

# Legitimation of Income Inequality in Japan: A Comparison with South Korea and the United States

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## Abstract

Why does Japan have a large earnings gap between regular and non-regular employment? We attempt to answer this question through the lens of the legitimation of inequality, assuming the possibility that the inequality remains unresolved because it is legitimized due to institutional settings in Japanese society. In this paper, we explore to what extent the inequality is legitimized, as well as how it is legitimized, in Japanese society by analyzing data collected from a comparative vignette survey on the just income of fictitious workers in comparison with South Korea and the United States. The results of multilevel model analysis show that the income gap between regular and non-regular employees is accepted as just in Japan and South Korea. Moreover, non-regular worker respondents think that the income gap should be wider than regular worker respondents do (against their own interests) only in Japan. To some extent, the acceptance of income inequality and its over-acceptance by non-regular workers can be explained by the assumed difference in the duties and opportunities in the workplace between regular and non-regular employees, which is brought about by the male breadwinner model and Japanese firms' practices to secure the livelihood of employees and their families. Based on the results, we argue that the income inequality between regular and non-regular employment in Japan has a stronger logic of legitimation and, therefore, is more likely to persist than in other countries.

## Keywords

Non-regular employment, Just income, Fairness, Factorial vignette survey, Employment systems

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## Contents

<b>1.</b>	<b>Introduction</b>	<b>p. 4</b>
<b>2.</b>	<b>Employment systems and non-regular employees from a comparative perspective</b>	<b>p. 5</b>
	2.1. Non-regular employees under the Japanese employment system	p. 5
	2.2. Legitimation of rewards inequality in different institutional settings	p. 6
<b>3.</b>	<b>Just income analysis based on factorial vignette survey data</b>	<b>p. 8</b>
<b>4.</b>	<b>Data and methods</b>	<b>p. 9</b>
	4.1. Data	p. 9
	4.2. Methods	p. 10
<b>5.</b>	<b>Results</b>	<b>p. 11</b>
	5.1. Main effects of vignette attributes	p. 11
	5.2. Interaction effects between the vignette and respondent's attributes	p. 13
	5.3. Assumed differences between regular and non-regular workers	p. 13
	5.4. Changes in effects by adding variables on respondents' assumptions	p. 15
<b>6.</b>	<b>Conclusion and discussion</b>	<b>p. 18</b>
<b>7.</b>	<b>References</b>	<b>p. 21</b>

# 1. Introduction

Japan has witnessed the exacerbation of socioeconomic inequality over the last few decades, despite a long-held belief that Japan was a relatively egalitarian society. Particularly, the earnings inequality between regular workers and non-regular workers, such as part-time, contract, and dispatched workers, is quite large compared to that of other countries<sup>1</sup> (OECD, 2017; Takahashi, 2018).

As we will see later, Japanese non-regular employment is characterized not only by precariousness in terms of employment stability but also as work meant for supplementary earners of households, which is brought about by the male breadwinner model and Japanese firms' practice of providing "family-supportive rewards" to the head of household. Under this practice on the basis of need,<sup>2</sup> there has emerged a distinction between regular employees who can enjoy generous rewards to support their families and stable employment in exchange for their full commitment to firms and non-regular employees who are exempted from certain duties and responsibilities, such as overtime work and relocation, in exchange for accepting low wages (Imai, 2011). As the distinction is highly correlated to separate gender roles in Japanese society, regular employees are mainly male, while non-regular employees are mainly female, particularly those who are married.

There is a possibility that the above feature attached to the distinction between regular and non-regular employment in Japan is a factor of the reproduction of the large income gap between the two types of employment. Rewards inequalities can persist only when they are properly legitimized in modern societies, which emphasize the value of equality (Costa-Lopes *et al.*, 2013). Based on this perspective, the income gap between regular and non-regular employment can remain unresolved because it is legitimated by the assumed difference in job conditions, such as duties and responsibilities, to a greater extent in Japan than in other countries. This may be one reason for the large income gap and its reproduction according to the type of employment in Japan.

This vicious circle can be explained by the framework of reward expectation theory, which assumes that shared beliefs about the specific status of individuals influence justice evaluation (Auspurg *et al.*, 2017). According to the reward expectation theory, nominal characteristics that are not related to one's ability or competence become associated with reward expectations based on certain shared beliefs through social interaction. If it occurs, even those who are in a disadvantageous position share the beliefs and thereby accept the inequality. Since social interaction is constrained by institutions, we can expect that different institutions nurture different shared beliefs about the specific status of workers. The Japanese employment system might attach different shared beliefs regarding abilities or duties and responsibilities to regular and non-regular workers, which legitimate and reproduce the income gap.

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1. All other factors being equal, the average income of full-time regular to full-time non-regular workers is 92.7% in the U.S., while it is as low as 79.0% in Japan, according to our analysis of PIAAC data.

2. This practice of Japanese firms, however, is gradually weakening according to the globalization of management systems.

In this paper, we examine whether such legitimation is evident by utilizing data on the just income of fictitious workers from a factorial survey that we conducted in Japan, South Korea, and the United States. First, we explore the extent of the gap in just income between regular and non-regular workers, as well as the gap according to gender and other attributes of workers. Next, we analyze whether even the disadvantaged, such as respondents who are non-regular workers, accept the gap in just income and what explains the extent to which people accept inequality in income. In doing so, we attempt to reveal how employment systems shape and reproduce income inequality in Japan from a comparative perspective.

## 2. Employment systems and non-regular employees from a comparative perspective

### 2.1. Non-regular employees under the Japanese employment system

In Japan, firms, particularly large businesses, have supported employees' families by providing the head of the household with stable employment and seniority-based high wages. The provision of long-term employment and seniority earnings, which are important components of the Japanese management system, has functioned to secure the livelihood of employees and their families in Japan, where an adequate social security system has not been developed (Inagami and Whittaker, 2005; Nomura and Kimoto, 2002; Osawa, 2011). Such long-term employment until the mandatory retirement age enables stable family formation, and wage increases based on their seniority can cover a family's increasing cost of living as children grow older (Ono, 1987).

