

# *Japan* Labor Review

Volume 8, Number 2, Spring 2011

## Special Edition **Minimum Wage in Japan**

### Articles

The Minimum Wage System in Japan: In Light of Circumstances in the United States and Europe

*Isao Ohashi*

Analysis of the Determinants of Minimum Wages in Japan

*Keiko Tamada*

Minimum Wages and Employment in Japan

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Legal Structure of, and Issues with, Japan's Regional Minimum Wage System: Comparative Study of the UK and French Systems, Including the Social Security Systems

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The Career Pictures of Workers in Their 50s: Considering Adult Career Development Using the Life-Line Method

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### JILPT Research Activities



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The summer 2011 issue of the Review will be a special edition devoted to **Changing Job Design and Its Influence on Labor Mobility**.

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## Introduction

### Minimum Wage in Japan

In recent years, issues involving the disparity between regular and non-regular workers and those concerning the working poor—workers who do not receive enough income to get by—have drawn attention as societal problems, and reforming the minimum wage system has become a significant policy concern.

The 2007 revision to the Minimum Wages Act positions the minimum wages determined by each of Japan's 47 prefectures as being essential safety nets, and sets forth stricter penalties for employers who violate established minimum wages. The revised Act prescribes that the amounts of these wages must be decided upon in consideration of their consistency with social security benefits. Additionally, the Democratic Party of Japan, which took the reins of government in the 2009 general election, stated in its electoral manifesto that it would "institute a national minimum wage (projected at 800 yen) [that would be] applicable to all workers," and that "in consideration of economic conditions, [it would] aim to raise the national average minimum wage to 1,000 yen." Based on these statements, the government is currently working to raise regional minimum wages.

This compilation aims to clarify the issues related to the Japanese minimum wage system, and to shed light on its current status from multiple perspectives.

First, Ohashi's paper examines the issues surrounding Japan's minimum wage system through a consideration of its history and comparisons with its counterparts in Western nations, as well as through his own experience as a member of a minimum wage council, and thereby clarifies the actual conditions at play. In this, he points out such issues as (i) that the relatively low level of Japan's minimum wages may be caused by the fact that the guideline increases (*meyasugaku*) indicated by independent members of minimum wage councils tend to be lower in a conflict of opinions between the labor and management side, and (ii) that when instituting any large increase in minimum wages, there is a need to even more thoroughly examine its impact on employment.

Tamada's paper examines the determinants of (regional) minimum wages in Japan based on empirical analysis. In this, she indicates (i) that the wage growth rate has a positive impact on the determination of guideline increases by the Central Minimum Wage Council, (ii) that the increases determined by regional minimum wage councils are almost the same as the guideline increases indicated by the Central Minimum Wage Council, (iii) that the active job openings-to-applicants ratio has a positive correlation to increases in minimum wages, and (iv) that the unionization rate does not affect increases in minimum wages.

Abe's paper reviews recent discussions surrounding minimum wages in Japan from an economic perspective. In this, she brings to light (i) that in the midst of increasing globalization, concerns have increased over the impact that the minimum wage has on employment, (ii) that with the minimum wage hike enacted in the 2007 revision to the Minimum Wages Act and the

stagnation in the average wage caused by deflation, the number of workers employed at minimum wage has increased, and the minimum wage is more likely to have a stronger impact on employment (as the result of offshoring), and (iii) that increasing minimum wages is not necessarily an effective means of resolving the problems of “mismatched” employment and poverty.

Finally, Kanki’s paper clarifies the special characteristics and issues surrounding Japan’s minimum wage system through a comparison with the minimum wage systems in the UK and France. In this, she points out (i) that Japan’s minimum wages council system, which is based on the logic of collective bargaining, has limitations in making a reality of the right to live—a policy objective that is separate from the interests of both labor and management, and (ii) that the role of minimum wages as a safety net is being overestimated in Japan, where no concrete system has been developed to ensure a minimum standard of living to people facing long-term unemployment and the working poor, and she also proposes that (iii) as well as taking another look at the minimum wage system, it is necessary to revise the social security benefits system for people of working age.

It is my hope that this compilation will clarify the issues surrounding Japan’s minimum wage system, which is undergoing reforms, that it will shed light on the current status of this system, and that it will open the way for policy discussions that are based on a solid academic foundation.

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University of Tokyo

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# The Minimum Wage System in Japan: In Light of Circumstances in the United States and Europe

*Isao Ohashi*

*Chuo University*

This paper aims to provide an overview of the history of the minimum wage system in Japan and to explore why it is in its current state and how it should change in the future, in light of the state of minimum wages in the United States and Europe and the relevant debates that are ongoing in those areas. Specifically, I will make a cross-country comparison of the mechanisms whereby the minimum wage is set, explain how the differences in these mechanisms affect the level and trends of minimum wages, and shed light on the weaknesses of the foundations of theoretical models designed to verify the positive effects of a minimum wage increase on employment. This research is intended to help achieve a better understanding of the significance to Japan's labor market of the government initiative to considerably raise the minimum wage following the amendment of the Minimum Wages Act, and to examine how the minimum wage system in Japan should develop in the future, while taking account of the state of minimum wage systems in the United States and Europe.

## I. Introduction

In campaigning for the House of Representatives elections in 2009, the Democratic Party of Japan, which was an opposition party at the time but which emerged as the biggest force of the ruling coalition as a result of the general election, pledged, in its election manifesto, to set the national minimum wage, applicable to workers across Japan, at ¥800 per hour, and to raise the national average of region-specific minimum wages to ¥1,000 per hour. As is indicated by this campaign pledge, there are several problems with the minimum wage system in Japan. First, although there is a growing public awareness of the existence of serious poverty as exemplified by the working poor, and although this awareness is making the reduction of income inequality an urgent issue, the level of the minimum wage is not sufficient to support the lives of the poor. Second, in many cases, people working for minimum wage earn less than they would receive from welfare benefits, even if they work 40 hours a week, the maximum regular working hours under the Labor Standards Act. Third, as wages for foreign workers tend to be set at a level close to the minimum wage regardless of their job skills or performance, there is likely to be distortion in the mechanism for the distribution of labor resources.

This paper aims to explore why the minimum wage in Japan is in its current state and how it should change in the future in light of the history of the minimum wage in Japan, the present state of minimum wages in the United States and European countries, and the relevant debates that are ongoing in these regions. The paper is structured as follows.

Section II presents a cross-country overview of the purposes of minimum wages and the minimum wage-setting mechanism, and examines how differences in this mechanism affect the levels and trends of minimum wages. Section III discusses differences in the effects produced by the minimum wage system in different labor markets in light of the state of minimum wages in the United States and European countries and relevant debates that are ongoing in these regions. Section IV provides a theoretical analysis of the effects of the minimum wage on employment. In particular, it sheds light on the weaknesses of the foundations of theoretical models designed to verify the positive effects of a minimum wage increase on employment. Section V presents an overview of the history of the minimum wage in Japan, and examines why it is in its current state and how it should change in the future.

## II. Purpose of the Minimum Wage and Minimum Wage-Setting Mechanisms

Article 1 of the Minimum Wages Act states, “The purpose of this Act is to help to secure stability in the lives of workers, improvement in the quality of labor, and fair business competition, and also to contribute to the sound development of the national economy, by improving the terms of employment for low-paid workers through the assurance of a minimum wage.” The ILO convention on minimum wages (Convention 26) also stresses the need to apply minimum rates of wages and ensure fair competition, and the purpose of the minimum wage as stipulated in the above-mentioned Japanese law is common to most of the countries that have ratified the ILO convention. However, even though the primary purpose of the minimum wage is common, the minimum wage-setting mechanism varies significantly from country to country. Although there are, generally speaking, four mechanisms, the current paper looks at three of them, those other than the mechanism under which a labor court or a similar entity has the decision-making power.<sup>1</sup> It should be kept in mind that two or more mechanisms may be in place in a single country due to differences by industry, sector or region, for example.

(i) **Council-set minimum wage:** A deliberative council comprised of equal numbers of representatives from both the labor union and employer sides, as well as independent members, sets the minimum wage level. In some countries, the wage council has both formal and effective decision-making power while in others, it acts as a consultative body for a formal decision-making entity while maintaining effective decision-making power. The former arrangement is in place in Belgium, and it was also used in the United Kingdom when the

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<sup>1</sup> For the classification of minimum wage-setting arrangements, see Roudou Chousakai (2009) and Funk and Lesch (2005). Arrangement involving labor courts are used in Australia and New Zealand. Under these arrangements, an agency that mediates between labor and management, such as a labor court or a labor committee, makes deliberations while collecting opinions from both sides before making a judgment or decisions on minimum wages.

country had wage councils for certain sectors (this system was abolished in 1993).<sup>2</sup> The latter arrangement is in place in many EU countries, including the United Kingdom, France, and Spain, as well as Japan. The council-set minimum wage will be discussed in detail later in relation to the minimum wage in Japan.

(ii) **Statutory minimum wage:** The minimum wage level is set forth in the law, and revisions require normal legal amendment procedures. In the United States, for example, the federal minimum wage is set through a legislative process including deliberations in the Senate and the House of Representatives, and the minimum wage level is specified under the Fair Labor Standards Act (enacted in 1938). In addition, the minimum wage is also set by each U.S. state under state law. However, in some cases, the council-set minimum wage and the statutory minimum wage co-exist. Some states also differentiate the minimum wage by industry or job type.

Generally speaking, the state minimum wage rate is equal to or lower than the federal minimum wage rate. This is because in most states, the state minimum wage is almost universally applicable to all the workers in the state while the federal minimum wage is applicable only to workers that meet certain criteria, such as those engaging in interstate commerce (including transactions, transportation and communications that extend across state borders) and those employed at companies of a certain size or larger. However, as the frequency of revisions to the federal minimum wage has decreased in recent years, some states have adopted the policy of setting their respective minimum wages at a level higher than the federal minimum wage in order to avoid a drop in inflation-adjusted, real minimum wages.<sup>3</sup>

(iii) **Collectively agreed-upon minimum wage:** The minimum wage specified under a labor union-employer agreement concluded through collective bargaining is applied automatically, based on the extension law that authorizes an extension of the agreement, to workers other than members of the labor union that is party to the agreement. However, for the collective agreement to be applicable to external workers, it must be one that originally covers a legally prescribed percentage or more of workers employed in a specific industry or workers engaging in a specific type of job in a specific region. This means that the original coverage rate must be high. Collective bargaining is seen in Germany, Italy, Austria, Denmark, Sweden, and Norway. According to Funk and Lesch (2005), the percentage of work-

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<sup>2</sup> When a deliberative council comprised solely of representatives from labor and management makes decisions on minimum wages, the deliberation process becomes similar to collective bargaining. Machin and Manning (1997) classified Belgium as a country where minimum wages are set as a result of collective bargaining. In the United Kingdom, the Wages Councils Act was abolished as part of the deregulation initiative promoted by the Thatcher government. However, the Low Pay Commission was later established under the National Minimum Wage Act of 1998. Based on recommendations made by this commission, the UK government sets minimum wages.

<sup>3</sup> For the historical trend of minimum wages in the United States and relevant empirical research, see Brown (1999) and Neumark and Wascher (2007), for example.



ers covered by collectively agreed-upon, sector-specific minimum wages through the extension procedure is 69% in Germany, 100% in Italy, 98% in Austria, 81-90% in Denmark, and 70% in Norway.<sup>4</sup>

In France, the collectively agreed-upon minimum wage, used in specific industries, and the council-set minimum wage (known as SMIC, or *salaire minimum interprofessionnel de croissance*), universally applied to workers across all industries in the whole of France, co-exist. When the collectively agreed-upon minimum wage is higher than the SMIC in a specific sector, it is under the extension law applied to workers engaging in that sector. In principle, this arrangement is also in place in Spain.

Meanwhile, in Germany, a sector-specific statutory minimum wage is starting to be introduced. The minimum wage level is not set by a deliberative council; rather, the government adopts a collectively agreed-upon minimum wage for a specific sector as a statutory minimum wage. A sector-specific statutory minimum wage was introduced first for construction-site jobs, in 1997, and then for such jobs as painting, roofing, and demolition/wrecking, in 2004. The German government has proposed to apply such minimum wages to all sectors. This proposal is intended to prevent wage dumping in Germany by introducing minimum wages for foreign workers coming from such countries as Poland and the Czech Republic.

In Japan, as well, the extension of collective agreement was legislated, and minimum wages were set for workers engaging in painting in Hiroshima and Shiga Prefectures based on labor-management agreements. However, as a result of the amendment of the Minimum Wages Act in 2007, such local minimum wages were abolished, as they were regarded as not suited to the labor-management relationship in Japan.

### III. Debates in the United States and Europe

In recent years, the unified theory<sup>5</sup> has become a popular object of debate among Western economists. This theory attributes the divergence in economic performance between major continental European countries, such as Germany, France, Italy, and Spain, and Anglo-Saxon countries like the United States and the United Kingdom, to the difference in labor market flexibility as represented by wage rigidity and wage inequality in particular. After the global financial crisis was triggered in 2008 by the subprime mortgage crisis, the unemployment rate rose steeply in the United States, reaching 9.7% in August 2009, and surpassing the 9.5% recorded in the 16-country euro zone (as of July 2009).<sup>6</sup> However,

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<sup>4</sup> It should be noted that the figure for Germany is for 2003. In the case of Italy, the coverage ratio comes to 85% if non-regular workers are included. The arrangement in the Netherlands, whereby the government is supposed to set minimum wages based on the results of collective bargaining, can be classified in effect as collective agreement.

<sup>5</sup> For further details, see Blau and Kahn (2002).

<sup>6</sup> The source is JETRO Daily (September 18, 2009).

previously, the unemployment rate in the United States had remained mostly around 5% from the 1960s through 1990s, except for a brief spike above 7%. In contrast, the unemployment rates in the United Kingdom, pre-unification West Germany, and France, which used to be just around 2 to 3%, started to rise in the 1970s. In the early 2000s, the rate surged to around 8% in France and Germany. What is noteworthy is that the unemployment rate in the United Kingdom took a downturn in the latter half of the 1980s, declining from over 10% to around 5%, similar to the level seen in the United States. The decline presumably reflected the effects of deregulation measures implemented under the Thatcher government in the 1980s.<sup>7</sup>

Western economists generally stress the difference between the United States and continental European countries in their responses to various economic shocks that have arisen since the 1960s, including the two oil shocks and the technology innovation that disproportionately favored skilled workers: the United States managed to adapt itself to those shocks through flexible adjustments of real wages, while continental European countries saw wages generally rise, with relative wages for unskilled workers kept at a high level. As a result, they argue, the unemployment rate dropped and wage inequality widened in the United States and the United Kingdom, whereas in Europe, the unemployment rate rose, particularly among younger people, and wage inequality narrowed. According to the OECD Employment Outlook (2004), the earnings dispersion expressed as the 90-10 percentile ratio of the gross earnings of full-time employees was relatively high in the United States and the United Kingdom, at 4.59% and 3.45%, respectively, while the ratio was 2.87% in Germany and 3.07% in France. Moreover, for more than 20 years, wage inequality has been widening in the United States and the United Kingdom. In short, the unified theory suggests that unemployment and wage inequality are two sides of the same coin.

What is the situation in Japan? The unemployment rate in Japan has shown an up-trend, and it surpassed the rate in the United States temporarily as it rose to 5.6% in 2003. However, the unemployment rate has generally stayed lower in Japan than in the United States. Meanwhile, wage inequality among full-time employees is almost the same in Japan as it is in France, although larger than in Germany, and it has not widened. However, if non-regular employees are taken into account, wage inequality is probably widening in Japan, too. This is because wage inequality between part-time employees and regular employees is widening and the ratio of part-time workers to the overall labor force is rising.<sup>8</sup>

What is wrong with the institutional framework of the labor markets in continental Europe? Four problems are frequently cited. First, whereas the wage-setting process is de-

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<sup>7</sup> For a brief summary, see Howell (2005).

<sup>8</sup> According to the 2006 White Paper on the Labour Economy (Ministry of Health, Labour and Welfare, 2006), inequality in hourly regular salary has narrowed slightly in recent years, after continuing to grow in the 1990s through 2002. Meanwhile, the 2008 Annual Report on Health, Labour and Welfare shows that the percentage of non-regular workers has been rising since 1985 in every age group, with a notable rise recorded for workers aged 15 to 24.

centralized in the United States, with wage bargaining held on a company-by-company basis, the process is centralized in continental Europe, with negotiations conducted on an industry-by-industry basis or on a nationwide basis. Although company-by-company bargaining makes it possible to set wages in light of the circumstances of individual companies, the centralized negotiation process is disposed to lead to a uniform level of wages. Moreover, in many continental European countries, collectively agreed-upon wages are applied to non-unionized workers under a law authorizing an extension of collective agreements, thereby narrowing the wage distribution.

Second, social security systems in continental Europe are generous. For example, the average substitution rate of unemployment benefits (unemployment benefits in the first year of unemployment as a percentage of the former salary) is 59% in Germany and 37% in France, while the rate is much lower in the United States and the United Kingdom, at 29% and at 17%, respectively. Moreover, unemployment benefits are provided for a longer period of time in continental Europe. These generous terms are said to be blunting the incentive to work.<sup>9</sup>

Third, the rigidity of job protection systems in continental Europe is often raised as a problem. If the system is too rigid, it makes the labor market less flexible, leading to a higher unemployment rate. As the benchmark to measure the rigidity of job protection, it is designed to comprehensively take account of such factors as the period of notice of dismissal, the level of severance pay, and the duration of fixed-term employment. But it has drawn criticism for allegedly including arbitrary elements.<sup>10</sup>

The fourth problem is the mechanism whereby the minimum wage is set. First, we provide a concise comparison of the council-set minimum wage, the statutory minimum wage and the collectively agreed minimum wage in relation to the levels and trends of minimum wages in individual countries. According to Table 1, which shows the levels of minimum wages in selected EU countries, the United States, and Japan (expressed in yen), the statutory minimum wages<sup>11</sup> in EU countries other than Spain and Portugal are higher than ¥170,000 and far above the ¥115,000 in Japan and the ¥89,000 in the United States. However, a comparison of nominal wages alone is not sufficient. The Eurostat (news release: July 13, 2006) issued a report on minimum wages adjusted for the purchasing power parity for private consumer goods (as of December 2005). According to that report, Ireland, which was ranked top in terms of unadjusted minimum wage, drops to fifth place in terms

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<sup>9</sup> See Howell (2005). According to Pellizzari (2006), the ongoing social security reforms in Europe are aimed primarily at reducing the amount and duration of social security benefits. A concise summary is also provided by Ohashi (2007).

<sup>10</sup> For an overview, see Nickell and Layard (1999) and Kuroda (2002).

<sup>11</sup> Different countries apply different minimum wages according to not only the worker's age, gender, job type, number of years of service, and length of weekly working hours but also other factors. For further country-by-country details, see Ragas (2004). According to the data cited here, the minimum wages in EU countries are those applied to full-time adult workers. For the source of the data, see *Sources* of Table 1.

Table 1. Cross-Country Comparison of Minimum Wages

	Minimum wage (yen) 2006	Change (%) 2000-2006	Application rate (%) 2004	Kaitz Index (decimal) 1991-1993	Kaitz Index (%) 2005
<i>EU</i>					
Germany	Collectively agreed-upon wage			0.55	
France	170,520	16.1	15.6	0.50	55
Italy	Collectively agreed-upon wage			0.71	
Spain	88,340	48.5	0.8	0.32	42
Netherlands	178,220	16.6	2.1	0.55	52
Portugal	61,180	17.8	5.5	0.45	44
Belgium	172,760	12.6	n.a.	0.60	56
Austria	Collectively agreed-upon wage			0.62	
Sweden	Collectively agreed-upon wage			0.52	
Finland	Collectively agreed-upon wage			0.52	
Ireland	181,020	36.8	3.3	0.55	60
United Kingdom	177,660	41.8	1.8	0.40	42
<i>Non-EU</i>					
Switzerland	Collectively agreed-upon wage			0.52	
Norway	Collectively agreed-upon wage			0.64	
United States	89,095	0	1.4	0.39	37
Japan	115,045	1.4	1.4*		29

Sources: The Kaitz indexes for 1991 to 1993 were cited from Dolado et al. (1996) and those for 2005 are from the European Foundation for the Improvement of Living and Working Conditions (Minimum wages in Europe: Background paper, 2007). Data were also cited from Funk and Lesch (2005), eurostat (news release, July 13, 2006), and eurostat (MINIMUM WAGES, 2005).

Note: \*As the minimum wages in the selected European countries are those applied to full-time workers and expressed in terms of monthly wages, the minimum wages in the United States and Japan, originally expressed in terms of hourly wages, were adjusted to a monthly basis through multiplication by 173 hours. While the prevailing exchange rates at the time of the survey are significantly different from the current rates, the figures in the above table are based on the assumed exchange rates ¥140 to the euro and ¥100 to the dollar. The application rate represents the percentage of workers receiving minimum wages except in the case of Japan. The application rate for Japan represents the percentage of workers whose wages were lower than the minimum wage before the latest revision. The changes in the minimum wage amounts were calculated in terms of the currencies of relevant individual countries.

of adjusted minimum wage. The positions of other countries remain unchanged.

The Kaitz index represents the ratio of the minimum wage to the national average wage. In Germany and Italy, where the collectively agreed-upon minimum wage is the standard, it is necessary to weight the figures according to the ratio of workers to whom the collectively agreed-upon minimum wage is applied, as the minimum wage level varies considerably by age, industry, and job type. Dolado et al. (1996) reported on the Kaitz index recorded for various countries in the early 1990s. Statutory minimum wages, which usually include minimum wages set by deliberative councils as well as those set under law, are generally lower than collectively agreed-upon minimum wages according to Table 1. The Kaitz index was higher than 0.5 in all of the countries that adopt collectively agreed-upon minimum wages. In countries that adopt council-set minimum wages, however, the index was 0.32 in Spain, 0.39 in the United States, and 0.40 in the United Kingdom. The index was the highest in Italy, at 0.71, followed by 0.64 in Norway and 0.62 in Austria. All of the three countries adopt collectively agreed-upon minimum wages. The application of minimum wages set with the involvement of strong labor unions to non-unionized sectors under a law authorizing their extension tends to contribute to a rise in the absolute level of minimum wages and the level relative to the national average.

The Kaitz indexes for 2005 in the table, related only to statutory minimum wages, which are not weighted according to the ratio of workers covered by the minimum wage, are not much different from the indexes recorded in the early 1990s. The index for Japan, at 29%, was lower than the 37% for the United States, and was the lowest among the countries listed in this table. However, it should be kept in mind that the indexes for EU countries other than the United Kingdom concern minimum wages for full-time adult workers.

Table 1 also shows the growth rates of statutory minimum wages between 2000 and 2006. The growth was higher than 10% in all of the selected EU countries. The growth was particularly high for Spain, at 48.5%, for Ireland, at 36.8%, and for the United Kingdom, at 41.8%. In the case of Spain, the steep growth was presumably due to the high annual growth rate of consumer prices in the country, which averaged more than 3% in 1995 through 2005, the highest rate among the selected EU countries. With regard to the United Kingdom and Ireland, countries where consumer price growth was 2%, lower than in other countries such as France, the sharp minimum wage growth probably reflected their need to raise their relatively low minimum wages close to the levels in other EU countries in line with the deepening integration of the EU. Presumably, the United Kingdom and Ireland, which adopted the new minimum wage system only in 1999 and in 2000, respectively, can be inferred to initially set their minimum wages at a low level relative to their levels of productivity and living standards.

In both the United States and Japan, the level and growth rate of minimum wages are low. In recent years, the expansion of wage inequality has been empirically verified in the United States. In Japan, too, the presence of income inequality has emerged as a social problem, and the trend of minimum wages cannot be ignored as a background factor. In the

United States (the situation in Japan will be discussed later), the minimum wage is kept low because of the preference for the freedom of a market economy that is prevalent among the American people. Another factor may be the statutory minimum wage. For as long as about 10 years through 2007, the U.S. federal minimum wage was kept at \$5.15 per hour, and this probably reflected the policy of the Republican government of President George W. Bush, who took office in 2001. As the U.S. president has the power of veto, a minimum wage revision approved by both the Senate and the House of Representatives would not necessarily be legislated. As a factor behind the minimum wage revision in 2007, we may point out that the Democratic Party won a majority of seats in both the Senate and the House in the mid-term elections held in 2006, creating a situation in which President Bush faced pressure to approve the revision. Likewise, for about 10 years from 1981 (between 1981 and 1989, President Reagan, a Republican, was in office), the federal minimum wage was kept at \$3.35 per hour. As a result, the real value of the minimum wage, which was not linked to the inflation rate or a productivity rise, dropped significantly.

Among economists upholding a traditional economic theory that respects market forces, Blau and Kahn (2002) and Heckman (2003) are arguing that in order to lower the unemployment rates in continental European countries, minimum wage, social security, and job protection systems should be reformed. International organizations like the OECD and the IMF have also joined the chorus calling for such reforms. However, as those systems constitute the core of the welfare state, some European economists, including Nickell and Layard (1999) and Howell (2005), are contending that the advocates of structural reforms have a stereotyped view of textbook market economy theories. The next section examines how the minimum wage affects employment.

#### **IV. Effects of the Minimum Wage**

It is largely due to a series of empirical studies, including those by Katz and Krueger (1992) and Card and Krueger (1995), that the effect of the minimum wage on employment has started to attract the attention of economists. The study by Katz and Krueger examined the difference in the impact of the revision to U.S. federal minimum wages on the employment of low-paid and relatively higher-paid workers at fast food restaurants in Texas. The study by Card and Krueger looked at the difference in the impact on employment at fast food restaurants in New Jersey, where the minimum wage was raised in 1988, and at restaurants in neighboring Pennsylvania, where it was not. Both studies concluded that an increase in the minimum wage has statistically significant positive employment effects. As traditional economic theory held that minimum wages have negative employment effects, a storm of controversy arose among economists over the validity of the findings of these studies. The points of debate concerning empirical research techniques and the method of creating variables, and the evolution of arguments over these, are described in detail by Neumark and Wascher (2006) and by Kawaguchi (2009). In particular, Neumark and

Wascher examined the findings of more than 100 studies, selected 33 of them as reliable and pointed out that 85% of the 33 studies recognized negative employment effects of minimum wages.

Here, I would like to highlight the weakness of the theoretical basis of economic models designed to verify positive employment effects of minimum wages. Generally speaking, it is impossible to completely control explanatory variables in empirical research related to social sciences, which means that no research finding is very reliable if the theoretical basis is weak. There are three models designed to verify positive employment effects from minimum wages: the monopsony model, the search model, and the efficiency wage model. Described below is my critical assessment of each of the three models.

According to the monopsony model, when a company holds a monopolistic position in a certain region as a buyer of labor, wages rise as the company hires more workers. Therefore, the marginal cost of labor (extra costs arising from the employment of extra workers) includes a rise in wages for existing workers as well as wages for new workers. As a result, the employing company curbs new hiring in an attempt to keep the lid on wages. Accordingly, in a monopsonic labor market, the value of the marginal product of labor (value of the extra output a firm gets by employing one extra unit of labor) rises above the level of wages (which is equivalent to the price of labor at which a worker is willing to accept a job), leading to lower levels of wages and employment than in a competitive market. The monopsonic model holds that if the minimum wage is set at a higher level than the wages in a monopsonic market and employers are obliged to comply with it, employment will grow because the marginal cost of labor comprises only wages for new workers. However, this is true only so far as the minimum wage is lower than the value of the marginal product of labor. If the minimum wage is raised beyond that, employment will decline in line with a decrease in the value of the marginal product of labor.

The monopsony model is questionable in several respects. First, while an examination of the employment effects of minimum wages requires that consideration be given to small and medium-size enterprises (SMEs), which mostly employ non-regular workers, including part-time workers, companies that hold a monopsonic position in a certain region are generally large companies, where wages are higher than at SMEs. Second, wages for workers at SMEs are not necessarily close to the level of minimum wages, as the employment arrangement at such companies has become diverse. Moreover, the increased importance and productivity of part-time and contract workers in the workplace leads to a drop in the ratio of low-paid, unskilled workers. This means that the effectiveness of an increase in the employment of low-paid workers in raising the marginal cost of labor through a rise in the total amount of wages of currently employed workers will be limited. Third, it is questionable to assume, as the monopsony model does, that since a rise in minimum wages increases employment along the labor supply curve, the employment effects of minimum wages grow as the wage elasticity increases—in other words, that the more a rise in wages increases the supply of labor, the greater the employment effects of minimum wages are. According to

Cahuc and Zylberberg (2004, chap.12), studies by researchers in the West have found that on average, wage elasticity of labor supply is not large.

The search model, which was promoted by researchers such as Card and Krueger (1995, chap.11) and by Manning (2003), directs attention to imperfections in information in the labor market. As the labor market is frictional, not all people can obtain information concerning job offers, job seekers, and wages at once. As a result, various levels of wages exist in the market. Workers have to spend time and cost on finding a job, while employers have to make an effort to secure the necessary labor. Assuming that the volume of labor is represented by “L,” wages by “w” and the job separation rate by the function  $q(w)$  ( $q' < 0$ ), the number of workers who leave a company in a given business term is represented by  $q(w)L$ . To keep the volume of employment L at an adequate level, a company needs to hire new workers. Assuming that the number of new workers employed by a company is represented by the function  $H(w)$  ( $H' > 0$ ), the formula  $q(w)L = H(w)$  must hold good at the point of equilibrium, which means the equilibrium volume of employment is arrived at through the formula  $L^* = H(w)/q(w)$ . Since the number of new workers “H” is an increasing function and the job separation rate “q” is a decreasing function, the equilibrium volume of employment is an increasing function for wages. If a company is to secure a higher volume of labor, it needs to pay higher wages, which means that this function is a labor supply function for individual companies. Thus, companies are placed in a monopsonic position in a labor market where there are imperfections in information, a situation which creates room for a rise in the minimum wages to lead to growth in employment.

