



RIETI Discussion Paper Series 09-E-031

# **How are Hours Worked and Wages Affected by Labor Regulations?:**

## **The white-collar exemption and 'name-only managers' in Japan**

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# **How are hours worked and wages affected by labor regulations?: The white-collar exemption and ‘name-only managers’ in Japan<sup>\*</sup>**

June 2009

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## **Abstract**

This paper examines whether overtime regulations have a significant impact on the hours worked and hourly wages, by focusing on so-called name-only managers in Japan. The term name-only manager refers to an employee who has essentially the same job description as other employees, but who is designated by the company as a manager to exempt them from overtime regulations. As the name implies, the only difference between those managers and other employees is in the applicable regulations on working time. Using longitudinal data, our main results from matching estimation indicate no significant difference in hourly wage or hours worked between the two groups. This implies that name-only managers’ base salaries are sufficiently higher to compensate for the loss of overtime pay, which supports the fixed-job model.

Keywords: Hours worked, overtime regulations, fixed-job model, white-collar exemption  
JEL classification: J33, J50, K31

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<sup>\*</sup> Data used in this paper is longitudinal data from the *Keio Household Panel Survey* (KHPS). We thank professors Yuji Genda (University of Tokyo), Yoshio Higuchi (Keio University), Daiji Kawaguchi (Hitotsubashi University), Kazuto Sumita (Kanazawa Seiryō University), Kotaro Tsuru (Research Institute of Economy, Trade and Industry, IAA), and Kazuo Yamaguchi (University of Chicago), and participants at Study group for Labor Market Institution Reform in Japan at REITI and WEAI Pacific RIM conference 2009 for their valuable comments. Whatever errors that may be contained herein are solely those of the authors

## **1. Introduction**

This paper uses Japanese longitudinal data to examine the impact of overtime regulations on work hours and hourly wages. In Japan, many employees are subject to overtime regulations. When those employees work beyond the statutory work hours, the Labor Standards Act requires employers to pay a minimum overtime premium of 25 percent. However, some employees in Japan, specifically managers with the title of section chief and higher, are exempt from this requirement and are not paid for overtime, as with the white-collar exemption in the US.

There has been a growing number of lawsuits in Japan recently where managers in the service sector sue their employers for overtime pay. In 2007, for example, a manager of a McDonalds in Japan filed suit against McDonalds Japan demanding JPY 13.5 million (roughly equivalent to US\$135,000 using an exchange rate of JPY100/US\$1) in overtime pay, arguing that it was illegal to classify store managers as management exempt from overtime regulations and not pay them for overtime. There has been a succession of similar lawsuits since then by store managers working for other eating and drinking establishments and menswear chains. The mass media has dubbed these store managers “name-only managers,” and noted that many of these store managers only had the veneer of management, while being forced to work long hours without overtime pay.

Name-only managers argue that companies have designated their store managers as part of management, while only giving them the same salary and authority as a line employee, merely as a ruse to unfairly withhold the overtime pay (125 percent of their hourly wage) that

they are rightfully due. As noted above, Japan's Labor Standards Act allows the exemption of management personnel from regulations on hours worked. That law does not, however, prescribe the conditions that must be met to qualify as management,<sup>1</sup> but instead leaves it up to the individual companies' discretion. Consequently, by classifying store managers as management, even when they do not have a management role, companies can make them work overtime without overtime pay. It therefore seems that the problem stems from the lack of any clear definition of management within the Labor Standards Act.

From an economics perspective, however, there is some reason to doubt the supposition that name-only managers in the service industry have really been working for an unfair wage. Although Japan's labor market is said to lack mobility, the skills required to manage a chain eating/drinking establishment or chain menswear store are mostly general in nature. Thus, a name-only manager who is forced to work for an unfairly low wage should be able to switch jobs to a similar store owned by another company. A name-only manager may have to work overtime for free, but it may be the case that their base salary is higher than that of other employees, so as to equalize their wage in effective hourly terms (total salary divided by total hours worked) to that of other employees.

Japan's issue with name-only managers brings to mind the fixed-job model of Lewis (1969) and Trejo (1991). In the fixed-job model, there is an ex ante implicit contract between employer and employee on the total job package, which stipulates the hours of work required to

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<sup>1</sup> Article 41 of the Labor Standards Act only defines a manager as "persons in positions of supervision or management or persons handling confidential matters, regardless of the type of enterprise."

do the job and the total wages commensurate with that. The model expects that even when the overtime premium increased, the base wage could be lowered enough to offset that increase, and therefore there would be no net change in the employee's effective hourly wage. If the fixed-job model holds, the effective hourly wage of a name-only manager in Japan's service sector should be no different than that of other employees, and the effective hourly wage of an employee promoted to a name-only manager position should be the same as their hourly wage prior to promotion.

