

What Influences Workers in Deciding to Support Unions?: Evidence from Japan

- Focus on Workers' Understanding of Their Rights -

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. Introduction

This paper, as an empirical study, aims to clarify the factors affecting a non-union worker's decision to support unions. In particular, attention is paid to the influence of workers' understanding of their legal rights in supporting unions. This support that is shown from workers¹ means that they regard unions as a necessity.

The estimated union density² in Japan was 19.6% in June 2003, the first time since the start of the survey in 1947 that it fell below 20% (Trade Union Membership Survey, Ministry of Health, Labour and Welfare). Cited factors behind the drop in union density include a decrease in the number of union members caused by redundancies occurring within unionised companies, and changes in the industrial structure and employment patterns that lower the rate of new union density³.

However, the decline in union density is not solely attributable to the abovementioned external factors. It has been suggested that internal factors, such as low support for unions among workers employed in a non-unionised company (The Japan Institute of Labour, 1993: Chapter 3) and the lack of effort on the part of unions to unionise workers who do not yet belong to any union (Freeman and Rebeck, 1989: 581-584). In other words, it can be argued that not only factors on a macro or company level, but also factors on a micro

¹ In Japan, a minimum of two persons is required in order to form a labour union: they simply hold a conference concerning the formation of the union, approve regulations, and elect a union executive.

² The estimate union density is computed as the number of union members divided by the number of employees recorded in the Labour Force Survey of the Statistics Bureau, the Ministry of Internal Affairs and Communications, and multiplied by 100. However, note that because the number of employees includes executives and other workers who do not normally belong to unions, an estimated union density computed using as the denominator the number of employees eligible for union membership will be slightly greater than one computed in the way just cited.

³ The rate of new union density is computed as the number of workers who have newly joined unions divided by the number of employees, and multiplied by 100.

level (individual worker's support for the unions) are of significant importance in the determination of union density.

There have been environmental changes since the 1990s which have influenced the employment life of workers besides the decrease in union density, such as an increase in the variety of employment patterns, the enforcement of a new employment law and the development of employment system based on individual contracts. This suggests that there is a growing need for each worker to have a thorough understanding of the law to protect their individual employment rights.

For instance, the Child Care and Family Care Leave Law regards child-care leave as the right of any worker who is a parent; however quite a few small and medium-sized companies do not accommodate child-care leave within their work rules. As a result, some workers employed in such companies mistakenly believe that they are not allowed to take child-care leave. However, with a correct understanding of the Child Care and Family Care Leave Law, it is possible to enforce the right to receive child-care leave despite the lack of such provisions within the company's work rules. Therefore, even in the case where workers are employed at non-unionised companies or where human resource management is inadequate, it is possible for them to protect their rights provided that there is a solid understanding of these rights. This is also applicable to workers who are already members of a union, since it is only they who can check whether their workplace actually conforms to employment laws.

When workers have an understanding of their employment rights, it is only natural that they would like to enforce these rights when necessary. However, in reality it is quite common to encounter difficulties when attempting to enforce one's rights by oneself. It is at such times that workers are likely to understand the necessity of unions and as a result starts to consider becoming a member⁴. On the other hand, even the case where a worker is not a member of a union or is employed at a non-unionized company, they will not feel the need to become a member if these rights are able to be enforced on their own.

⁴ Studies of the situation in Western countries have also revealed that workers opt to join labour unions when they are dissatisfied with working conditions and wages but have neither the formal means, such as individual negotiation with employers, or the informal means, including quitting, absence without permission and so on. See Kochan (1980, 149-150), Maxey and Mohrman (1980, 331-332).

Hence, it can be said that an understanding of workers' rights carries the possibility not only of enabling protection of these rights individually, but also of making workers conscious of the necessity of unions as a means to protect their rights. In short, workers' knowledge of their rights can be seen as influencing their decision to support unions as well as enhancing the ability and possibility of protecting their own fundamental rights. However, in Japan there are reports that suggest a decline in workers' level of understanding of their rights. (Hara and Sato 2004, and NHK 2003).

Along with the decline of union density in Japan, there has been numerous research conducted on the factors that determine union density on a macro-level. Cited factors behind this decline in union density include those of a macro economic, political, sociological and environmental nature, as well as changes in legislations (Freeman and Rebeck 1989; Itoh and Takeda 1990; Tsuru 2002: Chapter3). However, in Japan there have been only a few analyses conducted of the factors that determine workers support for unions, whereas in Europe and the US many previous studies of this area exist (Hartley, 1992). Furthermore, even in Europe and the US no studies have been conducted on whether workers understanding of their employment rights influences their decision to support unions. Therefore, this paper will verify whether the factors that influence support for unions as indicated by previous studies conducted abroad are the same in Japan, and will also analyse the influence of workers knowledge of their rights in relation to their support of unions.

The paper is organized as follows. In Chapter II, following an explanation of the theoretical framework of this paper, previous studies are outlined and hypotheses are presented and verified. Chapter III deals with the explanation of data and the analytical framework. Chapter IV offers arguments concerning the results of the empirical analysis. Lastly, in Chapter V conclusions are presented and comments are made on the future tasks of unions concerning unionisation.

