | tsūsan old age pension replace-ment ratio (%) |
| 1970 | 14,264 | 26 | 5,712 | 10.4 | 44.6 (1969) | 0 | 0 | 0 | 0 |
| 1975 | 55,673 | 45.4 | 18,217 | 14.9 | 61.6 (1973) | 20,420 | 16.7 | 6,889 | 5.6 |
| 1980 | 100,711 | 53.4 | 24,334 | 13.4 | 67.5 (1980) | 22,399 | 11.9 | 7,350 | 3.9 |
| 1985 | 120,866 | 52.2 | 27,710 | 12.0 | – | 27,801 | 12.0 | 11,233 | 4.9 |
| 1987 | 129,290 | 53.6 | 28,893 | 12.0 | 68.0 (1986) | 29,285 | 12.1 | 12,267 | 5.1 |

Source: Model old age pension replacement ratio up to 1980: Yamasaki (1985) p 204; 1986: Kōsei Tōkei Kyōkai (1989) p 42. Data for the welfare pension and the seamen's pension come from Kōseishō Daijin Kanbō (1990) p 259, Table 260 pp 258-259, Table 259. Data for contributory national pension from Sōrifu Shakai Hoshō Seido Shingikai (1971) p 152, Table 110 and p 151, Table 108; ibid (1978) p 106, Table 113 and p 159, Table 111; ibid (1983) p 170, Table 113 and p 169, Table 111; and ibid (1989) p168, Table 103 and p 167, Table 101.

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Table 9.8 (cont.):

Notes: General notes: the figures are for old age pension benefits only, so do not include survivor and disability pension payments. The average pension amounts are calculated by dividing the total benefit payments in each year by the number of people who are eligible for benefits in each year. In fact, the number of people who actually claim benefits is lower than the number eligible, so these figures are a slight under-estimation of average pension payments. Unfortunately, the number of people receiving benefits is not given in published data. As a guide, approximately 93% of men and 96% of women who were eligible for pensions actually received pensions in 1983 (Rōdō Daijin Kanbō 1985, Table 17, pp 108-123). The amounts shown are monthly payments.
Notes to superscript numbers: 1) the replacement ratio is calculated using the average monthly income of all contributors; it does not show the percentage of labour earnings received just before becoming pensioner covered by pension benefits 2) the model pension is calculated using the average contribution period for new pensioners qualifying in that year and the average of average past monthly income of all new qualifiers. Figures in brackets indicate the year for which the model pension was calculated. 3) strictly speaking, it is not possible to calculate the replacement ratio for national pensioners, since there are no figures for the average earnings of enrolees. Here the average income of welfare pension scheme enrolees has been used and the figures are only intended as a means for comparing the relative benefit levels of the two schemes.

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The preponderance of pensioners receiving a national pension and the low *tsūsan* pension levels combine to lead to an average pension for the whole pensioner population lower than implied by the model pension levels. Table 9.9 below shows the distribution of pensions for men and women in the 60-65 and 65-69 age groups. The median for 60-65 year old men in 1988 was 143,000 yen per month and the mean was 133,000 per month. For men in the 65-69 age group the median was 17,000 yen lower and the mean was 5,000 yen lower. For women, the mean and median pensions are less than half the men's mean and median pensions. Even over the short period of five years between 1983 and 1988, the pension levels for men have become less skewed (positively), while women's pension levels have remained highly skewed towards the lower levels. The rise over the period in the proportion of men receiving          high pension levels is particularly noticeable and is perhaps a reflection of longer contribution periods. The average level a pensioner received is higher than that implied by the levels of benefit paid by each scheme and the proportion of beneficiaries receiving each type of old age pension shown above. The survey from which this distribution of pension benefits was taken (see table) had an unusually high proportion of friendly society pension beneficiaries, despite the very large sample size: about 30% compared with 11% shown in Table 9.9 above. Other data (Sōrifu Shakai Hoshō Seido Shingikai 1986 pp 126-128) show that the average monthly amount was 49,850 yen per month in 1983. The amount for regional civil servants was 113,301 yen. Thus these figures must be treated with caution, but they do indicate the trends in pension levels and distribution.

Over the years, pensions have come to account for a larger and larger proportion of the income received by old age couples: in 1976 pensions accounted for 34% of income; by 1985, they accounted for

47% of income. Also, by 1985, pensions provided between 80 and 100% of household income for just over 50% of all elderly households (Eijingu Sōgō Kenkyū Senta 1990 pp 87-88).

