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Author: Yuji Genda

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4

Who Really Lost Jobs in Japan?
Youth Employment in an Aging
Japanese Society

Yuji Genda

4.1 Introduction

This paper looks at how the rapid aging of Japanese society has changed
employment opportunities for youth. In the second half of the 1990s, the
job insecurities of middle-aged and older workers have received much at-
tention. The Japanese government, media, labor unions, and even employ-
ers often admit that corporate restructuring measures have resulted in
massive job loss among older, especially white-collar, workers. In 1999, in
response to this perceived crisis, the Ministry of Labor introduced emer-
gency measures to create employment opportunities for older people.

However, we should question whether the employment situation for
middle-aged and older white-collar workers is, in fact, deteriorating as
much as is often claimed by the major Japanese newspapers. Only 70,000
unemployed persons were aged forty-five to fifty-four and had a university
education in 1999 (Statistics Bureau 1999). This figure was a little more
than 2 percent of the approximately three million unemployed persons. A
large proportion of the increasing number of unemployed is accounted for
by young people, especially those without a college degree. The relative un-
employment of middle-aged and older college graduates has not increased
to the degree claimed.

In contrast, the job insecurities of young people have been virtually ig-
nored. The media has been relatively unconcerned about the labor market

problems of Japanese youth. In fact, the youth unemployment rate has remained low in Japan relative to that in other developed countries. And Japan's increasing rate of job turnover among youth, even during the recessions of the 1990s, mostly tends to be explained away by citing evidence of changing work attitudes among Japanese youth.

This paper explains changes in job opportunities in Japan in the late 1990s, especially for youth. It is one of only a few economic studies that focus on labor demand by age. It concludes that a decline in overall labor demand largely resulted in reduced employment opportunities for youth, while the employment of middle-aged and older workers was relatively safeguarded. A large part of the contraction in the labor demand for younger workers has been due to job displacement by a graying workforce, especially within large firms.

4.2   Youth Unemployment and Parasite Singles

Figure 4.1 shows unemployment rates by age category. The unemployment rate for each age category rose rapidly in the 1990s. In particular, the monthly unemployment rate for fifteen- to twenty-four-year-old males increased significantly, surpassing 10 percent in 1999 for the first time since 1953. The difference in the unemployment rate between younger and older age groups has expanded over time. From 1999 to 2001, the Japanese unemployment rate has exceeded that of the United States. Figure 4.2 presents monthly unemployment rates by age category and gender for the
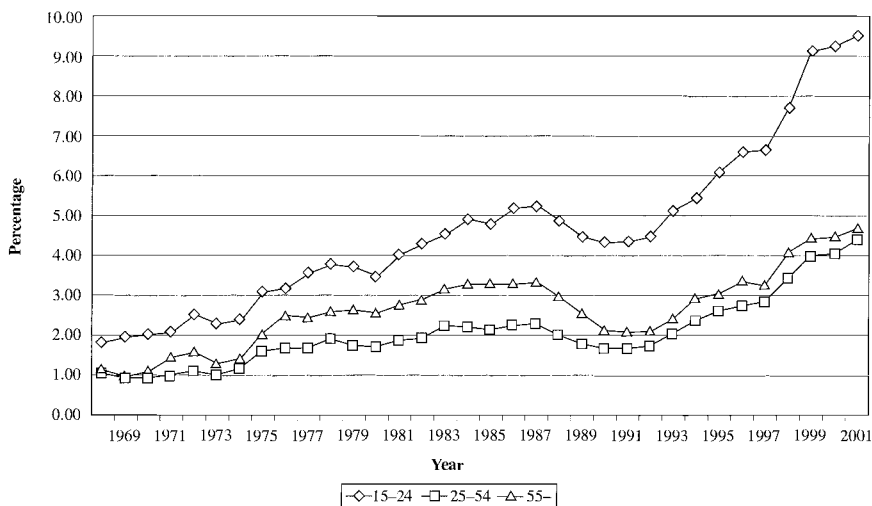
Fig. 4.1   Unemployment rates by age category in Japan (percent)
Source: Statistics Bureau (1968–2001)

A 20.0

18.0

16.0

14.0

12.0

10.0

8.0

6.0

4.0

2.0

0.0

Jan.   Feb.   Mar.   Apr.   May.   June.   July.   Aug.   Sep.   Oct.   Nov.

Fig. 4.2   Monthly unemployment rates in Japan and the United States in 1999: *A*, Men; *B*, Women

Sources: Japan: Statistics Bureau (1999); United States: U.S. Department of Labor, Bureau of Labor Statistics (1999).

Fig. 4.2 (cont.) Monthly unemployment rates in Japan and the United States in 1999: *A*, **Men;** *B*, **Women**
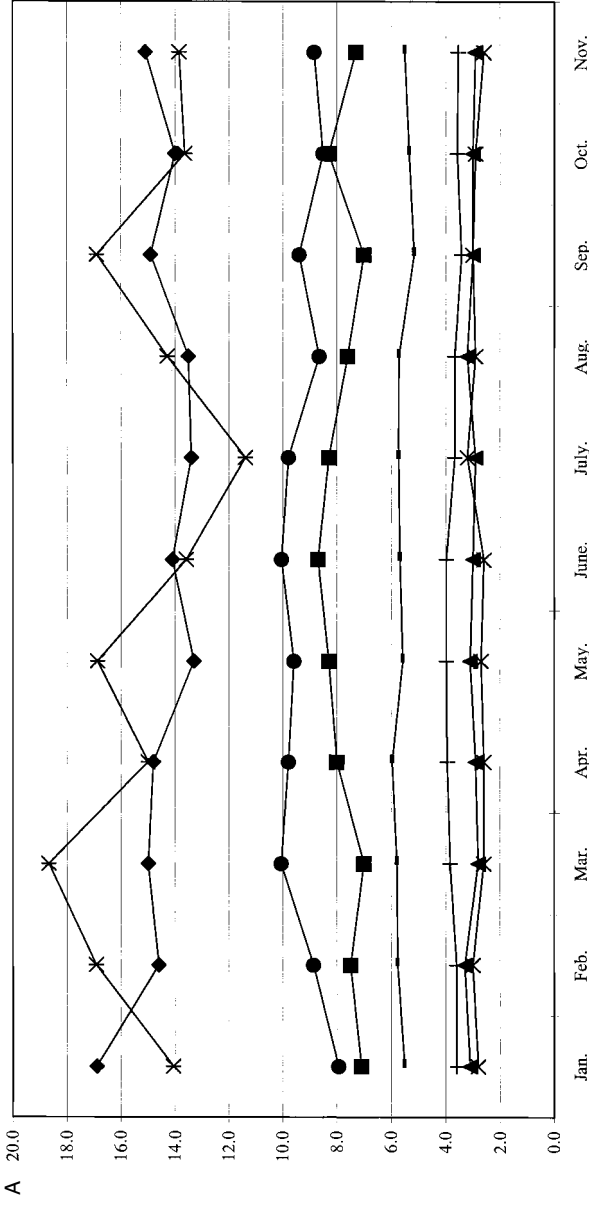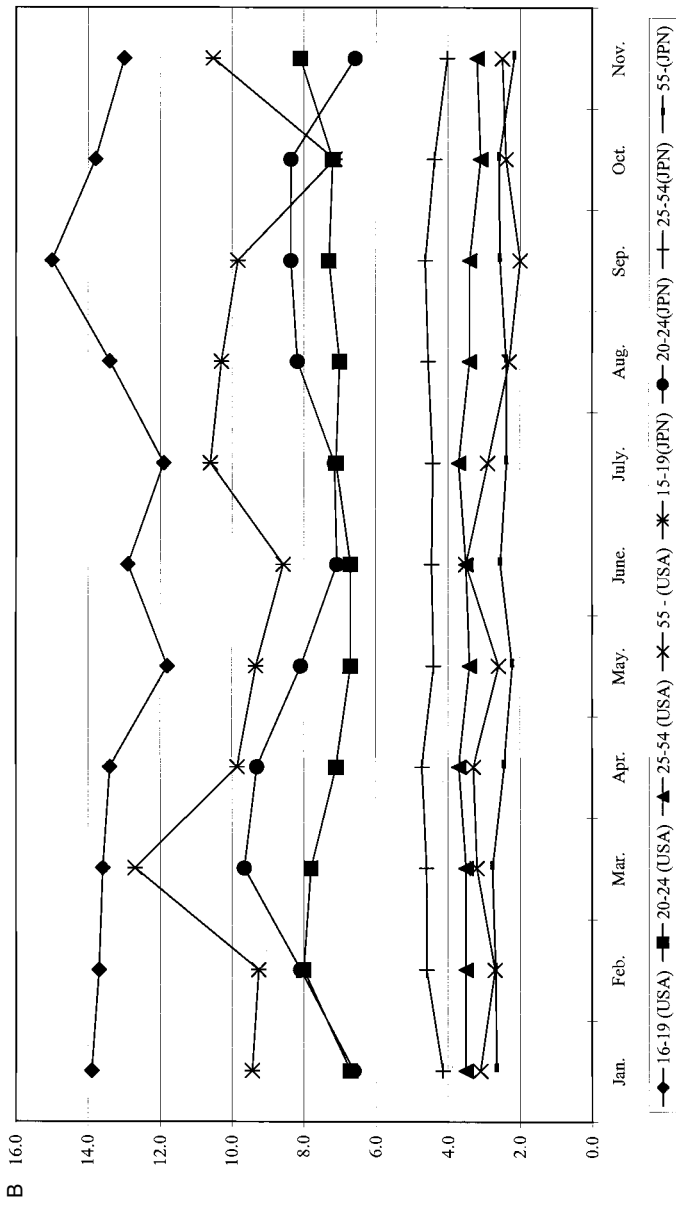
Sources: Japan: Statistics Bureau (1999); United States: U.S. Department of Labor, Bureau of Labor Statistics (1999).

