

Chapter 9

Happiness and Employment Status

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1 Introduction

It is accepted by most that working constitutes an important part of happiness. It is true that, for some people, working increases their happiness through feelings of self-achievement satisfaction; for others, it decreases their happiness by increasing stress and anxiety. The state of happiness will differ depending on a person's job status, such as regular or non-regular employment. The story is not simple, however, because the aim of working may differ between individuals, and the treatment, training, and job type may differ between regular and non-regular work. In this sense, it is meaningful to investigate the state of happiness by focusing on job status.

The purpose of the chapter is to examine this issue by comparing data from five countries (Japan, the US, the UK, France, and Germany). First, we examine the structure of each country's labor market in terms of regular and non-regular workers and then theoretically incorporate the possibility of cooperation between regular workers and non-regular workers. Secondly, we analyze the effects of employment status on the state of happiness in detail by using micro-data. Then, we compare the mechanisms through which happiness is affected by employment status in these five countries by using an international comparative survey on happiness.

For regular workers, the incentive for cooperation with non-regular workers results from the efficiency wage effect. By redistributing income from regular

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workers to non-regular workers, it might be possible to increase the income received by regular workers through the increased productivity of non-regular workers. We will analyze the conditions under which this mechanism leads to an increase in the distribution share of non-regular workers. We focus on the functions and effects of aspiration¹ and propose the concepts of “positive” and “negative” happiness as new measurements of happiness. These factors are related with aspiration. The results of the analysis show that the sources of happiness differ greatly between regular workers and non-regular workers. However, we consider that there may be many country-level differences in the effects of employment status, which would reflect the incentives for working and the working environments.

In the case of the Japanese economy, throughout the depression period of the 1990s and 2000s, regular workers were replaced by non-regular workers in Japan as a cost-reduction measure. The proportion of non-regular workers in the workforce has been gradually increasing since 1990, and it exceeded 30 % in 2013. In particular, the ratio of non-regular workers in the 15–24 year-old age group increased drastically at the end of the 1990s, and has exceeded 50 % (including part-time work among students). This ratio has remained roughly constant from 2000 until the present day. We can confirm that labor productivity has not improved over this same period (Figs. 9.1 and 9.2).

In Japan, the timing for hiring recent graduates is restricted to the beginning of April. This system has some merit in that it reduces the cost of recruiting recent graduates and helps with the transition from student to employee. However, this timing works to increase the ratio of non-regular workers when the economic situation fluctuates, because the risks of over-employment in the face of sluggish demand increases greatly under the less flexible recruiting system.

In addition to the high ratio of non-regular workers, the decreasing probability of shifting from non-regular work to regular work is also a serious issue. This probability was less than 20 % in 2013, and the probability of shifting from regular to non-regular work has increased from around 20 % in the 1990s to around 40 % in 2013.

According to the “2013 Labor Force Survey” compiled by the Ministry of Internal Affairs and Communication, 14.8 % of female non-regular workers and 31.1 % of male non-regular workers did not voluntarily choose non-regular status but accepted it because they were unable to find a job with regular status. Moreover, this ratio among male workers is 40.5 % for the 25–44 year old age group. A survey conducted by the Ministry of Internal Affairs and Communications in 2013 showed that around 70 % of non-regular workers are in non-regular status involuntarily, and more than half of non-regular workers want to change to regular status.²

¹An area of considerable recent interest is the relation of aspiration to happiness and Job satisfaction (see Easterlin (2001) and Layard (2003)). Stutzer (2004) examines the role of income aspiration in individual happiness. Poggi (2010) develops a measure for aspiration biases and examine these aspiration effects.

²In recent years, many researchers have focused on the consequences of labor market entry position on future careers. They examined the scenario of whether the first job functions as an “entrapment” or as a “stepping-stone.” The stepping-stone scenario is supported in Western Europe, but the

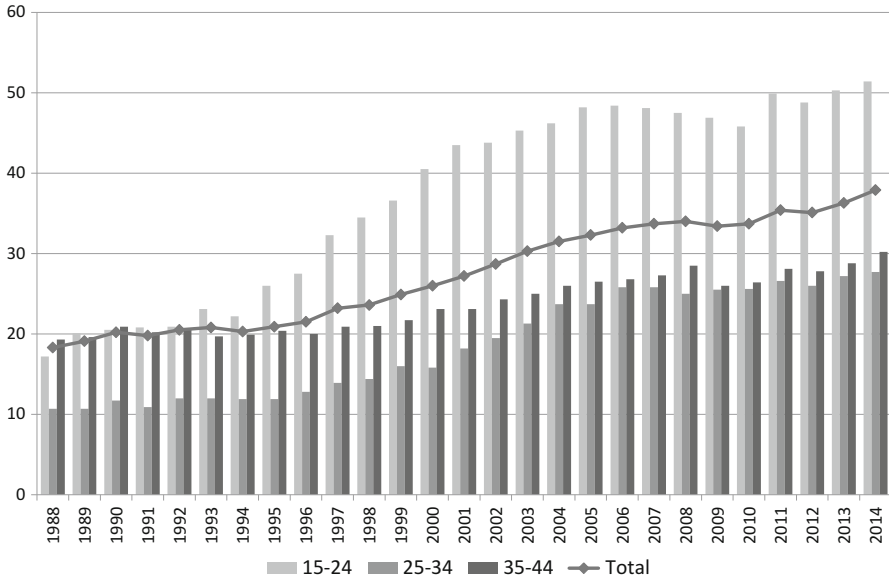


Fig. 9.1 Ratio of non-regular workers in Japan (%)

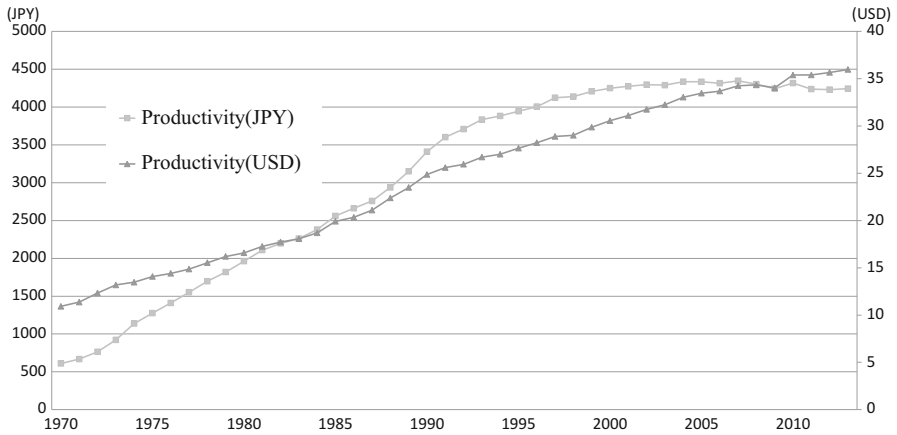


Fig. 9.2 Labor productivity per hour in Japan

One of the problems for non-regular workers is the development of human capital. For example, the ratio of non-regular workers receiving off-the-job training (OFF-JT) is less than half the ratio for regular workers (Fig. 9.3).

entrapment scenario is supported in Japan (see Scherer (2004), Baranowska et al. (2011), Kondo (2007), Inagaki and Oshio (2014)).