The fixed-job model has been tested with a variety of data, including in Trejo (1991, 1993, 2003), Hamermesh and Trejo (2000), and Bell and Hart (2003). Nevertheless, findings on the validity of the fixed-job model differ, depending on the country and employees analyzed<sup>2</sup>. Trejo (1991) used the *Current Population Survey* (CPS) from the 1970s to check whether the wages of workers who did not receive overtime pay were adjusted upward by the amount of overtime pay received by non-exempt workers. For the fixed-job model to hold, the base salary of workers not paid an overtime premium should increase by the amount of the missing overtime pay. Trejo (1991) found that wages were adjusted, but not enough to completely offset the lost overtime pay. Meanwhile, Hamermesh and Trejo (2000) used CPS data in California for 1973, 1985, and 1991 to determine whether there was a decline in the number of workers who worked more than 8 hours a day when the hours subject to the overtime premium were changed from over 40 hours per week to over 8 hours per day. For the fixed-job model to apply, a change in

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<sup>2</sup> In addition to this, Mitchell (2005), using data from the period when the white collar exemption was narrowed in California, found no major change in workers' overtime hours.

the scheme of overtime regulation should not affect the behavior of employer and employee. This is because if a change in regulation were to cause an increase in overtime pay, it would be offset by an adjustment to the base salary, and leave total wages unchanged. Using a “difference-in-difference” analysis, however, Hamermesh and Trejo (2000) showed a clear decline in the number of workers working more than 8 hours per day as a result of the change in California’s labor laws, and thus found the fixed-job model does not hold.

In addition, Bell and Hart (2003) used the 1998 *British New Earnings Survey* to look at how such regulations correlate with hourly wages, including both base pay and overtime pay. In the UK, there are no rules on overtime work, leaving employers and workers to decide on their own whether overtime premia are to be paid. If the fixed-job model were to hold, there would be a negative correlation between base pay and overtime pay, with overtime pay being set higher when base pay is low. The results from Bell and Hart (2003) support the fixed-job model, finding a negative correlation between base pay and overtime pay and no major difference with hourly wages including overtime pay.

When testing the fixed-job model, it is important to compare differences in hours worked and hourly wages for workers doing the same job at the same level of productivity and authority but under different overtime regulations, in order to isolate the impact of those regulations. Hamermesh and Trejo (2000) and other works take advantage of the natural experiment created by changes in the laws regulating overtime premia, by comparing data from before the statutory change with data from after.

In this respect, the dispute over name-only managers in Japan gives us unique data suited for testing the fixed-job model, because name-only managers, as their name implies, do the same job with the same authority and discretion as other employees. Name-only managers claim in their lawsuits that although they do the same basic job as other employees, they are subject to different work hour rules because they are called managers, and consequently do not receive any overtime pay. Examining differences in work hours and hourly wages, either between name-only managers and other employees, or between the periods before and after an employee is “promoted” to a name-only manager position, should be an effective way to test the validity of the fixed-job model. In other words, if it can be shown that the hourly wages of a name-only manager are the same as they were prior to their “promotion,” or the same as other employees, it would confirm the validity of the fixed-job model.

In this paper, we use data on service sector employees in Japan to check whether hours worked and hourly wages are different for employees exempted from overtime regulations. Our analysis uses 2004 to 2008 data from the *Keio Household Panel Survey* (KHPS). The KHPS is a longitudinal survey of individuals conducted every year since 2004 by Keio University,<sup>3</sup> and has the broadest coverage of any such survey in Japan. In this paper, we define the sample of exempt employees as our treatment group and the sample of other employees as our control group, and derive matching estimates for the average treatment effect (ATE) that exemption from overtime regulations has on hours worked and hourly wages.

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<sup>3</sup> KHPS has been conducted as a part of governmental program, the 21<sup>st</sup> century COE (Centre of Excellence) program.

Our results can be summarized as follows. First, using the survey as repeated cross-section data, we found that name-only managers exempted from overtime regulations worked longer hours than non-exempt employees among non-university graduates working in the service sector and employees in the wholesale/retail, eating/drinking establishment, and lodging sectors. However, we found that the effective hourly wages, including overtime pay and bonuses, of name-only managers were not any lower than those of other employees when holding the employee's characteristics constant. That is, name-only managers' base salary was higher to make up for their loss of overtime pay, keeping their effective hourly wages as high as before. This result supports the fixed-job model. Next, using the survey as longitudinal data to account for unobserved heterogeneity, we found that when an employee was promoted to name-only manager and made exempt from overtime regulations, their hours worked did not increase and their wages did not decline. This result also validates the fixed-job model. In other words, overtime regulations do not seem to have a major impact on the hours worked and wages of service sector employees.