The search model may also be criticized in several respects. First, most of the jobs for which the level of wages are close to the minimum wage do not require a high level of skill, and market wages for such jobs are generally kept low. Therefore, it would not be very rewarding for job seekers to go to great expenditure in looking for a high-paying job. Stigler (1946) pointed out another problem. In the functions related to the job separation rate and the number of new workers that were mentioned above, the wage distribution at other companies is assumed to be uniform regardless of changes in the wages at the relevant companies. However, the larger the increase in the minimum wage, the more companies are led to set their wages at or around the increased minimum wage level. Under such conditions, raising wages in line with the minimum wage is unlikely to lead to a significant change in the number of job leavers or seekers.<sup>12</sup>

Burdett and Mortensen (1998) promoted a refined version of the search model and indicated positive employment effects of minimum wages.<sup>13</sup> The study by Card and Krueg-

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<sup>12</sup> Brown (1999) also points to the arbitrary nature of this model’s logic, arguing that even a minor modification of the function adopted in the model would lead to a significantly different conclusion.

<sup>13</sup> Masters (1999) presented a concept similar to the model developed by Burdett and Mortensen (1998) under the assumption that beneficial factors other than wages exist for both workers and employers in relation to worker-employer matching.



er (1994) is also based on the refined search model. The critical point of their model<sup>14</sup> is that in cases where different workers search for jobs at different labor supply prices, or reservation wages, companies are not necessarily willing to employ workers whose labor supply price is low relative to their productivity when they find such workers. As a result, insufficient and inefficient employment is achieved at the point of equilibrium. This is because companies continue their search for workers in an effort to hire workers with a lower labor supply price from among workers seeking jobs. If a minimum wage is set, continuing the search for workers would become worthless, as it is prohibited to conclude a labor contract at a lower wage and the hiring of workers at the minimum wage would be promoted.

The refined search model, which analyzes the employment effects of minimum wages under the framework of the general equilibrium theory, uses overly strict assumptions. For example, it is not realistic to assume, as this model does, that the marginal productivity is constant at each company regardless of changes in the volume of labor, and that the distribution of workers' labor supply prices has no relation to their skills or productivity. Meanwhile, Brown (1999) criticized this model for assuming a sequential distribution of wages, whereas in reality, spikes are observed in the distribution of wages at a level close to the minimum wage.

The efficiency wage model maintains that minimum wages have positive employment effects, on the basis of the efficiency wage theory. This theory argues that when wages have a positive correlation with labor productivity, companies set wages at a higher level than the labor supply price. Drazen (1986) maintains that as a higher average wage attracts higher-quality workers to the labor market, bringing a benefit to individual companies, increasing the minimum wage also brings a benefit to the market as a whole. Rebitzer and Taylor (1995) argue that as an increase in a company's workforce size leads to a rise in the possibility of workers committing illegal acts, since it is more difficult to monitor them, the company has to increase the possible losses of workers dismissed due to such acts by paying higher wages. This leads to a rise in the marginal cost of labor above the average wage at the company, as in the case of a monopsonic company, creating room for a rise in the minimum wage to increase employment. Moreover, Manning (1995) clarified the conditions under which minimum wages have positive employment effects by developing the efficiency wage theory based on generalized assumptions.

Originally, the efficiency wage theory was devised to explain the assumption that wages acquire downward rigidity and a large wage inequality across industries arises because high wages are paid by companies in which it is essential to improve the quality of labor, make training cost-efficient, and reduce the cost of monitoring workers. It seems somewhat impractical to analyze the employment effects of minimum wages by applying this theory to the employment of low-skill workers regarding whom the quality of labor and

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<sup>14</sup> The research paper by Card and Krueger (1995) precedes that by Burdett and Mortensen (1998), as the former was written in reference to a paper which constituted the basis of the latter.

training are not issues of concern.

My critical assessment of these models, which are designed to verify positive employment effects of minimum wages, does not indicate an intention to argue that minimum wages have “negative” employment effects. Raising the minimum wage immediately leads to a rise in the labor costs of companies that employ workers to whom it is applied. If the companies seek to absorb the cost increase by replacing workers at the bottom of the wage scale with higher-skilled workers or by raising product and service prices, the employment of low-skill, low-wage workers will decrease. However, if something offsets the labor cost increase, the impact on employment will be insignificant. The “something” could take the form of an increased incentive for workers due to a wage hike. However, as Bewley (1999) pointed out, such an offsetting effect does not last long. This is because workers will forget about the wage increase over time or because they will come to believe that the increased wage is nothing more than what they rightly deserve.

Another way to offset the cost increase would be expanding the scope of employees’ work duties or extending their working hours so as to make their jobs commensurate with the increased wages. As Card and Krueger (1995) pointed out, each fast food restaurant employee performs multiple tasks, such as cooking, facility management, cleaning, taking orders, and operating the cash register. If the scope of each employee’s work duties is expanded, it increases the flexibility of the workplace in responding to changes. Meanwhile, if working hours are extended, it helps to reduce commuting times and costs, and to cut such fixed costs as education and training expenses. If a rise in the minimum wage prompts companies to review their work processes and make an effort to increase the value of labor, the negative employment effects of minimum wages could be offset.

## **V. Minimum Wage in Japan**

First of all, we will take a cursory look at the history of the minimum wage in Japan.<sup>15</sup> In 1947, Japan enacted the Labor Standards Act, which had provisions for minimum wages. However, it was not until 1959 that the Minimum Wages Act was enacted as a specific measure. Nonetheless, something akin to minimum wages already existed before that time. An incipient form of the minimum wage came into being in 1956, when a canners’ association in Shizuoka Prefecture concluded an agreement on the starting pay for canners under the guidance of the director-general of Shizuoka’s Labor Standards Bureau. This was in effect the first agreement on a minimum wage to be concluded voluntarily by a business group in Japan. It was not legally binding. Moreover, it was different from the kind of collective agreement that is seen in countries like Germany and Italy, as no labor union was involved in the decision-making process. It was nothing more than a minimum wage

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<sup>15</sup> The following descriptions were made in reference to Fujinawa (1972), Nakamura (2000) and Roudou Chousakai (2009).

agreement among employers. Similar agreements were concluded in regions across Japan, promoted vigorously by the former Labor Ministry. By April 1959, when the Minimum Wages Act was enacted, a total of 127 such agreements were concluded. The legislation for agreement on minimum wages among employers came as the United States and other countries accused Japan of engaging in “social dumping” following a surge in Japanese exports, thereby impeding Japan’s accession to GATT. The legislation was also apparently intended to prevent a rise from being curbed, effected by means of a wage-fixing cartel, in the starting pay for workers in low-wage industries such as textiles, metals, and machinery, at a time when Japan was about to enter a period of high growth.

While the Minimum Wages Act had provisions that would enable collectively agreed-upon minimum wages and council-set minimum wages, minimum wage agreements among employers represented the prevailing arrangement in those days. At the same time, regional minimum wages based on agreements among employers also became widespread. However, minimum wages were applied unevenly from industry to industry and from region to region amid the high economic growth, and the minimum wage system came under fire for a lack of effectiveness due to the low level of minimum wages. Therefore, the Central Minimum Wages Council (comprised of seven representatives from each of government, labor and management), which was established after the enactment of the Minimum Wages Act, issued a recommendation report entitled *Business Sectors Covered by Minimum Wages and Minimum Wage Targets* in 1964. This report indicated region-specific and sector-specific numerical targets (three regions and two business sectors) for minimum wage levels. However, in 1966, sector-specific targets were abolished while region-specific targets continued to be indicated. Moreover, as the Central Minimum Wages Council called for a shift from minimum wages being agreed upon among employers to council-set minimum wages, a legal amendment was made so as to make the latter the standard, and minimum wage agreements among employers were abolished in 1968. This move was prompted by the fact that Japan was unable to ratify the relevant ILO convention as long as minimum wage agreements among employers that did not involve labor representatives in the wage-setting process were the standard.

In 1971, Japan ratified the ILO conventions on minimum wages (ILO Conventions 26 and 131) at long last. In the same year, deliberations on region-specific wages started under Article 16 of the Minimum Wages Act, which provided for the setting of minimum wages based on deliberations by a minimum wages council. Later, region-specific minimum wages spread rapidly under the Labor Ministry’s annual plans for promoting minimum wages, with workers throughout each prefecture becoming beneficiaries. Meanwhile, region-specific minimum wages collectively agreed upon under Article 11 of the Minimum Wages Act did not become widespread as an arrangement under the Japanese industrial relation based on company-based unions. Rather, council-set minimum wages came to be adopted as minimum wages specific to broad categories of business sectors.

The framework of Japan’s current minimum wage system was established in

1978, when the Central Minimum Wages Council started proposing targets to regional councils for increases in region-specific minimum wages. Under this system, prefectures were divided into four classes, for each of which a target for a minimum wage increase was indicated. However, agreement on a minimum wage increase was reached among government, labor, and management only for the first three years. Since 1981, labor and management have expressed, in their respective written opinions, their dissatisfaction with the targets indicated to each region by the council. Meanwhile, as the nature of industry-specific minimum wages changed, the existing arrangement was replaced in 1982 by a new industry-specific minimum wage system targeted at narrow categories of industries for which minimum wages need to be set at a higher level than region-specific minimum wages. Moreover, as a result of a legal amendment in 2007, industry-specific minimum wages applicable to contract workers, were introduced, as well.

The key features of the legal amendment of 2007 are provisions in Article 9 stipulating that for region-specific minimum wages, “consideration should be given to consistency with measures relating to public assistance” when the living expenses of workers are taken into consideration. This is based on the argument, made in a report entitled *Research Report on the Desirable State of the Minimum Wage System* (Ministry of Health, Labour and Welfare, 2005), that the fact that the level of minimum wages for single workers aged 18 and 19 in some regions are lower than the level of welfare benefits is inappropriate from the viewpoint of ensuring the minimum living expenses necessary for a healthy and civilized life and providing an incentive to obtain a job. While the former viewpoint is reasonable, the latter is somewhat questionable. Recipients of public assistance must pass a rigorous means test, and they also face inconveniences in their daily lives as they are subject to restrictions related to savings and ownership of securities, houses, and cars. In light of this, working at minimum wage and living on welfare benefits are not alternatives to each other. Still, it would be wrong to deny, as Tachibanaki and Urakawa (2006) did, the argument that it is difficult for human nature to accept that the income of people who work is lower than that of people who do not.

The level of minimum wages in Japan is low compared with minimum wages in other countries, as with the level of welfare benefits in Japan. What is wrong with Japan’s minimum wage system?

I used to serve as an independent member of Aichi Prefecture’s regional minimum wage council in the mid-1990s. According to my experience, members of the regional minimum wage council received reports on: the economic conditions in Japan, including the unemployment rate and the consumer price index; the state of spring wage negotiations; the results of a survey in June on wage revision; and the situation in other prefectures. Currently, the council may also receive reports on the level of welfare benefits in Aichi Prefecture. In the council’s deliberations, the management side always begins by insisting on not increasing wages, while the labor side calls for an increase larger than the target increase indicated

by the Central Minimum Wages Council. Independent members consider what an appropriate increase would be in light of the situation in neighboring prefectures like Gifu and Shizuoka and prefectures similar in economic strength to Aichi Prefecture, such as Osaka and Saitama. Unlike the Central Minimum Wages Council's decision-making process related to wage increase targets, the regional council's deliberations cannot be concluded unless the labor and management sides reach an agreement. As a result, deliberations could go on indefinitely over a wage increase of one yen. In many cases, council members who represent the labor side are union officials of major companies and representatives of the management side are executives of business associations. For such people themselves, whether or not to increase wages by one yen would not be an issue of personal interest. However, they have to explain the results of deliberations to their unions or associations. If they fail to provide convincing explanations, they could be taken to task for not performing their duties. Therefore, they cannot afford to accept an increase that is much different from the indicated target. What independent members should do is to find an acceptable compromise and explain it in plain terms to the representatives of labor and management.

The critical role of the Central Minimum Wages Council is presenting wage increase targets that both labor and management in each prefecture are likely to find easy to accept. In particular, care should be taken to ensure that the wage increase targets are set at a level that is acceptable to prefectures at or near the bottom of the wage league table. Further, the Central Minimum Wages Council needs to set targets at a moderate level in cases where the target is presented while labor and management remain sharply divided.<sup>16</sup> Meanwhile, the level of welfare benefits is set at approximately 60% of the consumption expenditures of a typical household, based on the standard level of welfare benefits determined by household type. In this sense, we may say that the level of welfare benefits is automatically determined. In the determination of the level of welfare benefits, Japan started with the market basket method and then shifted to Engel's coefficient method, the inequality-narrowing method, and the current balancing method in that order. The Social Security Council, comprised mainly of academics such as university professors, is responsible for deciding which method to use. Presumably, the difference in the level-setting method and the composition of the relevant deliberation council between minimum wages and welfare benefits has resulted in the difference in the "minimum living expenses necessary for a healthy and civilized life" as recognized under the minimum wage system and under the welfare system.

The situation changed considerably in 2007. The widening of income inequality, the presence of the working poor, and the reversal of the levels of minimum wages and welfare benefits have emerged as social problems, putting pressure on the government to seek to raise wages. To do this, the government decided to break with the conventional approach to minimum wages and achieved an increase of ¥14 in the national average minimum wage

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<sup>16</sup> Professor Tomoko Furugohri of Chuo University, who used to serve on the Central Minimum Wages Council, provided detailed descriptions of the deliberative process.

per hour. This was the first increase of more than ¥10 since the current system of indicating a target minimum wage increase in terms of hourly wages was introduced in fiscal 2002. In addition, as a result of the revision of this system following the amendment of the Minimum Wages Act in fiscal 2008, a new arrangement was introduced whereby in the 12 prefectures where the level of minimum wages is lower than the level of welfare benefits based on comparisons made under certain assumptions, the amount obtained by dividing the minimum wage shortfall from the expected number of years necessary for resolving the shortfall, or the target amount indicated by the Central Minimum Wages Council for their own class, whichever is higher, is adopted as a minimum wage increase target. As a result, a national average increase of ¥16 was achieved on a weight-averaged basis.

In 2009, the Central Minimum Wages Council proposed to maintain the current minimum wage level with regard to the 35 prefectures where the level of minimum wages is higher than the level of welfare benefits, and to refrain from raising minimum wage increase targets in light of the weakness of the economy. However, in all of those prefectures except for Niigata and Gifu, minimum wages were raised. As for the 12 prefectures where the level of minimum wages is lower than the level of welfare benefits, minimum wages were raised by a margin larger than the indicated target in some of them, including Tokyo. Moreover, in 2010, the comparison between the levels of minimum wages and welfare benefits was overhauled based on updated data, and a new target increase intended to resolve the shortfall of minimum wages against welfare benefits was adopted. Specifically, a target increase of ¥10 was indicated for all classes, and for prefectures where the minimum wage shortfall is larger than that figure, the amount of the shortfall was adopted as their target increase. Consequently, a national average increase of ¥17 was achieved. As described above, the minimum wage situation has changed considerably in recent years.

In 2009, the Democratic Party of Japan pledged, in its election manifesto, to seek to raise the national average minimum wage to ¥1,000 per hour while taking account of economic conditions. To honor that pledge, the national average minimum wage needs to be raised by nearly ¥270 per hour, as it stood at ¥713 in 2009 and at ¥730 in 2010. Nobody would expect for such a sharp minimum wage increase to have positive employment effects.<sup>17</sup> What should be considered is which types of workers will be significantly affected by a minimum wage increase. There are various types of low-paid workers, including homemakers and students working in part-time jobs, who are not necessarily members of low-income households, as well as workers who need to support themselves and their family members with their wages. Some workers accept low wages for the time being, as they

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<sup>17</sup> As described by Kawaguchi (2009), while few empirical studies have been conducted on the employment effects of minimum wages in Japan, three of the four studies which used prefecture-by-prefecture data found negative effects. Moreover, Abe and Tanaka (2007) found that region-specific minimum wages, which rose at an almost uniform rate across Japan in the 1990s, underpinned wages for part-time workers, a finding implies that the employment effect was significant in low-wage regions.

need training for the purpose of career formation. While all these workers are treated uniformly in terms of hourly minimum wages, it will be necessary to vary minimum wages according to the attributes of workers. According to eiroline (2005), in many EU countries, including the United Kingdom, France, the Netherlands, Ireland, and Belgium, minimum wages for young people are set low by age compared with those for adults. For example, in Belgium, a reduced minimum wage is set for each age category for young people: 70% of the full minimum wage for minors aged 16 or younger, 76% for 17-year-olds, 82% for 18-year-olds, 88% for 19-year-olds and 94% for 20-year-olds. In the Netherlands, the reduced minimum wages range from 30% for 15-year-olds to 85% for 22-year olds. In the United Kingdom and Ireland, reduced minimum wages are applied to new workers and trainees, as well.

Given that low-paid workers in Japan include homemakers and elderly people working as part-timers, it would be more rational to vary reduced minimum wage rates by the length of daily or weekly working hours than by age. An example of varied reduced rates might look like this: the low-end of starting pay for high school graduates working at small businesses<sup>18</sup> could be the minimum wage for workers who work 40 hours or more per week, and workers who work between 35 and 40 hours could be eligible for 94% of the full minimum wage, those who work between 30 and 35 hours for 88%, those who work between 25 and 30 hours for 82%, and those who work less than 25 hours for 76%. In this case, reduction of each five working hours means a cut of six percentage points compared with the full minimum wage. This reduction would take account of two factors, regardless of the reduction rates. One is a demand-side factor—the nature of a job and the scope of work duties vary according to the number of working hours, which means there are differences in productivity among workers with different working hours that cannot be explained by the length of working hours alone. The other is a supply side factor—some workers, such as homemakers and students working as part-timers, prefer shorter working hours, while others need longer working hours to earn enough to make a living.

In the future, as the employment arrangement diversifies, it will become increasingly important to vary minimum wages by the type of worker. While doing so will take effort and cost money, it will be essential to do away with what has become anachronistic because of globalization, such as industry-specific minimum wages intended to ensure fair competition, so that the necessary money and effort can be put into that task.

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<sup>18</sup> The approach of adopting the low-end of the starting salary for senior high school graduates as a minimum wage is in accordance with an agreement reached at the “growth potential-boosting roundtable,” which was established under the Cabinet Office.

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# Analysis of the Determinants of Minimum Wages in Japan\*

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This paper overviews Japan's minimum wage system and examines the determinants of "guideline increases (*meyasu-gaku*)," which are the increases in minimum wages recommended by the central council, and the actual minimum wage increases set by the regional councils. In Japan, minimum wages are deliberated upon mainly by advisory councils. The central council recommends the guideline increases and the regional councils set the actual increases. Our analysis found that the guideline increases are positively affected by the wage growth rates. Comments by public interest at meetings of the central council have suggested that their decisions on the guideline increases are influenced by the wage growth rate, and our estimation results also support the hypothesis that the guideline increases are positively affected by the wage growth rate. Because the council comprises workers represented by union officials, we examined the possible impact of the unionization rate on the guideline increases. We found that the guideline increase is not affected by the unionization rate. Our analysis indicated that the actual minimum wage increases are set close to the guideline increases. We also found that the actual increase is positively affected by the active job openings-to-applicants ratio. As with the guideline increases, however, our analysis showed that the actual increase is not affected by the unionization rate. In addition, we found that in 2007 and 2008, when the guideline increases were determined in light of the debates conducted by the Roundtable to Promote Strategy to Enhance Growth Potential (*seicho-ryoku sokoage senryaku suisin entaku kaigi*) which set a policy direction toward minimum wage increases, the actual increases were larger than those in other years.

## I. Introduction

This paper explains Japan's minimum wage system and its public framework for setting minimum wages. Then, it empirically examines the determinants of the minimum wage increases. Minimum wage level can be determined by two methods: the council method and the collective-agreement extension method. Japan employed both and now employs the council method. Japan's minimum wage system is applied to almost all the workers, however some countries allow lower minimum wage rates for young or disabled workers.

In the United States and Canada, minimum wages are set through congressional deliberations, and numerous studies have investigated on the influence of labor unions and po-

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litical parties on minimum wages.<sup>1</sup> Cox and Oaxaca (1982) investigated the union's influence of minimum wages by proposing a theoretical model and conducting an empirical analysis. Their study, which examined minimum wage legislation considering three groups—unionized skilled workers, non-unionized unskilled workers, and capitalists—showed that unionized workers call for minimum wage increases when they act on the basis of their own initiative. Their empirical analysis found that an increase of the unionized workers leads to the expected higher minimum wage level. Sobel (1999) found that the minimum wage is higher when the interests of labor unions are stronger relative to business interests. Canadian studies by Blais, Cousineau and McRoberts (1989) and Dickson and Myatt (2002) indicated that state minimum wages are not affected by the union.

Among the studies analyzing political influences on minimum wages, Besley and Case (1995) and Waltman and Pittman (2002) examined state minimum wages in the United States and suggested that the setting of them is affected by political factors. Blais, Cousineau and McRoberts (1989) and Dickson and Myatt (2002) found that minimum wages in Canada tend to be set at a low level under conservative governments, while Green and Harrison (2006) indicated that minimum wages are likely to be high under liberal governments.

In countries covered by those studies, researchers can explore the possibility of political influence on minimum wages because the political processes are involved in setting them. In Japan, however, political factors are unlikely to affect the process because minimum wages are determined mainly by regional councils, rather than through parliamentary deliberations. Still, Japan's minimum wage councils include representatives of labor unions which consist of workers with relatively high wages; it is possible that those councils' decisions represent the interests of unionized labor over the low-wage workers, who generally are non-unionized.<sup>2</sup> This paper also analyzes the impact of the unionization rate on minimum wages.

This paper is organized as follows. Section II explains Japan's minimum wage system. Section III analyzes the determinants of the guideline increases. Section IV analyzes the determinants of the actual minimum wage increases in prefectures. Section V summarizes our conclusion.

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<sup>1</sup> For researches on political influences on minimum wages, see Chapter 8 of Neumark and Wascher (2008).

<sup>2</sup> The Cabinet Order on the Minimum Wage Council stipulates that "when the Minister of Health, Labour and Welfare and the directors-general of the prefectural labour bureaus appoint members of the Central Minimum Wage Council and Regional Minimum Wage Councils who represent workers and employers, they should ask relevant labor unions and employer associations to recommend candidates within a reasonable period of time."

## II. Overview of Japan's Minimum Wage System<sup>3</sup>

The Minimum Wages Act constitutes the basis for the Japan's minimum wage system. The purpose of the minimum wage system is to improve the terms of employment by assuring that minimum wages are higher than the prescribed level. The system is also expected to improve the quality of labor forces and assure fair competition among companies. The minimum wage requirement is universally applied to all workers and employers, with a few exceptions that include workers hampered by physical or mental disability, workers employed on a trial basis, workers taking governmentally designated vocational training classes and meeting other conditions, workers who perform easy and simple jobs, and workers employed intermittently. Minimum wages are classified by coverage into two categories: the regional (prefectural) minimum wage and the "specified minimum wage" (specific to a region and to an industry). Our analysis focuses on the former since the number of workers to whom the latter applies is decreasing. Provisions of the revised Minimum Wages Act, enforced on July 1, 2008, permit reduced minimum wage rates in exceptional cases following a review. Although the council method and the collective-agreement extension method had been used in Japan, the collective-agreement extension method is set to be abolished two years after the entry-into-force of the revised Minimum Wages Act.

Under the council method, the Minister of Health, Labour and Welfare or the director-general of a prefectural labor bureau sets the minimum wage, when he or she deems it necessary, as dictated by the requirements of the Minimum Wage Act. The act requires that minimum wages be based on workers' costs of living, the level of wages for comparable workers, and the wage-paying capacity of ordinary businesses. A revision to the act in 2008 further required that regional minimum wages be considered in coordination with public assistance level. The respective ministers consult the relevant minimum wage council (the Central Minimum Wage Council in the case of the Minister of Health, Labour and Welfare and the Regional Minimum Wage Council in the case of the chief of the prefectural labor bureau). Councils are comprised of equal numbers of public interest and representatives of workers and employers.

Under the collective-agreement extension method, in cases where a worker-employer minimum wage agreement applies to most of the workers who are engaged in the same type of job in a specific region and their employers, and where a request for the extension of a minimum wage agreement is made based on the consensus of all unions and employers who are parties to the agreement, the Minister of Health, Labour and Welfare or the general-secretary of a prefectural labor bureau consults the relevant minimum wage council and adopts that agreement as one applicable to all non-unionized workers engaged in the same type of job and their employers as well.

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<sup>3</sup> For the details of the Japan's minimum wage system, see Hori and Sakaguchi (2005), Nakakubo (2009), and the Japan Institute for Labour Policy and Training (2010).

## 1. Regional Minimum Wages

Regional minimum wages are set separately by individual prefectures irrespective of industry category and job type. In principle, a regional minimum wage applies universally to workers and employers in the prefecture, and the employers who fail to comply are punishable by a fine of up to ¥500,000. Regional minimum wages are deliberated by the regional councils following “guideline increases (*meyasu-gaku*),” which is the amounts of minimum wage increases recommended by the central council, as well as wage levels in the relevant prefectures. The central council is responsible for recommending a guideline increase for each rank, and the regional councils set the actual minimum wage levels.

Regional councils are not bound by the guideline increases when determining regions’ actual minimum wage increases. Since workers and employers seldom reach agreement during the central council’s deliberation, a minimum wage increase recommended by public interest of the council is, in most case, ultimately adopted as the central council’s recommendation. Regional councils set or revise the minimum wage in light of the guideline increases.

Japan’s 47 prefectures are divided into four ranks—Rank A, Rank B, Rank C, and Rank D—with the guideline increases for each rank. Using the guideline increase for each rank as a benchmark, each regional council determines the minimum wage level. The classification, which is reviewed every five years, is made on the basis of index points gained by prefectures in relation to five benchmark indexes related to income and consumption, 10 indexes for salaries, and five indexes related to corporate management.<sup>4</sup> Prefectures are ranked according to the total index points and divided into four ranks to assure stable classification and minimize the disparity of the total points gained within the ranks. The Rank A region is the set of the highest index points, while the Rank D region corresponds to the lowest-index- points prefectures.

During deliberations, regional councils check the actual working conditions and the wage situation on the basis of the results of the Basic Surveys on Minimum Wages conducted by prefectural labor bureaus. They examine wage levels on the basis of the interview with the relevant unions and employers. Regional councils reach their conclusions after considering the cost of living, the starting salaries, minimum wages agreed upon between individual companies and their employees, the distribution of workers by wage class, and the number of workers whose wages fall below where a new minimum wage is likely to be set. However, it remains unclear to which factors regional councils give the biggest priority.

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<sup>4</sup> The specific benchmark indexes are as follows:

- Indexes related to income and consumption: prefectural income per capita, employee earnings, per-month expenditures, the Regional Difference Index of Consumer Prices and the average cost of living
- Indexes related to salaries: regular salaries, fixed cash payments, the first 20 percentile of fixed cash payment, the starting salaries for senior high school graduates
- Indexes related to corporate management: shipment value of manufactured products, annual transaction amount, annual sales, annual revenue, annual business income

Moreover, the revised Minimum Wages Act requires that consistency between minimum wages and public assistance level to assure that workers may maintain the minimum standards of wholesome and cultured living.<sup>5</sup> In minimum wage deliberations, it is required to eliminate the gap in prefectures where the minimum wage was lower than the public assistance level when working full-time. The gap, in principle, should be eliminated in two or three years where the increase required in the fiscal year to eliminate the gap would be high.<sup>6</sup>

## 2. Specified Minimum Wages

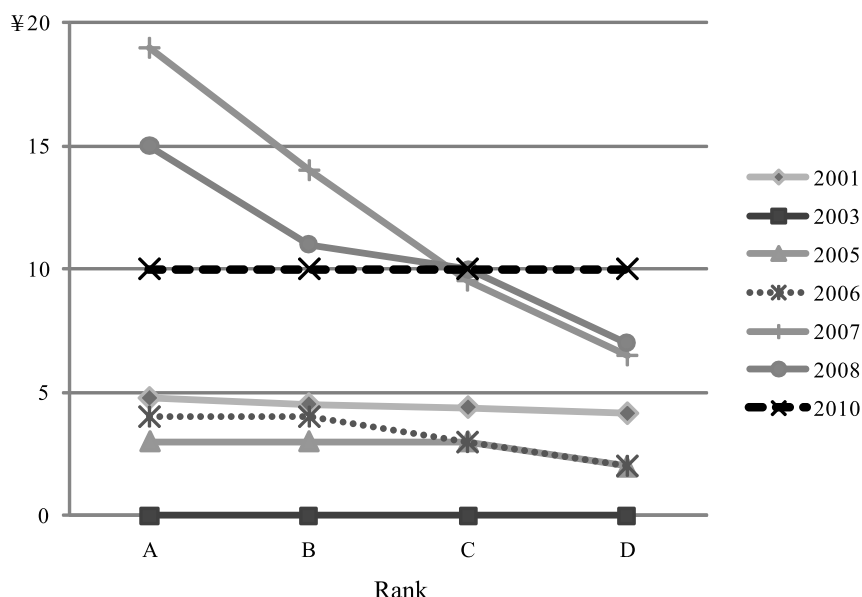
Specified minimum wages apply to an industry-specific group and a job category-specific group. Currently, only the former group exists. In some cases, the requirement for an industry-specific minimum wage is limited to a specific industry in a specified prefecture, and in other cases, the coverage is nationwide. In both cases, it applies only to workers and employers in the relevant establishments. Specified minimum wages are also divided into “a new system for industry-specific minimum wage” and an “old system for industry-specific minimum wage” (the standard in 1986). Under the new system, an industry-specific minimum wage is set at the petition of workers and employers when it is found to be necessary to set a minimum wage for the primary workers in the relevant industry at a level higher than the regional minimum wage, in order to improve the worker-employer relationships or to enhance fairness of competition in the relevant business sector. Industry-specific minimum wages set under the old system are required to be kept at the same level after fiscal 1999, with each of them to be abolished when eventually exceeded by the regional minimum wage for the relevant prefecture. As of fiscal 2009, the new system was applicable to 247 cases while the old system was applicable to just two cases.