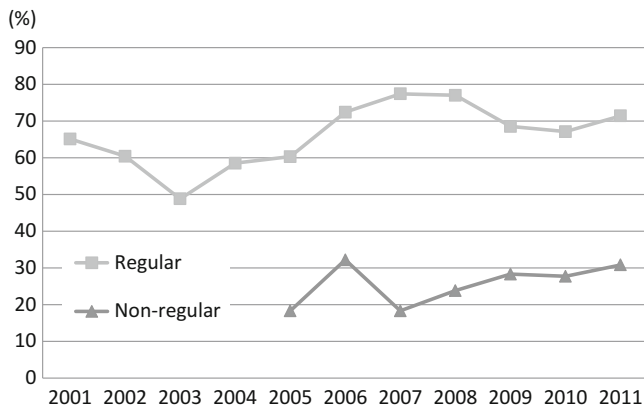


Fig. 9.3 Ratio of establishments and enterprises offering off-the-job training, by employment status

The rest of the chapter is organized as follows. In Sect. 2, we describe the model and discuss a number of important problems facing non-regular workers. Section 3 reviews the literature on employment and happiness. Section 4 describes the survey data and introduces our measurements of happiness. Section 5 provides an international comparison of the determinants of happiness among the five countries examined. Section 6 offers concluding remarks.

2 Optimal Wage Strategy for Non-regular Workers

2.1 Issues Facing Non-regular Workers

In this section, we examine the essential problems facing non-regular workers and discuss some policies that could alleviate these issues. The unfair distribution of income between regular and non-regular workers stems from differences in negotiating power. In Japan, only regular workers have trade unions because the length of tenure of non-regular workers is less than 3 years on average. A key problem for non-regular workers is whether regular workers have an incentive to negotiate with their employers concerning the distribution share of wages to non-regular workers. If not, regular workers will negotiate to increase their own distribution share while minimizing the distribution share to non-regular workers. The minimized wage rate is the market wage rate prevailing in the market; otherwise, less quality workers will be employed. In this sense, there is no game theoretic structure for the determination of wage rate of non-regular workers.

There possibly exist some incentives for regular workers to negotiate with their employers to increase the income share of non-regular workers in the following two cases. The first is the altruistic motivation case. If regular workers increase their

utility by reducing the wage difference between regular and non-regular workers, a wage increase for non-regular workers could be attained as the optimal solution. However, it is hard to imagine that this kind of altruistic motivation is widespread among regular workers or would be sustainable over the long term. The second motivation is the “incentive wage.” If an increase in income to regular workers is gained from the efficiency improvement of non-regular workers and is large enough to cover the decreased income share of regular workers, regular workers will agree to a decrease in their income share. This case may arise when the efficiency of non-regular workers increases and the prevailing market wage rate of non-regular workers is lower than the optimal wage rate. In this section, we examine this point rigorously by using a mathematical model.

2.2 *The Incentive Wage Model*

We consider a two-period model. In the first period, both regular and non-regular workers work with the given wage rate. In the second period, the efficiency of work changes from the degree of aspiration. We consider the situation in which the aspiration changes depending on the relative wage difference between regular and non-regular workers. Labor supplies of regular and non-regular workers are given as the constants L_r and L_n , respectively, in this model because the focus of this study is the optimal wage strategy that incorporates the effects of aspiration on productivity.

The first-period output produced by regular workers is given by

$$f_r^1 = f_r^1(L_r).$$

The first-period output produced by non-regular workers is given by

$$f_n^1 = f_n^1(L_n).$$

We assume that the labor supply is infinitely elastic for each firm, and the labor demand of the company is small enough so that the market wage rate is not affected by the behavior of the company. This implies that each company faces the same market wage rate. In addition, it is assumed that the amount of labor employed is kept constant from period 1 to period 2 to focus on the net effect of redistribution.

We consider whether or not the redistribution of wages between regular and non-regular workers stimulates the aspiration of non-regular workers, which is represented by α . The second-period output produced by regular workers is given by

$$f_r^2 = \phi_r(w - \alpha)f_r^1(L_r),$$

where $\phi_r(w - \alpha)$ is the change in productivity of regular workers caused by the change in aspiration.

The second-period output of non-regular workers is given by

$$f_n^2 = \phi_n (w + \alpha) f_n^1 (L_n),$$

where $\phi_n (w + \alpha)$ is the change in productivity of non-regular workers caused by the change in aspiration.

The total profit function is given by the following equation:

$$\begin{aligned} \pi = & p (f_r^1 (L_r) + f_n^2 (L_n)) + \frac{P}{1+r} (\phi_r (w_r - \alpha) f_r^1 (L_r) + \phi_n (w_n + \alpha) f_n^1 (L_n)) \\ & - \left(\frac{2+r}{1+r} \right) ((w_r - \alpha) L_r + (w_n + \alpha) L_n). \end{aligned}$$

The optimal amount of redistribution α^* is given by the following optimality condition

$$\frac{d\pi}{d\alpha} = \frac{p}{1+r} (\phi_n' f_n^1 - \phi_r' f_r^1) - \left(\frac{2+r}{1+r} \right) (L_n - L_r) = 0.$$

That is, the optimal redistribution is determined at the point where the following equation holds:

$$\frac{p}{1+r} (\phi_n' f_n^1 - \phi_r' f_r^1) = \left(\frac{2+r}{1+r} \right) (L_n - L_r).$$

Figure 9.4 shows the marginal effect of redistribution on aspiration. Figure 9.5 demonstrates the difference in the impacts between regular and non-regular employees.