This paper is organized as follows. In section 2, we explain our estimation approaches, and in section 3 we describe the variables and data that we use. We present our results in section 4, and give our conclusions in section 5.

## **2. Estimation approach**

To test for differences in hours worked and hourly wages that can be attributed to exemption from overtime regulations, we take two approaches. First, in a cross-section approach, we pool



the KHPS data from each year's survey to compare the hours worked and hourly wages of nonexempt and exempt employees. Second, in a panel approach, we treat the KHPS data as longitudinal data to test for changes in the hours worked and hourly wages of employees who have been made exempt. A detailed discussion of each approach follows.

## 2.1 Cross-section approach

Under the cross-section approach, we use exempt employees as our treatment group and other employees as our control group. Using matching estimators, we derive the average treatment effect on the controls (ATC), that is, the change in the outcome (hours worked or hourly wages) when nonexempt employees in the control group were exempted from overtime regulations. Since the potential outcome when nonexempt employees are exempted is unobservable, we compare the outcome of each nonexempt employee in the control group with that of the exempt employees in the treatment group that have similar characteristics.

More specifically, following Abadie *et al.* (2004), we express the relationship between the outcome and the exemption in the following equation, where  $Y_i$  is the potential outcome (hours worked or hourly wages) of employee  $i$ , and  $W_i$  indicates exemption (1 is exempt, 0 is non-exempt).

$$Y_i = Y_i(W_i) = \begin{cases} Y_i(0) & \text{if } W_i = 0 \\ Y_i(1) & \text{if } W_i = 1 \end{cases}, \quad (1)$$

where  $Y_i(0)$  represents the outcome when the employee is subject to overtime regulations, and  $Y_i(1)$  represents the outcome when he / she is exempt from those regulations. Then, the population ATC ( $ATC_{pop}$ ) and sample ATC ( $ATC$ ) are defined as follows.

$$\begin{aligned}
 ATC_{pop} &= E[Y(1) - Y(0) | W = 0] \quad , \\
 ATC &= \frac{1}{N_0} \sum_{i | W_i=0} (Y_i(1) - Y_i(0)) \quad , \tag{2}
 \end{aligned}$$

where  $N_0$  is the number of samples in the control group.

Since we can only observe either  $Y_i(0)|W_i=0$  (non-exempt outcome for the control group) or  $Y_i(1)|W_i=1$  (exempt outcome for treatment group), we have to estimate the unobservable outcome  $Y_i(1)|W_i=0$  (outcome when nonexempt employees in the control group were made exempt). In doing so, we use the following three methods: (1) matching, (2) propensity score matching, and (3) propensity score WLS.

### **(1) Matching**

Following Abadie *et al.* (2004), we define  $J_M(i)$ , the set of indices for the matches for employee  $i$  that are at least as close as the  $M$ th match:

$$J_M(i) = \{l = 1, \dots, N_1 \mid W_l = 1, \|X_l - X_i\| \leq d_M(i)\} \quad , \tag{3}$$

where  $d_M(i)$  is the distance of the Mth closest characteristic,  $X_i$  is the employee characteristic, and  $N_i$  is the number of samples in the treatment group. Based on this, ATC from matching is given by

$$ATC^m = \frac{1}{N_0} \sum_{i|W_i=0} (\hat{Y}_i^m(1) - Y_i(0)) \quad \text{for } i | W_i = 0 , \quad (4)$$

$$\hat{Y}_i^m(1) = \frac{1}{\#J_M(i)} \sum_{l \in J_M(i)} Y_l ,$$

where  $\#J_M(i)$  is the number of elements of  $J_M(i)$ .<sup>4</sup>

## (2) Propensity score matching (PS-Matching)

We define the propensity score  $e_i$  as the probit estimate of the probability of becoming exempt, that is, the probability of falling in the treatment group for employees with characteristic  $X_i$ .

$$e_i = \Pr(W_i = 1 | X_i) = E(W_i | X_i) . \quad (5)$$

Based on this, ATC from propensity score matching is given as follows:

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<sup>4</sup> In estimation, we use a nearest neighborhood matching with  $M=1$ . We have done the exact match on the following variables; age group (20s, 30s, 40s, and 50s), year, and industry. See also Section 3.2 for details on the variables used for the estimation.