Petitions by workers and employers are of two types. The first type of petition is made when a minimum wage agreed upon between workers and employers covers more than half of the primary workers in the relevant industry and when all parties to the agreement agree to the petition. The other type of petition is made when a universal minimum wage for all workers in the same type of job is needed to promote fair business competition. These petitions are made by a person who represents all or a portion of workers and employers to whom the industry-specific minimum wage applies.

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<sup>5</sup> The public assistance level compared with the minimum wage are those provided to single persons aged 12 to 19 in accordance with the standard set by the government.

<sup>6</sup> The election manifesto of the Democratic Party of Japan, which is the current ruling party, sets the goal of increasing the national average minimum wage to ¥1,000 per hour. As the first step toward achieving this goal, the DPJ is aiming to raise the national average to ¥800 per hour. In a special allocation under the fiscal 2011 budget, the government plans to provide cash incentives to companies planning wage increases so as to support small and medium-sized companies (Nikkei Newspaper, December 22, 2010).



Source: *On the Guideline Increase in Regional Minimum Wages* (recommendation report).

Note: Figures for 2002, 2004 and 2009 are not indicated, since no specific guideline increases were proposed.

Figure 1. Changes in the Guideline Increase

### III. Analysis of the Determinants of the Guideline Increases

This section analyzes the determinants of the guideline increases from 2001 to 2010. Figure 1 shows the changes in these amounts. The guideline increases for 2002, 2004 and 2009 are excluded, because no specific guideline increases were proposed in those years. A zero increase was recommended for all ranks in 2003. This figure shows that a particularly large increase was recommended for Rank A in 2007 and 2008.

#### 1. The Determinants of the Guideline Increases

Factors considered as the determinants of the guideline increases in regional minimum wages are: the rate of increase in the average cost of living; the wage growth rate; the rate of increase in manufacturers' gross value added per employee as a substitute for the wage-paying capacity of ordinary business; the ratio of workers whose wages will be below the revised minimum wage (impact ratio); and the ratio of workers whose wages are lower than the minimum wage before its revision (shortfall ratio).<sup>7</sup> It may be assumed that the

<sup>7</sup> It is assumed that the "wage-paying capacity of an ordinary business" as referred to in Article 9 of the Minimum Wages Act is not the paying capacity of specific companies but the paying capacity

rate of increase in the average cost of living, the wage growth rate, and the wage-paying capacity of ordinary business all positively affect the guideline increases.

The active job openings-to-applicants ratio is considered as a macroeconomic index because a higher active job openings-to-applicants ratio suggests better economic conditions, which presumably portend larger guideline increases.

Next, as with Cox and Oaxaca (1982), we examine the impact of the unionization rate on the guideline increases. At the central council, workers are represented by union officials, and in most cases, union officials elected as representatives receive wages well above the minimum wage level. This suggests the possibility that those union officials may respect the intent of their own unions in their approach to minimum wage increases, rather than the wishes of non-unionized low-wage workers. Hara and Kawaguchi (2008) found that unionized workers earn higher wages than non-unionized workers and Tachibanaki and Urakawa (2006) showed that the wages earned by unionized members are unlikely to be near the minimum wage level. In light of these findings, the unionization rate is presumed to positively affect the guideline increases.

To capture the macro shocks, we use the 2007 and 2008 year dummies. In 2007 and 2008, public interest of the central council stated that they paid special consideration to the debate on minimum wage increases conducted by the Roundtable to Promote Strategy to Enhance Growth Potential (reports by the central council's subcommittee on the guideline increases, 2007 and 2008). As shown in Figure 1, it is possible that the guideline increases in those years were determined in a manner differing from other years. That may be why the guideline increases in those years were higher than those in other years.

## 2. Estimation Results

We estimate the following equation:

$$\begin{aligned} guideline_{it} = & \alpha_0 + \alpha_1 living\_cost_{it-1} + \alpha_2 wage\_inc_{it} + \alpha_3 val\_add_{it-1} + \alpha_4 impact_{it} \\ & + \alpha_5 shortfall_{it} + \alpha_6 job\_a_{it-1} + \alpha_7 union_{it-1} + yr07\_08 \alpha_8 + u_{it} \end{aligned}$$

The elements of this equation are as follows:

“*guideline*”: the guideline increase

“*living\_cost*”: the rate of increase in the average cost of living

“*wage\_inc*”: the wage growth rate

“*val\_add*”: the rate of increase in manufacturers' gross value added per employee

“*impact*”: the impact ratio

“*shortfall*”: the shortfall ratio

“*union*”: the unionization rate

“*job\_a*”: the active job openings-to-applicants ratio.

“*yr07\_08*”: year dummies, with the variable for 2007 represented by “1” and those for

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that companies in general are expected to have (a research report by the Study Group on the Wage System [*Chingin-seido no arikata ni kansuru kenkyu-kai*], March 31, 2005).



other years by “0,” and the variable for 2008 represented by “1” and those for other years by “0”

“u”: error term

“i”: rank of regions and

“t”: the year when the guideline increase was set

The sample period is from 2001 to 2010 and the sample regions are those classified into Ranks A, B, C, and D. Since the rate of increase in the average cost of living, the rate of increase in manufacturers’ gross value added per employee, the unionization rate, and the active job openings-to-applicants ratio are the data compiled on a prefecture-by-prefecture basis, we calculate the averages of these data for each rank and each year after weight-averaging them according to either the population size or the number of employees. The wage growth rate, the impact ratio, and the shortfall ratio in year “t” are used, since the central council refer to the data of year “t.” As for other explanatory variables, the data used are those for the year “t-1,” since the guideline increases are determined in light of the previous year’s data for those variables.

Regarding the guideline increases, we must consider two points. First, the guideline increases in 2002, 2004 and 2009 were not proposed for all ranks, so the guideline increases in those years are set to zero. Second, for regions where the minimum wage level is below the public assistance level, the gap of the minimum wage against the public assistance level is indicated in place of the guideline increase. Since the calculation of this gap is not based on deliberations by the central council, we do not analyze the gap.

The average cost of living used in our analysis is the figure for people aged around 18 in single persons that are indicated in the reference materials. For wages, we selected the wage growth rate indicated in the Survey of Wage Revisions from among the wage data available. This is because this survey is intended for use in determining the guideline increases. In particular, the central council’s subcommittee on the guideline increases stated its “willingness to respect the Survey of Wage Revisions.”

The impact ratio and the shortfall ratio are indicated in the Basic Survey on Minimum Wages by year and rank. The unionization rate is calculated by dividing the number of union members by the total number of employees. Table 1 shows the descriptive statistics. For the sources of the data, refer to the Supplement.

Column (1) of Table 2 reports the results obtained through the estimation using the rate of increase in the average cost of living, the wage growth rate, the rate of increase in manufacturers’ gross value added per employee, the impact ratio and the shortfall ratio as explanatory variables. The coefficient of the rate of increase in the average cost of living is negative and insignificant due to the large standard error.<sup>8</sup> The coefficient of the wage growth rate is positive, and significant at the 1% level, which means that the higher the

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<sup>8</sup> Hereinafter, we use the words “insignificant” and “significant” to denote a statistical test at the 5 percent level.

Table 1. Descriptive Statistics

	Mean	Std. dev.	Min	Max
Guideline increase	4.344	5.025	0	19
Rate of increase in the average cost of living	0.013	0.107	-0.230	0.264
Rate of wage growth (%)	0.223	0.395	-0.300	1
Rate of increase in manufactures' gross value added per employee	-0.001	0.069	-0.148	0.251
Impact ratio	2.108	0.711	1	3.700
Shortfall ratio	1.565	0.553	0.600	3
Active job openings-to-applicants ratio	0.640	0.252	0.325	1.226
Unionization rate	0.242	0.039	0.188	0.321

Note: The number of observations is 40.

Table 2. Determinants of the Guideline Increases

Dependent variable:the guideline increase			
	OLS		
	(1)	(2)	(3)
Rate of increase in the average cost of living	-1.056 (6.067)	4.590 (6.525)	31.171 ** (9.059)
Rate of wage growth	9.086 ** (1.158)	7.702 ** (1.381)	3.538 ** (1.223)
Rate of increase in manufacturers' gross value added per employee	-22.048 (20.448)	-23.292 (18.781)	-9.106 (13.391)
Impact ratio	0.811 (0.912)	0.263 (1.112)	-0.881 (0.751)
Shortfall ratio	-1.796 (1.189)	-0.177 (1.622)	2.250 * (1.092)
Active job openings-to-applicants ratio		6.805 (4.206)	5.375 (2.860)
Unionization rate		-9.109 (11.582)	7.330 (8.202)
2007 dummy			14.187 ** (3.491)
2008 dummy			7.346 ** (1.378)
Constant	3.419 (1.922)	0.237 (6.397)	-5.981 (4.958)
R-squared	0.47	0.52	0.79

Note: The number of observations is 40. Robust standard errors are in parentheses. \* and \*\* indicate significant at 5% and of 1%, respectively.

wage growth rate is, the larger the guideline increase will be. While the coefficient of the rate of increase in manufacturers' gross value added per employee is negative and insignificant due to the large standard error. The coefficient of the impact ratio is positive, whereas that of the shortfall ratio is negative. In both cases, the coefficients are insignificant as the standard errors are large.

Column (2) of Table 2 shows the estimation results using the active job openings-to-applicants ratio and the unionization rate as additional variables of explanatory variables of Column (1). The coefficient of the rate of increase in the average cost of living is positive and insignificant. As for the wage growth rate, we found that a wage growth of one percentage point leads to a rise of approximately ¥8 in the guideline increase. The coefficient of the rate of increase in manufacturers' gross value added per employee is negative and insignificant, as the standard error is large. The coefficient of the impact ratio is positive and that of the shortfall ratio is negative as same in Colum (1), and is insignificant in either case. The coefficient of the active job openings-to-applicants ratio is positive and insignificant. The coefficient of the unionization rate is negative and insignificant, which means the unionization rate has no impact of the guideline increase.

Column (3) of Table 2 shows the estimation results using 2007 and 2008 dummies as additional variables of explanatory variables of Column (2). The coefficient of the rate of increase in the average cost of living is positive and significant. The coefficient of the wage growth rate is also positive and significant, with a wage increase of one percentage point leading to an increase of approximately ¥4 in the guideline increase. The coefficient of the rate of increase in manufacturers' gross value added per employee is negative and insignificant. The coefficient of the impact ratio is also negative and insignificant, whereas that of the shortfall ratio is positive and significant. The coefficients of the active job openings-to-applicants ratio and unionization rate are positive and insignificant. The coefficients of both of the 2007 dummy and the 2008 dummy are positive and significant. This suggests that the guideline increase was set at a high level in those years compared with other years once other conditions were controlled.

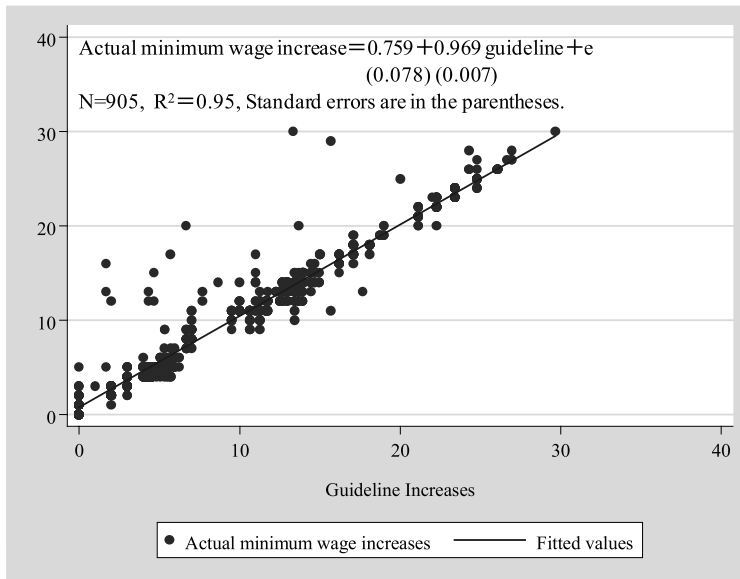
These findings indicate that the guideline increase is positively affected by the wage growth rate as suggested by comments made by the central council's subcommittee on the guideline increases and by public interest. Labor unions do not have a significant impact on the guideline increase, despite having substantial representation at the central council, presumably because the council's guideline increases primarily reflect the opinions of public interest.<sup>9</sup> However, the sign and significance of the coefficients are not robust in the analysis we made in this section. It is possible that multicollinearity arose due to a strong correlation between the explanatory variables, and thus, further analysis using a larger number of observations will be necessary.

#### **IV. Analysis of the Determinants of the Actual Minimum Wage Increases**

In this section, we analyze the determinants of the actual minimum wage increases. How much importance do the regional councils attach to the guideline increases? Other than

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<sup>9</sup> When we made our analysis using the rate of increase in the shipment value of manufactured products in order to check robustness, our finding was almost the same.



Source: *Directory of Minimum Wage Decisions* (Each year).

Figure 2. The Guideline Increases and the Actual Minimum Wage Increase

the guideline increases, to which factors do regional councils pay attention when determining the actual increases?

Figure 2 indicates the relationship between the guideline increases and the actual minimum wage increases, and it shows that the former does not exactly match the latter. When the guideline increase is regressed on the actual increase, the coefficient comes to 0.969. The null hypothesis that the coefficient is 1 is rejected. (F-value = 22.47, P-Value = 0.000).

### 1. The Determinants of Actual Minimum Wage Increases

Regional councils supposedly determine the actual minimum wage increases after considering to the guideline increase. This means that the coefficient of a guideline increase would be 1 in cases when regional councils comply with the guideline increase. In cases where regional councils do not pay much attention to a guideline increase, either the coefficient of the guideline increase would be a value other than 1, or insignificant.

We use as variables the rate of increase in the average cost of living, the wage growth rate and the rate of increase in the value of manufactures' gross value added per employee as a substitute benchmark for the wage-paying capacity. We may assume that the higher rate of increase in the average cost of living leads to the larger actual minimum wage increase. We use the wage growth rate for female part-time workers and the rates of increase in the starting salary for male and female senior high school graduates. We may assume that the

higher these rates are, the larger the actual minimum wage increase will be. The rate of increase in the value of manufacturers' gross value added per employee is also assumed to have a positive impact on the actual minimum wage increase.

The actual minimum wage increase is presumably affected by the economic conditions in the relevant prefecture. Therefore, we also use as explanatory variables the Regional Difference Index of Consumer Prices (Tokyo's 23 wards = 100), the results of spring wage increase negotiations (the ratio of companies that increased wages in the spring), the active job openings-to-applicants ratio, and per-capita income of the relevant prefecture. All these variables assumed to be positively affected by the economic conditions of the prefecture and, consequently, to the actual minimum wage increase.

As the central council, the regional councils also include union representatives, we may assume that, like the guideline increases, the actual increases may be positively affected by the unionization rate. To capture the macro shocks that cannot be explained by the explanatory variables above, we also use year dummies.

## 2. Estimation Results

We estimate the following equation:

$$\begin{aligned} actual_{jt} = & \beta_0 + \beta_1 guideline_{jt} + \beta_2 living\_cost_{jt-1} + wage\_inc_{jt-1} \beta_3 + \beta_4 val\_add_{jt-1} \\ & + \beta_5 union_{jt-1} + economics_{jt-1} \beta_6 + year \beta_7 + c_j + e_{jt} \end{aligned}$$

The elements of this equation are as follows:

“*actual*”: the actual minimum wage increase

“*guideline*”: the guideline increase

“*living\_cost*”: the rate of increase in the average cost of living

“*wage\_inc*”: the vector of the wage growth rate variables

“*val\_add*”: the rate of increase in manufacturers' gross value added per employee

“*union*”: the unionization rate

“*economics*”: the vector of economic variables

“*year*” for the vector of the year dummies

“*c*”: the time-invariant prefectural fixed effect

“*e*”: the idiosyncratic error term

“*j*”: the prefecture and

“*t*”: the year when the actual increase is set

This section focuses on the fixed-effects model, which considers time-invariant prefectural effects.

The sample period is from 1993 to 2009 and the sample regions are Japan's 47 prefectures. The actual minimum wage increase used in the model is calculated by subtracting the minimum wage level in the year “t-1” from the minimum wage level in the year “t.” For prefectures where the minimum wage level may be lower than the public assistance level,

we use the gap between the guideline increase and the public assistance level divided by 3 as a proxy variable for the guideline increases.<sup>10</sup>

The Osaka prefectural government ceased to disclose data on the average cost of living in 1996, but the Osaka city government began disclosing such data in 1999. Accordingly, in our analysis we used data disclosed by the Osaka prefectural government for the period up until 1996, and data disclosed by the Osaka city government from 1999 onward. Meanwhile, the Hyogo prefectural government did not disclose the average-cost-of living data in 1995, because the Hanshin-Awaji Earthquake struck the region. As a result, our analysis does not cover data for Osaka Prefecture in 1996 and 1997 or data for Hyogo Prefecture in 1995. Thus, the number of observations comes to 794.

The wage growth rate for female part-time workers is calculated on the basis of regular hourly pay for such workers at private establishment with 10 to 99 employees. The Regional Difference Index of Consumer Prices (relative regional consumer price index, hereafter) is calculated with the figure for Tokyo's 23 wards used as the base of 100. The results of spring wage negotiations are represented by those small- and medium-sized companies, namely companies with a workforce of up to 299 employees. For the sources of data, refer to the Supplement. Table 3 shows the descriptive statistics. The minimum actual minimum wage increase was zero implying that the minimum wage was not increased in some years.

Columns (1) and (2) of Table 4 report the estimation results of the pooled OLS. In Column (1), the coefficient of the guideline increase is 0.992 and significant. The null hypothesis that the coefficient of the guideline increase is 1 is not rejected (F-value = 0.13, P-value = 0.72). We found that the actual minimum wage increase is not affected by either of the rate of increase in the average cost of living, the wage-paying capacity, or the wage growth rate, all of which are supposed to be used as a reference in setting the minimum wage level. The coefficient of the rate of increase in the value of manufacturers' gross value added per employee is also positive and insignificant.

The coefficient of the rate of increase in the relative regional consumer price index is negative and insignificant. The coefficient of the status of spring wage negotiations is negative, which indicates that the higher the ratio of small- and medium-sized companies that have increased wages in spring is, the lesser the actual the minimum wage increase will be. The coefficient of the active job openings-to-applicants ratio is positive, indicating that the better the economic conditions are, the larger the actual minimum wage increase will be. The coefficient of the rate of increase in prefectural income per capita is positive and significant. The coefficient of the unionization rate is negative and significant.

Column (2) of Table 4 reports the estimation results using year dummies as additional variables in order to capture the impact of nationwide shocks. Although the coefficient of

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<sup>10</sup> As the guideline increase for each rank was expressed as daily wages until 2001 and has been expressed as hourly wages since 2002, we converted daily wages for 2001 and earlier into hourly wage terms on the assumption of eight regular working hours per day.

Table 3. Descriptive Statistics

	Mean	Std. dev.	Min	Max
Actual minimum wage increase	7.713	5.738	0	30
Guideline increase	7.326	5.824	0	29.667
Rate of increase in the average cost of living	0.007	0.129	-0.465	0.559
Wage growth rate for female part-time workers	0.019	0.057	-0.195	0.286
Rate of increase in starting salary for male senior high school graduates	0.009	0.028	-0.111	0.127
Rate of increase in starting salary for female senior high school graduates	0.010	0.036	-0.246	0.329
Rate of increase in manufacturers' gross value added per employee	0.017	0.060	-0.285	0.684
Rate of increase in the relative regional consumer price index (Tokyo's 23 wards = 100)	0.002	0.008	-0.025	0.037
Status of spring wage negotiations	2.140	1.070	0.740	5.300
Active job openings-to-applicants ratio	0.677	0.304	0.150	1.970
Rate of increase in the prefectural income per capita	0.008	0.044	-0.213	0.473
Unionization rate	0.263	0.048	0.140	0.417

Note: The number of observations is 794.

Table 4. Determinants of the Actual Minimum Wage Increases

Dependent variable: the actual minimum wage increase	Pooled OLS		FE	
	(1)	(2)	(3)	(4)
	Guideline increase	0.992 ** (0.021)	0.969 ** (0.058)	0.981 ** (0.019)
Rate of increase in the average cost of living	-0.016 (0.257)	-0.047 (0.184)	0.079 (0.248)	-0.073 (0.184)
Wage growth rate for female part-time workers (hourly wages)	0.768 (0.699)	0.551 (0.641)	0.531 (0.671)	0.621 (0.643)
Rate of increase in starting salary for male senior high school graduates	0.970 (0.793)	-1.131 (0.764)	0.584 (0.775)	-0.987 (0.754)
Rate of increase in starting salary for female senior high school graduates	0.354 (0.802)	0.458 (0.801)	0.098 (0.775)	0.676 (0.746)
Rate of increase in manufacturers' in gross value added per employee	0.176 (0.858)	0.960 (0.669)	0.510 (0.798)	1.099 (0.640)
Rate of increase in the relative regional consumer price index (Tokyo's 23 wards = 100)	-2.930 (2.835)	-1.755 (4.485)	-0.603 (2.699)	-1.713 (4.269)
Status of spring wage negotiations	-0.210 * (0.095)	0.340 (0.236)	-0.058 (0.061)	0.162 (0.203)
Active job openings-to-applicants ratio	0.685 ** (0.162)	0.069 (0.194)	1.070 ** (0.229)	0.611 * (0.264)
Rate of increase in the prefectural income per capita	2.438 ** (0.805)	-0.022 (0.615)	0.964 (0.788)	-0.308 (0.766)
Unionization rate	-5.030 ** (1.189)	-0.341 (1.098)	-9.552 ** (2.128)	0.428 (2.238)
Constant	1.707 ** (0.350)	-0.987 (0.870)	2.406 ** (0.573)	-0.629 (0.928)
Year dummies	No	Yes	No	Yes
R-squared	0.97	0.98	0.98	0.98

Note: The number of observations is 794. Robust standard errors are in parentheses. \* and \*\* indicate significant at 5% and of 1%, respectively.

the guideline increase is statistically significant, its size, 0.969, is smaller than the coefficient of the guideline increase in Column (1). The null hypothesis that the coefficient of the guideline increase is 1 is not rejected (F-value = 0.28, P-value = 0.60). Coefficients of all variables other than the guideline increase are insignificant.

Columns (3) and (4) of Table 4 show the estimation results of the fixed-effects model to take account of time-invariant prefectural fixed effects, such as a propensity toward a relatively large minimum wage increase. In Column (3), which does not use year dummy variables, the coefficient of the guideline increase is 0.981 and significant. The null hypothesis that the coefficient of the guideline increase is 1 is not rejected (F-value = 0.97, P-value = 0.33). The coefficients of the rate of increase in the value of manufacturers' gross value added per employee and the rate of increase in the average cost of living are positive and insignificant. The coefficients of the wage growth rate for female part-time workers and the rate of increase in the starting salary for male and female senior high school graduates are positive, their sizes are smaller than the comparable coefficients in Column (1), and are insignificant in either case. The coefficient of the relative regional consumer price index is negative and insignificant. The coefficient of the status of spring wage negotiations is negative and insignificant. The coefficient of the active job openings-to-applicants ratio is positive and significant. While the coefficient of the rate of increase in per-capita income of the prefecture is positive, its size is too small so the coefficient is insignificant. The coefficient of the unionization rate is negative and significant.

Column (4) of Table 4 represents the estimation results using year dummies as additional variables. The coefficient of the guideline increase is positive, its size, 0.948, is smaller than the comparable coefficient in Column (3). The null hypothesis that the coefficient of the guideline increase is 1 is not rejected (F-value = 0.80, P-value = 0.37). Unlike the result that is not included year dummies, the coefficient of the rate of increase in the average cost of living is negative and insignificant. The coefficients of the wage growth rate for female part-time workers and the rate of increase in the starting salary for female senior high school graduates are positive and insignificant. The coefficient of the rate of increase in the starting salary for male senior high school graduates is negative and insignificant, although the size of the coefficient is larger than when year dummies are not included in the estimated model. The coefficient of the rate of increase in the value of manufacturers' gross value added per employee is positive and insignificant. As for variables related to economic conditions, only the coefficient of the active job openings-to-applicants ratio is positive, and its size is large enough to indicate significance. As for the variables of other economic conditions, the coefficient of the relative regional consumer price index is negative and insignificant, while the coefficient of the index that represents the status of spring wage negotiations is positive, but the size of the coefficients is too small to indicate statistical significance. The coefficient of the rate of increase in prefectural income per capita is negative and insignificant. The coefficient of the unionization rate is positive and insignificant.

The above analysis shows that the actual minimum wage increase is affected by the



guideline increase, with an increase of ¥1 in the guideline increase corresponding approximately to a ¥1 actual increase. It also indicates that the active job openings-to-applicants ratio positively affects the actual minimum wage increase. Other variables, notably the rate of increase in the average cost of living, the rate of increase in manufacturers' gross value added per employee, and the wage growth rate have little impact on the actual minimum wage increase. The analysis also suggests that the actual minimum wage increase is not affected by the unionization rate. This finding indicates that, as with the guideline increase, opinions of workers' representatives are not necessarily reflected in the outcome of minimum wage deliberations.<sup>11</sup>

## V. Conclusion

This paper has overviewed the Japan's minimum wage system and analyzed the determinants of the guideline increase (*meyasu-gaku*) and actual increases in regional minimum wages. Our analysis found that the guideline increase is positively affected by the wage growth rate indicated in the Survey of Wage Revision. Comments by public interest at meetings of the Central Minimum Wage Council have suggested that importance is placed on the wage growth rate in the determination of the guideline increases, and our empirical analysis also support the hypothesis that the guideline increases are positively affected by the wage growth rate.

On the other hand, the results indicated that the guideline increases are not affected by either the rate of increase in the cost of living, the wage-paying capacity, or the active job openings-to-applicants ratio. We also examined the possible impact of unionization rate on the guideline increases and found that there is no effect in light of the possibility that deliberations by the central council reflect the will of unions, which is mostly organized by higher-wage workers, rather than those of low-wage workers.

Our analysis indicated that the actual minimum wage increases are set at a level close to the guideline increases. However, we found that the actual minimum wage increase is not affected by some of the indexes supposed to be used as a reference, such as the rates of increase in the average cost of living and in the starting salary for senior high school graduates. We found that the actual minimum wage increase is not affected by the unionization rate.

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<sup>11</sup> In light of the fact that zero is the threshold for the actual minimum wage increase, which is the dependent variable, we estimate Tobit model to validate our analysis. We found little change in the coefficient sign and the significance level.

## Supplement

### Data Sources Used in This Article

Guideline increase	<i>On the Guideline Increase in Regional Minimum Wages</i> (recommendation report)
Minimum wage level	<i>Regional Hourly Minimum Wages</i> (recommendation report)
Changes in the average cost of living in each prefecture (each prefectural capital) (for people aged around 18 in one-person households)	<i>Report and Recommendation on Salaries for Employees</i>
Wage growth rate	<i>Survey of Wage Revisions</i>
Number of unionized workers	<i>Basic Survey on Labor Unions</i>
Number of employees	<i>Monthly Labour Survey</i>
Gross value added in manufacturing industry in each prefecture	Census of Manufactures
Number of employees engaged in manufacturing industry in each prefecture	Census of Manufactures
Impact ratio	<i>Basic Survey on Minimum Wages</i>
Shortfall ratio	<i>Basic Survey on Minimum Wages</i>
Hourly regular wages for female part-time workers (at companies employing 10 to 99 workers)	<i>Basic Survey on Wage Structure</i>
Starting salary for new graduates (male senior high school graduates)	<i>Basic Survey on Wage Structure</i>
Starting salary for new graduates (female senior high school graduates)	<i>Basic Survey on Wage Structure</i>
Status of spring wage negotiations in each prefecture (at companies employing up to 299 workers)	Labour Union Division, Labour Bureau, Ministry of Labor; Office of Counsellor in charge of labor relations, Ministry of Health, Labour and Welfare
Relative regional consumer price index for each prefecture (for each prefectural capital) (Tokyo's 23 wards = 100)	<i>Consumer Price Index</i>
Active job openings-to-applicants ratio in each prefecture (excl. part-timers)	<i>Employment referral statistics</i>
Prefectural income per capita	<i>Prefectural Accounts</i>

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# Minimum Wages and Employment in Japan\*

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This paper surveys issues associated with the minimum wage and its economic impacts in Japan. First, I discuss how the minimum wage is discussed in recent political debates. Next, I explain economic factors surrounding the Japanese labor market that are related to the minimum wage: specifically, I take up the issues of globalization and “mismatch” (i.e., a labor shortage exists in some industries and/or occupations and, at the same time, there is unemployment). Then, I provide an overview of facts regarding the minimum wage for the past two decades. Finally, I critically review recent empirical studies that examine the employment effects of the minimum wage (Tachibanaki and Urakawa 2007; Kambayashi, Kawaguchi, and Yamada 2009).

