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Temporary Employment in Japan: A Cross-national Perspective

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1. Introduction

The average rate of youth temporary employments aged 15-24 years (fixed term employment)[1] across all OECD countries was 17.6% in 1982, 20.2% in 1992, 23.5% in 2002, and 24.7% in 2012. In Japan, the rate of youth temporary employment was 9.3% in 1982, 13.7% in 1992, 26.8% in 2002, and 26.9% in 2012. Generally speaking, temporary workers are the first to be dismissed during a recession because employment protection legislation for temporary employment is weaker than that for regular employment. In Japan, employment insurance finally covered most temporary workers from 2010. After the economic downturn precipitated by the Lehman Brothers bankruptcy in 2008, many dispatched workers whose employment contracts were terminated also lost their homes. This revealed some problems, namely, that the earnings of dispatched workers were too low and these workers were not covered by social security at the termination of their employment contracts.

To shed light on these problems, we first estimate the rate of temporary workers of OECD countries from 2000 to 2011. The percentage of youth in regular employment has been decreasing because employment protection legislation covers regular but not temporary employment (OECD, 2004). Next, we examine and demonstrate how gross domestic product (GDP), the minimum wage of regular employment, and employment protection legislation influence the rate of temporary workers.

The rest of the paper is structured as follows. Section 2 presents a simple survey of previous approaches. Section 3 examines factors that increase numbers of temporary workers. Section 4 estimates the rate of temporary workers using panel data analysis. Section 5 examines the relationship between temporary employment and the adjustment speed of employment. Section 6 compares temporary employment in Europe with Japan. Section 7 discusses the problem of employment protection of Japan and concludes.

2. Previous Approaches

There are well-known substitution effects in different age groups in Japan in which youth employment and wages are affected by the employment and wages of other age groups. Japan entered a recession in the 1990s and the protection of older regular employees restrained youth employment. Such substitution effects often occur in countries in which there is strong employment protection for regular employment and there are difficulties in adjusting employment to business fluctuations. Piore (1970), Doeringer and Piore (1971), Umemura (1971), and Nakamura (1975) analyze employment adjustment by temporary workers. They explain that the youth temporary employment rate increased because employment protection for regular employment was strong and temporary workers became a buffer for business fluctuations. Abe (2005), Mitani (2007), Hara (2010), and Noda (2010) analyze the labor demand of temporary workers.

Abe (2005) analyzes female temporary workers and proves that digitization by information and communications technology causes female regular employment to decrease and female temporary employment to increase.

Mitani (2007) develops a panel data analysis using OECD data and proves that the rate of youth tem-

porary employment is high in the country where it is difficult for the relative wages of regularly employed youths to decline. He explains that downward rigidity of regular employment wages increased the rate of youth temporary employment in the 1990s.

Hara (2010) applies the analysis of Sasaki and Sakura (2004) that technological progress biased toward skills and globalization causes a shift in male regular workers toward higher educated employment. Hara (2010) proves that factors increasing temporary employment are recession, globalization, and technological innovation and that technological progress needs to be supported by differential factor prices.

Noda (2010) use questionnaire data for small and medium enterprises to prove that labor unions restrain the dismissal of regular workers and increase temporary employment.

We use panel data analysis to prove factors that increase temporary employment in order to characterize Japanese temporary employment.

3. Increasing Temporary Employment Rate in OECD Countries

The average rate of youth temporary employment across OECD countries was 25.25% in 2011, comprising 61.41% in Spain, 47.75% in the Netherlands, 26.42% in Japan, and 13.49% in the UK. The rate of temporary employment in the UK is low because of high mobilization of employment. The reason why the rate of the Netherlands is high is related to the 1982 Wassenaar Agreement. The Dutch economy was in recession in the early 1980s, the unemployment rate was high, and there was large deficit financing. Employer organizations, labor unions, and the government reached the so-called Wassenaar Agreement, which stipulated that labor unions accept wage restraints, the government reduce deficit financing, and employer organizations reduce working hours and increase employment. This agreement led to a recovery of the Dutch economy.[2)] In Japan, the rate of temporary employment has been increasing since 1986 when the Law for Securing the Proper Operation of Worker Dispatching Undertakings and Improved Working Condition for Dispatched Workers (Worker Dispatching Law) was enacted.

The average rate of youth temporary employment across OECD countries was twice that of total temporary workers in 2011. The rate of youth temporary employment was higher than that of total temporary workers in each OECD country.[3)] As the OECD Employment Outlook (2004) clarifies, the percentage of youth in regular employment is decreasing because employment protection legislation covers regular but not temporary employment. Figure 1 shows the relationship between employment protection for regular employment and the rate of youth temporary employment. The figure shows that the stronger the employment protection for regular employment is, the higher the rate of youth temporary employment is.

