# Who becomes irregular women employees?:
# Focusing on past job experiences and characteristics of family, job, and individual

**Taek- Myon Lee***

## 1. Introduction

Who becomes irregular employees among female workers? What became the most important inquiry among the points of contention surrounding this question in the previous researches was the so-called state dependency issue probing whether the past experience of having worked as an irregular employee has any impact on becoming an irregular employee at the present time. The purpose of this study is to review in detail, among women's family related characteristics, job related characteristics, and individual demographic characteristics, which one increases the probability that they are currently in the state of irregular employment, and to empirically prove whether the previous job being irregular employment has significant impact on the probability of the current employment status being irregular.

   In the discussion below, I will first review the previous studies and explore their implications on this research. Secondly, I will present a regression model that this research will test empirically, define each variable, and suggest a method of measurement. Finally, I will present the results of the basic technical statistics and regression analysis.

## 2. Literature review

There have been many studies on irregular employment. By research themes, they can be classified into: the researches on the definition of irregular employment and the estimate of its size (K. Choi, 2001; K. Park, 2001; I. Chung, 2001; J. Ahn et al., 2002), the researches on the macro structural factors that led to the increase of irregular employment and the causes for the softening of the labor market (J. Yoon and C. Yoo, 2000; J. Lee, 2001), the researches focusing on which employees with which characteristics in human resource supply aspects become irregular employees (H. Kwon, 2000; Y. Kim, 2003; W. Kim, 2007; J. Nahm, 2008), the researches paying attention to which industries with which characteristics of human resource utilize irregular employees (Uzzi & Barsness, 1998; I. Won, 2002; J. Ahn et al., 2003; T. Lee, 2005), and the researches on the working condition, the state by irregular employment types, the gap of working conditions between regular workers and irregular employees, and the discrimination based on employment pattern (J. Ahn et al., 2002, 2007; J. Kim et al., 2005). Among these, the research theme of this article belongs to the tradition of researches trying to clarify the relationship between the characteristics of individual workers and irregular employment.

   Among the research traditions from the supply side, Yoo-sun Kim (2003) attempts a regression analysis with a dependent variable of whether an individual worker is regular or irregular and reviewed which characteristics of an individual worker has impact on determining

* Research Fellow, KWDI, onbike@kwdimail.re.kr

whether she is an irregular employee or not. Through a probit model, Kim identifies what impact the individual characteristics (gender, age, education, marital status), industry characteristics (kind of business, kind of occupation, size of industry), and labor-industry relations (whether there is a labor union) have on the probability of becoming an irregular employee. It turns out that the probability of becoming an irregular employee was higher for women than men, for married than single, for youth under 25 years or less and the elderly of 55 years or more than the middle aged, for those with the lower level of education of middle school or below than the higher level, for public and private service industry employees than manufacturing workers, for simple laborers than production workers, for employees of small businesses with 50 persons or less than the employees of medium businesses of 100-300 persons, for the employees of work places without labor unions than those with labor unions.

After Kim's research, the so-called state dependency issue emerges as a new point of contention in the research tradition of the supply side. This point of contention, raised in the process of trying to clarify whether irregular employment is a bridge to move toward regular employment or a trap to make an employee stay in the irregular employment, was finalized as a problem of statistically verifying whether the regular/irregular status of the past has significant impact on determining the current regular/irregular status. In order to grasp the net effects of the past status, not only the impact of other variable should be controlled through a vertical cross-section multivariate analysis, but also the unobserved heterogeneity of the individual should be controlled by using vertical material. In this regard, a myriad of researches attempts to approach the issue of verifying the state dependency of irregular employment through dynamic random effect using panel materials. The most representative works are the researches of Woo-yong Kim (2007) and Jae-lyang Nahm (2008).

Jae-lyang Nahm (2008), while attempting a regression analysis of the determining factors of irregular employment, notes the significance of the state dependence. While controlling the unobserved heterogeneity of an individual through a random effect analysis, Nahm shows that whether a person was an irregular employee or not in the past (t-1) point in time has significant impact on whether she is an irregular employee or not at the current point in time (t). And, as a result of analyzing the factors that have impact on the probability of an irregular employee becoming a regular employee through a probit model, the probability of finding regular employment was higher for men than women, for the highly educated than the poorly educated, for those with longer period of employment, and for those employed at the work place with labor union than their counterparts.