$$ATC^p = \frac{1}{N_0} \sum_{i|W_i=0} (\hat{Y}_i^p(1) - Y_i(0)) \text{ for } i|W_i=0, \quad (6)$$

$$\hat{Y}_i^p(1) = \sum_{l|W_l=1} Y_l G((e_l - e_i)/h) / \sum_{k|W_k=1} G((e_k - e_i)/h),$$

where  $G()$  is the kernel function and  $h$  the bandwidth parameter.<sup>5</sup>

### (3) Propensity score WLS (PS-WLS)

The propensity score WLS, which is based on Hirano and Imbens (2001), uses the  $\lambda$  calculated from the propensity score as a weight to regress  $W_i$  and individual attributes  $X_i$  against  $Y_i$  (hours worked or hourly wages). The ATC from propensity score WLS is then given by the estimated parameter of  $W_i$ :

$$ATC^w = \gamma$$

$$\text{provided } Y_i = \alpha + \beta X_i + \gamma W_i + \varepsilon_i \quad \text{weight } \lambda = \sqrt{\frac{W_i}{e_i} + \frac{1-W_i}{1-e_i}} \quad (7)$$

By putting heavier weights on employees within the treatment group close to the control group (employees with a low propensity score) and on employees within the control group close to the treatment group (employees with a high propensity score), we can compare the outcomes for those employees with more similar characteristics.

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<sup>5</sup> In estimation, we use a biweight kernel function and set  $h=0.06$ .

## 2.2 Panel approach

In the panel approach, we regard those employees who were made exempt during the year prior to the survey as the treatment group, and then examine the changes in the outcome (hours worked or hourly wages) for the treatment group relative to before they were made exempt. Furthermore, since the outcome can be affected by the business cycle and other factors besides exemption status, we also compare them with the change in the outcome for the control group (employees with no change in their exemption status from the previous year). In other words, we conduct a difference-in-difference analysis for hours worked and hourly wages. In doing so, we use a matching estimator to derive the average treatment effect on the treated (ATT). Unlike the cross-section approach, we do not conduct matching estimation using a propensity score since the propensity score, which is the probability of being promoted to manager during the year, is not conceptually estimable in this case.<sup>6</sup>

## 3. Data

### 3.1 Overview of KHSP

Our analysis uses longitudinal data from the *Keio Household Panel Survey* (KHPS) taken in 2004-08. The KHPS, first conducted in 2004, surveys the same individuals every year at the end

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<sup>6</sup> Our estimation makes two important assumptions: The first is the unconfoundedness assumption, which signifies that  $W_i$  is not endogenous. In our context, this equates to an assumption that workers who work longer hours are not more likely to be made exempt. The second is the overlap assumption, which means that samples with similar characteristics are assumed to be present in both the treatment group and control group.

of January. From the entire Japan-resident population (male and female) aged 20 to 69, 4,000 individuals were selected at random using two-stage sampling.<sup>7</sup> If a selected person was married, their spouse was also surveyed. Therefore, almost 7,000 individuals were actually surveyed in total.

Consecutive surveys of the same individuals were taken since 2005, with a response rate from previously surveyed individuals of 82.7 percent, 86.4 percent, 91.3 percent, and 90.9 percent. The sample size was increased for the 2007 survey, when another 1,400 individuals were newly selected. Survey questions cover a wide range of topics, including occupation, income and expenditures, assets and liabilities, time spent on activities, and perception of those activities. Kimura (2005) makes a detailed analysis of the KHPS sample characteristics, and finds no significant differences in the distribution of major variables compiled from the KHPS survey questions compared with other surveys, including the *Population Census* and the *Labor Force Survey*, both of which are taken by the Ministry of Internal Affairs and Communications. For details on the KHPS, see Higuchi, Kimura, and Naoi (2008).

### **3.2 Samples and variables**

From the KHPS surveys taken from 2004 until 2008, we use the samples of male regular employees under age 60 and working in the service industry or the eating/drinking establishment, wholesale/retail, or lodging industries. To focus on the employees receiving the

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<sup>7</sup> The size of this population was 85.75 million people, which is 67.2 percent of the total Japanese population (based on population estimates made in February 2004).

pay of a store manager, we exclude from our sample employees with an annual salary of less than JPY4 million.<sup>8</sup> In the panel approach, we exclude job changers and samples who did not answer the survey for two consecutive years. In addition, we use the 2004 survey data only to calculate changes in hours worked and hourly wages under the panel approach, while we analyzed the next four years of data, from 2005 until 2008, under both the cross-section and panel approaches. This brought the number of samples to 1,374 for the cross-section approach and 980 for the panel approach.