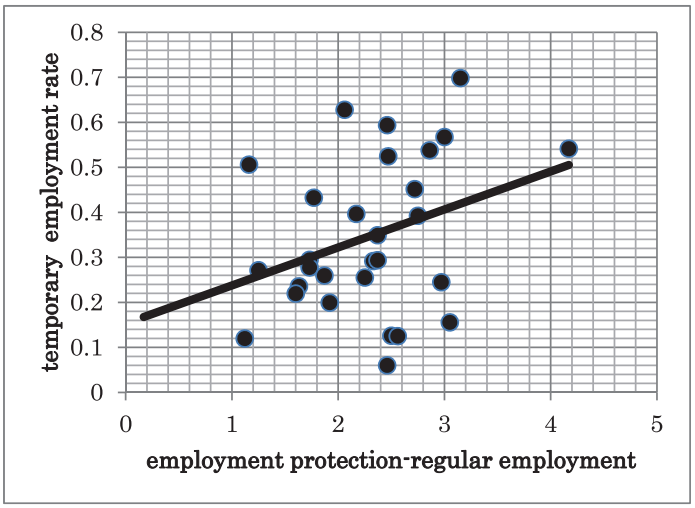


Figure 1

If youth temporary employment acts as a buffer for business fluctuations, then good business increases the youth temporary employment rate and there is correlation between the youth temporary employment rate and GDP.

If there is a wage gap between regular and temporary workers, then an increase in temporary employment decreases labor costs. Therefore, the minimum wage for regular and temporary workers and labor costs affect the youth temporary employment rate.

4. Panel Data Analysis

4.1. Regression Model

As mentioned in Section 3, the reason the youth temporary employment rate has been increasing is that employment protection legislation for regular employment has been retained but temporary employment has been deregulated. The OECD indicators of employment protection are synthetic indicators of the strictness of regulation on dismissals and the use of temporary contracts[4]. Other factors affecting the youth temporary employment rate are business fluctuations, the minimum wage for regular employment (The OECD indicators of employment protection does not include the minimum wage for regular employment), and labor costs. We estimate the youth temporary employment rate for 21 OECD countries for the years 2000-2011. OECD statistics[5] provide annual data on GDP, the youth temporary employment rate, minimum wages for regular employment, the strength of employment protection for regular and temporary employment, and labor costs. The total regression model is

$$\log TEMPORARY = \alpha_0 + \alpha_1 \log GDP + \alpha_2 \log wages + \alpha_3 \log RPROTECT + \alpha_4 \log TPROTECT + \alpha_4 \log COMPENSATION + e_i \quad (1)$$

TEMPORARY is the temporary employment rate for the 15-24 year age group,[6] *GDP* is GDP per head in constant US dollar prices (reference year 2005), *wages* represents minimum wages relative to the average of full-time workers, *RPROTECT* is the strength of employment protection for regular employment, *TPROTECT* is the strength of employment protection for temporary employment. *COMPENSATION* represents labor costs, including wages, salaries, and employers' social contributions in constant US dollar prices (reference year 2005).

If GDP increases, then employment increases and temporary employment is expected to increase ($\alpha_1 > 0$). If the minimum wage for regular employment increases, the cost of regular employment increases and the relative cost of temporary employment is expected to decrease ($\alpha_2 > 0$). If employment protection for regular employment becomes stronger, the temporary employment rate is expected to increase in order to adjust employment for business fluctuations ($\alpha_3 > 0$). On the contrary, if employment protection for temporary employment becomes stronger, temporary employment is unable to adjust employment and is expected to decrease ($\alpha_4 < 0$). Labor cost is the total cost incurred by employers maintaining their regular and temporary employees, including wages and salaries, employment insurance, health insurance, and vocational training costs. The labor cost increases as the mean factor cost increases ($\alpha_5 < 0$).

4.2. Empirical Results

The null hypothesis is not rejected under the Hausman test statistic and the random effect model is accepted because the p-value from chi-square statistics is 6.44. The null hypothesis is rejected under the Breusch and Pagan Lagrange multiplier test statistic, and the random effect model is accepted because the p-value from chi-square statistics is 193.48. Then, regarding the coefficient of determination, R^2, within R^2 is 0.2041, between R^2 is 0.8727, and overall R^2 is 0.8338. All estimates other than minimum wages for regular employment are statistically significant at the 5% level, all estimated coefficients other than labor compensation are positive, and the stronger the employment protection for the regular employment is, the

higher the temporary employment rate is.

$$\log TEMPORARY = 6.048626 + \underset{(11.75)}{1.19937^{*}}\log GDP + \underset{(0.42)}{0.0974908}\log wages + \underset{(1.94)}{0.2858246^{*}}\log RPROPTECT + \underset{(3.03)}{0.1317495^{*}}\log TPROTECT - \underset{(-6.74)}{1.692356^{*}}\log COMPENSATION$$

R^2=0.8338

The value given in parenthesis is the z-value and the superscript star means the result is statistically significant at the 5% level.

Next, we estimate the regression model without minimum wages for regular employment. The null hypothesis is not rejected under the Hausman test statistic and the random effect model is accepted because the p-value from chi-square statistics is 6.96. The null hypothesis is rejected under the Breusch and Pagan Lagrange multiplier test statistic and the random effect model is accepted because the p-value from chi-square statistics is 285.93. Then, within R^2 is 0.1932, between R^2 is 0.8548, and overall R^2 is 0.8205. All estimates are statistically significant at the 5% level. All estimated coefficient other than labor compensation are positive.

$$\log TEMPORARY = 3.547115 + \underset{(13.61)}{1.138207^{*}}\log GDP + \underset{(2.53)}{0.2580117^{*}}\log RPROTECT + \underset{(2.59)}{0.0988144^{*}}\log TPROTECT - \underset{(-8.97)}{1.33158^{*}}\log COMPENSATION$$

R^2=0.8205

The value given in parenthesis is the z-value and the superscript star means the result is statistically significant at the 5% level.