Table 9.9 showing the distribution of pension benefit receipts in years 1988 and 1983.

| Monthly pension payment (1000 yen) | Men | | Women | |
|---|---|---|---|---|
| | 60-65 | 65-69 | 60-65 | 60-69 |
| < 29 | 5.0 (17.4) | 4.7 (16.6) | 21.7 (47.5) | 24.5 (42.2) |
| 30 - 49 | 15.4 (15.0) | 16.1 (17.3) | 36.8 (20.3) | 35.8 (28.7) |
| 50 - 69 | 9.4 (9.7) | 10.6 (9.7) | 11.0 (11.4) | 11.7 (10.0) |
| 70 - 89 | 5.5 (7.1) | 7.0 (8.4) | 12.4 (9.7) | 9.8 (7.6) |
| 90 - 109 | 7.3 (8.6) | 7.2 (8.3) | 6.9 (4.8) | 7.1 (4.5) |
| 110 - 129 | 4.3 (5.9) | 5.3 (8.6) | 3.3 (2.2) | 3.3 (2.9) |
| 130 - 149 | 4.6 (10.4) | 4.9 (8.2) | 2.1 (1.3) | 2.0 (1.7) |
| 150 - 169 | 7.4 (7.5) | 8.6 (8.9) | 1.4 (0.8) | 1.6 (0.7) |
| 170 - 189 | 8.8 (6.5) | 8.5 (5.7) | 1.0 (0.9) | 1.0 (0.5) |
| 190 - 209 | 13.4 (6.0) | 10.3 (4.2) | 1.5 (0.7) | 1.2 (0.5) |
| 210 + | 18.6 (6.0) | 16.6 (6.0) | 1.6 (0.5) | 1.2 (0.6) |
| Average | 133 (100) | 128 (90) | 55 (40) | 53 (40) |
| Median | 143 (92) | 126 (85) | 45 (32) | 43 (35) |
| %age receiving a pension | 69.1 (70.6) | 94.6 (95.2) | 59.1 (60.9) | 87.6 (85.8) |

Source:   For 1988 data: Rōdō Daijin Kanbō (1990) p 38, Table 15; for 1983 data: Rōdō Daijin Kanbo (1985) pp 124-129, Table 18.

Notes:    () indicate 1983 data.

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## Section 5  Company and Occupational Pensions

Until 1989, there were two well-established types of company pension schemes that received favourable tax treatment: the Qualified Retirement Pension Scheme (*tekikaku taishoku nenkin*, hereafter, tekikaku nenkin) and the Welfare Pension Funded Scheme (*kōsei nenkin kikin*, hereafter, kosei kikin). Companies were also allowed to establish their own pension scheme that did not receive favourable tax treatment, but also did not face strict bureaucratic intervention. I shall describe the development of these two types of scheme before describing recent developments and their role in old age income support. There were also two occupational pension schemes for miners and farmers which I shall describe briefly.

### Sub-section 5.1  The development of company and occupational pension schemes

### a  The Qualified Retirement Pension Scheme

Until 1962, the main form of retirement income support provided by firms was the severance lump-sum payment (*taishokukin*). If the company recorded transfers to a special severance payment account, in preparation for future severance payments, 40% of the amount of the transfer was treated as a necessary expense by the tax authorities (*taishoku kyūyo hikiatekin seido*) (Rōdōshō Rōdōkijunkyoku 1990 p 5). The transfer did not mean that the future liabilities were funded, however (Rōdōshō Rōdōkijunkyoku 1990 p 20). The lump-sum payment was also taxed at a lower rate than normal earnings (Miyajima 1988 p 36).

In 1957 and again in 1961, with the rising costs of meeting lump-sum severance payments, the Nikkeiren, trust banks and life insurance companies called for favourable tax treatment for company pensions (Miyajima 1988 p 36; Rōdōshō Rōdōkijinkyoku 1990 p 6). As a

consequence, tax incentives for company pensions that met specific criteria (*tekikaku nenkin*) were introduced in 1962. The main requirements were: the pension had to be funded outside the company through a contract with a trust bank or life insurance company which would manage the funds; and to set up a pension fund with a trust bank, there needed to be more than 100 enrolees, whilst to set up a pension with a life insurance company, the minimum number of enrolees was 15 (Rōdōshō Rōdōkijinkyoku 1990 p 32). The tax incentives for the *tekikaku* pension seem more favourable than for the lump-sum severance payment: all payments into the pension fund are treated as losses under the corporation tax laws, as opposed to 40% for the lump-sum severance payment. The accumulated funds are taxed at 1% (Rōdōshō Rōdōkijinkyoku 1990 p 36). The employer can agree to pay all the contributions or the employees can also agree to pay part of the contributions. The pension benefits are taxed as income on receipt, but an allowance is made for cases when enrolees, as well as employers, have made contribution payments. The company pension benefits are paid in addition to public pension benefits (Rōdōshō Rōdōkijinkyoku 1990 p 59). The level of pension benefits, contribution payments, period of pension payment are not strictly regulated, but the pension scheme must be managed on a sound actuarial basis. Schemes can offer pension benefits alone, or can offer a lump-sum severance payment and a pension in tandem. In fact, the majority of schemes pay both a lump-sum and a pension: in 1975, 60% of firms with a pension scheme paid in this way and by 1985, the proportion had reached 70% (Rōdōshō Rōdōkijinkyoku 1990 p 9). In most cases, beneficiaries may opt to receive a lump-sum severance payment instead of a pension upon retirement from the company, and the majority of retirees choose for a substantial part of the payment to be a lump-sum payment. In 1987, 58% chose to receive over 80% of benefits in the form of a lump-sum payment (Chūō Rōdō Iinkai

