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Chapter Author: Toshiaki Tachibanaki

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# LABOUR MARKET FLEXIBILITY IN JAPAN IN COMPARISON WITH EUROPE AND THE U.S.*

Toshiaki TACHIBANAKI

*Kyoto University, Sakyo-ku, Kyoto 606, Japan*

## 1. Introduction

There is a common understanding outside of Japan that the Japanese labour market is more flexible than those of the other industrialized nations, and that this flexibility has facilitated to lower the rate of unemployment and to provide a better performance of the macroeconomy in general. Fig. 1 is presented to show that the rate of unemployment in Japan has not changed at all despite a big drop in the GDP in comparison with the other industrialized countries. The reduction in employment also was not so great. Almost all other countries show that a drop in GDP is accompanied by a drop in employment and thus by an increase in unemployment, although the degrees are varied by countries. These results in Japan are somewhat mysterious but deserve a serious investigation. This paper attempts to examine, on the basis of studies by both Japanese and non-Japanese, whether flexibility is the real story. The paper also attempts to seek the reasons for this flexibility, if any, with particular emphasis on a comparison between the Japanese economy and the economies of other industrialized nations, and the reasons for the very minor change in the rate of employment.

Obviously, it is impossible to cover all the dimensions of labour market flexibility. This paper concentrates on a few subjects such as (1) labour adjustment, (2) wages and labour demand, (3) labour cost, (4) labour supply, (5) labour mobility, (6) seriousness of unemployment, and others.

It might be useful to summarize the reasons for the relatively better performance in the Japanese labour market (especially the low rate of unemployment) during the 1970s and the early 1980s. First, there was no strong pressure of labour supply by young people and female workers. The

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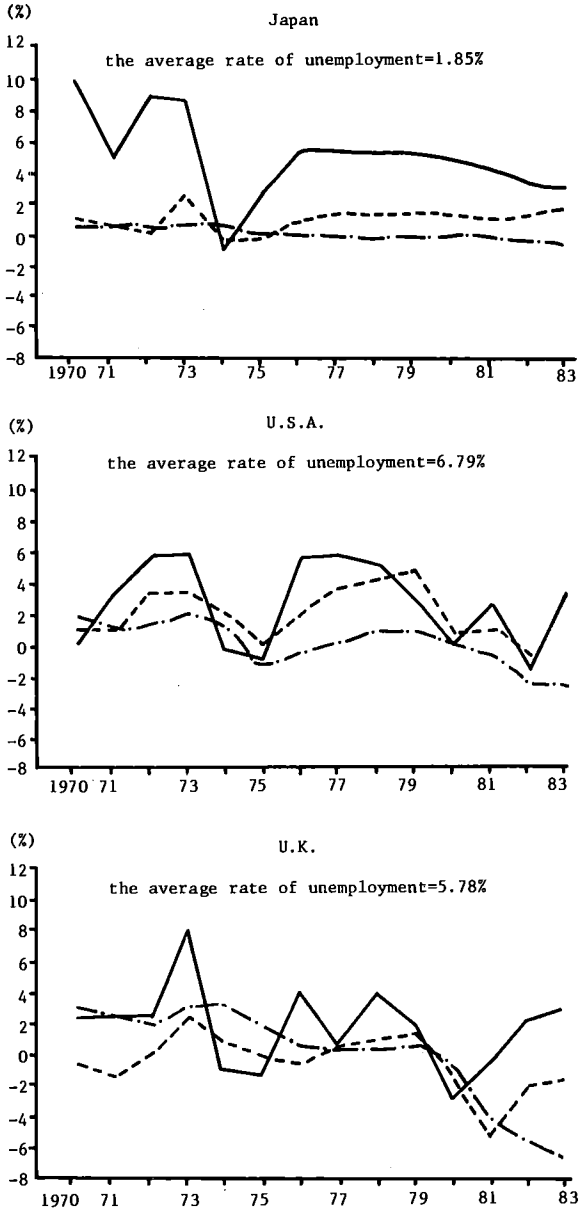
(%)
Japan
the average rate of unemployment=1.85%
12
10
8
6
4
2
0
-2
-4
-6
-8
1970 71 73 75 77 79 81 83
(%)
U.S.A.
the average rate of unemployment=6.79%
12
10
8
6
4
2
0
-2
-4
-6
-8
1970 71 73 75 77 79 81 83
(%)
U.K.
the average rate of unemployment=5.78%
12
10
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1970 71 73 75 77 79 81 83

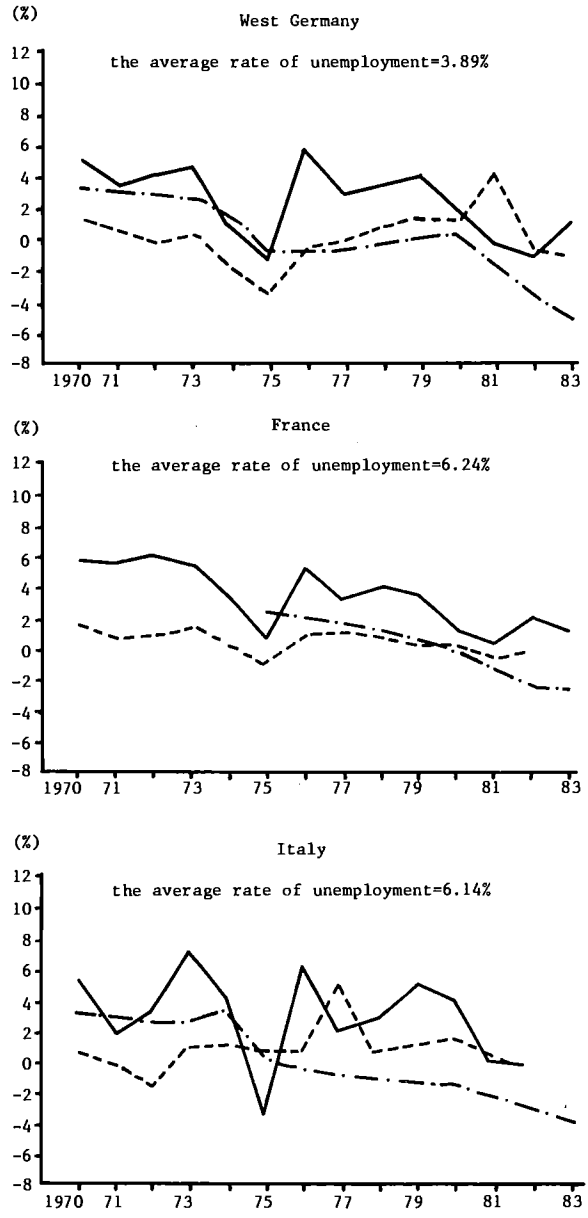


Fig. 1. The movement of GDP, the number of employed people and the rate of unemployment, where ———=GDP, – – – –=the number of employed people and — — — —=the rate of unemployment. The movement of GDP and the number of employed people is measured by the annual rate of change. The movement of the rate of unemployment is measured by the difference between the average rate of unemployment in the sample and the respective year's rate of unemployment. When the rate of unemployment in this graph moves in a parallel motion with GDP or the number of employment, it implies that when GDP or employment increases (or decreases), unemployment decreases (or increases). *Source*: Higuchi, Seike and Hayami (1986) (Original Source: *International Statistics*, Bank of Japan).

proportion of the working population of youth has been somewhat declining due largely to both a decrease in the youth population and an increase in the enrollment rate for higher education. The female labour force participation rate had been in a decreasing trend for a long time, although quite recently it is somewhat increasing. Secondly, the pressure of foreign workers was almost negligible, unlike the U.S. and Europe where internationally immigrated workers became one of the main sources for unemployment, especially in Europe. Thirdly, the growth rate of unemployment in the tertiary sector was considerably high, and it absorbed a large number of the work-force in contrast to a minor decrease in employment in manufacturing industries. During the past period of rapid economic growth, the manufacturing sector had absorbed an incredibly large number of workers from the rural areas, where people were predominantly engaged in agriculture. It is no exaggeration to say that the regional and industrial mobility of workers was extremely high. Fourth, the proportion of temporary employees such as part-time workers, employment with fixed durations and others (a very rough estimate is about 30 percent of the total non-agricultural labour force) and of self-employed workers including family workers (about 30 percent) has been considerably high. As a result, the proportion of permanent employees has been about 40 percent. The high share of temporary employees suggests that employment may fluctuate rather easily, while the high share of self-employed workers implies that those people are rarely unemployed unless they change their labour force status. Fifth, the effect of discouraged workers contributed significantly. Sixth, the movement of labour productivity, working hours and wages was quite flexible. This point was emphasized by Gordon (1982), Hamada and Kurosaka (1986), and others. Seventh, union power and 'search intensity' in terms of both the generosity of unemployment compensation and strictness of the unemployment protection laws were weak. See Gordon (1982) about conflict avoidance as a social norm and the Shuntō (the annual spring offensive) in union power, and Shimada, Hosokawa and Seike (1981) and Tachibanaki (1984b) who found a minor disincentive effect of unemployment compensation. See also Layard and Nickell (1986) about its quantitative assessment. Eighth, several forms of labour adjustment to minimize the number of discharges (or layoffs) are adopted by Japanese firms and encouraged by the government. Ninth, the share of non-wage labour costs within the total labour cost has been relatively small. This is related to the relatively poor social security system in Japan at least in comparison with Europe. Several of the above arguments are examined carefully in this paper.

## 2. Labour adjustment

This section intends to investigate how firms adjust employment. A

considerable number of efforts have been made in Japan to estimate the labour demand functions, in particular the labour adjustment functions. The main purpose of these studies is to estimate the degree of responsiveness or the speed of adjustment to labour demand. Some of the results are reviewed in comparison with the other countries.