United States and Japan. The unemployment rates of twenty- to twenty-four-year-olds were consistently higher in Japan than in the United States for both males and females. In addition, the teenage male unemployment rate was also higher in Japan for several months. The long-term unemployment ratio (defined as the number of people who have looked for jobs for more than one year over the total number of unemployed) is shown in figure 4.3. The long-term unemployment ratio is higher for older workers and has gradually increased over time in every age category. Even younger workers aged fifteen to thirty-four experienced a jump in this ratio from less than 10 percent in the mid–1980s to over 20 percent in 2001.

Nevertheless, few economists or policymakers have analyzed youth employment because they believe that it is mostly voluntary.[1] There have been few economic studies of youth unemployment in Japan, even though it has been widely studied in western countries (Blanchflower and Freeman 2000).[2] Table 4.1 shows reasons why unemployed persons left their previous jobs, as reported in the *Job Seeking Situation Survey* of 1998 (Statistics Bureau 1998). About 28 percent of unemployed fifteen- to twenty-four-year-olds left because their expectations of working conditions prior to entering the workforce had not been met. This contrasts starkly with middle-aged and older workers, who mainly lost their jobs through bankruptcy, dismissal, or mandatory retirement.

What is behind the increase in resignations among young people? One argument, which focuses on the upbringing and outlook of the current generation, suggests that values and attitudes toward work have changed. It claims that young people now lack a traditional work ethic, such as persistence in keeping working. It also asserts that, since couples are having fewer children, young people are able to reside with and financially depend upon their parents longer.

These youths, known as "parasite singles" in Japan, have drawn public attention to the link between rising unemployment and increased job switching by the younger generation. In a book entitled *Days of the Parasite Single,* Yamada (1999), a Japanese sociologist, defines "parasite singles" as "unmarried persons who live with their parents even after graduation, and depend on their parents for basic living necessities" (11). Using national census data, he calculates that there are no fewer than 10 million unmarried persons aged twenty to thirty-four still living with their parents. And this number is most probably increasing. These parasite singles prefer the higher standard of living they achieve by continuing to live in their parents' homes. They are unwilling to lower their living standards by marrying or living independently from their parents. Accordingly, this increase

1. For example, a principal author of the *White Paper on Labor* by the Ministry of Labor expresses the opinion that the most serious concern of labor market policy is the unemployment of middle-aged and older persons (Muraki et al. 1999, 76).
2. One exception is Tachibanaki (1984).
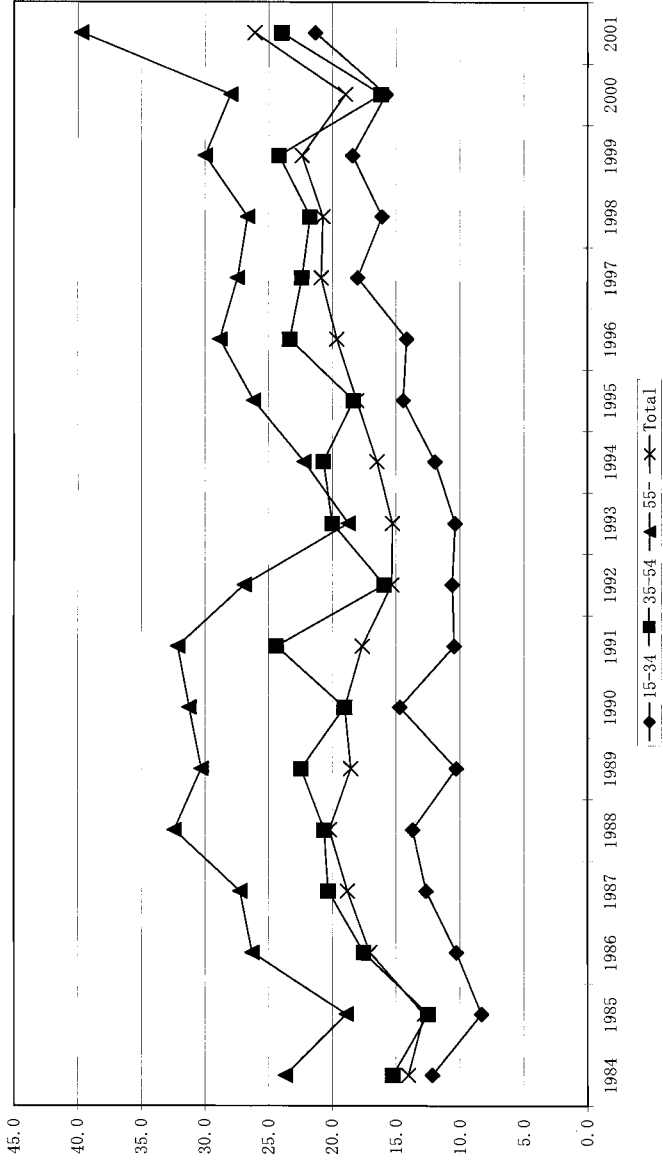
Fig. 4.3   The long-term unemployment ratio (percent)

Source: Statistics Bureau (1984–2001).

Notes: Figures are examined in February of each year. The long-term unemployed are defined as those unemployed for more than one year.

Table 4.1   **Reasons Cited by Unemployed Workers for Previous Job Separation**

		Age		
	Total	15–24	25–54	55+
Total	100.0	100.0	100.0	100.0
Bankruptcy of firm, closing of establishment, or self-employment	10.9	5.1	13.0	10.9
Dismissal or personal retrenchment	17.9	5.1	20.0	23.9
Mandatory retirement or expiration of employment contract	11.4	0.0	4.0	34.8
Business prospects were poor	7.6	12.8	7.0	0.0
Working conditions such as earnings, working hours, and days off deteriorated	6.0	7.7	6.0	4.3
Working conditions were different from what had been expected before starting work	10.9	28.2	9.0	0.0
Pursuing jobs or something more favorable even without dissatisfaction at previous jobs	9.8	15.4	11.0	0.0
Own convenience or family reasons (marriage, maternity leave, housekeeping, taking care of sick family members, failing health, etc.)	13.6	12.8	17.0	8.7
Other	11.4	12.8	13.0	8.7
Unknown	1.1	0.0	0.0	2.2

Source: Statistics Bureau (1998).

in the number of parasite singles is correlated with rapid increases in the numbers of late marriages and couples with fewer children.

The emergence of parasite singles has cast a shadow over the labor market for young people in Japan. Since parasite singles are free of financial responsibilities, they do not look for jobs with high wages, treating work as a hobby. Because they have this attitude, they immediately give up jobs that they find uncongenial. The resulting unemployment of young people is "luxury unemployment;" it does not involve real financial necessity. To them, work is a discretionary pastime or a means of earning pocket money.

4.3   Long-Term Employment, Seniority Wages, and Displaced Youth

These changes in labor supply may partly explain the long-term rise in youth unemployment. However, there is no precise empirical economic research confirming this. Another plausible explanation is that a decline in labor demand has played a central role in reducing the number of jobs available to youths.

The belief that changing attitudes toward work and a decline in the work ethic are the main causes of youth employment turnover can be challenged on factual grounds. Figure 4.4 presents the mean number of years spent working at a given firm for full-time employees. Males over the age of fifty
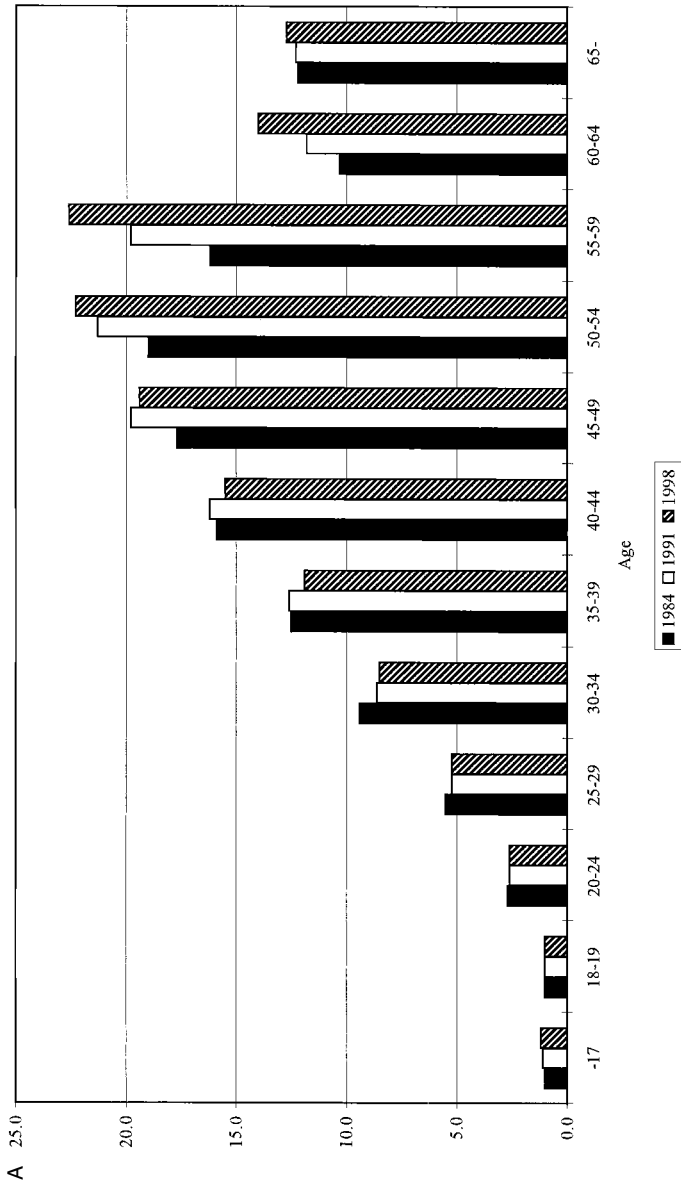
Fig. 4.4 Mean number of years worked at a given firm for full-time employees: *A*, **Men;** *B*, **Women**