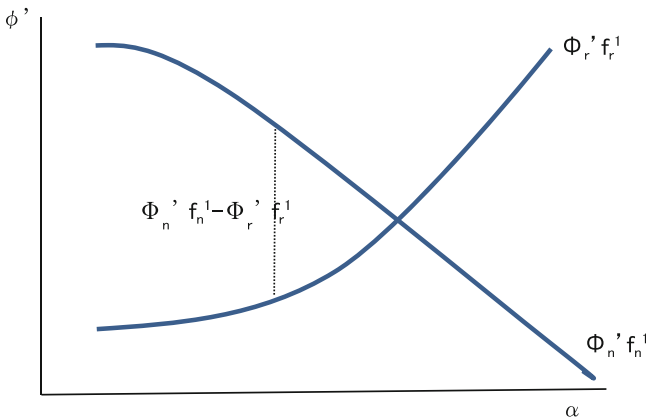


Fig. 9.4 Marginal effect of redistribution on aspiration

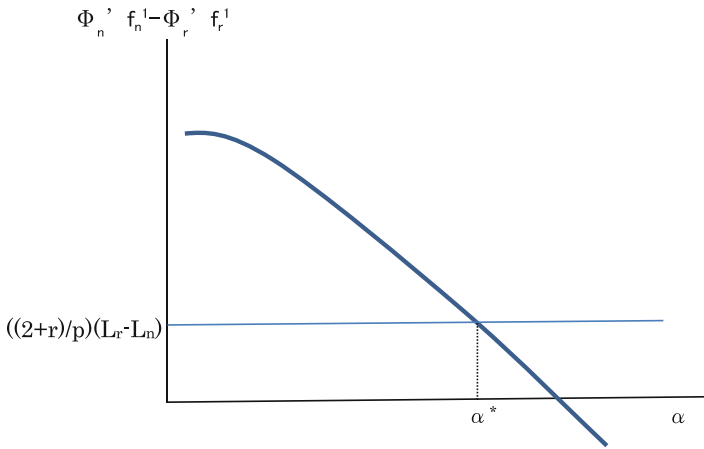


Fig. 9.5 Difference in the marginal effect of redistribution on aspiration between regular and non-regular employees

The optimality condition implies the following results. First, the optimal redistribution level increases as the marginal effect of redistribution on the aspiration of non-regular workers increases. Second, the optimal redistribution level increases as the price of output increases because the relative cost of redistribution to output value decreases. Third, the optimal redistribution level decreases as the interest rate increases because the discounted value of redistribution decreases. This also implies that short-sighted employers tend to set the redistribution level at a low level.

The model described in this chapter is quite simplified. The critical point is that the company hires both regular and non-regular workers at the market wage rate in the first period. We then consider the possibility that non-regular workers increase their labor productivity from income redistribution from regular to non-regular workers via the aspiration effect. If the marginal positive effect of redistribution is large enough to cover the marginal cost of redistribution, the redistribution increases the total profit. The merits of redistribution include an enhancement of cooperation between non-regular and regular workers. The redistribution within a workplace improves the sense of fairness among workers and leads to trust formation among workers. This contributes to improved productivity of teams.

One of the most serious problems caused by the widening income gap between regular and non-regular workers is the erosion of trust in the workplace. There is the risk of moral hazard when the trust among workers is eroded, which can cause increases in various kinds of costs such monitoring and inspection costs, for example. Mental health and well-being among workers would also decrease if human relations within the workplace were to worsen. The empirical study in the following sections gives some evidence on how workers perceive their treatment in the workplace and the impact of human relations within the workplace.

3 Literature Review on Employment and Happiness

Prior studies have found that work satisfaction benefits workers' health and improves their productivity (Judge et al. 2001; Justina et al. 2009). Therefore, it is very important to investigate factors affecting workers' well-being as part of any evaluation of the impacts of human resource management and labor policy. Previous research has shown that wage, labor status, job type, company size, and labor characteristics, such as sociality and work burden, contribute to employee well-being (Warr 1999; Frey and Stutzer 2001; Skalli et al. 2008; Origo and Pagani 2009). Blanchflower and Oswald (2004) showed that the effect of joblessness on happiness is close in size to the unhappiness associated with divorce. In addition, studies in Japan have found differences in the average level of worker satisfaction by gender and labor status after controlling for other important covariates (Sano and Ohtake 2007; Okunishi 2008; Nozaki 2010).

Regarding the measurement of happiness, many methods have already been developed in previous studies. These different approaches to measuring happiness vary in a number of respects, including the breadth and timescale of the experience encompassed, and the words in which the idea of happiness is expressed. Subjective well-being, such as happiness, can be measured using either single- or multiple-item scales (MacKerron 2012). For example, Easterlin (2001, 2005) measured the degree of happiness by asking a single question, such as "How much do you feel happy in general?" Contrary to this approach, Hills and Argyle (2002) adopted the method of measuring the degree of happiness by asking 29 questions and applying principal factor analysis to summarize the information. In addition, in the research of Kahneman and Krueger (2006), happiness was measured at various time scales. In the data most commonly used by economists, respondents are asked about the vague present ("these days," "nowadays," "the last few weeks," and so on) (MacKerron 2012).

Interestingly, the research of Rolls (2014) in the field of neuroscience suggests two viewpoints in measuring happiness. Rolls (2014) states that the primary reinforcer of happiness, which is defined as the primary stimuli that drive a person's actions and decision making, consists of "rewards" and "punishments." Secondary reinforcers are stimuli that are combined with learning and the primary reinforcers. For example, when you see an item of food (it is the primary reinforcer and, in this case, it is also a reward), then the sight of the object becomes a positive secondary reinforcer connected with some knowledge of food and various responses and decisions are made after optimizing the combination of choices to maximize the net rewards.

In this chapter, we primarily follow the method used by Hills and Argyle (2002) and the viewpoint stated by Rolls (2014), and try to understand the impacts of labor status and work conditions on happiness, which are considered as two aspects of primary stimuli (rewards and punishments). In particular, we investigate the gap in happiness level between regular and non-regular workers, controlling for important variables such as family structure and personality traits. There is little research focusing on the association between employment status and happiness that defines both concepts on the basis of "rewards" and "punishment."