Such generous rewards are not provided to all employees, but only to the "core" employees of the firm who are assumed to be qualified for them. The distinction between regular employees who work full-time with an indefinite-term contract and non-regular employees who work part-time or with a fixed-term contract has been used to determine who is entitled to the "family-supportive rewards" provided by Japanese firms. As this distinction was formed based on the male breadwinner model during the period of high economic growth that lasted until the 1980s, non-regular workers are mainly female, particularly those who are married, though the number of male non-regular workers has been increasing since the 1990s. Combined with the practice of livelihood security provided by Japanese firms, the model has generated the notion that females can be financially supported by their spouses who work as regular employees and only need part-time or fixed-term jobs that are compatible with performing household chores. As married female workers do not have a responsibility to financially support their families, it is considered sufficient for non-regular workers to earn only supplementary income for their households (Osawa, 2011). This is the critical reasoning that legitimizes the large wage gap between regular and non-regular employees in Japan.<sup>3</sup>

3. The family-supportive rewards are paid to employees not based on the actual necessity to support their families, but on the type-of-employment categories, which match the actual necessity only when the head of a household is a father who works full-time with an indefinite-term contract. Although such discriminatory treatment of workers might be unfair, particularly for women who actually support their families, it could be accepted to the degree that females follow a "standard" life course, which assumes

However, regular employment is not more advantageous than non-regular employment in all respects. Reflecting the above logic, the distinction sometimes involves the difference in duties and responsibilities in the workplace. In Japan, it is difficult for employees to decline an order to perform overtime work, which leads to long working hours. However, it is regular employees who are expected to obey the order, while non-regular employees are basically exempted from it (Hisamoto, 2010). This is also the case with orders for relocation and job rotation, which are common practice in the Japanese personnel management system. The difference in the expected duties and responsibilities tied to the distinction between regular and non-regular employment is the flipside of the difference in entitlement to the family-supportive rewards based on the male breadwinner model.

Moreover, the distinction also implies another assumed difference, the difference in the extent of a worker's skills and abilities. In Japanese firms, which are eager to develop employees' firm-specific skills through on-the-job training, it is assumed that regular employees tend to have higher skills because of the provision of abundant training opportunities for only regular employees, part of which is carried out through job rotation and relocation (Aoki, 1988; Koike, 1988; Sano, 2012). Furthermore, regular employees are assumed to have higher abilities than non-regular employees, because the former have been recruited through a more competitive selection process. These assumed differences, in addition to the difference in duties and responsibilities, may also contribute to the legitimation of the inequality in rewards between regular and non-regular workers.

In summary, the assumed differences in employees' duties, as well as their opportunities for skill development and abilities, are attached to the distinction between regular and non-regular employment, which technically implies only a difference in the type of employment in terms of working hours or labor contract, under the Japanese employment system. These assumed differences may contribute to the generation and reproduction of a large income gap between regular and non-regular workers by legitimating it independently of the gender difference and other job-related or personal differences in Japan. Although the distinction might be meaningful within a firm,<sup>4</sup> it widely prevails in Japanese society as "shared understandings" (Dunlop, 1958, p. 16) on the categorization of workers. Thus, we attempt to explore whether these assumed differences prevailing in Japanese society may legitimize the large income gap between regular and non-regular employment in comparison with other countries.

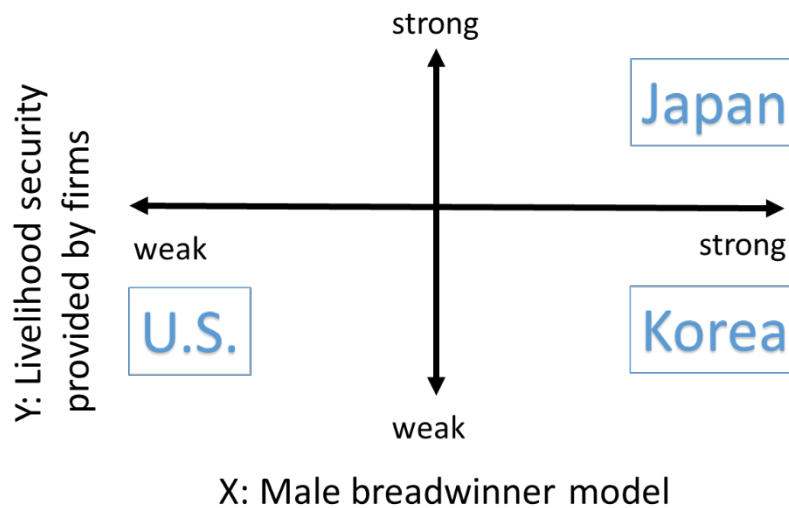
## **2.2. Legitimation of rewards inequality in different institutional settings**

The characteristics of the Japanese employment system can be clearly seen by comparing it with South Korea and the United States. These three countries have different institutional settings that may affect the extent and the legitimation of the income gap between regular and non-regular employment. Considering the case of Japan in the previous section, we rate the three countries according to the extent of the male breadwinner model and livelihood security provided by firms (Figure 1).

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early marriage and no divorce.

4. Takahashi revealed that the wage gap between regular and non-regular employment occurs within a firm rather than between firms in Japan (Takahashi, 2016).



**Figure 1. Positions of the three countries in institutional settings**

South Korea also has a strong male breadwinner model, while the livelihood security system provided by Korean firms is not as strong as the one in Japan (Jung and Cheon, 2004). Therefore, the difference between regular and non-regular employment may not imply a difference in entitlement to family-supportive rewards, which corresponds to the difference between male breadwinners who work full-time and female supplementary earners who work part-time or with a fixed-term contract in Korea. Although the increase in non-regular workers and their comparatively low rewards is becoming a serious problem in Korean society (Shin, 2012), there seems to be a critical difference between South Korea and Japan regarding how this disparity occurs and how it is legitimized due to a difference in institutional settings, as argued above.

