

Wage Disparities between Standard and Non-standard Employees: From the Perspective of Human Resource Management

SHIMANUKI Tomoyuki

This article discusses determinants in wage disparities between standard employees and non-standard employees from the perspective of human resource management. Focusing on wage systems for non-standard employees of the company, especially the factors determining wages of non-standard employees and differences with those of standard employees, this study examined the effects on the wage levels of non-standard employees engaged in the same jobs as standard employees. Analysis employing establishment survey data found that at establishments that set different wage determination factors for non-standard employees engaged in the same work as standard employees, as opposed to establishments that apply the same wage determination factors, the wage levels of both fixed- and non-fixed term part-time workers and fixed-term contract workers engaged in the same work as standard employees tended to be much lower than those of standard employees. This finding was also confirmed in an analysis using data from other establishment surveys, conducted around the same time as the establishment survey on wage levels of part-time workers engaged in the same duties as standard employees. The implication is that it is necessary to consider differences in the wage structure between standard employees and non-standard employees as a factor that hinders equal treatment (prohibition of less favorable treatment) and balanced or proportional treatment of employees.

- I. Introduction
- II. Wage disparities between standard and non-standard employees from a human resource management perspective:
Workforce integration and equal or balanced/proportional treatment
- III. Analysis 1: Wage levels of fixed- and non-fixed term part-time workers and fixed-term contract workers
- IV. Analysis 2: Wage levels of part-time workers
- V. Conclusion

I. Introduction

Why are the wage levels of non-standard employees (e.g. full-time and part-time employees with fixed-term contracts) lower than those of standard employees (i.e. full-time employees with non-fixed-term contracts) despite being engaged in the same job? This article examines the determinants of the wage level of non-standard employees engaged in the same work as standard employees, from the perspective of human resource management.¹

In companies' human resource management, it is not easy to equalize or balance the wage levels of standard employees and non-standard employees. The main reason is that even if companies have standard and non-standard employees in the same workplace, they do not always necessarily apply the same wage system to both. Even if standard and non-standard employees are engaged in the same jobs, if wage determination factors differ, it is difficult to match the wage levels of the two. The basic approach of human resource management is that if different employee groups are formed, according to differences in tasks, roles, and contributions, different human resource management systems are supposed to be applied to each group. (Lepak and Snell 1999, 2002; Morishima 2004; Imano and Sato 2009, etc.). Differences in employment status between standard and non-standard employees essentially need to be decided based on the tasks, roles, and contributions that management expects from these employees. However, in practice, companies may seek to heighten the sophistication of non-standard employees' work duties so that they could be engaged in the same work as standard employees, in order to improve the efficiency of human resource management. This causes problems in terms of equal or balanced/proportional treatment (Sato 2008).

This article will first introduce the main researches focusing on the relationship between integrating non-standard employees into the core workforce (hereinafter referred to as workforce integration) and equal or balanced/proportional treatment in terms of the determinants of the wage level of non-standard employees engaged in the same work as standard employees. Then, from the standpoint of human resource management, this study notes that it is necessary to consider wage systems of non-standard employees, and specifically wage determination factors such as differences and similarities to standard employees, as determinants that affect the wage levels of non-standard employees engaged in the same job as standard employees. In addition, it analyzes the wage level determinants of non-standard employees who are engaged in the same jobs as standard employees by using multiple establishment survey data.

II. Wage disparities between standard and non-standard employees from a human resource management perspective: Workforce integration and equal or balanced/proportional treatment

In human resource management, wage disparities between standard and non-standard employees become a problem when companies pursue workforce integration of non-standard employees in order to improve the efficiency of human resource management. "Workforce integration" means that non-standard employees' duties become more upgraded, and they hold important positions in the company.² As workforce integration of non-standard employees progresses and the duties of non-standard employees increasingly coincide with those of standard employees, it becomes necessary to consider wage level disparities and wage balance, that is, equal or balanced/proportional treatment of employees. If there are significant wage disparities between non-standard employees and standard employees engaged in the same duties, non-standard employees will be dissatisfied with their wages, and this will potentially cause decline in motivation and performance and increased intention to leave the company.

What are the factors affecting the balance of treatment of standard and non-standard employees engaged in the same work, especially the balance of wage levels? Sato, Sano, and Hara (2003) analyzed the characteristics of companies that take into account balanced or proportional treatment of standard employees and part-time workers through a questionnaire survey targeting companies with 500 or more employees, including companies belonging to private-sector industry organizations affiliated with JTUC-Rengo (the Japanese Trade Union Confederation). They defined part-time workers as "non-standard employees with shorter working hours than those of standard employees," and balanced/proportional treatment as "establishing differences in treatment of workers according to differences in jobs or tasks." Based on statistical analysis, Sato et al. showed that companies pursuing workforce integration of part-time workers and companies that view the human resource quality of non-standard employees as sources of market competitiveness along

with the prices of their products and services tend to work actively toward achieving balanced/proportional treatment of standard employees and part-time workers.

Wakisaka (2003) defined “equal treatment” as determining the treatment of part-time workers in the same manner as standard employees when their duties are the same, and described balanced/proportional as keeping disparities in treatment within a reasonable range when duties are the same but there are differences in employment management. He then examined relationships between workforce integration of part-time workers and equal or balanced/proportional treatment. A statistical analysis of the characteristics of establishments that use the same systems for determining wages of part-time workers and standard employees showed that establishments that have systems for appointing part-time workers to responsible positions such as group leaders, chiefs, and managerial positions, and systems for transitioning part-time workers to full-time standard employment status, had a tendency to determine wages in the same manner for standard employees and part-time workers, which increased in proportion to the percentage of part-time workers engaged in the same work as standard employees.

Nishino (2006) surveyed the workforce integration of part-time workers in three business categories (big-box retailers, supermarkets, and big-box electrical appliance retailers), and examined correlations with equal or balanced/proportional treatment. Interviews with store managers and store employees (standard employees and non-standard employees) of seven companies in these three business categories, and questionnaire surveys of 25 store employees, found that while the jobs of part-time workers subject to workforce integration were the same as those of standard employees, there were differences in job responsibilities, varieties of work duties, and flexibility of working time/schedule. Also, it was found that some companies hoped to overlap the responsibilities as well as the work of standard employees and part-time workers, but hesitated to integrate the workforce further because this would require equal treatment of workers.