On the other hand, Woo-young Kim (2007) also verifies the state dependence of irregular employment by using panel materials. He demonstrates that whether or not a paid worker is an irregular employee or not shows a considerable state dependence because whether a worker was irregular or not at t-1 point in time has significant positive impact on whether she is irregular or not at t point in time even after controlling all the observable heterogeneity and unobservable heterogeneity of the respondent through a random effect probit model. Especially, as a result of estimating the state dependence by dividing the samples into male and female, in the sub-sample targeting women, the state dependence coefficient turned out to be twice more than that of males, showing that women have larger state dependence of irregular employment than men, and married

women have stronger state dependence than single women. Furthermore, while the state dependence coefficient is not significant for the highly educated women of junior college graduate or above, the state dependence coefficient of the lower educated group of high school or below is significant. And the regression coefficients of controlling variables showed that in the case of women, the probability of becoming an irregular employee is higher for the elderly, less educated, and the married without spouse such as divorced, separated, or widowed than their counterparts.

   Unlike previous studies, this study attempts to clarify from the data targeting only women, whether there are unique determining factors that have impact on women becoming irregular employees by showing what characteristics of women workers increase the probability of becoming irregular employees. Also, although it is impossible to verify the state dependence in the genuine sense in the condition where only the first wave data are available, but within the scope allowed by the questionnaire structure of the 1st material of the Women Family Research Panel, I will attempt to test what impact the past employment experience has on the probability of being an irregular employee at the present time and compare the results with those of previous studies.

### 3. Data, regression model, and variables

The data used for regression analysis is Women Family Research Panel 2007 data. The answer values of 10,013 women of 19 years or older and 64 years or younger are used in connection with the answer values of the heads of the family that they belong to. Since the target of regression analysis is only women workers, the actual respondents for analysis were 2,048 workers. Because the target of analysis is not the entire sample but a sub-sample, it is necessary to examine how much gap there is between the demographic profile of the sub-sample and that of the entire sample.

**Table 1**. The gap between the sub-sample to be analyzed and the entire sample (%)

|  |  | Total samples(n=10013) | Paid workers(n=2048) |
|---|---|---|---|
| Age |  | Average 42.8 years Standard Deviation 11.6 years | Average 39.6 years Standard Deviation 10.6 years |
| Marital Status | Single | 12.2 | 26.7 |
|  | Married with spouse | 78.7 | 61.8 |
|  | Married without spouse | 9.0 | 11.5 |
|  | Total | 100.0 | 100.0 |
| Region | Seoul-Gyeonggi | 24.0 | 28.9 |
|  | Broad District Cities | 33.0 | 35.1 |
|  | Province | 43.0 | 36.0 |
|  | Total | 100.0 | 100.0 |
| Education | Middle school graduate or below | 28.1 | 17.8 |
| Education | High school graduate | 37.3 | 35.1 |
| Education | Junior College graduate | 12.4 | 16.4 |
| Education | College graduate or above | 22.3 | 30.6 |
| Education | Total | 100.0 | 100.0 |

 As shown in **Table 1** above, the sub-sample of workers shows a relatively higher proportion of a relatively young age group: singles, residents of the Greater Seoul area including Gyeonggi Province, and highly educated compared to the total sample, but there was no difference in distribution as to say that the general characteristics of the samples were seriously distorted.

 The regression model to be tested in this article is as follows. The dependent variable is whether the worker is an irregular employee at the current work place or not, and the target of analysis is women workers. The list of independent variables used for a regression model and simple technical statistics are presented in the following **Table 2**.

**Table 2**. Explanation of variables and technical statistics

|  | Variable | Technical statistics | Reference |
|---|---|---|---|
| Dependent Variable | Irregular employment | 922 (45%) | 0＝Regular employment |
| Independent Variable (Family Characteristics) | Spouse of the Head of household D | 1183 (57.8) | Standard Criteria＝Head of household self |
| Independent Variable (Family Characteristics) | Other relations D | 440 (21.5) | StandardCriteria＝Head of household self |
| Independent Variable (Family Characteristics) | Total household income | Average 5.6/ Standard Deviation 0.97 | - |
| Independent Variable (Family Characteristics) | Married with spouse D | 1265 (61.8) | Standard Criteria ＝Single |
| Independent Variable (Family Characteristics) | Married without spouse D | 236 (11.5) | Standard Criteria ＝Single |
| Independent Variable) (Family Characteristics | Children under school age D | 374 (18.3) | 0＝No children under school age |
| Independent Variable (Job Characteristics) | Public service D | 867 (42.3) | Standard criteria＝ Manufacturing/Agricultural Fishery, Mining, Construction＝ missing |
| Independent Variable (Job characteristics) | Business service D | 188 (9.2) | Standard Criteria＝ Manufacturing/Agricultural Fishery, Mining, Construction ＝ missing |
| Independent Variable (Job characteristics) | Wholesale, retail, hotel D | 474 (23.1) | Standard Criteria＝ Manufacturing/Agricultural Fishery, Mining, Construction ＝ missing |
| Independent Variable (Job characteristics) | Other service D | 134 (6.5) | Standard Criteria＝ Manufacturing/Agricultural Fishery, Mining, Construction ＝ missing |