As for the variables indicating exemption from overtime regulations, we define as exempt employees those respondents who answered that the concept of overtime work does not apply to them and/or that their compensation included a performance-based annual bonus. For hours worked, we use the weekly hours worked. For hourly wages, we use an hourly wage computed by dividing annual compensation including overtime pay and bonus by the number of hours worked for the year.

The variables in our matching estimate are age, tenure, a management dummy (1 for managerial personnel, 0 for others)<sup>9</sup>, a university graduate dummy (1 for university graduates, 0

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<sup>8</sup> An annual salary of JPY4 million roughly equates to US\$40,000 using an exchange rate of JPY100/US\$1). According to the *Statistical Survey of Actual Private Sector Salaries* taken by Japan's National Tax Agency, the average annual salary of salaried employees working the entire year was JPY4.35 million in 2006. Based on this, we decided to exclude from our analysis those employees with an annual income of less than jpy4 million. Including in the sample those employees making less than JPY4 million, however, did not significantly change the results of this paper.

<sup>9</sup> Managerial personnel in KHPS includes, in addition to managers, team chiefs (*kakarichos*) and other supervisory personnel not included in the category of management. Respondents

for others), a poor health dummy (1 for respondents who answered that their usual health condition is “not very good” or “not good”), number of household members, a dummy for having children under age six (1 for having a child not yet in school, 0 for not), industry dummies, occupation dummies, and company size dummies. For our panel approach, we also use matching variables for changes from the previous year. Table 1 shows the descriptive statistics for these variables.

## **4. Estimation Results**

### **4.1 Cross-section approach**

Table 2 shows the estimation results under the cross-section approach. For both weekly hours worked and hourly wages, the table shows the average, standard deviation, and sample size of the treatment group and control group, as well as the simple difference between the groups and the ATC estimates using the three methods described in section 2.1 (matching, PS-matching, and PS-WLS), along with their statistical significance level.<sup>10</sup>

Looking first at hours worked in Table 2(1), for the service sector overall, the average weekly hours worked is 52.50 in the treatment group (exempt employees), longer than the 51.85 for the control group (nonexempt employees). This difference of 0.65 hours (39 minutes) is small, however, and not statistically significant. Even when controlling for characteristics using

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working in managerial positions are included in both the treatment and control groups, depending on whether they receive overtime pay.

<sup>10</sup> For PS-matching and PS-WLS, the balancing property was satisfied in every estimation.



matching estimation, the difference between the groups (the ATC) is not statistically significantly different from zero.

When categorizing by educational level, however, the ATC for non-university graduates is significantly positive, with the weekly average work hours of exempt employees higher by 2.12 to 2.61 hours than those of nonexempt employees. When looking only at the wholesale/retail and hospitality (eating/drinking establishments and lodging) sectors, the ATC is significantly positive more often. Specifically, the ATC was 2.66 to 3.45 for the wholesale/retail and hospitality sectors overall, and became larger, 3.22 to 5.25, when limiting the sample to non-university graduates.

The numbers above suggest that less-educated non-university graduates employed in the service sector and employees in the wholesale/retail and hospitality sectors work longer hours when they are made exempt from overtime regulations. It is likely that many of them are the employees referred to as name-only managers. Our results therefore indicate that name-only managers tend to work longer hours than other employees.

Nevertheless, as long as they receive a higher base salary equivalent to the lost overtime pay, they would seem to be fairly compensated for their longer work hours. To confirm this, we look next at the results for hourly wage in Table 2(2), which show that the hourly wage for non-university graduates working in the service sector and for employees in the wholesale/retail and hospitality sectors -- the employees who show a significantly positive ATC for hours worked -- is roughly the same for the treatment group as for the control group. For non-university graduates working in the wholesale/retail and hospitality sectors, as well, the treatment group's

hourly wage of JPY2160 was only JPY200 lower than the control group's JPY2,360. Although this difference is statistically significant, none of the ATCs are statistically significantly different from zero when using matching estimation to control for characteristics.

Hence, although name-only managers work longer hours, their hourly compensation (including overtime pay and bonuses) does not seem to be any lower than other employees. This implies their base salary is higher to make up for their loss of overtime pay, and supports the basic tenets of the fixed-job model.

It should be noted that Table 2 (2) shows a significantly positive ATC in hourly wage for university graduates employed in the service sector and in the wholesale/retail and hospitality sectors. Many of the university graduates employed in the service sector and in the wholesale/retail and hospitality sectors work in a managerial position at the parent company, a factor we think sets them apart from name-only managers. In other words, they are managers in the real sense, and their high hourly wage simply reflects the higher productivity of a managerial position. In this case, a comparison between the treatment group and control group is not a suitable test of the fixed-job model, because not only the overtime regulations but also other factors such as productivity and job content differ between the two groups.

