HOURS, WAGE, AND EMPLOYMENT ADJUSTMENTS, AND RATE OF UNEMPLOYMENT IN JAPAN: A COMPARISON WITH WESTERN COUNTRIES*

Eizo Kawai

1. INTRODUCTION

In spite of the World oil shock in the 1970s, and the rapid increase of the exchange rate of the yen in the 1980s, the Japanese economy has been able to avoid both stagflation and any rapid increase in the rate of unemployment. Since the 1980s, the characteristics of the Japanese labor market, say stable employment and flexible wages, have been internationally recognized as the cause of such excellent performance of the Japanese economy.¹

In this paper, we identify the mechanism of hours, wage, and employment adjustments in the Japanese labor market in contradistinction to that in the western labor markets.² Based on that identification, we explain systematically and comprehensively the existing deliberations in the literature on both the adjustment mechanism in Japan and its effects on the Japanese economy, and unresolved problems, respectively. In addition, we point out some mistakes existing in previous analyses, and try to present suggestions to solve the unresolved problems³

2. THE MECHANISM OF HOURS, WAGE, AND EMPLOYMENT ADJUSTMENTS IN JAPAN, AND ITS EFFECTS

Gordon(1982) made a comparison between Japan and the U.S. of wage, employment, and hours adjustments in the business cycle. According to his comparison, hours per worker vary more in Japan than in the U.S., while employment varies more in the U.S. The widespread use of bonuses makes for greater wage variability in Japan as well. Rosen(1985) stated that it appears as if some consideration of differences in firm-specific human capital, labor mobility, and quasi-fixed factor ideas is required to fully account for these

---

* This paper was written at the end of academic year 1990-1991 in which I was at the University of Chicago as a visiting scholar. I would like to thank Professor Sherwin Rosen and Ryutsu Keizai University for having given me the opportunity of studying at the University of Chicago. I am also much indebted to Dr. Erwin Pollack and Professor Shoji Haruna for their careful reviews of my English.

1 See, for example, Sachs(1979), Branson and Rotenberg(1980), Gordon(1982), Grubb, Jackman, and Layard(1983), and Kähn(1984).
2 Western countries include the U.S., Canada, France, the U.K. and what was West Germany. However, the primary comparison in this paper focuses on the differences between the mechanisms of the Japanese and the U.S. labor markets.
3 Our earlier critical thought is discussed in Kawai(1990) concerning the Japanese adjustment mechanism in comparison with Western countries.
Fig. 1 International Comparison of Variations in Working Hours and Employment

The rate of change of working hours

Japan

The rate of change of employment index

Canada

U.S.

France

Former West Germany

U.K.

Source: OECD, Main Economic Indicators 1960-1975.
1 The graphs show the percent changes from the same quarter of previous year in manufacturing industries.
2 Reproduced from Ono(1981).
differences. It, however, seems that those differences depend on differences in the organizational and institutional factors between both countries rather than the factors indicated by Rosen.

In this section, we discern the Japanese adjustment mechanism in comparison with those of several Western countries in the case of a deep recession and a recovery, respectively. Based on this, we will critically describe the previous deliberations regarding the Japanese adjustment mechanism and its effects on the Japanese economy.

2. 1. The Adjustment Mechanism in Japan
   a. The Case in a Deep Recession

   We will be able to identify the mechanism of hours, wage, and employment adjustments in Japan in a recession in the following way:

   1st stage  Hours adjustment
   2nd stage  Wage adjustment
               риск sharing
               ↓
   3rd stage  Employment adjustment

Let us describe concretely each stage in the adjustment process.

In output adjustment corresponding to the short-run decrease in aggregate demand, the Japanese firm will first decrease the working hours per person. Figure 1 illustrates the international comparison regarding hours and employment variations respectively. As shown in the Figure, the hours adjustment in Japan is the most flexible (but the employment one is the most inflexible.)

About this cause, Ohashi(1990) indicates that the rates of wage premiums in Japan for excess working hours are lower than those in the U.S. and Europe.4 His rationale, however, is not well conceived because it depends on a negative effect of the rate of wage premiums on working hours. His comparative static result shows that the lower the rate of wage premiums is, the longer the working hours are — not that the lower the rate of wage premiums is, the larger hours variations are. It is our problem, left still unexplained, why hours adjustment in Japan is the largest of the countries.