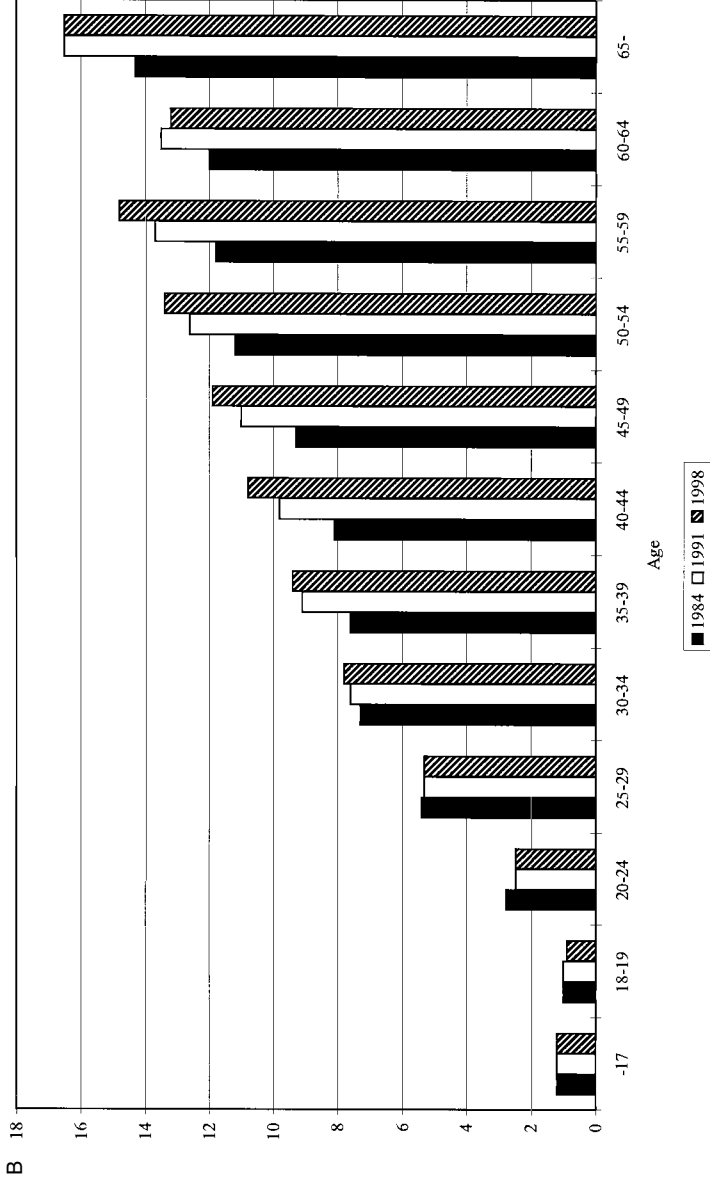*Source*: Ministry of Labor (1984, 1991, 1998).

Fig. 4.4 (cont.)

and females aged thirty to fifty-nine tend to work more years at a given firm now than in the past, and they have stronger long-term employment ties than before. On the other hand, the mean number of working years at a given firm has been relatively stable for twenty- to thirty-four-year-old full-time workers in the 1990s, for both males and females. I also find from alternative data that the turnover rate among all young workers, especially young female workers, has gradually increased since the 1980s. These facts conclusively show that, although a small proportion of young people found jobs as full-time workers, many more were forced to choose part-time jobs. Meanwhile, most middle-aged and older full-time workers kept their positions throughout the 1980s and 1990s.[3]

With the bursting of the so-called bubble economy, business performance declined in most Japanese firms. In addition, the graying workforce (i.e., the increasing numbers of middle-aged and older employees) has raised labor costs, particularly for firms most likely to maintain seniority-based compensation. The ratio of workers aged forty-five and older to all full-time male employees at firms with 1,000 or more employees soared from 22 percent in 1979 to 36 percent in 1998. The creation of an intrafirm structure clustered around older workers is the result of both demographic and economic changes. Broad demographic shifts have resulted in an aging population and a shrinking birth rate. Members of the baby boom generation—those born between 1947 and 1949 in Japan and employed en masse during the economic boom years of the 1960s and early 1970s—were over fifty by the late 1990s. Finally, the oil crisis curbed employment of succeeding generations.

Higher labor costs lead to a decline in optimal labor demand. However, since separation costs of firing existing employees are high, firms tend to concentrate on adjusting employment through reducing the number of young recruits. The other employment adjustment option that firms have available during times of poor business performance is that of enhancing labor mobility between firms, by means including transfers and reallocation. Until the mid-1990s, sufficient labor demand from small- and medium-sized firms enabled large firms with excess labor to adjust employment levels downward by transferring workers to smaller firms. However, the recession of the late 1990s, unlike previous recessions, has sub-

3. I can also observe the time series of turnover rates for new graduates by education level. The turnover rate is defined as the proportion of workers who changed jobs within three years of graduation. This statistic can be computed from the *Survey on Employment Insurance* conducted by the Ministry of Labor (1997). The turnover rate tended to rise during the 1990s. Almost 70 percent of junior high school graduates and half of high school graduates gave up their first job within three years. The turnover rate among college graduates has increased since 1992, and almost one-third of 1995 graduates have changed their first job. The concept of lifetime employment, working for a particular company from graduation until retirement, no longer has any meaning for many young people. On the other hand, the average number of years spent working at the same firm has continued to increase among employees aged fifty to fifty-nine. Long-term employment of older workers is still observable in Japan (Chuma 1997).

stantially reduced labor demand from even small- and medium-sized firms. Consequently, large firms have had no choice but to cut new employment of young people in order to reduce employment.

Declining employment opportunities for the young may be conceptualized in terms of a job displacement effect created by middle-aged and older workers displacing younger workers. In order to examine the job displacement effect more precisely, I focus on employment adjustment from the labor demand side. However, the unemployment rate may also be influenced by adjustments in labor supply. Therefore, in the next section I use a gross job creation and destruction framework to analyze changes in formal job opportunities.

Of course, a scarcity of full-time job openings for young people does not necessarily lead to an immediate fall in employment. If price is flexible enough to adjust downward in response to the change in demand, a certain level of supply is assured. The labor market for Japan's young people is, however, far from ideal. Under excess labor demand an upward wage adjustment is observed, such as a rise in the initial salary for newly hired employees. But when supply greatly exceeds demand, the downward adjustment of wages is limited (Ishikawa 2001, chap. 6). As a result, employment adjustment must occur in isolation from wage adjustment in firms' responses to excess labor supply.

The seniority-based wage system of Japanese firms is well known (Hashimoto and Raisian 1985). During the 1980s and early 1990s, the influence of years worked in a firm on earnings has gradually weakened, especially among older male college graduates in large firms. Their supply rapidly expanded due to population aging and growth in college enrollment. This led to a shortage of managerial positions and a decrease in the importance of seniority for wages and promotions (Genda 1998). Nevertheless, this decrease has been very slow, and the seniority-based wage schedule was maintained, at least in principle, during the 1990s. Figure 4.5 shows the relationship between the log of scheduled real monthly wages and average years worked in a firm for full-time males by education status.[4] For both high school and college graduates, the wage-tenure profile flattened in the 1980s due to a rise in youth wages, and hardly changed in the 1990s. As long as wage adjustment is slow there will be a quantity adjustment of employment, or a job displacement effect.