In the United States, both the male breadwinner model and the livelihood security provided by firms are relatively weaker than in Japan. The United States has been characterized as a liberal market economy, in which the market mechanism plays a critical role in gaining access to resources that people need in order to make a living (Esping-Andersen, 1999; Estevez-Abe *et al.*, 2001). The labor market in this country has been crucially driven by the mechanism of supply and demand. Workers who have skills in high demand in the labor market tend to have access to well-paying jobs, regardless of gender and race. In addition, the greater labor market flexibility in the U.S. does not require organizations to hire as many non-regular workers as in countries with rigid labor market structures with higher employment protection for regular workers, which is the case in Japan. Given the situation in the U.S., there is a possibility that the gap between regular and non-regular employment is smaller than other countries both in terms of the real income and just income. Therefore, it is useful to compare the three countries in order to consider how people's ideas about income inequality depend on the institutional contexts of employment and welfare.

### 3. Just income analysis based on factorial vignette survey data

We utilize factorial vignette survey data on just income to explore whether and how much people accept the income gap in the three countries. A factorial vignette survey is a method that presents sets (=vignettes) of a fictitious but concrete situation that consists of various factors and asks respondents to evaluate each vignette (Atzmüller and Steiner, 2010; Wallander, 2009). In each vignette, the levels of the factors can be randomly chosen to construct the vignette. Thus, we can construct vignettes so that factors have no correlation to each other, which enables us to examine the unique effects of factors independently of the others. Thanks to this advantage, it is possible to disentangle the effect of the distinction between regular and non-regular employment on just income from the effects of gender by utilizing factorial vignette survey data, although both are complexly intertwined in the real world.<sup>5</sup>

So far, dozens of studies on just income have been conducted by analyzing data from factorial vignette surveys that ask for respondents' evaluations of the level of income that is appropriate for fictitious workers with various attributes. They have revealed that levels of just income differ according to their occupations (Kelley and Evans, 1993; Kelley and Evans, 2009; Osberg and Smeeding, 2006). They have also demonstrated that the just income of females is lower than that of males, controlling for other factors, and even female respondents report that the just income for females should be lower than that of males (Auspurg *et al.*, 2017; Jasso, 1994). We can interpret the results as indicating that respondents accept these income differences as a fair gap.

However, there have been few studies on the just income gap according to job-related factors other than occupation, such as the distinction between regular and non-regular workers. Moreover, no studies conduct an international comparison of just income and legitimation of income inequality focusing on Asian societies with different employment systems from Western societies. As a result, little is known about whether and how different employment systems between countries legitimize the income gap between workers.

Thus, our research project consisted of a factorial vignette survey on just income focusing on the gap between regular and non-regular employment, as well as the gender and other attributes of workers, conducted in Japan, South Korea, and the United States. Our survey also includes questions on respondents' assumptions regarding the differences in duties, opportunities for skill development, and abilities between two types of workers (e.g., regular and non-regular workers) to examine whether these assumptions contribute to the legitimation of income gaps among workers. By utilizing the vignette survey data, we examine the following research questions in this paper.

1. How do the levels of just income for various workers differ according to the type of employment, gender, and other attributes of workers in Japan, South Korea, and the United States?
2. Do disadvantaged earners oppose earnings inequality based on these attributes, or do

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5. A vignette survey also has the advantage that responses are easy and they have less desirability bias because the target of evaluation is not conceptual but concrete.



they accept it in these countries?

3. To what extent can the acceptance of earnings inequality be explained by respondents' assumptions about duties, opportunities, and abilities?

## 4. Data and methods

### 4.1. Data

The data for this study was obtained from the “2018 SARI survey”<sup>6</sup> that we conducted in August 2018. This was a web survey, whose samples were survey-takers registered with a research company. We limited our samples to those who are currently employed and are aged 30 to 59.<sup>7</sup> The sample size was 2,487 in Japan, 2,031 in Korea, and 1,879 in the U.S.

The main part of this survey consists of questions asking for respondents' evaluations of the just income of various fictitious workers. The following six attributes describe the vignettes of workers:<sup>8</sup> age (28 years old/43 years old), gender (male/female), education (high school/vocational school or vocational junior college or community college/university), type of employment (regular employee without fixed-term contract/contract employee), occupation (programmer/stock person), and family (single with no children/married with two children). The total vignette universe numbers 96 ( $=2*2*3*2*2*2$ ) and they are divided into six subsets with 16 vignettes, each of which is randomly assigned to respondents.<sup>9</sup>

1) Mr. Smith works at a company with 1,000 employees. He is a full-time (No Fixed-term Contract) employee who is a programmer at this company. Mr. Smith is an unmarried, high school graduate who is 43 years old. How much should Mr. Smith be paid for his job? Please include taxes in your answer.

Annual Salary (Including Tax) \_\_\_\_\_ Thousand Dollars Should Be Paid

	Employment Type	Position	Education	Family	Age	Gender
<b>Mr. Smith</b>	<b>Full-Time (No Fixed-term Contract)</b>	<b>Programmer</b>	<b>High School</b>	<b>Unmarried</b>	<b>43</b>	<b>Male</b>

Figure 2. Example of a question on just income

Figure 2 is an example of a vignette. As shown in the figure, a brief vignette text describing a fictitious worker is presented to a respondent. Below the text, a table for a summary of the worker's attributes is also shown. Then respondents are asked how much they think this worker should be paid.<sup>10</sup>

6..SARI is an abbreviation of “Sociological Analysis of Reward Inequality.”

7. We rely on quota sampling based on age groups, gender, and education. For education, only total proportions are represented by our samples.

8. Firm size is fixed to 1,000 employees to reduce the number of factors.

9. They are divided into subsets so that they have the highest D-efficiency based on Dülmer (2007). The order of presenting the 16 vignettes in each subset to respondents is also randomized.

10. This means that we use a direct measurement for just income (Markovsky and Eriksson, 2012).

This survey also asks respondents' assumptions about the differences in levels of "obligations for doing sudden overtime and/or work over the holidays," "opportunities for job experience and training," and "ability to learn a new job and to perform it well" between workers with different attributes (e.g., full-time workers without a fixed-term contract and contract employees). It also includes questions about respondents' attributes and job conditions, including the type of employment.