After the process of hours adjustment, wage adjustment is relatively active in Japan in comparison with Western countries. Nominal wages in Japan are particularly the most flexible.5 There are two causative factors for this. The first factor is that it is not the custom for enterprise union workers with lifetime employment in Japan to expect wage increases irrespective of the achievements of their firm. Their behavior is qualitatively different from that of union workers in Western countries. As a result, nominal wages in Japan are not so downwardly rigid as those in Western countries.6 Indeed, it is well known that the wage determina-

4 The rates of wage premiums in Japan are stipulated at least twenty-five percent by law. Those in the U.S. are stipulated at least fifty percent, and in Europe those hover between Japan and the U.S.
5 Refer to the literature in footnote 1.
tion in Japan is influenced by both the firm's profit and the economic situation, while that in Western countries is unresponsive to the firm's achievement and the condition of supply and demand in the labor market. The second factor is the shorter duration of labor contracts and the closer point of time of wage revision. The shorter the contract duration is, the more rapid the wage and employment adjustments are, better meeting changing economic conditions. Although the usual duration of a labor contract in the U.S. is two or three years, that in Japan is almost always only one year. Furthermore, the closer the point of time of wage revision is among firms or industries, the more rapid the wage adjustment becomes. The point of time of wage negotiations in the U.S. is different among industries, while that in Japan is very close to the spring of every year.

Adjusting the wage to the firm's achievement means that the profit risk is shared between the firm and the workers; in other words, profit is shared. The workers obtain their employment security in exchange for accepting a wage cut, and the firm realizes the cost reduction due to the wage cut in exchange for giving employment security.

The final measures call for employment adjustment. In a severe recession, the Japanese firm first adjusts hours sufficiently, and then bonuses and the rate of wage increase. As shown in Figure 1, therefore, the employment adjustment in Japan is the smallest in comparison with Western countries.

On the other hand, we can identify the adjustment mechanism in Western countries in the case of a recession in the following manner:

1st stage  Hours adjustment
2nd stage  Employment adjustment

In several Western countries, the hours adjustment is smaller than in Japan, and the wage is downwardly rigid. The employment adjustment, therefore, will take place earlier and be easier than in Japan.

b. The Case in a Recovery

We will be able to discern the adjustment mechanism in Japan in the case of a recovery as follows:

1st stage  Hours adjustment
2nd stage  Wage and Employment adjustments

During the period of recovery, the characteristics of the hours and employment adjustments in Japan are respectively the same as those in the case of a deep recession. In a recovery the Western countries' adjustment mechanisms are similar to the Japanese one.

2. 2. Its Effects

Let us explain two main desirable effects of the adjustment mechanism of the Japanese economy in-contradistinction to Western countries.

a. The Excellent Performance of the Japanese Economy to a Shock

Nakatani(1987) described the effect of the differences in the adjustment mechanism between Japan and Western countries on the performance of the macro economy based on the example of the World oil shock. Just after the rapid increase of oil prices, many developed countries adopted tight monetary policies to prevent inflation in their countries. The wages in Western countries, however, were unresponsive to the severe recession, and they raised many product prices. As a result, cost-push inflation took place in Western countries.

---

On the other hand, a decrease in aggregate demand caused by the tight policy rapidly increased the rate of unemployment. In Japan, the hours adjustment, and the wage one predicated upon risk sharing were adopted parallel with the great decrease in aggregate demand. Consequently, the Japanese economy could avoid not only cost-push inflation but also the rapid increase of the rate of unemployment. Thus, from the 1970s to the beginnings of the 1980s western counties uniformly suffered stagflation; however, Japan was able to avoid it. This is because there was the organizational and institutional factor of risk sharing, which makes the wage flexible. In addition, greater flexibility of hours adjustment existed.