1988 p 18), although the trend is decreasing; in 1983 the proportion choosing such a lump-sum payment was 63% (Chūō Rōdō Iinkai 1984 p 17). The reason for this choice is that it is perceived that tax treatment of the lump-sum payment is more generous than of the pension. Most pensions have a limited payment period: in 1985, only 11% of schemes paid benefits until death, and the most common period of payment was 10 years (92%) (Rōdōshō Rōdōkijinkyoku 1990 p 55).

**b     The Funded Welfare Pension Scheme**

In 1965, with the rise in contribution payments necessary for the public welfare pension scheme, the business world proposed that there should be a means of using the company severance payments to reduce the contributions paid into the public pension scheme and that in return the firms would provide some of the benefit payments paid by the public pension scheme upon pension eligibility (Miyajima 1988 p 37). The legal framework for such schemes was established in 1966. The schemes were formally known as Welfare Pension Funds (*kōsei nenkin kikin*) and more commonly known as Adjusted Pensions (*chōsei nenkin*). In a similar fashion to the *tekikaku* pension schemes, firms received favourable tax treatment. Unlike the *tekikaku* pension schemes, however, the regulation of the schemes is more restrictive. The payments made by the firm into a fund are regarded as losses under corporate taxation laws and both employer and employee are exempted from a portion of contributions payable into the public welfare pension scheme (32/1000s split 50:50, for men). Funds above a certain level are taxed at a rate of 1% (Rōdōshō Rōdōkijinkyoku 1990 pp 36-37). Pension benefits are taxed as income. The schemes must pay the earnings related part of the public welfare pension, in the place of the public welfare pension scheme - it is for this reason that regulations are restrictive. The company schemes are not responsible for inflation index-linking of the

earnings-related benefit or the increase in earnings-related benefit that occurs as a result of the revisions of average earnings used to calculate benefits that have occurred since 1973: the public welfare pension scheme is responsible for meeting additional costs that result from such changes (Yokoda 1985 p 14). The Treasury also paid (until 1985) 17.5% of earnings-related benefits (Yokada 1985 p 16). Not only must the schemes pay the earnings-related part, they must also pay at least 30% above the public pension scheme level. The 30% excess is called the *purasu arufa* (plus α). In fact, many schemes pay an additional amount far in excess of the 30% level,

Table 9.10 showing distribution of funded welfare pension schemes by size of planned plus alpha payment in 1983 and 1988.

| Plus alpha payment as percentage of earnings-related pension amount | 1983 | 1988 |
|---|---|---|
| 30-40% | 31.1 | 16.2 |
| 40-50% | 20.6 | 15.7 |
| 50-100% | 25.8 | 35.8 |
| 100-200% | 18.1 | 24.2 |
| 200-300% | 3.9 | 6.7 |
| 300% + | 0.4 | 1.2 |

Source: Data calculated from Kōsei Tōkei Kyōkai (1989) p 181, Table 25.
Note: The percentages do not add up to exactly 100% because of rounding up and rounding down.

as is shown in Table 9.10. Table 9.10 also shows that the plus alpha payments have been expanding rapidly during the 1980s, but this expansion may be the effect of rapid money growth in that period, leading to asset price inflation. Like the public pension scheme, the pension must be payable until death. Until recently, contributions had to be paid to schemes managed by trust banks and life insurance companies (see section on recent reforms below). The minimum number of enrolees required to establish a scheme is far

larger than for the *tekikaku* pension and depends on the type of scheme. There are three types of scheme:

1    the *tandoku* (stand alone) scheme is one established by a single company and requires a minimum of 500 enrolees,

2    the *rengō* (allied) scheme is one established by a group of companies that have common links (eg cross shareholdings) and requires a minimum of 1000 enrolees

3    the *sōgō* (composite) scheme is one established by a group of companies belonging to the same industry that have a central organisation with leadership capability and needs a minimum of 3000 enrolees (Rōdōshō Rōdōkijinkyoku 1990 pp 37-38).