$\alpha_1>0$ indicates that an increase of GDP increases the temporary employment rate. This means that the temporary employment rate become low in a recession and temporary workers are used for employment adjustment. The estimates of employment protection for regular and temporary employment are positive and strengthening of employment protection for temporary employment does not decrease the youth temporary employment rate. However, in 1997 in Spain, the temporary employment rate declined sharply and youth unemployment rate increased when employment protection legislation for regular employment was retained and legislation for temporary employment was strengthened[7]. Thus, there is a need to modify employment protection carefully. The result that the estimates of labor costs are negative means that an increase of labor costs prompts the dismissal of temporary workers. That is, when wages or employers' social contributions increase, temporary workers are dismissed for the purpose of decreasing costs. This is because in the European Union (EU), legislation requires equal pay for work of equal value, the wage gap between regular and temporary workers is small, and employment of part-time workers does not reduce labor costs.

5. Temporary Employment and the Adjustment Speed of Employment

This section presents the relationship between temporary employment and the adjustment speed of employment. Temporary employment has a buffer function for business fluctuations and we expect there to be positive correlation between the temporary employment rate and adjustment speed of employment. The

regression model for the adjustment speed of employment is

$$\ln N_t = C + \varepsilon \ln Y_t + \beta \ln(W_t / P) + \gamma \ln N_{t-1} \qquad (2)$$

where N_t is the number of workers, Y_t is real *GDP*, and W / P is real wages.

We denote the adjustment speed of employment by $1-\gamma$; the closer $1-\gamma$ approaches one, the faster the adjustment speed of employment is.

Figure 2 shows the relationship between temporary employment and the adjustment speed of employment. It shows that the variance between the temporary employment rate and adjustment speed of employment is large.

Figure 3 shows the relationships between the rate of part-time workers and adjustment speed of employment in OECD countries. As the proportion of part-time workers becomes high, the adjustment speed of employment becomes high. The figure shows that the dismissal of part-time workers is effective for the purpose of adjusting employment. Therefore, the high rate of youth temporary employment in OECD countries is related to employment protection for regular employment. As the economy develops and employees' jobs are guaranteed, temporary workers are dismissed for the purpose of adjusting employment.

EU countries are in the same stage of economic development as Japan and guarantee employees' jobs.

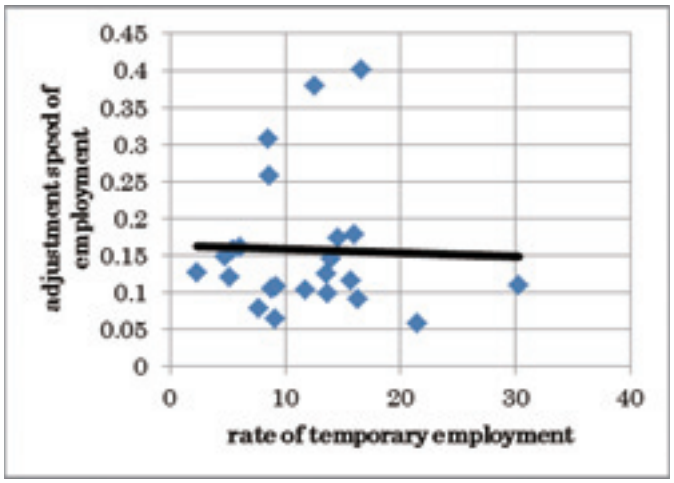


Figure 2

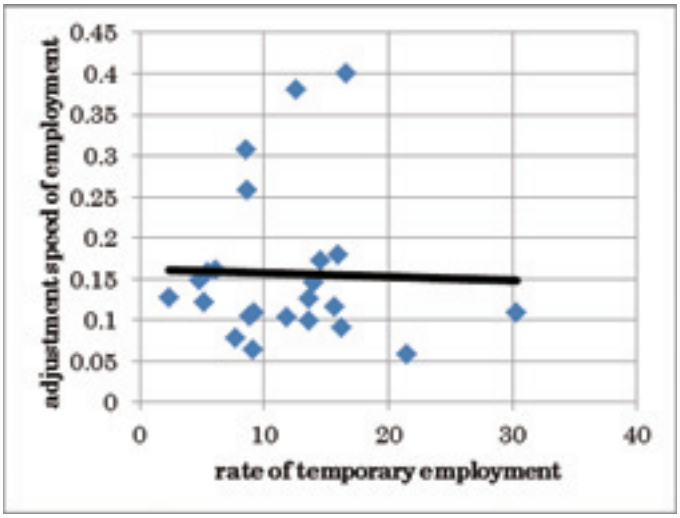


Figure 3

In the next section, we compare temporary employment in the EU with that in Japan.