. Theory

Previous literature

A considerable number of studies, both theoretical and empirical, have been conducted on workers' support for unions, and Hartley (1992) offers a detailed survey of such papers. He surveys research, mostly dealing with the situation in western countries, on various academic areas such as economics

highlight the outlook of workers regarding their support of unions. Secondly, as for the explanatory variables, Charlwood (2002) and Kochan (1980) focus on the role of the psychological process in which a worker comes to the conclusion to support unions, in particular the role of a positive evaluation of unions; these viewpoints are shared by this paper.

Finally, the social psychological study of Premack and Hunter (1988), is a meta-analysis of previous US research on decision-making by individuals concerning whether they support unions. This study is identical to previous studies in the way that it has shown various factors, such as the degree of satisfaction with wage levels and other financial working conditions, non-economic conditions such as work environment and employer-employee relationships, and the effectiveness of unions – that is, their perceived instrumentality in helping workers to obtain outcomes – to be determinants of whether or not workers support unions. Nevertheless, Premack and Hunter (1988) are different from this article in that the former is unique in its analytical framework where these factors have interactive impacts on one another.

In the meantime, surprisingly few studies have been conducted on an individual's decision-making process concerning the support of unions with particular reference to the situation in Japan (Boyles 1993; Nakamura *et al.* 1988: Chapter 7; The Japan Institute of Labour 1993). Among the limited number of such studies, Boyles (1993) reports findings that an affirmative assessment of the effects of unions has a positive impact on workers decision to support unions, as is the same with the findings of cases in Europe and the U.S.

Similar to Farber and Saks (1980), this paper employs an empirical analysis with an expected utility maximisation model, and examines whether or not factors such as workers assessment of the effectiveness of unions – factors found to be influential in supporting unions in western countries – have a similar influence in Japan. It also sheds light on the possible influence of workers' knowledge of their rights on the decision-making process of whether or not to support unions, which no other studies have yet sought to clarify. The empirical analysis adopted in this paper gives as much consideration as possible to “simultaneity.” In summary, we believe that this paper makes a new contribution to this field of study in two aspects: it has incorporated knowledge of workers' rights into its analytical framework; and has attempted to avoid simultaneity as much as possible.

Analytical framework

We'll explain the framework of an econometric model used in this paper in accordance with Maddala (1983, 46-49). Now consider a variable, s_i representing the support of a worker i , to unions. s_i takes the value of 1, 2, 3, or 4: when $s_i = 4$, the worker thinks that unions are necessary at any cost; when $s_i = 3$, they think that it is better to have one union; when $s_i = 2$, they think that it does not matter either way; and $s_i = 1$, they think that it is better without any union. In other words, s_i is an ordinal variable indicating the degree of support shown towards unions: the greater value it takes, the stronger the support of unions by the worker. It is reasonable to believe that a person who finds unions more necessary is apt to support them more strongly.

Next, let us think about a worker i , who does not belong to any labour union. Assume that the expected utility that the worker i thinks they will be able to obtain by joining a union when they announce that they support unions, is EU_{s_i} . Although EU_{s_i} is unobservable, the choice of the worker, s_i , is observable. The worker i expresses his intention to support the union according to the degree of s_i when the expected utility exceeds a certain level and the utility level is greater than any utilities which the worker could obtain when they expressed intent to support other unions. Set the expected utility that satisfies all these conditions at EU_i^* . Now, if

$$EU_i^* = EU_{s_i} > \text{Max } EU_{k_i} \quad k_i = 1, 2, 3, 4 \quad k_i \neq s_i$$

and,

$$\alpha_{s_i-1} < EU_i^* \leq \alpha_{s_i} \quad s_i = 1, 2, 3, 4,$$

then worker i expresses their intention to support unions at the degree of s_i . Here the variable α_{s_i} is an arbitrary constant satisfying

$$\alpha_0 < \alpha_1 < \alpha_2 < \alpha_3 < \alpha_4,$$

$$\alpha_0 = -\infty, \quad \alpha_4 = +\infty.$$

In other words, worker i expresses their intention to support the union at the degree of s_i so as for the expected utility to be greater than α_{s_i-1} but the same as or smaller than α_{s_i} . It is natural for a worker to stand strongly by a union that will provide a greater expected utility if they join.

Now, assume that EU_i^* consists of a linear part described as explanatory

variable $\beta'x_i$ and a probabilistic error term u_i . Then the formula showing worker i 's support of the union can be expressed as:

$$\begin{aligned}
 EU_i^* &= \beta'x_i + u_i \quad i = 1, 2, \dots, n \\
 s_i &= 4 \quad \text{iff } \alpha_3 < EU_i^* \\
 s_i &= 3 \quad \text{iff } \alpha_2 < EU_i^* \leq \alpha_3 \\
 s_i &= 2 \quad \text{iff } \alpha_1 < EU_i^* \leq \alpha_2 \\
 s_i &= 1 \quad \text{otherwise}
 \end{aligned} \tag{1}$$

This paper, assuming that the error term u_i in equation (1) has a standard normal distribution, applies the ordered probit model with support of unions as a dependent variable.

Factors that influence support of unions

(a) Knowledge of workers’ rights

What is the influence of workers knowing their own rights in making a decision to support unions?