Based on transaction cost economics, Hirano (2009) presented a theoretical framework comprising two axes: task uncertainty and firm specificity of human capital. Hirano asserted that when task uncertainty and firm specificity of human capital are high it would be rational to hire standard employees, and conversely it would be reasonable to hire non-standard employees when these two characteristics were at low levels. It was assumed that balanced/proportional treatment of standard and non-standard employees would be achieved as the task uncertainty and firm specificity of human capital of part-time workers increased. The indicators for task uncertainty and firm specificity of human capital were the jobs and level of ability and skill required of part-time workers, and the indicator for balanced/proportional treatment was the basic wage level of part-time workers who have the same levels of work and responsibility as standard employees, when the wages of standard employees (mid-career employees who have been at the company for approximately five years) are set at 100. The results of analysis utilizing questionnaire survey data for establishments in Osaka Prefecture showed that while task uncertainty had no significant effect, firm specificity of human capital had a significant positive effect on balanced/proportional treatment, and establishments that trained part-time workers in firm-specific skills in the same manner as standard employees gave these workers balanced/proportional treatment.

These studies suggest that factors affecting the wage levels of non-standard employees engaged in the same job as standard employees include strategies and policies for utilizing non-standard employees within the establishment, and the work characteristics and required abilities and skills of non-standard employees. If non-standard employees are positioned alongside standard employees at the core of a human resources strategy, it can be expected that the characteristics of non-standard employees’ work and human capital requirements will become similar to those of standard employees, and the wage levels of non-standard employees will also rise to near the levels of standard employees. However, from the standpoint of human resource management, wage levels of non-standard employees are not directly determined by the policy for management of non-standard employees or the work and skill characteristics of these employees. Establishments design wage systems for non-standard employees along with allocation of their jobs, and wage levels are determined as a result.

One important thing in wage management for non-standard employees is the wage determination factors.

Wage determination factors include work duties, work performance, ability and experience, the wage standards and minimum wage of the region, age, and grade within the company (professional qualifications and duty grade). For example, Tsuru, Abe, and Kubo (2005) used data on employees of specific establishments to examine the effects of age, seniority, educational background, position, professional qualifications, score on in-house evaluations and so forth on monthly salary, bonus, and annual income, and their analysis showed that professional qualifications have greater influence than age and seniority in determining monthly salary. The wage levels of non-standard employees can vary depending on what factors are reflected in their wages. Another important point is the difference or similarity between wage determination factors of standard and non-standard employees (Wakisaka 2003). If wage levels are essentially the outcome of wage systems (Nishimoto and Imano 2003), it is thought that the balance in wage systems of standard and non-standard employees will bring about balance in wage levels of them (Nishioka 2018).

Based on these previous researches, if the process of determining wage levels of non-standard employees is organized from the perspective of human resource management, the work characteristics and required skills expected of non-standard employees will be based on the human resource strategy for non-standard employees. Non-standard employees' wage levels are determined by wage management policies formulated on this basis (wage determination factors and the differences with standard employees). When examining determinants affecting wage levels of non-standard employees engaged in the same work as standard employees, it is considered necessary to take into account the wage determination factors of non-standard employees. If balance in the wage system leads to balance of wage levels (Nishimoto and Imano 2003; Nishioka 2018), then if wage determination factors of non-standard employees are the same as those of standard employees, the wage levels of non-standard employees should be higher and wage disparities smaller, while conversely if wage determination factors are different from standard employees, wage levels of non-standard employees should be lower and wage disparities greater.

Below, data from two establishment surveys conducted in 2010 will be used to examine determinants for wage levels of non-standard employees engaged in the same work as standard employees, taking into consideration wage systems for them.

III. Analysis 1: Wage levels of fixed- and non-fixed term part-time workers and fixed-term contract workers

1. Data and samples

Analysis 1 employs data from the establishment survey section of the Survey on Management of Workers with Diverse Employment Status (referred to below as Survey 1), conducted by the Japan Institute for Labour Policy and Training (JILPT) in August 2010. Survey 1 was distributed to 10,000 private establishments with 10 or more “*joyo koyo* employees” (employees under non-fixed term contract or those under more than one-month contract) nationwide, with 1,610 responses received. The survey categorizes employment status based on three categories: direct or indirect employment, fixed- or non-fixed term employment, and number of prescribed working hours. Standard employees are “employees with direct and non-fixed term employment, and regular prescribed working hours,” fixed- and non-fixed term part-time workers are defined as “directly employed workers with fewer than the prescribed working hours, including both cases where there is and is not a fixed term of employment,” and fixed-term contract workers are defined as “directly employed workers with a fixed term of employment (one month or more) and the same prescribed working hours as regular workers.”

The analyzed sample excluded agriculture, forestry and fisheries, public service, and other industries from all responses, and also excluded worker dispatching agency and subcontracting establishments, and respondents that gave no answer regarding form of establishment and/or number of *joyo koyo* employees, and of the establishments that employed standard employees and fixed- and non-fixed term part-time workers or

fixed-term contract workers, included those that had workers with the above-mentioned employment status engaged in the same work as standard employees. As a result, the sample size to be analyzed covered 351 fixed- and non-fixed term part-time workers and 248 fixed-term contract workers.

Regarding key affiliations of the fixed- and non-fixed term part-time workers in the sample, in terms of industry, medical, health care and welfare were most common with 33.6%, followed by manufacturing with 22.8% and wholesale and retail trade with 10.3%. As for form of establishment, factory was the top response with 23.9%, followed by store with 14.8% and company with 13.7%. The responses for number of jojo koyo employees were: 10–29 employees 14.0%, 30–99 employees 24.5%, 100–299 employees 30.8%, meaning 69.3% of the establishments had 300 employees or fewer. 43.6% of the establishments had labor unions.

Regarding key affiliations of fixed-term contract workers, in terms of industry, manufacturing was most common with 30.6%, followed by medical, health care and welfare with 22.2% and education and learning support with 11.3%. As for form of establishment, factory was the top response with 28.2%, followed by company with 19.8% and store with 10.1%. The responses for number of jojo koyo employees were: 10–29 employees 5.2%, 30–99 employees with 18.1%, 100–299 employees with 34.8%, meaning 58.1% of the establishments had 300 employees or fewer. 54.8% of the establishments had labor unions.