| Independent Variable (Job characteristics) | Size 5-30 D | 683 (33.9) | Standard criteria =5 persons or less |
| Independent Variable (Job characteristics) | Size 30-100 D | 432 (21.5) | Standard Criteria =5 persons or below |
| Independent Variable (Job characteristics) | Size 100 or more D | 317 (15.8) | Standard Criteria =5 persons or below |
| Independent Variable (Job characteristics) | Women workers ratio | Average 67.4%/ Standard Deviation 28.9 | - |
| Independent Variable (Individual Characteristics) | Age | Average 39.6/ Standard Deviation 10.6 | - |
| Independent Variable (Individual Characteristics) | High School Graduate D | 719(35.1) | Standard Criteria =Middle School Graduate or Below |
| Independent Variable (Individual Characteristics) | Junior College Graduate D | 335(16.4) | Standard Criteria =Middle School Graduate or Below |
| Independent Variable (Individual Characteristics) | College Graduate or Above D | 627(30.6) | Standard Criteria =Middle School Graduate or Below |
| Independent Variable (Previous Status) | Unpaid D | 113(5.5) | Standard Criteria =No previous job |
| Independent Variable (Previous status) | Regular wage D | 755(37.0) | Standard Criteria =No Past Employment |
| Independent Variable (Previous status) | Irregular wage D | 383(18.8) | Standard Criteria =No Past Employment |

The dependent variable of the regression model is a dummy variable that has the value of 1 when the current job is irregular employment. As to the standard for dividing regular/irregular employment, it is the most desirable to apply the already established standard, but in this paper, the self-report by the respondent was made as standard for the convenience of analysis. In this case, problems occur such as the intervention of subjective judgment and the possibility of overestimating the state dependence even in coefficient estimate (J. Nahm, 2008). Nevertheless, this article performed the analysis embracing such problems as limits. Out of the total female workers, 45% or 922 women replied they were irregular employees.

On the other hand, as the variables that show the family characteristics among independent variables, the relationship with the head of household, total household income, marital status, and children under school age are used. The relationship with the head of household consists of the three criteria: the head of household herself, the wife of the head of household, and the daughter of the head of household. They are turned into dummy variables by making the head of household herself as standard criteria. 1,183 persons that constitute 57.8% of the total workers are the wife of the head of household and 440 women or 21.5% have other relations with the head of household. The remaining 20.7% are the head of household themselves. The total

household income variable is the natural log value (however, social insurance is not included here) of the sum of all the household income items such as wage income, financial income, and real property income. The independent variable that shows the previous status is a variable to verify the state dependence even at the beginning level, and is classified into: no previous job (i.e., the current job is the first job), unpaid employee, paid regular employee, and paid irregular employee. They are turned into dummy variables with No Previous Job as standard criteria. The number of women who are unpaid worker in the previous job accounted for 5.5% (113 persons), those who are regular paid employee accounted for 37% (755 persons), those who are irregular paid employee accounted for 18.8% (383 persons), and the remaining 38.7% are new employees without previous job experiences. On the other hand, in turning an industry variable into a dummy variable, there are extremely few in agriculture and fisheries, mining and construction, and it is difficult to consolidate it with other industry criteria due to their nature, so the respondents who belong to this industry type are processed as missing.

### The results of analysis

The following **Table 3** shows the analysis of the relationship between dependent variables and individual independent variables. First of all, the women who are in other relations with the heads of households had the lowest probability of becoming irregular employees compared to the heads of households or the wives of heads of households, and the wives of heads of households had the highest probability of being irregular employees. On the other hand, by marital status, married women without spouse (divorce, separated, widowed, etc.) have the highest probability of irregular employment, and the singles have the lowest. Also, women with children under school age have higher probability of having irregular employment than women who are not. And the average total household income of the irregular employees group turns out to be lower than that of the regular employee group.