## I. Introduction

In this paper, I provide a general overview of the issues surrounding the minimum wages in Japan. In doing so, attention is paid to the findings of the previous empirical studies in economics. The minimum wage has recently attracted attention in the public policy arena because the number of people working under the non-regular (*hi-seiki*) status has increased, and because concerns about poverty have started to attract more attention than before. I argue that the Japanese economy is going through a major transition because of increasing globalization and demographic changes, and this transition will have implications for the minimum wage policy.

In the 1990s, the regional (prefectural) minimum wage in Japan was set low compared to the average wages in the region. However, this pattern has been changing since the mid-2000s, for two reasons. First, the minimum wage rose after the revision of the law in 2007. Second, the average wage has not grown recently. Therefore, I argue that the minimum wage policy in the future should be more cautious about the employment loss than it has been in the past.

This paper is organized as follows. In the next section, I explain the recent political environment surrounding the minimum wage in Japan. In Section III, I discuss about recent economic issues in Japan and their relationship to minimum wage setting. The issues I take up are (i) the increasing degree of globalization and (ii) shifts in labor demand induced by the demographic changes. In Section IV, the procedures of the minimum wage setting are explained. The minimum wage law was changed in 2007, which in turn changed minimum wage setting from that in the previous times. Then the facts regarding regional wages are

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presented. In Section V, the recent empirical studies of the employment effect of the minimum wage are explained, and possible concerns for their interpretations are discussed. In Section VI, I discuss the issues concerning the minimum wage policy in the future.

## II. Political Environment and the Minimum Wage

Raising the minimum wages has been a policy agenda of recent Japanese administrations. Prime Minister Taro Asoh, in his policy speech for the 170th session of the Diet, mentioned the increase of the minimum wage as part of his policy agenda. The Democratic Party of Japan (DPJ) had also made a campaign promise to raise the minimum wages, during the lower-house election in September 2009, which the DPJ won by a landslide victory.<sup>1</sup> The manifesto of the DPJ states that the short-term minimum wage target is 800 yen per hour nationwide and that the medium-term target is 1,000 yen per hour. These political moves have had an impact on the minimum wage level. For instance, Tokyo's minimum wage rose from 719 yen in 2006 to 821 yen in 2010, a 14% increase in four years. The details of the recent minimum wage changes are explained in Section III.

As these political events indicate, the minimum wages have been a politically popular topic. One of the reasons is that it does not require any direct government spending. This is not surprising because this policy is popular in other countries for exactly the same reason (Card and Krueger 1995, chap. 12). Furthermore, the minimum wage has attracted more attention in the public policy arena recently than it did in the past, because more people work in the low-wage labor market and because the high level of poverty in Japan attracted attention.

At the same time, however, the minimum wage is neither a particularly effective nor a particularly efficient tool to reduce poverty. These conclusions have been drawn from empirical research conducted in the United States and Japan (e.g., Card and Krueger 1995; Kawaguchi and Mori 2009). The power of minimum wage is even more limited in Japan than in other countries because the minimum wage levels in Japan had been low compared to the market wage. Thus, the minimum wages had not been an effective wage floor (Section III). If the minimum wages do not have much power in countries where they *are* an effective wage floor, then a natural inference would be they are less effective where they are not. On the other hand, however, it is important to note that the minimum wages have become more binding in Japan recently, which might make their functioning closer to that in the other countries.

## III. Economic Environment for Raising the Minimum Wage

As explained above, the minimum wages are politically popular. Nevertheless, the

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<sup>1</sup> With this victory, the DPJ gained the majority in the lower house, ousting the erstwhile ruling party—the Liberal Democratic Party (LDP). The LDP had been in power for more than 50 years.

economic environment is not as favorable for raising minimum wages. In this section I discuss two factors and their relation with the issue of raising minimum wages.

### 1. Globalization and the Minimum Wage

Undeniably, globalization has accelerated in the Japanese economy over the past decade. The labor market environment for raising the minimum wages may have changed over this period. In the past, minimum wages were not binding in the low-wage labor market (Abe 2001; Hori and Sakaguchi 2005). If they are not binding, we do not expect that raising them would have discernable effect; they can be raised easily. Since the minimum wages are farther below the market wages in urban areas than they are elsewhere, the impact in urban areas would be smaller than it would be elsewhere.

The recent macroeconomic environment, however, is different from this. The Japanese economy has been experiencing deflation, and at the same time, globalization is now affecting the Japanese labor market to a greater degree than before. Wage are not growing as much as they did previously: for example, according to the Monthly Labour Survey (*Mait-suki Kinro Tokei Chosa*, Ministry of Health, Labour and Welfare of Japan), the real wage index (*jissitsu chingin shisu*) in 2009 was 94.3, which means that wages in 2009 were 5 percent lower than the level in 2005 (the base year of the index). This is true for both regular full-time workers and part-time workers. Furthermore, Japanese firms are now much more likely to locate outside of Japan, owing to high corporate tax rates and strong yen.<sup>2</sup> Regardless of the causes, jobs seem to be migrating from Japan to overseas locations at an accelerating rate, and the concern for job loss seems to be more serious than ever. To my knowledge, there is little empirical research that quantifies this effect on the Japanese labor market. Nevertheless, in such an environment, the logical prediction is that the forces to increase wages are weak. Although this is true for any wages, it is most relevant for wages in the low-wage labor market, or wages in sectors that are exposed to international competition (e.g., manufacturing).

Another relevant aspect is the population decline in Japan. Japan's market size is shrinking: the attractiveness of the Japanese consumers' market will not be as high as it was earlier. Japanese or foreign firms have less incentive to locate their establishments in Japan. This weakens the labor demand in Japan and is not an encouraging factor for wage growth.

The greatest concern for minimum wage policy is that the increase in the minimum wage costs employment: that is, there will be less employment under higher wages, causing some who are willing to work to be unable to do so. This issue has induced economists to study the employment effects of the minimum wage in a credible, scientific way. The above issue of job migration from Japan to overseas locations is also a concern for employment loss. If the government were to reduce corporate tax, it would be introducing a policy that

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<sup>2</sup> Despite the tremendous amount of outstanding government debt, a provision to reduce the statutory corporate tax rate from 30% to 25.5% was included in the 2011 tax reform. The law with this provision has been submitted to the 177th session of the Diet.

costs tax money to prevent job loss.<sup>3</sup> Although I am not making a quantitative assessment of the two policies here, when a costly policy is to be implemented, a costless policy should be implemented too. This argument suggests that the reasons for raising the minimum wage are not strong in the current economic environment.

## 2. Mismatch and the Minimum Wage

As mentioned in the last subsection, globalization is likely to put downward pressure on wages in Japan. On the other hand, the demographic changes in Japan have altered the composition of labor demand. For instance, the demand for long-term caregivers has increased dramatically over the past 10 years. In the labor market of long-term care workers, supply falls short of demand: there is a labor shortage. More generally, there are industries that experience similar labor shortages (e.g., medical care workers such as nurses, and nursing care workers). These service sector industries have recently increased in importance owing to population aging and increasing labor force participation by women. Wages in these industries are perhaps not sufficiently high to attract supply to meet demand. Policy discussions have been that wages of these industries should be raised to attract workers to these occupations. The reasons for raising wages for these workers are strong; however, raising the minimum wages is not an effective tool for raising wages in these occupations, because their wages are already far above the minimum wages.<sup>4</sup>

## IV. The Movement of the Minimum Wages

### 1. Minimum Wage Setting in Japan

In this section, the procedures of minimum wage setting in Japan are briefly explained.<sup>5</sup> The central minimum wage council sets the “suggested amount of increase (*meyasu*)” for the regional minimum wages each year. The suggested level is set for four ranks (A–D), into which the 47 prefectures are classified. This classification has changed slightly over time.<sup>6</sup> The *meyasu* virtually determined the increase every year: from 1993 to 2006, 90% of the minimum wage increases was exactly equal to, 1 yen lower, or 1 yen

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<sup>3</sup> The reduction in corporate tax, at least in the short run, is likely to reduce the tax revenue. Assuming that the minimum wage change is neutral to government spending, it is possible to argue that reducing corporate taxes for the sake of keeping jobs in Japan is more costly (due to the loss in tax revenue) than not raising the minimum wage (which has no effect on government budget).

<sup>4</sup> More generally, the minimum wage is probably not an effective tool in affecting the part-time wage to a significant degree. Although the average part-time wage was lower than the average full-time wage (Abe and Tanaka [2007] report that the part-time/full-time wage ratio for female workers in 2001 was 51%), the regional minimum wages were 10–20% lower than the part-time wage. It is unlikely that the minimum wage was a binding constraint as a wage floor. However, this situation may have changed over time.

<sup>5</sup> Detailed explanations are also found in Kawaguchi and Yamada (2007), Kambayashi, Kawaguchi, and Yamada (2009), and Tamada (2009).

<sup>6</sup> A relatively significant reclassification occurred in 2005. Aichi and Chiba prefectures, which had been in the B rank before 2005, have been included in the A rank since then.

Table 1. Regional Disparities in the Minimum Wage

Prefecture	1990	2000	2006	2010	minimum wage in 2010 (in yen)
1 Hokkaido	0.903	0.900	0.896	0.842	691
11 Saitama	0.962	0.957	0.955	0.914	750
12 Chiba	0.962	0.956	0.955	0.906	744
14 Kanagawa	0.995	0.997	0.997	0.996	818
23 Aichi	0.969	0.963	0.965	0.907	745
26 Kyoto	0.962	0.957	0.954	0.912	749
27 Osaka	0.998	0.994	0.990	0.949	779
28 Hyogo	0.962	0.954	0.950	0.894	734
35 Yamaguchi	0.901	0.899	0.898	0.829	681
47 Okinawa	0.854	0.853	0.848	0.782	642

Source: Author's calculation from the minimum wage data.

Note: The entries show the ratio of the regional minimum wage of each prefecture to Tokyo's minimum. Tokyo's minimum in 2010 was 821 yen.

higher than the *meiyasu* amount. Basically, the deviation from the *meiyasu* is slight.

There are heterogeneities in the minimum wage and the average wage levels among the prefectures within each of the four ranks. For instance, Tokyo is an outlier in the A rank; Tokyo's Kaitz index is higher than that of other rank A prefectures. This is true even though Tokyo's minimum wage is higher than those of other rank A prefectures (of course, Tokyo's minimum wage is the highest of all prefectures in Japan). For another example, Okinawa's Kaitz index is higher than other rank D prefectures.

A major legal change took place in the revision of the minimum wage law in 2007: the new law states that the minimum wage levels should be set so that they are consistent with the welfare benefit levels in the region. The minimum wages are set at the prefectural level, while the welfare benefits are set at the municipal level. Although the welfare benefits and the minimum wages are set in different schemes, regional disparities of their ratio remained almost constant between 1990 and 2005 (based on the method used in Abe and Tamada [2007]).

The new law, which became effective in 2007, changed this relative constancy in regional minimum wages. From 2007 onwards, the minimum wage increases were not uniform across prefectures, and Tokyo's increase surpassed increases in other prefectures. Table 1 shows the ratios of the prefectural minimum wages to Tokyo's minimum wage for the selected prefectures. As indicated in Table 1, the relative minimum wages in regions outside Tokyo were almost constant between 1990 and 2006, but mostly fell between 2006 and 2010 (except for Kanagawa). The new law might have created an opportunity to examine how changes in the minimum wages affect employment, because the growth in the minimum wage is not uniform across regions.<sup>7</sup>

<sup>7</sup> At the time of writing this paper, however, not much data are available to conduct such an analysis (the data after 2008).



Table 2. Kaitz Index

	Rank in 2010	1990	2000	2007	2009
<i>Derived from male average wage</i>					
Hokkaido	C	0.353	0.364	0.383	0.405
Saitama	B	0.319	0.339	0.362	0.378
Chiba	A	0.317	0.323	0.348	0.373
Tokyo	A	0.271	0.289	0.290	0.316
Kanagawa	A	0.306	0.327	0.333	0.368
Aichi	A	0.318	0.329	0.343	0.362
Kyoto	B	0.320	0.332	0.343	0.366
Osaka	A	0.306	0.329	0.339	0.357
Hyogo	B	0.320	0.321	0.352	0.364
Yamaguchi	C	0.334	0.339	0.366	0.384
Okinawa	D	0.367	0.395	0.423	0.441
<i>Derived from female average wage</i>					
Hokkaido	C	0.552	0.526	0.553	0.546
Saitama	B	0.506	0.484	0.499	0.532
Chiba	A	0.483	0.467	0.496	0.517
Tokyo	A	0.437	0.422	0.414	0.442
Kanagawa	A	0.471	0.465	0.477	0.497
Aichi	A	0.519	0.505	0.510	0.524
Kyoto	B	0.488	0.463	0.488	0.500
Osaka	A	0.494	0.484	0.496	0.490
Hyogo	B	0.495	0.493	0.514	0.505
Yamaguchi	C	0.552	0.533	0.547	0.522
Okinawa	D	0.551	0.547	0.539	0.554

Source: Author's calculation from aggregate data of the BSWS.

## 2. Kaitz Index

The Kaitz index is used for measuring the real level of minimum wage. It is defined as the ratio of the minimum wage to the mean (average) wage. The idea of dividing by the mean wage is to adjust the minimum wage as its ratio to the local wage. In some studies, the median wage, instead of the mean wage, is used as a denominator. Below, I report the movement of the Kaitz index in Japan from 1990 to 2010. The wage data are from the aggregate data of the Basic Survey of Wage Structure (BSWS). To observe the different wage growth patterns for male and female workers, I report two Kaitz indices, one using the mean wage of male full-time workers and the other using the mean wage of female full-time workers.<sup>8</sup>

As a result of the minimum wage setting up to 2006, the minimum wages moved in

<sup>8</sup> Full-time workers here are “*ippan rodo sha*” in the BSWS. The average wages are derived from the contractual earnings (*shoteinai kyuyo*) divided by regular monthly hours. Since they are calculated from aggregate data, they are the hours-weighted average wage of individual workers' hourly wage rates.

proportion to the general wage increase, with a short lag. There is almost no time at which the Kaitz index changed its value significantly in an unforeseen fashion.<sup>9</sup> This is because changes in the Kaitz are caused by across-region differences in the growth of the average wage and not by the minimum wages. The changes in the average wage take place gradually.

How did this new law change the Kaitz index? Table 2 shows the Kaitz index between 1990 and 2009 for prefectures that contain large metropolitan areas and for several other areas (Hokkaido, Yamaguchi, and Okinawa). The Kaitz index is lowest in Tokyo in all years shown, for both males and females. It is high in Okinawa for both males and females. The level of the Kaitz index increased after 2007. For the entire period shown here, the index derived from male wages has been increasing more significantly than that derived from female wages. This is because female wages grew faster than male wages did.

### 3. Wage Floor? The Level of the Minimum and the Actual Wage

Abe (2001) and Hori and Sakaguchi (2005), among others, point out that minimum wages have not been a binding constraint for wage setting in the Japanese labor market, especially in urban areas. They show that the proportion of workers whose hourly wage rates are close to the minimum wage is low. Let  $hw$  represent the hourly wage rate of an individual worker, and let  $MW$  represent the regional minimum wage. Hori and Sakaguchi (2005) report that, in 2003, for 3.6% of part-time workers in Tokyo,  $hw < 1.05 * MW$  holds. Of these, 2.0% receive wages below the minimum (non-compliance). If we regard the term “binding” to refer to the law being enforced in such a way as to barely meet the requirement, the proportion of part-time workers for whom the minimum wage is “binding” was 1.6%. The same proportion was 0.1% for full-time workers in Tokyo in 2003 (Hori and Sakaguchi [2005], tables 3-3 and 3-4).

It is no wonder, therefore, that the minimum wages could be easily raised over the past four years in Tokyo, where the Kaitz index had the lowest value among the 47 prefectures. The minimum wages of Tokyo and Kanagawa in 2010 exceeded the national-level goal set by the DPJ in 2009 (800 yen).<sup>10</sup>

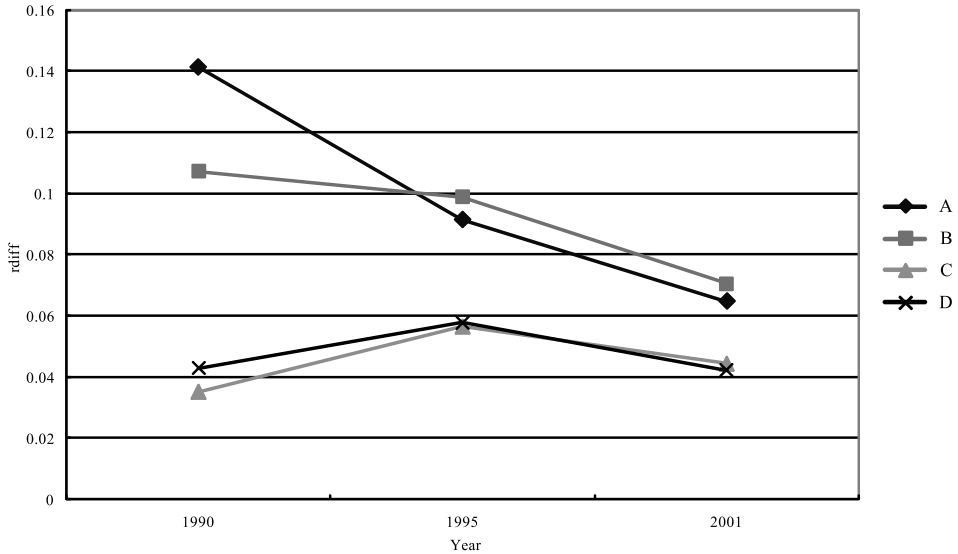
### 4. Minimum Wage during the Deflation Era

From the late 1990s to the early 2000s, the Japanese economy experienced deflation. The manner in which the minimum wages operated in the labor market during this unique period of deflation is of interest. The minimum wage usually prevents wages from falling below the minimum. However, the non-binding minimum wages in Japan’s urban areas allowed wages to fall during the deflation period, while a decline did not take place in non-urban areas where the minimum is binding.

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<sup>9</sup> These are the kind of variations in the minimum wages that are used to measure the employment effect of the minimum wage.

<sup>10</sup> Yet they are still far below 1,000 yen per hour, the medium-term target.



*Source:* Author's calculation from the microdata of the General Survey of Part-Time Workers' Conditions (Ministry of Health, Labour and Welfare). Reprinted from Abe (2007).

*Note:* The sample is female part-time workers who are senior high school graduates.

Figure 1. The Log-Difference between the 10th Percentile of the Wage Distribution and the Minimum Wage

Part-time wages fell against regional minimum wages during the late 1990s in Japan's urban areas. This is seen in Figure 1, in which I plot the log difference between the 10th percentile of the wage distribution and the minimum wage, for the sample of female part-time workers who are senior high school graduates. The 10th percentile of part-time wage distribution fell relative to the minimum wage in the rank A region between 1990 and 2001, while it stayed almost constant in the rank D region. More generally, using the sample of *all* workers rather than just part-time workers, Kambayashi, Kawaguchi, and Yamada (2009) report that the wage distribution in Aomori and Tokyo shifted toward the minimum wage from 1994 to 2003. The minimum wage has probably become more binding over time.

## V. Minimum Wage and Employment

### 1. Empirical Methodology

Since the 1990s, the empirical literature on the minimum wage has employed an “experimental approach,” in which the minimum wage hike in a region is taken as an experiment (see Card and Krueger 1995 and Neumark and Washer 2008). In this type of study, the employment outcomes of affected regions (i.e., the regions that experience a minimum wage increase—the treatment group) and those of unaffected regions (i.e., the regions that

do not experience a minimum wage increase—the control group) are compared. This approach is well-known as the “difference in differences (DID)” approach, and is widely used in other empirical applications. However, an immediate application of this approach to the Japanese case is not straightforward.

As shown in the previous section, Japan’s unique institutional feature is that the minimum wage growth rates were virtually constant across regions up to 2006. This would make the simple experimental approach impossible: since the minimum wages of all regions increase at the same rate, there are not obvious “treatment” and “control” groups to which to apply the DID approach. A somewhat more subtle approach would be to use variations in the Kaitz index (or its variant) on the employment-population ratio (E-P ratio).<sup>11</sup> In this case, the variations in the Kaitz index are caused by different growth rates in the average wage across regions. Such an approach is adopted by Tachibanaki and Urakawa (2007) and Kambayashi, Kawaguchi, and Yamada (2009).<sup>12</sup>

## 2. Is Causal Interpretation Possible?

In my view, there are several difficulties in identifying the minimum wage impact on employment in Japan by using data from before 2006. First, as discussed above, variations in the Kaitz index are small because the cross-regional variations are caused by the movement in the average wage and not by the minimum wages. Second, since the data are unavailable in short intervals, it is difficult to measure the effect at the precise time of a minimum wage increase. Third, employment has regional variations or region-specific trends, especially for females. This is relevant because previous studies primarily examined the employment outcomes of females.<sup>13</sup>

As a result, the measured effects of the regressions might be the minimum wage effect, but at the same time, these effects could be picking up a cross-sectional variation in the E-P ratio or a general trend, that is correlated with variations in the Kaitz index. These concerns are especially relevant because the movement in the minimum wage in Japan is gradual and not discontinuous.

The second and the third problems are related. A large-scale dataset is needed to calculate the E-P ratio at the prefecture level. However, it is difficult to obtain these data for a narrow time period. The Labour Force Survey is a monthly survey, but the sample size is too small for prefecture-level analysis. Therefore, previous studies have used the Employ-

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<sup>11</sup> This approach has also been adopted in the state-level panel data analyses in the United States.

<sup>12</sup> Although the analysis by Abe and Tamada (2010) is somewhat close, it is a study to measure the labor supply elasticity rather than the minimum wage impact.

<sup>13</sup> Another possible concern is that the E-P ratio is calculated for a broad population and may not capture the effect specific to the low-wage labor market. For instance, the group of women with senior high school education or less includes many (potential) low-wage workers. Nonetheless, approximately 30% of senior high school graduate women work as regular full-time employees, receiving hourly wages that are probably higher than the minimum wage. They are less likely to be affected by the minimum wage.

ment Status Survey (ESS). However, this survey is conducted every five years, making it difficult to measure the impact of minimum wage around the time of the rise. Perhaps more importantly, it is difficult to separate the minimum wage effects from the cross-sectional correlation or from long-term trends, regardless of their causes.

Two previous studies (Tachibanaki and Urakawa 2007; Kambayashi, Kawaguchi, and Yamada 2009) have examined how the minimum wage increase affected women's E-P ratio. Tachibanaki and Urakawa (2007) report that that female employment is positively related (although not significantly, in a statistical sense) to the Kaitz index and argue that employment loss due to the minimum wage is not warranted. Kambayashi, Kawaguchi, and Yamada (2009), on the other hand, find a negative relationship, although the effects are not significant statistically. Below, I review these results closely.

### 3. Tachibanaki and Urakawa (2007)

Tachibanaki and Urakawa use the aggregate ESS data from 2002 and run cross-sectional regression equations that regress the E-P ratio of women on the Kaitz index and other covariates. The unit of observation is the combination of prefecture and age group. They find that the minimum wages do not have much effect on the E-P ratio.

A potential problem with this regression is that the regional variations in women's E-P ratio are large in a cross section (Takeishi 2007; Abe, Kondo, and Mori 2008; Unayama 2009a, 2009b; Abe 2011). In particular, the E-P ratio in the northern-coastal prefectures is much higher than that in the rest of Japan, irrespective of age and educational attainment (Abe 2011). Northern coastal prefectures are low-wage areas; of the seven prefectures in the northern-coastal region, three have been classified into the D rank, three have been included in the C rank, and the remaining one has been in the B rank since 2005.<sup>14</sup> Low-wage areas have high values of the Kaitz index because the minimum wages are high relative to the average wages (Abe 2001, Kawaguchi and Yamada 2007, Kambayashi, Kawaguchi, and Yamada 2009). The positive effect of the Kaitz index on the E-P ratio of women might reflect the fact that regions with high participation by women have high minimum wages (relative to the average wages).

There are problems with interpreting this correlation between the Kaitz index and women's employment as the effect of minimum wages. Most importantly, the regional variations in women's participation are a long-lived phenomenon, and are not caused by minimum wages. Second, the high E-P ratio in the northern coastal region is the result of high regular employment by women and not that of part-time employment. Minimum wages are more likely to affect part-time employment than full-time employment, if it affects employment at all.<sup>15</sup> The findings of Tachibanaki and Urakawa may not measure the causal

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<sup>14</sup> Toyama has been reclassified into Rank B since 2005; this prefecture was included in Rank C from 1990 to 2004.

<sup>15</sup> Furthermore, the high E-P ratio in the Northern coastal region is the result of high participation by married women with children (Abe 2011). There is no a priori reason to assume that minimum

impact of minimum wages but merely reflect the incidental correlation between long-standing regional differences in labor force participation and the high level of minimum wages.

#### 4. Kambayashi, Kawaguchi, and Yamada (2009)

The study by Kambayashi, Kawaguchi, and Yamada uses the ESS data from two points in time (1997 and 2002) to measure how the E-P ratio of women with a senior high school education or less is related to the Kaitz index. Since it uses the two points in time, and since prefecture effects are controlled for, this study is free from the problem of inter-regional variations in women's employment that I point out above regarding the Tachibana-ki and Urakawa study.

Nevertheless, the presence of unique trends in the E-P ratio across regions is a potential concern. That is, if women's participation behavior changed over time in different ways in different regions for reasons other than the minimum wage, the regression coefficient might pick up a correlation between this trend and the Kaitz index. For this application, the specific concern is the higher increase in women's participation in urban areas than that in non-urban areas. As mentioned above, women's participation had been notably high in the non-urban areas of the northern coastal regions. However, perhaps due to the Equal Employment Opportunity Law for men and women, as well as general increases in demand for female labor, the E-P ratio of young women (aged 40 or younger) increased significantly in Tokyo. On the other hand, the increase was modest in the areas that had traditionally high participation. This means that the trend in female employment is greater in urban areas than in non-urban areas. This trend is possibly correlated with the change in the Kaitz index during the same period, although it has little to do with the changes in minimum wages. This point is perhaps more relevant because the Kambayashi, Kawaguchi, and Yamada's study uses data from only two points in time.<sup>16</sup>

## VI. Summary

In this paper, I review issues related to the recent minimum wage policy in Japan. In doing so, I also summarize the findings of economics literature on the minimum wage. The main conclusions regarding the future minimum wage policy are as follows.

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wage effects are concentrated in particular demographic groups, unless the employment of those demographic groups is disproportionately concentrated in minimum wage jobs.

<sup>16</sup> Another possible concern of studies using the ESS data is migration across areas. Since the ESS is conducted only every five years, it is possible that people have migrated across areas during the five-year interval. This is especially so for young people, who migrate from non-urban areas to urban areas. For instance, Abe (2011) shows that the population decrease in the northern-coastal region is more rapid than in other non-urban areas. The ESS data are affected by migration across regions, although we normally do not expect that small increases in the minimum wages affect inter-regional migration in Japan.

Concern for employment loss is acute, reflecting the increasing degree of globalization. If the location choices of firms are responsive to local wage levels, then raising the minimum wages may discourage firms from locating in Japan.

In the past, the minimum wages were not been binding constraints for wage setting in the Japanese labor market. However, they have gradually become binding after the mid-2000s. This is both because the minimum wage rose after the revision of the law in 2007 and because the average wage has not grown recently. Together with the fact that increasing globalization may induce jobs to migrate from countries with high wages, the minimum wage policy in the future should probably be more cautious about the employment loss than it has been in the past.

The minimum wage cannot bridge some of the important wage gaps. For instance, certain service sector industries (long-term caregivers, nursing caregivers) face labor shortages even when the unemployment rate is not low. However, the minimum wage cannot effectively resolve this type of “mismatch.” In addition, the minimum wage is not an efficient means to reduce poverty. This is because minimum wage workers are not necessarily members of poor households.

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# Legal Structure of, and Issues with, Japan's Regional Minimum Wage System: Comparative Study of the UK and French Systems, Including the Social Security Systems

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In the 2007 revisions to the Minimum Wages Act, it provides that compatibility with public assistance systems should be taken into consideration when setting regional minimum wage standards in Japan. The problem then arises of how to realize the right to life, an element separate from the interests of the negotiating parties. This paper implements a comparison with the systems of the UK and France, considering the two issues of the methods used for setting minimum wages, and their relationship to social security systems. The Japanese method of decision-making by council operates based on the logic of collective bargaining, and is not suitable to consider the right to life. Ideas on how to solve this include the revision of the nature of representatives of the interests of each side, the creation of a structure that allows external influence on the council system, the adoption of objective standards, etc. In Japan, social security systems for minimum standard of living are mostly unavailable to the long-term unemployed and the “working poor,” leading to excessive expectations of the minimum wage system, which is the only safety net available. Reconsidering the social security system in regard to working-age households is urgently required in order to explore the true role of the minimum wage system.

## I. Introduction

### 1. Two Types of Minimum Wage System

An employment contract is a contract that will provide employer labor for consideration. For this reason, the amount of wage given in return for the provision of labor is an important element of any employment contract. Based on the principle of freedom of contract, which is a major principle within the doctrines of modern civil law, this amount of wage must be decided through agreement between the parties to the contract, i.e. the worker and the person requiring their work (employer).

Many workers, however, find themselves in a position of need, since they are not able to live if they do not have an employment contract. Workers are not able to wait until they can find a contract partner who will meet all the conditions they hope for, since they have to support their own lives in the meantime. On the other hand, the people requiring labor are not usually in such an acute state of need, and can afford to exchange one worker for another if he or she does not agree to the conditions offered. From this point of view, the worker and the person requiring the labor are in significantly different positions in regard to their abilities to negotiate a contract.