6. Comparison between EU and Japanese Temporary Employment

EU countries faced high rates of unemployment and deficit financing in the 1980s. Various employment policies were implemented, for example, work-sharing by reducing working hours (France and Germany); equal pay for work of equal value (the Netherlands); dual systems[8] (Germany, Austria, Denmark, and Switzerland); and a New Deal policy (the UK). In the same timeframe in Japan, high levels of government expenditure created many jobs in a period of rapid economic growth and a lifetime employment system was established in order to secure personnel resources over a long period. Consequently, Japan did not have labor market programs (LMPs). Since the asset bubble burst of the early 1990s, Japan's financial institutions have held enormous bad loans, and its economy has been in a long-term recession. Corporations dismissed numerous employees in order to avoid bankruptcy. Since the Worker Dispatching Law was enacted in 1986, part of labor demand has been substituted[9] with temporary employment. Temporary employment facilitates employment adjustment and promotes low wage costs because the Worker Dispatching Law does not prohibit very low wages of temporary workers or very long working hours, while the period of worker dispatching was deregulated in 2014 to enable indefinite dispatching. In this section, we compare temporary employment in the EU with that in Japan using data of Eurostat[10] and the Japan Institute for Labor Policy and Training.[11]

6.1 Number of Regular and Temporarily Employed Workers by Age

Figure 4 shows the number of male regular and temporary workers by age group in Japan, while Figure 5 shows that of female workers in Japan. Figure 6 shows the number of male regular and temporary workers by age group in EU countries, while Figure 7 shows that of female workers in EU countries. The number of regular workers in both EU countries and Japan shows a gradual increase with age, peaks, and then gradually decreases. The number of male temporary workers in EU countries and Japan is equal across individual age groups.

Figure 4

Figure 5

On the contrary, in the case of female workers, the EU differs from Japan. The number of female regular and temporary workers in EU countries increases gradually with age, peaks, and then decreases gradually. The 40-54 year age group comprises the largest number of female workers in EU countries.

In the case of Japan, the number of female regular workers increases gradually with age, peaks, and

then decreases gradually, and the 25-29 year age group comprises the largest number of female regular workers.

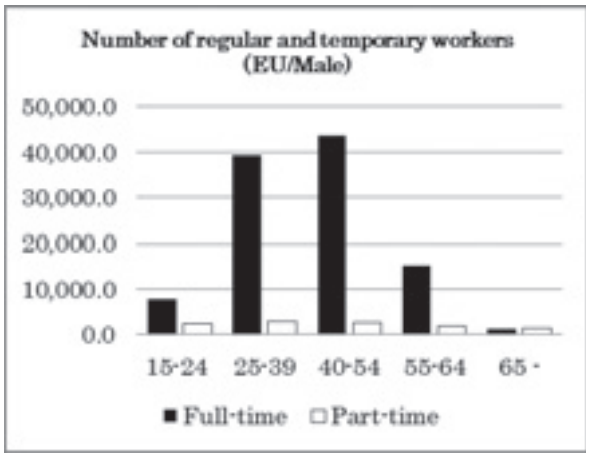


Figure 6

Figure 7

The reason the peak occurs in the 25-29 year age group is that many female regular workers exit the labor market in order to have and raise children. The number of female temporary workers is equal across individual age groups. These figures show that it is difficult for Japanese female workers who exited the labor market to have children to return to the labor market. The reason is that there are few nursery schools in Japan and women with children find it difficult to work and raise children.

Table 1 shows that the average rate of female part-time workers across 15 EU countries is 37.6% while it is 67.5% in Japan. The proportion of female part-time workers in Japan is as high as the Netherlands. However, the wages of Japanese part-time workers are much lower than those in the Netherlands. The wages of regular and temporary workers by age group are presented in Subsection 6.3.

Table 1. Share of women in part-time workers in 15 EU countries

	EU (15 countries)	Belgium	Denmark	Germany	Ireland	Greece
Share of women in part-time workers	37.6	43.5	35.8	45.0	34.9	11.8
	Spain	Austria	Portugal	Netherlands	Finland	Sweden
Share of women in part-time workers	24.4	44.4	14.1	76.9	19.4	38.6
	UK	France	Italy	Luxembourg		
Share of women in part-time workers	42.3	30.0	31.0	36.1		

6.2 Number of Regular and Temporary Workers by Economic Activity

Figure 8 shows the number of regular and temporary workers by economic activity in Japan and Figure 9 shows the number of workers whose employment is of indefinite duration and those employed on a fixed-term basis by economic activity in EU countries. In the case of both EU countries and Japan, the manufacturing sector employs the most regular workers (workers whose employment is of indefinite duration), followed by wholesale and retail trade, human health and social welfare, transportation and storage, and construction. In addition, there are large numbers of regular workers in EU countries in education, public administration, and accommodation and food services, but there are relatively few regular workers in these industries in Japan. In the case of temporary employment in Japan, the manufacturing sector employs

the largest number of workers, followed by wholesale and retail trade and health and social welfare. In EU countries, there are few fixed-term employment workers in manufacturing while the French government prohibits the dispatch of workers to dangerous jobs. This proves that EU countries consider the safety of workers differently from Japan.[12)]