4 International Comparison of Working Conditions

4.1 Data Description

The surveys we conducted are summarized below and key details are outlined in Table 9.1. We used micro-data collected from a nationwide Internet survey in each country. The surveys were designed and implemented during 2012–2013 for a research project that investigated the socioeconomic determinants of subjective well-being and was sponsored by the Japanese Society for the Promotion of Science. The surveys captured ample information about individuals' subjective assessments of own well-being, personal traits, demographic and socioeconomic status, and perceived neighborhood characteristics, all of which are useful for examining the relationship between working conditions and happiness. In the case of Japan, in order to ensure that the sample was representative of the actual population, we constructed targeted proportions of 15 population groups, which corresponded to a matrix of five age groups (20s, 30s, 40s, 50s, and 60s) and three household income classes (3 million yen or less, 3–6 million yen, and 6 million yen or more) in advance and collected surveys until we obtained the numerical targets. In contrast, for the United States (US), United Kingdom (UK), France, and Germany, we simply collected samples, with 1,000 respondents in each country, and did not modify the sample distribution on the basis of official statistics. Therefore, we need to be careful when interpreting the comparisons between the estimated results for Japan and those for the other four countries. In this analysis, we conduct an empirical analysis of working conditions on two aspects of happiness, controlling for several important variables that seem to affect happiness, which is in line with previous research such as Oshio and Urakawa (2014).

4.2 Descriptive Data

The bar charts shown in Figs. 9.6, 9.7, and 9.8 and Table 9.2 allow comparing the data characteristics of the samples for the five countries. For gender (Fig. 9.6) and age distribution (Table 9.2), only Japan exhibits an unbalanced distribution, due to the reason we explained earlier, and the percentages of male, middle-aged, and older respondents are larger than for other countries. However, regarding the sample size for Japan, it is much larger than for the other countries, and we can control for gender using a female dummy variable in the later empirical analysis.

Table 9.2 shows that, of all the countries examined, Japan has the highest ratio of married respondents and the lowest ratio of divorced respondents. And, it shows that Japan has the highest ratio of respondents in a household with a spouse and children, and the lowest ratio of respondents who are single parents with children.

Figure 9.7 shows the portion of respondents who reported that they are currently searching for work. We can see that about 15–20 % of respondents in each country

Table 9.1 Outline of the international surveys

	Japan	US	UK (England)	France	Germany
A. Title of survey	Survey on living environment in the region and sense of happiness				
B. Time period of survey	Oct. 1, 2013–Oct. 31, 2013	Aug. 1, 2012–Aug. 31, 2012	Oct. 1, 2013–Oct. 31, 2013	Aug. 1, 2012–Aug. 31, 2012	Oct. 1, 2013–Oct. 31, 2013
C. Survey method	The survey was organized by NTT Com Research by using various internet survey companies in the U.S. and Europe. All samples were collected via Internet panels with multiple sources. Each respondent is verified as being unique via IP address				
D. Sample controls	Sampling for the Japanese dataset is controlled so that the age distribution and income distribution of the survey are close to the real distributions				
E. Sample size	4,927	1,001	1,077	1,049	1,088
F. Response rate	It is not easy to calculate the response rate in this kind of survey because the respondents are recruited through banner advertisements, and so non-responses are not registered				

Fig. 9.6 Gender

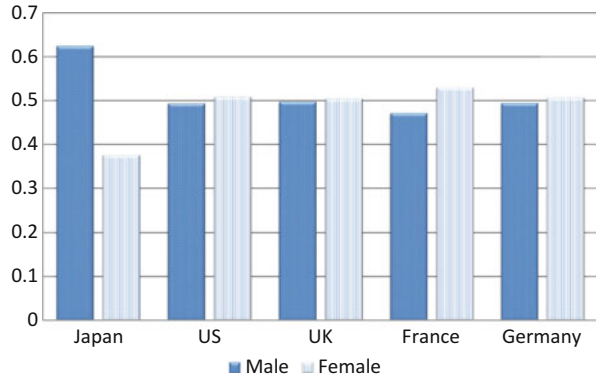


Fig. 9.7 Currently searching for work

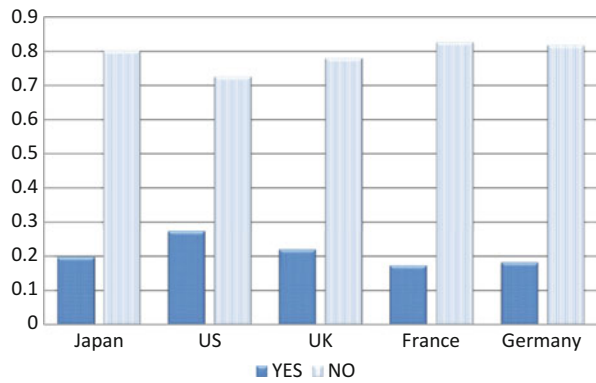
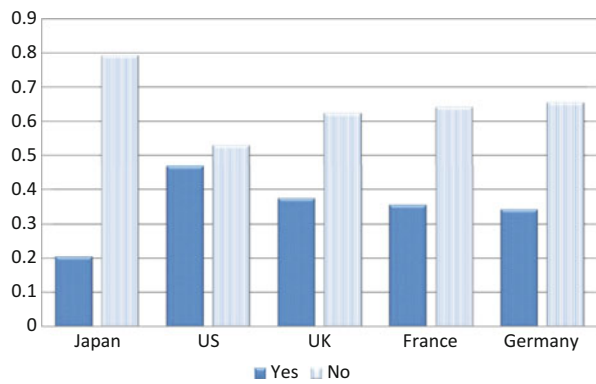


Fig. 9.8 Period of unemployment in previous 5 years



are engaged in a job search. Furthermore, Fig. 9.8 shows the portion of persons who experienced unemployment within the previous 5 years, which is smallest in Japan and largest in the U.S. In Europe, the portion of respondents who had experienced recent unemployment is smallest in Germany.