4.4   Gross Job Flows by Age of Employees

I examine gross job flows by age of employee in order to capture changes in labor demand across different age groups. Gross job flows are defined in the job creation and destruction literature as net changes in employment

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4. Monthly scheduled wages in each year are deflated by a consumer price index equal to 100 in 1995.
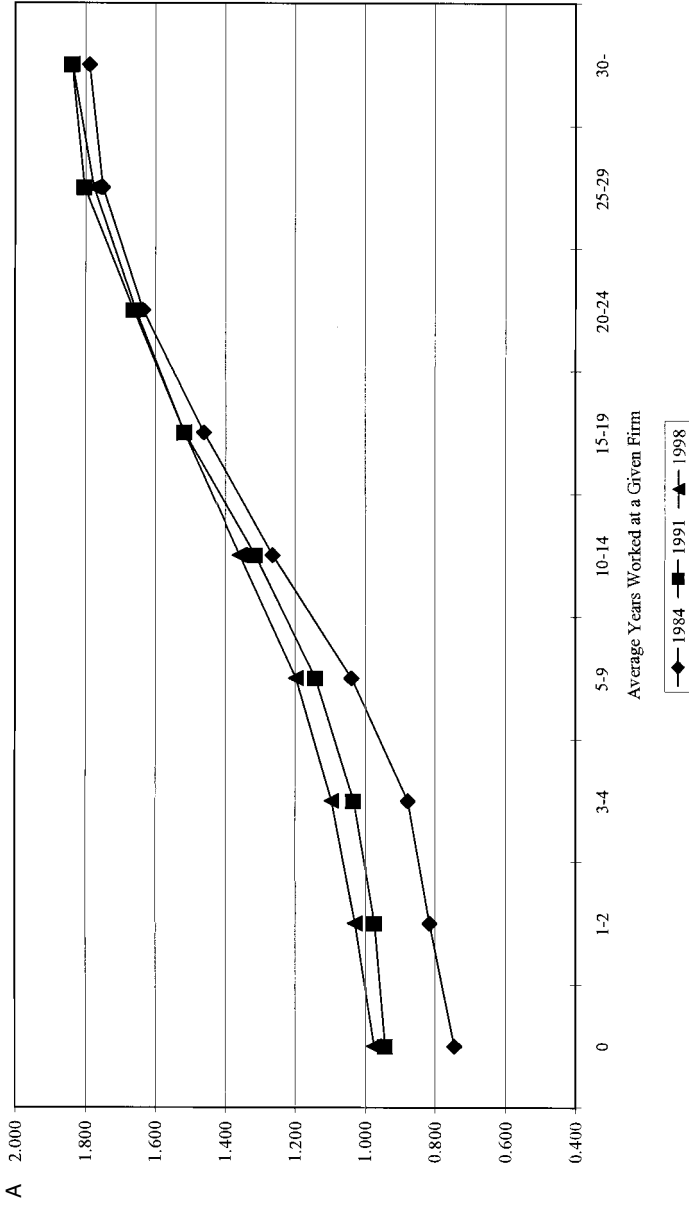
Fig. 4.5 Wage-tenure profile for full-time male workers: *A*, **College graduates;** *B*, **High school graduates**

Source: Ministry of Labor (1984, 1991, 1998).

B

Average Years Worked at a Given Firm

⎯✳⎯ 1984 ⎯✳⎯ 1991 ⎯●⎯ 1998

Fig. 4.5 **(cont.)**
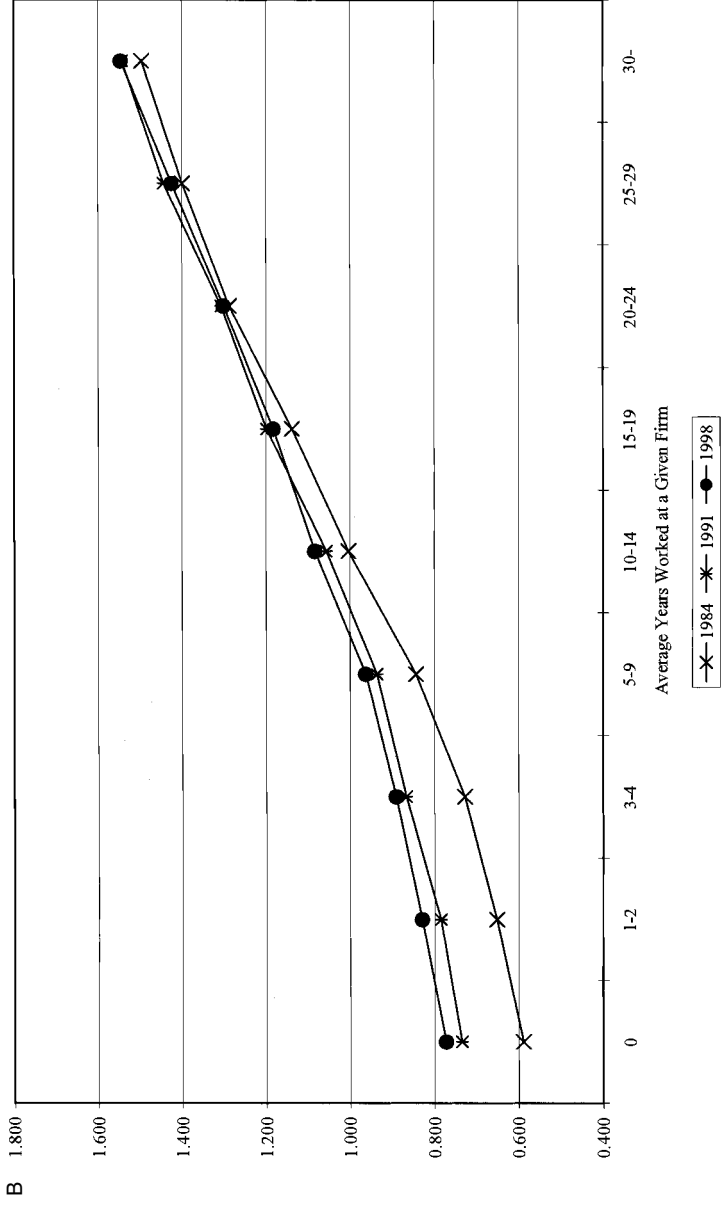
opportunities at the establishment level (Davis, Haltiwanger, and Schuh 1996).[5] The establishment is an office or plant (*jigyosho* in Japanese) that is a physical location where business or production takes place.

Job turnover is based on a comparison of the stocks of employment in an establishment at two points in time. Let n_{ij0} and n_{ij1} be the number of regular employees who belong to age category j at establishment i in period 0 and 1, respectively.[6] Then job growth at the establishment for a given age group can be defined as $\Delta n_{ij} = n_{ij1} - n_{ij0}$. The creation and destruction of jobs for age group j at establishment i can be broken down as follows:

(1) Δn_{ij} = hires − separations

+ net workers flows across establishments within firms (*haichi-tenkan*)

+ net worker flows across firms (*shukko*)

+ inflows from $n_{ij-1,0}$ − outflows into $n_{ij+1,1}$

It is worth noting that job growth as defined in equation (1) includes movements between age categories within the establishment. Take, for example, a job filled by a twenty-nine-year-old employee. Suppose that in the following year this worker continues to work and there is no inflow of workers aged twenty-five to twenty-nine. Then one job for employees aged twenty-five to twenty-nine is destroyed, but one job for employees aged thirty to thirty-four is created. Therefore, even if there are no inflows and outflows at the establishment level, job destruction for age category j can occur if the proportion of older workers is growing.

The net job growth rate for age group j in the overall economy can be defined as follows:

(2) $$\frac{\Delta n_j}{n_j} = \frac{\sum_i m_{i1} \cdot n_{ij1} - \sum_i m_{i0} \cdot n_{ij0}}{\sum_i m_{i0} \cdot n_{ij0}}$$

In equation (2), m_{i0} and m_{i1} represent sample establishment weights in period 0 and 1, respectively.[7] These weights are determined by industry and size of establishment. A difference between m_{i0} and m_{i1} suggests a change in the number of establishments through openings and closings between the periods.

Net job growth can be broken into

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5. Job turnover measures the creation or disappearance of positions. Labor turnover, on the other hand, measures the movement of workers into and out of jobs (hires and separations, respectively; Davis and Haltiwanger 1999).

6. Establishments that open or close within a period are not sampled.

7. In the analysis of Davis, Haltiwanger, and Schuh the sample weights do not change during the ongoing panel's life (1996, 209).

$$(3) \qquad \Delta n_j = \sum_i m_{i0}(n_{ij1} - n_{ij0}) + \sum_i (m_{i1} - m_{i0}) \cdot n_{ij1}.$$

The first term on the right-hand side (RHS) of equation (3) represents the estimated net employment changes at establishments sampled in both periods. The second term on the RHS of equation (3) represents the estimated changes in employment due to changes in the number of establishments with n_{ij1} employees.

The net employment changes at establishments that are continuously sampled can be further broken down:

$$(4) \qquad \sum_i m_{i0}(n_{ij1} - n_{ij0}) = \sum_{n_{ij1} > n_{ij0}} m_{i0}(n_{ij1} - n_{ij0}) + \sum_{n_{ij1} < n_{ij0}} m_{i0}(n_{ij1} - n_{ij0})$$

The first term on the RHS of equation (4) represents estimated gross job gains at establishments that are expanding employment in age category j. The second term represents estimated gross job losses at establishments that are reducing employment.

Similarly, employment changes due to changes in the number of establishments can also be further decomposed:

$$(5) \qquad \sum_i (m_{i1} - m_{i0}) \cdot n_{ij1} = \sum_{m_{i1} > m_{i0}} (m_{i1} - m_{i0}) \cdot n_{ij1} + \sum_{m_{i1} < m_{i0}} (m_{i1} - m_{i0}) \cdot n_{ij1}$$

The first term on the RHS of equation (5) represents estimated gross job gains due to an increase in the number of establishments. The second term represents estimated gross job losses due to a decrease in the number of establishments.

I examine the reasons behind changes in employment opportunities by employee age category using the above equations. I calculate an establishment's annual change in net employment using the *Employment Trend Survey* (ETS; 1993–1998). The ETS is an establishment survey conducted by the Ministry of Labor in Japan at the end of June and December in every year. It records changes in employment at private establishments with at least five employees.[8]

The ETS records the age composition of employees at the sampled establishments in its annual June survey. The ETS is not itself a panel, but it can be made into one using the census code for each establishment. These codes enable us to connect records collected on the same establishment in multiple ETS surveys. The result is a panel data set following 4,935 private establishments with thirty or more employees from 1996 and 1998.[9] Data showing yearly employee movements by age category for a given establishment enable us to capture job flows using the foregoing equations.