If workers have some knowledge of their rights, they naturally wish to exercise them. Since these are their legitimate rights, if they could exercise them without belonging to a union or even if they worked for a non-unionised company, they would not see it necessary to join any union, and therefore the expected utility obtained from joining a union would be small. However, in many few cases it might be difficult in practice for individual workers to exercise their rights on their own. Due to this, the expected utility to be gained through collective bargaining – that is, joining labour unions – is likely to increase, and workers are more apt to support the idea of organizing individual workers. Kochan (1980: 149-150) also presents a theoretical hypothesis that workers’ determination to join a union becomes stronger where they are dissatisfied with their working conditions or wages and other financial aspects, and where they cannot find a means (such as negotiations with their employer, turnover, or absenteeism) to overcome this dissatisfaction by themselves. Therefore, it is unforeseen whether the possession of knowledge of workers’ rights may have an impact on workers’ decision-making concerning support of unions, and if so, whether it is positive or negative.

Hypothesis 1: One cannot tell whether the possession of knowledge of workers’ rights may have a positive impact on workers’ decision-making

concerning support of unions or whether it may have a negative impact.

(b) Perceived union instrumentality

As clarified by Charlwood (2002), Farber and Saks (1980), Premack and Hunter (1988) and Youngblood *et al.* (1984), if workers have a favourable impression of the unions as useful or for other reasons, the expected utility will rise and workers will show stronger support for unions. Therefore, a positive remark on the effectiveness of unions can be expected to exert a favourable impact on the workers support of unions.

On the other hand, in the case where workers have a negative impression, they are likely to set their expected utility at a low level. Therefore, this negative impression can be expected to have an unfavourable impact on workers' support of unions.

Hypothesis 2: If workers have a positive impression of unions as useful or for other reasons, they will show stronger support for unions.

Hypothesis 3: If workers have a negative impression of unions, they will stop supporting them.

(c) The presence of a union in the workplace

It is conceivable that if there is a union in the company, the workers of that company may show strong support for unions because they may feel close to their own union or have easy access to it. On the other hand, workers who do not appreciate the activities of their unions may well decline to support unions in general, even if there is one available at hand. Accordingly, it is considered that the presence of a labour union in the workplace, depending on whether or not the union functions properly, could have a positive or a negative impact on workers' expected utility to be realized by joining the union.

Hypothesis 4: The presence of a union in the workplace may have a positive or negative impact on workers' decision-making process concerning whether or not they should support unions.

(d) The influence of close persons

Several studies, including Gomez *et al.* (2002) and Youngblood *et al.* (1984),

have clarified that information concerning unions from, and comments by family members, friends, colleagues in the workplace and other close associates have an impact on the decision-making process of workers themselves concerning whether or not they should support unions. In this regard, this paper will use a variable indicating whether or not the spouses of workers belong to unions as a proxy representing the general attitude of such close persons towards labour unions. That the spouse of a worker has an approving opinion of labour unions and makes favourable comments concerning them is likely to raise the worker's subjective views on unions, and have an affirmative impact on the expected utility from joining a union. In the same fashion, if the spouse has a disapproving opinion and provides information about unions accordingly, these comments and information will have a negative impact on the expected utility that the worker may obtain by joining a union. Consequently, it is theoretically unclear how the situation of a worker's spouse belonging to unions affects the worker in their support of unions.

Hypothesis 5: A spouse being a member of a union may have a positive or a negative effect on a worker's support for unions.

(e) Voice or exit?

In the case where a worker feels anxious about the nature of their job or a deterioration in their working conditions, their expected utility to be gained by joining a union will not rise, so long as they can relieve their anxiety via individual negotiation with superiors or employers on their own initiative, or has an exit option as suggested in Freeman and Medoff (1984). However, if it proves difficult to solve these problems in such ways, the expected utility to be gained by joining a union seems likely to rise. Thus, it is not theoretically clear what influence a worker's anxiety as such has on their decision concerning whether or not to support unions.

On the other hand, concern over losing their job may be counted among the personal problems that individual workers face. However, it is not theoretically certain either how this concern affects the decision-making process regarding whether or not to support unions in the sense that this depends, as in the cases of concerns arising from daily work, on the availability of an exit option.

(Disney 1990; Farber and Saks 1980), social psychology (Premack and Hunter 1988) and management (Brief and Rude 1981; Youngblood *et al.* 1984). These previous studies confirm that there exist common factors that influence workers in supporting unions. They include: dissatisfaction with pecuniary working conditions – namely wage levels – and non-pecuniary working conditions, such as the nature of the job, the work environment and employer-employee relationships; appreciation by and attitudes towards unions of surrounding parties such as family, colleagues and union leaders; and failure to find a means to resolve dissatisfaction with working conditions. The paper concludes that, among these factors, a positive evaluation of unions in particular encourages workers to support unions.

Some outstanding previous studies include Kochan (1980), Farber and Saks (1980), Premack and Hunter (1979), and, recently, Charlwood (2002). The following section presents outlines of these four articles and confirmation of the position of this paper within the series of studies on workers support for unions.

This paper could be viewed as being in line with Farber and Saks (1980) in two aspects. Firstly, both studies carry out empirical analyses on a theoretical framework, where a worker makes a rational decision on whether or not he or she should support unions in order to maximise their expected utility. Secondly, the two articles make the common observation that variables, such as perceived union instrumentality and dissatisfaction with working conditions, play a central role in determining the decision of a worker on whether or not he or she supports unions. On the other hand, the two papers are different in the sense that while this paper makes use of a “hypothetical propensity to unionise” as a dependent variable, that is a variable concerning the opinion of the worker concerning whether he or she regards unions are necessary or not, Farber and Saks (1980) use an action actually observed, that is voting in an election for union representatives in National Labor Relations Board in the US.