### c    The miners' pension fund

Miners' pension funds (*sekitan kōgyō nenkin kikin*) were started in 1967 to encourage miners to continue working in the mines during a period of labour shortage in other sectors and following a succession of mining disasters. The funds were to provide pension benefits on top of welfare pension benefits to miners and their survivors. The employers made all contribution payments, the amount of the contributions depending on the output of coal in the previous year. Benefit levels differ between funds. In 1989 there were 11,868 enrolees and 17,791 beneficiaries (Kōsei Tōkei Kyōkai 1989 pp 196-197).

### d    The farmers' pension fund

The farmers' pension fund (*nōgyōsha nenkin kikin*) was established in 1970 to keep good farmers in farming, to encourage the consolidation of landholdings and provide security for farmers in their old age. The fund provides pensions for some elderly self-employed and self-employed with small businesses, as well as to farmers. It also helps to finance the buying of agricultural land

and acts as an agent in buying and selling agricultural land. The contributors are generally farmers with more than 1/2 an hectare of land (although farmers with less land who are 'real farmers' can also enrol). The normal pension is payable at 65 and is based on the contribution period (not earnings-related). If a farmer retires before 65 and passes the land on to another farmer, pension benefits start at 60, and if the land is passed on to another farmers' pension fund enrolee the benefit is increased. The fund receives transfers from the Treasury (Kōsei Tōkei Kyōkai 1989 pp 196-197).

## Sub-section 5.2 The 1988 and 1989 Reforms to Company Pensions

In 1986, the Diet passed a policy outline document relating to the advent of a population with long life longevity (*chōjū shakai taisaku taikō*). The document stressed the need for private pension schemes to supplement public pension benefits and called for policies to increase the use of private pension schemes. In response to these demands, the Ministry of Welfare established a group to research company pension issues (Kōsei Tōkei Kyōkai 1989 p 49). The research group was composed of an academic, someone involved in the umbrella organisation of the funded welfare pension schemes, a journalist, a representative    life insurance business and so on (Kigyō Nenkin-nado Kenkyūkai 1987 p 1). In 1987, the research group published an interim report and recommended the following main points:

1)    The regulations facing companies wishing to establish a funded welfare pension scheme should be relaxed to encourage the use of funded welfare pension schemes

2)    Favourable tax incentives should be used to encourage the spread of pension benefits paid until death

3)    Pension benefit payments should be made more flexible and company pensions should become greater sources of future well-

being (Kigyō Nenkin-nado Kenkyūkai 1987 p 2).

In more concrete terms, in relation to point 1, the report
recommended that the minimum number of enrolees required could be
reduced and that at the same time, consideration would have to be
given to reducing the running costs of the schemes (it was initial
consideration of this matter that had led to the requirement of
large numbers of enrolees so that the running costs would be spread
over a large number). Suggestions for reducing running costs were:
to allow joint administration of pension schemes, and to allow
specialist outside institutions to perform the necessary
administrative tasks.

The recommendations concerning tax policy are the least
perspicacious statements in the document, but it seems that a lesser
degree of taxation of funds was deemed favourable, in future, if not
at the time of publication.

It was felt that the present provisions for transfer between schemes
resulted in low final benefit levels, since it was only the funds
used as a substitution for the public earnings-related pension
benefits that could be transferred (ie the funds used for payment
of plus alpha amount could not be transferred) - the additional
portion was paid as a severance lump-sum - so a mechanism allowing
transfer of the additional portion was recommended. To increase the
returns on pension funds, it was recommended that regulations
limiting the type of financial instruments pension fund managers
could buy should be relaxed, and that the number of types of
financial institutions that were permitted to manage pension funds
should be increased to engender greater levels of competition. This
latter recommendation went as far as including the possibility of

some in-house control of pension funds. An insurance scheme for paying benefits when companies ceased to operate was also advocated.

One further recommendation was that the funded welfare pension schemes should fulfil their role of being a substitute for the earnings-related public pension benefits. It was felt that, since the public welfare pension scheme was still responsible for paying for inflation index-linking and increments in benefit levels brought about by rising real wages, this role had atrophied substantially, and therefore the issue had to be examined carefully. Finally, the report called for an investigation into the possibility of providing the framework of a funded pension scheme for those enrolled in the national pension scheme alone. In other words, it was felt that a funded pension scheme for the self-employed was also desirable (Kigyō Nenkin-nado Kenkyūkai 1987).