2. Descriptive analysis

Table 1 shows the wage levels of fixed- and non-fixed term part-time workers and fixed-term contract workers engaged in the same work as standard employees. The table shows that at 21.8% of establishments, the wages of fixed- and non-fixed term part-time workers were nearly the same as or higher than those of standard employees engaged in the same work, and together with establishments where wages were around 90% or 80% of standard employees, account for 60.7% of the total.

Meanwhile, with regard to fixed-term contract workers, at 33.8% of establishments, wages were nearly the same as or higher than those of standard employees engaged in the same work, and together with establishments where wages were around 90% or 80% of standard employees, account for 73.1% of the total. Compared to fixed- and non-fixed term part-time workers engaged in the same work as standard employees, fixed-term contract workers' wage levels are closer to those of standard employees.

Tables 2 and 3 compare the wage levels of fixed- and non-fixed term part-time workers and fixed-term contract workers engaged in the same work as standard employees, by wage determination factors at the time of hiring. The wage determination factors at time of hiring are not necessarily the same as the wage determination factors for all those with the same employment status or the salary increase criteria, but in many cases they can be considered to reflect the wage determination factors of those with this employment status.

Table 1. Wage levels of fixed- and non-fixed term part-time workers and fixed-term contract workers engaged in the same work as standard employees

	Fixed- and non-fixed term part-time workers	Fixed-term contract workers
Nearly the same as or higher than standard employees' wages	21.8	33.8
Around 90% of standard employees' wages	12.4	14.8
Around 80% of standard employees' wages	26.5	24.5
Around 70% of standard employees' wages	17.7	16.0
Around 60% of standard employees' wages	13.3	8.0
Around 50% or less of standard employees' wages	8.3	3.0
N	339	248

Notes: 1. Wage levels indicate prescribed wage amounts, converted to an hourly rate.
2. Tabulation excludes establishments that did not respond to this question.

Table 2. Wage levels of fixed- and non-fixed term part-time workers engaged in the same work as standard employees: Wage determination factors when hiring (%)

	Fixed- and non-fixed term part-time workers											
	Initial salary of standard employees		Wages of standard employees who are doing the same or similar work		Regional wage		Minimum wage		Worker's experience and ability		N	
	Criterion	Non-criterion	Criterion	Non-criterion	Criterion	Non-criterion	Criterion	Non-criterion	Criterion	Non-criterion		
Nearly the same as or higher than standard employees' wages	30.8	20.7	37.1	18.4	14.6	28.2	22.2	21.7	28.7	16.8		
Around 90% of standard employees' wages	12.8	12.3	12.9	12.3	13.9	11.0	7.9	13.4	14.7	10.7		
Around 80% of standard employees' wages	35.9	25.3	19.4	28.2	27.2	26.0	23.8	27.2	28.0	25.5		
Around 70% of standard employees' wages	12.8	18.3	12.9	18.8	19.0	16.6	20.6	17.0	13.3	20.9		
Around 60% of standard employees' wages	7.7	14.0	9.7	14.1	15.8	11.0	19.0	12.0	7.7	17.3		
Around 50% or less of standard employees' wages	0.0	9.3	8.1	8.3	9.5	7.2	6.3	8.7	7.7	8.7		
Wage level score	4.5	3.8	4.3	3.8	3.6	4.1	3.7	3.9	4.2	3.6		
N	39	300	62	277	158	181	63	276	143	196		

Notes: 1. Wage levels indicate prescribed wage amounts converted to prescribed hourly wage.

2. Tabulation excludes establishments that did not respond to this question.

3. The wage level score is the average value in cases where around 50% or less of standard employees' wages = 1, 60% = 2, 70% = 3, 80% = 4, 90% = 5, and nearly the same as or higher than standard employees' wages = 6.

Table 3. Wage levels of fixed-term contract workers engaged in the same work as standard employees: Wage determination factors when hiring (%)

	Fixed-term contract workers											
	Initial salary of standard employees		Wages of standard employees who are doing the same or similar work				Regional wage		Minimum wage		Worker's experience and ability	
	Criterion	Non-criterion	Criterion	Non-criterion	Criterion	Non-criterion	Criterion	Non-criterion	Criterion	Non-criterion	Criterion	Non-criterion
Nearly the same as or higher than standard employees' wages	51.2	29.9	48.8	25.8	20.0	39.0	17.4	35.5	32.4	34.9		
Around 90% of standard employees' wages	9.3	16.0	14.6	14.8	12.3	15.7	17.4	14.5	17.6	12.4		
Around 80% of standard employees' wages	20.9	25.3	23.2	25.2	35.4	20.3	34.8	23.4	28.7	20.9		
Around 70% of standard employees' wages	14.0	16.5	8.5	20.0	18.5	15.1	13.0	16.4	13.9	17.8		
Around 60% of standard employees' wages	4.7	8.8	3.7	10.3	9.2	7.6	13.0	7.5	6.5	9.3		
Around 50% or less of standard employees' wages	0.0	3.6	1.2	3.9	4.6	2.3	4.3	2.8	0.9	4.7		
Wage level score	4.9	4.3	4.9	4.1	4.0	4.6	4.0	4.5	4.5	4.3		
N	43	194	82	155	65	172	23	214	108	129		

Notes: 1. Wage levels indicates prescribed wage amounts converted to prescribed hourly wage.

2. Tabulation excludes enterprises that did not respond to this question.

3. The wage level score is the average value in cases where around 50% or less of standard employees' wages = 1, 60% = 2, 70% = 3, 80% = 4, 90% = 5, and nearly the same as or higher than standard employees' wages = 6.

In Survey 1, six wage determination factors when hiring fixed- and non-fixed term part-time workers and fixed-term contract workers were specified: “initial salary of standard employees,” “wages of standard employees who are doing the same or similar work,” “regional wage,” “minimum wage,” “worker’s experience and ability,” and “other,” and respondents answered with all criteria that determine or are taken into account when setting wages (multiple answers) responses. Wage levels were compared based on five items, excluding “other,” depending on whether or not they are used as a determinant or reference.

According to Table 2, in terms of percentage of establishments where wage levels of fixed- and non-fixed term part-time workers are nearly the same as or higher than those of standard employees, “initial salary of standard employees” is a criterion for 30.8% and not a criterion in 20.7% of cases. Similarly, “wages of standard employees who are doing the same or similar work” is 37.1% (criterion) vs. 18.4% (not a criterion), “regional wage” is 14.6% vs. 28.2%, “minimum wage” is 22.2% vs. 21.7%, and “worker’s experience and ability” is 28.7% vs. 16.8%. When including establishments where wages are around 90% and 80% of those of standard employees, “initial salary of standard employees” is a criterion for 79.5% and not a criterion in 58.3% of cases, “wages of standard employees who are doing the same or similar work” is 69.4% vs. 58.9%, “regional wage” is 55.7% vs. 65.2%, “minimum wage” is 53.9% vs. 62.3%, and “worker’s experience and ability” is 71.4% vs. 53.0%.