## 4.2. Methods

We conduct multilevel analyses to examine how the level of just income differs according to vignette attributes, respondent's attributes, and the interaction of both. The dependent variable is the logarithm of the just income of various vignettes answered by respondents. The independent variables in level 1 (vignette level) are dummy variables for six factors that construct vignettes: age, gender, education, type of employment, occupation, and family of fictitious workers. The independent variables in level 2 (respondent level) are personal and job-related variables of respondents coded to harmonize with corresponding vignette attribute variables: age (less than or equal to 35/over 35), gender, education, type of employment (regular/non-regular employment), occupation (manual/non-manual), and family (having a child(ren)/having no children). Respondent's individual annual income (logged) is also included as an independent variable in level 2.

Based on the results of the model without interaction terms, we first test the main effect of vignette attributes to answer research question 1. A significant main effect of a vignette attribute implies that respondents think there should be an income gap according to the factor. For example, if the dummy variable of non-regular workers has a significant negative effect, it means respondents think that the just income of non-regular workers is lower than that of regular workers.

Next, we add the interaction terms between a vignette attribute and a corresponding respondent's attribute to the model to answer research question 2. For example, we add the interaction term between a female vignette and a female respondent, between a contract-worker vignette and a respondent in non-regular employment, and so on. If the interaction term has a significant effect, a disadvantageous respondent and an advantageous respondent think differently about the level of just income gap between a vignette with the same attribute as themselves and a vignette without it.

We also add variables on respondents' assumptions about the difference in levels of duties, opportunities for skill development, and abilities according to the vignette attribute and observe the changes in main and interaction effects of the factor to answer research question 3. If main and interaction effects decrease by adding the variable regarding the assumption, we can conclude that the assumed difference according to the factor explains the gap in just income. In other words, it contributes to the legitimization of income inequality.

## 5. Results

### 5.1. Main effects of vignette attributes

Table 1 shows the results of the multilevel analysis of the just income of fictitious workers. Model 1 is the model that only has the main effects of the vignette and respondent's attributes. Among the effects of vignette attributes, we find that all of the "28-year-old," "stock person," "high school graduate," and "vocational school graduate" variables have significant negative effects in Japan, Korea, and the U.S., which implies that the effects of age, occupation, and education are similar among the three countries. People commonly think that the income of 28-year-old workers should be lower than that of 43-year-old workers, the income of stock persons should be lower than that of programmers, and the income of high school graduates and that of vocational school graduates should be lower than that of college graduates in all countries. We can conclude that the effects of human capital-related attributes, such as age, occupation, and education, on just income are consistent among the three countries.<sup>11</sup>

Furthermore, being childless has negative effects in all three countries. People think that workers who do not have a child should be paid less than workers who have two children. This suggests that the concept of need-based income is accepted in all three countries, although the effect size is small.

In contrast, the effects of gender and type of employment are different between the U.S. and the other two countries. While there are no significant effects related to the "female" and "contract worker" variables in the U.S., these variables have significant negative effects on just income in Japan and South Korea. This means that people think the just income of female workers is lower than that of male workers, and the just income of contract workers is lower than that of regular workers in Japan and South Korea, although this is not the case in the United States. From these results, it can be observed that income gaps between these groups are accepted as just in Japan and South Korea but not in the U.S. Especially in Japan, the effects of type of employment are the third largest among the factors: just income for contract workers is lower than that for regular workers by six percent. Although it is smaller than the actual income gap, it is larger than in the other countries.

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11. On the other hand, the magnitude of the effects differs to some extent among the countries. For example, the just income gap between a stock person and a programmer is quite large in the U.S. compared to Japan and Korea.

Table 1. Multi-level analysis of just income (logged) of fictitious workers

	Japan				South Korea				The United States			
	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
<b>Vignette attributes</b>	b	S.E.	b	S.E.	b	S.E.	b	S.E.	b	S.E.	b	S.E.
Female (vs. Male)	-0.045 ***	0.002	-0.037 ***	0.002	-0.049 ***	0.002	-0.048 ***	0.002	-0.003	0.003	-0.004	0.005
Contract worker (vs. Regular worker)	-0.062 ***	0.002	-0.060 ***	0.002	-0.041 ***	0.002	-0.042 ***	0.002	-0.005	0.003	-0.006	0.004
No children (vs. Married with 2 children)	-0.032 ***	0.002	-0.037 ***	0.003	-0.031 ***	0.002	-0.033 ***	0.002	-0.010 **	0.003	-0.010 *	0.004
Stock person (vs. Programmer)	-0.170 ***	0.002	-0.171 ***	0.002	-0.089 ***	0.002	-0.094 ***	0.002	-0.389 ***	0.003	-0.421 ***	0.004
28 years old (vs. 43 yrs old)	-0.100 ***	0.002	-0.103 ***	0.002	-0.134 ***	0.002	-0.142 ***	0.002	-0.023 ***	0.003	-0.023 ***	0.004
Education(ref: College)												
High school	-0.052 ***	0.002	-0.052 ***	0.003	-0.046 ***	0.002	-0.054 ***	0.003	-0.061 ***	0.004	-0.087 ***	0.007
Vocational school	-0.041 ***	0.002	-0.041 ***	0.003	-0.023 ***	0.002	-0.029 ***	0.003	-0.025 ***	0.004	-0.038 ***	0.007
<b>Respondent's attributes</b>												
Female	-0.011	0.011	-0.001	0.012	-0.001	0.011	0.000	0.011	-0.004	0.020	-0.006	0.020
Non-regular worker	0.040 **	0.015	0.044 **	0.015	0.049 **	0.017	0.044 *	0.017	0.089 **	0.028	0.087 **	0.029
Having no children	0.003	0.010	-0.001	0.010	-0.016	0.011	-0.020 †	0.011	-0.008	0.019	-0.009	0.020
Manual worker	0.015	0.012	0.013	0.012	-0.003	0.013	-0.013	0.013	0.000	0.021	-0.042 †	0.021
Youth (-35)	-0.021	0.015	-0.031 *	0.015	0.024 †	0.014	0.002	0.014	0.005	0.023	0.004	0.023
Education(ref: University)												
High school	0.001	0.012	-0.001	0.012	0.002	0.012	-0.010	0.013	0.012	0.022	-0.009	0.022
Vocational school/Community college	0.000	0.013	0.004	0.013	-0.030 †	0.018	-0.035 †	0.018	0.029	0.035	0.013	0.036
Individual income	0.172 ***	0.011	0.172 ***	0.011	0.128 ***	0.011	0.128 ***	0.011	0.191 ***	0.013	0.191 ***	0.013
<b>Interaction between vignette attributes(v) and respondent's attributes(r)</b>												
Female(v)*Female(r)			-0.020 ***	0.004			-0.002	0.003			0.002	0.007
Contract(v)*Non-regular(r)			-0.009 *	0.004			0.009 †	0.005			0.004	0.009
No children(v)*No children(r)			0.008 *	0.004			0.007 *	0.004			0.002	0.007
Stock person(v)*Manual(r)			0.002	0.004			0.020 ***	0.004			0.085 ***	0.007
28 years old(v)*Youth(r)			0.020 ***	0.005			0.043 ***	0.004			0.002	0.008
High school(v)*High school(r)			0.006	0.005			0.019 ***	0.005			0.044 ***	0.009
High school(v)*Vocational/JC(r)			-0.006	0.006			0.010	0.007			0.025	0.015
Vocational(v)*High school(r)			0.003	0.005			0.015 **	0.005			0.020 *	0.009
Vocational(v)*Vocational/JC(r)			-0.006	0.006			0.007	0.007			0.024	0.015
Constant	5.116 ***	0.072	5.115 ***	0.072	7.234 ***	0.090	7.246 ***	0.091	3.138 ***	0.061	3.169 ***	0.061
-2LL	-18098		-18158		-22731		-22881		14668		14486	
N(obs)	39760		39760		32192		32192		28816		28816	
N(groups)	2485		2485		2012		2012		1801		1801	