The 1988 revisions to the welfare pension law included changes related to these recommendations: pension benefit levels which pension schemes were expected to reach were established; the joint-management of smaller welfare pension funds was allowed; and a benefit insurance scheme was established for cases when the company ceased to operate (Kōsei Tōkei Kyōkai 1989 p 50). Further fulfilment of the recommendations came with the revisions in 1989. It became possible for financial investment consultants (*tōshi komon gyōsha*) to manage up to 1/3 of the funds belonging to a funded welfare pension scheme. Funded welfare pension schemes with particularly large accumulated funds (50,000 million yen) who had agreed to management of funds by a financial investment consultant were also permitted to manage a part of the funds themselves, under strict regulations regarding the investment instruments.
The proportion of funds managed by consultants and managed in-house

could not surpass 1/3 of total accumulated funds (Kōseishō Nenkinkyoku 1990 pp 46, 47).

In 1989, a new type of funded national pension (*kokumin nenkin kikin*) was established and regulations for occupational funded national pension schemes were relaxed (to my knowledge, the only such scheme that existed until then was the farmers funded pension scheme described briefly above). The funded national pension scheme framework was established so that the self-employed were able to increase the benefit levels they would receive by making voluntary contributions to a private funded scheme, whilst receiving favourable tax treatment. Furthermore, these funded schemes were intended to substitute for the additional voluntary contribution national pension (*fuka kokumin nenkin*) and pay a further amount (plus alpha). The new type of funded national pension scheme is one that is based on contributors from a given geographical region (*chiiki-gata kikin*). The minimum number of enrolees in a given area required to start a scheme is 1000. In the case of an occupational scheme, the minimum number of enrolees belonging to a given type of trade or business is 3000. There can only be one fund for one type of business or trade in the whole of Japan (Kōsei Tōkei Kyōkai 1989 p 51). The funds can be managed by trust banks, life insurance companies, the nationwide umbrella organisation for farming co-operatives (*zenkoku kyōsai nōgyō kyōdō kumiai rengōkai*) and the similar umbrella organisation for fishery co-operatives (*zenkoku kyōsai suisangyō kyōdō kumiai rengōkai*). An umbrella organisation (*kokumin nenkin kikin rengōkai*) for ensuring the transfer of pension rights between schemes was also established (Kōseishō Nenkinkyoku 1990 pp 42-45).

## Sub-section 5.3 Enrolment numbers and benefit levels

Table 9.11 below shows the numbers enrolled in each type of company pension scheme and the percentage of the public welfare pension scheme contributors accounted for by the schemes.

Table 9.11 showing the number and proportion of the public welfare pension scheme enrolled in each type of company pension scheme 1976-1989.

| Year | Funded Welfare Pension | | *Tekikaku* pension | |
|------|------------------|------------|------------------|------------|
| | number (1000s) | percentage | number (1000s) | percentage |
| 1976 | 5348 | 22.4 | 4593 | 19.2 |
| 1980 | 5769 | 22.9 | 5327 | 21.1 |
| 1985 | 6731 | 24.9 | 7236 | 26.8 |
| 1989 | 8180 | - | 8460 | - |

Source:    Data calculated from public welfare pension contributor figures from various years of Sōrifu Shakai Hoshō Seido Shingikai (ed) *Shakai Hoshō Tōkei Nenpō;* number of enrolees for company pension schemes from Rōdōshō Rōdōkijunkyoku (1990) p 40.

Notes:    percentages shown in columns 3 and 5 show the proportion of those enrolled in the public welfare pension scheme that are enrolled in one or other of company pension scheme types.

The numbers enrolled have increased steadily since 1976, although the increase has been greater in the case of *tekikaku* pension schemes, probably because the minimum number of enrolees needed to start a scheme is much lower. Also the proportion enrolled in the two types of scheme has risen. These figures imply that in 1985 nearly 27% of the public welfare pension contributors could expect a further pension benefit above the public pension benefits, if they opted for a company pension rather than a lump-sum payment upon retirement. In the case of the funded welfare pension schemes, those enrolled in 1985 (nearly 25% of the public welfare pension contributors) could expect a retirement pension that was greater than the public welfare pension benefits by a proportion of plus alpha. In total, approximately 52% of public welfare pension

contributors could expect a total pension payment greater than that provided by the public welfare pension alone.

It has not been easy to obtain data on the levels of company pension benefits. In the case of the funded welfare pension scheme, the average monthly amount received by pensioners in 1986 was 15,109 yen (Sōrifu Shakai Hoshō Seido Shingikai 1989 p 165). The funded welfare pension schemes are supposed to provide the earnings-related portion of the public welfare pension scheme plus a large increment (+ $\alpha$). The earnings-related portion of the welfare public pension amounted to 101,181 yen per month on average (or approx. 52% of average monthly pre-retirement earnings) (Sōrifu Shakai Hoshō Seido Shingikai 1989 p 165). The low level of the funded welfare pension benefits is explained by the immaturity of the system, the short contribution periods of existing beneficiaries and the reduction in benefits incurred by changing job. It is believed that the level will increase in future (Kōsei Tōkei Kyōkai 1989 p 182).