## **4.2 Panel approach**

Table 3 shows the estimation results under the panel approach. Unlike the cross-section approach, it allows us to examine the impact of the overtime regulations when controlling for

unobserved individual heterogeneity, since we examine changes in hours worked and hourly wage for the same individual before and after they were made exempt.

To start with, we see no change in the hours worked by the treatment group (employees made exempt within the past year) that is statistically significantly different from zero. The same is true for the control group (employees with no change in their exemption status over the past year). This lack of a statistically significant difference (ATT) between the two groups in nearly every case indicates that becoming exempt, i.e., being promoted to name-only manager, does not cause a change in hours worked. For university graduates, however, ATT based on matching estimation showed a significantly negative value. As described before, we think this can be attributed to other factors, such as promotions of university graduates that result in an actual change in job content.

The change in hourly wages, like that in hours worked, is small both for the treatment group and the control group, and the difference between the groups is not statistically significant. In other words, we see no evidence that being made exempt from overtime regulations results in a decline in hourly wages.

Under a panel approach, therefore, we found no increase in hours worked or decline in hourly wages when an employee was promoted to name-only manager and made exempt from overtime regulations. This indicates support for the fixed-job model, and suggests that overtime regulations do not have much impact on employees' hours worked or hourly wages.

## **5. Conclusion**

In this paper, we test the fixed-job model of Lewis (1969) and Trejo (1991) by examining whether overtime regulations have a significant impact on hours worked and hourly wages, focusing on so-called “name-only managers,” an employee category recently in the news in Japan.

In Japan, name-only store manager refers to an employee who has essentially the same job description as other employees, but who is designated a manager by the company to exempt them from overtime regulations and make them ineligible for overtime pay. Japan’s Labor Standards Act requires employers to pay employees at least a 25 percent overtime premium for hours worked beyond the statutory work hours, but “managers” are exempt from this requirement. The legal definition of manager was left vague, however, making it possible for companies to simply name an employee a “manager,” irrespective of their actual job, and thereby stop paying overtime. It is said that there are many such employees in Japan’s service sector, particularly in the wholesale/retail and hospitality sectors.

As the name implies, name-only managers are managers in name only, but do the same work and are given the same authority and discretion as other employees. The only difference is in the applicable regulations on hours worked. Because of this, a comparison of name-only managers with other employees makes it possible to identify the impact that overtime regulations have on actual hours worked and hourly wages. That is, if name-only managers, despite not receiving overtime pay, earn the same effective hourly wage (total annual salary including overtime pay and bonus divided by total hours worked) as other employees because

their base salary is higher, it would mean that the fixed-job model holds. Under the fixed-job model, overtime regulations have little impact on the effective hourly wages since employer and employee make an implicit contract for a total job package of wages and hours.

We use longitudinal data on employees in Japan from the *Keio Household Panel Survey* (KHPS) for the years 2004 to 2008 to examine whether the exemption from overtime regulations, as is the case for name-only managers, causes any change in hours worked or effective hourly wages for employees in the service sector, and specifically in the wholesale/retail and hospitality sectors.

Using the survey as repeated cross-section data, we found that name-only managers exempted from overtime regulations worked longer hours than non-exempt employees for non-university graduates working in the service sector and employees working in the wholesale/retail and hospitality sectors. However, we found that the effective hourly wages of name-only managers were not any lower than for other employees when controlling for employee characteristics. This implies that name-only managers' base salary was higher to make up for their loss of overtime pay, keeping their effective hourly wages as high as those for other employees. This result supports the fixed-job model. Using the survey as longitudinal data to account for unobserved employee heterogeneity, we found that when an employee was promoted to name-only manager and made exempt from overtime regulations, their hours worked did not increase and their wages did not decline. This result also validates the fixed-job model.

Our results suggest that name-only managers, a recent matter of concern and interest in Japan's service sector, on average earn the same effective hourly wage as other employees, because their loss of overtime pay as a result of being made exempt has been offset by their higher base salary. It is important to note, however, that our analysis only examines the average impact (ATE) of overtime regulations, and does not imply that there are not any name-only managers who are paid an unfairly low effective hourly wage. In fact, in the lawsuit filed against McDonald's Japan noted in the introduction, the court ruled on the side of the name-only managers, and ordered the company to pay the unpaid overtime. Another way to interpret this ruling is that it is precisely because name-only managers are treated fairly on average that treatment unfair enough to trigger a lawsuit would be deemed unjust by the court.