On the other hand, the dependent and explanatory variables used in this paper are similar to those in Kochan (1980) and Charlwood (2002). Dependent variables analyse a variable focusing on the individual’s propensity to unionise. More specifically, Kochan (1980) uses answers to the question, ‘Would you vote for union representation if an election were held in your workplace?’ as a dependent variable, and similarly Charlwood (2002) uses ‘If there were a trade union at your workplace, how likely would you be to join?’, both of which

Hypothesis 6: It is not certain whether a worker who has work-related concerns or feels anxious about a deterioration in their working conditions will always decide to support unions.

Hypothesis 7: It is not certain whether a worker who is anxious about losing their job will always decide to support unions.

(f) The influence of employment status

The more a worker is committed to their workplace, the higher their expected utility to be gained by joining a union will be (Kochan 1980 145). In other words, if a comparison is made between full-time permanent workers (hereinafter referred to as typical workers) whose term of employment contracts are until retirement age, and other types of workers (i.e. atypical workers)⁵, the former are likely to show stronger support of unions..

Hypothesis 8: Typical workers are more likely to show stronger support of unions than atypical ones.

(g) Other variables

In addition to the variables explained so far, various other variables will be incorporated into the estimation model: those controlling individual attributes, such as age, gender, educational level, and occupational type; those controlling attributes of the workplace, such as industry and company size; and those controlling pecuniary working conditions, such as annual income. We'll pay attention to wages and company size. It is conceivable that workers with lower incomes will have less favourable working conditions, and that the expected utility to be obtained by joining unions will be higher.

Where company size is concerned, a worker employed at a larger company is likely to have a greater expected utility since it seems that it is more difficult for employees at larger companies to tell their dissatisfaction with the job and working conditions directly to their employers, so that they feel more strongly the need for a union as a negotiation device.

⁵ Atypical workers means full-time workers whose contract terms are until their retirement age; part-time workers, and dispatched workers.

Hypothesis 9: A worker with a lower annual income will show stronger support of unions.

Hypothesis 10: A worker working for a larger company will show stronger support of unions.

Arrangements to avoid simultaneity

The possibility of simultaneity cannot be denied in the empirical analysis conducted in this paper. Simultaneity means the problem of an opposite causal relationship: a worker may know their legitimate rights as a worker because they support unions. For example, in some cases a worker supports unions because they have a certain serious problem in the workplace, or because of some personal concerns, such as possible reallocation or transfer to a section with less favorable working conditions, and possible dismissal from the current job. In such circumstances, it is possible that the worker will investigate all available means to protect their working life and as a result gain knowledge of workers' rights. This paper has made every effort to prevent such simultaneity by taking such situations into account and removing the impact of such factors by incorporating explanatory variables representing work-related concerns, such as those regarding losing one's job.

. Data and Analysis

Data

The analysis to be conducted hereinafter will use micro data on workers from the 5th Questionnaire Survey on Work and Life of Workers (the RIALS Survey) by the Research Institute for Advancement of Living Standards. The RIALS Survey, conducted in April 2003, was addressed to employees in their 20s to 50s working for private firms and living in the Tokyo Metropolitan area, Kansai area or other ordinance-designated cities across the country^{6 7}.

⁶ These are the cities of Sapporo, Sendai, Nagoya, Hiroshima, Fukuoka and Kita-Kyushu.

⁷ Concerning the extraction of samples, the criteria for sample allocation taking into account the population of employees in the private sector in each area, and the distribution of workers in terms of gender and age recorded in "the 1997 Employment Status Survey," are available for the Tokyo Metropolitan area, Kansai area and other ordinance-designated cities. Based on the sample allocation, 1,000 workers living in the Tokyo Metropolitan areas or Kansai area, and 1,000 workers living in other ordinance-designated cities – 2,000 workers in all – are extracted from monitors (approximately 160,000 persons across the country) registered at a monitoring company, and questionnaire sheets are distributed by post. Effective returns in this case totalled

The analysis of this paper will make use of data concerning full-time employees whose contract terms are until their retirement age and atypical workers, neither of whom belong to any labour unions. Workers in executive posts are excluded from the scope of the analysis on the grounds that the analysis is concerned only with workers for membership of labour unions⁸.

Dependent Variable

In this empirical analysis, the dependent variable is a variable indicating whether or not workers support unions. The RIALS Survey asks the question, “do you think that unions are necessary,” and provides four choices of answer: “absolutely necessary,” “necessary, if anything,” “does not matter either way,” and “not necessary.” The answers will be used as an index in gauging the degree of workers’ support for unions⁹.

Measures

This section gives an account of three summative scales that will be utilised as explanatory variables in this analysis: the degree of understanding of workers’ rights; recognition of the effectiveness of unions; and the negative impressions of unions (see table 1). First, we’ll explain the degree of understanding of workers’ rights.