\*\*\*p<.001 \*\*p<.01 \*p<.05 † p<.1

## 5.2. Interaction effects between the vignette and respondent's attributes

Model 2 of table 1 is the model that includes interaction terms between the vignette and respondent's attributes of the same facet, such as one between the female vignette and female respondent, in addition to their main effects. We coded dummy variables of the vignette and respondent's attributes so that a disadvantageous position in the income structure of these societies, like that of non-regular workers, takes the value of one. Therefore, a positive effect of the interaction term means that respondents in a disadvantageous position think that a smaller income gap between the advantageous and disadvantageous groups is just than respondents in an advantageous position do. According to the social identity theory, people evaluate distributive justice in a way favorable to themselves (Shamon and Dülmer, 2014). Thus, we can expect that the interaction terms between the vignette and respondent's attribute have positive effects. In contrast, according to the reward expectation theory, we can also assume there is little difference in the just income gap between those who are in an advantageous position and those who are in a disadvantageous position.

Table 1 shows that almost all of the coefficients of interaction terms are positive in South Korea and the United States as we expect, even though some of them are not statistically significant. However, there are significant negative interaction effects between a female vignette and a female respondent and between a contract worker vignette and a non-regular worker respondent in Japan. These negative effects mean that female respondents in Japan think that a *larger* income gap between male workers and female workers is just than male respondents do, and non-regular worker respondents think that a *larger* income gap between regular workers and contract workers is just than regular worker respondents do. In other words, female and non-regular respondents, who receive lower income than their counterparts on average, more strongly accept the income gap according to gender and type of employment, respectively, in Japan.

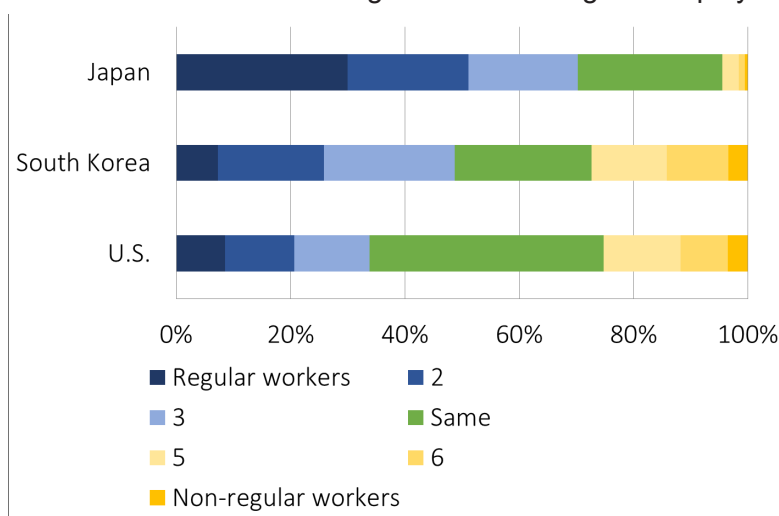
How can we explain the over-acceptance of the income gap by females and non-regular workers against their own interests? In the following sections, we answer this question by exploring the assumed difference in duties, opportunities for skill development, and abilities between the two groups, focusing on the income gap between regular and non-regular workers and its acceptance.

## 5.3. Assumed differences between regular and non-regular workers

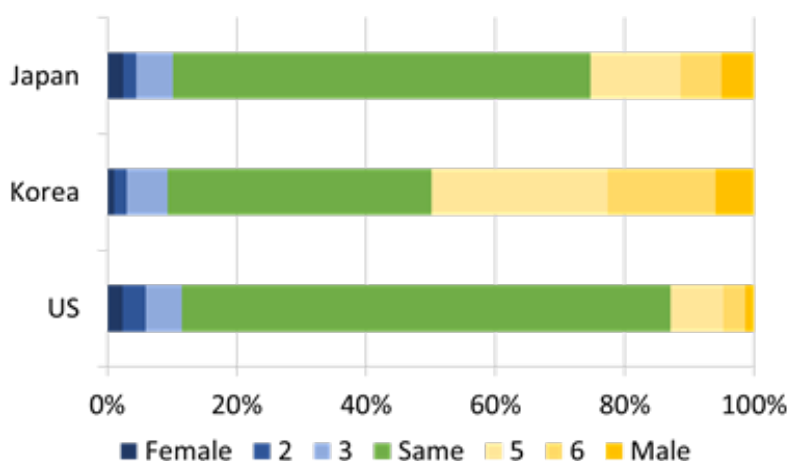
Figure 3 shows responses to the question "From the following two employee groups, which group, on average, do you think has greater obligations for doing sudden overtime and/or work over the holidays?" from regular and non-regular employees based on a seven-point scale from "1: Full-time (no-fixed term contract) employee has a greater obligation" to "7: Contract employee has a greater obligation." About 70% of Japanese respondents think that the former has a greater obligation to work overtime and on holidays, while only 4% assume that the latter has greater obligations. Compared to Korea (49% versus 22%) and the U.S. (34% versus 25%), we can see that there is a stronger assumption that regular