b. The Low and Stable Rate of Unemployment

One more desirable effect of the Japanese adjustment mechanism is that the rate of unemployment is low and stable in comparison with western countries (See Figure 2.) The lower rate of unemployment in Japan is suggested from the Keynesian standard macro model in view of greater wage variability than in Western countries. The stability is apparent from the Japanese adjustment mechanism which we identified in Section 2.1. The behavior of Japanese women's job search makes for stability as well. This is because in the severe recession after the first oil shock, unemployed women were more likely to withdraw from the labor market without searching for their jobs than were unemployed women in the U.S.\(^8\)

**Figure 2** International Comparison of Unemployment Rate


Ohashi, Arai, Chuma, and Nishijima (1989) insist the nominal wage flexibility in Japan and the above-

mentioned discouraged worker effect as the most persuasive hypotheses for the low and stable rate of unemployment in Japan, respectively. The former hypothesis, however, explains only the low level of the rate of unemployment — not necessarily the stability of unemployment. On the other hand, the latter hypothesis explains only the stability of the rate of unemployment — not the low level of the rate of unemployment.

3. A PRELIMINARY CONSIDERATION OF THE PROBLEMS TO SOLVE

In the final section, we summarize three main problems on hours, wage, and employment adjustments and the rate of unemployment; and we try to present suggestions to explicate them theoretically and simultaneously. Furthermore, we refer to specific invalidity in the existing analysis.

3. 1. Why is the Hours Adjustment the Largest, and the Employment Adjustment the Smallest in Japan?

As for this problem, if the former characteristics could be explicado, the latter one would be obvious from the Japanese adjustment mechanism identified in Section 2. 1. However, it is more desirable to explicado simultaneously both the characteristics based on the model for solving the third problem.

Ohashi(1990) showed that the lower rates of wage premiums in Japan for excess working hours result in the largest hours adjustment, and mentioned that the largest hours adjustment seems to be the cause of the smallest employment one in Japan. As indicated in Section 2. 1. a, his conclusion is, nevertheless, not justified since it only implies that the lower rate of wage premiums results in longer working hours.

3. 2. Why is the Rate of Unemployment in Japan Low and Stable?

We have already explained the cause of this problem. The former characteristic is inferred from the Keynesian standard macro model in view of more nominal wage flexibility in Japan. The latter one is obvious from the Japanese adjustment mechanism depicted in Section 2. 1. The problem in itself, therefore, may be resolved. However, taking the third problem into consideration, it would be more desirable if we could explicado the second problem as a result of solving the third one.

3. 3. How Can We Explicate the Theoretical Mechanism of the Hours, Wage, and Employment Adjustments in Japan in Contradistinction to those of Western Countries?

This problem is of great interest. Although the problem is considered by Ohashi(1990), we are reluctant to accept his consideration as one of hours, wage, and employment adjustments in the business cycle. The crucial reason is due to the following contradictions in his dynamic analysis. When hours, wage, and new hiring are all at a very low level, we always judge the situation to be a very severe recession. In his model, then, the number of employees must be at a very high level, so that the labor market is tight. In addition, when hours, wage, and new hiring are all increasing to the respective levels of long-run equilibrium, he considers the situation to be a recovery. In the recovery, however, the number of employees is inversely decreasing to the level of long-run equilibrium. The opposite case is also true. These contradictions seem to stem from the fact that Ohashi intends to analyze the problem, but, in fact, analyzes a different problem. The former is our problem on hours, wage, and employment adjustments in the business cycle, while the latter is the problem regarding long-run equilibrium, and short-run hours, wage, and employment adjustments.
Based on the quasi-fixity of the number of employees and the variability of working hours, Kawai (1991) considered the factor inputs of the firm under uncertainty. Thus, let us suggest the possibility of a consideration with regard to the adjustment mechanisms in both Japan and western countries by revising our model. The revisions to the model are basically limited to:

a. It will be assumed that the wage is institutionally determined through negotiations between the firm and the labor union.

b. We will incorporate into the model the ex post adjustability of the number of employees corresponding to the ex post change of the economic situation.

c. We will deal with the wage adjustment as the change of the wage, which is a parameter.9

By revising the assumption on the wage, we will be able to change the model of the firm in the product market to the labor market one in itself. In the future, we will write a paper which explains the three main problems in this section along the above-mentioned revisions.

REFERENCES


---

9 See, for example, Lindbeck and Snower(1987) for a similar analytical technique.