The RIALS Survey asks whether six given items are included in legitimate workers’ rights: “to form a labour union,” “to take child-care leave until the time a child reaches the age of one,” “to call for premium wages in the case of overtime,” “to receive a wage equal to or above the minimum wage set by the government,” “to call for at least 10 days of paid-leave per year,” and “to call for unpaid salaries even if the firm goes bankrupt.” The respondents score a point when they give a correct answer, and the sum of the points earned is viewed as the degree of understanding of workers’ rights (hereinafter referred to as “the degree of understanding of rights” (See Table 1). The degree of understanding of rights is scored from “0” to “6”: a worker scoring more points has a greater knowledge of these rights. The degree of understanding is a summative scale, and the scale’s internal validity as indicated by Chronbach’s

1,792, with a rate of effective returns of 89.6 percent. For further details, see The Research Institute for Advanced of Living Standards (2003).

⁸ Proviso No. 1, Article 2 of the Trade Union Law

⁹ Boyles (1993) also uses the same approach.

Table 1 Main Explanatory Variables (summative scales)

Names of variable	Questions	Options	Methods of creating variable	Signs of coefficient to be expected
Degree of understanding of workers' rights	What do you think are legitimate workers' rights?	1: to form a union; 2: to take child-care leave until the time a child reaches the age of one; 3: to call for premium wages in the case of overtime; 4: to receive a wage equal to or above the minimum wage set by the government; 5: to call for at least 10 days of paid-leave per year; and 6: to call for unpaid salaries even if the firm goes bankrupt.	A point is given if a respondent gives a correct answer. The sum of the points earned is viewed as the degree of understanding of workers' rights	?
Recognition of the effectiveness of unions	What influence do you think union activities have on union members?	1: employment stability; 2: maintaining of and improvement in wage levels; 3: maintaining of and improvement in bonus payments; 4: maintaining of and improvement in retirement allowance; 5: useful in time of necessity (e.g., when a firm goes bankrupt etc.); 6: allowing workers to obtain information concerning corporate management; 7: making it easier to take paid holidays; 8: reducing responsibility in the workplace; 9: reducing unpaid overtime; 10: rectifying unequal working conditions; 11: fair judgment of the performance of members; 12: helping to reflect the will of members on management; 13: making it easy to convey dissatisfaction or complaints to management; 14: others	Each respondent is given 14 items, and asked in which items unions play an effective role. The total number of items chosen – divided by 14 for standardization – serves as the variable.	+
Negative impressions of unions	What is the disadvantage of becoming a member of a union?	1: it may give an unfavorable impression to managers (affecting promotion, up-grading, disrupt the shuffling of members etc.); 2: expensive membership fees; 3: time-consuming union activities; 4: obligation to support election activities; 5: alienating members from co-workers in the workplace; 6: extra duties and responsibilities; 7: subject to prejudice on account of their ideological leanings; 8: others	Each respondent is given eight items, and asked to choose items that they believe represent the disadvantages in joining a union. The total number of items chosen – divided by 8 for standardization – serves as the variable.	–

Source: “The 5th Questionnaire Survey on Work and Life of Workers,” Research Institute for Advancement of Living Standards.

alpha was 0.61.

Second, the variable indicating recognition of the effectiveness of unions is formulated in the following fashion: the workers surveyed were given 14 items as listed in Table 1, and asked in which items unions played an effective role. The total number of items chosen – divided by 14 for standardisation – serves as the variable. It shows, therefore, whether unorganised workers believe that unions are effective in maintaining and improving labour conditions. In other words, it shows what kinds of advantages the workers surveyed consider unionisation has. Chronback's alpha takes the value of 0.7119, exceeding 0.7 point.

Third, the variable indicating a negative impression of unions is formulated in the following fashion: the workers surveyed were given the eight items listed in Table 1, and asked to choose items that they believed represented disadvantages in joining a union. The total number of items chosen – divided by 8 for standardisation – serves as the variable. Chronbach's alpha is somewhat low, at 0.5652. To deal with this, another estimation will be conducted with a dummy variable that takes "1" for workers who have chosen at least one out of the eight items, and "0" for those who have chosen none.

Both the variable indicating a negative impression of unions and this dummy variable, as is obvious from the choices given, such as "the need to pay an expensive membership fee" and "union activities consume time," are variables indicating the degrees of disadvantage that the unorganised workers surveyed believe they might suffer if they joined a union. In other words, these variables represent hurdles that unions need to overcome when organising workers.

Apart from the three variables explained above, two more dummy variables will be built into the model: the presence of a union in the workplace; and the participation or otherwise of spouses in the labour unions (see Table 2).

Apart from the analysis described above, this paper will also verify the Exit and Voice model presented in Freeman and Medoff (1984), making use, as explanatory variables, of a dummy variable representing work-related concerns and another representing concerns over losing one's job, at the same time making every effort to avoid simultaneity. These two variables will be outlined in detail later.

As shown in Table 2, a dummy variable is formulated so as to represent a situation where a worker faces certain difficulties in the workplace. More specifically, the variable takes "1" for the respondents who answered that they

Table 2 main explanatory variables (dummy variables)

Names of variable	Questions	Options that are defined to be '1'	Options that are defined to be '0'	Signs of coefficient to be expected
The presence of a union	Is there a union at work?	Yes	No	?
The membership of a spouse	Is your spouse an employed worker? Does the spouse belong to a union?	Yes and he/she does.	Others (including those who do not have a spouse.)	?
Work-related worries	Do you feel anxious about work or any deterioration in working conditions?	Feel strongly, or feel slightly	Do not feel very much, or feel little	?
Worries about losing one's job	Do you feel anxious about losing your current job within the year?	Feel strongly, or feel slightly	Do not feel very much, or feel little	?