For this reason, the principle of freedom of contract in regard to wages has historical-

ly been corrected in two major directions. Firstly, in order to compensate for the weakness of individual workers in negotiations, labor relations developed into a collective bargaining, which makes possible group solidarity and the resulting negotiation advantages. Secondly, labor regulation laws were introduced, through which the State gives a measure of legal force to minimum standards for terms and conditions of employment. Within the history of labor law, the first minimum wage system appeared in 1894 in New Zealand, and a look at the various minimum wage systems that exist around the world today shows that there are two main types—minimum wage systems that seek a general extension of collective agreements resulting from collective bargaining, and those that are directly regulated using legal or other public authority.

Of the latter type, where freedom of contract is directly corrected by law, the method of decision-making, which is the basis for the legitimacy of legal corrections, is at the core of the system.

## 2. Background to This Paper

Japan's minimum wage system is based on the Minimum Wages Act, enacted in 1959, and is categorized into the latter type of the two described above. At its core is the regional minimum wage system, which has, over many years, set the floor of wages. The Minimum Wages Act gave legally binding authority to the values determined mainly by minimum wages councils, which are tripartite agencies.

With the recent increase in irregular workers (part-time, fixed-term and dispatched workers), there are new and increased expectations in regard to the effectiveness of the legal regulation of minimum wages. The minimum wage has thus come to be seen as a safety net for the "working poor." In 2007, the Minimum Wages Act underwent a significant revision, as a result of which it was clarified that compatibility with public assistance policies needed to be taken into account *vis-à-vis* the cost of living experienced by workers, which is one of the elements that is considered in the setting of regional minimum wages, on the grounds of the constitutional right to life. The reverse phenomenon of minimum wage and public assistance standards had been pointed out from an earlier stage, but it was traditionally thought that the two systems were based on differing philosophies, and this was the first time that the two systems were clearly linked together, based on the key phrase "right to life." Despite this, no changes were made to the decision-making methods used in setting minimum wages. For this reason, two issues came to light, namely (i) how to specifically reflect the revisions in the methods for decision-making, and (ii) how to establish a specific correlation between the minimum wage and social security systems.

The increase in irregular working and rates of unemployment among young people, along with the spread of poverty, is a common theme among developed countries. In particular in Europe, policies to promote social participation through employment have been implemented ahead of Japan, under the agenda of turning "exclusion" into "inclusion." This paper looks at the UK and France, both of which use legally binding minimum wage sys-

tems, but with different objectives and methods. It aims to analyze the Japanese legal minimum wage system, its attributes and current issues, from a comparative perspective.

The following consists firstly of an overview of the Japanese legal minimum wage system, with issues compiled in consideration of its relationship to the social security system, and then an analysis of the UK and French systems, in an attempt to provide some answers for the problems faced in Japan.

## II. Japan's Minimum Wage System

### 1. Framework of the Minimum Wages Act

The basis of the current minimum wage legislation in Japan is the regional minimum wage, in accordance with the Minimum Wages Act. Article 1 of the Minimum Wages Act references not only the protection of workers, but also benefits to both employers and society as a whole, stating its objectives as follows: "This Act aims to guarantee the minimum rate of pay for workers in low-paid jobs, in consideration of the type of business or employment, as well as the region concerned, and to improve labor conditions, thereby stabilizing the livelihood of workers, achieving qualitative improvements in the workforce, and ensuring fair competition among businesses, while at the same time contributing to the healthy development of the national economy."

In fact, during the enactment process for the minimum wage system contained within the Labor Standards Act, the precursor to the Minimum Wages Act (and which was never specifically came into force), it was emphasized that a minimum wage system was a specific realization of the right to life provided in Article 25 of the Japanese Constitution. The Minimum Wages Act differs from the Labor Standards Act, which has the protection of workers as its primary objective, in that it may be interpreted as somewhat circumspect in regard to providing absolute standards for the protection of workers' living standards.

This attitude is also demonstrated in the elements considered when deciding on a minimum wage. Article 9, paragraph 2 of the Minimum Wages Act gives the cost of living for workers in the area in question, wages, and the ability of ordinary businesses to pay wages as the three elements that are considered when setting a regional minimum wage. The minimum wage system is therefore positioned as a system to balance these three elements.

### 2. Methods of Decision-Making

The final decision-making authority for regional minimum wages lies with the government. The method of agreements among businesses, which was adopted when the system was first enacted, was abolished with the ratification of the International Labor Convention (No. 268 and No. 131), and ever since that time, the decisions of minimum wages councils have been respected. In particular, since 1968, a method has been adopted whereby the Central Minimum Wages Council indicates proposed guidelines called *meyasu* for any increase, in order to ensure nationwide coordination. This has effectively had a significant

impact on the deliberations of regional minimum wages councils, with whom the final decision rests. Deliberations on *meyasu* within the Central Minimum Wages Council are conducted in close reference to the growth in workers' wages based on the *Survey into the State of Wage Revision*, with members of labor and management delivering their own points of view as part of the process. The consideration of wage levels within the Central Minimum Wages Council can, in other words, be regarded as playing the role of centrally implemented collective bargaining.

Since, however, the committee members of labor and management on minimum wages councils tend to strongly represent the interests of their parent organizations, it is rare for labor and management to agree on the proposed guidelines. In order to overcome this situation, "committee members representing the public interest" serve in coordinating roles, and implement the important function of presenting the final specific proposal, based on the opinions of both labor and management, and growth or otherwise in wages for the year in question. This has for many years resulted in the unusual situation where, as long as labor and management opposed one another's views, the proposal from "members representing the public interest" had a significant impact on *meyasu*, the proposed guidelines.

Against this background, Article 9, Paragraph 3 of the Minimum Wages Act clarifies, subsequent to the 2007 revisions, that the spirit of Article 25 of the Constitution must be realized, and that in considering workers' cost of living as one of the elements in setting minimum wages, attention should also be paid to compatibility with policies related to public assistance benefits. The decision-making methods, though, remained unchanged. For this reason, the labor-management committee members came to independently assert their opinions with regard to how to interpret Article 9 of the revised Act, or what public assistance benefits to refer to as a target for comparison to minimum wages. This significant gap in opinions between labor and management has resulted in a situation where only the committee members representing the public interest can make suggestions on the comparison with public assistance benefits, as well as on the proposed guidelines for regional minimum wages.

### 3. Structural Relationship between the Minimum Wage System and the Social Security System

Next, it is necessary to refer to the social security system, which is closely linked to the minimum wage system as a safety net.

Firstly, the central tenet of the Japanese unemployment compensation system is the unemployment benefits via a system of employment insurance, as a social security benefit to people who are able to work. Unemployment benefits guarantee a proportion of the wages paid before the recipient lost his or her job, but since they are based on an insurance system, they are paid for a maximum of one year, in line with contributions made. As a result, people who remain long-term unemployed are not able to acquire sufficient social security benefits.

On the other hand, social security systems were traditionally conceived to support those without the ability to work, and are typified by the fact that they operate based on strict complementary requirements and are reasonably required to ensure that illegal benefits receipt is strictly eliminated. As such, it is, in principle, difficult for a person who is able to work to be the target of such systems. Recently, the state has been advocated “back to work” programme for the recipient, but most unemployed and the working poor who are able to work, are not considered to be within the scope of these systems. In this way, one of the assumptions behind the debate on the compatibility of minimum wage standards and social security benefit criteria in Japan is the structural problem that there are extremely limited systems available to guarantee a minimum income for the long-term unemployed whose unemployment insurance eligibility have expired, and for the working poor. This structural problem also impacts the problem of minimum wage and social security benefit standards, as outlined below.

#### 4. Relationship between Minimum Wage and Social Security Benefit Standards

Behind the 2007 revisions to the Minimum Wages Act lies an awareness of the reverse phenomenon in the relationship between minimum wage and public assistance standards. It has been pointed out that living standards may be higher for people who are living on public assistance benefits without working, than for those working full time at minimum wage standard. As mentioned above, social security systems are designed, in principle, to apply only to those incapable of working, and to target those outside the labor market. For this reason, there is almost no crossover between those people within the labor market who are targeted by the minimum wage system, which defines minimum labor standards, and those targeted by social security systems. There may therefore be little meaning in trying to equate minimum wages with social security benefits from the perspective of incentivizing work.<sup>1</sup>

The issue of whether Article 9 Paragraph 3 of the Minimum Wages Act only intends to relieve the reverse phenomenon remains a problem to be solved. In other words, there is a need to reconsider whether the problem of the minimum wage and social security benefit standards should be treated merely as an issue of incentivizing work, or whether the deliberations should aim to secure a more conceptual “fairness.”

In addition, as pointed out above, there is very little supplementary income available from the social security system for the working poor in Japan, and as such, the expectations have risen for the role of minimum wages as a safety net for workers. This means, however, that negative impact on employment resulting from minimum wage levels being set too high may pose a much more serious problem in Japan than in countries where more com-

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<sup>1</sup> Practically speaking, “In cases where the minimum wage standard is below the social security benefit level, there is not only a problem from the perspective of guaranteeing the minimum cost of living, but also from the perspective of providing an incentive to work and from the perspective of moral hazard.” (Kihatsu No. 0701001)

prehensive income guarantees are available to the unemployed. It is, therefore, already impossible to debate the minimum wage standard merely within the framework of the minimum wage system.

Furthermore, in contrast to the social security benefits, “the ability of a business to pay” is one of the elements that is considered when setting regional minimum wages. As stated above, the adopted decision-making methods are quasi-collective bargaining in tripartite minimum wage councils. The focus of these councils up until now has been establishing the scope of recommended wage hikes, an issue well suited to bargaining. The 2007 revisions, however, introduced the concept of guaranteeing a minimum standard of living for workers, and as a result, coping with the issue of such standards became a significant focus. This issue is closely linked to the decision-making structure and the question of how policy considerations should be reflected in the setting of regional minimum wages.

## 5. Issues within Japanese Law

The relationship between the structures and standards used in minimum wage systems and social security systems described in I. 3 and 4 above relate to the fundamental issue of the way that the role of a legally binding minimum wage in Japan should be viewed. Up until now, Japan’s regional minimum wages were set in consideration not only of maintaining a stable living standard for workers, but also of the employers’ ability to pay, and the tripartite minimum wages council was expected to offer a system whereby the interests of all parties could be balanced. In other words, the logic of setting wage levels was that the interested parties would negotiate to reach a decision. The role of regional minimum wages was therefore to achieve a fair wage that both labor and management could agree upon. There was no structure that allowed other policy elements to be reflected, and no awareness that this might be necessary.

The greatest problem caused by the 2007 revisions was the introduction of the principle of guaranteeing the right to life, which meant that despite the fact that the role of the regional minimum wages changed from the realization of a fair wage to that of ensuring a minimum standard of living, the specific methods of decision-making were unchanged. Minimum wages councils operate under a system designed for bargaining, and since they have no other function than to reflect the views of the interested parties, the only way that new elements could be reflected in considerations was through the efforts of external third parties. Furthermore, Japan is a country with a minimal system of social security benefits for working-age individual/households, and as such it is a significant problem that neither the role expected of the minimum wage system nor its limits have been clarified. In particular, it is of concern that there is no clear difference in awareness between dealing with the problem of low wages (Article 9, Paragraph 1 of the Minimum Wages Act refers to “guaranteeing the minimum wage value”), and dealing with the problem of poverty (“ensuring a minimum standard of wholesome and cultured living”).

So how can these issues be dealt with? Let us take a look at the systems in place in

the UK and France.

### III. The United Kingdom

#### 1. History of Minimum Wage Systems in the UK

The UK led the world in terms of industrialization, but in the shadow of this success, many workers were forced to work under terrible conditions. The Trade Boards Act of 1909 aimed to improve working conditions for people working in the “sweated trades.” After the Second World War, under the Wages Councils Act of 1945, the system was reorganized into a system of wages councils, which gave legally binding authority to the minimum wage decisions made by tripartite councils in certain sweated industry, based on the traditional British labor relations concept of “collective laissez-faire,” which were published by the government as wages orders. The system attempted to solve the problem of low wages indirectly, through protecting collective bargaining. The wages council system was called into question as economic development took place, and was eventually abolished by the Conservative Party government in 1993, which advocated economic deregulation. With the transfer of power to the Labor Party, however, and the enactment of the National Minimum Wage Act in 1998, the UK saw the arrival of its first nationally standardized, cross-industry minimum wage system, applicable to all workers.

#### 2. The National Minimum Wage System (NMW)

##### (1) Decision-Making Methods

The NMW system has as its first objective a solution to the problem of low wages, although it also aims to stimulate economic growth and reduce the burden on the social security system.<sup>2</sup> The system characteristically takes into consideration not only the interests of workers, but also of employers and taxpayers. Under this system, the UK's economy as a whole and its economic competitiveness are clearly cited as elements for consideration, and any negative impact from excessive wage regulations on employment are to be avoided.

The final decision regarding minimum wage levels lies with the Secretary of State. In fact, recommendations are made by the independent, tripartite Low Pay Commission, and the government has almost always adopted these recommendations without implementing any changes. These recommendations are issued unanimously, which means that the deliberations of the Low Pay Commission are not merely bargaining. Firstly, the opinions of the interested parties are introduced via a process of official hearings at which the labor and management committee members do not participate as representatives of the interests of their parent organizations, but as independent individuals.<sup>3</sup> In order to reach a collective

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<sup>2</sup> The National Minimum Wage Act 1998 does not define these objectives, but the background to the Act is explained by the Low Pay Commission.

<sup>3</sup> William Brown, The Process of Fixing the British National Minimum Wage, 1997-2007, *British Journal of Industrial Relations* 47: 2 June 2009, pp. 429-443.

stance on minimizing any negative impact on employment while improvements are implemented in regard to the problem of low wages, it is considered important that an objective criteria to which everyone involved can agree be adopted, and to this end, a range of data and surveys are utilized. The Act states, in regard to elements for consideration, that by law the Low Pay Commission “shall have regard to the effect of this Act on the economy of the United Kingdom as a whole and on competitiveness.”<sup>4</sup> To put it another way, the NMW system is based not on bargaining between labor and management, but is rather one aspect of evidence-based policy making, designed to avoid any negative impact on the economy while implementing improvements to the problems caused by low wages. In fact, it is said that the Low Pay Commission takes the impact of their decision on employment as a major element in their considerations.

## (2) The Low Pay Commission

In this way, it is worth noting that the Low Pay Commission does not, in fact, function as an alternative to collective bargaining. Members of the Low Pay Commission do not represent the interests of their parent organizations, but rather, it is emphasized that they are independent individuals. The Commission also differs from trade boards and wages councils in that there are no regulations requiring the same number of representatives from both labor and management. Furthermore, decisions regarding the national minimum wage are based on detailed statistical data, and the basis of decisions reached is scrutinized, with the data on which judgments are based also being published alongside the advice of the Commission. As a result, the Low Pay Commission is able to transcend the differences between labor and management, and present conclusions agreed upon unanimously by all members.

The Low Pay Commission is tripartite in its structure, but despite this, there are three main reasons why it is able to consider the issues in a way that transcends mere bargaining by interested parties. Firstly, the opinions of interested parties are handled via a different route to the Commission’s deliberations. Secondly, the Commission members have a shared awareness of the role of the minimum wage, giving an incentive to reach a unanimous agreement. Thirdly, they provide a clear basis for their judgment regarding the amount of the minimum wage.

## 3. The Relationship between the UK’s Minimum Wage and Social Security Systems

### (1) Structural Relationship

Next, we will look at the relationship between the minimum wage and social security systems. Upon examination, it can be seen that in the UK, the two are basically thought to be unrelated.

The reason why the relationship between the minimum wage system and the social

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<sup>4</sup> National Minimum Wage Act 1998, s 7(5).



security and tax systems are not recognized in the UK lies in the fact that the decision-making bodies are different for the former and the latter. In comparison with the social security and tax systems, in which decisions are made by the government, the minimum wage is an issue of wages, which should, in principle, be decided between labor and management, and it has traditionally been felt that the two were not correlated. However, this was not the only reason; the structural relationship between the minimum wage system and the social security benefits/tax systems also needs to be considered.

Firstly, under the British social security system, people who are considered able to work but who cannot find employment within the labor market are awarded a Jobseeker's Allowance.<sup>5</sup> This requires the conclusion of a Jobseeker's Agreement, which obliges the recipient to proactively look for work. In contrast to this, Income Support, which is a public assistance benefit, is paid to people who are considered unable to work, thereby distinguishing people receiving unemployment support from those on public assistance benefits.<sup>6</sup> In addition to and separate from these two, a graded income supplement system known as the Working Tax Credit is prepared for households who are employed, but whose income falls below a certain level.<sup>7</sup> In comparison with the minimum wage, which is an issue of worker's earnings, the Working Tax Credit system relates to household income, and makes it possible to engage more directly with the issue of poverty. A particular attribute of the Working Tax Credit is that it can also apply to people working at the minimum wage level. This allows the creation of a system under which low wages do not necessarily result in low income (poverty). From this, it is important to understand that in the UK, the minimum wage is not the only safety net available to workers.

## (2) Relationship between Standards

In this way, since it is possible to work at the minimum wage in the UK but also have a minimum standard of living guaranteed if one's household income falls below a certain level, the structure is such that the wage standard is not the only criteria applied in order to establish the standard of living of workers. For this reason, there is no direct relationship between the individual wages of a worker and their household income.

Furthermore, from this structural relationship, the criteria for minimum wages and the social security benefits can be seen as not mutually referencing one another. The reason for this is that the minimum wage level is not thought to have a particularly significant impact on the guarantee of a minimum standard of living for workers. Since minimum wage levels do not relate directly to workers' standards of living, minimum wage legislation is able to commit itself to an entirely independent role.

In fact, there is no legal provision within the UK that minimum wage levels and so-

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<sup>5</sup> Jobseekers Act 1995.

<sup>6</sup> Social Security Contributions and Benefits Act 1992, s 124(1).

<sup>7</sup> Tax Credits Act 2002, s 3(3), Working Tax Credit (Entitlement & Maximum Rate) Regulations 2002.

cial security benefits criteria are required to reference one another. The decisions regarding the National Minimum Wage are made with the objective of improving low wages only to an extent that does not have a negative impact on employment, and the concept of a “living wage” is clearly excluded. There is no awareness of any correlation between this and the social security benefits or tax systems. On the other hand, when deciding on the amount of social security benefits, wages do not tend to be considered as reference criteria; rather, the only issue considered when raising the standard of social security benefits is the price index.

## **IV. France**

### **1. History of Minimum Wage Systems in France**

Next, we will look at basic information regarding French minimum wage systems. The first minimum wage system in France was the *Salaire minimum interprofessionnel garanti* (SMIG), introduced in 1950 across all professions. This was a wage system introduced post-war by the government of the day, as part of the Collective Agreement Act, designed to change over from wage control to the liberalized setting of wages by labor and management, and it featured a legally protected minimum standard. The objective of this system was to support the working conditions of the unqualified workers according to the collective agreement, and thereby to guarantee pay for a minimum standard of living. However, the system attempted to operate on a sliding scale, setting minimum wages in line with the price index, and was criticized in the 1960s for not functioning as such during periods of high economic growth. It was revised in 1970 into the *Salaire minimum interprofessionnel de croissance* (SMIC), or minimum interprofessional growth wage across all professions, which continues to the present.

### **2. Minimum Interprofessional Growth Wage (*Salaire minimum interprofessionnel de croissance*, or SMIC)**

#### **(1) Method of Decision-Making**

The current SMIC system has two objectives: firstly, giving workers at the lowest wage levels the guarantee of purchasing power (*la garantie de leur pouvoir d'achat*), and ensuring their participation in the economic development of the nation (*une participation au développement économique de la nation*)<sup>8</sup>. The former was inherited from the previous system (SMIG), and reflects an absolute view of poverty in its guarantee of minimum standards of living. The secondary objective, added when the system was revised to SMIC, came from an awareness of the issue of the disparity between minimum wage growth and the development of the economy as a whole and the national income. This is based on a relativization of the minimum standard of living of workers subject to the guarantees of the minimum wage system, in other words, the principle of relative poverty. The philosophy of

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<sup>8</sup> Code du Travail, art. L. 3231-2.

a minimum standard of living was understood to be a relative concept, which rises in line with economic development.

In response to this, the decision-making method for minimum wages was also changed.<sup>9</sup> In addition to a sliding scale to the commodities price index (indice des prix à la consommation) originally used in the definition of SMIG, in line with the second objective, a sliding scale of average wages was also introduced. In order to minimize any negative impact on the employment situation, the increase required within SMIC was limited to half the rise in average wages, with any additional increase being at the discretion of the government. The two sliding scales described above automatically define the floor for SMIC, and the government is given discretion only to raise the level above this minimum. This decision-making method guarantees the process of obtaining a verdict (avis motivé) from the tripartite national collective bargaining commission (Commission nationale de la négociation collective), but its contribution is merely a formality, and its influence on government discretion is limited.

## (2) Committee of Experts

More recently, under the Sarközy government, however, there have been revisions to the decision-making structure of the SMIC, and new elements have been added to the decision-making process. This is the contribution of the committee of experts (groupe d'experts) who give opinions in regard to the revision of standards within the SMIC.<sup>10</sup> The committee of experts has the authority to survey across a wide area, and stands independent to government, having been given the role of considering an optimized balance between economic activities, employment for low-paid workers, and the cost of labor to corporations, etc. If the committee of experts considers it appropriate, it can suggest the amount lower than the sum obtained from the application of the sliding scale.

Behind this, there lies the fact that the limits of the SMIC system as a guarantee of minimum living standards, i.e. as a countermeasure to poverty, have been made clear as a result of recent changes to the labor market structure. At present, the following four elements, other than wage levels, are considered significant determinants for poverty: the rate of unemployment, working hours, family status, and social security benefits. In particular, an increase in the number of part-time workers has come to limit the effects of SMIC, which does no more than establish a minimum wage per hour. It is no longer appropriate to consider the minimum wage standard in the same way as households' standard of living, since any increase in the SMIC is diluted in effect when seen from the perspective of a household's living standard. It is therefore no longer thought of as an effective method of guaranteeing minimum living standards.<sup>11</sup>

The poverty that has recently become problematic in France is categorized into two

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<sup>9</sup> Code du Travail, art. L. 3231-4 et L.3231-5.

<sup>10</sup> la loi du 3 decembre 2008, Code du Travail, art. L. 2271-1.

<sup>11</sup> Conseil supérieur de l'emploi, des revenus et des coûts, Le Smic, 2 avril 1999, p.17.

types. The first type is poverty from unemployment, and countermeasures center around support for returning to employment. From this perspective, it is actually more important to decrease negative impact of increasing SMIC on employment. The second category of poverty is that of people who work but who have low incomes: the working poor. This is largely caused by the increase in people working part-time, but for these people, an increase in SMIC may in fact result in them losing their jobs. For this reason, it is now thought that countermeasures for the working poor should not include raising SMIC, but rather, should require some sort of income transfer.

### 3. The Relationship between France's Minimum Wage and Social Security Systems

#### (1) Structural Relationship

As we have seen up to this point, French minimum wage legislation has developed with the objective of guaranteeing a standard of living for workers. It is therefore necessary to have some correlation with the social security system, which shares this objective.

Within the French social security system, if a person capable of working loses his or her job, that person receives return to employment support benefit (*Allocation d'aide au retour à l'emploi*; ARE) or special solidarity benefit (*Allocation de solidarité spécifique*; ASS), provided that they are within the insurance system, which guarantee their incomes.<sup>12</sup> Other people, or those capable of working but who are outside the insurance system, and those incapable of working, have their incomes guaranteed through the "active solidarity income" benefit (*Revenu de solidarité active*; RSA).<sup>13</sup> RSA payments are conditional on proactive job seeking activities being undertaken by those capable of working, and are notable for the fact that they can also be approved for working people on low incomes - in other words, the working poor.

#### (2) Relationship between Standards

The minimum wage system is mutually related to the social security and tax systems. The minimum wage is positioned to exceed the payment of all social security benefits, and functions as a reference criterion for the setting of these benefits. Specifically, social security benefits paid to those considered capable of working are set below the SMIC obtainable through full-time work, in order to promote the return to employment and incentivize work.

In recent years, however, with the increase in irregular employment, it is feared that the function of SMIC in guaranteeing a minimum standard of living has weakened. Since SMIC only defines a minimum wage value per hour, it is now thought that a system is required by which employment can be seen to contribute to appropriately raising household income, and income can be increased through employment for those who cannot obtain sufficient income due to reduced working hours, from the perspective of providing incentives

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<sup>12</sup> Code du Travail, art. L. 5423-1 et s.

<sup>13</sup> Code de l'action Sociale et des Familles, art. L.115-2, L.262-2 et s.

to work.

The system introduced to appropriately reflect the value of labor in income is a tax credit employment benefit (Prime pour l'emploi; PPE), based on the principle of negative tax.<sup>14</sup> This differs from the British Working Tax Credit in that it focuses not on the household, but on the individual incomes of each member of the household. PPE pays a certain proportion of the declared active income as a benefit, and is therefore adopted as a measure not only to support people on low incomes, but also to ensure that the incentive to work is not lost. Specifically, for people on an income between 0.3 and 1 times the SMIC, the benefit will increase in line with increase in active income, while for people on an income between 1 and 1.4 times SMIC, it is gradually reduced, etc., with full-time SMIC used as the standard.

In this way, France ensures a close relationship between the minimum wage system, social security and the tax system, resulting in a structure that guarantees minimum income without damaging the incentive to work. This minimum wage system embodies the value of labor, thereby functioning as a reference standard for social security benefit.

## V. Conclusions

### 1. Attributes of the Minimum Wage Systems of the UK and France

As has been seen here, the minimum wage systems in the UK and France both have different objectives and reference elements to those in Japan. In addition, they differ in their relative positioning in relation to social security and tax systems. These differences demonstrate the different roles envisaged by both countries for a minimum wage fixed by law.

Firstly, in the UK, while the government has the final authority in deciding the minimum wage, it is the independent Low Pay Commission that establishes its actual specific amount. The Low Pay Commission is a tripartite organization, in which each member is independent of his or her parent organization, and which cooperates to establish a fair minimum wage—one that will contribute to solving the problem of low wages while remaining within the scope of avoiding a negative impact on the UK economy. Here, the issue of low wages and the problem of poverty are treated separately, with poverty being dealt with through social security and tax systems. As a result, the minimum wage system in the UK is consistent with the logic of wages as consideration for labor.

Compared to this, in France, the minimum wage has as its primary aim ensuring a standard of living for workers. For this reason, the minimum wage system shares the objective of guaranteeing minimum living standards with the social security and tax systems, and the government designs institutional arrangements for the entirety of these systems. This does not mean that the minimum wage alone is designed to guarantee the minimum standard of living. In France, too, the issue of low wages has come to be thought of as different

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<sup>14</sup> Code générale des impôts, Direction générale des impôts du 12 mai 2009.

from the problem of poverty, and social security and tax systems have been introduced to supplement households' incomes. On that premise, the minimum wage acts to denote the ideal value of labor.

Based on the above, finally, the author would like to present comments on two subjects—decision-making methods regarding the minimum wage, and the minimum wage's relationship to the social security system—as they relate to the future of Japan's regional minimum wages.

## 2. Revision of Decision-Making Methods

As stated originally, as a result of the 2007 revisions, an important issue has arisen in relation to Japan's regional minimum wages, which have conventionally been based on collective bargaining principles, regarding how to incorporate an element that would guarantee a minimum standard of living for workers—an element removed from the interests of labor and management.

Up until now, the Central Minimum Wages Council has considered increases in the average wage as the major reference element in setting guidelines called *meyasu* for regional minimum wages, and priority was given to the process in which labor and management representatives gave their opinions for assessing such increases. Historically, the council system originated as a framework to reflect the opinions of the interested parties, and as such it was a natural process. Now that it has become the only decision-making method for the final safety net for all workers, however, it does not function in the right way to allow for the inclusion and consideration of elements that are indirect from the interests of negotiating parties, such as the right to life. The Minimum Wages Council only represents a few of various parties, but the more this aspect is emphasized, the more inevitably it will lead to an ideological confrontation and stalemate, only on the basis of attributes of those parties, such as whether they are on the employers' side or on the workers' side. The author would like to present three choices for how to overcome this situation.

Firstly, proactive surveys should be carried out to establish the attributes of low-income workers who are the target of minimum wage legislation, and to understand the impact of minimum wages in terms of improvements to their income, and decisions should be made based on the results of these studies. In short, in deliberations on regional minimum wages within minimum wages councils, consideration should be given to the use of alternative decision-making methods that are different from centrally operated collective bargaining, such as those used in the UK. Initially, the situation needs to change in regard to minimum wages council members representing the interests of their parent organizations.

Secondly, where this is difficult, some sort of policy-based approach could be considered from outside the council system. For example, in 2007, the Growth Potential Improvement Strategy Promotion Round Table Committee (based on the Council on Economic and Fiscal Policy) requested an increase in minimum wages, and as a result of the Minister for Health, Labour and Welfare requesting minimum wages councils to consider this during

consultation, there was an unprecedentedly large hike. This is significant as an example of the type of approach described here. It is, however, necessary to consider the legal legitimacy of such external approaches to wages councils. In the future, it is likely that not only the relationships and division of roles among the councils and the external bodies, but also the council system itself will need to be reconsidered.

Thirdly, Japan may have the option of adopting some of the objective criteria used in the French minimum interprofessional growth wage (SMIC), which has since its inception included a guarantee of living standards for workers. At the same time, it should be borne in mind that France has also planned in revisions to review automatic increases. In other words, based on an awareness that wage standards and income standards are increasingly divergent, attempts are being made to limit the role of the minimum wage legislation in ensuring minimum income security, within the scope of avoiding a negative impact on low-paid workers or the economy. The fact that changes to labor market structures have resulted in the minimum wage not functioning as well as a guarantee of minimum income standards is a phenomenon shared with Japan, and requires not merely the adoption of new statistical standards, but rather the introduction of a more sophisticated system.