In regards to business size, the probability of being an irregular employee is the highest among women employed in small businesses of 5 persons or less, and the lowest among those employed at the size of 100 persons or more. By industry, the probability of being an irregular employee is the lowest among women employed in the manufacturing and public service industries, and the probability of being an irregular employee was significantly high as 50-60% among women in business service, wholesale retail hotel and restaurant business, and other service areas. On the other hand, while the average female workers ratio in the work place in the case of female irregular employees is 74%, the average female workers ratio in the work place in the case of female irregular employees is only 62.2%.

As for the level of education, the probability of being an irregular employee is the highest among those of middle school graduates or less, and it is very low among the highly educated Junior College Graduate or above. And the age difference between female irregular employees group and the regular employees group also turns out to be significant. The average age of the irregular employees group is 42.5 years of age, which is higher than 36.3 years of age of the

regular employees group.

　　While the probability of being an irregular employee for women with no prior job experience or the women who are regular employees before iwas 30%, that of the women who are unpaid workers or irregular employees before are 61.9% and 77% respectively, showing that the previous job experience has impact on determining whether the current employment is irregular or not.

**Table 3**. The results of bivariate analysis

| Dependent Variables | | Regular employment | Irregular employment | Verification of significance |
|---|---|---|---|---|
| Independent Variable (Family Characteristics) | Head of household self | 54.7 | 45.3 | chi-sqr=42.980*** |
| Independent Variable (Family Characteristics) | Wife of head of household | 50.0 | 50.0 | chi-sqr=42.980*** |
| Independent Variable (Family Characteristics) | Other relations | 68.2 | 31.8 | chi-sqr=42.980*** |
| Independent Variable (Family Characteristics) | Single | 71.9 | 28.1 | chi-sqr=99.694*** |
| Independent Variable (Family Characteristics) | Married with spouse | 50.7 | 49.3 | chi-sqr=99.694*** |
| Independent Variable (Family Characteristics) | Married without spouse | 38.1 | 61.9 | chi-sqr=99.694*** |
| Independent Variable (Family Characteristics) | No children under school age | 53.2 | 46.8 | chi-sqr=9.896*** |
| Independent Variable (Family Characteristics) | Children under school age | 62.2 | 37.8 | chi-sqr=9.896*** |
| Independent Variable (Family Characteristics) | Total household income | 5.7558 | 5.3448 | F=91.747*** |
| Independent Variable (Job characteristics) | Manufacturing | 63.9 | 36.1 | chi-sqr=99.042*** |
| Independent Variable (Job characteristics) | Public service | 65.4 | 34.6 | chi-sqr=99.042*** |
| Independent Variable (Job characteristics) | Business service | 48.4 | 51.6 | chi-sqr=99.042*** |
| Independent Variable (Job characteristics) | Wholesale, retail, and hotel | 41.4 | 58.6 | chi-sqr=99.042*** |
| Independent Variable (Job characteristics) | Other service | 38.8 | 61.2 | chi-sqr=99.042*** |
| Independent Variable (Job characteristics) | Less than 5 | 37.5 | 62.5 | chi-sqr=119.055*** |
| Independent Variable (Job characteristics) | 5 or more less than 30 | 56.7 | 43.3 | chi-sqr=119.055*** |
| Independent Variable (Job characteristics) | 30 or more less than 100 | 65.7 | 34.3 | chi-sqr=119.055*** |

| Independent Variable (Job characteristics) | 100 or more | 69.4 | 30.6 | chi-sqr＝119.055*** |
|---|---|---|---|---|
| Independent Variable (Job characteristics) | Women workers ratio | 62.1 | 74.0 | F＝84.908*** |
| Independent Variable (Job characteristics) | | | | |
| Independent Variable (Individual Characteristics) | Age | 36.3 | 42.5 | F＝188.899*** |
| Independent Variable (Individual Characteristics) | Middle school or less | 27.2 | 72.8 | chi-sqr＝264.192*** |
| Independent Variable (Individual Characteristics) | High School Graduate | 45.1 | 54.9 | chi-sqr＝264.192*** |
| Independent Variable (Individual Characteristics) | Junior College Graduate | 71.9 | 28.1 | chi-sqr＝264.192*** |
| Independent Variable (Individual Characteristics) | 4-year College Graduate or Above | 73.2 | 26.8 | chi-sqr＝264.192*** |
| Independent Variable (Previous status) | No previous job | 67.4 | 32.6 | chi-sqr＝229.438*** |
| Independent Variable (Previous status) | Regular wage workers | 60.6 | 39.4 | chi-sqr＝229.438*** |
| Independent Variable (Previous status) | Irregular wage workers | 23.0 | 77.0 | chi-sqr＝229.438*** |
| Independent Variable (Previous status) | Unpaid workers | 38.1 | 61.9 | chi-sqr＝229.438*** |

Focusing on the bivariate relationship of each independent variable, the variables that have significant impact on determining whether a female wage worker is a regular or irregular employee are: all of the Family Characteristics Variables, Job characteristics Variables, Individual Characteristics Variables, and Previous Status Variables.