A relatively simple labour demand function (1) is a starting point, which was originated by Brechling (1965), Ball and Cyr (1966), Nadiri (1968) and others.

$$\ln N_t - \ln N_{t-1} = \lambda(\ln N_t^* - \ln N_{t-1}), \tag{1}$$

where $N_t$ is the employment at time $t$, $N_t^*$ is the desired level of employment and $\lambda$ is the adjustment coefficient. This is a partial adjustment model. When we take account of adjustment costs such as hiring, training and firing costs, which were considered by Rosen (1968), Ehrenberg (1971) and Nadiri and Rosen (1974), the adjustment model with fixed costs is obtained.

Let us summarize the estimated speed of adjustment in employment briefly. In the United States those coefficients are 0.5–0.6 by Soligo (1966), 0.59 by Brechling and O'Brien (1967), 0.643 by Nadiri (1968) and 0.4 by Shinozuka and Ishihara (1977), respectively. In the United Kingdom the coefficients are 0.307 by Brechling (1965), 0.185 by Ball and Cyr (1966) and 0.22 by Brechling and Cyr (1967), respectively. The Japanese coefficients are 0.1 by Muramatsu (1983) and 0.04–0.08 by Shinozuka and Ishihara (1977), respectively. It is found that the Japanese speed of adjustment is considerably slower than those in the U.K. or the U.S. Thus, it may be concluded that the Japanese response to labour demand is very slow by the international standard.

Why has the Japanese speed of adjustment been slower? Labour input has been regarded as a quasi-fixed factor of production. This may be interpreted by the notion of specific human capital and of hiring and training fixed costs. A firm invests in a worker's human capital in order to achieve a higher expected marginal value product over his expected future working lifetime in the firm. The higher such an investment is, the less adjustment there is in labour.

When the labour inputs are distinguished between employment and man-hours (employment times working hours), the speed of adjustment is considerably different between them. As Hamermesh (1965) concludes, in general the adjustment of employment is slower than that of working hours, although there are minor exceptions such as Hart and McGregor (1982) for West Germany and Briscoe and Peel (1975) for the U.K. Japan is not an exception to this general rule, as Muramatsu (1983) and Shinozuka (1980) have shown. Shinozuka (1980), for example, found that the speed of adjustment of employment was 0.10 for firms with more than 30 employees

and 0.30 for firms with 5–29 employees, while the speed of adjustment of hours was 0.37 for firms with more than 30 employees and 0.49 for firms with 5–29 employees. Shinozuka (1986) confirmed those findings. They attribute this to the following factors: first, higher fixed costs of hiring, training and discharge than those of overtime premiums associated with a change in working hours are normal. In fact, it is no exaggeration to say that most of the labour adjustments in Japan were made through the change in working hours and the cut in new hires to a lesser extent, as will be shown later. Secondly, Japanese firms prefer internal work forces rather than external work forces when they adjust labour input. For example, re-allocation or transfer of workers to other establishments within a firm or to other sections within an establishment are frequently used, and also labour hoarding is quite common. In other words, the internal labour market dominates the external labour market.

Several supplementary notes are provided about labour adjustment in Japan. First, there is a considerable gap between men and women with respect to the speed of adjustment. Nakamura (1983, 1984) finds that the coefficient for women is much higher than that for men when the speed of adjustment in employment is investigated. Shinozuka (1980) obtained a similar result to Nakamura's, but proposed another valuable finding: when the speed of adjustment in employment is estimated for large firms and small firms separately, the female coefficient is higher than the male coefficient at large firms, while the opposite result is observed at small firms. When we combine the two sexes, the speed is quicker at small firms than large firms. She suggests, then, that the first instrument is adjustment by working hours, the second is the use (or discharge) of temporary or part-time female workers, the third is separation of female regular employees and the final is discharge of male regular workers as the order of priority when labour adjustment at large firms takes place. Results for small firms are less clear in determining such an order since almost the same values of the adjustment coefficients were obtained when man-hours were used instead of employment.

Secondly, a non-negligible difference is observed by industries in Japan, unlike the U.S. [See Hamermesh (1976) for the U.S.] Seike (1985), Muramatsu (1986) and others conclude that the speed of adjustment in light industries was quicker than in heavy industries. One of the reasons is that technology in heavy industries is more capital intensive, and thus the fixity of labour input is higher.

Thirdly, labour adjustment in employment is made through a cut (or an increase) in new hires rather than a change in current stock (discharge or layoff) of workers. Fig. 2 shows that a considerable rate of fluctuation in new hires is observed. This is in particular true in manufacturing industries. This does not necessarily imply, of course, that there are no discharges or layoffs. For example, Muramatsu (1986) finds that when a firm has to reduce more

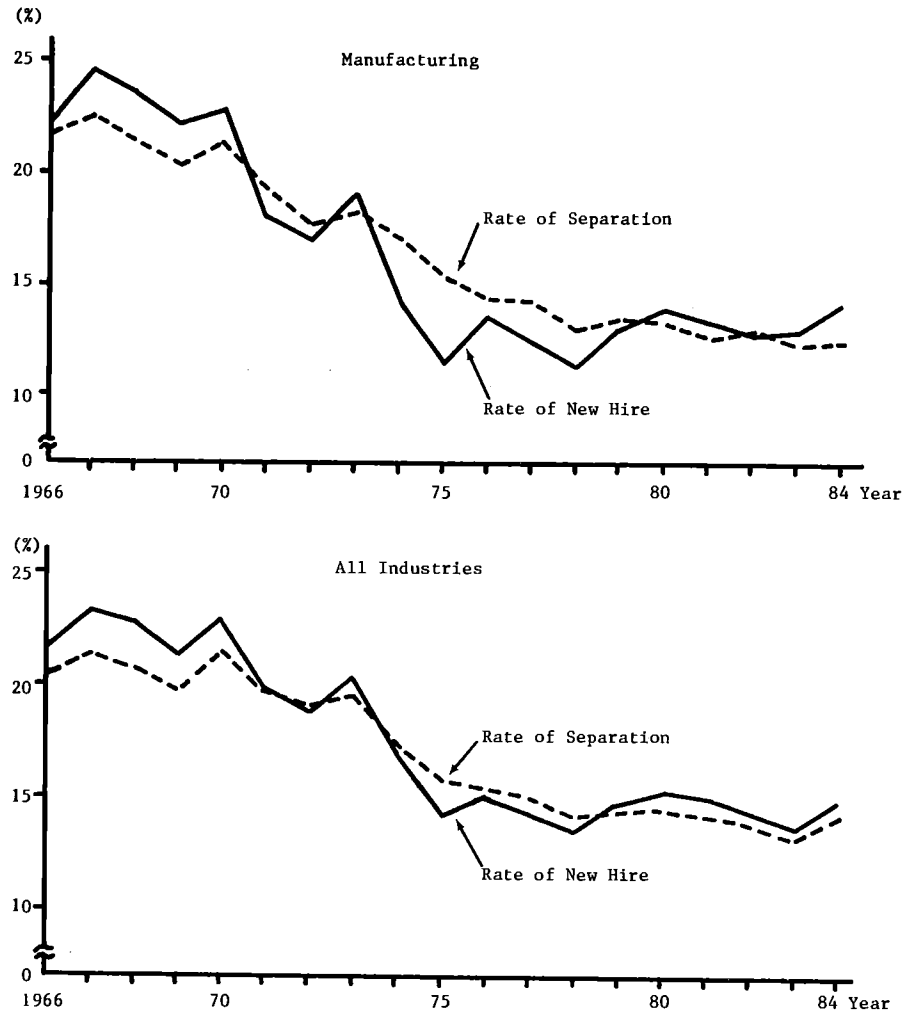


Fig. 2. Time series change in the rate of new hires and separations.
*Source:* *Employment Trend*, Ministry of labour.

than ten percent of its man-hours in response to a fall in demand or output, the probability of adopting discharge is positive. A dismissal of workers by designation is the final step, probably because no rule, such as for example seniority rule, for determining who is dismissed is prepared. The first step is to send workers (normally older workers) to subsidiary companies or to firms in the same group (say in the ex-zaibatsu Mitsubishi group, for example). The second step is to call voluntary quits by offering some premiums. Finally, dismissals come.

Finally, many studies suggest that the speed of labour adjustment by employment has been increasing in the past years, especially after the two oil crises. One reason is that Japanese firms do not have high expectations for the recurrence of a rapid growth of the economy as in the past. In other words, they are somewhat pessimistic about the future. Thus, they tend to minimize the number of employees as much as possible. Secondly, it may be possible that both employers and employees do not have strong hesitations in applying a drastic method such as adjustment by employment in recent years.

Tables 1 and 2 are presented to confirm some of the above propositions from a different angle. The estimated standard deviations in table 1 suggest that Japan shows the highest deviation in working hours and the lowest in employment among the major industrialized nations. Working hours are much more flexible than employment.

Moreover, it should be emphasized that the change in total working hours is strongly affected by the change in overtime hours. Table 2 shows a decomposition of the change in total working hours into the change in regular hours and the change in overtime hours. The table clearly indicates that the contribution of overtime hours is as strong as the contribution of

Table 1

Estimated standard deviations of output, employment, working hours and real wage per hour.[a]

| | | Labour input | | | |
|---|---|---|---|---|---|
| | Production | Employment | Hours | Man-hours | Real wage per hour |
| (*A*) | | | | | |
| Japan | 6.509 | 2.089 | 1.903 | | |
| U.S. | 6.963 | 4.376 | 1.447 | | |
| U.K. | 4.635 | 2.409 | 1.508 | | |
| W. Germany | 4.014 | 2.325 | 1.509 | | |
| France | 5.368 | – | 0.728 | | |
| (*B*) | | | | | |
| Japan | 0.147 | | | 0.048 (0.048) | 0.111 (0.343) |
| U.S. | 0.062 | | | 0.052 (0.050) | 0.038 (0.045) |
| U.K. | 0.045 | | | 0.056 (0.159) | 0.052 (0.121) |
| W. Germany | 0.070 | | | 0.062 (0.089) | 0.057 (0.192) |
| France | 0.069 | | | 0.037 (0.083) | 0.036 (0.231) |

[a](*A*) signifies that the standard deviations are calculated for the rate of change in each index of the variable for 1970–83, while (*B*) signifies that standard deviations are calculated for log-transformed variables which are de-trended for 1964–83. The numbers in parentheses are the values for non-trended variables. Thus, (*A*) and (*B*) are not comparable.