Data for *tekikaku* pensions has been particularly difficult to obtain. Figures for the present value of company pensions in 1985 are given in Rōdōshō Rōdōkijunkyoku 1990 (p 13). The value ranges from 17,310,000 yen to 6,910,000 yen on average, depending on the schooling and type of work (these figures are for companies that only provide a pension, rather than a lump-sum, on retirement; also, figures are for those with 20 and above years of service). Given that most pensions have a limited benefit period and that the most common period is ten years (in 82% of cases: Rōdōshō Rōdōkijunkyoku 1990 p 55), dividing by 120 gives a monthly pension amount in 1985 current prices: the monthly pension ranges from 144,250 yen to 57,583 yen. These amounts are equivalent to 62% and 25% of average earnings (average monthly earnings of the public welfare pension

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scheme contributors amounted to 231,566 in 1985: Sōrifu Shakai Hoshō Seido Shingikai 1989 p 160). Other data suggest that the average monthly company pension for recipients in 1985 was 106,000 yen (940 recipients), although it is not clear that this figure is for *tekikaku* pension recipients alone (Rōdōshō Rōdōkijunkyoku 1990 p 15). This data is also supported by figures given in the Labour White Paper (Rōdōshō 1984 appendix p 115) which show that in 1981 the *tekikaku* pension paid by companies that paid pensions and not lump sums ranged between 27,000 and 93,000 yen per month. *Tekikaku* pensions paid by firms that paid both pensions and lump sums ranged between 39,000 and 79,000 yen per month.

The figures given above are only rough estimates, but in conclusion, over 50% of public welfare pension scheme contributors can expect a substantial addition to public pension benefits in the future. The majority of those enrolled in *tekikaku* pension schemes take benefits in the form of a lump-sum payment, rather in the form of a pension for a limited number of years. The benefit levels accruing from the funded welfare pension schemes are still low, amounting to approximately 6% of average monthly earnings. Finally, the role of severance pay (see Chapter Three) in supporting retirees should not be overlooked.

## Section 6 Conclusion to this chapter

The development of the public pension schemes in Japan was a piecemeal one, leading to a highly complex coverage system. During the 1960s, each pension scheme was made more generous and the level of benefits increased, particularly after 1973 with the introduction of inflation index-linking and revisions to benefit levels to account for growth in real wages. Even by the mid-1980s, however, the majority of pensioners were not receiving a pension equal to 60%

of pre-retirement average earnings, which was the stated goal of the Ministry of Welfare. This was in part because many pensioners were eligible for only a national pension, which had far lower benefit levels than the public welfare pension scheme. Others who were eligible for welfare pension benefits received lower benefit levels than the target because they had not contributed for a long enough period or because they were receiving transfer pension benefits, which were lower than normal benefits because of moving between schemes during the total contribution period. The proportion of those receiving welfare pensions is likely to rise in future, given the present proportion of public pension contributors enrolled in the welfare pension scheme and therefore pension levels will rise on average.

By the mid-1980s, the Ministry of Welfare became fearful of the necessity of rapidly rising contributions rates, caused by rapid population ageing. Such a fear led to the reduction in benefit levels payable in the future, by reducing the earnings-related multiplier and raising the pension eligibility age. The raising of the pension eligibility age has still not been passed by the Diet, despite several submissions to the lower house committees. The main reason for the failure to pass this revision is that the business world fear that companies would have to support the income levels of those above the age of 60, should the revision come into effect (Nihon Keizai Shinbun, 26 December 1989).

In the late 1980s, the government laid greater emphasis on the provision of pension benefits through private and, moreover, funded pension schemes as it reduces its responsibility for income support of the elderly in the face of burgeoning welfare costs. Regulations for existing schemes have been relaxed, competition between fund-

managers has been encouraged and new funded pension scheme frameworks have been introduced.

Important for the impact of these policy reforms on the level of unemployment amongst the older work force are the following:

1) If the eligibility age is eventually raised to 65, a gap of 5 years between the most common age of company retirement and pension payments. As a result, those finding themselves unemployed at the age of 60 will be more likely than at present to remain unemployed rather than leave the labour force. Alternatively, policies could be used that would raise the company retirement age to 65, but should this be successful, it is likely that the rise in retirement age would be purely nominal and not actual. This likelihood is based on the introduction of early retirement schemes that were introduced with the raising of the mandatory retirement age to 60 (see Chapters Four and Six).

2) If the policy of using private funded schemes to bolster public pension levels is not successful, low levels of public pensions will reduce the flow of unemployed older people into non-labour force participation. Although the levels of *tekikaku* pension are relatively high, the pension is normally paid for only ten years. The levels of funded welfare pensions are still very low and it is not clear that they will rise, despite optimistic claims in government-related literature.