Table 9.2 Distribution of variables

Age class	20–29	30–39	40–49	50–59	60–	Total
Japan	11.0 %	19.3 %	18.7 %	26.5 %	24.5 %	100.0 %
US	18.7 %	20.0 %	20.0 %	20.7 %	20.7 %	100.0 %
UK	19.6 %	19.9 %	19.5 %	20.2 %	20.8 %	100.0 %
France	18.9 %	20.2 %	19.7 %	20.5 %	20.7 %	100.0 %
Germany	19.5 %	19.6 %	19.9 %	20.1 %	21.0 %	100.0 %

Marital status	Single	Married	Divorced	Widowed	Total
Japan	24.9 %	68.3 %	5.1 %	1.7 %	100.0 %
US	29.6 %	53.4 %	13.8 %	3.2 %	100.0 %
UK	34.4 %	52.1 %	10.3 %	3.2 %	100.0 %
France	32.3 %	53.1 %	13.2 %	1.4 %	100.0 %
Germany	31.9 %	52.0 %	12.5 %	3.6 %	100.0 %

Family structure of respondent's household	With spouse	With spouse and children	Single parent (self) with children	With spouse, children and parents	Single (including other)	Total
Japan	27.5 %	40.7 %	2.3 %	7.4 %	22.1 %	100.0 %
US	29.4 %	33.3 %	8.4 %	1.2 %	27.8 %	100.0 %
UK	26.7 %	32.0 %	8.3 %	1.8 %	31.2 %	100.0 %
France	29.2 %	33.0 %	10.2 %	0.7 %	26.8 %	100.0 %
Germany	31.0 %	33.7 %	7.6 %	2.0 %	25.8 %	100.0 %

Table 9.3 shows the distribution of job type for each country. The portion of regular employees is largest in Germany and smallest in the U.S. The portion of unemployed people (including homemakers) is largest in Japan and smallest in Germany. The portion of civil servants is largest in Germany and smallest in the U.S. The portion of temporary or dispatched workers plus part-time employees is largest in Japan and smallest in France.

4.3 Measurement of Happiness

In our analysis, according to the theory of the reinforcers by Rolls (2014), we identify the principal components that capture two aspects of happiness based on the results of the questionnaire used by Hills and Argyle (2002) (Table 9.4).

The results are summarized in Table 9.5. After quartimax rotation, it is shown that around 40 % of the variation is explained by the main two components, and the additional three factors explain only 7.7 % of the total variation. This implies that the degree of happiness can be decomposed into two main factors. Through principal factor analysis, this result suggests that we should use the two major factors as measures of happiness. We name these factors “positive happiness” (sense of achievement) and “negative happiness” (sense of anxiety) on the basis of the

Table 9.3 Distribution of job type

Country	Job type											
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Japan	3.9 %	32.1 %	4.8 %	4.6 %	1.8 %	10.8 %	7.8 %	1.0 %	0.7 %	2.0 %	28.6 %	2.0 %
US	6.8 %	24.6 %	2.0 %	1.6 %	0.2 %	6.9 %	8.3 %	0.5 %	1.3 %	5.8 %	26.3 %	15.8 %
UK	6.5 %	30.0 %	4.8 %	7.1 %	0.6 %	10.5 %	5.9 %	0.7 %	0.6 %	3.4 %	16.1 %	13.7 %
France	2.6 %	30.2 %	11.0 %	5.1 %	2.3 %	2.6 %	3.3 %	0.4 %	0.8 %	4.0 %	16.4 %	21.4 %
Germany	8.6 %	38.4 %	5.4 %	0.6 %	1.2 %	7.3 %	6.5 %	1.0 %	1.3 %	6.5 %	10.0 %	13.1 %
Total	4.9 %	31.6 %	5.3 %	4.1 %	1.5 %	9.0 %	6.9 %	0.8 %	0.9 %	3.3 %	23.3 %	8.4 %

(a) Top level manager or executive, (b) regular employee, (c) civil servant, (d) contract employee, (e) dispatched employee, (f) part-time employee, (g) self-employed, (h) assistant for a family business, (i) side jobs/home-based work, (j) student, (k) unemployed (including homemakers), (l) other types of work

Table 9.4 Happiness questionnaire

1.	I am not completely satisfied with my personal life at the moment
2.	I am deeply concerned about others
3.	My life is very rewarding
4.	I have warm relationships with most people
5.	I sleep normally but still feel tired
6.	I am pessimistic about the future
7.	I enjoy most things
8.	Whatever I take on, I always give it my all
9.	My life is wonderful
10.	I do not think that the world is a wonderful place
11.	I laugh often
12.	I am very satisfied with my life
13.	I do not regard myself as an attractive person
14.	I do not end up doing what I want
15.	I am very happy
16.	I look for the beauty of things
17.	I always uplift the spirits of others
18.	I make time for things that I want to do
19.	I hardly have the amount of control over my life that I want have
20.	I am competitive in everything that I do
21.	I am clever and never caught off guard
22.	I am often in a good mood
23.	I do not have a hard time making decisions
24.	My life does not have any particular aim or purpose
25.	My life is full of vitality
26.	I have a positive impact on things
27.	I do not go out with others for socializing
28.	I am not healthy
29.	I have very few happy memories from the past

In the survey, there are six possible responses for each item, as follows: (1) Definitely not; (2) I do not think so, (3) If pressed to say, I would say no; (4) If pressed to say, I would say yes; (5) Yes, I think so; and (6) Definitely

values for items in each component and factor loadings. The first component can be considered as explaining positive thinking for achieving happiness, while the second component can be viewed as explaining anxiety, which decreases happiness.

To grasp the relationship between subjective happiness and the two major factors, we calculate the correlation coefficient, using the survey data for Japan (Table 9.6). It is shown that the correlation of subjective happiness for positive happiness is stronger than that for negative happiness, and the correlation between positive happiness and negative happiness is almost zero. These results suggest that respondents' subjective happiness is more strongly influenced by negative factors such as anxiety and that positive and negative factors are independent.

Table 9.5 Results of principal factor analysis on happiness

Total variance explained		Initial eigenvalue			Extraction sums of squared loadings			Rotation sums of squared loadings		
		Total	Contribution rate (%)	Cumulative contribution rate (%)	Total	Contribution rate (%)	Cumulative contribution rate (%)	Total	Contribution rate (%)	Cumulative contribution rate (%)
Comp. 1	9.70	33.48	33.48	9.25	31.90	31.90	7.99	27.56	27.56	
Comp. 2	3.04	10.49	43.97	2.46	8.51	40.40	3.55	12.24	39.79	
Comp. 3	1.36	4.71	48.70	.851	2.94	43.34	.91	3.13	42.92	
Comp. 4	1.25	4.33	53.01	.748	2.58	45.92	.83	2.86	45.78	
Comp. 5	1.08	3.73	56.74	.433	1.49	47.41	.47	1.63	47.41	

(1) Extraction method: principal component analysis; (2) Rotation: quartimax

Table 9.6 Correlation coefficients between happiness indices (Japan)

	Subjective happiness	Positive happiness (positive thinking)	Negative happiness (anxiety)
Subjective happiness	1	0.422	-0.522
Positive happiness (positive thinking)	0.422	1	-0.071
Negative happiness (anxiety)	-0.522	-0.071	1

4.4 *Big Five Inventory (BFI)*

Personality affects happiness. It can be expected, for example, that a person with a nervous personality will tend to feel less happiness. In analyzing the relationship between happiness and economic behavior, therefore, we must try to control for the influences of personality on the level of happiness. In this chapter, we apply the Big Five inventory (BFI) method used in Benet-Martinez and John (1988) to measure the personality for each respondent in the sample.