8. The ETS records changes in employment at establishments in all industries except agriculture, forestry, and fishing.
9. Establishments that did not respond to the question on the total number of regular employees in either the 1996 or 1998 surveys are excluded.

4.5   Basic Results

Table 4.2 shows calculated gross job flows from 1996 to 1998, by age category. The first row shows the net job growth rates defined by equation (2). Workers aged fifteen to nineteen, twenty to twenty-four, forty to forty-four, and forty-five to forty-nine all experienced negative job growth rates. The negative job growth was especially large for twenty- to twenty-four-year-olds.

It is important to note, however, that the job growth rate by age group includes movements across the age categories. In fact, most members of the first Japanese baby boom generation, born between 1947 and 1949, moved from the forty-five- to forty-nine-year-old age category to the fifty- to fifty-four-year-old age category in the period between 1996 and 1998. This diminished employment opportunities for forty-five- to forty-nine-year-olds. A similar influence may also have affected job opportunities for twenty- to twenty-four-year-olds because the second baby boom generation (born between 1971 and 1973) moved from the twenty- to twenty-four-year-old age group to the twenty-five- to twenty-nine-year-old age group during the sample period. To control for this, I simply subtract the labor force growth rate from the net job growth rate to compute the per capita job growth rate.[10]

The third column shows that twenty- to twenty-four-year-old employees have the lowest per capita job growth rate. While their labor force growth rate decreased 6.27 percent due to the delayed workforce entry of the second baby boom generation, their per capita job growth rate decreased by 8.35 percent. Negative per capita job growth rates are observed for all groups under age thirty-five.

By contrast, per capita job growth rates are still positive for older employees, such as those aged fifty to fifty-nine. As the first baby boomers moved into the fifty- to fifty-four-year-old category, the labor force growth rate of this category jumped to 9.77 percent. The overall job availability increased by 13.44 percent, yielding a per capita job growth rate of 3.67 percent. This figure indicates that the first baby boomers have more job security at fifty to fifty-four years of age than the previous generation had at that age. Although job growth rates for forty- to forty-four-year-old and forty-five- to forty-nine-year-old employees are negative, labor force growth rates also declined for these groups, so their per capita job growth rates are positive. Consequently, the per capita number of jobs increased for employees aged thirty-five to sixty-four. The only employees who experienced a decrease in per capita job opportunities were those under thirty-five or sixty-five and older.

10. The data on labor force growth rate come from the *Annual Report on the Labor Force Survey,* conducted by the Statistics Bureau, Management and Coordination Agency (1968–2001).

Table 4.2   Gross Job Flows in Private Establishments with Thirty or More Employees, 1996–1998

	Total	Age										
		15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65+
i. Job growth rate	1.23	−4.75	−14.61	2.41	5.23	4.17	−4.65	−1.79	13.44	12.73	5.18	5.41
ii. Labor force growth rate	1.22	−2.08	−6.27	5.39	5.71	2.77	−6.64	−6.62	9.77	6.25	3.29	6.59
iii. Per capita job growth rate	0.01	−2.66	−8.35	−2.98	−0.48	1.40	1.99	4.82	3.67	6.48	1.89	−1.19
Decomposition of i (= iv + v)												
iv. At continuing establishments	−1.91	−8.00	−16.46	0.48	2.76	1.47	−7.28	−5.99	7.80	8.37	2.84	0.13
v. Through demographic changes	3.14	3.26	1.84	1.93	2.47	2.70	2.63	4.19	5.63	4.35	2.34	5.27
Decomposition of iv (= vi + vii)												
vi. At expanding establishments	5.52	33.90	9.73	15.64	17.38	16.51	13.00	11.53	20.08	22.15	26.49	26.45
vii. At contributing establishments	−7.43	−41.90	−26.19	−15.16	−14.62	−15.04	−20.28	−17.52	−12.28	−13.78	−23.64	−26.31
Decomposition of v (= viii + ix)												
viii. Increases in establishments	11.90	9.64	9.26	11.35	12.69	12.04	10.94	12.09	14.75	13.30	12.15	13.98
ix. Decreases in establishments	−8.76	−6.38	−7.42	−9.42	−10.22	−9.34	−8.31	−7.90	−9.12	−8.94	−9.81	−8.71

Decomposing net job growth reveals the main influences on employment opportunities. Equation (3) separates net job flows into flows at continuing establishments and flows due to changes in the number of establishments. I find that the greatest decline in jobs for young employees occurred in continuing establishments, where the number of jobs decreased by 16.46 percent for twenty- to twenty-four-year-olds from 1996 to 1998. During the same period, the number of jobs decreased by 6 to 7 percent for forty- to forty-nine-year-olds and increased by 7 to 8 percent for fifty- to fifty-nine-year-olds. Positive job growth arising from changes in the number of establishments was spread unevenly across age categories. It was less than 2 percent for twenty- to twenty-nine-year-olds, but 4 to 6 percent for fifty- to fifty-nine-year-olds. Therefore, the increase in employment opportunities for those aged fifty to fifty-nine was due to a combination of increasing employment at continuing establishments and an increase in the number of establishments with large numbers of older employees.

According to equation (4), net job growth at continuing establishments may be further subdivided into gross job gains and losses. The gross rate of job gain relative to initial employment is 9.73 percent for twenty- to twenty-four-year-olds, which is substantially lower than that of other age categories. Further, job loss rates at continuing establishments are relatively high for those aged fifteen to nineteen, twenty to twenty-four, and sixty-five and over. The rates of gross job gains and losses caused by changes in the number of establishments (equation [5]) look relatively similar across age groups when compared to the trends for continuing establishments. The rate of job gain from increases in the number of establishments is still relatively low for those under twenty-five, however, and much higher for those aged fifty to fifty-nine.

To quantify the extent to which job opportunities declined during the 1996 to 1998 recession, I create a comparable ETS panel data set for the 1993–1995 period. Figure 4.6 compares per capita job growth rates during 1993–1995 and 1996–1998. In the former period, the per capita job growth rate was lowest for fifteen- to nineteen-year-old employees. The negative rate of 4.7 percent for those aged twenty to twenty-four means that per capita job opportunities drastically declined for this age group in the second half of the 1990s. The figure also shows that, although negative per capita job growth affected only those aged fifteen to twenty-four in the mid-1990s, later on the twenty-five- to thirty-four-year-old and sixty-five and over age categories were also affected.

From these results, we see that job opportunities for younger employees in the 1990s have significantly declined in several areas, particularly for those aged twenty to twenty-four. However, we should remember that these job growth changes were computed for establishments with thirty or more employees. The net employment growth rate over the same period in firms

Age

15-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65-

10.00 5.00 0.00 -5.00 -10.00 -15.00 -20.00

-2.66 -8.35 -2.98 -0.48 1.40 1.99 4.82 3.67 6.48 1.89 -1.19

-16.71 -4.74 0.86 3.57 2.82 4.14 1.44 4.01 6.18 2.46 3.43
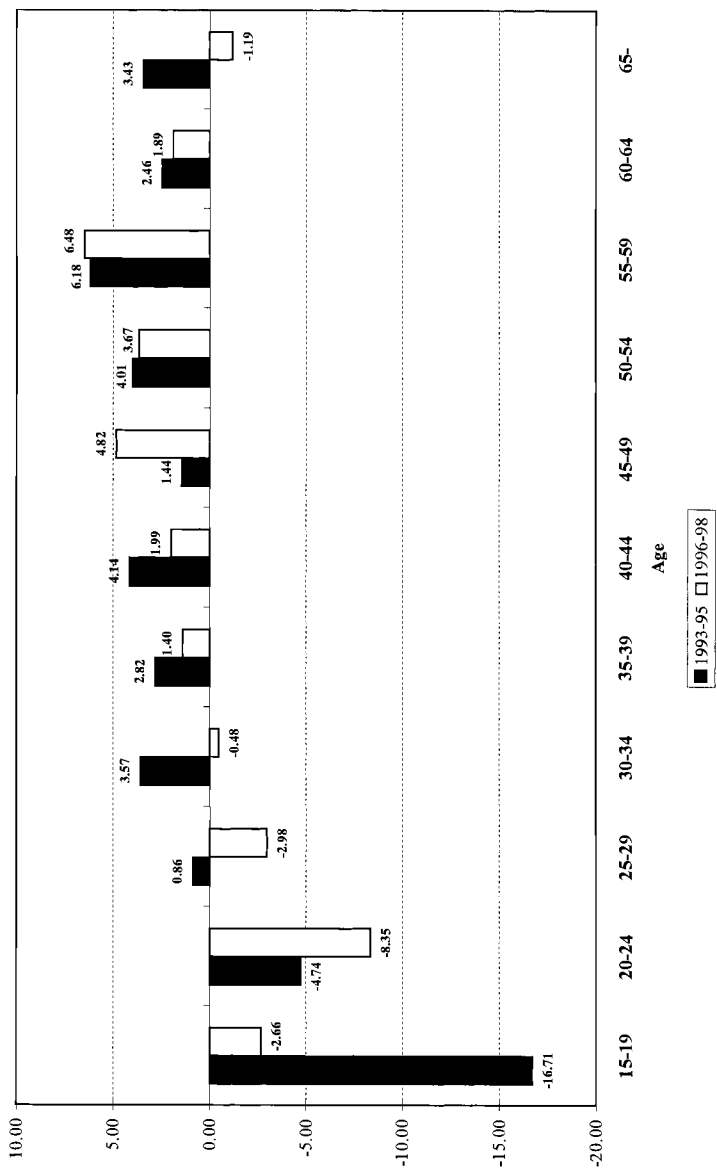
■ 1993-95 □ 1996-98

Fig. 4.6   Per capita job growth rates, 1993–1995 and 1996–1998
Source: Ministry of Labor (1993–1998).

with less than thirty employees, computed from the *Labor Force Survey,* was 4.5 percent for employees aged twenty to twenty-four. This was lower than their labor force growth rate. Therefore, per capita job opportunities for young employees were reduced across all firms. From the same data, I also compute the growth rate of self-employed and family workers in nonagricultural industries in that period to be –9.5 percent for twenty- to twenty-four-year-olds. On the other hand, their unemployment rate grew by 8.9 percent, and the growth in their labor force nonparticipation rate was –4.0 percent. Declines in employment opportunities for youth were therefore directly linked to an increase in unemployment rather than an increase in labor force nonparticipation or self-employment.

