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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 *meyasu* amount. Basically, the deviation from the *meyasu* 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>

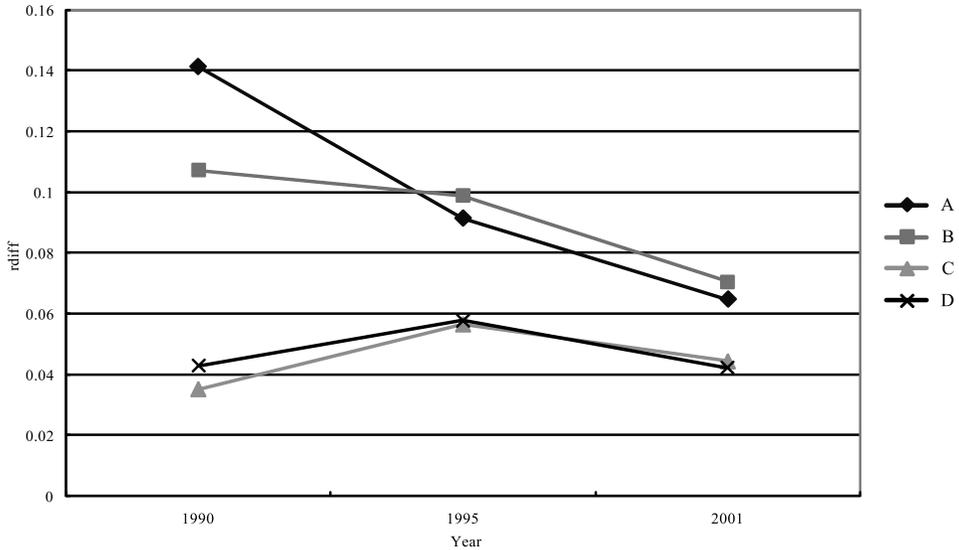
### 4. Minimum Wage during the Deflation Era

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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