employees should accept overtime work instead of non-regular employees in Japan. Thus, the distinction between the two types of employees, which technically denotes only the difference in the period of the labor contract, is accompanied by an assumed difference in duties in the workplace in Japan.

The responses to the question asking about differences in duties between female and male employees (Figure 4) show a clear contrast between those of regular and non-regular employees. The assumption that males should accept overtime work instead of female employees is stronger in Korea (50% versus 9%) than in Japan (25% versus 10%) and the U.S. (13% versus 12%). While the responses in the U.S. are perfectly balanced to show gender equality in the workplace, the imbalance in Japanese responses is not strong compared to Korea or compared to the Japanese responses regarding the difference between regular and non-regular employees. Although the distinction between regular and non-regular employees is strongly connected to gender roles, as we previously argued, the assumed difference in duties in the workplace is more obvious between regular and non-regular employees than between male and female employees in current-day Japan. We can conclude that the assumed difference in duties in the workplace between males and females, which was originally based on the male breadwinner model, has already transferred to the distinction between regular and non-regular employment in Japan, while it remains within the gender relationship, leading to a smaller assumed difference between regular and non-regular employees in Korea.



**Figure 3. Assumptions about duties of regular and non-regular workers**



**Figure 4. Assumptions about duties of female and male workers**

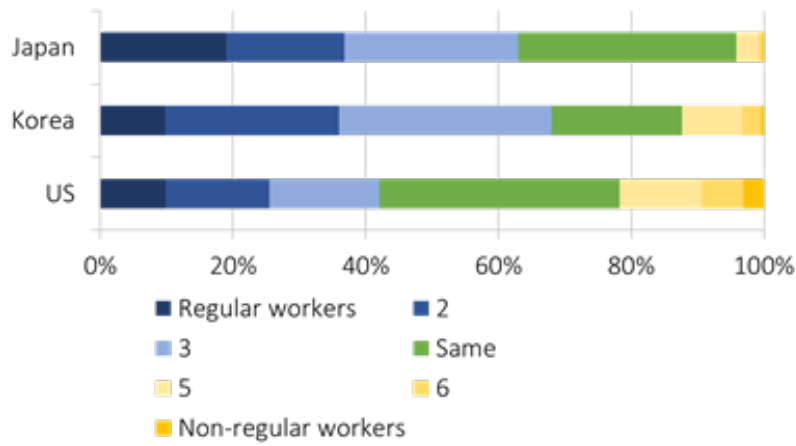


Figure 5. Assumptions about opportunities of regular and non-regular workers

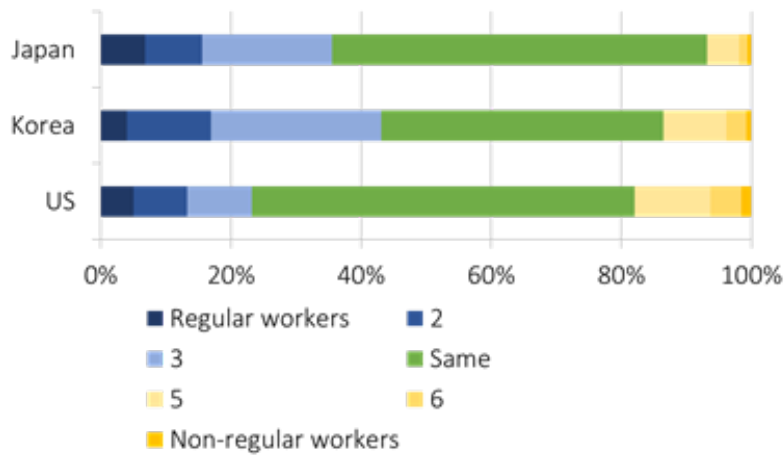


Figure 6. Assumptions about the abilities of regular and non-regular workers

Responses to the questions asking about differences in opportunities for job experience and training (Figure 5) and the ability to learn a new job and to perform it well (Figure 6) between regular and non-regular employees show a similar pattern. The assumption that regular employees have more opportunities or better abilities than non-regular employees is stronger in Japan and Korea compared to the United States. We can observe that the distinction is utilized as a hierarchical categorization of employees in the human resource management of Japanese and Korean firms.

#### 5.4. Changes in effects by adding variables on respondents' assumptions

We will examine whether these assumptions explain the just income gap between regular workers and non-regular workers and its over-acceptance by non-regular worker respondents in Japan and South Korea. To this end, we add the interaction terms between the contract worker vignette and respondents' assumptions about duties, opportunities, and abilities to the model and observe the changes in the effects of the contract worker vignette and the interaction term between the contract worker vignette and non-regular worker respondent.