4.6   Results by Employment Status, Industry, and Firm Size

Table 4.3 presents job growth rates and grow rate decompositions by full-time and part-time employment status. The decline in the number of jobs available to those aged twenty to twenty-four was mainly the result of a 17.99 percent reduction in full-time employment opportunities at continuing establishments between 1996 and 1998. For twenty- to twenty-four-year-old workers, only part-time job opportunities increased in this period. In most cases, only part-time jobs are available to young workers when they attempt to find jobs. In contrast, full-time job opportunities for those aged fifty to fifty-four and fifty-five to fifty-nine increased because of job growth at continuing establishments and changes in the number of firms.

These results are consistent with full-time job displacement of young workers by middle-aged and older workers. A decrease in the number of part-time jobs available to thirty-five- to thirty-nine-year-old and forty- to forty-four-year-old workers may indicate that the decline in full-time job opportunities for young workers is forcing them to enter the part-time job market, thus depriving middle-aged workers of part-time jobs.

Table 4.4 shows job growth rates by industry and firm size for younger (fifteen- to nineteen-year-old and twenty- to twenty-four-year-old) and older (fifty- to fifty-four-year-old and fifty-five- to fifty-nine-year-old) workers. The job growth rates for the young were negative in all industries except the service industry. On the other hand, the job growth rates for the older group were positive in most industries. In particular, job opportunities in the manufacturing, finance, and insurance industries increased for older workers, whereas younger workers lost jobs in these industries.

Regardless of firm size, the job growth rate for twenty- to twenty-four-year-olds was negative. It was lowest in large firms with 1,000 or more employees. Conversely, the number of jobs available to those aged fifty to fifty-four and fifty-five to fifty-nine increased in large firms. The displacement effect seems to be quite strong in large firms.

Table 4.3   Job Growth Rates and Growth Rate Decompositions, 1996–1998

	Total	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65+
							Age					
Full-time job growth rate	0.57	−9.24	−16.03	2.41	5.36	5.31	−4.06	−3.05	12.02	11.97	4.40	1.73
At continuing establishments	−2.93	−13.37	−17.99	0.46	2.55	2.04	−7.42	−7.53	6.32	7.02	−0.69	−4.70
Through demographic changes	3.50	4.13	1.96	1.94	2.81	3.27	3.35	4.48	5.70	4.95	5.09	6.42
Part-time job growth rate	7.01	19.66	10.48	2.44	3.31	−5.91	−8.47	6.10	23.60	18.78	7.99	16.19
At continuing establishments	7.10	21.17	10.69	0.82	5.73	−3.62	−6.41	3.72	18.49	19.22	15.52	14.30
Through demographic changes	−0.09	−1.51	−0.21	1.62	−2.42	−2.29	−2.06	2.37	5.10	−0.44	−7.53	1.88

Table 4.4   Job Growth Rates by Industry and Firm Size, 1996–1998

	Total	Age			
		15–19	20–24	50–54	55–59
Industry					
Mining	–8.24	–41.84	–30.95	8.57	–17.34
Construction	–2.36	–28.78	–15.52	3.98	0.49
Manufacturing	0.39	–4.18	–19.73	11.42	16.73
Electricity gas, heat, and water supply	7.95	–0.58	–5.05	–0.82	31.61
Transportation and communication	7.99	7.63	–8.31	26.56	8.34
Wholesale, retail trade, and restaurants	–10.01	–12.03	–22.37	8.62	5.77
Finance and insurance	3.31	41.07	–18.27	15.65	11.26
Real estate	13.89	37.36	–1.80	41.62	7.27
Services	8.57	5.52	0.89	15.62	15.46
Firm size (employees)					
1,000 or more	–0.07	0.45	–22.87	17.47	16.53
300–999	–1.27	–15.39	–13.85	5.44	7.50
100–299	2.06	3.21	–4.99	12.04	7.88
30–99	4.61	–10.73	–11.14	14.48	16.46

Long economic recessions and the progressive aging of the Japanese society have not necessarily reduced employment opportunities for middle-aged and older employees. The foregoing empirical results suggest instead that employment adjustment due to decreased labor demand has mainly affected younger workers in the late 1990s.

4.7   Determinants of Labor Flows in Large Establishments

The previous section showed that employment opportunities for young workers declined significantly in large firms. This is consistent with a displacement effect in which large firms with graying workforces decrease youth employment in order to be able to retain large numbers of middle-aged and older employees. In this section, I examine whether this effect exists in large establishments.

The ETS attempts to survey all large establishments (500 or more employees) every year.[11] More than 70 percent of these belong to firms with 1,000 or more workers. The ETS breaks down establishment-level employment changes into worker inflows and outflows, as shown in equation (1). This formula separately captures hirings, separations, worker movements across establishments within a firm (*haichi-tenkan*), and worker flows across different firms (*shukko*). We can estimate what determined the rates

11. According to the *Employment Maintenance Survey* conducted by the Statistics Bureau, there were 4,297 large-sized private establishments with 500 or more employees in Japan in 1994. In 1997, 2,904 large establishments were sampled in the ETS, or 67.6 percent of all these establishments.

of these annual worker flows in 1997 relative to the initial number of employees at the beginning of the year. I use human resource stock variables measured at the end of June 1997 as explanatory variables in the regression analysis. They include the ratios of middle-aged and older employees (forty-five and older), management and clerical workers, female employees, part-time employees, and employees contracted as *shukko.* All of these ratios are computed relative to the existing total number of employees in the establishment. One-digit industry dummies, a firm-size dummy, and a metropolitan-area dummy are also included as explanatory variables.[12]

I concentrate on large establishments in order to rule out an endogenous relationship between my labor-flow and labor-stock variables. I examine the effect of characteristics of the labor stock, especially the ratio of midlevel and senior workers, on labor inflows and outflows. Annual labor flows may affect the stock ratios in small and medium-sized establishments, where the human resource stock is small. If so, the flow and stock variables are mutually endogenous, and an ordinary regression may be seriously biased. Therefore, I limit my study to large establishments with large labor stocks that are mostly independent of current annual flows.

The forty-five or older ratio represents three aspects of establishment characteristics. First, a high ratio implies that the establishment has had high employment levels in the past. A firm usually has a higher ratio of employees forty-five or older in the 1990s because it hired large numbers of young workers in the rapid-growth era of the 1960s and early 1970s. These establishments with graying workforces face higher labor costs under seniority-based compensation schemes. Second, this high ratio also represents a sustained reduction in the hiring of young workers in the later period of slowed growth, a negative consequence of a long-term economic shock to labor demand.[13] Third, the high ratio of middle-aged and older workers presents difficulties for establishments wishing to deploy workers. In other words, it may be difficult to reduce the number of existing older employees in an establishment through separations, *haichi-tenkan,* or *shukko.* All three of these aspects might generate a displacement effect, decreasing the number of young workers.

Table 4.5 presents the regression results. The most important point is that the effect of the ratio of workers aged forty-five or older on any kind of inflow rate is always negative and statistically significant. As the ratio

12. The metropolitan area dummy equals one if the firm is located in Tokyo, Osaka, Aichi, or Kanagawa. These metropolitan areas host more than 50 percent of all the establishments. The firm size dummy equals one if the establishment is a middle-sized firm with 500 to 999 employees, and zero if it is a large firm with 1,000 employees or more. Manufacturing is the excluded industry dummy. Firms in the mining and real estate industries are excluded from the analysis because of their small sample sizes.

13. Genda (2001) shows that the persistence of job destruction is preserved in establishments with a higher proportion of graying workers, using the method of Davis, Haltiwanger, and Schuh (1996).