*Source*: Higuchi, Seike and Hayami (1986) and Ohtake (1986) (Original sources: *International Statistics*, Bank of Japan and *Main Economic Indicators*, OECD).

Table 2

Decomposition of the change in total working hours into the change in regular hours and the change in overtime hours (% per year).

| | Total hours | Regular hours | Overtime hours |
|---|---|---|---|
| 1955–1960 | 0.9 | 0.3 | 0.5 |
| 1960–1965 | −1.1 | −0.5 | −0.5 |
| 1965–1970 | −0.5 | −0.7 | 0.1 |
| 1970–1973 | −0.8 | −0.6 | −0.2 |
| 1973–1976 | −1.3 | −0.6 | −0.7 |
| 1976–1980 | 0.2 | −0.1 | 0.3 |
| 1980–1985 | −0.1 | −0.2 | 0.1 |

*Source*: *Monthly Labour Statistics*, annual series, Ministry of Labour.

regular hours. The overtime premium is 25 percent in Japan as well as the U.K. and West Germany, while it is 50 percent in the U.S. Thus, Japan does not provide firms with an extra incentive to utilize overtime hours by the international standard. The mutual interests of both employers (coping with a fluctuation in demand and output smoothly) and employees (the desire to obtain higher wages by overtime hours and corporate loyalty to firms) may be another reason.

It is important to add the cost factor. The Ministry of Labour (1986) conducted a valuable study which compared the cost between a new hire and overtime hours by a currently employed person. It concluded that the cost to a firm for an additional new hire would be the same as the cost for overtime hours by a currently employed person if the overtime premium rate were 62.9 percent. In view of the current premium 25 percent, no firms would hire new employees instead of utilizing overtime hours. Interestingly, the break-even premium rate is 74.4 percent for larger firms (more than 500 employees), 61.0 percent for medium-size firms (100–499 employees) and 47.4 percent for smaller firms (30–99 employees), respectively. This is due largely to the fact that the fixed cost is higher in larger firms than in smaller firms. This is one of the primary reasons why larger firms are inclined to use flexible overtime hours rather than changing the numer of employment in comparison with smaller firms which tend to use flexible employment.

Let us conduct a brief international comparison with respect to the level of working hours. The total annual working hours and overtime hours in 1983 were 2,152 and 202 (the rate of overtime hours to total hours, 9.39 percent) in Japan, 1,898 and 156 (8.22 percent) in the U.S., 1,938 and 140 (7.22 percent) in the U.K., 1,622 and 45 (2.77 percent) in Italy, 1,613 and 78 (4.84 percent) in West Germany and 1,657 and 78 (4.71 percent) in France. Both the total working hours and the overtime hours (including the rate of overtime hours) are the longest in Japan among the six countries. The

importance of overtime hours in Japan is recognized further by this international comparison.

A higher fluctuation in working hours is confirmed internationally by table 1. As noted before, Japan shows the highest standard deviation in working hours and the lowest in employment among the major industrial nations despite very high fluctuations in output. When we use the total man-hours, the story is considerably different since Japan shows the lowest fluctuation. In sum, a very high adjustment by working hours and a low adjustment by employment are the Japanese ways of labour adjustment. The U.S. is the other extreme, namely a high adjustment by employment and a low adjustment by working hours. Europe stays between the two extremes.

Which is more desirable as an adjustment policy? If a national consensus that to keep the rate of unemployment as low as possible as the first national goal of the economic policy is supported universally, the Japanese way of labour adjustment is certainly desirable. However, non-negligible costs such as, for example, inflation, inefficient management of firms due to excess employment, profit squeeze or foreign trade conflict must be paid to achieve this goal. I do not believe, therefore, that the Japanese way of labour adjustment can be recommended to the other industrialized nations easily. I evaluate the U.S. temporary layoffs positively, as will be argued later. Each country has its own preference which must be assessed highly.

## 3. Flexible wage rates and labour demand

There is a common understanding internationally that Japanese wages (both nominal and real) are flexible, and that this flexibility has helped the Japanese economy to perform relatively well. This section intends to re-examine this issue based on a large number of studies.

Japanese economists were ignorant of this aspect, namely flexibility of wages. It is ironic that foreign observers opened Japanese economists' eyes to this issue. Representatively, we can name Sacks (1979, 1983), Branson and Rotemberg (1980), Gordon (1982), Grubb, Jackman and Layard (1983), and others. Many studies, except for perhaps Sacks, support the observation that flexibility of real wages in Japan is considerably high, and thus it has helped to lead to a better performance. It is important to consider two issues separately. The first is to investigatee whether the real wage is flexible, statistically speaking. Secondly, provided that this flexibility is supported empirically, is it possible to propose that this flexibility has raised labour demand, and thus lowered unemployment?

### *3.1. Statistical wage flexibility*

Since the seminal articles by Sacks (1979) and Gordon (1982) appeared, a

lot of investigations were performed to re-examine whether real wages in Japan are flexible. Many studies such as Yoshitomi (1981), Shinkai (1982), Komiya and Yasui (1984), Mizuno (1985), OCED (1985), Hashimoto and Raisian (1985), Koshiro (1986), except for perhaps Ohtake (1986), support Gordon's view, namely that the Japanese real wages are more flexible than the other industrialized nations, although various reasons are provided by different authors to support it.

Gordon (1982) basically attributed the flexibility to 'bonus' payments paid twice a year. Mizuno (1985), however, emphasizes that not only bonus payments but also basic wages (total wage earnings minus bonus payments) are flexible. His point is that the proportion of bonus payments to total wage earnings is at most 25 percent, and it is declining constantly. Thus, if flexibility of total wage payments is observed statistically, its main cause is not flexibility of the bonuses but of the monthly wages. He actually estimated that the relative contribution of flexibility of the bonus payments to the flexibility of the total wage payments was about 10 percent during the period of 1960–83. The main source for the big contribution of the fluctuation of monthly wages is wage payments by overtime hours, due partly to overtime premiums.

Bonuses are explained very briefly. In 1983, 97.9 percent of firms paid bonuses, and 99.3 percent of all employees received some amount of bonuses. Thus, they are well-established and systematic payments. About 32.0 percent of all firms say that they determine the total amount of bonus payments on the basis of firms' performances such as sales, value-added, and profits. Smaller firms stress the consideration of performances and profits more than larger firms. The majority of Japanese firms, especially larger firms, regard bonuses as quasi-regular wage payments rather than as profit-sharing. Koshiro (1986) supports this view in his econometric work. Thus, although the bonus payments in Japan have a profit-sharing aspect in terms of Weitzman (1984), it is not a pure profit-sharing scheme. This does not necessarily imply, however, that the amount of bonuses is fixed. It is fairly varied in response to the firms' business conditions, as many authors suggested. See Hashimoto (1979), Tachibanaki (1982) and Freeman and Weitzman (1986).

An interesting aspect about bonuses is how to allocate the total amount of bonus payments to individual employees. About 70 percent of firms say that they take account of the individual employee's performance. Only about 30 percent of firms pay the equal amount (say, two or three months' regular wages) to all employees regardless of the employee's performance. What are the criteria for determining each person's performance? The rate of absence, contribution to a firm, skill, responsibility and leadership as a supervisor, tenure at a firm, and etc. Thus, bonuses are used by firms as an incentive payment to a certain extent. This, however, depends upon industries, and the

incentive aspect should not be overemphasized since the amount determined by it is considerably small.

Another method for estimating the degree of flexibility of wage payment is to rely upon the Phillips curve approach, which Grubb, Jackman and Layard (1983) have adopted. If a change in the wage rate was sensitive to the labour market condition (say, the rate of unemployment), it would be concluded that flexibility of the wage determination is high. This method is likely to overestimate the degree of flexibility if an economy does not have a sizeable movement in the rate of unemployment. It is possible that the Japanese flexibility has been somewhat overestimated because of the almost constant rate of unemployment. Thus, the OECD study (1985) which showed that Japanese real wage rigidity was the lowest among the OECD countries is somewhat dubious. The method utilized a change in the unemployment rate as well as a change in the consumer prices. Related to this, it is noted that the work by Hamada and Kurosaka (1984), who estimated the Okun's coefficient ten times higher in Japan than in the U.S., was accepted unfavourably not only by a non-Japanese, Mairesse (1984), but also by several Japanese economists. An unbiased estimation of the Okun's coefficient requires a certain degree of fluctuation in the rate of unemployment. In sum, a method for estimating the flexibility of wages which utilizes a change in the rate of unemployment in estimating wage or price equations (say, the Phillips curve approach) needs careful interpretations when the rate of unemployment does not fluctuate sufficiently, like Japan's case.

It is possible to conclude based on a large number of studies, in particular pure statistical studies which do not use the Phillips curve approach, that wages (both nominal and real) in Japan are considerably flexible. One important exception is Ohtake (1986) who found less flexibility when he considered the de-trended wage figures. He also examined real wages which are standardized by a change in output. He proposes that a shock in output (say, the two oil crises) which gives an excessive impact on a change in wages must be eliminated. Since his argument has a point, it is necessary to examine it further. However, he does not deny that real wages in Japan are variable, at least based on the purely statistical evidence.