Source: "The 5th Questionnaire Survey on Work and Life of Workers," Research Institute for Advancement of Living Standards.

“feel strongly” or “feel slightly” concerned about the work itself or working conditions in the companies they work for; and “0” for those who answered that they “do not feel very much” or “feel little” such concern.

Another dummy variable, representing problems that workers personally face, covers concerns about losing one’s job (see Table 2). More specifically, this variable takes “1” for respondents who answered that they “feel strongly” or “feel slightly” concerned about the possibility of losing their current job within one year; and “0” for those who answered that they “do not feel very much” or “feel little” such concern.

In addition to the variables explained so far, various other variables will be incorporated into the estimation model: those controlling individual attributes, such as age, gender, educational level, occupational type and form of employment; those controlling attributes of the workplace, such as industry and company size; and those controlling pecuniary working condition, such as annual income. Here “occupational type” defines respondents who answer “managerial post” as “workers in managerial posts”; those who answer “specialised or engineering post,” “clerical post,” “sales,” or “services” as “white-collar workers”; and those who answer “security and guard,” “carrier or telecommunication,” “production technique, construction or other labourer” as “blue-collar workers.” Table 3 illustrates the sample distribution to be used for the estimation.

. Empirical Results

An ordered probit analysis has been conducted in accordance with equation (1) with the degree of support of labour unions as a dependent variable. The result of the estimation is shown in Table 4 (descriptive statistics in Table 5). In estimated equation (i), the variable indicating recognition of the effectiveness of unions and the variable indicating negative impressions of unions are removed. This has revealed that an understanding of workers’ rights has a positive, statistically significant effect on the support of labour unions, with a coefficient of 0.1568. Estimated equation (ii) is an equation incorporating the variables representing recognition of the effectiveness of unions and negative impressions of unions in equation (i), and equation (iii) has the dummy variable showing negative impressions of unions instead of the variable showing negative impressions of unions.

Table 3 Distribution of Samples

< The presence of a union at work >			
Yes	180 (25.3%)	No	530 (74.7%)
< Industries >			
Manufacturing	182 (25.6%)	Industries other than manufacturing	528 (74.4%)
< Company size >			
Less than 100 employees	351 (49.4%)	100 or more but less than 1,000 employees	211 (29.7%)
		1,000 or more employees	148 (20.8%)
< Gender >			
Males	432 (60.8%)	Females	278 (39.1%)
< Age >			
20s	172 (24.2%)	30s	155 (21.8%)
		40s	192 (27.0%)
		50s	191 (26.9%)
< Educational level >			
Junior high school/ high school graduates	289 (40.7%)	Higher vocational school / two-year college graduates	153 (21.5%)
		University / postgraduate graduates	267 (37.6%)
< Occupational type >			
Managerial post	124 (17.4%)	White-collar	493 (69.4%)
		Blue-collar	93 (13.1%)
< Employment status >			
Typical workers	519 (73.0%)	Atypical workers	191 (26.9%)
		Of whom, part-time and <i>arubaito</i> workers	135 (19.0%)

Source: “The 5th Questionnaire Survey on Work and Life of Workers,” Research Institute for Advancement of Living Standards.

Note: The figures are the number of observations, those in parentheses being the proportions. The sum of the proportions is not necessarily 100%. The total number of samples is 710.

Table 4 Results of estimations by the ordered probit model concerning support of unions

Dependant variable : support of unions (absolutely necessary=4, necessary if anything=3, does not matter either way=2, not necessary=1)						
Explanatory variable	(i)		(ii)		(iii)	
	Coefficient	pseudo t-value	Coefficient	pseudo t-value	Coefficient	pseudo t-value
The presence of a union	0.3050 **	2.44	0.3772 ***	2.97	0.3766 ***	2.96
The membership of a spouse	0.1130	0.69	0.0936	0.56	0.1059	0.64
Understanding of workers' rights	0.1568 ***	5.59	0.0785 ***	2.58	0.0791 ***	2.60
Manufacturing sector dummy	0.2629	0.27	0.0443	0.44	0.0460	0.46
Companies with 100 or more but less than 1,000 employees	0.2895 ***	2.79	0.2648 **	2.52	0.2696 ***	2.57
Companies with 1,000 or more employees (Reference group: companies with less than 100 employees)	0.3061 **	2.24	0.2631 *	1.90	0.2781 **	2.01
Age	0.0127 ***	2.71	0.0086 *	1.80	0.0086 *	1.80
Male dummy	0.2109 *	1.91	0.1560	1.39	0.1525	1.36
Higher vocational school / two-year college graduates	0.0493	0.42	0.0524	0.45	0.0547	0.47
University and postgraduate graduates (Reference group: junior high/ high school graduates)	-0.0102	-0.10	0.0668	0.62	0.0788	0.73
Managerial posts dummy	-0.3854 **	-2.04	-0.3049	-1.59	-0.3199 *	-1.67
White-collar dummy (Reference group: Blue-collar)	-0.0147	-0.11	0.0077	0.06	0.0019	0.01
Typical worker dummy	-0.0047	-0.04	-0.0570	-0.45	-0.0487	-0.39
Work-related concerns	0.3108 ***	3.37	0.3139 ***	3.36	0.3175 ***	3.40
Concerns about losing one's current job	0.0315	0.31	0.0215	0.20	0.0240	0.20
Annual wage: 1,000,000 yen or more but less than 500,000 yen	-0.2330	-1.44	-0.2980 *	-1.82	-0.2913 *	-1.78
Annual wage: 5,000,000 yen or more but less than 10,000,000 yen	-0.2032	-0.98	-0.2436	-1.16	-0.2438	-1.16
Annual wage: 10,000,000 yen or more (Reference group: annual wage: less than 1,000,000 yen)	-0.4648 *	-1.67	-0.4528	-1.61	-0.4362	-1.55
Recognition of the effectiveness of unions			2.1661 ***	7.73	2.1016 ***	7.64
Negative impressions of unions			-0.5358 *	-1.96		
Negative impressions of unions (dummy)					-0.2857 **	-2.40
_cut1		-0.8404		-0.9996		-1.1216
_cut2		0.6786		0.5869		0.4703
_cut3		2.2858		2.2896		2.1753
Number of observations		710		710		710
LR Chi-square		94.14		155.70		157.64
Prob > Chi2		0.0000		0.0000		0.0000
Pseudo R-squared		0.0608		0.1005		0.1018