3) The predicted future level of public pension scheme contributions remains above 20% in the first half of the 21st century. When consideration is given to payments for health care insurance and other government spending, and the government's aim to maintain the overall taxation level below 50%, the level of 20% is still high. Moreover, the Ministry of

Welfare has consistently underestimated the rapidity of public pension scheme maturation in the past, so the present low level of predicted contribution rates is likely to be optimistic in the light of future population changes.

Finally, it should be added that, even if the pension eligibility age is kept at 60, the 1985 and 1989 pension reforms have put a stop to the rise in average pension benefits and hence in future, the public pension schemes cannot be expected to reduce the aggregate unemployment rate of older men by raising benefit levels, leading to withdrawal from the labour force.

**CHAPTER 10     CONCLUSION TO THE THESIS**

### Section 1  The findings of the research

The discussion undertaken in Chapter Two of the existing analysis of the effects of population ageing showed that the effects are generally indeterminate. Moreover, empirical analysis has failed to eliminate the controversy surrounding the effects of reduced child dependency on savings and economic growth. An analysis of demographic change in Japan since 1950 and growth indicators suggested that the increasing proportion of the population employed not only increased output because of growth in the size of the labour force, but because of increases in saving and a shift in consumption patterns to non-agricultural products brought about by higher incomes per capita. The implication of this analysis was that the impact of further population ageing could be lessened if the proportion of the economically active population could be maintained at its current level, or at least be prevented from declining greatly. Given this implication, it became necessary to analyse the prospects of employment of older people in Japan, and this in turn required an analysis of Japanese employment practices to throw light on the workings of the labour market. From this point, analysis was focused on the labour market for men, since women face different employment practices and it can be assumed that the labour market for women will function differently as a result.

The analysis of employment practices showed that there was a general pattern of rising wage curves over time, although the pattern was less consistent for those employed in large firms. It also became clear that the age structure of male employees was ageing, but more so in smaller companies and with a less consistent pattern in large companies. These findings suggested that larger companies tended to

regulate their workforce age structure and wage curves. In turn, such regulation implied that large companies operated an internal labour market. The examination of other employment practices in a Chapters Three and Four also pointed to the creation of internal labour markets in larger companies. Severance pay is calculated in way that encourages workers not to leave the company. Large firms prefer to hire inexperienced, young people, but figures show that mobility in the economy is high, suggesting that smaller firms are more ready to hire mid-termers. Mandatory retirement is prevalent in all sizes of company, but particularly in large ones. Internal promotion is extremely common and, again, particularly in large companies. Mobility between large companies is low, whereas mobility between small companies is much higher. Mobility from large to small companies rises in the older age groups and particularly at around retirement age.

An analysis of the reasons for the employment practices described in Chapters Three and Four and their relevance for the functioning of the labour market was given in Chapter Five. It was hypothesised that the *nenkō* element of wages together with steep average wage curves engendered labour efficiency, particularly from a dynamic perspective in which technology and industrial structure are continually changing. A new approach, the efficiency age structure model, was devised to improve the understanding of large firms' hiring and redundancy decisions. This approach rejects the hypothesis that younger workers are paid less than their productivity and older workers more. Rather, it is assumed that workers are paid a wage equal to their marginal product. Older people and younger people are complementary inputs and therefore the productivity of an older worker will depend on the number of younger people combined with the older person in the workplace. When the

company has a young internal age structure, the productivity of older workers will be high on average. Thus wage curves will be steep. This complementarity has been recognised often, but the implications of complementarity when combined with employment practices that are supposed to motivate workers have been ignored. If the internal age structure ages, the relative productivities of the younger and older people will change such that the wage curve flattens. A different view of the same process is that the wage curve flattens because fewer older people are promoted: this means that the probability of promotion is lowered and hence efficiency of promotion as an incentive is impaired. Flattening wage curves and reduced promotion probability reduces the dynamic efficiency of the whole workforce. Hence firms will attempt to maintain an optimum age structure. When the intake of young people is reduced, older workers must be cast off to maintain the structure. In an ageing population structure, the proportion of young people available for work is reduced, irrespective of the rate of growth in the economy and therefore older men will find themselves more prone to redundancy. They are pushed into a non-internal labour market, which in turn leads to less job security and higher risk of unemployment. The model implies that the wage curves and age structures of large companies should remain invariant to economic cycles, whereas those of smaller companies should change. This implication is borne out to a certain extent by the wage curves and age structures shown in Chapter Three.