### 3. Revision of the Relationship to Various Social Security Systems

The 2007 revisions raised the issue of how to achieve compatibility between the minimum wage and social security systems.

In France, the balance of standards within SMIC and social security, which share the objective of guaranteeing a standard of living, is scrutinized as a matter of course. This has in its background the traditional, constitutional right to work, and results from the fact that the value of work has always been prioritized. Based on this philosophy, the introduction of RMI, which also covers working-age households, created a disparity with SMIC from the perspective of "fairness," despite the fact that it was based on the concept of relative poverty. This disparity is maintained currently based on RSA. The increased number of part-time workers, however, has meant that the full-time SMIC standard is no longer necessarily equivalent to the minimum level of household income. For this reason, the tax credit system known as employment benefits (PPE) was introduced, and is expected to make up for reductions to the minimum standard of living guarantee function of SMIC that have taken place in recent years.

As a result, if Japan intends to give more weight to the aspect of guaranteeing a standard of living through its minimum wages in the future, it needs to define the minimum standard of living guarantee as a total package that includes social security benefits for the working poor.

In contrast to this, the UK has maintained the idea that minimum wage and social security systems have different objectives and decision-making bodies, and theoretically have no correlation in their standards. As a result of the UK introducing the Working Tax Credit system, however, there is no direct link between minimum wage standards and minimum

income standards, and it is notable that workers earning minimum wage can have their income supplemented by this system if their income does not reach a certain level. At the same time, because of the existence of the graded income supplement system known as Working Tax Credits, there is no particular need to ensure incentives to work by creating a disparity between the minimum wage and the standard of social security benefit. It must be remembered that the background to the fact that there is little debate in the UK regarding the balance between the minimum wage and the levels of social security benefits lies in the structural relationship whereby the problem of poverty is being dealt with using a completely separate system to that of the minimum wage.

Accordingly, if Japan is to hold onto the logic of wages as the consideration for labor, rather than minimum wages as a guarantee of living standards, there is an urgent need to review the social security benefits available to working-age households. In Japan, there are almost no systems in place to assist the long-term unemployed who have passed the limit of their eligibility for unemployment benefits, or the working poor on low incomes, and too much is expected of minimum wages, the only safety net available to workers. The problem of poverty should really be dealt with through social security or tax systems, but since no such system is available, the issue has become part of the problem of minimum wages.

In the future, in considering the “compatibility with measures related to the public assistance system” mentioned in Article 9, Paragraph 3 of the Minimum Wages Act, it will be vital to reconsider the role of minimum wages in Japan, in the light of the differences between wages and income standards, and with an awareness of the limitations of the role of the minimum wage system. Once the functional limits of the minimum wage system in guaranteeing a standard of living for workers are appropriately appreciated, the need for revisions to the social security system in regard to working-age households will be clear. In particular, there is a need for a system that guarantees a minimum standard of living to the long-term unemployed, while at the same time promoting their return to work. On the other hand, focusing on the aspect that the minimum wage is not merely a guarantee of a standard of living, but also represents fair consideration for labor within society, it may be necessary to consider revisions to the decision-making methods that are currently in place in each region (prefecture), such as the introduction of a national minimum wage dependent on age and/or experience.



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# Analysis on the Acquisition of Vocational Certifications and Their Effectiveness in Japan\*

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This paper examines and analyzes the status of professional licenses, authorizations, and certifications<sup>1</sup> held and their effectiveness in the labor market, based on data collected through a web survey method from current job holders. We believe that our study is unparalleled in its comprehensiveness and inclusiveness. We found that certifications are acquired mostly by people in their 20s and mainly as a means to develop professional skills early in the career formation process. As for the effectiveness of certifications in the labor market, we recognized positive effects on the employment of people with a secondary education who were regular workers. We also found that, although the possession of certifications does not automatically lead to higher income, women holding certifications that are useful in helping them acquire a job or perform their job duties earn relatively high incomes. On the other hand, when men hold certifications that are useful in helping them acquire a job early in the career formation process, it leads to a relatively high income. In the future, it will be necessary to conduct a more thorough study on the significance of certifications by analyzing their substance in detail and examining the assessment of the effectiveness of certifications by employers. It will also be important to develop a database of information related to certifications as part of an information infrastructure for workers' career formation.

## I. Introduction

Vocational certifications available in Japan are diverse in terms of function<sup>2</sup> and in

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\* This paper was written on the basis of JILPT Research Report No. 121 "Analysis of Vocational Certifications in Japan: In Light of the Findings of a Web Survey on Certifications," which described the findings of an analysis conducted by the Japan Institute for Labour Policy and Training (JILPT). That report was co-authored by Osamu Yoshida (Project researcher, JILPT), Junpei Matsumoto (Project researcher, JILPT), Kimiko Nishimura (research director, JILPT), Shinsaku Matsumoto (assistant research director, JILPT), Chihiro Iwawaki (researcher, JILPT), Tetsushi Kamakura (Research assistant, JILPT), Mai Sato (Research assistant, JILPT), and Kenji Agata (associate professor, Department of Industrial Relations, Faculty of Social Studies, Doshisha University). In addition to the subject matter of this paper, the report analyzed the possession of certifications by occupation and the state of occupational fields where the information infrastructure is underdeveloped. Moreover, regarding each of the 227 certifications which were held by at least 50 respondents, the report specified the jobs in which the holders of the relevant certifications are engaging, the degree of usefulness for the acquisition of a job and the performance of job duties, the period of time necessary for acquisition, the age of acquisition and the job concentration.

<sup>1</sup> The certifications as referred to in this paper are those granted by the national government or third-party entities, including private certifying organizations, and they do not include internal certifications granted by companies. Hereinafter, they shall be collectively referred to as "certifications."

<sup>2</sup> Certifications classified by function include those without which workers are not allowed to perform a relevant job, certifications which must be held by at least one worker when the relevant busi-

terms of the issuing and certifying entities. Estimates of the number of vocational certifications available in Japan ranges from upwards of 1,000 to 3,000 and beyond.

The acquisition of certifications has been noted for its effectiveness as a goal striven for in the career formation process and a means for the development of professional skills: for example, Ono (1998) and Sunada and Kimura (1996) referred to the effectiveness of certifications as a “motivation for learning to achieve career goals” while Imano and Shimoda (1995) mentioned their effectiveness as “a means for proactive career formation and a preparation for acquiring practical skills.” Fujimura (2000) referred to the usefulness of certifications for workers to “better understand their work by acquiring a body of theory through practical work experience.” Likewise, some 80% of regular workers recognized the necessity of certifications (as represented by the combined ratio of regular workers who replied that it was definitely necessary to hold some manner of certification and those who replied that holding some manner of certification was preferable to not holding any) (Ministry of Health, Labour and Welfare, 2008, “Comprehensive Survey on the Diversification of Employment Arrangements”).

On the other hand, some studies cast doubt on the effectiveness of the possession of certifications, based on such arguments as that they “do not necessarily indicate the possession of the ability to perform job duties” (Yahata 1999) and that they “tend to be not so useful for individual workers on the occasion of job matching as expected by themselves” (Okubo 2006).

The divergence in the assessment of the effectiveness of the possession of certifications derives from a lack of comprehensive and objective analysis on the relationship between jobs and certifications, as well as difference in the perspective on the effectiveness. The lack of such analysis is due to the difficulty involved in collecting and sorting diverse and complicated information related to certifications.

In light of the above, we have sorted and analyzed a vast volume of data related to jobs and certifications, which was collected through a web survey method. Arguably, this is the first study to show, objectively based on data, how people acquire certifications and what benefits the possession of certifications brings about in Japan.

## **II. Survey Method and Data Collection**

### **1. Survey Method**

Through a web survey system developed specifically for the implementation of our survey, we asked web survey respondents registered with a survey company (a total of approximately 1.41 million people are registered) first about their current jobs and then about their certifications, attributes, etc. The survey subjects were current job holders. The survey

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ness activities are being executed, certifications whose name is prohibited under law from being used to refer to persons other than the certification holders, and other certifications that serve merely as proof of the possession of relevant skills.

Analysis on the Acquisition of Vocational Certifications and Their Effectiveness in Japan was conducted twice, in 2008 and 2009.

### 2008 Survey

Survey period: February 25 to March 6, 2008

Sampling: The questionnaire was sent to registered survey respondents with the goal of collecting 50 samples for each job type, and the survey was ended when the total number of samples collected reached 26,000 workers.

Question Items:

- Q1 Description of your current job
- Q2 Length of employment
- Q3 Job duties
- Q4 Certifications currently held and your assessment thereof (up to 10 certifications)
- Q5 Education and training necessary for acquiring your current job
- Q6 Last school attended
- Q7 Last two jobs held prior to your current job and your assessment thereof
- Q8 Annual income from your current job
- Q9 Attributes of the respondent (age, gender, job rank, form of employment, etc.)

In Q4, respondents were asked to choose the certifications that they hold from a list of 1,017 certifications and give a reply as to (i) the degree of their necessity for acquiring their current jobs (essential, advantageous, or irrelevant) and (ii) the degree of their usefulness for performing their current jobs (very useful, useful, or not useful). Each respondent was able to choose up to 10 certifications and was asked to give a reply as to (i) and (ii) regarding each certification he or she held.

Number of samples collected: 26,119 workers

### 2009 Survey

Survey period: February 12 to March 5, 2009

Sampling: An e-mail questionnaire was sent to registered survey respondents other than those who had replied to the 2008 survey, and the survey was ended when the number of samples collected, including the ones collected in the 2008 survey, reached 100 workers for each job type and the total number of samples reached 27,000 workers.

Question items: In addition to the questions asked in the 2008 survey under Q4, respondents were asked to give a reply as to (iii) their ages upon acquisition of the certifications (age range) and (iv) the period of time necessary for them to acquire the certifications (include the period of school attended if it is necessary). Moreover, company size, number of years worked and form of employment were added to the attributes of the respondent that were inquired about in Q9. The list of certifications to choose from was expanded to 1,153 certifications based on data obtained through the 2008 survey.

Number of samples collected: 27,014 workers

Table 1. Respondents by Gender and Age Group

	Under 20	20s	30s	40s	50s	60s or older	No reply	Total
Men	30	4,233	14,917	12,029	3,998	762	38	36,007
	0.1%	11.8%	41.4%	33.4%	11.1%	2.1%	0.1%	100.0%
Women	26	4,334	7,769	3,860	960	161	16	17,126
	0.2%	25.3%	45.4%	22.5%	5.6%	0.9%	0.1%	100.0%
Total	56	8,567	22,686	15,889	4,958	923	54	53,133
	0.1%	16.1%	42.7%	29.9%	9.3%	1.7%	0.1%	100.0%

Table 2. Respondents' Academic Attainment, Annual Income and Form of Employment

	Number of samples (%)		Number of samples (%)
<b>Academic Attainment</b>		<b>Annual Income</b>	
Junior high school	563 (1.1)	Less than ¥500,000	1,737 (3.3)
Senior high school	13,588 (25.6)	¥500,000 to ¥1 million	2,658 (5.0)
Professional training colleges	7,719 (14.5)	¥1 million to ¥1.5 million	2,824 (5.3)
Junior colleges /technical colleges	4,605 (8.7)	¥1.5 million to ¥2 million	2,907 (5.5)
Universities (liberal arts)	13,593 (25.6)	¥2 million to ¥2.5 million	3,825 (7.2)
Universities (sciences)	8,277 (15.6)	¥2.5 million to ¥3 million	4,591 (8.6)
Graduate schools	4,788 (9.0)	¥3 million to ¥4 million	8,158 (15.4)
Total	53,133 (100)	¥4 million to ¥5 million	7,591 (14.3)
<b>Form of Employment</b> (only in the 2009 survey)		¥5 million to ¥6 million	6,106 (11.5)
Regular workers	18,783 (69.5)	¥6 million to ¥7 million	3,872 (7.3)
Part-time workers	1,717 (6.4)	¥7 million to ¥8 million	2,813 (5.3)
Part-time workers with reduced benefits ( <i>arubaito</i> )	1,181 (4.4)	¥8 million to ¥9 million	1,776 (3.3)
Temporary workers	789 (2.9)	¥9 million to ¥10 million	1,313 (2.5)
Contract workers	1,231 (4.6)	¥10 million to ¥12 million	1,470 (2.8)
Commissioned workers	388 (1.4)	¥12 million to ¥15 million	682 (1.3)
Others	2,925 (10.8)	¥15 million to ¥20 million	399 (0.8)
Total	2,7014 (100)	¥20 million or higher	411 (0.8)
		Total	53,133 (100)

## 2. Key Points of Collected Data

### (1) Respondents

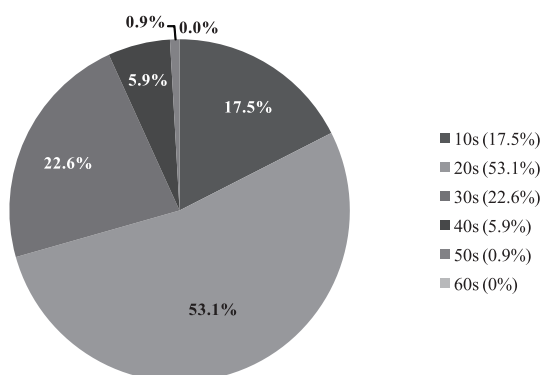
The total number of respondents in these two surveys came to 53,133. By gender, men accounted for 67.8% of the total, while by age group, people in their 30s and 40s made up 72.6% (Table 1). By academic attainment, university graduates accounted for 41.1% and by annual income, 41.1% were people who earned between ¥3 million and ¥6 million. By form of employment (an item inquired about only in the 2009 survey), 69.5% were regular workers. (Table 2)

### (2) Certifications

Of all respondents, totaling 53,133, 55.7% held at least one certification. Respondents who held only one certification made up 46.7% of the certification holders (26.0% of all respondents). The number of certifications that were held by at least one respondent stood at

Table 3. Status of Certifications Held

Possession of certification by respondents (number of holders)		Number of certifications	
Certificate holders	29,577 (55.7%)		
One certification	13,803 (26.0%)	Held by at least 100 respondents	147
Two certifications	7,770 (14.6%)	Held by 50 to 99 respondents	84
Three or more	8,004 (15.6%)	Held by 1 to 49 respondents	803
No certification	23,556 (44.3%)		
Total number of respondents	53,133 (100.0%)	Total number of certifications	1,034



(N=31,305 People, or the Total Number of Respondents with Certifications That Were Held by at Least 50 Respondents)

Figure 1. Age of Certification Acquisition

1,034. Of that number, 147 were held by at least 100 respondents and 84 by between 50 and 99 respondents (Table 3).

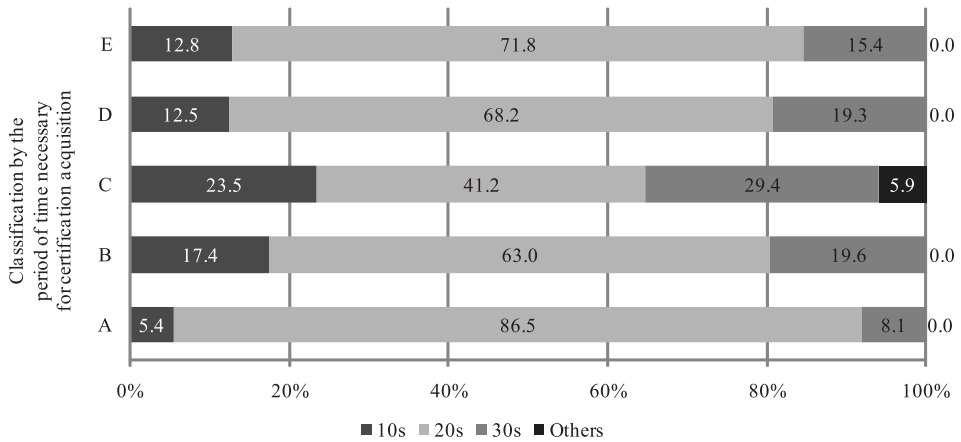
### III. Status of Certifications Held

This section shows the results of the analysis conducted on the 227 certifications<sup>3</sup> that were held by at least 50 respondents (the total number of certification holders at 31,305).

#### 1. Age of Certification Acquisition

The majority, 53.1%, acquired the relevant certificates in their 20s, 22.6% in their 30s, and 17.5% in their teens (Figure 1).

<sup>3</sup>Although 231 of all certifications on the list were held by at least by 50 workers, 227 certifications were analyzed, since the five certifications related to the operation of small vessels for which the requirements for acquisition changed between the 2008 and 2009 surveys, were treated as one.



- Notes: 1. Certifications were divided by the period of time necessary for certification acquisition into Class A (with a peak period for acquisition, in terms of the percentage of certificate holders who acquired the certificate, of three years or longer), Class B (with a peak period for acquisition of one to three years), Class C (with a peak period for acquisition of six months to one year), Class D (with a peak period for acquisition of one to six months) and Class E (with a peak period for acquisition of less than one month).
2. The “peak age category of acquisition” refers to an age category in which the largest proportion of holders of a given certification acquired the certification.

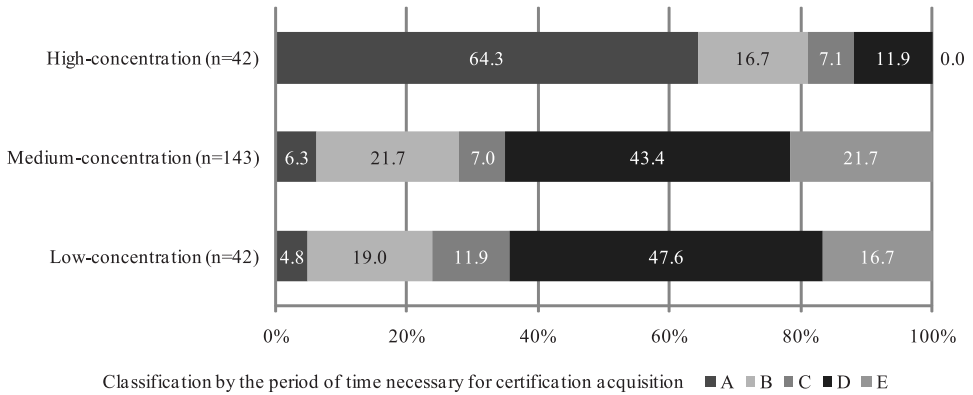
Figure 2. Shares of Peak Age Categories of Acquisition by the Period of Time Necessary for Acquisition

A look at the shares of peak age categories of acquisition<sup>4</sup> by the class of certifications divided by the period of time necessary for certification acquisition (Figure 2) shows that the share of the 20s category was the largest for all classes, and that these certifications were acquired at the beginning of the subjects’ careers. In particular, in Class A, which comprised certifications for which the peak period for acquisition, in terms of the percentage of certificate holders who acquired the certificate, was three years or more and in Class E, which comprised those for which the peak period for acquisition was less than one month, the 20s category accounted for by far the largest shares, 86.5% in the case of Class A and 71.8% in the case of Class E. When in their 20s, people acquire a wide range of certifications, from those which require a long period of learning, including formal education, to those which can be acquired in a short period of time, and their career formation is affected accordingly.

## 2. Job Concentration by Certification

One of the benefits expected to be brought about by the acquisition of a certification

<sup>4</sup> For the definition of the “peak age category of acquisition,” see Figure 2, Note 2.



- Notes: 1. In order to simplify the classification, certifications for which there were two or more peak periods of acquisition were categorized into the class with the longest peak period.  
 2. For an explanation of classification by the period of time necessary for certification acquisition, see Note 1 of Figure 2.

Figure 3. Shares of the Classes of Certifications Divided by the Period of Time Necessary for Certification Acquisition by the Degree of Job Concentration

is a positive effect on the acquisition of a job. If holders of a certain certification are concentrated in a certain type of job, that certification is presumed to be effective in helping its holders acquire that type of job. In light of this, we will look at the state of job concentration by certification. Job concentration means the degree to which people holding a given certification are dispersed into a number of job types. The number of job types in which people holding a given certification would be engaged if 1,000 people held that certification (the “job concentration index,” below), is calculated by: [(number of types of job in which the holders of the certification are engaging / number of the certification holders) × 1000]. Depending on the distribution of this value, the degree to which people holding the certification are concentrated in a given job is classified into a high, medium, or low-concentration group.<sup>5</sup> The average value of the job concentration indexes for the certifications which were held by at least 50 respondents came to 477.5 (SD=228.7), indicating that if each of those certifications were to be held by 1,000 people, the people who held them would, on average, be engaging in a broad range of about 478 types of jobs.

A look at the relationship between the status of job concentration and the period of time necessary for certification acquisition (Figure 3) shows that of the certifications in the

<sup>5</sup> A high job concentration means that holders of the relevant certification are engaged in a small number of job types and are concentrated in these types of jobs. A low job concentration means that holders of the relevant certification are engaged in a large number of job types and are dispersed among these various job types. The value “z” was calculated as = (job concentration index of a given certification – average job concentration index for the 227 certifications) / standard deviation. Job concentrations were categorized as “high” ( $z < -1$ ), “medium” ( $-1 \leq z \leq 1$ ), or “low” ( $z > 1$ ).

high-concentration group, Class A, which comprises certifications requiring a long period of time for acquisition (a peak period for acquisition of three years or longer), accounted for 64.3%. Meanwhile, of the certifications in the medium- and low-concentration groups, Class D, which comprises certifications requiring a relatively short period of time for acquisition (a peak period for acquisition of one month to half a year), accounted for the largest shares, 43.4% and 47.6%, respectively. These findings are evidence that as a long period of time is usually necessary for the acquisition of certifications for which job concentration is high, workers seek to recover the high costs of the certification acquisition (in terms of time, money, and opportunity costs) by engaging in types of jobs that take advantage of the relevant certification. However, as some certifications in Class A are categorized into the low- or medium-concentration groups, we will conduct a further study on the relationship between the period of time necessary for certification acquisition and the state of job concentration in the next section.

#### **IV. Study on the Effectiveness of Certification in the Labor Market**

##### **1. Cost-Benefit Analysis in Relation to Job Acquisition**

As the acquisition of certifications involves various costs, it is essential to conduct a cost-benefit analysis when deciding whether or not to acquire a certain certification. In the following analysis, the cost is represented by the period of time necessary for certification acquisition. This is because the longer the period of learning for certification acquisition is, the larger the necessary financial and opportunity costs are and the more time needs to be spent. To be more specific, the cost of certification acquisition is represented by the certification acquisition difficulty index, which is calculated by weight-averaging the number of days necessary for acquisition. The benefit is represented by the effectiveness of a certificate in helping the holder to acquire a job and to perform his/her job duties. The analysis covered the 147 certifications that were held by at least 100 respondents.<sup>6</sup>

Table 4 shows the 20 most challenging certifications in terms of the acquisition difficulty index (as measured by the period of time necessary for acquisition) and the profiles of certification holders. For 15 of the 20 certifications, more than 60% of certification holders were engaging in jobs to which their certifications were relevant. For many of the certifications, more than 70% of certificate holders regarded the certification as essential to their obtainment of their current jobs, and more than 60% regarded the certification as very useful to their performance of their job duties, suggesting that the cost spent on certification acquisition was rewarded with positive effects produced on the acquisition of a relevant job and the performance of job duties. These rewarding certifications were invariably related to

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<sup>6</sup> While the analysis covered the 147 certifications that were held by a total of at least 100 respondents in the 2008 and 2009 surveys, the period of time necessary for acquisition was inquired about only in the 2009 survey. Accordingly, the acquisition difficulty index, the attributes of respondents, the effectiveness of certification, etc. in Table 4 relate to the 2009 survey.



medical care. Meanwhile, for certifications related to education, which were mostly held by university graduates with liberal arts degrees, the high cost of certification acquisition was not rewarded with positive effects on job acquisition or job performance; the percentage of certification holders engaging in education-related jobs was low, at 15% to 30%, and consequently, the percentage of people who recognized a positive effect on job acquisition and job performance was also low, at 20% to 40%.

Certifications with the greatest cost-effectiveness are those which require a short period of time for acquisition but which are useful to their holders in the acquisition of a job and the performance of job duties. Most of such certifications are national certifications that are mandatory for the operation of specific types of vehicles and machinery, including cranes, forklifts, and large automobiles. This confirms that the acquisition of legally-sanctioned certifications is advantageous for the acquisition of a job and the performance of job duties, even though their acquisition difficulty index (as measured by the period of time necessary for acquisition) is low. It may also be said that cost-effective licenses for the operation of machinery and vehicles have something in common with certifications that are related to medical care, which are effective in facilitating job acquisition, in that both of them concern the assurance of health and physical safety.

## 2. Benefits to Income and Job Rank

This section examines the benefits of certification acquisition to improvements in the holders' conditions of employment. Among the notable features of the labor market in Japan are the facts that the wage gap between men and women is wide by international standards, and that the proportion of women among non-regular workers is large. In light of these features, we conducted a multilinear/logistic regression analysis as to whether the acquisition of the 147 certifications that were held by at least 100 workers had an effect on increasing the income of female workers and resulting in women working as regular workers. The analysis found that the possession of certifications had a negative effect on the income of female workers, while it had a positive effect on people with secondary educations working as regular workers (Tables 5 and 6). Meanwhile, our logistic regression analysis of the impact of certification acquisition on women working as regular workers did not recognize a statistically significant effect between certificate holders and non-holders, although the partial regression coefficient "B" was a positive figure.

As shown above, while the possession of certifications has a positive effect on people with secondary educations working as regular workers, it does not automatically lead to women's higher income nor do its positive effects significantly result in women working as regular workers. It should be noted for the negative effects of the possession of the above-mentioned 147 certifications on women's income, that no such negative effect is seen at a significance level of 5% if the data on samples in the highest income bracket of ¥20 million or higher are excluded. The findings of the multilinear regression analysis were presumably skewed by data on high-income women without any certifications.