Source: "The 5th Questionnaire Survey on Work and Life of Workers," Research Institute for Advancement of Living Standards.

Note: ***, **, and * denote significance at the levels of 1, 5, and 10%, respectively, for the two-sided test.

A comparison of the findings of the estimations by equations (ii) and (iii) with the findings of the estimation by equation (i) suggests that the positive effect of an understanding of workers' rights does not disappear when the variable indicating recognition of the effectiveness of unions is included in the estimated equation, even though the latter has a strong effect, as revealed in various previous studies. This means that the possession of knowledge of workers' rights has a strong effect on the support of unions. On the other hand, there is little difference in estimate results between equation (ii), which has the summative variable showing the negative impressions, and equation (iii), which has a dummy variable instead. Therefore, in the following section interpretations and implications are given with reference to equation (ii) (Row 4 of Table 4).

First, the estimation has revealed that a higher degree of understanding of workers' rights means the stronger support among workers for labour unions at a statistically significant level (with a coefficient of 0.0785). A worker cannot judge whether the current working conditions around them are acceptable or not unless they are informed of workers' rights. Without such knowledge, they will not know what to do to avoid problems even if faced with an infringement of these rights, and it will not be able to even come up with any idea of accessing some means or other to avoid such problems. On the contrary, familiarity with workers' rights will stimulate workers to make efforts to improve their working conditions, and prompt them to access the means to do so. Moreover, in the case where a worker who wishes to have their working conditions improved has the chance to negotiate with their employer on an individual basis and exercise their legitimate rights as a result of the negotiation, they will not be interested in labour unions. Even, so the results of the estimation shown above have shown that a worker better informed on workers' rights tends to show stronger support of labour unions. This can be interpreted as an indication that workers are aware of the difficulty in exercising workers' rights on their own, and naturally tend to seek a collective voice and negotiations, provided that they understand workers' rights correctly.

The interpretation made above further suggests that it is not necessarily true that the diversification of employment statue, the diversification of workers' views, and the increasing trend of systems towards individual wages on an individual basis have all suppressed workers' expectations of labour

unions as the traditional system of collectively reconciling interests¹⁰.

Second, the analysis has also revealed that workers who have more favourable opinions of unions, or have less negative impressions, tend to show stronger support of them (coefficients of 2.1661 and -0.5358, respectively). This suggests that expectations of labour unions in Japan, as in western and other countries, have a positive effect on a worker's decision to support them. In the meantime, the absolute value of the coefficient for approving recognition of the effectiveness of unions is greater than that of the coefficient for negative impressions of the unions. This implies that an approving impressions on unions has a stronger, positive effect on the support of unions than negative impressions.

Third, the analysis has made it clear that the unorganised employees of firms where there are unions support unions at a statistically significant level (with the coefficient of 0.3772). In other words, it can be said that unorganised employees of firms with no unions are not interested in participation in a union.

Fourth, the fact that their spouses belong to unions does not have an effect on workers' decisions to support unions. This may be attributable to the fact that the unions to which the spouses belong do not function properly, or that the workers do not talk about union activities at home. Either way, this result suggests that no externalities of union activities occur.

Fifth, it has been shown that workers with greater work-related concerns, such as employment insecurity and deterioration of working conditions, tend to show stronger support of unions (with a coefficient of 0.3139). If a worker has a choice to either alleviate their concerns through individual negotiation or to quit the job, their support of unions will be lower. Accordingly, the results of the estimation suggest that even nowadays labour unions can be expected to serve as a device of collective negotiations.

Sixth, it has been found that workers with lower incomes tend to show stronger support of unions (with a coefficient of 0.2648). Behind this lies the fact that workers with less favorable working conditions are more eager to join

¹⁰ Furaker and Berglund (2003, 585-587) shows that in Sweden vocational life is highly individualised, but many employees still think that labour unions, as a means of collective bargaining, are necessary for successful labour-management negotiations. Similarly, Sverke and Hellgren (2001, 174-177) point out that many Swedish employees do not find individual negotiations necessary, as they benefit considerably from collective bargaining.

a union. At the same time, workers at larger firms tend to show stronger support of unions (with a coefficient of 0.2631). This is perhaps attributable to the fact that it is likely to be more difficult for employees in larger firms to complain about the job or working conditions directly to the management, and thus they recognize the necessity of labour unions as a means of giving more power to negotiations. On the other hand, the fact that the coefficient for age takes a positive value, 0.0086, implies a tendency among younger workers to be less interested in unions.