Another interesting aspect is that this court decision, together with society's growing concern and interest, has led McDonald's Japan and many other companies to introduce new employment rules that do not classify store managers as part of management. Particularly interesting is that although name-only managers will be paid overtime under the new rules, their base salary (including store manager allowances and other assignment allowances) will be reduced such that there is no change in either their annual compensation or effective hourly wage. In other words, when name-only managers are returned to non-exempt status, their base salaries are normally reduced to ensure no change in their effective hourly wage. This is what the fixed-job model predicts. We expect this trend to be further reinforced by a subsequent directive from the Ministry of Health, Labor and Welfare, which adds "the receipt of an appropriate salary" as a requirement for being classified as management.

Recently, there has been heated debate in Japan over which regulations are likely to produce the most desirable work environment. The government outlined its vision for achieving economic growth while striking a balance between work and leisure in two publications: *Action Principles for Achieving Work-Life Balance (Shigoto to Seikatsu no Chowa Kenshou)*, released in December 2007, and *Guidelines for Reassessing Work Hours (Roudou Jikan tou Minaoshi no Gaidorain)*, released in March 2008.

One debate over work-life balance revolves around the question of whether regulations on hours worked should be relaxed to allow white collar workers who meet certain requirements to control their own work hours, i.e., whether there is a need to encourage broader use of a US-style white collar exemption. Opinion on the effect of such a white collar exemption is divided, with some believing it would prevent Japanese from working such long hours, and others thinking it would result in even longer working hours. This has been debated repeatedly by labor, management, the administration, and the Diet, and no conclusion has been reached on whether the exemption should be expanded.

Because our analysis focuses on the service sector, it is not aimed at predicting the impact on hours worked and hourly wages from introducing a US-style white collar exemption to a broader range of Japanese workers. Nevertheless, assuming that the characteristics of the service sector reflect to some degree those of Japan's overall labor market, for the fixed-job model to hold would probably imply that introducing a US-style white collar exemption would be unlikely to have much effect on workers' behavior.

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**Table 1 Descriptive statistics**

	Treatment group	Control group
<b>Service sector</b>		
Age	45.47 (7.98)	43.32 (8.39)
Tenure	15.91 (10.97)	16.10 (10.10)
Managerial personnel dummy	0.65 (0.48)	0.50 (0.50)
University graduate dummy	0.41 (0.49)	0.37 (0.48)
Bad health dummy	0.07 (0.26)	0.08 (0.27)
Number of family members	3.83 (1.38)	3.75 (1.32)
Child dummy	0.16 (0.37)	0.23 (0.42)
Number of sample	339	1035
<b>Wholesale and Retail Trade, Eating and Drinking Places, Lodging</b>		
Age	44.15 (7.87)	43.08 (8.13)
Tenure	16.17 (10.32)	16.20 (9.64)
Managerial personnel dummy	0.73 (0.45)	0.54 (0.50)
University graduate dummy	0.34 (0.48)	0.25 (0.43)
Bad health dummy	0.09 (0.28)	0.10 (0.30)
Number of family members	3.83 (1.34)	3.95 (1.49)
Child dummy	0.21 (0.41)	0.24 (0.43)
Number of sample	103	263

Notes: Numbers are average, and numbers in parentheses are standard deviations.

**Table 2 Estimation results: cross-section approach**

(1) Weekly hours of work

	Treatment group (a)	Control group (b)	ATC (a-b)			
			Simple	Matching	PS-Matching	PS-WLS
Service sector	52.50 (11.56) [339]	51.85 (10.64) [1035]	0.65 (0.68) <0.34>	0.78 (0.91) <0.39>	0.89 (0.83) <0.28>	0.92 (0.71) <0.20>
University graduates	50.27 (10.18) [139]	51.72 (10.07) [379]	-1.44 (1.00) <0.15>	-1.31 (1.50) <0.38>	-2.23 (1.37) <0.10>	-1.77 * (1.02) <0.08>
Others	54.05 (12.22) [200]	51.92 (10.96) [656]	2.12 ** (0.91) <0.02>	2.21 * (1.15) <0.05>	2.60 ** (1.13) <0.02>	2.61 ** (0.95) <0.01>
Wholesale and Retail Trade, Eating and Drinking Places, Lodging	56.67 (12.33) [103]	53.22 (10.59) [263]	3.45 ** (1.29) <0.01>	3.00 * (1.72) <0.08>	2.69 (1.70) <0.12>	2.66 * (1.43) <0.06>
University graduates	52.89 (9.27) [35]	52.78 (9.35) [65]	0.10 (1.95) <0.96>	-2.74 (2.28) <0.23>	-1.43 (2.47) <0.56>	-1.28 (1.85) <0.49>
Others	58.62 (13.30) [68]	53.36 (10.99) [198]	5.25 ** (1.63) <0.00>	3.68 * (2.23) <0.10>	3.22 (2.27) <0.16>	3.60 ** (1.81) <0.05>