Chapter Six examined the plausibility of the efficiency age structure model by studying the ways in which firms have responded to ageing of the male labour force. It was found that firms have responded by changing employment practices to cope with an ageing workforce and have also devised means of regulating the age

structure by casting off older workers. An example of the former is the creation of non-managerial promotion schemes and an example of the latter is the introduction of early retirement schemes. Thus the high degree of age structure rigidity implied by the efficiency age structure model is not fully supported, but its implication of age structure regulation is visible. There may be exogenous factors such as government policy and changes in technology that have altered the relationship between age structure and the dynamic efficiency of employment practices. Certainly, the attempts of government to raise the mandatory retirement age of firms as described in Chapter Eight seem to have been successful. Chapter Seven analysed the labour force participation rates and unemployment rates of men, both in the aggregate and disaggregated. It was found that much of the rise in the aggregate unemployment rate for men was explained by the rising unemployment rate of older men and by the increasing proportion of the labour force accounted for by older men, particularly compared with the proportion of the labour force accounted for by older men. This rising unemployment occurred in spite of the falling labour force participation rates of older men. The second part of the chapter analysed the nature of future exit routes from the unemployment pool for older men. It was shown using cohort analysis that the route from large company to self-employment and employment in smaller companies has been over-emphasized because cohort effects have been ignored. The flow out of unemployment encouraged by the provision of public pension is difficult to predict, since future government policy is not certain. If the government succeeds in raising the pension eligibility age and reduces the generosity of benefits, the flow out of the labour force of older unemployed men will be reduced: unemployment will rise.

Government intervention cannot be ignored. Chapter Eight described

how government labour market policy to deal with unemployment of older men has developed. An assessment of the effectiveness of policy was attempted, but relevant data are rare and fragmented, leading to a less than full assessment. Available figures suggest that most of the policies have not been successful. The one successful policy seems to be the administrative guidance undertaken to raise the mandatory retirement age in the private sector. Chapter Nine described the reform of the public pension schemes that have been undertaken to reduce the burden of high contribution rates. The reforms suggest that pensions will become less generous in future. The government has not succeeded in raising the pension eligibility age of the welfare pension scheme after two attempts. It remains to be seen whether such a move is possible.

This research implies that as the Japanese population ages, unemployment of older men will rise and this rise will be exacerbated by planned reform of the pension system. The rise in unemployment can only be avoided by change of employment practices. Unless new forms of incentive can be devised, changes in employment practices will lead to lower dynamic labour efficiency in large firms and therefore the changes will have to be enforced. If the proportion of people employed in large companies rises in future, the problem of unemployment will also worsen.

**Section 2   Suggestions for future research**

This thesis has been concerned purely with the effects of population ageing on the future unemployment and dependency of older men. The appendix to Chapter Seven (Appendix 7B) showed that in many OECD countries a decline in the labour force participation of men has been countered by a rise in the labour force participation of women. A rising labour force participation of women will lessen the

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increase in dependency caused by population ageing, so long as unemployment of women can be stopped from rising. If more women are employed under the same employment practices as men, they will face the same risk of unemployment. The importance of the employment of women in an economy undergoing population ageing requires further detailed research of the labour market in which women participate.

The efficiency age structure model is clearly not perfect in describing the demand for labour of different age groups and the shape of wage curves. It remains difficult to explain why there was some steepening of the wage curve for people employed in large companies, even if there was not a consistent pattern. It is possible that while wage increases in the young labour market fell with slower economic growth, wage increases of men already employed displayed a degree of inertia, at least until the older work force was adjusted. On the other hand, with older men being pushed out of long term jobs with the economic shock of the 1970s, the older men who remained in employment were those who had survived a weeding out process: the survivors would be better quality workers with higher productivity. The efficiency age structure model can accommodate the explanation of steepening wage curves that is based on an increasing average length of service, since it does allow for a proportion of wages to be determined by personal factors (nenkō wages). It was noted in Chapter Five that one of the dynamic efficiency gains was the acceptance of newly-introduced technology engendered by wages that were not determined by functional factors. It is possible that an increasing emphasis placed on the creation of technology rather than absorption may alter the incentives of existing employment practices, but more detailed research is necessary to understand such a development.

The use of flows of men between employment, unemployment and non-labour force participation that were disaggregated by age would have produced a more detailed picture of the causes of unemployment amongst older men than was possible. It is hoped that such information will become available in the future.

It was found in Chapter Seven that smaller firms also had limits to the proportion of older people they were willing to hire. The efficiency wage structure cannot be used to explain this phenomenon, since it requires the operation of an internal labour market. Thus, other explanations will need to be found.

Finally, since many countries are experiencing population ageing, a comparison of labour market policies and their effectiveness would be extremely useful for policy makers. In the case of Japan a more detailed study of the effects of labour market policies would be useful, but such a study would only be possible if more information were made available. A close relationship with the Ministry of Labour might help in obtaining better information.

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