Finally, where the coefficient for the dummy variable representing full-time employees with long period contract terms is concerned, it has been shown that there is no statistically significant difference between such full-time employees and atypical workers concerning their support for unions, even when disadvantages arising from joining unions, such as membership fees, are controlled. As clearly shown in Table 3, part-time and *arubaito* workers account for 70.6 percent of all the sample atypical workers used for the analysis. Although there is no difference between full-time employees and atypical workers concerning their support of unions, no substantial progress is currently observed in the unionisation of the latter type of workers. This seems attributable, as suggested by the estimation, to the facts that quite a large number of existing unions do not accord atypical workers eligibility for union membership, and that the unions do not make sufficient efforts in organizing workers.

. Concluding Remarks

This paper has made use of micro data on workers to conduct an empirical analysis of determinants in unorganised workers' decision-making concerning whether or not to support unions. This section summarises the findings of the analysis and suggests tasks necessary for the unions to expand their membership. We have conducted an empirical analysis, shedding light on workers who do not belong to labour unions, and revealed that workers who understand workers' rights better tend to show stronger support of unions. However, various studies report that understanding among workers in Japan concerning workers' right has been declining (Hara and Sato 2004; NHK 2003). Efforts to encourage a deeper understanding can be considered to be a fundamental condition for unions to increase their membership.

The analysis has also found that unorganised employees in firms with no unions tend to pay no attention to unions. On the other hand, workers who have made approving comments on unions and those who have work-related concerns or are more anxious about a deterioration in working conditions tend to show stronger support of unions. All this suggests that, while there is a great potential for incorporating unorganised workers into unions, they are not sufficiently informed of the significance of being a member of such a union. Or it is possible, perhaps, that the existing unions do not make sufficient effort to organize such non-member workers and to provide information concerning union activities. It is the unions' own engagement in gaining publicity for their activities and encouraging unorganised workers to join unions that is most certain to obtain their support for the unions.

It has also been found that there is no difference between atypical workers – in particular, part-time workers – and full-time employees, whose contract terms are until their retirement age, in their support of unions, even if the factor that has been considered in general to be a disincentive for part-time workers to join unions – that is, the disadvantageous effects, such as membership charges – which are believed to arise when joining unions, have been removed. Despite this, the unionisation of part-time workers has not made any progress at the moment. This implies that unions are not making adequate efforts to incorporate part-time workers, as well as failing to accord them eligibility for the membership. In other words, it is highly possible to unionise part-time and other atypical workers, provided that unions address the issue in an appropriate manner.

Finally, we would like to suggest two tasks that this paper has not dealt with and where there is room for further investigation in the future. First, although the empirical analysis employed in this paper has attempted to avoid simultaneity as much as possible, it is undeniable that it has not succeeded in doing so completely. Therefore, it is essential to design a survey that includes items that can be used as instrumental variables.

Second, the low value of the coefficient of determination (Table 4) suggests the possibility that there are many more determinants affecting the support of unions other than the variables used in this analysis. Furthermore, further investigation is necessary on what kind of factors have an impact on workers' decision-making concerning whether or not to support unions.

**Table 5 Descriptive statistics of the ordered probit model
 concerning support of unions**

	Number of observations	Average	Standard deviation	Min	Max
Support of unions	710	2.829	0.726	1	4
Presence of a union	710	0.253	0.435	0	1
The membership of a spouse	710	0.077	0.267	0	1
Understanding of workers’ rights	710	2.619	1.565	0	6
Manufacturing sector dummy	710	0.256	0.436	0	1
Companies with less than 100 employees	710	0.494	0.5	0	1
Companies with 100 or more but less than 1,000 employees	710	0.297	0.457	0	1
Companies with 1,000 or more employees	710	0.208	0.406	0	1
Age	710	40.235	10.954	20	59
Male dummy	710	0.608	0.488	0	1
Junior high school/ high school graduates	710	0.407	0.491	0	1
Higher vocational school / two-year college graduates	710	0.215	0.411	0	1
University / postgraduate graduates	710	0.376	0.484	0	1
Managerial posts dummy	710	0.174	0.379	0	1
White-collar dummy	710	0.694	0.461	0	1
Blue-collar dummy	710	0.13	0.337	0	1
Typical worker dummy	710	0.73	0.443	0	1
Work-related worries	710	0.685	0.464	0	1
Concerns about losing one’s current job	710	0.276	0.447	0	1
Annual wage of less than 1,000,000 yen	710	0.112	0.316	0	1
Annual wage of 1,000,000 yen or more but less than 5,000,000 yen	710	0.574	0.494	0	1
Annual wage of 5,000,000 yen or more but less than 10,000,000 yen	710	0.246	0.431	0	1
Annual wage of 10,000,000 yen or more	710	0.066	0.248	0	1
Recognition of the effectiveness of unions	710	0.226	0.177	0	1
Negative impressions of unions	710	0.226	0.162	0	1
Negative impressions of unions dummy	710	0.843	0.363	0	1

Source: “The 5th Questionnaire Survey on Work and Life of Workers,” Research Institute for Advancement of Living Standards.

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