For reference, when the wage level score for non-standard employees whose average wages are calculated at around 50% or less of standard employees’ wages = 1, 60% = 2, 70% = 3, 80% = 4, 90% = 5, and nearly the same as or higher than standard employees’ wages = 6, and on this basis “initial salary of standard employees” is calculated at criterion 4.5 vs. non-criterion 3.8, and continuing in the fashion, “wages of standard employees who are doing the same or similar work” is 4.3 vs. 3.8, “regional wage” is 3.6 vs. 4.1, “minimum wage” is 3.7 vs. 3.9, and “worker’s experience and ability” is 4.2 vs. 3.6. For fixed- and non-fixed term part-time workers, wage levels tend to be closer to those of standard employees at establishments that use the initial salary of standard employees, wages of standard employees who are doing the same or similar work, and worker’s experience and ability as criteria for wage determination or reference. On the other hand, establishments that use “regional wage” and “minimum wage” as criteria tend to have wage levels much lower than those of standard employees.

According to Table 3, in the case of fixed-term contract workers, the percentage of establishments whose wage levels are nearly the same as or higher than those of standard employees employing “initial salary of standard employees” as a criterion is 51.2% vs. 29.9% where it is a non-criterion. Similarly, “wages of standard employees who are doing the same or similar work” is 48.8% criterion vs. 25.8% non-criterion, “regional wage” is 20.0% vs. 39.0%, “minimum wage” is 17.4% vs. 35.5%, and “worker’s experience and ability” is 32.4% vs. 34.9%. When including establishments where wages are around 90% and 80% of those of standard employees, “initial salary of standard employees” is a criterion for 81.4% and not a criterion in 71.2% of cases. Similarly, “wages of standard employees who are doing the same or similar work” is 86.6% vs. 65.8%, “regional wage” is 67.7% vs. 75.0%, and “minimum wage” is 69.6% vs. 73.4%. “Worker’s experience and ability” is 78.7% vs. 68.2%.

Looking at the wage level scores of fixed-term contract workers, “initial salary of standard employees” is criterion 4.9 vs. non-criterion 4.3, and “wages of standard employees who are doing the same or similar work” is 4.9 vs. 4.1, “regional wage” is 4.0 vs. 4.6, “minimum wage” is 4.0 vs. 4.5, and “worker’s experience and ability” is 4.5 vs. 4.3.

As for fixed-term contract workers, similar to fixed- and non-fixed term part-time workers, establishments that use, as a determinant or reference, “initial salary of standard employees,” “wages of standard employees who are doing the same or similar work,” and “worker’s experience and ability,” tend to have wage levels closer to standard employees, especially with regard to “initial salary of standard employees” and “wages of standard employees who are doing the same or similar work.” Also, as with fixed- and non-fixed term part-time workers, establishments that use “regional wage” and “minimum wage” as criteria tend to set wage

Table 4. Wage levels of fixed- and non-fixed term part-time workers and fixed-term contract workers engaged in the same work as standard employees: Difference or similarity of wage determination factors (%)

	Fixed- and non-fixed term part-time workers			Fixed-term contract workers		
	Same wage table as standard employees	Different wage table from standard employees	Neither of them	Same wage table as standard employees	Different wage table from standard employees	Neither of them
Nearly the same as or higher than standard employees' wages	47.4	17.8	23.3	61.9	25.5	32.1
Around 90% of standard employees' wages	21.1	12.9	10.0	11.9	14.5	17.9
Around 80% of standard employees' wages	21.1	25.8	40.0	14.3	27.6	28.6
Around 70% of standard employees' wages	5.3	19.7	0.0	4.8	19.3	14.3
Around 60% of standard employees' wages	5.3	14.8	16.7	4.8	9.7	7.1
Around 50% or less of standard employees' wages	0.0	9.1	10.0	2.4	3.4	0.0
Wage level score	5.0	3.7	3.9	5.1	4.2	4.5
N	19	264	30	42	145	28

Notes: 1. Wage levels are prescribed wage amounts converted to prescribed hourly wage.

2. Tabulation excludes enterprises that did not respond to this question.

3. The wage level score is the average value in cases where around 50% or less of standard employees' wages = 1, 60% = 2, 70% = 3, 80% = 4, 90% = 5, and nearly the same as or higher than standard employees' wages = 6.

levels of fixed and non-fixed term part-time employees significantly lower than those of standard employees.

Table 4 compares the wage levels of fixed- and non-fixed term part-time workers and fixed-term contract workers engaged in the same work as standard employees, by wage determination factors. In Survey 1, with regard to the difference or similarity of wage determination factors of fixed- and non-fixed term part-time workers and fixed-term contract workers, as compared to standard employees, there were four response options: “the same wage scale and table as standard employees are applied,” “the same wage scale and table as standard employees are applied, but its operation is changed,” and “different wage scale and table from standard employees is applied,” and “neither of them.” “The same wage scale and table as standard employees are applied, but its operation is changed” means that, for example, there may be a difference in the amount and timing of the salary increase, or an upper limit for salary increase. Meanwhile, “neither of them” is assumed that a wage scale and table are not set for either standard and non-standard employees, or both, and wages are set on a case-by-case basis. When tabulating, focusing on the difference between wage scale and table of standard and non-standard employees, comparisons were made based on three categories: (1) “the same wage table as standard employees” (including cases where operation is changed), (2) “different wage table from standard employees,” and (3) “neither of them.”

As shown in Table 4, for fixed- and non-fixed term part-time workers, the percentage of establishments where wage levels are nearly the same as or higher than those of standard employees are: “the same wage table as standard employees” = 47.4%, “different wage table from standard employees” = 17.8%, and “neither of them” = 23.3%, and when including establishments where wages are around 90% and 80% of those of standard employees, “the same wage table as standard employees” = 89.6%, “different wage table from standard employees” = 56.5%, and “neither of them” = 73.3%. As for the wage level score, “the same wage table as standard employees” = 5.0, “different wage table from standard employees” = 3.7, and “neither of them” = 3.9. With regard to fixed- and non-fixed term part-time workers, the wage levels at establishments applying the same wage scale and table as standard employees tend to be close to those of standard employees, and those at establishments applying different wage scales and tables from standard employees tend to be much lower than the wage levels of standard employees. Wage levels at establishments responding “neither of them,” as compared to those of standard employees, were split between “close to the same” and “much lower.”