Specifically, each value is set to one if the score from principal component analysis exceeds the sample-average value; otherwise, it is zero for that component. In line with previous research, we adopt the following five components of personality traits:

1. conscientiousness,
2. neuroticism,
3. openness,
4. extraversion, and
5. disagreeableness

Conscientiousness describes the level of socially prescribed impulse control, which facilitates task- and goal-directed behavior. Neuroticism shows the level of emotional instability related to a broad range of negative feelings, including anxiety, sadness, irritability, and nervous tension. Openness describes the breadth, depth, and complexity of an individual's mental and experiential life. Extraversion summarizes traits related to activity and energy level and degree of sociability. Disagreeableness means a status lacking in agreeableness. Agreeableness includes traits such as altruism, tenderness, trust, and modesty. In the analysis, we used personality traits variables as control variables for the econometric analysis.

5 Comparison of the Determinants of Happiness Among the Five Countries

In this section, we examine the effect of job environment and working condition on happiness. By using principal factor analysis, we extracted the two indices of happiness, dealing with positive stimuli ("rewards") and negative stimuli ("punishment").

We named these indices positive happiness (sense of achievement) and negative happiness (sense of anxiety), respectively.

Positive happiness includes happiness from achieving something, improving one’s capabilities, and so on. Negative happiness includes anxiety, disappointment, feelings of hopelessness, and so on. The purpose of the analysis is to examine the relationship between the work situation and positive and negative happiness, and to compare these relationships among the five countries.

After controlling for the effects of personality, we regressed positive and negative happiness on working conditions, the perceived differences between actual and ideal working conditions, and attributes such as gender, income, and age. Regarding working conditions, we used ordinal variables based on the answers provided on the particular items in the questionnaires, including questions dealing with (1) increasing capability, (2) career success, (3) living standard from wage and working hours, and (4) parental leave for child care. Higher scores for each item indicate a more favorable work environment.

We defined non-regular workers as employed persons other than regular employees and civil servants. Regular workers satisfy the following three conditions: employment is open-ended, full time, and directly with the employer. As a result, in this survey, contract employees, dispatched employees, and part-time employees are classified as non-regular workers.

5.1 Impacts of Positive Happiness (Sense of Achievement)

Table 9.7 shows the effect of the working conditions variables on positive happiness by labor types (regular workers versus non-regular workers). It is possible to clarify the differences in characteristics among the five countries from the results shown in the table.

Table 9.7 Effect of work conditions on positive happiness (sense of achievement)

		Japan	US	UK	France	Germany
Increased capability	Regular worker	0.147 ^a	0.104 ^a	0.129 ^a	0.028	0.096 ^a
	Non-regular worker	0.152 ^a	0.111 ^a	0.133 ^a	0.159 ^a	−0.018
Career success	Regular worker	0.012	−0.010	0.028	−0.021	−0.010
	Non-regular worker	0.007	0.102 ^a	0.082 ^a	−0.040	0.018
Living standard from wage and working hours	Regular worker	−0.012	0.017	−0.041	0.034	0.035
	Non-regular worker	0.026	−0.033	0.077 ^a	0.124 ^a	0.123 ^a
Parental leave for child care	Regular worker	0.014	0.079 ^a	0.093 ^a	0.096 ^a	0.045
	Non-regular worker	0.014	−0.038	0.055 ^a	−0.048	0.076 ^a

Standardized coefficients (Beta) are shown in the Table

Control variables included for age, marital status, family structure, job search status and BFI personality traits

^aIndicates positively significant at the 5 % level

For regular workers in France, increased capability showed no effect on positive happiness; whereas for non-regular workers in France, it had a strong positive effect on happiness. In contrast, increased capability had a positive effect on the positive happiness of regular workers in Germany, while non-regular workers in Germany were not affected in terms of their positive happiness. This difference between the two countries possibly suggests differences in the incentives to workers. In France, regular workers may not have strong incentive to move up in their careers, while non-regular workers possibly have good incentive for building their capabilities in order to get a stable job. In Germany, this result suggests that non-regular workers have little incentive to increase their capability. Bremer and Seifert (2008) showed that opportunities for job re-training offered by employers for fixed-term employment workers are limited and the probability that they participate in the training is low compared with open-ended workers, with this result according to socioeconomic panel data on Germany (Japan Institute for Labor Policy and Training 2010).

For regular workers in all countries, career success had little effect on positive happiness, while for non-regular workers in the US and UK, career success increased positive happiness. This reflects the fact that non-regular workers who view their job as a tool for success in life have positive happiness in US and UK, whereas workers do not have such positive feelings in Japan, France, and Germany. This finding seems to reflect the fact that many people, such as homemakers, who engage in non-regular employment do so in order to contribute to their family's budget, rather than to pursue their careers further.

For living standards from wage and working hours, regular workers in all countries are not sensitive to this condition in terms of increasing positive happiness, while non-regular workers are sensitive to this in the UK, France, and Germany. The fact that the difference in hourly earnings between full-time and part-time workers in European countries is lower than in Japan and the US might reflect the sense of fairness that non-regular workers in these countries appear to have.

The parental leave for childcare obligations has different effects among the countries examined and between regular and non-regular workers. Japanese workers are insensitive to this condition for both regular and non-regular workers. For non-regular workers in the UK and Germany workers, parental leave for childcare has a positive effect on positive happiness. This is possibly affected by the availability of public child care systems in these countries. In the case of Japan, the use of childcare leave by male workers is very low, at about 2 % in 2012. In addition, many non-regular workers are not able to receive benefits under the social security systems for childcare. According to a survey by the Cabinet Office of Japan in 2013, the percentage of all female workers taking childcare leave is 83 %, whereas for non-regular female workers the percentage is lower, at 71 % (Ministry of Health, Labor and Welfare 2012).