(2) Hourly wage

	Treatment group (a)	Control group (b)	ATC (a-b)			
			Simple	Matching	PS-Matching	PS-WLS
Service sector	3.15 (1.54) [339]	2.81 (1.16) [1035]	0.34 ** (0.08) <0.00>	0.29 ** (0.10) <0.00>	0.17 (0.11) <0.10>	0.15 ** (0.07) <0.04>
University graduates	3.72 (1.71) [139]	2.95 (1.20) [379]	0.78 ** (0.13) <0.00>	1.04 ** (0.20) <0.00>	0.55 ** (0.22) <0.01>	0.39 ** (0.10) <0.00>
Others	2.75 (1.27) [200]	2.73 (1.12) [656]	0.02 (0.09) <0.80>	-0.04 (0.11) <0.69>	-0.05 (0.12) <0.68>	-0.08 (0.09) <0.36>
Wholesale and Retail Trade, Eating and Drinking Places, Lodging	2.48 (1.08) [103]	2.42 (0.85) [263]	0.05 (0.11) <0.62>	0.08 (0.13) <0.54>	0.05 (0.15) <0.74>	-0.01 (0.10) <0.95>
University graduates	3.11 (1.36) [35]	2.62 (0.91) [65]	0.49 ** (0.23) <0.03>	0.85 ** (0.25) <0.00>	0.36 (0.33) <0.28>	0.20 (0.18) <0.26>
Others	2.16 (0.74) [68]	2.36 (0.82) [198]	-0.21 * (0.11) <0.07>	-0.18 (0.11) <0.12>	-0.04 (0.13) <0.75>	-0.09 (0.09) <0.35>

Notes: 1. Numbers in parentheses are t-values. Numbers in brackets are p-values. Numbers in angle brackets are the number of samples.

2. \* and \*\* indicates statistical significance at 5 % and 1 %, respectively.

**Table 3 Estimation results: panel approach**

(1) Weekly hours of work

	Treatment group (a)	Control group (b)	ATT (a-b)	
			Simple	Matching
Service sector	-0.14 (7.72) [115]	-0.17 (6.99) [865]	0.03 (0.70) <0.97>	0.48 (1.00) <0.63>
University graduates	-1.38 (7.48) [48]	0.16 (6.57) [307]	-1.53 (1.04) <0.14>	-3.77 ** (1.81) <0.04>
Others	0.75 (7.83) [67]	-0.34 (7.21) [558]	1.09 (0.94) <0.25>	0.76 (1.20) <0.53>
Wholesale and Retail Trade, Eating and Drinking Places, Lodging	0.44 (7.27) [39]	-0.50 (7.91) [236]	0.94 (1.35) <0.49>	0.94 (1.35) <0.49>
University graduates	-0.15 (5.34) [13]	-0.13 (7.70) [62]	-0.02 (2.25) <0.99>	-5.46 (3.37) <0.11>
Others	0.73 (8.15) [26]	-0.63 (7.99) [174]	1.36 (1.68) <0.42>	1.73 (2.10) <0.41>

(2) Hourly wage

	Treatment group (a)	Control group (b)	ATT (a-b)	
			Simple	Matching
Service sector	0.08 (0.70) [115]	0.11 (0.57) [865]	-0.02 (0.06) <0.67>	-0.06 (0.09) <0.52>
University graduates	0.02 (0.62) [48]	0.11 (0.62) [307]	-0.09 (0.10) <0.35>	0.03 (0.14) <0.85>
Others	0.13 (0.76) [67]	0.11 (0.53) [558]	0.02 (0.07) <0.77>	0.11 (0.13) <0.37>
Wholesale and Retail Trade, Eating and Drinking Places, Lodging	0.04 (0.51) [39]	0.12 (0.44) [236]	-0.09 (0.08) <0.28>	-0.11 (0.11) <0.34>
University graduates	0.00 (0.48) [13]	0.08 (0.54) [62]	-0.08 (0.16) <0.62>	-0.20 (0.26) <0.45>
Others	0.06 (0.54) [26]	0.14 (0.41) [174]	-0.08 (0.09) <0.36>	-0.02 (0.13) <0.90>

Notes: 1. Numbers in parentheses are t-values. Numbers in brackets are p-values. Numbers in angle brackets are the number of samples.

2. \* and \*\* indicates statistical significance at 5 % and 1 %, respectively.