With regard to fixed-term contract workers, the percentage of establishments where wage levels are nearly the same as or higher than those of standard employees are: “the same wage table as standard employees” = 61.9%, “different wage table from standard employees” = 25.5%, and “neither of them” = 32.1%, and when including establishments where wages are around 90% and 80% of those of standard employees, “the same wage table as standard employees” = 88.1%, “different wage table from standard employees” = 67.6%, and “neither of them” = 78.6%. As for the wage level score, “the same wage table as standard employees” = 5.1, “different wage table from standard employees” = 4.2, and “neither of them” = 4.5. Like fixed- and non-fixed term part-time workers, the wage levels of fixed-term contract workers at establishments applying the same wage scale and table as standard employees tend to be close to those of standard employees, and those at establishments applying different wage scales and tables than standard employees tend to be much lower than the wage levels of standard employees. Wage levels at establishments responding “neither of them” tend to be closer to those of standard employees than at establishments that use a different wage scale and table than standard employees, but are still comparatively low.

3. Statistical analysis

(1) Variables

The explained variables are wage levels compared to standard employees engaged in the same work. As in the calculation of wage level scores, when around 50% or less of standard employees' wages = 1, 60% = 2, 70% = 3, 80% = 4, 90% = 5, and nearly the same as or higher = 6. The larger the number, the higher the wage

level (i.e. the closer to standard employees' wage levels).

Explanatory variables are the attributes of the establishment, utilization of each type of employment status, and variables relating to wage management of each employment status. First, the attributes of establishments consist of four categories: industry, form of establishment, number of joyo koyo employees, and presence or absence of labor union. "Industry" is assigned dummy variables for retail, education, training and learning support, medical, health care and welfare, and others, respectively, with manufacturing as the baseline value. "Form of establishment" is assigned dummy variables for company, laboratory, office, store, and others, respectively, with factory as the baseline value. "Number of joyo koyo employees" is assigned dummy variables for 30–99 employees, 100–299 employees, 300–499 employees, 500–999 employees, 1,000 employees or more, with 10–29 employees as the baseline value. "Presence or absence of labor union" is assigned dummy variables of 1 when an establishment has labor union and 0 when it does not.

Next, utilization of each type of employment status is classified into three categories: reason for employment, work duties, and promotion to positions. In Survey 1, the following 12 reasons (multiple answers possible) were given for utilizing fixed- and non-fixed term part-time workers and fixed-term contract workers: "to deal with specialized work," "to secure human resources with immediately applicable skills and abilities," "to enable standard employees to focus on more important tasks," "to determine whether to hire as standard employees," "to adjust the number of employees according to economic fluctuations," "to deal with long business (or operating) hours," "to deal with particularly busy days or times of the week," "to deal with changes in temporary and seasonal workload," "to reduce labor costs," "cannot secure standard employees," "to replace standard employees on childcare leave, etc." and "to meet the needs of workers," and each response was assigned a dummy variable. The following six types of work duties (multiple answers possible) were given: "management tasks," "planning tasks," "highly specialized tasks," "tasks requiring judgments," "routine tasks," and "supplementary tasks," each of which was assigned a dummy variable. Meanwhile, the item regarding positions to which fixed- and non-fixed term part-time workers and fixed-term contract workers can be promoted were classified as "team leader," "chief clerk or assistant section chief," and "section chief or department manager," each of which was assigned dummy variables. "Work duties" and "promotion to positions" can be regarded as an indicator of whether the same employment systems as standard employees are applied to fixed- and non-fixed term part-time workers and fixed-term contract workers.

Wage systems for each type of employment status includes two types of wage determination factors at time of hiring, and difference or similarity of wage determination factors compared to standard employees. The wage determination factors at the time of hiring are "initial salary of standard employees," "wages of standard employees who are doing the same or similar work," "regional wage," "minimum wage," and "worker's experience and ability," each of which was assigned a dummy variable. For difference or similarity of wage determination factors, dummy variables were assigned for "wage table different from standard employees" and "neither of them," with "same wage table as standard employees" as the baseline value.

(2) Results of analysis

The analysis divided samples into fixed- and non-fixed term part-time workers and fixed-term contract workers, and compared wage levels relative to those of standard employees engaged in the same work, with wage levels as the explained variable, and industry, form of establishment, number of joyo koyo employees, presence or absence of labor union, reason for employment, work duties, and promotion to positions, wage determination factors at time of hiring, and difference or similarity of wage determination factors were explanatory variables, and an ordered probit analysis was carried out.

The results of analysis are shown on Table 5. They show that with regard to fixed- and non-fixed term part-time workers, among work duties, "tasks requiring judgments" had a significant positive effect. Among the wage determination factors at the time of hiring, "worker's experience and ability" had a significant positive effect, and among the difference or similarity of wage determination factors, "different wage

Table 5. Determinants for wage levels of fixed- and non-fixed term part-time workers and fixed-term contract workers engaged in the same work as standard employees