Table 4. The 20 Most Challenging Certifications in Terms of the Acquisition and the Profiles of Certification Holders

Rank / Certification	Number of holders		Acquisition difficulty index	Ratio of women (%)	Predominant last school attended (%)
	2009	(2008+2009)			
1 Veterinarian	73	(128)	1681	<b>31.5</b>	University science program (60.3)
2 Medical doctor	268	(511)	1671	20.5	University science program (61.2)
3 Dentist	62	(121)	1663	19.4	University science program (66.1)
4 Clinical psychologist	52	(108)	1182	<b>55.8</b>	Graduate school (80.8)
5 Physical therapist	74	(130)	1160	20.3	Professional training college (43.2)
6 Public health nurse	49	(104)	1153	<b>95.9</b>	University science program (36.7)
7 Elementary school teacher	228	(422)	1125	<b>55.7</b>	<b>University liberal arts program (69.3)</b>
8 Senior high school teacher	767	(1396)	1123	<b>42.2</b>	<b>University liberal arts program (47.7)</b>
9 General nurse	184	(359)	1090	<b>90.2</b>	Professional training college (59.2)
10 Pharmacist	164	(337)	1071	<b>34.8</b>	University science program (51.8)
11 Junior high school teacher	632	(1135)	1068	<b>51.4</b>	<b>University liberal arts program (49.5)</b>
12 Teacher for schools for physically and mentally handicapped children	52	(107)	1055	<b>51.9</b>	<b>University liberal arts program (75.0)</b>
13 Medical technician	116	(233)	1042	<b>65.5</b>	Professional training college (31.9)
14 Nationally certified dietician	64	(131)	1012	<b>85.9</b>	University science program (42.2)
15 Radiologist	65	(119)	992	20.0	Professional training college (44.6)
16 Massage therapist (moxibustion therapy)	83	(168)	974	18.1	Professional training college (45.8)
17 Massage therapist (acupuncture)	93	(181)	963	19.4	Professional training college (45.2)
18 Curator	129	(244)	931	<b>51.2</b>	University liberal arts course (48.1)
19 Prosthetist	54	(108)	891	7.4	Professional training college (51.9)
20 Massage therapist (massage and acupressure)	62	(124)	884	21.0	Professional training college (45.2)
Total for the holders of certifications which were held by at least 100 respondents	28103	(48386)	277	30.6	Senior high school (25.7)

Analysis on the Acquisition of Vocational Certifications and Their Effectiveness in Japan  
 Difficulty Index (as Measured by the Period of Time Necessary for Acquisition)

Average age (Standard deviation)	Peak age category of acquisition (%)	Degree of necessity for job acquisition (%)		Usefulness to job per- formance (%)	Peak period of preparation (%)	Ratio of workers engaging in relevant jobs (%)
		Essential	Advantageous			
41.8 (12.2)	20s (93.2)	<b>65.8</b>	<b>28.8</b>	<b>65.8</b>	5 yrs or longer (79.5)	<b>73.9</b>
40.6 (8.1)	20s (94.4)	<b>88.1</b>	10.1	<b>89.6</b>	5 yrs or longer (86.9)	<b>94.7</b>
42.9 (8.6)	20s (90.3)	<b>87.1</b>	11.3	<b>90.3</b>	5 yrs or longer (90.3)	<b>92.0</b>
<b>37.3</b> (7.8)	20s (61.5)	<b>48.1</b>	<b>40.4</b>	<b>53.8</b>	5 yrs or longer (34.6)	<b>82.5</b>
<b>34.3</b> (6.4)	20s (79.7)	<b>86.5</b>	9.5	<b>81.1</b>	3 to 4 yrs (52.7)	<b>85.2</b>
<b>34.2</b> (8.2)	20s (89.8)	<b>67.3</b>	18.4	<b>61.2</b>	4 to 5 yrs (44.9)	<b>87.7</b>
40.6 (8.5)	20s (93.4)	<b>44.7</b>	27.4	<b>40.3</b>	4 to 5 yrs (36.7)	39.0
40.1 (9.0)	20s (96.1)	22.4	24.5	21.9	3 to 4 yrs (47.8)	15.3
<b>35.9</b> (7.0)	20s (89.1)	<b>78.3</b>	13.6	<b>83.2</b>	3 to 4 yrs (54.3)	<b>69.1</b>
<b>37.7</b> (8.1)	20s (95.1)	<b>37.8</b>	<b>38.4</b>	<b>37.8</b>	4 to 5 yrs (47.0)	<b>62.7</b>
40.2 (8.6)	20s (95.1)	22.0	27.7	19.7	3 to 4 yrs (43.5)	19.3
42.1 (9.1)	20s (66.0)	<b>32.0</b>	<b>38.0</b>	<b>42.0</b>	3 to 4 yrs (38.0)	50.0
39.8 (9.2)	20s (95.7)	<b>62.9</b>	25.0	<b>60.3</b>	3 to 4 yrs (55.2)	<b>73.3</b>
<b>35.1</b> (7.3)	20s (87.5)	<b>34.4</b>	<b>42.2</b>	<b>46.9</b>	4 to 5 yrs (45.3)	<b>62.7</b>
38.8 (7.9)	20s (90.8)	<b>86.2</b>	9.2	<b>86.2</b>	3 to 4 yrs (50.8)	<b>89.1</b>
40.6 (7.9)	20s (67.1)	<b>72.2</b>	24.1	<b>74.7</b>	3 to 4 yrs (68.4)	<b>91.6</b>
40.1 (7.9)	20s (65.2)	<b>70.7</b>	21.7	<b>79.3</b>	3 to 4 yrs (64.1)	<b>88.3</b>
<b>37.0</b> (7.6)	20s (93.8)	20.2	24.8	20.2	3 to 4 yrs (37.2)	29.6
39.9 (8.5)	20s (72.2)	<b>79.6</b>	14.8	<b>79.6</b>	3 to 4 yrs (42.6)	<b>98.2</b>
40.5 (7.8)	20s (65.0)	<b>75.0</b>	23.3	<b>80.0</b>	3 to 4 yrs (53.3)	<b>87.2</b>
38.7 (8.5)	20s (53.6)	23.3	28.5	26.5	1 to 6 months (34.7)	

Table 5. Multilinear Regression Analysis Using Women’s Income as a Dependent Variable

	Model 1			Model 2		
	B	S.E.	p	B	S.E.	p
Age	6.215	0.333***		6.250	0.333***	
Academic attainment						
Junior and senior high school (dummy, baseline)						
Junior and professional training colleges (dummy)	20.423	6.881**		21.471	6.878**	
University and graduate school (dummy)	111.525	6.876***		113.42	6.882***	
Executive and managerial post (dummy) <sup>1</sup>	229.899	9.214***		228.64	9.208***	
Company size <sup>2</sup>	-93.786	5.294***		-94.591	5.291***	
Job type <sup>3</sup>	-30.005	6.068***		-32.287	6.083***	
Job rank <sup>4</sup>	158.953	5.677***		159.15	5.671***	
Certification held by at least 100 respondents (dummy) <sup>5</sup>				-23.317	5.302***	
Constant	-6.167	14.269		7.107	14.570	
r <sup>2</sup>	0.250			0.251		
N	8576			8576		

- Notes: 1. “Executive or managerial post” is a dummy variable with “executive post” and “managerial post” given the value 1 and others given the value 0.  
 2. “Company size” is a dummy variable with “99 employees or less” given the value 1 and “100 employees or more and government agencies, etc.” given the value 0.  
 3. “Job type” is a dummy variable with “blue-collar job” given the value 1 and “white-collar job” given the value 0.  
 4. “Job rank” is a dummy variable with “regular worker” given the value 1 and “part-time workers, part-time workers with reduced benefits (*arubaito*), temporary agency workers, contract workers and commissioned workers” given the value 0.  
 5. “Certification held by at least 100 respondents (dummy)” is a dummy variable with workers holding certifications held by at least 100 respondents as defined in Chapter IV given the value 1 and workers holding no such certification given the value 0.  
 6. Significance probability: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ .

Table 6. Logistic Regression Analysis Using Job Ranks of Regular and Irregular Workers with Secondary Educations as a Dependable Variable

	B	S.E.	Exp(B) p
Gender <sup>1</sup>	1.998	0.071	7.372***
Age	-0.027	0.004	0.973***
Executive or managerial post (dummy) <sup>2</sup>	1.401	0.126	4.059***
Company size <sup>3</sup>	0.412	0.067	1.509***
Job type <sup>4</sup>	-0.025	0.067	0.975
Certification held by at least 100 respondents (dummy) <sup>5</sup>	0.256	0.065	1.292***
Constant	1.136	0.156	3.114***
-2Log Likelihood	6759.345		
Cox & Snell Pseudo r <sup>2</sup>	0.107		
N	10522		

- Notes: 1. “Gender” is a dummy variable with “men” given the value 1 and “women” given the value 0.  
 2. “Executive or managerial post” is a dummy variable with “executive post” and “managerial post” given the value 1 and others given the value 0.  
 3. “Company size” is a dummy variable with “99 employees or less” given the value 1 and “100 employees or more and government agencies, etc.” given the value 0.  
 4. “Job type” is a dummy variable with “blue-collar job” given the value 1 and “white-collar job” given the value 0.  
 5. “Certification held by at least 100 respondents (dummy)” is a dummy variable with workers holding certifications held by at least 100 respondents as defined in Chapter IV given the value 1 and workers holding no such certification given the value 0.  
 6. Significance probability: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ .

As income level is affected by various factors other than the possession of certifications, such as gender, age, academic attainment, and occupation, further study was necessary. Therefore, we conducted five sets of AnswerTree analysis on income<sup>7</sup> covering (i) all respondents, (ii) men with high school education, (iii) men with university education, (iv) women with high school education, and (v) women with university education, by using six variables: (i) gender, (ii) age,<sup>8</sup> (iii) academic attainment,<sup>9</sup> (iv) job field,<sup>10</sup> (v) degree of necessity of the certification for job acquisition, and (vi) degree of usefulness of the certification to job performance.<sup>11</sup> The analysis covered data on all respondents in the 2008 and 2009 surveys, totaling 53,133 people. Table 7 shows the results of the AnswerTree analyses based on classification by gender and academic attainment for groups of samples for whom the possession of a certification was found to be the branching factor, and Figure 4 shows the results of the AnswerTree analysis for women with high school educations.

According to the AnswerTree analysis of the income of all respondents, the most influential factor was gender, followed by the factor of age for men, academic attainment for women, but possession of certifications, and the certifications' effectiveness in the attainment of a job and in the performance of job duties have no influence on the income. However, looking separately at gender and academic attainment, the evaluation of a certification as being effective in helping with the acquisition of a job or the performance of job duties was the branching factor of the first phase for female graduates of both high school and university, and it was therefore the greatest influence on income among these groups. The branching factor of the first phase for men was age for both high school and university graduates, and although the possession of certifications had less of an influence on income than it did for women, the effectiveness of a certification in helping with job attainment was the branching factor of the second phase for university graduates in their 20s and 30s and high school graduates in their 30s (Table 7).

The AnswerTree analysis for women with high school educations shows that those

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<sup>7</sup> Points were awarded as follows: 1 point for less than ¥500,000; 2 points for ¥500,000 to ¥1M; 3 points for ¥1M to ¥1.5M; 4 points for ¥1.5M to ¥2M; 5 points for ¥2M to ¥2.5M; 6 points for ¥2.5M to ¥3M; 7 points for ¥3M to ¥4M; 8 points for ¥4M to ¥5M; 9 points for ¥5M to ¥6M; 10 points for ¥6M to ¥7M; 11 points for ¥7M to ¥8M; 12 points for ¥8M to ¥9M; 13 points for ¥9M to ¥10M; 14 points for ¥10M to ¥12M; 15 points for ¥12M to ¥15M; 16 points for ¥15M to ¥20M; and 17 points for ¥20M or higher.

<sup>8</sup> Divided into six age categories: under 20, 20s, 30s, 40s, 50s, and 60s or older.

<sup>9</sup> Divided into six groups: junior high school graduates; high school graduates; professional training college graduates; junior college and technical college graduates; university graduates; and graduate school graduates.

<sup>10</sup> Divided into 12 fields, each of which comprises jobs whose duties are of a similar nature.

<sup>11</sup> In addition, three other variables—company size, number of years worked, and form of employment—are also likely to affect income level. However, as data concerning these three variables are available only from the 2009 survey, they were excluded from our analysis, which covered the samples of both of the 2008 and 2009 surveys.

Table 7. Key Points of the Results of the AnswerTree Analysis

Gender	Men					Women				
	1st phase Age group	2nd phase		3rd phase		1st phase		2nd phase	3rd phase	
Category	Age group	Stage	Effectiveness	Stage	Effectiveness	Stage	Effectiveness	Stage	Age group	
High school graduates	30s	Job acquisition	Necessary	Job performance	Neither useful nor useless Very useful	Job acquisition	Highly necessary			
	50s	Transportation jobs Construction jobs		Job performance	Very useful		Necessary			
University graduates	20s	Job acquisition	Highly necessary			Job performance	Very useful	Professional/corporate services jobs	30s or older	
	30s	Job acquisition	Highly necessary	Medical/health care jobs				Education/research jobs		
				Transportation jobs				Jobs related to nature/animals and plants		
				Professional/corporate services jobs				Medical/health care job		
				Social services/public service jobs						
				Sales jobs						
				Education/research jobs						
				Office jobs						
		Necessary	Office jobs		Transportation jobs					

Notes: 1. For the groups in the shaded areas, the branching of the first phase was determined by the assessment of the benefits of certification.

- Regarding the assessment of the necessity of a certification for job acquisition, 2 points were given for “essential,” 1 point for “advantageous” and no points for “irrelevant,” and the 375 certifications which were held by at least 20 respondents were divided into five groups according to the average points given for the assessment—“highly necessary,” “necessary,” “neither necessary or unnecessary,” “unnecessary,” and “completely unnecessary”—so as to ensure that all groups comprise equal numbers of certifications. Certifications held by less than 20 respondents are included in “no certification.”
- Regarding the assessment of the usefulness of a certification in job performance, 2 points were given for “very useful,” 1 point for “useful” and no points for “not useful.” Certifications were divided into five groups—“very useful,” “useful,” “neither useful nor useless,” “useless,” and “completely useless”—in a similar way to the case of the necessity for job acquisition. Certifications held by less than 20 respondents are included in “no certification.”

Analysis on the Acquisition of Vocational Certifications and Their Effectiveness in Japan

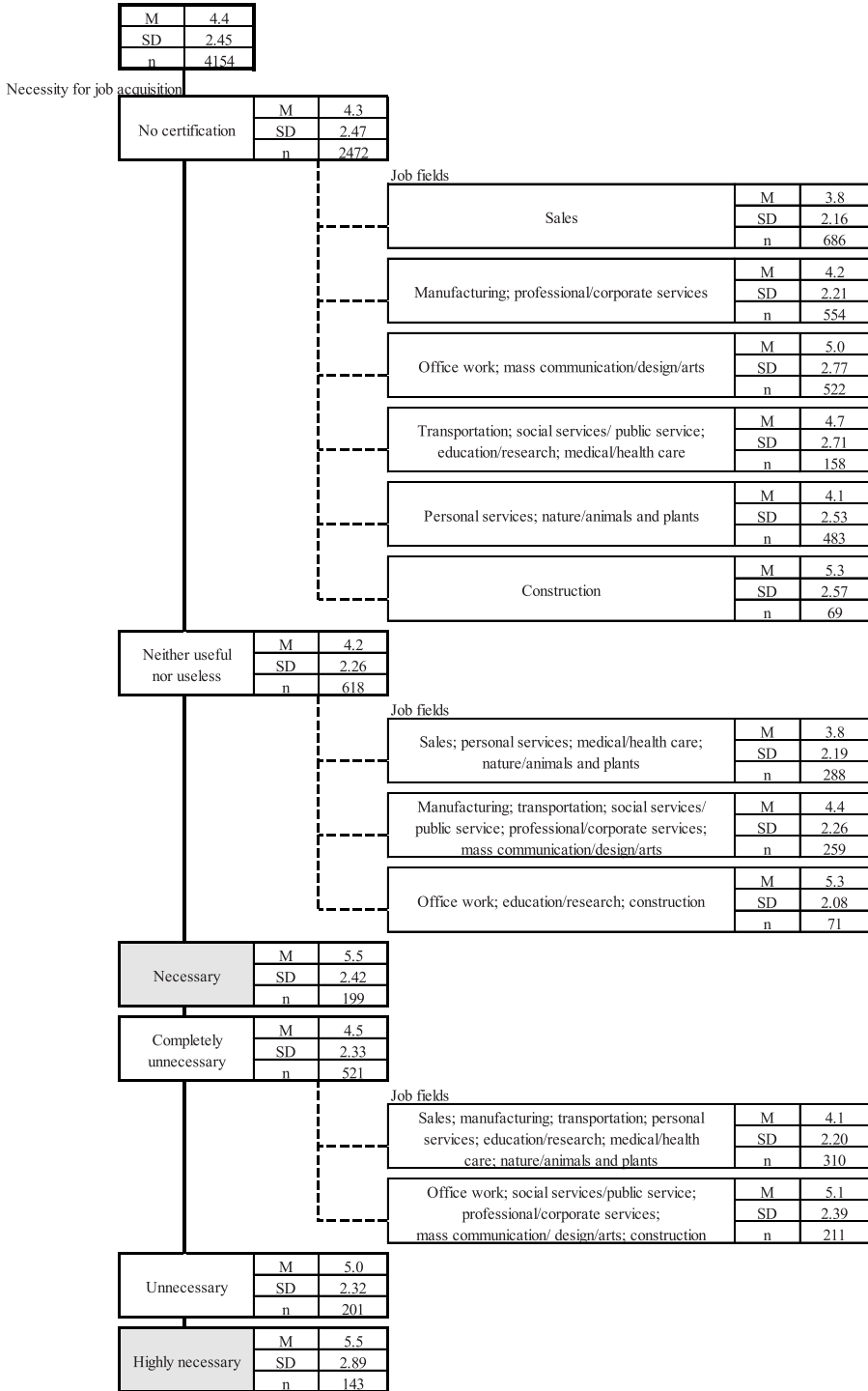


Figure 4. AnswerTree Analysis of the Incomes of Women with High School Educations

who hold certifications that are “highly necessary” or “necessary”<sup>12</sup> earn relatively high incomes (Figure 4). Among women with university degrees with certifications that are “very useful” to the performance of their job duties,<sup>13</sup> incomes were also relatively high, both for women who engage in professional/corporate service jobs and for those aged 30 or older who engage in jobs related to education/research, nature/animals and plants, medical and health care, and transportation.

As shown above, the AnswerTree analysis reconfirmed that the possession of certifications does not automatically lead to higher income, and it also demonstrated the effects of the possession of certification on income level in relation to the benefit it poses in the acquisition of a job and the performance of job duties. For women, the possession of a certification necessary for the acquisition of a job and useful in the performance of job duties tends to lead to higher income, and for men, the possession of certification necessary for the acquisition of a job is also a positive factor in their income, particularly early in their working careers.

## **V. Significance of Certification**

As a result of the above study, it is evident that regardless of the period of time necessary for acquisition, national certifications that are mandatory for people engaging in jobs related to the assurance of health and physical safety are very useful to the holders’ acquisition of jobs. There is no doubt that from a social viewpoint, vocational certifications are important for assuring health and physical safety.

One expected role of certification is to serve as a goal to strive for in a worker’s efforts to acquire and improve his/her professional skills; in other words, it is what Imano and Shimoda (1995) called “a means to develop skills.” According to the survey results, most people acquire certification when they are young, particularly when in their 20s, which suggests that the acquisition of certification serves as a means to develop skills early in the career formation process.

Meanwhile, the most influential factor to the income of women with high school educations is the degree of necessity for the certifications held by them to their acquisition of a job: the income of holders of certifications that are “highly necessary” or “necessary” was relatively high and, in some cases, it was higher than the average income of women with university degrees. In the case of men, the average income of high school graduates in their 30s who held certifications that were “necessary” to the acquisition of a job was significantly higher than the average income of university graduates in their 30s who did not hold any certifications and who engaged in jobs related to personal services or nature/animals and plants. The average income of high school graduates in their 50s who held

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<sup>12</sup> About these classifications, see Table 7, Note 2.

<sup>13</sup> About this classification, see Table 7, Note 3.



certifications that were “very useful” in the performance of their job duties and who engaged in jobs related to transportation, professional/corporate services, and construction was significantly higher than the average income of university graduates in their 50s who engaged in personal services jobs. In the case of women with university education, too, the degree of usefulness of their certifications to the performance of their job duties was the most influential factor for income level. Taken together, these findings suggest that although academic attainment is related to the acquisition of certifications—higher academic attainment may be “effective to a certain extent,” as noted by Tsuji (2000), in helping applicants acquire certifications by enabling them to be partially exempted from the qualifying examinations or to be granted a reduced required period of working experience, for example—some certifications may supplement academic attainment or support career formation in different ways from academic attainment.

Meanwhile, Kurosawa (2001) emphasized the effectiveness of certification in “mitigating the problem of informational asymmetry between employers and job seekers through the development of standards for evaluating professional skills as indicated by certification, and promoting high-quality job matching in the labor market.” This concept of the benefit of certification has something in common with the “certification as a yardstick to measure practical skills” as referred to by Imano and Shimoda (1995). As pointed out by Yahata (1999) and Okubo (2006), certification does not accurately indicate all the professional skills that the certificate holders have. However, if certification held by workers and their records of work experience complement each other in the clarification of their professional skills, it facilitates a smooth labor mobility beneficial to both workers and employers. This means the resolution of a mismatch through “certification underpinned by practical work experience” as mentioned by Fujimura (2000). Workers’ practical skills are objectively indicated if their resume is so structured as to combine, in an organic manner, the descriptions of their work experience and the certifications that they hold. Moreover, if the standards for evaluating industry-specific professional skills were developed in ways that were relevant to certification, it would become possible to designate certification as a goal for workers to strive for in their efforts to acquire and improve their practical skills. This also would enable companies to identify workers’ professional skills very clearly in their personnel management activities, including recruiting.

While the usefulness of certification to the performance of job duties as mentioned in our survey was assessed by the certificate holders themselves based on their practical experiences, it would be possible to identify the certifications that are relevant to the practical skills required for specific jobs by complementing the results of our survey with a detailed study on the substance of certifications and assessments by employers.

Until now, neither the collection of information nor objective analysis had been adequately implemented with regard to the vocational certifications available in Japan because of their diversity and complexity. We believe that it is important to enhance the information infrastructure of the labor market by using the findings of our survey in the development of

a database of information related to certifications.

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## The Career Pictures of Workers in Their 50s: Considering Adult Career Development Using the Life-Line Method

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In this study, a survey was carried out concerning the external-objective careers and internal-subjective careers of workers in their 50s when looking back at their own careers from their 20s to their 50s; in addition, consideration was given to the actual situation and challenges of adult career development in Japan. As well as gathering quantitative data by means of a normal questionnaire, the survey involved using the life-line method to gather qualitative data, and analyzing it. The results showed that the career pictures envisaged by workers in their 50s formed an S-shape, peaking in their 30s and reaching a trough in their 40s. Moreover, this trend was particularly strong amongst men. The results of this survey suggested that in Japan, in the future, more serious consideration should be given to medium-term career issues in workers' 30s and 40s, and that careers guidance for those in this age range should be enhanced.

### I. Issues of This Paper

What kind of awareness do people have of their own careers? After leaving school, during their subsequent working lives, people experience various peaks and troughs. While there are times when people are steadily promoted and earn large incomes, there are also times when they become embroiled in unexpected events and have to leave their jobs or change careers. People look back and recall that work was fun at that time, or, conversely, was really tough. Such peaks and troughs in their working lives can probably be said to exist in that person's consciousness as a type of picture formed by them. Ultimately, these pictures in each person's consciousness may form the true nature of their career when adults think back and take another look at their lives.

In particular, in adult career development, external-objective careers (represented by high wages, career advancement, and the like) become diverse. As a result, the need to reconstruct internal-subjective careers (such as finding one's work worthwhile and feelings of satisfaction) arises. For example, the term "mid-career crisis" coined by Schein (1978) is well known. A mid-career crisis is a conflict between the external-objective career and the internal-subjective career that people, who have led their working lives without incident in their 20s and 30s, become aware of when they reach their 40s. Understanding the stage at which this conflict begins to arise and the stage at which it escalates, and deciding how to deal (or not deal) with this conflict that has become apparent in the middle of one's career is the most important challenge in adult career development.

Consequently, in thinking about the issue of adult career development, it is necessary to consider the relationship between the external-objective career and the internal-subjective career. Clarifying what actions one can take for mid-career and what kind of attitude one

If you were to draw a line to depict the peaks and troughs of your working life since leaving school until the present day, how would it look? Please refer to the examples and draw your own line. Moreover, please add notes (to the best of your ability) to the highest and lowest points to explain what events occurred at those points.

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Figure 1. Explanation of the Life-Line Method and Response Column Used in This Survey

should have in terms of one’s awareness before taking such actions is the most important issue in which one should be interested when considering adult career development from a psychological perspective.

In this study, in considering the awareness of the problems mentioned above, a survey was conducted of workers in their 50s. In doing so, in order to gain an understanding of the individual’s internal-subjective career, a special technique, called the life-line method, was used. The life-line method is one of the qualitative assessment techniques that is currently becoming the focus of attention in careers guidance research, both within Japan and overseas, and is starting to be referred to in academic papers about careers guidance across the globe (Kidd 2006; Gysbers 2006). This is a technique in which a sheet is given to respondents, with age on the horizontal axis and plus and minus on the vertical axis; they are asked to look back on their working lives and draw a line showing the peaks and troughs of their own careers as they perceive them (see Figure 1). It is characterized by the fact that this can be done using only paper and writing implements, so it is easy to carry out; it is used as an effective method in real-life job support situations in Japan as well, and is yielding positive results. This technique has been used quite frequently for some time in providing job support for university students, as well as in some private sector companies. Moreover, it has a particularly long history as a qualitative assessment technique, and Cochran (1997) has po-

sitioned it as having a significant impact, stating that the origins of the life-line method are not known, but it can be done by both individuals and groups, enabling them to understand trends in their own careers of which they had not previously been aware, and to gain insights by recalling past events.

In this study, there are three reasons why this technique was used for this survey to consider adult career development.

Firstly, unlike surveys using more general questionnaire methods, in which researchers present questions and seek a rating, the author thought that the life-line method would enable the survey targets' feelings and thoughts about their adult careers to be understood more directly and visually. Secondly, as a method for measuring the internal-subjective career, the questionnaire method is generally used, but it only permits a measurement to be taken at a single point in time. Accordingly, the author believed that using the life-line method would make it possible to grasp the individual's overall "career picture." Thirdly, hitherto, the life-line method has been used primarily in the practical arena. Consequently, there has not been sufficient academic consideration of the life-line method before now. Therefore, the author wished to use the life-line method with a large number of respondents and, by gaining an understanding of trends in the responses, present fundamental research data concerning the life-line method.

Thus, the main objective of this study was to consider adults' internal-subjective careers by measuring the career pictures drawn by the individuals concerned using the life-line method; in this process, the author aimed to present basic research data concerning the life-line method, which is currently used primarily in the practical arenas of career counseling and career consulting. The author believed that it would be possible to use the life-line method to obtain new findings relating to adult career development by linking the individual's overall "career picture" to the external-objective career and making this the focus of analysis.

Figure 1 shows the actual explanation of the life-line method used in this study. In this survey, the explanatory paragraph and examples were presented and survey respondents were asked to draw curves depicting the peaks and troughs of their working lives from when they graduated from school until the present day. Figure 2 shows a number of examples of curves drawn as life-lines by respondents. The curves drawn in this study were converted into numerical values and analyzed.

This study was carried out in January 2009, targeting 2,043 respondents, who were workers in their 50s (1,526 men, 517 women). With regard to the distribution of workers, when compared with surveys such as the National Census and the Employment Status Survey, there were a slightly larger number of respondents in urban areas, respondents working in manufacturing, and men working in managerial positions, but apart from that, the distribution was more or less representative of the country as a whole.

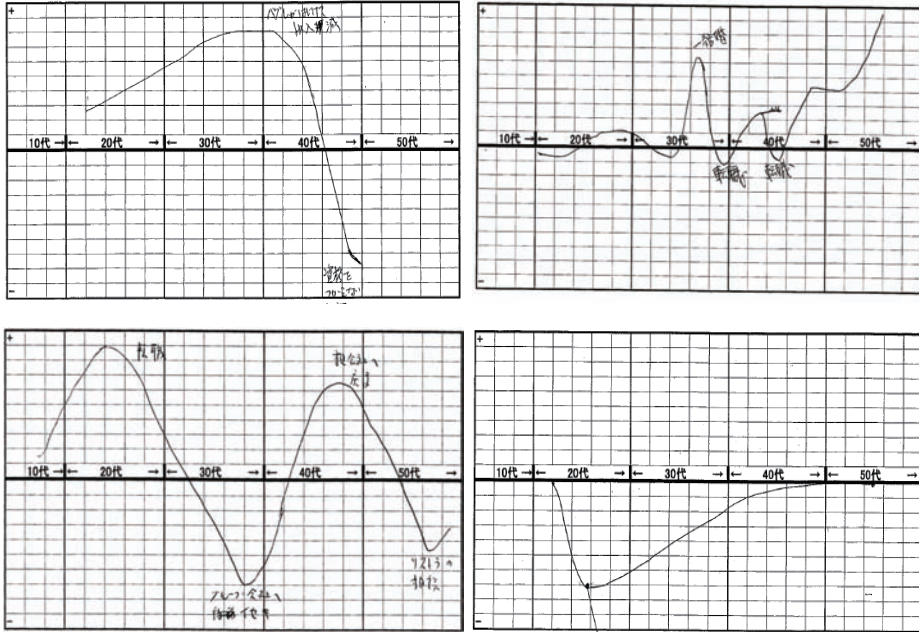


Figure 2. Examples of Responses Using the Life-Line Method in This Survey

## II. Overall Life-Line Trends and Relationship with Each Factor

### 1. Overall Trends

Figure 3 shows the mean values of the data by age bracket obtained after the curves drawn by all survey respondents were converted into numerical values. From Figure 3, the following three observations can be made.

Firstly, with regard to the shape of the curve, it rises from the 20s to the early 30s, peaking in the early 30s before falling to the late 40s, then rising again from the early to the late 50s. Secondly, in general, the lines were mainly drawn above the 0 value. Thirdly, although it is not very clear from Figure 3, as age rose from the early 20s to the late 40s, the standard deviation increased (the standard deviation was 2.87 for the early 20s, 3.18 for the late 20s, 3.49 for the early 30s, 3.78 for the late 30s, 4.14 for the early 40s, 4.50 for the late 40s, 4.39 for the early 50s and 4.29 for the late 50s).

In short, if we summarize the curves drawn by the targets of this survey, who were workers in their 50s looking back on their working lives, we can say that there was a tendency to draw an S-shaped curve with a peak in their early 30s and a trough in their late 40s. However, generally speaking, whereas people usually evaluate their own careers in a positive direction, the shapes of the curves envisaged by each person, which are similar for the younger age ranges, showed greater variations, with the difference becoming larger as age increased.

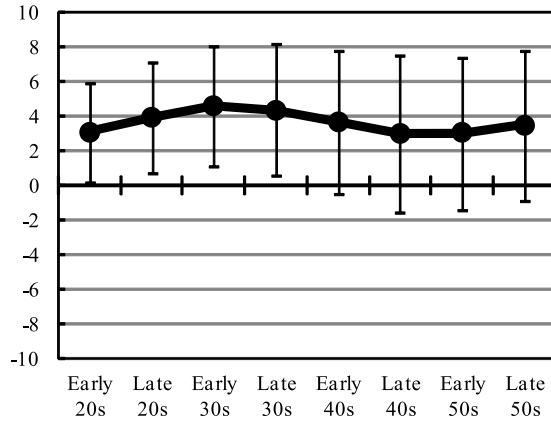


Figure 3. Mean Values and Standard Deviations in the Life-Lines of All Survey Respondents for Each Age Range

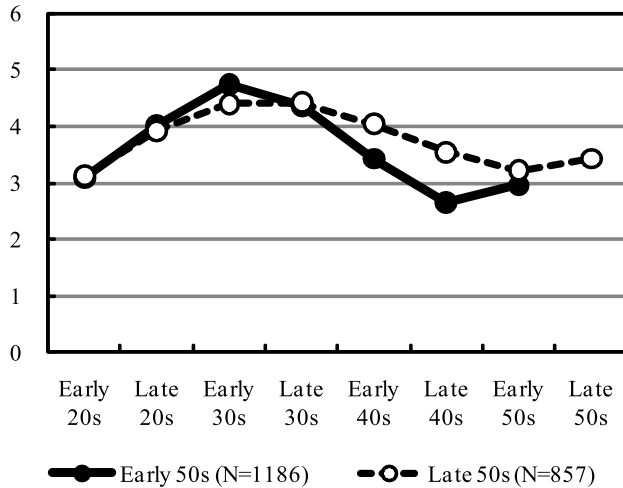


Figure 4. Differences in the Shape of the Life-Line According to the Historical Background (Comparison of Respondents in Their Early 50s and Those in Their Late 50s)

## 2. Relationship with the Historical Background

Naturally, the historical background, primarily the socioeconomic environment in which each person lived, is believed to have an impact on the curves drawn by workers in their 50s. Accordingly, in order to consider the relationship between the curves drawn using the life-line method and the historical background, the author compared the curves drawn by those survey respondents who were in their early 20s in the early 1970s and are therefore in their late 50s now, and those who were in their early 20s in the late 1970s and who are therefore in their early 50s now. The results are shown in Figure 4.