Next, we evaluated the impacts of gaps between actual and ideal working conditions on positive happiness, using the items of the survey questionnaire. The gaps in respondents' evaluations between the actual and ideal conditions represent dissatisfaction with working conditions. The gap increases both in cases where the level of the ideal situation increases and when the level of the actual situation

Table 9.8 Effect of gaps in actual and ideal working conditions on positive happiness (sense of achievement)

Area of gap in working condition		Japan	US	UK	France	Germany
Work flexibility	Regular worker	-0.006	0.025	0.003	-0.027	-0.010
	Non-regular worker	-0.022	0.058	-0.063 ^a	-0.143 ^a	0.122
Leveraging ability	Regular worker	-0.017	0.030	0.030	-0.007	-0.027
	Non-regular worker	-0.007	-0.107 ^a	0.028	-0.053 ^a	0.050
Diversity	Regular worker	0.002	-0.083 ^a	-0.007	-0.046 ^a	0.013
	Non-regular worker	-0.009	-0.099 ^a	0.016	0.016	-0.119 ^a
Job requirements	Regular worker	-0.061 ^a	-0.045 ^a	-0.009	0.063	-0.096 ^a
	Non-regular worker	0.018	-0.051 ^a	-0.034 ^a	-0.119	-0.005
Relationships with other companies	Regular worker	0.002	0.049	-0.018	-0.018	0.076
	Non-regular worker	0.018	0.025	0.120	-0.101 ^a	0.149
Wage level	Regular worker	-0.062 ^a	-0.104 ^a	0.003	-0.074 ^a	-0.070 ^a
	Non-regular worker	-0.042 ^a	-0.171 ^a	-0.114 ^a	-0.114 ^a	-0.050 ^a
Amount of work	Regular worker	-0.019	-0.054 ^a	0.044	0.032	-0.038 ^a
	Non-regular worker	-0.011	-0.055	0.012	-0.040	0.130
Social importance	Regular worker	0.036	-0.003	0.048	0.040	0.019
	Non-regular worker	-0.002	-0.001	-0.103 ^a	0.126	-0.076 ^a
Future career potential	Regular worker	-0.041	-0.077 ^a	-0.058 ^a	-0.047 ^a	-0.026
	Non-regular worker	-0.073 ^a	-0.019	-0.101 ^a	0.022	0.005
Fair treatment	Regular worker	-0.033	0.012	-0.106 ^a	-0.037 ^a	0.024
	Non-regular worker	-0.025	-0.058 ^a	-0.061 ^a	-0.021	-0.158 ^a

Standardized coefficients (Beta) are shown in the Table

Control variables included for age, marital status, family structure, job search status and BFI personality traits

^aIndicates positively significant at the 5 % level

decreases. Thus, the interpretation of the result is complicated, and the effects of the gaps on positive happiness are not straightforward. The estimated results are shown in Table 9.8.

The gap between ideal and actual flexibility at work and the gap between ideal and actual leveraging of ability both have little effect on positive happiness for regular workers. On the other hand, for non-regular workers, these two gaps both negatively affect positive happiness in some countries. For example, the gap in work flexibility has a strong negative effect on positive happiness in France. Dispatched workers have lower opportunities for training within the enterprise compared with regular employees in France (Erhel et al. 2009; Japan Institute for Labor Policy and Training 2010). Low levels of discretion at work may decrease workers’ motivation. In the US as well, the gap in leveraging ability has a strong negative effect on positive happiness. This implies that non-regular workers in the US view improving their ability through their job as important for future career formation.

It is shown that for both regular and non-regular workers in the US, a large gap between actual and ideal levels of diversity has a negative effect on positive

happiness, whereas Japanese workers are insensitive to diversity. This reflects the differences in social circumstances, such as the degree of multiculturalism and the degree of sensitivity to gender issues. In Germany, regular workers are insensitive to diversity, while non-regular workers in Germany are affected by perceived gaps in diversity. This suggests the possibility of the existence of discrimination in finding regular employment in Germany, such as foreign worker issues. Kaas and Manger (2010) investigated the existence of ethnic discrimination in Germany's labor market with a correspondence test. They responded to 528 advertisements for student internships by sending two similar applications, one with a Turkish-sounding name and one with a German-sounding name. As a result, they showed that a German name raises the average probability of a callback by about 14 %.

For the gap between actual and ideal job requirements, we should be careful in interpreting the results. As an example, if workers request that job responsibilities should be clarified, the gap has a negative effect on positive happiness. The results shown in Table 9.2 suggest that workers in most of the countries are dissatisfied about the degree of clarification needed in terms of job requirements.

Japanese workers are insensitive to the gap between the actual and ideal relationships with other companies, but this factor has a strong negative effect on positive happiness for non-regular worker in France. However, in Germany, this gap has a positive effect on positive happiness both for regular and non-regular workers. The differences in these effects possibly reflect the differences in industrial structure among the countries. In Germany, for example, professional skills are basically untransferable between companies in the same industry, which originates in the "guild" system. If associations in the industry have strong influences on the business, it is reasonable that workers are sensitive to the relationships with other companies.

The effect of gaps in wage level on positive happiness is quite simple and consistent with the intuition that workers prefer a higher wage, so a gap between actual and ideal wages decreases positive happiness. Among all countries, the effects are statistically significant, except for the case of regular workers in the UK. Workers in the US are most sensitive to the wage gap both for regular and non-regular workers. Japanese non-regular workers are relatively insensitive to wage gap. This result possibly suggests that some Japanese non-regular workers, such as part-time married women, do not expect high wages. The current pension system in Japan gives women a negative incentive for desiring employment because the Employee's Pension Insurance (EPI) provides future pension benefits for a spouse who does not earn more than ¥1.3 million per year (called the Category No. 3) (National Institute of Population and Social Security Research 2011).

The gap between actual and ideal amount of work has relatively little effect in all countries except for the case of non-regular workers in Germany. Surprisingly, it has a strong positive effect on positive happiness. This may suggest that the amount of work is much larger than expected, but this increases workers' sense of achievement. On the other hand, it is shown that US regular workers are negatively sensitive to the amount of work.