		Fixed- and non-fixed term part-time workers		Fixed-term contract workers	
		Unstandardized coefficient	Standard error	Unstandardized coefficient	Standard error
Industry (baseline: manufacturing)	Wholesale and retail trade	-0.066	0.435	0.411	0.722
	Education, training and learning support	0.029	0.546	0.247	0.533
	Medical, healthcare and welfare	0.280	0.443	0.313	0.528
	Others	0.228	0.379	0.964*	0.410
Establishment (baseline: factory)	Office	-0.325	0.386	-0.475	0.398
	Laboratory	-0.363	0.615	0.777	0.788
	Sales office	-0.129	0.416	-0.276	0.470
	Store	0.154	0.405	0.491	0.617
	Others	-0.033	0.415	-0.323	0.496
Number of jojo koyo employees (baseline: 10-29 employees)	30-99 employees	0.087	0.218	-0.122	0.407
	100-299 employees	0.039	0.232	-0.069	0.404
	300-499 employees	-0.028	0.252	-0.281	0.439
	500-999 employees	-0.142	0.269	-0.603	0.427
	1,000 employees or more	-0.416	0.380	0.007	0.504
Labor union	Presence=1, Absence=0	-0.215	0.145	-0.110	0.190
Reason for employment	To deal with specialized work	-0.053	0.175	-0.092	0.219
	To secure human resources with immediately applicable skills and abilities	0.080	0.152	0.362	0.194
	To enable standard employees to focus on more important tasks	-0.138	0.192	0.536	0.281
	To determine whether to hire as standard employees	0.148	0.230	0.093	0.201
	To adjust the number of employees according to economic fluctuations	-0.069	0.190	0.168	0.241
	To deal with long business (or operating) hours	0.192	0.205	-0.733*	0.343
	To deal with particularly busy days or times of the week	0.073	0.154	-0.698	0.453
	To deal with changes in temporary and seasonal workload	-0.128	0.197	0.614	0.336
	To reduce labor costs	-0.260	0.141	-0.348	0.186
	Cannot secure standard employees	0.016	0.189	0.000	0.247
	To replace standard employees on childcare leave, etc.	-0.023	0.268	-0.198	0.342
	To meet the needs of workers	0.068	0.146	0.343	0.246
Work duties	Management tasks	-0.150	0.221	-0.135	0.273
	Planning tasks	-0.251	0.285	-0.040	0.374
	Highly specialized tasks	0.044	0.207	0.695**	0.244
	Tasks requiring judgments	0.563**	0.208	0.583*	0.244
	Routine tasks	-0.219	0.156	-0.719**	0.220
	Supplementary tasks	-0.179	0.154	-0.303	0.196
Promotion to positions	Team leader	0.201	0.262	0.113	0.248
	Chief clerk or assistant section chief	0.283	0.451	-0.485	0.331
	Section chief or department manager	-0.175	0.762	0.344	0.324
Wage determination factors when hiring	Initial salary of standard employees	0.343	0.226	0.335	0.242
	Wages of standard employees who are doing the same or similar work	-0.012	0.181	0.505**	0.189
	Regional wage	-0.046	0.137	-0.054	0.206
	Minimum wage	0.199	0.165	0.223	0.282
	Worker's experience and ability	0.348*	0.140	-0.072	0.178
Difference or similarity of wage determination factors (baseline: same wage table as standard employees)	Different wage table from standard employees	-0.922**	0.296	-0.783**	0.254
	Neither of them	-0.682	0.355	-0.229	0.327
-2 log-likelihood		1004.357		563.001	
Chi-square		79.029***		121.469***	
Pseudo R2	Cox & Snell	0.223		0.432	
N		313		205	

Note: ***p<0.001, **p<0.01, *p<0.05

table from standard employees” has a significant negative effect. Based on these findings, it is evident that establishments that utilize fixed- and non-fixed term part-time workers for tasks involving judgment, and establishments that reflect the ability and experience of part-time workers in their wages at time of hiring, tend to pay higher wages to fixed and non-fixed term of part-time workers, whereas establishments that use a different wage table from standard employees for part-time workers tend to pay lower wages.

Meanwhile, for fixed-term contract workers, “other” industries showed a significant positive effect. Among reasons for employment, “to deal with long business (or operating) hours” had a significant negative impact, and among work duties “highly specialized tasks” and “tasks requiring judgments” had significant positive effects, while “routine tasks” showed a significant negative impact. Furthermore, among wage determination factors at time of hiring, “wages of standard employees who are doing the same or similar work” shows a significant positive effect, and in terms of difference or similarity of wage determination factors, “a different wage table from standard employees” showed a significant negative effect. These findings indicate that establishments in industries that utilize few fixed-term contract workers, establishments that utilize fixed-term contract workers for duties that involve highly specialized tasks or judgments, and establishments that use the wages of standard employees in the same occupations or jobs as a reference when determining the wages of fixed-term contract workers at time of hiring tend to pay higher wages to fixed-term contract workers. Conversely, there is a tendency for establishments utilizing fixed-term contract workers to deal with long business (or operating) hours or for routine tasks, and establishments that use a different wage table from standard employees, to pay lower wages.

Interestingly, the results of analysis indicate that the wage levels of fixed- and non-fixed term part-time workers and fixed-term contract workers compared to standard employees engaged in the same work vary depending on their duties. Establishments utilizing both fixed- and non-fixed term part-time workers and fixed-term contract workers for tasks requiring judgments tend to set their wage levels close to those of standard employees. Among fixed-term contract workers, those assigned highly specialized tasks tend to be paid nearly the same wages as standard employees, while establishments utilizing fixed-term contract workers for routine tasks tend to set their wage levels much lower than those of standard employees. These findings are consistent with the results of analysis by Hirano (2009). On the other hand, in terms of the non-standard employee management policy outlined by Sato, Sano, and Hara (2003), i.e. what is referred to as “reason for employment” in this article, could not be confirmed as significant in these analysis results with the exception of these observations applying to some fixed-term contract workers.

From the standpoint of human resource management, the influence of wage determination factors at time of hiring and the difference or similarity of wage determination factors for standard and non-standard employees are noteworthy. Regarding wage determination factors at time of hiring, the wage levels of fixed- and non-fixed term part-time workers at establishments that take into account the ability and experience of workers hired are close to those of standard employees. It is likely that such establishments set wage levels for part-time workers by applying a wage system with ability and skill level as criteria, and raise their wages as ability develops so their wage levels are close to those of standard employees. As for fixed-term contract workers, it is evident that wage levels at establishments that take into account the wages of standard employees engaged in the same or similar jobs tend to be close to those of standard employees. Regardless of whether the wage determination factors are ability, duties, or performance, the wages of standard employee engaged in the same work is a criterion for fixed-term contract workers’ wage levels at time of hiring at least, and this is considered a reason their wage levels are close to those of standard employees.

Furthermore, it is an important point that with regard to difference or similarity to standard employees’ wage determination factors, for fixed and non-fixed part-time workers and fixed-term contract workers alike, establishments that use a different wage table from standard employees set non-standard employees’ wages much lower compared to standard employees than establishments that apply the same wage tables as standard employees. If standard and non-standard employees’ wages are managed according to different wage tables,

the wage determination factors applied are likely to be different even if they are engaged in the same work. Under these circumstances, it can be difficult to set or adjust non-standard employees' wage levels to the same levels as those of standard employees. From these analysis results, it can be inferred that the difference or similarity of standard and non-standard employees' wage determination factors can rather influence the wage levels of non-standard employees than these factors.