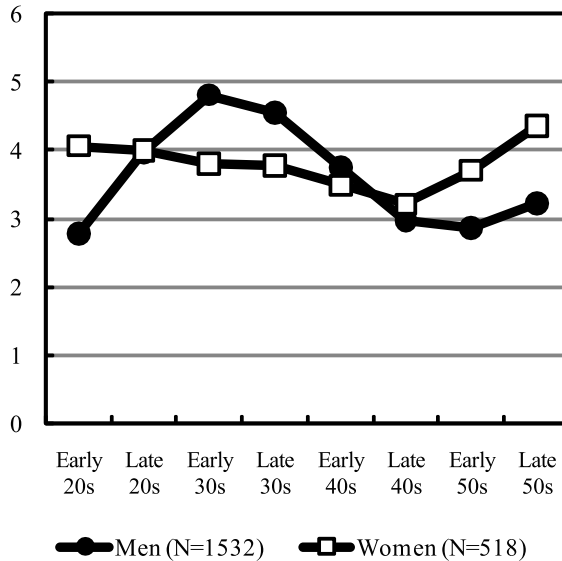


Figure 5. Differences in the Shape of the Life-Line According to Gender (Mean Values for Each Age Bracket)

At the time that the S-curves drawn by respondents in their early 50s were reaching a peak, during their early 30s, Japan was enjoying the boom of the late 1980s (the so-called bubble period), while during their late 40s, when their S-curves demonstrated a trough, Japan was going through the post-bubble recession (also known as the Heisei recession), so their S-curves were more extreme than those of respondents in their late 50s. From these results, at least if we are speaking of the respondents in their 50s who completed this survey and using the S-curves that we have just observed as the basis, we can tentatively surmise that the historical background did have an impact, given the pronounced shape of the curves.

### 3. Differences by Gender

The curves drawn using the life-line method differ according to various factors. Of these, the biggest difference was seen as a result of gender.

Figure 5 shows differences in the shape of the life-line according to gender. Whereas the curves drawn by men showed a clearer S-shape, with a peak in the early 30s and a trough in the late 40s as mentioned above, the shapes of the curves drawn by women differed and were flatter. In particular, the values were higher than those of men in their early 20s, and although they declined thereafter, the switch to rising again from their late 40s was statistically significant.

Behind the results for women is the fact that many women of this age basically begin working in their teens and spend their 20s in the workplace, then spend their 30s and 40s at



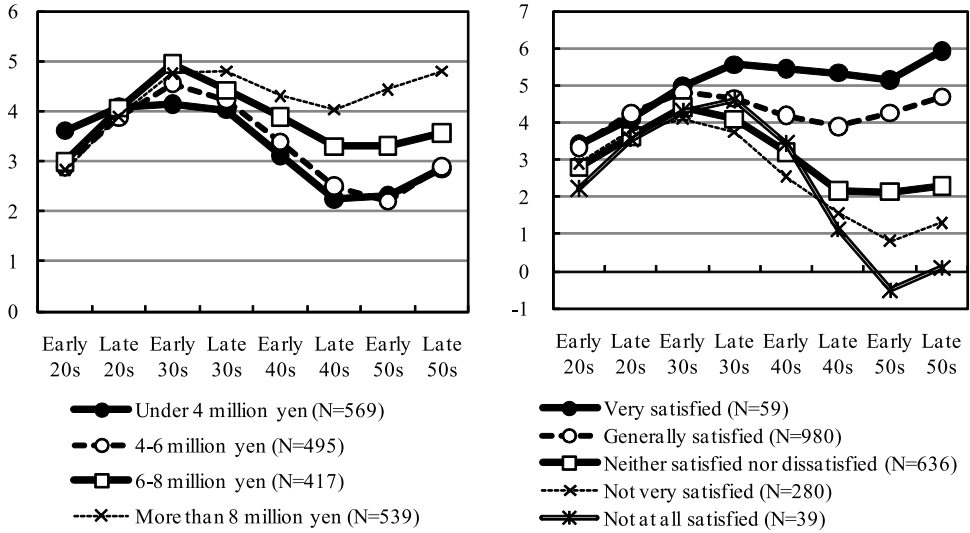


Figure 6. Differences in the Shape of the Life-Line According to Income (Pre-Tax) in the Last Year (Left) and According to Feelings of Satisfaction about “Working Life and Career to Date” (Right) (Mean Values for Each Age Bracket)

home, before returning to work in their 50s. Accordingly, in cases of “women without a period of absence,” who did not become homemakers and continued to work, a peak was observed, albeit not as pronounced as the peaks of the male respondents. The key characteristic is the fact that the peak is seen in the late 20s, at a slightly younger age than seen in the case of male respondents. Despite this result, one point common to the curves drawn by women, including those who continued to work, without a period of absence, was that the rise in the 50s was very pronounced. This point can be considered a characteristic of women in general, irrespective of whether or not they had a period of absence.

#### 4. The Relationship between Annual Income and Feelings of Satisfaction

After gender, the factors with the biggest impact on the curves drawn using the life-line method were annual income and feelings of satisfaction.

Firstly, the left-hand diagram in Figure 6 shows the differences in curve shape according to pre-tax income over the last year. If we put together the statistically significant results, we can see that the value for those responding “Under 4 million yen” in their early 20s is higher than all of the others, but as age increases, a gap opens up, with those responding “More than 8 million yen” > “6-8 million yen” > “4-6 million yen” and “Under 4 million yen.”

Moreover, the right-hand diagram in Figure 6 shows the difference in the shapes of life-lines by feelings of satisfaction about the respondents’ “working life and career to date.”

From the late 30s onwards, a statistically significant gap can be seen. The value for those responding “Very satisfied” for their late 30s onwards is higher than any other response, and as the respondents grew older, the gap in the values increases, with those responding “Generally satisfied” > “Neither satisfied nor dissatisfied” > “Not very satisfied” > “Not at all satisfied,” with a clear gap opening up in the 50s.

The two factors of annual income and feelings of satisfaction can perhaps be interpreted as indicators representing the external-objective career and the internal-subjective career respectively, or indicators symbolic thereof. Consequently, the shape of the curves drawn using the life-line method can be said to be strongly influenced by both the external-objective and the internal-objective careers.

However, hitherto, in career psychology, even if one had to prioritize either the external-objective career or the internal-subjective career, there is the question of which to prioritize. There is a strongly-rooted opinion that the general approach, which emphasizes the external career as symbolized by annual income, is the best. The stance of emphasizing the external career is based on the simple reality that people work in order to earn a living for themselves and their families. Conversely, there is an approach which believes that emphasizing the external career is problematic and that it is best to emphasize the internal career, as symbolized by feelings of satisfaction. The stance of emphasizing the internal career is actually often asserted from the specialist standpoint of career psychology.

In order to consider this issue, the responses have been divided into two along the lines of the central value and classified into “high satisfaction – low satisfaction” and “high income – low income,” then the two have been combined to create four groups and the shapes of the life-lines have been compared; this is shown in Figure 7. From Figure 7, we can see that the shape of the life-line does not change, broadly speaking, until the late 30s, then a gap appears from the early 40s. The highest value from the early 40s onwards is seen for the “High satisfaction – high income” group, and there is almost no decrease from the 40s to the 50s. The next-highest is “High satisfaction – low income” group and a gap is observed between this and the next-highest “Low satisfaction – high income” group, particularly from the 50s. Looking at the situation just from the results of this study, we can surmise that the internal-subjective career as represented by “feelings of satisfaction” has a more positive impact on evaluations of one’s own working life than the external-objective career as represented by “annual income.”

In addition, a wide-ranging correlation was indicated between the external-objective career of respondents and the curve of the life-line, and this is introduced below as a list of points:

- (i) Those who entered their company as new graduates demonstrated higher values from their late 20s to their early 30s than those who entered their company mid-stream.
- (ii) With regard to feelings of satisfaction concerning the respondent’s first workplace, there is a close relationship with the value for their 20s, and those with markedly

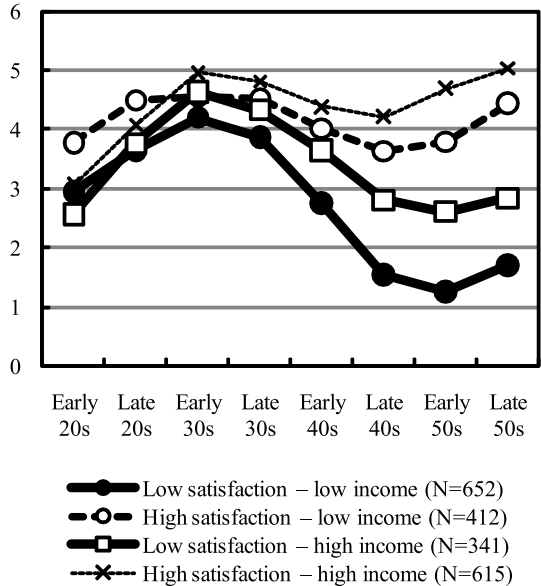


Figure 7. Differences in the Shape of the Life-Line According to the Four Groups Relating to Feelings of Satisfaction and Income (Mean Values for Each Age Bracket)

high values for their feelings of satisfaction overall demonstrated high values for their 20s. The correlation became weaker from their 30s onwards.

- (iii) Those with experience of changing jobs had values that were low for their late 20s and early 30s. Moreover, the values for those with no period of unemployment or other period of absence were higher across all age brackets.

Moreover, the following trends were seen with regard to the correlation with the attributes of their current workplace.

The values were high from the 40s to the 50s, without any significant decline in the 40s, for

- (i) those working in such industrial sectors as the “finance and insurance,” “medicine and welfare,” “education and learning support,” and “civil service”;
- (ii) those engaged in “managerial jobs” and “specialist and technical jobs”;
- (iii) those working for companies with “more than 1,000 people”;
- (iv) those whose annual income is in the range “more than 8 million yen” and “6 - 8 million yen.”

### III. Factors with an Impact on Life-Line Rating Scale Values

Various factors are related to the rating scale values for each age bracket using the

Table 1. Factors with an Impact on Rating Scale Values in Each Age Bracket  
(Results of Multiple Regression Analysis)

	Early 20s	Late 20s	Early 30s	Late 30s	Early 40s	Late 40s	Early 50s	Late 50s
Gender (1=men, 2=women)	.096		<b><u>-.110</u></b>	<b><u>-.108</u></b>		.085	<b><u>.167</u></b>	<b><u>.193</u></b>
Age (1=early 50s, 2=late 50s)					.078	.086		
Age at which first entered workplace	-.075							
Feelings of satisfaction about future prospects and stability in first job	<b><u>.163</u></b>	<b><u>.131</u></b>				-.072		
Feelings of satisfaction about working conditions in first job	.084			.076				
Feelings of satisfaction about contents of work in first job	.085		.064				-.081	
Feelings of satisfaction about workplace relationships in first job		.075						
Pre-tax income in the last year	-.072	<b><u>.107</u></b>				<b><u>.161</u></b>	<b><u>.235</u></b>	<b><u>.204</u></b>
Current employment "specialist/technical job"	.073							
Current employment "clerical job"	.050							
Current employment "sales-related job"			.061	<b><u>.120</u></b>				<b><u>-.113</u></b>
Current employment "manufacturing/processing/construction/light labor"				-.051	-.078			-.067
Industrial sector of current job "manufacturing"	-.059							
Industrial sector of current job "electricity/gas/thermal supply/water utility"	-.052							
Size of current company							.055	
Do you feel that your own professional skills would be acceptable at other companies?		.052						
Life is determined by luck		.051						
Life is determined by ability			.096	.057	.083		.054	
Life is determined by efforts						.054		<b><u>.125</u></b>
Feelings of satisfaction about working life and career				.057	<b><u>.108</u></b>	<b><u>.162</u></b>	<b><u>.262</u></b>	<b><u>.229</u></b>
Marital status (1: single, 2: married)					.067			.073
Experience of changing jobs (1: no, 2: yes)							<b><u>.122</u></b>	<b><u>.128</u></b>
Experience of unemployment or periods of absence from work (1: no, 2: yes)		<b><u>-.128</u></b>	-.050					
Adjusted R <sup>2</sup>	.128	.047	.030	.040	.041	.072	.157	.186

Note: Multiple regression analysis using the stepwise method with dummy variables. Only significant coefficients at 5% standard are recorded. Significant coefficients at 1% standard are shaded, and coefficients whose absolute values are in the top 3 for each age bracket are underlined in bold.

life-line method. The author used the multivariate analysis method to give close consideration to the question of which factors have a major impact on these values. More specifically, multiple regression analysis was carried out, designating the rating scale values for each age bracket using the life-line method as explained variables, and each factor taken up in this chapter as an explanatory variable. With the analytical objective of narrowing down the factors that have a major impact on the rating scale values for each age bracket, the stepwise method was used for the multiple regression analysis. Table 1 shows the tabulated results

for statistically significant factors only.

The results showed that the factor with the biggest impact on values for respondents' 20s was feelings of satisfaction in relation to "future prospects and stability" in their first job. Moreover, in the late 20s, "experience of unemployment or periods of absence from work" was another factor that had a large impact. When the life-line method was used to draw a curve, whether or not the respondent was satisfied about the future prospects and stability of their first workplace had a particularly large impact on values for their 20s; in addition, we can see that respondents' evaluation of their late 20s differed greatly between those with experience of unemployment or other periods of absence from work and those without.

Gender was the factor that had the biggest impact on values for respondents' 30s. In this age bracket, there were not many other factors that had a large coefficient, and when respondents drew curves using the life-line method, there was a large gap between men and women in their 30s. Overall, the values for men were higher, while the values for women were low. This is because, for various reasons, including marriage, childbirth and child-rearing, women of this age cannot find a way of working that satisfies them sufficiently, so compared with men, women evaluate the values for their 30s as being relatively low. Moreover, it is difficult to interpret, but where the current job of the survey respondent in their 50s is "sales," the value for their late 30s was high. Those in their 50s working in sales can be said to have a tendency to look back on their 30s as the peak of their career.

Concerning respondents' 40s, the factor with the biggest impact on values for their early 40s was "feelings of satisfaction about working life and career." In addition, in their late 40s, "pre-tax income in the last year" was a factor that had a major impact. We can see that these two factors have a strong impact, with a high coefficient. Another characteristic is that, in respondents' 40s, factors other than these two only had a small impact.

In respondents' 50s, "feelings of satisfaction about working life and career" and "pre-tax income in the last year" were factors that both had quite a considerable impact. In addition, gender also had a major impact. One characteristic of respondents' 50s is that, in contrast to their 30s, the values for women were higher than those for men. One deeply interesting result is that the rating scale values for respondents in their 50s were high in both cases amongst respondents with experience of changing jobs. As a result of conducting detailed analysis, we can see that the share was high for those with experience of changing jobs who said that their work experience had been in "various fields." Moreover, in relation to this, there were many who answered that their own vocational skills would be acceptable at other companies as well. If we put these results together, we can interpret this to mean that those who have experience of changing jobs feel that they can be active in various fields, and that having that feeling has a positive impact on rating scale values for their 50s, if we control for the influence of various factors.

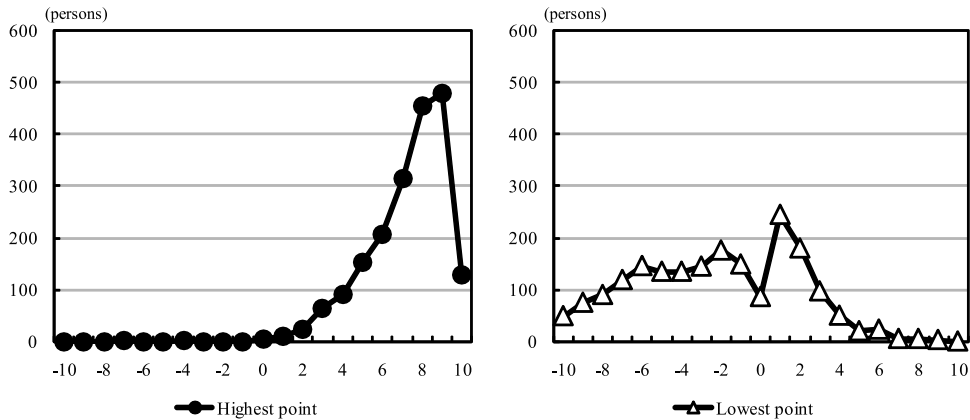


Figure 8. Mean Rating Scale Values for Highest Points (Peaks) and Lowest Points (Troughs) in Curves Drawn by Respondents

#### IV. Adult Career Development and What Is Required to Support This

As is clear from the results so far, there are three points that the author would particularly like to emphasize in relation to the peaks and troughs in the curves drawn using the life-line method.

Firstly, of the curves obtained from the results provided by the respondents, who were workers in their 50s, the highest point does not vary particularly according to the respondent, but the lowest point differs considerably depending on the respondent. As shown in Figure 8, most respondents rated their highest point as eight or nine, and the distribution is not that large. On the other hand, there is considerable variation in the lowest point, according to the respondent. One of the interpretations of this diagram is that there is not much difference between the peaks when people depict their careers, but we can say that people's evaluation of their troughs differs completely between each person. Consequently, for that matter, the career picture created by workers in their 50s looking back over their working lives can be said to be characterized by how deep the troughs were; in other words, how low the lowest point was.

Secondly, career pictures differ considerably according to whether the highest point or the lowest point comes later, from an age perspective. In this survey, if we take the example of annual income and feelings of satisfaction, with regard to which the biggest differences were seen, as shown in Figure 9, the higher the annual income and the higher the feelings of satisfaction, the greater the tendency for the age at which the highest point was experienced to be later than the age at which the lowest point was experienced. Conversely, the lower the annual income and the lower the feelings of satisfaction, the greater the tendency for the age at which the highest point was experienced to be earlier than the age at

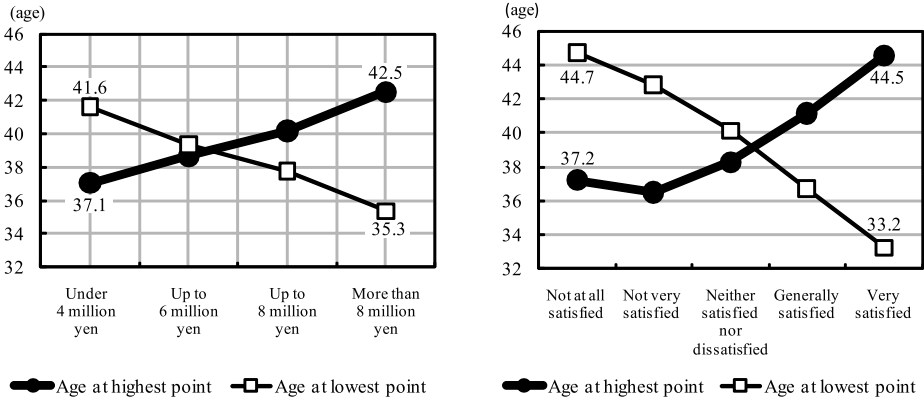


Figure 9. Age at Which the Highest and Lowest Points Are Experienced According to Annual Income (Left) and Feelings of Satisfaction (Right)

which the lowest point was experienced. To put it another way, respondents who depicted a career in which the highest point was later, can be said to have a higher annual income and greater feelings of satisfaction.

If we put these two points together, there are several patterns in the pictures of careers depicted by the respondents, but speaking generally, we can say that it is possible to gain a general understanding of a person’s career according to how deep a person’s career trough (lowest point) was, and whether their lowest point comes before or after their career peak (highest point). Consequently, in considering career development support, the key questions are (i) how to make their career trough shallow and how to ensure they overcome it quickly; and (ii) how to help them create a situation in which they experience their career trough at a young age and their career peak later in life.

Thirdly, the left-hand diagram in Figure 10 shows differences in the shape of the life-line according to the respondent’s own evaluation of their professional skills. With regard to the self-evaluation of respondents’ own professional skills, the values for the late 40s onwards were the highest for respondents who thought that, at present, their own professional skills “would be acceptable” at other companies. The values were also high for the early and late 30s for respondents who thought that their skills “would be acceptable to some extent.” Incidentally, the values were lowest in the case of respondents who thought that their skills “would not really be acceptable” in all age brackets. Furthermore, the right-hand diagram in Figure 10 shows differences in the shape of the life-line based on the question “How do you think your life so far has been determined?,” focusing on the degree to which the response “It is determined by the efforts of the individual,” regarding which a pronounced, statistically significant gap was observed. As shown in the right-hand diagram in Figure 10, the highest value was for those who responded “Applicable to a considerable degree,” and there was only a small drop in their 40s. In contrast, the overall rating scale

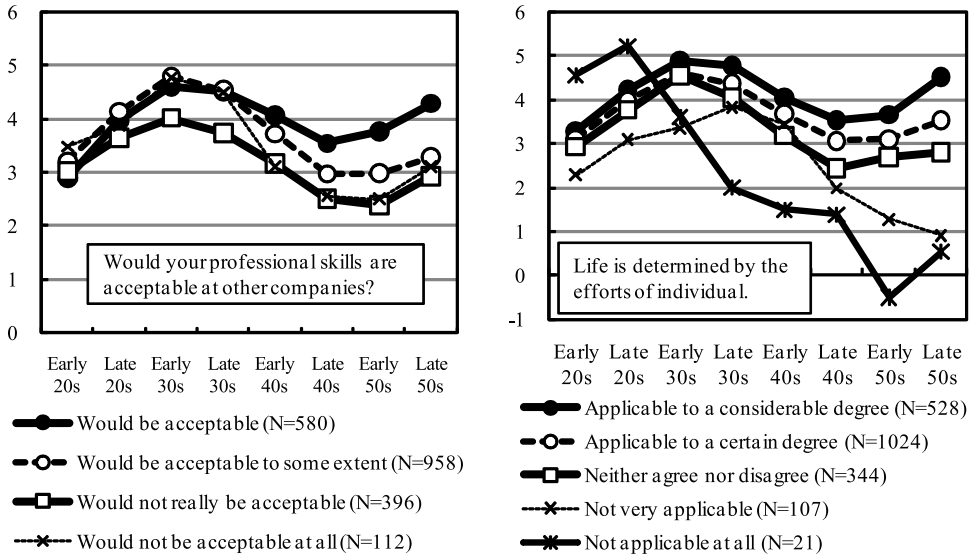


Figure 10. Differences in the Shape of the Life-Line According to Respondent’s Evaluation of Their Own Professional Skills (Left) and According to Whether They Feel That Their Life to Date Has Been “Determined by the Efforts of the Individual” (Right)

value was low in the case of those who responded “Not very applicable” and “Not applicable at all.” The results were particularly noteworthy in the case of the 21 people who selected “Not applicable at all,” that is to say, those who do not believe that one’s life is determined by the efforts of the individual, and their values were significantly lower than those of the others.

### V. Suggestions for Career Support That Can Be Derived from This Study

From the results of the analysis of this study, we can perhaps glean the following three suggestions about what is required for career development.

Firstly, the picture of their own careers depicted by workers in their 50s forms an S-shape, with a peak in their 30s and a trough in their 40s. This tendency was particularly strong amongst men. From the curves drawn by the respondents, the existence of a “mid-career crisis,” which has been pointed out for some time in adult career development, was confirmed once more. In this, the historical period had an impact, albeit only slightly. If the peak coincided with the bubble period, the rating scale value for that point was higher, while the rating scale value of those whose trough coincided with the recession was lower. However, on the whole, rather than the impact of the historical period, it is actually the external-objective career symbolized by annual income and the internal-objective career



symbolized by feelings of satisfaction that can be said to have a larger impact on the individual's career picture. This result can be said to demonstrate once more the necessity of achieving a good balance in considering both the external-objective career and the internal-objective career. However, if we also think about the reality of people's mid-career situation, it is necessary to consider the fact that the external-objective career is not always formed in the way that the individual concerned would desire. At the end of the day, mid-career problems converge with the problem of how to reorganize one's internal-subjective career if one realizes that one will not be able to follow the external-objective career that one desires in one's 30s and 40s. Consequently, as shown in Figure 7 of this paper, rather than a high income, it was those with high feelings of satisfaction who had the higher rating scale values for the curves drawn using the life-line method. The career challenge after experiencing the trough in one's 40s is how to enhance one's internal-subjective career; in other words, it is a question of how to feel satisfied with one's career.

Secondly, in the results of the analysis in this paper, there were major differences in the shape of the curve according to gender. Generally speaking, the curves of men formed a neat S-shape, with a peak in their 30s and a trough in their 40s, whereas the curves of the female respondents gradually declined after a high evaluation in their 20s, before taking an upward turn again from their late 40s through to their 50s. The main factor behind this is the nature of women's work in Japan, where they are compelled to leave the workplace in their 30s due to childbirth and child-rearing, returning to work again in their 40s. Moreover, this dislocation of women's careers in their 30s is a problem that requires further improvements in the future. However, this kind of career for women can provide suggestions for men. Women's careers are dislocated in a visible way by childbirth and child-rearing. Consequently, it is easy to see that, in their career development, it is necessary for them to update their professional skills several times. In contrast, we can see that, as long as they do not perceive any major changes in their working lives in their 30s and 40s, men's careers steadily develop with a focus on a peak in their 30s. In fact, there is a type of career peak out in their 30s, after which they enter a downward phase. Before they know it, they have reached a career trough, and a considerable amount of energy is required to achieve career resurgence and reconstruction. It is necessary to emphasize that men also experience a major inflection point in their careers in their 30s, so there is a need to update their own professional skills in some form.

Thirdly, the curves drawn using the life-line method in this survey are symbolized by the fact that each person's characteristics are expressed by the lowest point, which forms a trough. The degree to which the respondent could make their own career trough shallow had a major impact on the picture that the respondent envisaged of their career when looking back in their 50s. In order to overcome the trough period, it is necessary to undertake advance preparations from the career peak out stage during an individual's 30s. In particular, acquiring professional skills that are acceptable at other companies as well has a strong link to the shape of the curve from an individual's 40s onwards, and this also seemed to be re-

lated to an individual's sense that their life is determined by their own efforts. The results of this study suggest that, if it is possible to push out the career peak that one perceives to a later point, while sustaining this awareness, one can overcome one's career trough in one's 40s. However, there may well be cases in which it is not possible to overcome this career trough through the efforts of the individual alone. If one is thinking about the career development of mid-career employees within the company, it is necessary to create opportunities to promote insights among individuals after they pass their peak in their 30s, up to entering the trough in their 40s. Moreover, if there are no such opportunities within the company, it will be necessary to consider a system in which workers can receive some kind of public support, as required.

In any event, the career pictures of workers in their 50s suggest that what is actually more important in career development support is the mid-career stage in their 30s and 40s. During the last decade, career development support for young people, as symbolized by so-called "freeters" (job-hopping part-timers) and NEETs (the abbreviation for "not in education, employment or training"), has been the focus of attention in Japan. Of course, even now, it is not the case that the importance of this has decreased. However, as a result, the issue of the mid-stream careers of those in their 30s and 40s and support for workers at this point has been neglected, comparatively speaking. We can say that the peaks and troughs depicted in the curves drawn using the life-line method in this study have highlighted once more the challenge of mid-stream careers.

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## JILPT Research Activities

### *International Workshop*

On February 24 and 25, the Japan Institute of Labour Policy and Training (JILPT) held an international research workshop in Tokyo on the theme of non-regular employment. In order to engage in cross-national discussion and comparative analyses on this theme, we invited researchers from Japan and five other countries: France, Germany, the Netherlands, the UK, and the U.S. We discussed the issue of non-regular employment, focusing on the reasons for its increase and decrease, scenarios for shifting to regular employment, and the actual conditions of equal treatment. The submitted papers will be published and are scheduled to be posted on the JILPT website (<http://www.jil.go.jp/english/index.html>). The speakers and submitted papers were as follows:

- Gary Slater, University of Bradford (UK). *Non-Regular Employment in the United Kingdom*
- Arjan B. Keizer, Manchester Business School (UK). *Non-Regular Employment in the Netherlands*
- Abel Valenzuela Jr., University of California, Los Angeles (USA). *Non-Regular Employment in the United States: A Profile*
- François Michon, Centre National de la Recherche Scientifique (France). *Survey on Non-Regular Employment in France: A Profile*
- Hartmut Gerhard Seifert, Wirtschafts-und Sozialwissenschaftliches Institut in der Hans-Böckler-Stiftung (Germany). *Non-Regular Employment in Germany*
- Yutaka Asao, the Japan Institute of Labour Policy and Training (Japan). *Overview of Non-Regular Employment in Japan*

### *Research Reports*

The findings of research activities undertaken by JILPT are compiled into Research Reports. Below is a list of the reports published from November 2010 to March 2011. The complete text of these reports (in Japanese) can be accessed from the JILPT website. We are currently working on uploading abstracts of reports in English onto the JILPT website as well.

#### Discussion Papers

- DPS-11-01 *A Regional Job-Creation Simulation Based on the New Growth Strategy* (January 2011), Satoshi Nakano
- DPS-10-07 *Why Don't Single Mothers Aspire to Full-Time Employment?* (January 2011), Zhou Yanfei

Research Material Series

- No.83 *Estimated Employment Tables Based on Interregional Input-Output Tables for 2005* (March 2011)
- No.80 *A Survey Report on the Job Awareness and Practical Use of Highly Skilled Foreign Personnel in Asian Countries* (December 2010)
- No.79 *The Current Status of Non-Regular Employment in the U.S. and Europe and Related Themes: A Look at Germany, France, the UK, and the U.S.* (November 2010)

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