It is necessary to argue why real wages are flexible. Several economic and institutional factors, in addition to the bonus payments and flexible working hours examined before, are suggested here, but a serious discussion is avoided. (i) Wage contracts are determined largely on a yearly basis in the framework of the Shuntō, unlike the three-year contract in the U.S. The past performance of productivity movement, inflation rate, macroeconomic conditions and others, is taken fully into account by both employers and trade unions at the Shuntō. (ii) Several studies, Yoshitomi (1981), Shinaki (1982), Komiya and Yasui (1984) and others, propose that a change in wages is strongly affected by a change in terms of trade and productivity. (iii) Trade

unions are concerned with the assurance of the employment of their members. When the utility function of trade unions was estimated by Hayami (1986), a stronger preference of employment rather than wage increase was found. Thus, it is likely that trade unions are willing to make the sacrifice of wages in exchange for the assurance of employment. This is a big contrast with the European experience, especially in the U.K. where the impact of union powers on wages is fairly strong, as shown by Minford (1983) and Nickell and Andrews (1983).

Furthermore, the rate of unionization in Japan is fairly low (about 30 percent) by the international standard, and more importantly, the rate is under a constant decline. For example, see Hamada and Kurosaka (1986). Not only weak preferences of wage increases by trade unions but also the low rate of unionization contributed to some of the flexibility of wages. It is an irony but interesting that both Japan and the U.S., where macroeconomic performances are relatively better than the European countries, have lower unionization rates. I argue that the labour side should be able to demand higher wage payments in view of the fact that the properly measured labour share within the national income in Japan has declined constantly, and that some increases in wages in boom industries will encourage a higher domestic consumption which has a positive effect on reducing the current huge trade surplus. Labour market flexibility in terms of a cooperative behavior of trade unions vis-à-vis managements may be regarded as one of the causes for the current foreign trade surplus. This gives one example of the fact that labour market flexibility cannot be evaluated always positively.

### *3.2. Wages and labour demand*

A second important issue is the relationship between wages and the demand for labour. Specifically, is it possible to propose that a flexible wage system increases employment? The U.S. result was surveyed by Hamermesh (1976), and a consensus, namely stable and robust wage effects on the demand for labour, was obtained at least up to 1976. However, some recent papers by Hall (1975, 1980) have presented unresponsive wages, and Bell and Freeman (1985) find that flexible wages by industries in the U.S. have not contributed to employment growth. Thus, even in the U.S., the recent story may be different from the past. In Europe the result was inconclusive as surveyed by Nickell (1982). The recent studies, however, tend to support that there are some clear real wage effects on the demand for labour when relative material/fuel prices are accounted for. See Nickell (1984) and Symons (1985). See also Symons and Layard (1984) about a rigorous international comparison.

What is the situation in Japan? Muramatsu (1985) gave a useful survey on the estimation of the real wage elasticities with respect to labour demand.

His main conclusion, on the basis of about ten studies in Japan, suggests that the real wage elasticities are considerably lower than the U.S. elasticities surveyed by Hamermesh (1976). Under the constant assumption of capital cost and output, the average elasticities are at most $-0.03$ for total industries and $-0.15$ for manufacturing industries. The effect is smaller in Japan than in the U.S. Incidentally, the output elasticities in Japan are on the average 0.24 for total industries and 0.44 for manufacturing industries, even after two years' lag. Those values are smaller than the U.S. values, which are about 0.75–1.00. In sum, it is possible to proclaim that the real wage effects on the demand for labour in Japan are weak.

Let us summarize this section. Although it is true that the real wage flexibility is considerably high in Japan, it has not helped to increase the number of employment. The role of wages as an adjusting factor has been quite limited. The growth of employment, if any, should be explained by reasons other than the real wage effect. It should, however, be pointed out that flexibility prevented current employment from falling to a certain extent, because the firm's cost condition was saved considerably.

### *3.3. Other aspects of flexibility related to wages and labour costs*

#### *3.3.1. Nenko wages and equality*

Japanese wage determination is characterized by the 'nenko' wage system: the wage rate is determined largely by employees' tenures and ages. See Tachibanaki (1975, 1982). Every country has a similar system. The only difference is that the Japanese case is much more apparent than in the other countries. See fig. 3 which shows a steeper age-earnings profile in Japan. Several implications of the system for the performance of the labour market are considered.

First, since the growth rate of wages by tenure and age is high, the wage level of younger prople is low while it is high among older people. This is, incidentally, the main reason for the higher unemployment rate by older people (ages over 55), 4.3 percent in recent years. Curiously, the rate of unemployment by younger people (ages 15–24) is not so low (about 4.5 percent). This is due largely to factors that arise from the supply side, as shown by Tachibanaki (1984).

Secondly, the wage distribution among the *same* age group is quite equal because of the 'nenko' system, although the wage distribution of total employees may be quite unequal, because samples of both younger and older workers are included in the total number of employees. This is obvious because the wage level of nearly all employees is proportional to their tenures and ages. It is also found that education and occupation are minor variables to differentiate the wage rate of employees. See Tachibanaki

(1975, 1982) and Atoda and Tachibanaki (1986) about it. Those features provide employees with a feeling of equal treatment by employers. This equal treatment gives incentives for corporate loyalty and hard-working to employees, especially workers with lower educational and occupational attainment. I believe that this is one of the reasons why labour productivity has been high in general.

There must be several questions about this interpretation. For example, how is the incentive of educated and skilled workers evaluated? The American literature emphasizes the incentive of qualified and supervisory workers who should receive higher wages. See Calvo and Wellisz (1979), and Rosen (1982), for example. Incentives for qualified workers are not provided by monetary rewards at least currently in Japan. There is an incentive by bonus payments, as noted previously. This is still minor, and does not have a strong impact.

One important problem remains. Does productivity of workers increase in proportion to the workers' tenure at a firm? Since the 'nenko' system implicitly assumes that the above is true, it is important to investigate whether it is empirically supported. Otherwise, firms and/or workers may be

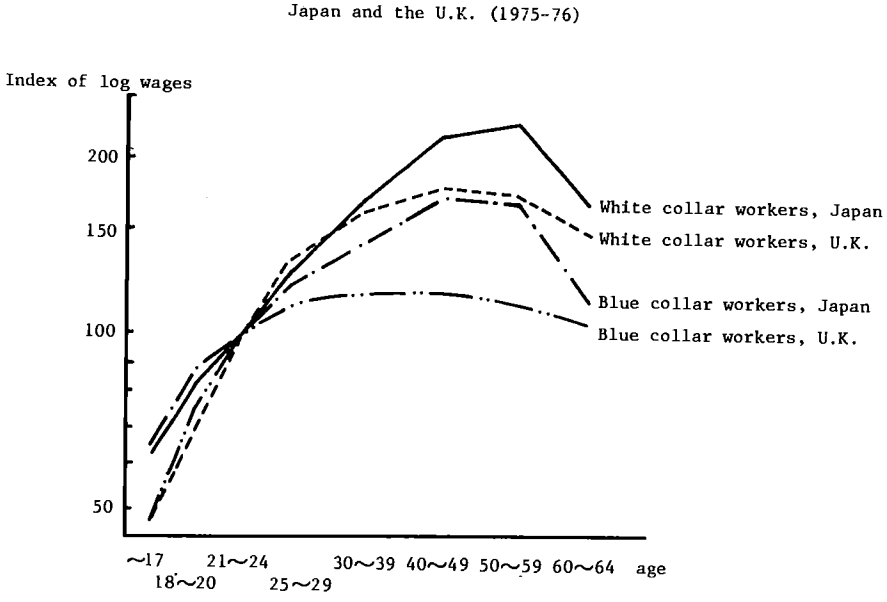


Fig. 3A. Wage growth by age: Japan and the U.K. This graph shows the index of log wages in comparison with the wage level at age=21–24. *Source:* Koike (1981), *Skill Formation in Japan*, Yuhikaku, Tokyo (in Japanese) (original sources: Japan, *Wage Structure Survey, 1976, Ministry of Labour*, U.K., *New Earnings Survey, 1975*, Department of Employment).

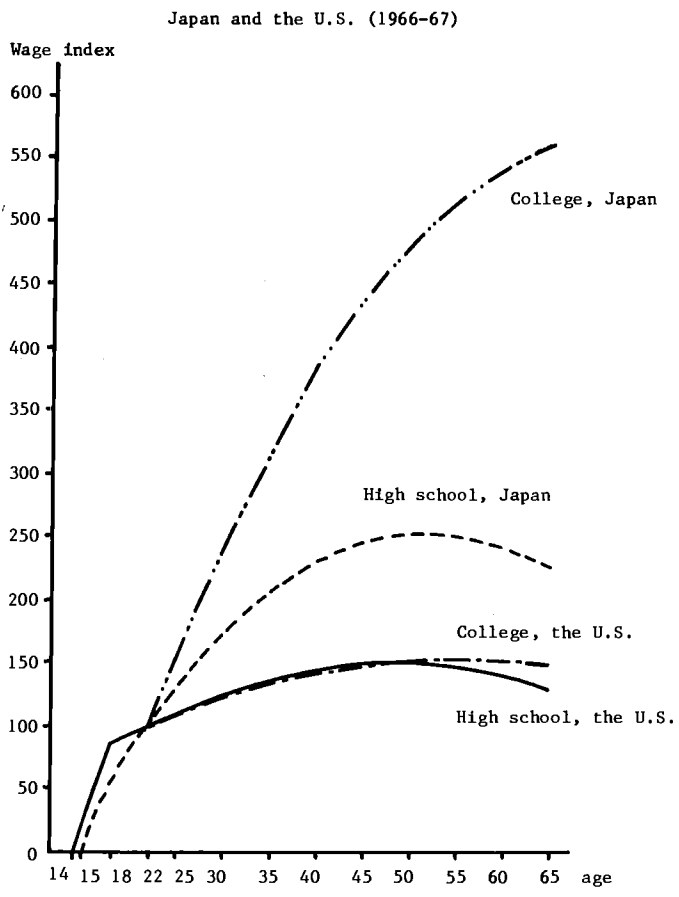


Fig. 3B. Wage growth by age: Japan and the U.S. The wage indexes are given in comparison with the wage level at age=22 where the index value is equal to 100. Those wage indexes are not the actual wages earned at each wage, but merely show the growth of wages by age. The graph does not show that the wage levels of college graduates and high school graduates in the U.S. are the same. It indicates that the growth of wages is almost the same in comparison with the wage at the age 22 between college graduates and high school graduates. *Source:* Shimada (1981), *Earnings Structure and Human Investment*, Kogakusha, Tokyo (original sources: Japan, *Wage Structure Survey, 1967*, Ministry of Labour, U.S.A., *Survey of Economic Opportunity, 1966*).

paying higher wages than requirements, or receiving lower wages than contributions. Unfortunately, there are no rigorous studies which have investigated the relationship between wages and marginal productivities in relation to the 'nenko' system. Flexibility due to the 'nenko' system may be evaluated precisely only when the relationship is made clear empirically.