However, it should be noted that difference or similarity of wage determination factors may reflect employment systems for non-standard employees (whether or not there are relocations, etc.). Regarding human resource management of non-standard employees, factors such as duties and promotion to positions are included in the analysis, but transfer and relocation are not considered. If both employment systems and wage determination factors are the same as for standard employees, wage levels will naturally tend to be higher. In order to carefully examine the influence of difference or similarity of wage determination factors compared to standard employees, factors related to wage systems such as non-standard employees' employment systems (whether or not there are relocations, etc.) also ought to be taken into account.

IV. Analysis 2: Wage levels of part-time workers

1. Data and samples

In Analysis 2, the results of Analysis 1 were reviewed using data from the establishment survey section of the "Survey on Part-Time Workers" (hereinafter, Survey 2) conducted by JILPT in June 2010. Survey 2 was distributed to 10,000 establishments with five or more regular employees nationwide, and 3,042 responses were received. In this survey, standard employees are defined as "so-called regular workers" and part-time workers are "workers other than standard employees, including part-time workers, *arubaito* (part-time workers, often students), junior or associate employees, entrusted, temporary or limited-time contract workers whose prescribed weekly working hours are shorter than those of standard employees."

The sample to be analyzed consists of establishments that employ both standard employees and part-time workers and have part-time workers whose duties (tasks and responsibility) are nearly the same as those of standard employees, excluding those that did not respond to the item on industry. The resulting sample size for analysis was 160. The main attributes of the sample were, in terms of industry, manufacturing as the most common category with 21.3%, followed by medical, health care and welfare with 16.9%, wholesale and retail trade with 13.1%, and service with 12.5%. The responses for number of employees were: 5–29 employees 22.5%, 30–99 employees 40.6%, 100–299 employees 33.8%, 300 employees or more 3.1%, with establishments with 100 employees or fewer accounted for 63.1%. Establishments with in-house labor unions accounted for 33.1%. In terms of occupations for which establishments employ part-time workers, the most frequent response was professional and technical occupations with 18.8%, followed by office work with 18.1%, production process and labor with 17.5%, service with 13.1%, and sales with 11.3%.

2. Descriptive Analysis

Table 6 shows the wage levels of part-time workers whose duties are nearly the same as those of standard employees; the percentage of establishments where wages of part-time workers are equal to or higher than those of standard employees is 27.9%, and when establishments where wages are 80% those of standard employees are included, the total is 60.6%. Table 7 compares wage levels of part-time workers whose duties are nearly the same as standard employees, according to difference or similarity of wage determination factors. Survey 2 gave three choices with regard to difference or similarity of wage determination factors: "Pay based on the same calculation criteria used for standard employees," "Pay based on criteria different from those of standard employees, but some calculation factors are the same," and "Pay based on calculation factors different from that used for standard employees." When tabulating, responses were divided into (1) same calculation factors as standard employees and (2) different calculation factors from standard employees

Table 6. Wage levels of part-time workers whose duties are nearly the same as those of standard employees (%)

	Part-time workers
Nearly the same as or higher than standard employees' wages	27.9
More than 80% of standard employees' wages	32.7
Between 60% and under 80% of standard employees' wages	30.6
Between 40% and under 60% of standard employees' wages	7.5
Less than 40% of those of standard employees' wages	1.4
N	147

Notes: 1. Wage levels are calculated on an hourly basis.
2. Tabulation excludes establishments that did not respond to this question.

Table 7. Wage levels of part-time workers whose duties are nearly the same as those of standard employees: Difference or similarity of wage determination factors (%)

	Same calculation factors as standard employees	Different calculation factors from standard employees
Nearly the same as or higher than standard employees' wages	37.8	24.7
More than 80% of standard employees' wages	45.9	27.8
Between 60% and under 80% of standard employees' wages	16.2	37.1
Between 40% and under 60% of standard employees' wages	0.0	8.2
Less than 40% of those of standard employees' wages	0.0	2.1
Wage level score	4.2	3.6
N	37	97

Notes: 1. Wage levels are calculated on an hourly basis.
2. Tabulation excludes establishments that did not respond to this question.
3. The wage level score for workers whose average wages are calculated at less than 40% of standard employees' wages = 1, between 40% and under 60% = 2, between 60% and under 80% = 3, more than 80% = 4, and nearly the same as or higher than standard employees' wages = 5.

for purposes of comparison, with a focus on difference or similarity of calculation factors used for standard employees and part-time workers.

These results show that the percentage of establishments with wage levels nearly the same as or higher than standard employees' wages is 37.8% of those where wage calculation factors are the same as standard employees and 24.7% of those where wage calculation factors are different, and when those with wages 80% or more of standard employees are included, the corresponding percentages of establishments are 83.7% (same factors as standard employees) and 52.5% (different from standard employees). The wage level score for workers whose average wages are calculated at less than 40% of standard employees' wages = 1, between 40% and under 60% = 2, between 60% and under 80% = 3, more than 80% = 4, and nearly the same as or higher than standard employees' wages = 5, and the average scores were 4.2 (same factors as standard employees) and 3.6 (different from standard employees). Survey 2, as well, found that at establishments with the same wage determination factors as standard employees, the wage levels tend to be closer to standard employees' wages, and at establishments with different wage determination factors from standard employees, wage levels tend to be significantly lower than standard employees' wages.

3. Statistical analysis

(1) Variables

The explained variable is wage levels when compared to standard employees engaged in nearly the same duties. As in the calculation of wage level score, the larger the number, the higher the wage levels (closer to standard employees' wage levels): less than 40% of standard employees' wages = 1, between 40% and under 60% = 2, between 60% and under 80% = 3, more than 80% = 4, and nearly the same as or higher than standard employees' wages = 5, and these scores were made into variables.

The attributes of the establishment, utilization of part-time workers, and wage management of part-time workers are set as the explanatory variables. First, the attributes of establishments consist of three: industry, number of employees (total of standard and non-standard employees), and presence or absence of labor union. "Industry" is assigned dummy variables for wholesale and retail trade, medical, health care and welfare, service, and others, respectively, with manufacturing as the baseline value. "Number of employees" is assigned dummy variables for 30–99 employees, 100–299 employees, and 300 employees or more, with 5–29 employees as the baseline value. "Presence or absence of labor union" is assigned dummy variables of 1 when an establishment has labor union and 0 when it does not.