Table 4.5   Regression Estimates of Hiring and Separation Rates, 1997

	Hiring Rate				Separation Rate			
	Full-Time	Part-Time	Shukko	Haich-Tenkan	Full-Time	Part-Time	Shukko	Haich-Tenkan
Ratio of employees 45 or older	-0.0510	-0.0165	-0.0049	-0.0529	-0.0310	-0.0100	-0.0033	-0.0147
	(-5.64)	(-4.07)	(-4.17)	(-2.80)	(-1.76)	(-2.85)	(-3.09)	(-1.88)
Management and clerical worker ratio	-0.0337	-0.0094	0.0000	0.1287	0.0132	-0.0102	-0.0003	0.0941
	(-5.33)	(-3.30)	(0.02)	(9.71)	(1.07)	(-4.13)	(-0.49)	(17.07)
Female ratio	0.0718	-0.0124	-0.0014	-0.0329	0.0398	-0.0082	-0.0018	-0.0155
	(8.66)	(-3.35)	(-1.31)	(-1.89)	(2.46)	(-2.55)	(-1.90)	(-2.15)
Part-time ratio	-0.0656	0.3281	0.0013	0.0081	-0.0519	0.2836	0.0025	-0.0142
	(-5.11)	(56.98)	(0.78)	(0.30)	(-2.08)	(56.43)	(1.65)	(-1.27)
Shukko ratio	-0.0103	-0.0119	0.1502	-0.1392	-0.1070	-0.0051	0.1660	-0.1080
	(-0.29)	(-0.75)	(32.03)	(-1.87)	(-1.54)	(-0.36)	(39.48)	(-3.48)
500–999 employees dummy	0.0077	-0.0003	0.0006	-0.0281	0.0080	0.0005	0.0005	-0.0268
	(2.47)	(-0.25)	(1.47)	(-4.31)	(1.31)	(0.47)	(1.37)	(-9.88)
Major metropolitan area dummy	0.0060	0.0027	0.0011	0.0023	0.0124	0.0024	0.0008	0.0002
	(2.08)	(2.15)	(3.13)	(0.39)	(2.22)	(2.17)	(2.63)	(0.08)
Construction dummy	0.0025	0.0039	-0.0007	0.0025	-0.0109	0.0031	-0.0009	0.0127
	(0.35)	(1.23)	(-0.82)	(0.16)	(-0.78)	(1.12)	(-1.08)	(2.04)
Electricity, gas, heat, and water supply dummy	-0.0001	0.0032	-0.0014	0.0612	-0.0361	0.0035	-0.0019	0.0905
	(-0.005)	(0.53)	(-0.82)	(2.16)	(-1.37)	(0.66)	(-1.19)	(7.68)
Transportation and communication dummy	0.0361	0.0067	0.0002	0.1310	0.0776	0.0035	0.0010	0.0954
	(5.97)	(2.48)	(0.26)	(10.33)	(6.59)	(1.49)	(1.53)	(18.09)
Wholesale, retail trade, and restaurants dummy	-0.0035	0.0074	-0.0006	-0.0066	0.0061	0.0031	-0.0005	0.0007
	(-0.63)	(2.99)	(-0.55)	(-0.57)	(0.56)	(1.43)	(-0.82)	(0.15)
Finance and insurance dummy	0.0115	0.0085	-0.0006	0.0093	0.0026	0.0075	-0.0007	0.0203
	(1.38)	(2.28)	(-0.55)	(0.53)	(0.16)	(2.30)	(-0.73)	(2.80)
Services dummy	0.0265	0.0062	-0.0005	0.0055	0.0164	0.0050	0.0003	0.0029
	(6.08)	(3.18)	(-0.94)	(0.61)	(1.93)	(2.93)	(0.76)	(0.77)
Constant	0.0666	0.0077	0.0024	0.0286	0.0672	0.0057	0.0019	0.0237
	(14.64)	(3.77)	(4.06)	(3.00)	(7.58)	(3.20)	(3.70)	(5.98)
N	2,904	2,904	2,904	2,904	2,904	2,904	2,904	2,904
F-statistic	33.09	355.74	85.17	29.29	7.15	353.66	127.40	105.41
Adj. R^2	0.125	0.613	0.273	0.112	0.026	0.612	0.361	0.318

Notes: t-values are in parentheses. *Shukko* is transfers and returns across firms. *Haich-tenkan* is transfers across establishments within a firm.

of middle-aged and older employees increases, the hiring of full-time and part-time workers, as well as inflows through *shukko* and *haichi-tenkan,* is decreased relative to initial employment. At the same time, labor outflows are also restrained, and separation rates are significantly lowered. Consequently, there is less labor turnover at establishments with a larger share of older employees. This is consistent with a displacement effect.

Other findings show that the hiring rate of full-time workers is significantly lower at large firms (1,000 or more employees) with high shares of male white-collar employees. Therefore, I find that the hiring of full-time workers is further restricted when middle-aged and older workers in large firms are mostly white-collar males. On the other hand, table 4.5 shows that there is no tendency toward high separation rates in such firms. These findings directly contradict claims of job insecurity among middle-aged and older white-collar workers. Hirings and separations of part-time and full-time workers fall with the ratio of employees forty-five and older. There is almost no evidence that establishments with a larger number of graying workers hire part-time workers to replace decreasing numbers of full-time workers. No such simple relationship of substitutability between full-time and part-time workers is observed.

4.8   Determinants of the Hiring of New Graduates

Next, I focus on employees who graduated from school and entered the full-time job market for the first time in 1996.[14] Table 4.6 shows the results. The hiring rate of new graduates relative to the initial number of employees is significantly lower at establishments with a higher share of employees aged forty-five or older. In particular, high school graduates had greater difficulty finding full-time jobs in large establishments with a higher share of older employees. There were also fewer college graduates recruited by these establishments. Those with nonscientific majors (*bunkei* in Japanese) were least likely to be hired. The regression model can be applied to data from 1991 to 1996, and the negative and significant coefficient on the middle-aged and older employee ratio is observed in every year. In this sense, the depressed rate of new-graduate hiring observed throughout the 1990s in establishments with graying workforces is not a temporary phenomenon, but a long-term problem.

The previous regression analysis presumes that labor flows have little effect on the current composition of the labor stock, such as the forty-five or older ratio in large establishments. It is possible, however, that substantial labor flows would change this composition. In addition, some establishments with a greater number of middle-aged and older employees may face serious labor supply constraints. Due to regional or industry conditions, they may experience a shortage of young job applicants. Then the

14. There are no questions in the ETS relating to the hiring of new graduates after 1996.

Table 4.6   Regression Estimates of the Ratio of New Graduates to Initial Employees, 1996

	All New Graduates	High School Graduates	Special School Graduates	Junior College Graduates	College Graduates	University Graduates (Non-Science)	University Graduates (Science)
Ratio of employees 45 or older	-0.0276	-0.0141	-0.0024	-0.0021	-0.0088	-0.0051	-0.0037
	(-4.12)	(-4.20)	(-1.61)	(-1.35)	(-2.43)	(-2.12)	(-1.95)
Management and clerical worker ratio	0.0618	0.0097	-0.0017	0.0084	0.0453	0.0247	0.0206
	(12.75)	(3.99)	(-1.59)	(7.26)	(17.19)	(14.17)	(14.85)
Female ratio	0.0305	-0.0021	0.0249	0.0068	0.0008	-0.0036	0.0044
	(4.97)	(-0.70)	(18.30)	(4.64)	(0.26)	(-1.63)	(2.54)
Part-time ratio	-0.0340	0.0046	-0.0258	-0.0071	-0.0056	-0.0002	-0.0053
	(-3.58)	(0.98)	(-12.26)	(-3.14)	(-1.09)	(-0.06)	(-1.98)
Shukko ratio	-0.0085	0.0088	-0.0128	-0.0027	-0.0017	-0.0064	0.0047
	(-0.40)	(0.84)	(-2.76)	(-0.55)	(-0.15)	(-0.86)	(0.78)
500-999 employees dummy	0.0019	0.0036	-0.0001	-0.0009	-0.0013	-0.0001	-0.0011
	(0.86)	(3.11)	(-0.39)	(-0.17)	(-1.05)	(-0.23)	(-1.71)
Major metropolitan area dummy	0.0026	-0.0007	0.0003	-0.0006	0.0035	0.0005	0.0030
	(1.22)	(-0.65)	(0.75)	(-1.21)	(3.08)	(0.72)	(4.94)
Construction dummy	0.0143	-0.0033	0.0017	0.0006	0.0152	0.0037	0.0114
	(2.76)	(-1.26)	(1.47)	(0.54)	(5.40)	(2.03)	(7.70)
Electricity, gas, heat, and water supply dummy	0.0263	0.0187	0.0011	0.0058	0.0005	-0.0013	0.0019
	(2.78)	(3.94)	(0.55)	(2.57)	(0.10)	(-0.40)	(0.70)
Transportation and communication dummy	-0.0007	0.0020	0.0028	0.0011	-0.0066	-0.0011	-0.0055
	(-0.15)	(0.91)	(2.79)	(1.01)	(-2.72)	(-0.67)	(-4.31)
Wholesale, retail trade, and restaurants dummy	-0.0055	-0.0050	-0.0035	0.0013	0.0016	0.0084	-0.0068
	(-1.40)	(-2.51)	(-3.98)	(1.38)	(0.75)	(5.94)	(-6.02)
Finance and insurance dummy	0.0301	-0.0112	-0.0020	0.0272	0.0160	0.0318	-0.0157
	(4.90)	(-3.64)	(-1.49)	(18.45)	(4.82)	(14.42)	(-8.94)
Services dummy	0.0110	-0.0052	0.0104	0.0031	0.0029	0.0040	-0.0010
	(3.51)	(-3.23)	(14.59)	(4.00)	(1.70)	(3.46)	(-1.10)
Constant	0.0077	0.0118	-0.0023	-0.0003	-0.0014	-0.0010	-0.0003
	(2.34)	(7.12)	(-3.14)	(-0.44)	(-0.78)	(-0.85)	(-0.41)
N	2,984	2,984	2,984	2,984	2,984	2,984	2,984
F-statistic	40.45	6.56	101.49	64.07	58.23	73.73	37.45
Adj. R^2	0.146	0.0236	0.304	0.215	0.199	0.240	0.137

Notes: t-values are in parentheses. "All New Graduates" does not include employees who had graduated from junior high school.

hiring rate of new graduates might be small in spite of a strong demand for young workers in these establishments.