Another question may be posed: several studies, for example Klau and Mittelstadt (1985), show that the average inter-industry wage differential is

the highest in Japan among the OECD countries. They evaluate this as flexibility of the wage structure. This may be inconsistent with the equal wage distribution as proposed previously. I find that a part of the large inter-industry wage differentials should be explained by the difference in age and sex compositions of employees in each industry. Thus, the highest inter-industry wage differentials ought to be discounted to a certain extent. I do not deny, however, that some degree of inter-industry wage differentials due to the difference in productivities in industries contributes to the flexibility of wage payments to a limited extent in Japan.

*3.3.2. Minimum wage law*

Minimum wage law specifies that the minimum wage should be determined by each prefecture. Since the economic condition is considerably different by regions, such a decentralized system can be evaluated positively as flexibility. Moreover, the minimum wage law is not obeyed strictly by employers, and the penalty is almost non-existent. In sum, it is hard to believe that the minimum wage law has been an obstacle to hire new employees. This is contrary to American or European experiences in which some adverse effects are often mentioned.

*3.3.3. Male–female wage differentials*

Wage differentials between men and women are reviewed. Several studies, for example Tachibanaki (1975), and Kawashima and Tachibanaki (1986), conclude that the most eminent variable which explains wage differentials is sex (male–female differences). A large part of male–female wage differentials are discriminations against women in wage payment and promotion. They are not receiving the payments that correspond to their contributions to firms. About one-third of the labour force is women currently. Firms have benefited from lower wage payment for women considerably since it has saved labour costs. Although this is not flexibility, it is an important element which has helped Japanese firms in cost performance. It is anticipated that the recently enforced equal employment and treatment act for men and women will help women, but hurt firms to a certain extent.

*3.3.4. Non-wage labour costs*

It is well documented that Europe suffers from a heavy burden of non-wage labour costs, in particular statutory social security contributions to health and pension programmes. This heavy burden has induced labour cost rigidity to firms, and is supposed to be one of the most important reasons for the high unemployment rate in Europe. This issue must be argued in relation to various aspects such as the problem of the incidence of the employer's contribution to social security schemes, fixed labour costs and others. We find several through discussions elsewhere. See Hart (1984) for example.

Here, only a brief comment on Japan is made with respect to non-wage labour costs.

It is said that Japan and the U.S. are two countries among the industrialized nations where the low rate of non-wage labour costs has contributed to a better performance of employment. I understand that the U.S. has a national consensus that services such as medical care and pension programmes should be arranged privately. Statutory social security programmes organized by public authorities do not have a great share. This is the main reason why the U.S. shows a low rate of non-wage labour costs.

Japan is somewhat different. In principle, Japan wanted to adopt the welfare state in the European sense about twenty years ago. The government modified the social security system completely, by raising the amount of public pension payment and medical expenditure considerably. It was proud of having achieved the European standard with respect to the amount of per capita pension and medical payment. This achievement, however, was not supported by a rigorous budgetary background. The aggregate pension and medical payment was very low because the proportion of retirees to the total population was quite low at the time. Since the growth rate of the economy was quite high, huge revenues from both general taxes and social security contributions could be collected without necessarily assigning high rates of social security contribution both to employers and employees. In sum, the government wanted to introduce the notion of a welfare state only on the payment side without a sound budgetary or actuarial calculation. This was a mistake some twenty years ago. Thus, firms were not asked to pay a sufficient amount of social security contributions in the past. This is the main reason why the statutory employer's contribution had been lower in Japan. Although sympathy for the government is possible because of the unanticipated stagflations after the two oil crises, the mistake is serious. It is no longer possible to enjoy such low non-wage labour costs in the future since the share of non-wage labour costs is in an increasing trend.

## 4. Labour supply

There is a widespread belief that flexible labour force participation is quite effective in adjusting labour supply. Specifically, the labour supply is increased when an economy is in boom, while it is decreased in a recession. Ono (1981) and Hamada and Kurosaka (1986) are the representative examples who propose that this flexibility helped to lower the number of unemployed people. This notion had been already recognized by many writers in Japan, and those workers are called 'discouraged workers', who lose their desire to seek jobs and are forced to retire from the labour market. A large number of female married employees are likely targets. Discouraged workers are sometimes called 'added workers', 'secondary workers' or

'marginal workers'. Nurkse (1953) called it 'disguised unemployment'. Although the exact meanings are different, they all indicate the discouraged effect.

Three methodologies are possible to verify the existence of discouraged workers. First, the number of discouraged workers may be estimated directly through various published labour force surveys. Secondly, average flow rates and transition probabilities among three states, namely (i) employment, (ii) unemployment and (iii) not-in-labour force, may be examined and compared with the movement of business cycles. Thirdly, the rate of labour force participation can be examined for time-series data. The representative studies are as follows. Ono (1981) for the first method, Mizuno (1983) for the second, and Shimada and Higuchi (1985) for the third.

Ono (1981) conducted an interesting comparative work between Japan and the U.S. in which he estimated the number of discouraged workers. 8.9 percent were discouraged among people who were not in the labour force in Japan in 1978, while only 1.4 percent were discouraged in the U.S. The official unemployment rate was 2.2 percent in Japan, while it was 6.0 percent in the U.S. in the same year. The result suggests that it is quite misleading to rely on the official rate of unemployment to argue the labour market condition, at least in Japan, in view of the large number of discouraged workers.

Higuchi, Seike and Hayami (1986) performed a valuable comparative study of the average flow rates and transition probabilities between Japan and the U.S. from 1970 to 1982. They concluded that several transition probabilities such as from not-in-labour force to unemployment, from unemployment to employment and from employment to unemployment are much more sensitive to business cycles in the U.S. than in Japan. In other words, the several American transition probabilities fluctuate more significantly than the Japanese ones, as Fig. 4 shows. It is noted, however, some transition probabilities such as from employment to not-in-labour force have similar movements in both Japan and the U.S.

Shimada and Higuchi (1985) presented a very high rate of decrease in the labour force participation rates by female workers during a fall in labour demand until the early 1970s, by estimating the labour force participation equation econometrically. This again suggests clear evidence of the discouraged worker effect until the early 1970s.

Although these studies mentioned above support a view that the effect of discouraged workers has been considerable, and that this is in particular serious among female workers, some of the studies suggest that the effect is becoming weaker and weaker quite recently, and a new phenomenon, 'involuntary' part-time workers, has appeared.

One of the most important findings based on the study of Higuchi, Seike and Hayami (1986) is that the rate of staying in the labout force after being

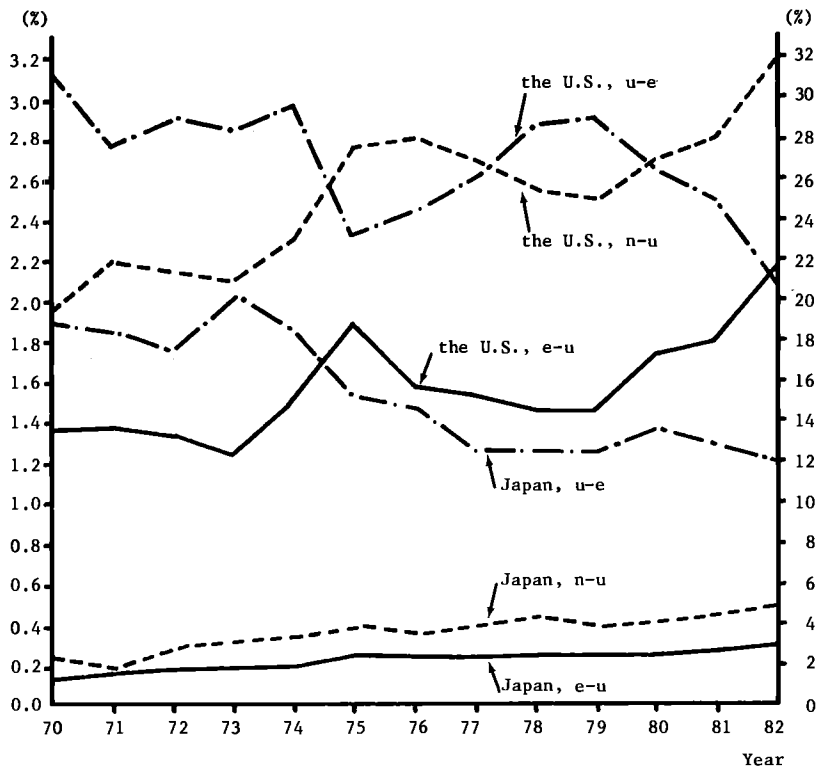


Fig. 4. Time series movements of several transition probabilities in Japan and the U.S.
(1) 'e' stands for employment, 'u' for unemployment and 'n' for not-in-labour force. Thus, the solid line shows, for example, the transition from e (employment) to u (unemployment).
(2) The left-hand vertical axis shows an index for e–u and n–u, while the right-hand shows an index for u–e.
(3) The other transition probabilities such as e–n, n–e, and u–n are not written here since both Japan and the U.S. show similar movements. It is noted, however, that all the probabilities in the U.S. are higher than those in Japan, as is true for the case of e–u, n–u and u–e.
*Source*: Higuchi, Seike and Hayami (1986). (original sources: *Labour Force Survey*, in Japan and *Current Population Survey*, in the U.S.).

unemployed has been increasing since 1975 both in Japan and the U.S. among female workers. In other words, the importance of discouraged workers has declined recently in the two countries, and its decline is greater in Japan.