Utilization of part-time workers is classified into three categories: occupation for which part-time workers are most commonly utilized, term of labor contract, and employment systems. "Occupation for which part-time workers are most commonly utilized" is assigned dummy variables for office work, sales, service, production process and labor positions, and others, respectively, with specialized and technical positions as the baseline. "Term of labor contract" is assigned dummy variables of 1 when there is no fixed-term labor contract and 0 when there is one. "Employment systems" is assigned dummy variables of 1 when there are part-time workers who have nearly the same duties and the same employment systems (whether or not there are relocations, etc.) as standard employees, and 0 when there are not.

Wage systems of part-time workers was analyzed in terms of the wage determination factors, and difference or similarity to those of standard employees. In Survey 2, regarding the wage determination factors of part-time workers, basic wages (basic salary) are categorized as "ability-based wages (where workers' job abilities are criteria)" "duty-based wages (difficulty of workers' duties)," "results/performance-based wages (where workers' performance is a criteria)," and "living wages (wages based on living expenses)" (multiple answers possible), with dummy variables assigned for ability-based wages, duty-based wages, results/performance-based wages, and living wages. "Difference or similarity of wage determination factors" is assigned dummy variables of 1 when factors used for calculation are different from those of standard employees and 0 when they are the same.

(2) Results of analysis

An ordered probit analysis was carried out with wage levels compared to standard employees engaged in nearly the same duties as the explained variable, and industry, number of employees, presence or absence of labor union, occupation for which part-time workers are utilized, term of labor contract, employment systems, wage determination factors, and wage determination factors' difference or similarity to those of standard employees as explanatory variables.

The results of analysis are shown in Table 8. The analysis found that "no fixed-term labor contract" showed a significant positive effect, albeit only at the 10% level. In addition, with regard to wage determination factors' difference or similarity to those of standard employees, "factors used for calculation are different from those of standard employees" showed a significant negative effect. These findings indicate that establishments that utilize part-time workers without fixed-term labor contracts tend to set higher wage levels, whereas those where factors used for calculation are different from those of standard employees tend to set wage levels lower. While the sample size is small and the data is limited, the results of analysis reconfirmed

Table 8. Determinants for wage levels of part-time workers with nearly the same duties as standard employees

		Unstandardized coefficient	Standard error
Industry (baseline: manufacturing)	Wholesale and retail trade	-0.062	0.483
	Medical, healthcare and welfare	0.182	0.461
	Service industry	0.556	0.473
	Others	0.076	0.388
Number of employees (baseline: 5–29 employees)	30–99 employees	0.178	0.292
	100–299 employees	0.371	0.308
	300 employees or more	0.156	0.621
Labor union	Presence=1, Absence=0	-0.145	0.231
Occupation for which part-time workers are most commonly utilized (baseline: specialized and technical occupations)	Office work	-0.360	0.384
	Sales	-0.619	0.598
	Service	0.081	0.370
	Production process and labor	-0.406	0.447
	Others	-0.288	0.347
Employment contract term for part-time workers	(Non-fixed term=1, fixed term=0)	0.530 [†]	0.290
Employment systems for part-time workers	(Workers with same systems as standard employees present=1, absent=0)	-0.050	0.136
Part-time workers' wage determination factors	Ability-based wages	-0.294	0.222
	Duty-based wages	0.132	0.231
	Results/performance-based wages	0.263	0.264
	Living wages	-0.201	0.316
Wage determination factors' difference or similarity to those of standard employees (calculation factors are different from those of standard employees=1, same factors=0)		-0.661**	0.251
-2 log-likelihood		307.817	
Chi-square		35.018*	
Pseudo R2	Cox & Snell	0.233	
N		132	

Note: ***p<0.001, **p<0.01, *p<0.05, †p<0.1

those of Analysis 1, that is, when wage determination factors for standard and non-standard employees differ, the wage levels of non-standard employees tend to be considerably lower.

V. Conclusion

This article has examined the wage levels of non-standard employees engaged in the same work as standard employees, from the perspective of human resource management. Specifically, the impact of wage determination factors applied to non-standard employees, and difference or similarity with standard employees on wage levels of non-standard employees engaged in the same work as standard employees, was examined using data from multiple establishment surveys conducted in 2010.

Analysis 1 found that for both fixed- and non-fixed term part-time workers and fixed-term contract workers, wage determination factors' difference or similarity to those of standard employees affected the wage levels of the employment status. Establishments that apply different wage scales and tables from standard employees for fixed- and non-fixed term part-time workers and fixed-term contract workers tend to have wage levels much lower than those of standard employees, compared to establishments that apply the same wage scales and tables. Similarly, Analysis 2 showed that establishments where wages for part-time

workers are calculated based on factors different from those of standard employees pay part-time workers wages much lower than the wage levels of standard employees, compared to establishments that calculate wages based on the same factors.

From these findings, it can be inferred that when establishments implement wage management differently for standard and non-standard employees, the wage determination factors applied differ, even if employees are engaged in the same work. It is, therefore, difficult for these establishments to set and adjust wages to the same levels as those of standard employees, and to reduce wage disparities between standard and non-standard employees. Conversely, to reduce wage disparities between standard and non-standard employees engaged in the same work, it is necessary to apply the same wage management to non-standard employees as standard employees.

However, close attention must be paid to the limitations of the analysis results in this paper. This paper examines differences in wage levels between standard and non-standard employees engaged in the same work, and does not examine implementations of equal or balanced/proportional treatment. The data used for the analysis are all from establishment surveys conducted in 2010, and may differ from the circumstances of non-standard employee management as of 2018. In addition, the robustness and reliability of analysis need to be improved. In the future, while addressing these issues, it is necessary to study not only basic salary levels but also the full realities of balanced/proportional treatment including salary increases, bonuses, allowances and benefits, and their determinants. In doing so, it is also necessary to consider relationships among equal or balanced/proportional treatment, skill development and career support, and systems for non-standard employees' transitioning to standard employees.

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Notes

1. The non-standard employees discussed in this article are limited to directly employed workers, and do not include dispatched workers or independent contractors.
2. Non-standard employees' workforce integration (conversion to part of the core workforce) consists of qualitative workforce integration (Takeishi 2003), in which the work of non-standard employees and standard employees overlaps, and quantitative workforce integration (Honda 2001), in which the percentage of non-standard employees in the company is increased. The workforce integration discussed in this article is in the former category.

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SHIMANUKI Tomoyuki

Professor, Hitotsubashi University.