Table 2 shows the results of Japanese respondents. Model 3 is the baseline model constructed by adding variables of a respondent's assumptions about the duties, opportunities,

	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
<b>Vignette attributes</b>						
	b	b	b	b	b	b
Contract worker (vs. Regular worker)	-0.060 ***	-0.043 ***	-0.045 ***	-0.056 ***	-0.040 ***	-0.040 ***
<i>(others variables are also controlled)</i>						
<b>Respondent's attributes</b>						
More duties for regular workers	-0.002	0.004	-0.002	-0.002	0.002	-0.002
More opportunities for regular workers	0.002	0.002	0.009 †	0.002	0.006	0.009
Better ability for regular workers	-0.015 **	-0.015 **	-0.015 **	-0.011 *	-0.014 **	-0.015 **
<i>(others variables are also controlled)</i>						
<b>Interaction between vignette attributes(v) and respondent's attributes(r)</b>						
Contract(v)*Non-regular(r)	-0.009 *	-0.007 †	-0.007	-0.010 *	-0.007	-0.006
Contract(v)*More duties for regular(r)		-0.012 ***			-0.007 ***	-0.008 ***
Contract(v)*More opportunities for regular(r)			-0.014 ***		-0.009 ***	-0.009 ***
Contract(v)*Better ability for regular(r)				-0.009 ***	-0.001	
<i>(others variables are also controlled)</i>						
-2LL	-18168	-18257	-18263	-18195	-18285	-18285
AIC	-18108	-18195	-18201	-18133	-18219	-18221
BIC	-17851	-17929	-17934	-17867	-17936	-17946
N(obs)	39760	39760	39760	39760	39760	39760
N(groups)	2485	2485	2485	2485	2485	2485

\*\*\*p<.001 \*\*p<.01 \*p<.05 † p<.1

**Table 2. Multilevel analysis of just income (logged) with respondents' assumptions (Japan)**

and abilities of regular and non-regular employees to model 2 in Table 1. The negative effect of the contract worker vignette (-0.060), which is the same as in model 2, means that regular worker respondents think the just income of a contract worker is lower than that of a regular worker (by -0.060 in terms of logged income). The negative effect of the interaction term between the contract worker vignette and a non-regular worker respondent (-0.009), which is also the same as in model 2, implies the over-acceptance of the income gap by non-regular worker respondents: they think that a larger income gap between regular workers and contract workers is just than regular worker respondents do (by -0.009 in terms of logged income).

Models 4 to 6 are models that include each of the interaction terms between the contract worker vignette and a respondent's assumptions about duties, opportunities, and abilities. All of the added interaction terms in these models have significant negative effects. This implies that those who assume regular employees have more duties, more opportunities, or better abilities think that there should be a larger income gap between regular and contract workers. In other words, the assumed differences in duties, opportunities, and abilities serve as reasons for the gap in just income between regular and non-regular employees.

How much do these assumed differences explain the gap in just income and its over-acceptance? We can answer this question by observing changes in the coefficients from the baseline model. By adding the interaction terms, the main effect of the contract worker vignette, and the interaction effect between the contract vignette and non-regular worker respondent, which are of interest to us, diminished in most cases. For example, the main effect of the contract worker vignette decreases by 29%, from -0.060 in model 3 to -0.043 in model 4. This means that 29% of the gap in just income between regular and non-regular employment (observed among regular worker respondents) is explained by the tendency of



the respondents who assume regular employees have more duties to think that a wider income gap is just between the two types of employment. Likewise, the decrease of 18% in the effects of the interaction term between the contract vignette and non-regular worker respondents from -0.009 in model 3 to -0.007 in model 4 means that the same tendency explains 18% of the over-acceptance of the income gap by non-regular worker respondents.

The above explanation also applies to model 5; 25% of the gap in just income and 25% of the over-acceptance in model 3 is explained by the tendency of the respondents who assume regular employees have more opportunities to think that a wider income gap is just between regular and non-regular employees. However, this is not the case with model 6 with the interaction term on the assumption about abilities. The main effect of the contract worker vignette decreases only slightly, and the interaction between the contract worker vignette and non-regular worker respondents increases from model 3 to model 6 by adding the interaction term between the contract worker vignette and a respondent's assumption about abilities. This means that the assumed difference in ability between regular and non-regular employees does not explain the gap in just income or its over-acceptance by non-regular worker respondents.

The above results are also confirmed by model 7, which includes all the interaction terms. In model 7, the interaction terms between the contract worker vignette and respondents' assumptions about duties and opportunities are significant, while the one about abilities is not. We can conclude that assumed differences in duties and opportunities are particularly important for explaining the gap in just income between regular and non-regular workers in Japan. Through model 8, which has both interaction terms, we can see that 34% of the gap in just income and 28% of the over-acceptance of it are explained by the tendency of those who assume regular employees have more duties and opportunities to think that the gap in income between regular and non-regular employees should be wider.<sup>12</sup>

Table 3 demonstrates the results of the same models for Korean respondents. The negative effect of the contract worker vignette (-0.042) implies that regular worker respondents think that the just income of contract workers is lower than that of regular workers (by -0.042 in terms of logged income). The positive effect of the interaction term between the contract worker vignette and non-regular worker respondents (0.007) means that non-regular worker respondents think that there should be a smaller income gap between regular workers and contract workers than regular worker respondents do (by 0.007 in terms of logged income), as we expected.

The interaction terms between the contract worker vignette and a respondent's assumptions about duties, opportunities, and abilities in models 4 to 6 have smaller effects than those in Japan, although they are statistically significant. Moreover, the main effect of the contract worker vignette does not change as much compared to its Japanese counterpart by adding these interaction variables. This implies that the tendency of those who assume that regular employees have more duties, more opportunities, and better abilities to think the gap in income should be wider does not explain the gap in just income between regular and non-regular employees as much.<sup>13</sup>

12. The interaction term between the contract worker vignette and non-regular worker respondent is no longer significant in model 8. Model 8 is the best-fitted model with the smallest BIC for Japanese respondents.