Wakisaka (1986) made an important contribution by adopting the first approach. He found that although it is true that the number of discouraged female workers had increased until 1977, it has decreased considerably after 1977. The implication is that despite a fall in labour demand a large number of unemployed females do not leave the labour market, but stay on. What do

they do? One group obviously continues to be unemployed, and seeks new employment. This is one of the reasons why the rate of unemployment has increased marginally in recent years.

Why do they stay unemployed recently? Several reasons may be raised. First, as Higuchi (1982) pointed out, there has been an increasing trend in the preference of working rather than not-working among women. Higuchi estimated several parameters of a utility function which consist of leisure and income, and obtained a strong preference of working by women. Married women to supplement incomes of a family since the growth rate of their husbands' income is low recently. Women tend to stay in the labour market in order to seek an alternative job even if the job prospect is not bright. Secondly, the effect of unemployment compensation must be considered. The Japanese unemployment compensation system had been fairly generous, since the financial condition has been healthy due to the lower rate of unemployment. As Tachibanaki (1984b) showed, a limited amount of prolongation of the duration of unemployment was observed due mainly to generous support by the unemployment compensation. This certainly encourages females to stay in the labour market for a while even if they are going to retire from the market later.

Another group can find employment not as full-time workers but as part-time workers unwillingly. An increase in part-time workers, in particular female part-timers, is a world-wide trend in many industrialized countries, as the OECD study (1983) shows. Japan is not an exception to this trend. A crucial result in Japan is that a large number of part-time workers are 'involuntary' rather than voluntary.

Wakisaka (1986) estimated the number of female involuntary part-time workers by examining various statistical sources. The definition of part-time working is given as either (1) the total annual working days are less than 200, or (2) the weekly working hours are less than 35; the definition of involuntary part-time workers is part-time workers who are seeking full-time jobs, additional hours, or alternative jobs. Table 3 presents such figures. The most important finding based on the two sources is that the growth rate of involuntary part-time workers is very high, although some differences in numbers are observed between the two sources. Currently, Japanese workers, in particular female workers, are obliged to work as part-time employees despite their desire to work on a full-time basis.

In summary, it is true that the effect of discouraged workers is still observed. The important difference, however, from the past experience, which pushed a large number of the work force out of the labour market, must be emphasized: a large number of involuntary part-time workers are being produced recently. Needless to say, those two effects have contributed to lower the rate of unemployment.

Is it possible to say that those two effects can be regarded as labour

Table 3

Estimated numbers of involuntary part-time workers (ten thousands).[a]

| | | | | | | |
|---|---|---|---|---|---|---|
| (1) *Employment Status Survey* (*Female only*) | | | | | | |
| Year | 1968 | 71 | 74 | 77 | 79 | 82 |
| | 16.1 | 20.3 | 22.1 | 33.5 | 42.4 | 67.0 |
| (2) *Labour Force Survey* (*Male and Female*) | | | | | | |
| Year | 1979 | 80 | 81 | 82 | 83 | 84 |
| Male | 16 | 17 | 20 | 20 | 22 | 18 |
| Female | 29 | 33 | 32 | 38 | 45 | 46 |

[a]*Employment Status Survey* (every three years normally) and *Labour Force Survey* (every year) are different in sampling method and especially in the definition of an involuntary part-time worker. *Employment Status Survey* defines it as a worker who has either less than two hundred working days per year, or less than thirty-five working hours per week on the average even if a person worked for more than two hundred days a year, and who wants to have an additional employment (or hours), or wants to change employers. *Labour Force Survey* defines it as a worker who has less than thirty-five working hours per week in a specific week (i.e., the last week of March), and who wants to have an additional employment (or hours), or wants to change employers. In other words, *Employment Status Survey* asks the usual status in a whole year, while *Labour Force Survey* asks the status of a specific week. In view of these definitions some differences appear between them with respect to the estimated figures.
*Source*: Wakisaka (1986).

market flexibility which is desirable? Some economists believe that those effects cannot be blamed for the following reasons. First, it it highly desirable and probably a top priority to have a lower rate of unemployment even if some other harmful effects are accompanied simultaneously. Secondly, those discouraged workers are normally secondary workers whose economic conditions are not severely penalized. The majority of discouraged people are married women who can be supported by their husbands. I personally do not share with those opinions. Thus, I do not evaluate the 'discouraged effect' positively as flexibility. The dispute, however, has not been settled yet.

## 5. Labour mobility

It is widely believed that the Japanese labour market stands out as providing the longest duration of tenure and less frequent job mobility among the OECD countries. Table 4 supports such a view. Japan has a longer job tenure by about three or five years compared with the other industrialized nations. As to labour turnover rates (including quits and

Table 4

Average current job tenures (years) and labour turnover rates (annual number of accessions (A) and separations (S) per 100 employees, and annual quits (Q) and layoffs (L) per 100 employees).[a]

| | Job tenures | | | | Labour turnover rates | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Year | All | Male | Female | Year | A | S | Q | L |
| Austria | | | | | (1982) | | | 27 | 13 |
| Canada | (1983) | 7.5 | 8.6 | 5.8 | | | | | |
| France | (1978) | 8.8 | 9.7 | 7.2 | (1981) | 16 | 17 | | |
| W. Germany | (1972) | 8.5 | 8.9 | 5.7 | (1982) | 25 | 25 | | |
| Italy | (1972) | 7.1 | 7.4 | 6.6 | (1981) | 9 | 15 | 11* | 3* |
| Japan | (1982) | 11.7 | 13.5 | 8.8 | (1983) | 20 | 20 | 10 | 2 |
| Sweden | | | | | (1982) | | | 15* | 5* |
| U.K. | (1979) | 8.6 | 9.6 | 6.4 | (1984) | 19 | 21 | | |
| U.S. | (1983) | 7.2 | 8.4 | 5.6 | (1981) | 39 | 41 | 24 | 17(6) |

[a]Accessions and separations include turnovers at establishment level.

Quits and layoffs with asterisks are manual workers only, and Italy, Sweden and the U.S. include mobility between establishments.

Quits and layoffs are for manufacturing industries.

The figure in parenthesis in the U.S. is layoff rate less the rate of recall of laid-off workers.

*Source*: OECD, *Employment Outlook 1984, and Technical Report MAS (85)25.*

layoffs), only the U.S. has a high degree of labour turnover. Europe and Japan have almost the same rate of labour turnover.

It is sometimes said that the duration of jobs is the longest in Japan because Japanese firms provide their employees with lifetime employent contracts. This is not true. First, there is no official commitment of lifetime employment by both an employer and its employees. Only an implicit understanding is operative between them. 'Desirable' is a proper word that describes how both employers and employees feel about lifetime employment. The effect of this implicit contract in terms of Baily (1974), Azariadis (1975) or Okun (1981), or the agency theory in terms of Lazear (1981) may have a great effect on the working of the labour market. It should be noted, however, that we observe a lot of discharges (or separations initiated by employers' even in Japan despite this implicit understanding. Secondly, the coverage of the lifetime employment as 'desirable' is rather limited; only about 30 percent of employees are covered by this understanding. Moreover, in fact, a much lower rate than 30 percent of workers commit themselves to lifetime employment according to the statistics. See Cole (1979) or Tachibanaki (1984a) about this. Incidentally, the bigger a firm is or the higher the educational and occupational attainment of the workers, the higher the probability of lifetime employment. Female workers have been virtually excluded from it. Thirdly, it should be emphasized that Japan is not unique in having longer duration jobs. Hall (1982) suggested that near lifetime jobs are common even in the U.S., after workers experience a high frequency of short spells of

employment during their younger ages. In sum, it is unreasonable to emphasize the importance of lifetime jobs in interpreting the working of the Japanese labour market.

The relationship between labour mobility (turnover) and unemployment is briefly mentioned. More than 90 percent of labour turnovers in Japan are held without having a status of unemployment, as Mizuno (1983) has stated. Most Japanese employees do not experience unemployment when they change employers. Although a smaller frequency of labour turnover makes the rate of unemployment lower in general, the net effect in Japan is very minor for the reason mentioned above.

How should we evaluate the high degree of labour turnover in the U.S.? Although there are several merits and demerits, I find that this is not a harmful phenomenon. For example, since more than 50 percent of workers who are laid-off are recalled and return to their original employers, temporary layoffs can be evaluated as buffers to cope with a fall in demand, and can be regarded as a risk-sharing device by both employers and employees. We showed that Japanese employers and employees used not only flexible working hours as a risk-sharing device but also other practices. If the system of unemployment compensation is prepared well, workers do not necessarily worry about their economic hardships during temporary layoffs. See Feldstein (1975, 1976, 1978), Baily (1977) and Lilien (1980). Of course, the adverse effect of the compensation system must be eliminated. As Medoff (1979) has shown, it is possible to conjecture that unions in the U.S. prefer temporary layoffs to more fluctuations in working hours and wage payments. When a rigorous principle, like the seniority rule, is agreed upon, the cost of the conflict due to temporary layoffs is minimized.

It must be noted, however, that the importance of short-spells of unemployment has been challenged by several studies. For example, Clark and Summers (1979) conclude that only a minor proportion of the aggregate unemployment rate is explained by short spells of unemployment in the U.S. Many countries in Europe also show that the proportion of the long-term unemployed has increased in recent years. Thus, even in the U.S. my positive evaluation of temporary layoffs may no longer be possible.