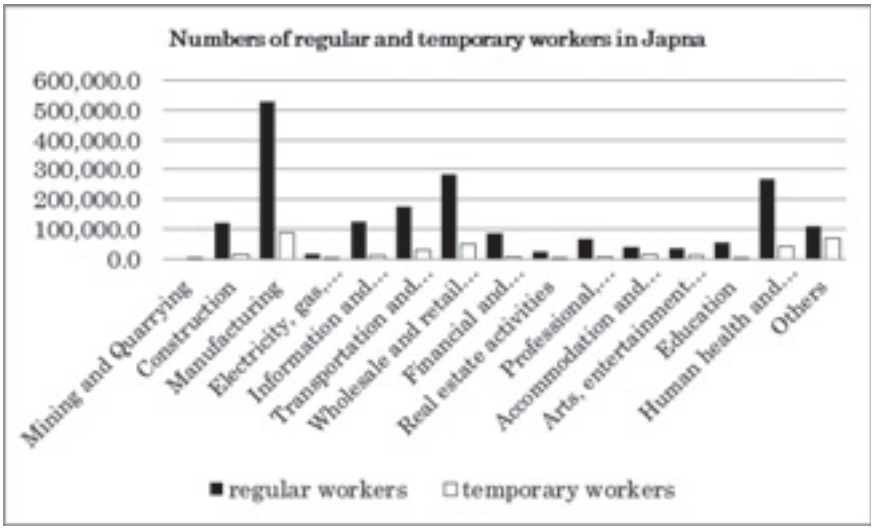


Figure 8

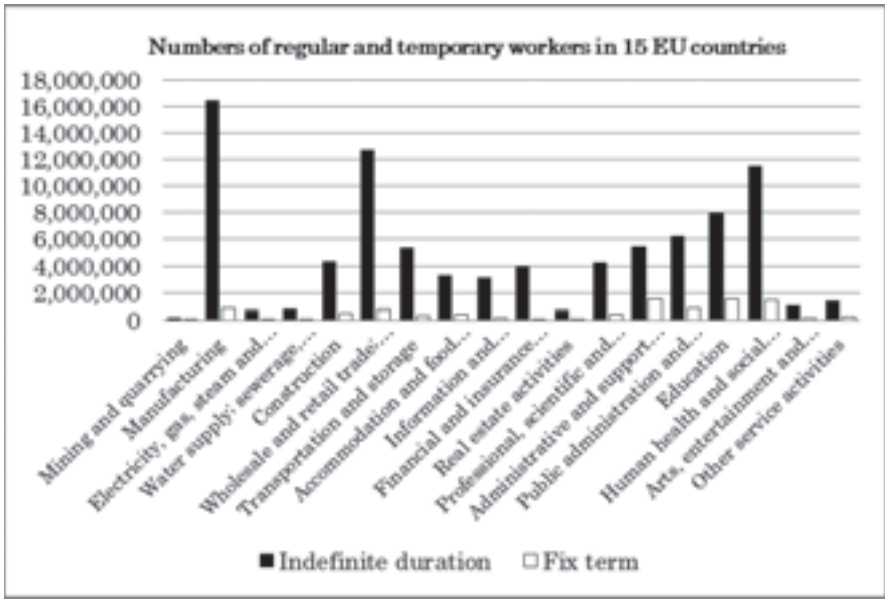


Figure 9

6.3 Wages of Regular and Temporary Workers by Age

Figure 10 shows the wages of male regular and temporary workers by age in Japan; the wages are indexed using the wages of regular workers aged 20-24 years as 100. Figure 11 shows the wages of female workers by age in Japan (male=204,100 yen, female=196,000 yen).[13)] Male regular workers aged 50-54 years earn the highest of all regular workers: their wages are twice those of regular workers aged 20-24 years. The wages of male temporary workers aged 20-24 years are lower than those of male regular workers and increase gradually such that the wages of male temporary workers aged 30-34 years are a little higher than those of male regular workers aged 20-24 years. After the age of 30-34 years, the wages of male temporary workers change only a little. Female regular workers aged 50-54 years earn the highest of

all female regular workers: their wages are up to one and a half times higher than those of regular workers aged 20-24 years. The growth rate of the wages of female regular workers is lower than that of male regular workers. The wages of female temporary workers aged 20-24 years are lower than those of female regular workers and increase gradually. Female temporary workers aged 30-34 years earn the highest of all age groups in female temporary employment, although the highest wages are lower than those of female regular workers aged 20-24 years. In other words, in Japan, the wages of male and female temporary workers increase only a little with age.