13. Although the interaction term between the contract worker vignette and non-regular worker

	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
<b>Vignette attributes</b>						
	b	b	b	b	b	b
Contract worker (vs. Regular worker)	-0.042 ***	-0.040 ***	-0.038 ***	-0.039 ***	-0.037 ***	-0.038 ***
<i>(others variables are also controlled)</i>						
<b>Respondent's attributes</b>						
More duties for regular workers	-0.007 *	-0.005	-0.007 *	-0.007 *	-0.005	-0.005
More opportunities for regular workers	0.011 **	0.011 **	0.014 **	0.011 **	0.012 **	0.011 **
Better ability for regular workers	-0.009 †	-0.009 †	-0.009 †	-0.005	-0.006	-0.006
<i>(others variables are also controlled)</i>						
<b>Interaction between vignette attributes(v) and respondent's attributes(r)</b>						
Contract(v)*Non-regular(r)	0.009 †	0.008	0.009 †	0.007	0.007	0.007
Contract(v)*More duties for regular(r)		-0.004 ***			-0.003 *	-0.003 **
Contract(v)*More opportunities for regular(r)			-0.004 **		-0.001	
Contract(v)*Better ability for regular(r)				-0.007 ***	-0.006 **	-0.006 ***
<i>(others variables are also controlled)</i>						
-2LL	-22893	-22909	-22902	-22916	-22924	-22923
AIC	-22833	-22847	-22840	-22854	-22858	-22859
BIC	-22581	-22587	-22580	-22594	-22582	-22591
N(obs)	32192	32192	32192	32192	32192	32192
N(groups)	2012	2012	2012	2012	2012	2012

\*\*\*p<.001 \*\*p<.01 \*p<.05 † p<.1

**Table 3. Multilevel analysis of just income (logged) with respondents' assumptions (Korea)**

Among the three interaction terms, we find the one with the assumed difference in abilities has the strongest effect, and model 6, with only one interaction term regarding ability, is the best-fitted model with the smallest BIC for Korean respondents. Based on the estimation, about 9% of the gap in just income between regular and non-regular employment (observed among regular worker respondents) is explained by the tendency of the respondents who assume regular employees have better abilities to think that the wider income gap between the two types of employment is just.

## 6. Conclusion and discussion

This paper explored the extent of the gap in just income between regular and non-regular workers, as well as the gap according to other attributes of workers, and examined whether even the disadvantaged, such as non-regular worker respondents, accept the pay gap and what explains the extent of its acceptance.

Based on the multilevel analysis of the cross-national factorial vignette data from a survey we conducted in Japan, South Korea, and the United States, we find that respondents think that income gaps according to human capital-related attributes, such as age, occupation, and education, are fair in all three countries. On the other hand, only Japanese and Korean respondents think there should be a significant income gap between regular and non-regular workers, as well as between male and female workers. We can conclude that the income gaps

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respondent decreases by adding the interaction terms, it seems to occur in estimation as compensation for the slight decrease in the main effect of the contract worker vignette in that the sum of the coefficients of these variables, main effect, and the interaction effect, is consistent across models.

between these groups are accepted as just in Japan and South Korea, while this is not the case in the United States.

However, there is a large difference in who accepts the income gap according to the type of employment and gender between Japan and South Korea. In Japan, respondents in a disadvantaged position, such as non-regular workers and female respondents, think that the income gap according to the type of employment and gender should be wider than their counterparts do, against their own interests. In Korea, we cannot find such a tendency: non-regular worker respondents accept a smaller income gap as just than regular worker respondents, for example.

Some extent of the acceptance of income inequality between regular and non-regular workers and its over-acceptance by the latter in Japan is explained by the assumed differences in duties and opportunities at the workplace between the two groups. In Japan, the difference in duties in the workplace, such as the obligation to perform overtime work, is attached to the distinction between regular and non-regular employment, which is technically distinguished only by the difference in working hours or the period of the labor contract, and it legitimates the income gap between them based on the logic of compensating wage differentials theory (Rosen, 1986). Regular workers are regarded as earning more income in exchange for accepting larger duties than non-regular workers in Japan. This explanation also applies to the assumed difference in opportunities between regular and non-regular workers.

We argue that the Japanese employment system has contributed to the attachment of different duties and opportunities to the distinction between regular and non-regular employees. The combination of the male breadwinner model and Japanese firms' practice of securing the livelihood of employees and their families has made the distinction between regular and non-regular employees imply a difference in entitlement to family-supportive rewards provided by firms. As a result, regular employment, which is mainly occupied by males, is assumed to entail more duties, as well as more opportunities, and vice versa. The assumed difference in duties and opportunities between regular and non-regular employees is based on separate gender roles, but it has been transferred to the distinction between regular and nonregular employment and does not persist as much as a gender difference in Japan as in South Korea.<sup>14</sup>

In South Korea, the distinction between regular and non-regular employment does not accompany differences in entitlement to family-supportive wages or duties in the workplace as much, because Korean firms do not have as strong a practice of ensuring the financial security of employees and their families as Japanese firms do. Therefore, the gap in just income between regular and non-regular employment is not explained by the assumed difference in duties. Although Korean respondents assume there is a difference in opportunities for skill development between the two groups, it does not contribute to the explanation of the gap in just income as much. The assumption that regular and non-regular workers have different

14. This may suggest the strong autonomy of status system of workers in Japan. Although investigating why this is so remains a future task, one of the reasons may be the fact that simple and broad job classifications and flexible job assignments are common in Japanese firms (Aoki, 1988). There is a possibility that the distinction between regular and non-regular employees to which the assumed difference in duties, opportunities, and abilities is attached have been developed as a human resource management device in Japan, where the job differentiation based on occupation is generally weak. Another possible reason may be the prohibition of gender discrimination by the government, such as the enactment of the Equal Employment Opportunity Law.

levels of abilities has the strongest power in explaining the gap in just income among the three assumptions, but most of the differences in just income remain unexplained.

In the U.S., due to the weak male breadwinner model and little livelihood security provided by firms, in addition to the large labor market flexibility, the distinction between regular and non-regular employment is not significant in the labor market nor associated with different duties or abilities. Therefore, the income gap between them is not legitimated; consequently, there is no just income gap between them.

Income inequalities tend to remain unresolved when they have the logic of legitimation (Costa-Lopes *et al.*, 2013). Based on the analysis in this paper, the income inequality between regular and non-regular employment in Japan has a stronger logic of legitimation under the Japanese employment system and, therefore, is more likely to persist than its Korean counterpart. It is necessary to change the assumptions that legitimate the gaps, by utilizing the framing perspectives, if useful, to reduce the large income inequality between regular and non-regular workers in Japan.

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