A troublesome aspect is voluntary quits and working at a different firm. The traditional job search theory suggests that a worker will move to another firm when he (or she) finds a job with a higher wage payment than his (or her) reservation wage. A large number of American studies such as Pencavel (1972), Stoikov and Raimon (1968), Bartel and Borjas (1981), Mincer and Javanovic (1981), and many job search studies suggest that the wage rate is one of the most important factors to explain quits, and that the wage gain from quitting is positive although the gain becomes smaller for older workers and frequent movers. Japanese studies suggest, however, that more than 50 percent of voluntary quits had to accept lower wage payments

than their current wages, and that the great majority of them do not receive higher wage payments than their 'reservation' wages, as shown by Tachibanaki (1984b) and (1986). Ono (1981) presented an econometric study, proposing a very minor effect of wages on voluntary quits. Japanese employees do not change their employers to gain a possible increase in wage earnings but for non-monetary incentives. In sum, there is an interesting contrast between the U.S. and Japan with respect to the motivations of voluntary separations. It is hard, however, to argue about which motivation is more flexible or rational with respect to the performance of the labour market.

The most serious demerit of voluntary quits is a loss of specific human capital, as Parsons (1972) pointed out. The quasi-rent shared by a firm, represented by the difference between the worker's marginal value product and the wage, must be lost by a quit. Although deferred payment such as a private pension scheme or seniority wage payment can be considered as a device to prevent such a loss, the loss may be bigger in the U.S. than in Japan in view of more frequent quits in the U.S. as shown by table 4. Probably, Japan shows the steepest age (seniority)-earning profile among the OECD countries. See fig. 3 the age-earning profiles in Japan, the U.K. and the U.S. Perhaps, Japan's having the steepest growth rate of the wage by seniority has contributed to preventing workers from voluntary separations, as several theories of incentives to work or not to shirk, or of a reduction in the uncertainty of future incomes of risk-averse workers proposed by Lazear (1981), Stiglitz and Weiss (1983), and Ioannides and Pissarides (1985) suggest. See Collier and Knight (1985) about a useful first step to initiate serious empirical investigations.

Finally, it is noted that some degree of mobility (or turnover) is desirable because it allocates the work-forces efficiently. In other words, human resources are allocated smoothly, if the labour market has an environment of flexible mobility. For example, one of the reasons for the big difference by regions in the rate of unemployment in the U.K. is regional immobility of workers. With respect to this, the American labour mobility, not only job mobility but also regional mobility, can be evaluated positively. Also, such an environment enables firms to adjust labour input easily, and thus contributes to a better functioning of the labour market. It is not an easy task, however, to define the optimal level of labour mobility.

## 6. Seriousness of Unemployment

There have been several attempts to estimate the degree of seriousness of the rate of unemployment in Japan. Some believe that the official rate of unemployment does not take account of the heterogeneity of the unemployed people, and that it does not indicate the seriousness of unemployment properly. The argument is that it is necessary to assign some weights when

the degree of seriousness is estimated. For example, a middle-aged married man with several children cannot be compared on a common basis with a young unmarried man who is living with his parents even if those two persons are unemployed. The literature on this is reviewed briefly.

There are two types of approaches for estimating the degree of seriousness of unemployment. The first is to examine a particular group of workers (or unemployed people) who are supposed to be much affected by unemployment. The second is to estimate the overall rate of unemployment by assigning various weights to particular groups.

The first type is discussed. First, married men with several children may be regarded as more serious compared with the other groups. Secondly, when we focus on the reasons for becoming unemployed, job losers (i.e., unemployment due to involuntary separation) may be more serious compared with the other motivations, for example voluntarily separated unemployed. Thirdly, if skilled workers (experienced workers) are unemployed, the loss of human resources at the national level may be greater in comparison to the case of less-skilled workers. Fourth, an unemployed person with a longer duration of unemployment may be suffering more compared with an unemployed with a shorter duration. The above examples suggest that a particular aspect such as (1) age, marriage or family status, (2) the reason for becoming unemployed, (3) skill, or (4) duration of unemployment may be applied to examine the seriousness of unemployment. Several economists have investigated this problem by picking up one or two of the aspects mentioned above.

Yashiro (1983) presented his view, by using the first aspect, that since the rate of unemployment by married adult male full-time workers (who may be called 'core workers') was very low even during the stagflation and did not fluctuate much, the seriousness of unemployment can be almost dismissed. He implicitly assumed that an increasing trend in the rate of unemployment of married women might not be serious since they are supported economically by their husbands, and that it would be sufficient if the policy authority paid attention to only the movement of unemployment by the 'core workers'. This opinion was criticized by the public, in particular several activists of women's movements. In view of the fact that Japan adopted an equal employment act between men and women quite recently, the majority of people would accept an equal weight of unemployment between men and women nowadays.

Koike (1984, 1986) made important contributions to the second and third aspects, both focusing on unemployment due to involuntary separations and skill differentials. He found two observations. First, there is a strong negative correlation between a change in the number of unemployed people due to involuntary separations and a change in the labour demand (the number of job vacancies). This is more obvious for males than females. In this regard, a change in the number of unemployed people due to involuntary separations

has a time lag of one quarter behind a change in business cycles. Secondly, the majority of involuntary separations (mainly discharges) are middle-aged or older workers in Japan, unlike in the U.K. and U.S. where the strict seniority rule (the less tenured, the more likely discharged or laid-off, or last-in first-out) is held. See Meadoff (1979), and Oswald (1982). The loss of per capita human resources is greater in Japan than the other nations at least with respect to involuntarily separated persons because workers with longer tenures have more skills in general. Thus, so long as a loss of human resources is concerned, the Japanese practice is less flexible than the British or American practice. The seniority rule prevents the loss of skills of workers accumulated at the firm, while the Japanese system encourages the loss of more skills. This does not necessarily imply that the actual aggregate loss of human resources in Japan is greater than in the U.K. or the U.S., since the actual rate of involuntary separations in Japan is lower.

Going back to the story of the seriousness of unemployment, the second type is reviewed. Several attempts have been made to estimate the real rate of unemployment by calculating the weighted average of unemployment by many groups. The second type includes all groups of workers, and calculates the weighted average. A controversy involved is how to choose the base of the weight. Several candidates are (1) income lost during unemployment, (2), working hours lost, (3) the duration of unemployment, (4) heads of households or not, (5) skill lost, etc. In other fields, several attempts which consider not only unemployment but also other aspects of the labour market such as a change in employment, separation and others have been made. Ohashi (1986), Tomita (1986), and Wakisaka (1986) contributed to this issue.

Two important observations were obtained by those studies. First, the seriousness of unemployment calculated by the weighted average of all unemployed people shows more fluctuations than the commonly used rate of unemployment in the time-series data. Secondly, several labour market indexes which are constructed by taking account of a large number of variables such as unemployment, employment, separation, vacancy and others present closer correspondences with the change in the GDP. We found before that no change in the rate of unemployment was observed despite a dramatic fluctuation in the GDP. Thus, it may be concluded that even the Japanese labour market would be sensitive to a change in the output, if the labour market condition was measured properly. In other words, the observed rate of unemployment is a poor indicator of the labour market condition at least in Japan.

## 7. Concluding remarks

This article examined various aspects of labour market flexibility in Japan, Europe and the U.S. with particular emphasis on Japan. Labour adjustment,

wages and labour demand, labour cost, labour supply, labour mobility, seriousness of unemployment and other aspects were examined, and then compared between Japan and the Euro-American countries. It was found that Japan has flexibility in some areas, while rigidity also is observed in other areas. In some cases, flexibility does not contribute to a better performance of the labour market. Also, some sacrifices or costs are paid occasionally in order to achieve flexibility in those areas. Thus, it is not possible to propose that labour market flexibility is always evaluated positively. We have to be careful about introducing labour market flexibility from one country to another country without examining the impact on the labour market and macroeconomy since it may hurt a better aspect in another country. Incidentally, I believe that the main reason for the better performance of the Japanese macroeconomy, if any, is due not to labour market flexibility but to elements other than the working of the labour market, although I have not argued this point at all. I do not deny, however, that labour market flexibility, especially flexible working hours due mainly to overtime hours and the other flexibilities, was effective in minimizing the fluctuation of the rate of unemployment.

Finally, it is noted that the rate of unemployment is a poor indicator of the labour market condition in Japan for the following reasons. First, the rate of unemployment is considerably underestimated because of the existence of discouraged workers. And secondly, a considerable degree of fluctuation is observed in response to a change in output when the index for the labour market condition is measured appropriately, unlike the rate of unemployment.

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## COMMENTS

## 'Labour Market Flexibility in Japan in Comparison with Europe and the U.S.' by T. Tachibanaki

Richard LAYARD

I am not an expert on Japan, so I will base my remarks on some of the stylised facts which emerge from this interesting and informative paper. There seem to me to be three major questions.

(1) Why does unemployment fluctuate so little in Japan?
(2) Why is unemployment so low in Japan?
(3) How serious is unemployment in Japan?

*Low fluctuations in unemployment*

In comparison with other countries, Japan seems to rank as follows, in terms of the variability of

| | |
|---|---|
| output | high |
| worker-hours | average |
| hours per worker | high |
| employment | low |
| unemployment | very low |
| real earnings | high |

These remarks relate to the standard deviation of the detrended logarithm of each variable, and are based on table 1, as well as Gordon (1982) and Wadhwani (1985).

The first finding, on output, is important because it casts doubt on Weitzman's thesis that it is profit-sharing which is stabilising employment. In a pure profit-sharing economy, output would be stable as well as employment [Wadhwani (1987)]. The reason why Japanese employment is stable is not that shocks have no effect on output. As Wadhwani shows, they do, as much as elsewhere. The difference is that in Japan the fluctuation in output is mainly absorbed by fluctuation in hours per worker. This must be due to implicit contracts, which are felt to be more important in Japan and are reflected in longer job durations. The less generous availability of social security may be another reason why lay-offs are avoided. So we get high fluctuation of hours per worker. When hours per worker vary there are high returns to scale (Feldstein, 1968), and this 'explains' how output can be so variable relative to worker-hours. Finally, unemployment varies less than employment due to the fact that the labour force is pro-cyclical, with discouraged secondary and temporary workers leaving in recessions.