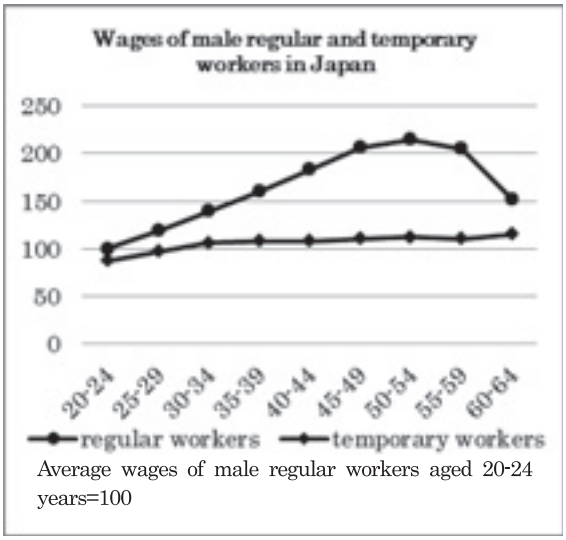


Figure 10

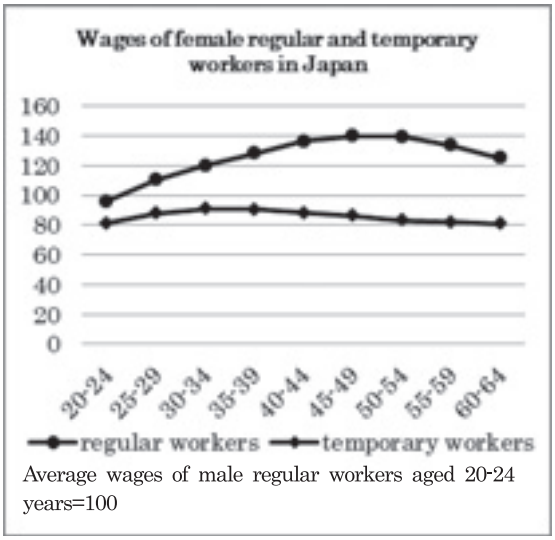
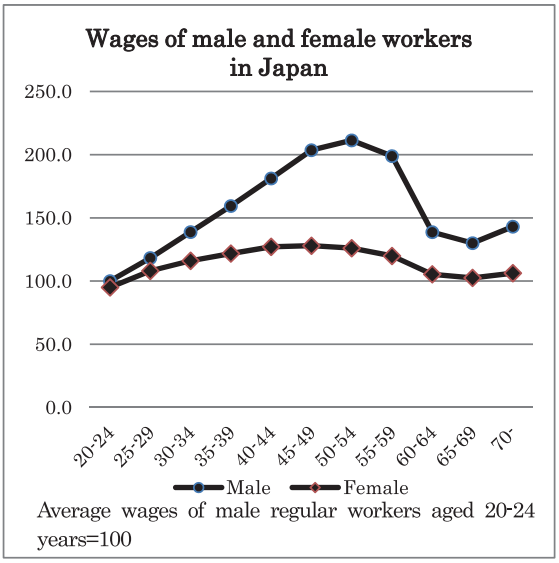


Figure 11

Figure 12 shows average wages of regular and temporary workers by sex and age group in Japan; the wages are expressed as relative values, assuming that the average wages of male regular and temporary workers aged 20-24 years (200,500 yen) can be defined as 100. The wages of male workers increase gradually, reaching a peak at 50-54 years, decreasing gradually thereafter, and increasing a little over the age of 70 years. The wages of female workers increase smoothly, reaching a peak at 45-49 years, decreasing smoothly thereafter, and becoming equal to the wages of female workers aged 25-29 years. The peak wages of female workers are about 1.3 times more than the wages of male regular workers aged 20-24 years.

Figure 13 shows average wages of regular and temporary workers by sex and age group in EU countries; the wages are expressed as relative values, assuming that the average wages of male regular and temporary workers aged less than 30 years (11.41 euros) can be defined as 100.[14] Both male and female workers over the age of 30 years earn more than average wages of male regular and temporary workers aged less than 30 years. In 15 EU countries, wages of both males and females increase with age and reach a peak over the age of 60 years. The growth rate of wages is smooth: the average wages of male workers over 60 years of age is about 1.8 times that of male regular workers aged less than 30 years, and the average wages of female workers over 60 years of age is about 1.4 times average wages of male workers aged less than 30 years. At the peak of wages, the wage gap between males and females in 15 EU countries is smaller than that in Japan.

Table 2 shows hourly earnings by employment contract in 15 EU countries in 2011. The average proportion of part-time workers' wages to full-time workers' wages across 15 EU countries is 81.7%; the proportion is 30.7% in the US and 55.9% in Japan.[15] The earnings gap in Japan is larger than that of the 15 EU countries and smaller than that of the US.



Figures 12

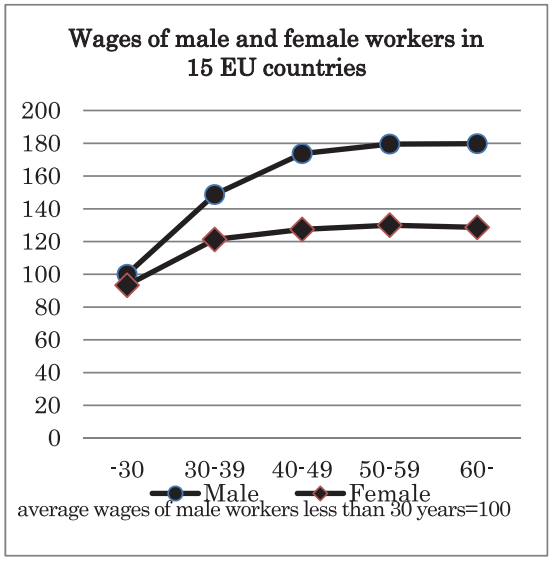


Figure 13

Table 2. Hourly earnings of regular and temporary workers in 15 EU countries

WORKTIME	15 EU countries	Belgium	Denmark	Germany	Ireland	Spain
Part-time	13.78	16	22.33	14.37	16.56	10.14
Full-time	16.87	19.82	27.54	18.11	23.33	11.81
WORKTIME	France	Italy	Luxembourg	Netherlands	Austria	Portugal
Part-time	14.81	10.69	22.04	15.26	12.43	7.04
Full-time	16.63	15.09	21.94	19.37	15.58	7.76
WORKTIME	Finland	Sweden	UK	Norway		
Part-time	15.76	14.48	13.28	23.16		
Full-time	18.47	17.42	18.02	29.33		

6.4 Comparison of Wages by Economic Activity and Employment Contract

Figure 14 shows wages of regular and temporary workers by economic activity in Japan. The industries in which wages of regular workers are relatively high are electricity; gas and steam; air conditioning; water supply; information and communication; financial and insurance activity; professional, scientific, and technical activity; and education. The industries in which the wage gap between regular and temporary workers is relatively small are mining, quarrying, and construction.