The gap between ideal and actual social importance generally decreases positive happiness. This suggests that workers feel satisfaction by working in a manner that

Table 9.9 Effect of work conditions on negative happiness (sense of anxiety)

		Japan	US	UK	France	Germany
Increased capability	Regular worker	-0.072 ^a	-0.151 ^a	-0.084 ^a	-0.162 ^a	-0.166 ^a
	Non-regular worker	-0.092 ^a	-0.173 ^a	-0.079 ^a	0.048	-0.178 ^a
Career success	Regular worker	0.045	0.138	0.051	0.102	0.086
	Non-regular worker	0.060	0.078	0.100	0.180	0.028
Living standard from wage and working hours	Regular worker	-0.014	-0.056 ^a	-0.138 ^a	-0.101 ^a	-0.019
	Non-regular worker	-0.033	-0.004	0.086	0.000	0.005
Parental leave for child care	Regular worker	-0.013	0.030	0.089	-0.011	-0.018
	Non-regular worker	-0.007	0.027	0.043	-0.119 ^a	-0.004

Standardized coefficients (Beta) are shown in the Table
 Control variables included for age, marital status, family structure, job search status and BFI personality traits

^aIndicates positively significant at the 5 % level

makes a social contribution. However, the impacts are very small except for the cases of non-regular workers in France and Germany.

Finally, the gap in workers’ perceived actual and ideal future career and the gap in fair treatment both have a negative effect on positive happiness for regular workers and non-regular workers in many countries, including the UK. Forde et al. (2008) demonstrated that there are large differences in the construction industry in the treatment of non-regular workers, such as dispatched workers and other temporary workers, and regular workers, even after controlling for differences in personal attributes and job characteristics.

5.2 Impacts on Negative Happiness (Sense of Anxiety)

In Table 9.9, the effects of working condition on negative happiness (sense of anxiety) are shown for regular and non-regular workers. It is reasonable that increasing capability decreases negative happiness and improving living standards with respect to wage and working hours decrease negative happiness. However, the fact that an increase in career success increases negative happiness is not straightforward. One possible interpretation is that workers who pursue career success feel anxious about various things. There are relatively little differences among the five countries in the effects of work conditions, other than parental leave for childcare. One slight tendency to note is that Japanese workers are insensitive to working conditions in terms of negative happiness, with the exception of increasing capability. As for non-regular workers, compared with the results for regular workers, the effects of living standards from wage and working hours are small.

Table 9.10 also shows the effects of the gap between actual and ideal working conditions on negative happiness for regular and non-regular workers. There are strong differences in the effects on negative happiness among the countries.

Table 9.10 Effect of gaps in actual and ideal working conditions on negative happiness (sense of anxiety) by employment status

Area of gap in working condition		Japan	US	UK	France	Germany
Work flexibility	Regular worker	0.007	0.032	0.110 ^a	-0.030	0.059 ^a
	Non-regular worker	0.062 ^a	-0.042	-0.044	-0.144	0.043
Leveraging ability	Regular worker	0.055 ^a	-0.017	-0.060	0.026	-0.005
	Non-regular worker	0.019	0.127 ^a	0.100 ^a	-0.058	0.048
Diversity	Regular worker	0.018	0.001	-0.020	0.038	0.035
	Non-regular worker	-0.025	-0.026	-0.138	-0.015	0.099 ^a
Job requirements	Regular worker	-0.004	0.017	0.074 ^a	0.003	0.062 ^a
	Non-regular worker	-0.008	-0.026	0.099 ^a	0.054 ^a	-0.020
Relationships with other companies	Regular worker	-0.038	-0.008	-0.048	-0.012	-0.008
	Non-regular worker	-0.048	0.043 ^a	0.102	-0.087	0.116 ^a
Wage level	Regular worker	0.036	-0.020	-0.002	0.071 ^a	0.104 ^a
	Non-regular worker	0.126 ^a	0.122 ^a	-0.015	-0.055	0.010
Amount of work	Regular worker	0.046 ^a	0.049 ^a	0.084	0.069 ^a	-0.025
	Non-regular worker	-0.011	-0.037	0.034	0.079 ^a	-0.026
Social importance	Regular worker	-0.010	0.003	-0.005	0.044 ^a	0.053 ^a
	Non-regular worker	-0.001	0.080 ^a	0.073	0.076 ^a	-0.040
Future career potential	Regular worker	0.082 ^a	0.046 ^a	0.083	0.056 ^a	0.060 ^a
	Non-regular worker	0.124 ^a	0.015	-0.038	0.159 ^a	0.066 ^a
Fair treatment	Regular worker	0.080 ^a	0.039	0.074	0.030	-0.009
	Non-regular worker	0.015	-0.057	0.000	-0.032	0.127 [*]

Standardized coefficients (Beta) are shown in the Table

Control variables included for age, marital status, family structure, job search status and BFI personality traits

^aIndicates positively significant at the 5 % level

First, it is shown that regular workers in the UK are quite sensitive to gaps in actual and ideal conditions in several areas such as work flexibility, job requirements, amount of work, future career potential, and fair treatment, for all of which a gap increases feelings of negative happiness. Regular workers in France and Germany are also quite sensitive to various gaps, such as in wage level and social importance. It is noteworthy that regular workers in all five countries are quite sensitive about a gap between actual and ideal future career potential, and Japanese and UK regular workers are sensitive to gaps in fair treatment in terms of feeling negative happiness. In addition, non-regular workers are sensitive to gaps regarding work flexibility, wage level, and future career potential, with the impact on negative happiness being quite large in Japan. This reflects the real situation in Japan, where non-regular workers are quite pessimistic about future career potential. Non-regular workers in the US and UK are also quite sensitive to a gap in leveraging ability. This suggests that they must build their ability to survive in the labor market, but that the actual situation in the workplace is not good for doing so. It is interesting that non-regular workers in the UK and France are not sensitive to gaps in wage level, whereas they are rather dissatisfied with the gap in social importance.

6 Conclusion

In this chapter, we examine the state of happiness of workers by job status with a focus on the aspirations of workers by using micro-data collected from nationwide surveys in five OECD countries. This analysis gives us some insights on the relationship between the working conditions of workers and happiness.

It is possible to deduce whether or not non-regular status is chosen voluntarily from this analysis. If gaps between the actual and ideal conditions decrease positive happiness or increase negative happiness for non-regular workers, the status can be deemed as likely being an involuntary choice. Estimation results show that non-regular workers who perceive gaps in several work conditions have relatively lower positive happiness and higher negative happiness. This also implies that they are choosing non-regular status involuntarily.

In addition, the differences in the effects of career building on happiness imply the motivation of working. In particular, the difference between regular and non-regular workers suggests that they have different aims for working. Examining the differences between regular and non-regular workers in the five countries would give us various types of information on working conditions and worker aspirations. Research with a detailed examination of the reasons for these differences should be undertaken in the future.

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