In order to account for these issues, the labor demand for, instead of the actual hiring of, new graduates is estimated in an alternative model. The dependent variable is the ratio of job openings for new graduates in the upcoming year, rather than the actual number hired, to the initial number of employees. The coefficients on the labor stock variables are not affected in this specification, so labor demand is effectively independent of labor supply constraints.

All of the independent variables were measured at the end of June 1996. The dependent variable is calculated using job openings for workers who graduated in March 1997. Determinants of labor demand for the establishments, including those with no job openings, were estimated using a tobit model. Establishments that had not yet determined their number of job openings were eliminated. The results are shown in table 4.7. The estimated coefficient on the ratio of workers forty-five or older is negative and significant at each education level. Thus, I can confirm that establishments with more middle-aged and older workers have decreased their labor demand for new graduates.

4.9   Discussion

What is the background behind such a strong displacement effect in Japan? Several factors explain the slow pace of employment adjustment of middle-aged and older workers.

First, dismissals are considerably restricted in Japan. Unlike most European countries, restraints on dismissals are imposed by case law, not legislation. Employers have a judiciary duty either to verify just cause for dismissals or to attempt alternative measures to avoid them. Only when all four of the following reasonable causes for dismissal are satisfied are dismissals considered fair and allowable in court: (a) urgent business reasons for personnel reduction, such as closing establishments; (b) necessity of dismissals for reducing staff, in addition to depressing new hiring, when there is no possibility of *haichi-tenkan* and *shukko;* (c) the criteria for selecting staff for dismissal are reasonable; and (d) procedures such as notifying employees in advance and consulting trade union or employee representatives are reasonably followed.

The dismissal case law, which protects regular workers from dismissal in Japan, places the most stringent restrictions on dismissals among the advanced countries. The Organization for Economic Co-operation and Development (OECD) *Employment Outlook* 1999 gives the OECD ranking by country in terms of the regulation of employment protection. Japan, Norway, and Portugal stand out as offering the highest employment protection, as measured by the summary indicator "difficulty of dismissal," while

Table 4.7 **Tobit Estimates of Job Openings for March 1997 New Graduates, or *Shinsotsu-kyujin*.**

	High School Graduates	Special School Graduates	Junior College Graduates	College Graduates	University Graduates (Non-Science)	University Graduates (Science)
Ratio of employees 45 or older	−0.0300	−0.0367	−0.0210	−0.0447	−0.0377	−0.0268
	(−4.71)	(−2.91)	(−3.08)	(−3.16)	(−3.26)	(−3.23)
Management and clerical worker ratio	0.0102	0.0189	0.0245	0.0895	0.0536	0.0495
	(1.89)	(2.13)	(5.53)	(9.73)	(7.81)	(9.23)
Female ratio	−0.0055	0.0213	−0.0032	−0.0145	−0.0268	0.0038
	(−0.79)	(1.83)	(−0.46)	(−0.99)	(−2.21)	(0.44)
Part-time ratio	0.0005	−0.0498	−0.0081	−0.0082	0.0099	−0.0229
	(0.05)	(−2.94)	(−0.79)	(−0.38)	(0.60)	(−1.69)
Shukko ratio	0.0065	−0.0623	−0.0347	−0.0337	−0.0931	−0.0078
	(0.32)	(−1.43)	(−1.44)	(−0.91)	(−2.06)	(−0.38)
500–999 employees dummy	0.0048	−0.0055	−0.0013	−0.0005	0.0039	−0.0018
	(2.30)	(−1.23)	(−0.62)	(−0.01)	(1.13)	(−0.76)
Major metropolitan area dummy	0.0027	0.0092	0.0014	0.0062	0.0022	0.0073
	(1.37)	(2.21)	(0.74)	(1.45)	(0.64)	(2.90)
Construction dummy	0.0023	0.0100	−0.0017	0.0150	0.0002	0.0158
	(0.38)	(1.12)	(−0.35)	(1.73)	(0.64)	(3.31)
Electricity, gas, heat, and water supply dummy	0.0331	0.0083	0.0050	−0.0018	−0.0007	−0.0024
	(3.87)	(0.45)	(0.72)	(−0.09)	(−0.05)	(−0.22)
Transportation and communication dummy	0.0208	0.0165	0.0095	−0.0038	0.0024	−0.0096
	(3.67)	(1.52)	(1.58)	(−0.30)	(0.27)	(−1.15)
Wholesale, retail trade, and restaurants dummy	−0.0042	−0.0117	0.0076	0.0106	0.0255	−0.0150
	(−0.97)	(−1.43)	(2.28)	(1.45)	(4.66)	(−3.22)
Finance and insurance dummy	−0.0154	−0.0104	0.0312	−0.0129	0.0208	−0.0374
	(−1.85)	(−0.88)	(6.09)	(−1.19)	(2.65)	(−5.57)
Services dummy	−0.0101	0.0287	0.0060	0.0067	0.0135	−0.0013
	(−2.52)	(5.16)	(1.82)	(1.02)	(2.56)	(−0.33)
Constant	0.0191	−0.0151	−0.0007	−0.0043	−0.0043	−0.0022
	(5.87)	(−2.42)	(−0.22)	(−0.60)	(−0.73)	(−0.54)
N	1,095	403	731	933	783	856
LR Chi^2 (13)	78.68	86.65	173.15	174.52	168.73	176.55
Prob > Chi^2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R^2	−0.0246	−0.2256	−0.0917	−0.1120	−0.1105	−0.0850

Notes: *t*-values are in parentheses. The dependent variables are measured relative to the number of employees working at the beginning of 1996. 237 firms reported no demand for March 1997 new graduates and were included in the regression as zero values of the dependent variable.

the United States and the United Kingdom offer the lowest level of protection (OECD 1999, 58).[15]

This strong protection of employed workers results in most employment being adjusted through changes in the hiring of young workers, who consequently face a change in labor demand. Although labor costs rise with the age of an employee, employers cannot adjust existing employment until after the mandatory retirement of these employees. Therefore, I predict that depressed hiring of young workers in Japan will continue until most of the first baby boomers, born between 1947 and 1949, reach the mandatory retirement age near 2010.

New legislation that modifies current case law, not deregulation of enacted laws, will be required to relax the social norms concerning dismissals that were established in the rapid-growth era. At present, however, such legislation is not being considered (Araki 1997). However, the modification is necessary, because it would allow employers suffering a business downturn to freely adjust large numbers of middle-aged and older employees.

It is not only legal restraints that raise the cost of dismissal for Japanese firms, but also economic rationalizations. A distinctly Japanese labor practice is to give large proportions of workers a wide range of problem-solving skills through on-the-job training (Koike 1988). Although this is common for white-collar employees both in Japan and in other developed countries, Japan is the only country in which blue-collar workers in large firms also accumulate a wide variety of skills. As a result, most middle-aged and older employees of large firms have acquired both skills and experience. This accumulated skill system encourages employers to retain experienced employees, in whom they have sunk a specific human capital investment, when facing a business downturn.

Further, "reputation effects," or fears that large-scale employment adjustment might lower a firm's social reputation to the detriment of the firm's future ability to find competent labor, are a strong constraint on Japanese firms. Consequently, it is rational from an economic point of view for firms to keep current workers in their jobs, in spite of rising labor costs.

Labor demand of large firms, whose jobs traditionally come with opportunities for intensive skill accumulation, declined in the 1990s. Youth entry into these large firms is decreasing, resulting in a smaller proportion of young workers' being able to secure jobs with long-term employment prospects. This may lead to a smaller proportion of employees' having a wide range of problem-solving skills than in the past.

4.10   Conclusion

Young workers are more likely than middle-aged and older workers to have difficulty finding full-time jobs in the aging Japanese society. How-

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15. For details of the ranking procedures, see chapter 2 in OECD (1999).

ever, the serious decline in youth employment in Japan has never been properly addressed. In contrast, many labor policies intended to increase the job opportunities of middle-aged and older employees have been enacted, although the number of job openings for this group has historically been relatively stable. Case law in Japan, which severely restricts dismissals, also decreases the chances for the young to find jobs offering long-term skill accumulation.

An increase in youth joblessness may cause social problems in Japan. The youth crime rate is closely linked to labor market conditions (Ohtake and Okamura 2000). The failure to transfer skills from older generations to younger generations might seriously affect future productivity in the Japanese economy.

Because of the declining birthrate, a permanent shortage of young workers has been predicted. However, the decline in youth labor demand has been much more drastic than the slow decrease in labor supply. Declining youth employment has been due not to a labor supply shock, but to a labor demand shock. Moreover, that demand shock is not temporary, but persistent.

The movement to prohibit mandatory retirement, extending employment up to age sixty-five, will certainly accelerate in the near future. Then job opportunities for youth will further decrease without a compensatory readjustment of wages, revision of the legal criteria relating to dismissals, or increase in the number of young and middle-aged self-employed workers.[16] In order to pursue both efficiency and equity in the labor market, it is important to create a market structure that provides equal opportunities for skill accumulation and career development, regardless of age.

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16. Japan is one of the few advanced countries in which the number of self-employed, nonagricultural workers decreased in the 1980s and 1990s. The decline in self-employment was particularly large for the middle-aged. There were 1.12 million forty- to forty-four-year-old self-employed workers in 1991, but only 0.56 million in 1998.

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