Figure 15 shows wages of regular and temporary workers by economic activity in 15 EU countries. The wages of workers with indefinite duration employment are the largest in the financial and insurance activities industry. The other wages are less than two thirds those of the financial and insurance activities industry. The wage gap between regular and temporary workers is large in the following industries: financial and insurance activities, manufacturing, wholesale and retail trade, and real estate activity. The wages of workers with indefinite duration employment are about twice those of fixed-term employment workers. The wage gaps between regular and temporary workers in other industries are small.

Therefore, we can see that in Japan, it is difficult for female workers who exited the labor market in order to have and raise children to return to the labor market. Among EU countries, France prohibits the dispatch of workers to dangerous jobs while there are fewer fixed-term employment workers in the EU who are engaged in manufacturing than in Japan. In Japan, the wage gap between regular and temporary workers and that between male and female workers are larger than those of EU countries.

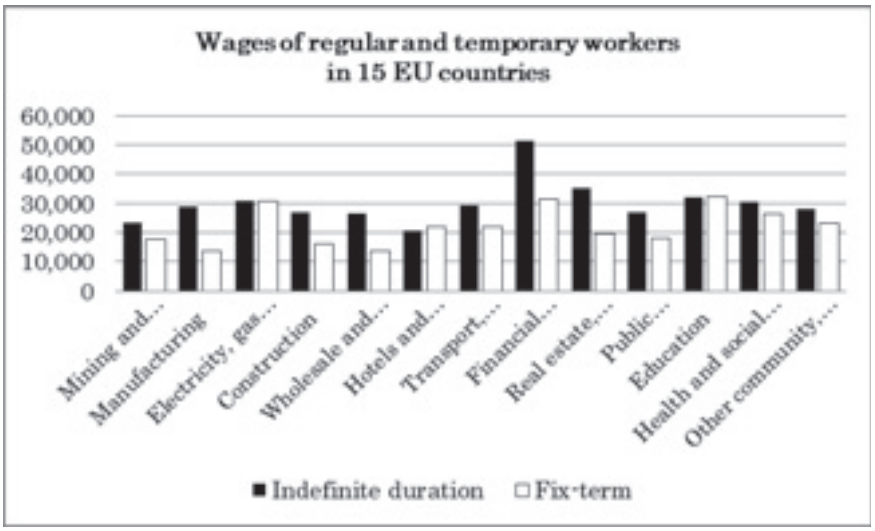


Figure 14

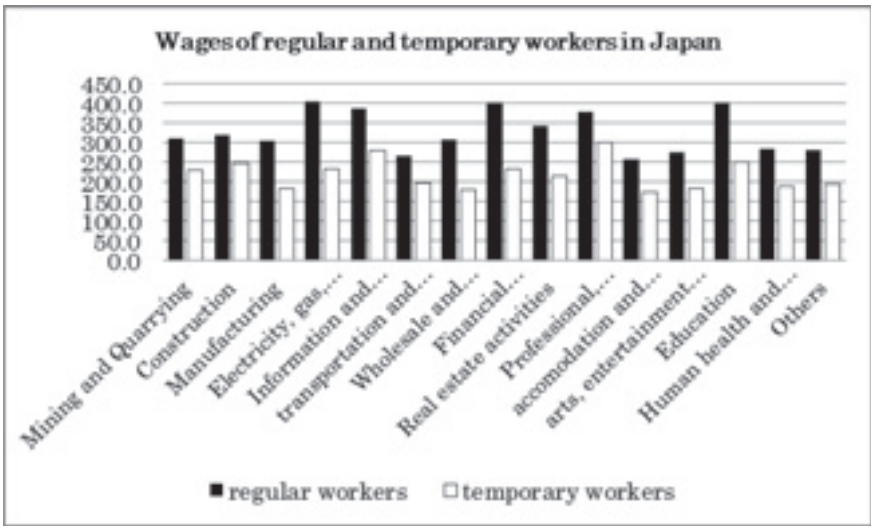


Figure 15

7. Conclusion

EU countries were in recession in the early 1980s and the youth unemployment rate rose. OECD countries currently face high youth unemployment rates. The factors influencing youth unemployment are stagnation, a high minimum wage for regular employment, unemployment benefits, tax, employment protection legislation for regular workers, and a supply-demand mismatch in employment. Moreover, the proportion of youth temporary employment to regular employment is increasing because employment protection legislation for regular employment has been retained but legislation for temporary employment has been deregulated (OECD Employment Outlook). The youth temporary employment rate was twice that of the total temporary rate in 2012.[16] In Japan, many temporary employment workers had not been able to participate in employment insurance before employment insurance legislation was revised in 2010. The wages of Japanese temporary workers are much less than those in the EU. To shed light on these problems, we first examined the factors influencing the increasing temporary employment rate using panel data analysis in OECD countries and then compared Japanese temporary employment with that of the EU. Consequently, we showed that the youth temporary employment rate increases with stronger employment protection for regular and temporary employment. The youth temporary employment rate was shown to decrease as labor