As regards real earnings, these vary a lot; and this is the mechanism which helps to stabilise employment. After an adverse productivity shock (or an import price rise) employment has only to fall a little to generate a big fall in real wages. This is enough to restore employment. This process was outlined at an earlier ISOM meeting (Grubb, Jackman and Layard (1983) and has since been beautifully displayed in Newell and Symons (1985).

The author however questions the Phillips curve relation underlying this interpretation. He implies that, if unemployment varies little and real wages a lot, one is bound to get the impression that small changes in employment cause large changes in real wages, even if they do not. The argument is wrong. If the variance of unemployment is low, it is all the more impressive that one can detect its influence with a significant $t$-statistic in a Phillips curve. There is further evidence that we are measuring a genuine response of wages to the labour market. If in the Phillips curve the independent variable is log vacancies (rather than unemployment), its effect is twice as high in Japan as anywhere else and highly significant [Johnson and Layard (1986)].

Thus Japanese unemployment fluctuates little for three reasons: due to implicit contracts hours fluctuate a lot; the labour force moves with employment; and wages respond a lot.

## *Low level of unemployment*

The low *level* of Japanese unemployment is a different issue (except to the extent that the effect of shocks are perpetuated by hysteresis). What institutional features could explain the low Japanese NAIRU?

A starting point is the observation in the paper that employment is roughly

| | |
|---|---|
| permanent employees | 40 per cent |
| temporary employees | 30 per cent |
| self-employed | 30 per cent |

For temporary employees we have a labour market which roughly clears. So the problems which arise from institutional wage pressure are confined to 40 per cent of the market. In addition, lay-offs are not by inverse seniority, so that those who control the union are not themselves immune from the employment effects of the wage bargain. Moreover the percentage unionised in Japan is low by world standards. So we have an economy where institutional wage pressure is a less all-absorbing problem, with a big self-employed sector providing an alternative outlet for those who might be unemployed in a pure wage-system. In addition the self-employed sector is a source of additional labour and thus prevents overheating when the modern sector expands, just as in Europe in the 1950s and 1960s workers moved from agriculture to the towns and prevented overheating of the urban labour market.

Social security too may play a role. Benefits run out after a year for long-term workers and much quicker for those with shorter work histories. This helps to prevent the build-up of long-term unemployment. Finally, there has been, until recently, the high rate of productivity growth, which is a wonderful oiler of the wheels and mollifier of the struggle for income shares. It will be very interesting to see whether Japanese unemployment remain so low, as productivity growth abates.

*How serious is Japanese unemployment?*

The author speculates about how serious Japanese unemployment is. My own view is that relative to other countries it is no more serious than appears from the crude (and amazingly low) figures. The author suggests otherwise. He suggests that there are large numbers of discouraged workers, and others who are rationed to part-time rather than full-time work. Both these facts matter but they do not matter anything like as much as people who are actively looking for full-time work and have none.

To measure the cost of unemployment to an individual one should evaluate the welfare triangle that (s)he losses by not being able to work as many annual hours as (s)he would choose. The cost (relative to annual income) is approximately proportional to $d^2/\eta$, where $d$ is the fraction of desired hours for which unemployed and $\eta$ is the elasticity of supply of annual hours [Layard (1981)]. Since the amount of unemployment the individual experiences is measured by $d$, the average seriousness of each unit of unemployment is proportional to $d/\eta$. It is worse the lower the supply

elasticity and the longer the duration. Discouraged workers must have high supply elasticities, as have some married women seeking work. Most married men have low supply elasticities, which is why their unemployment is particularly inefficient. It is good that Japan has so little of it. It is also excellent that Japanese unemployment is so relatively short. Youth unemployment of 4.5 percent is not so good, since that has effects on the supply of skill and work attitudes. But Japanese economists need not lean over backwards to disparage their own garden. Everything there may not be perfect, but most of us would willingly change it for our own.

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# COMMENTS

## 'Labour Market Flexibility in Japan in Comparison with Europe and the U.S.' by T. Tachibanaki

Jacques MAIRESSE

Toshiaki Tachibanaki's survey paper is an effort to analyse the various dimensions of 'labour market flexibility' in Japan in a comparative perspective. It is particularly interesting and valuable since he has direct access to the recent booming literature by Japanese economists (in Japanese) on this topic. The issue of labour market flexibility, however, raises various definitional problems and there are many aspects to it. For a short survey the subject may be in fact too wide. Given this large scope of his topic, Tachibanaki has done a good job, and one, who is not an expert on either Japan or labour markets, learns a great deal from reading his paper.

I shall restrict my comments to giving a general feeling and underlying observations, and I shall end on a couple of more specific econometric considerations.

Like other Japanese economists, it seems that Tachibanaki is inclined to somehow minimize or downplay the differences between the Japanese economy and the European and U.S. economies. A priori I am sympathetic to his attitude, and I am quite willing to believe that a number of such differences are not well established or very important, and that they have been overstressed. However, in reading his paper, I have the strong feeling that even if the Japanese economy does not differ in many respects from the western economies more than they do between themselves, the society at large (i.e., the social environment, the behavioural rules and values) is indeed very different. To the extent that there is a definite westernization process of the cultural attitudes and beliefs of the Japanese people (as Tachibanaki suggests in some ways) there seems to be still a very long way to go.

At a general level, the issue of labour market flexibility can be viewed as one of a compromise (or a trade off) between social and economic targets (or social and economic constraints). Enforcing social guaranties and rights for the workers imposes restrictions and rigidities for the operation and management of the firms. Conversely trying to improve the flexibility and efficiency of the labour market, in order to accommodate economic pressures and to cope with economic crises, leads to the loosening or abandonment of social advantages. In this respect, one finds in Tachibanaki's paper an impressive list of more or less socially rooted differences between Japan and most European countries and between Japan and the U.S. Let us go over this list rapidly.

(*1*) The extreme flexibility of labour force participation or the existence of a large number of discouraged workers, mainly women. On this point, one may remember the startling figure given in the Hamada and Kurosaka paper presented in this conference three years ago.[1] In Japan between 1973 and 1975, after the first oil shock, the number of men and women who were discouraged and went out of the 'labour force' increased by 350,000 and 840,000 respectively, while the number of those who stayed as officially unemployed increased only by 220,000 and 100,000 respectively. The estimates cited in the present paper give a similar picture. While the official unemployment rate was 2.2 percent in Japan in 1978 as against 6.0 percent in the U.S., 8.9 percent of workers (among those out of the 'labour force') were discouraged in Japan as against 1.4 percent only in the U.S. If we assume that the proportion of discouraged workers was the same in Japan as in the U.S. (and if we take the average rate of labour force participation to be 0.65 in Japan[2]), the rate of unemployment would also be about the same

[1]Hamada and Kurosaka (1984). Reference given by Tachibanaki.
[2]OECD Economic Studies, 'Japan', 1986 (Table 25).

in the two countries. Even if the importance of discouraged workers has been declining recently in Japan, there is still a striking difference with the U.S. and I think with most European countries.

(*2*) The existence of an increasing number of involuntary part-time workers, mainly women. Apparently these are taking the place of discouraged workers in recent years.

(*3*) The relative importance of lay offs of middle aged or older workers, or their relegations to subsidiaries companies, in spite of (or in part because of) the Nenko seniority wage system, and in spite of the existence of lifetime employment implicit contracts for the more qualified fraction of the labor force in the large firms.

(*4*) The fact that half of the workers who are said to quit voluntarily their positions had to accept lower wages in their new jobs.

(*5*) The high level of total annual working hours in Japan relative to the western countries: 2,152 hours in 1983 as against 1,898 in the U.S. and 1,657 in France.

(*6*) The relative weakness of labour unions as compared to Europe.

(*7*) The low level of unemployment compensation.

(*8*) The general fact that employment protection laws are less stringent than in Europe.

(*9*) The fact that minimum wages vary widely by regions, and are not well enforced.

(*10*) The fact also that the 'Equal Employment and Treatment Act' is recent in Japan and has no penalty provisions.

(*11*) The low cost of the social security (health and pensions programs) for the Japanese firms, until now, as compared to their European counterparts.

One must admit that taken together this list of differences is impressive. Of course the problem for us is whether these differences matter much for the working of the economy as a whole, and to what extent they can explain the remarkable Japanese economic performances, specially in the last decade, in comparison to the other industrial countries? More specifically the question is how are these differences reflected in the main equations of our simple macro-models?

My econometric remarks concern precisely the specification of the wage and labour demand equations in such a model. I quite agree with Tachibanaki's criticism about the estimation of the 'Phillips curve' in Japan, and for the same reasons about that of the 'Okun's law'. Since the official rate of unemployment varies very little, due mainly to the existence of a pool of 'discouraged workers', one has to deal with a particular type of errors in variables problem. One way to go about it is to adopt an unofficial rate of unemployment, adding back the discouraged workers, or a fraction of them, to the officially unemployed workers. With such a correction, we can expect that the estimated elasticity of the wage relative to unemployment or that of

the output gap (Okun's coefficient) would go down for Japan and would fall closer in line with the orders of magnitude found for the other countries.

A similar problem arises with the estimation of the elasticity of labour relative to output, either in terms of the number of employees or in terms of total hours of work. Output fluctuations, even after detrending, are much larger in Japan than in the other countries (see Tachibanaki, table 1, panel B). A great part of these fluctuations, however, may be transitory, while in a proper specification of labour demand equations the permanent or expected changes of output should be the main determinants. If this specification problem is not taken into account, the labour elasticities will be underestimated. Besides the various explanations given by Tachibanaki, this may be one important reason why the adjustment of employment appears to be relatively slow and rigid in Japan.