costs or GDP increase. These results indicate that temporary employment is used for employment adjustment and reduction of labor costs. Section 5 presented the relationship between the adjustment speed of employment and temporary employment rate in Japan, and the relationship between the adjustment speed of employment and part-time employment rate in OECD countries. Consequently, we showed that the adjustment speed of employment is high in countries in which the proportion of part-time employment workers is high, signaling that part-time workers are used for employment adjustment. That is, the high rate of youth temporary employment in OECD countries is related to employment protection for regular employment and it becomes difficult to adjust employment with business fluctuations because regular workers' jobs are guaranteed during periods of economic growth. Therefore, temporary workers are used for employment adjustment in a country in which there is stringent protection for regular employment. EU countries are in the same stage of economic development as Japan and there is stringent protection for regular employment in both EU countries and Japan. Section 6 presented a comparison between temporary employment in EU countries and Japan. While few female workers in EU countries exit the labor market in order to marry or have and raise children, in Japan, many female workers do so. Among EU countries, France prohibits the dispatch of workers to dangerous jobs, while there are fewer fixed-term workers in the EU who are engaged in manufacturing than in Japan. In Japan, the wage gap between regular and temporary workers and that between male and female workers are larger than those of EU countries. Working conditions for temporary workers in Japan are worse than those in EU countries. If temporary workers are used for employment adjustment, employers' incentive to increase temporary workers rises as the wage gap between regular and temporary workers increases.

In Japan, employment protection legislation obliges employers to avoid dismissing regular workers; employers have to terminate employment contracts for temporary workers before dismissing regular workers.[17] That is, the legislation allows them to use temporary workers for employment adjustment. The stability of the working life of regular workers is guaranteed by employment adjustment using temporary workers. The reason employment protection for temporary workers is weak in Japan is that temporary workers have tended to be housewives who earn secondary income. However, currently, about one third of young workers are temporarily employed and they earn very low wages and work very long hours. Thus, Japan has to improve working conditions for temporary workers and relax protection for regular employment. However, increasing labor costs would cause a decrease in youth temporary employment. Therefore, it is important to improve working conditions for temporary workers together with various policies that guarantee a living for workers.

Shirakawa (2005) proved that the structural unemployment rate is increasing and the structural unemployment rate of young workers is especially high. He performed a regression analysis of the structural unemployment rate and part-time employment rate, and proved a strong correlation between them. That is, in the case of young people, the structural unemployment rate increases with the part-time employment rate. Because temporary employment is useful in Japan not only for employment adjustment but also to reduce labor costs, the earnings of many young people are low and this is one of the unstable factors of the Japanese economy.

This study showed that the wage gap between full-time and part-time workers in Japan is larger compared to EU countries and temporary employment is useful to reduce labor costs. In a future study, we will analyze the effects of the youth temporary employment rate and the wage gap between regular and temporary workers on the Japanese economy.

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1) Refer to OECD labor force statistics (http://stats.oecd.org/).
2) Refer to Shirakawa (2005).
3) OECD Labor force statistics (http://stats.oecd.org/).
4) It is the definition of the OECD.
5) http://stats.oecd.org/.
6) We define temporary employment to follow the definition of the OECD; it includes "fixed term contracts," "paid by employment agency," and "seasonal workers."
7) It is called the reform of 1997: the April agreements. "The April agreements consisted of three main goals, namely reducing the instability of the labour market, promoting collective bargaining and plugging the void in sectoral regulation due to the abolition of labour ordinances." (Martin, Gil, Samuel (2002), pp.9)
8) It is school-to-work transition program and decreases the supply-demand mismatching in employment. Everyone that does not go to a high school after he finishes a junior high school is obligated to go to a vocational training school. The student studies in 1 or 2 days and trains in 3 or 4 days. All cost of the vocational training school (included personnel costs) are expended by the government but an apprentice allowance and training costs are expended by the firms. Although Dual-system is made up of pay by the firm, the number of the firms that offer the place of training is decreasing.
9) This refers to substituting regular employment workers that are guaranteed stable jobs and wages with temporary employment workers.
10) http://epp.eurostat.ec.europa.eu/portal/page/portal/labour_market/earnings/database.
11) http://stat.jil.go.jp/.
12) Refer to the Japan Institute for Labour Policy and Training (2012), p.127.
13) http://stat.jil.go.jp/.
14) http://epp.eurostat.ec.europa.eu/portal/page/portal/labour_market/earnings/database.
15) Refer to the Japan Institute for Labour Policy and Training (2012).
16) http://stats.oecd.org/.
17) Refer to Hamaguchi (2009, p.55).

Temporary Employment in Japan: A Cross-national Perspective

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Keywords: temporary employment, employment protection, employment adjustment, wage gap

Abstract

Many temporary employment workers in Japan currently labor under severe employment conditions, such as very low wages, overtime work, and exclusion from workers compensation. However, in most Organisation for Economic Cooperation and Development (OECD) countries, employment conditions are better than those in Japan. Therefore, we believe it would be significant to determine the factors that influence Japan's temporary workers to labor under severe employment conditions. We estimate temporary employment functions in OECD countries by analyzing panel data for the period 2000-2011 and compare temporary employment in the European Union (EU) to that in Japan. The results of our analyses are as follows. (1) Employment protection legislation increases the rate of youth temporary employments and this is used for cost adjustments. (2) In OECD countries, part-time workers are used as a buffer against business fluctuations. (3) In the case of female regular workers in Japan, the 25-29 year age group is the largest, whereas in the EU, it is the 40-54 year age group. (4) In Japan, female temporary workers are almost equally distributed across all age groups. However, in the EU, the 40-54 year age group has the largest number of such workers. (5) The wage gap by employment contract and by gender is large in Japan.