However, such results are made while not controlling the impact of other relevant variables. In this regard, it is necessary to carry out multivariate binary logistic regression analysis in order to estimate more accurate impact of independent variables. The results are as shown in **Table 4**.

**Table 4**. The results of logistic regression analysis

| | | (Dependent Variable: Irregular employment D) | |
|---|---|---|---|
| Model fit | | Number of cases 1,913 | |
| | | Chi-square(21)＝550.045*** | |
| | | -2Loglikelihood＝2079.1 | |
| | | Nagelkerke R square＝0.335 | |
| | | overall prediction＝71.5% | |
| Independent Variable | | Coefficient | Standard error |
| Independent Variable (Family Characteristics) | Spouse of head of household D | 0.613** | 0.294 |

| Independent Variable (Family Characteristics) | Other relations D | 0.739*** | 0.222 |
|---|---|---|---|
| Independent Variable (Family Characteristics) | Total household income | -0.325*** | 0.064 |
| Independent Variable (Family Characteristics) | Married with spouse D | 0.334 | 0.327 |
| Independent Variable (Family Characteristics) | Married without spouse D | 0.460* | 0.279 |
| Independent Variable (Family Characteristics) | Children under school age D | -0.096 | 0.159 |
| Independent Variable (Job characteristics) | Public service D | 0.151 | 0.168 |
| Independent Variable (Job characteristics) | Business service D | 0.325 | 0.224 |
| Independent Variable (Job characteristics) | Wholesale, retail, and hotel D | 0.402** | 0.176 |
| Independent Variable (Job characteristics) | Other service D | 0.680*** | 0.256 |
| Independent Variable (Job characteristics) | Size 5-30D | -0.440*** | 0.139 |
| Independent Variable (Job characteristics) | Size 30-100D | -0.538*** | 0.165 |
| Independent Variable (Job characteristics) | Size 100 or more D | -0.635*** | 0.180 |
| Independent Variable (Job characteristics) | Female worker employee ratio | 0.009*** | 0.002 |
| Independent Variable (Individual Characteristics) | Age | 0.021** | 0.009 |
| Independent Variable (Individual Characteristics) | High School Graduate D | -0.373** | 0.190 |
| Independent Variable (Individual Characteristics) | Junior College Graduate D | -1.033*** | 0.242 |
| Independent Variable (Individual Characteristics) | College Graduate or Above D | -1.041*** | 0.228 |
| Independent Variable (Previous status) | Unpaid D | 0.430* | 0.240 |
| Independent Variable (Previous status) | Regular wage D | 0.013 | 0.126 |
| Independent Variable (Previous status) | Irregular wage D | 1.643*** | 0.163 |

As is seen on **Table 3** above, even after controlling the influence of other relevant factors, the impact of the variables that have significant impact on the probability of being an irregular employee in bivariate relations is mostly maintained. Among the family related characteristics,

the probability of being an irregular employee turns out to be higher among the spouses of heads of households or other dependents than among the heads of households themselves. And the probability of being an irregular employee is decreased for the members of the households with higher income, and as to the marital status, the probability of being an irregular employee is higher among the married without spouse such as divorced and separated than among singles or the married with spouse (Significance level 10%). On the other hand, it turns out that whether a woman has a child under school age does not have a significant impact on the probability of being an irregular employee. In the analysis of bivariate relations, the cases of no children under school age shows a high probability of being an irregular employee, but as the impact of other variables are controlled, this relationship seems to disappear. Summarizing the impact of Family Characteristics Variables, we can say that the probability of being an irregular employee is higher when a woman is not the main breadwinner of the family, the total family income is low, and she is in the married without spouse status such as divorced, separated or widowed.

On the other hand, among the job characteristics, business size, female workers ratio, and type of business all have significant impact. Women who work in the small businesses of 5 persons or less have a higher probability of being an irregular employee than women who work in larger size businesses, and it is especially confirmed that that larger the business size, the more significantly decreased is the probability of being irregular employees of women workers who work there. By type of businesses, the probability of being an irregular employee is significantly higher among the women employed at wholesale, retail, and hotel and restaurant businesses than those employed at manufacturing business. It turns out that the higher the ratio of women workers in the business, the higher the probability of being an irregular employee. This is a finding that could not have been found in previous studies, reflecting the reality that businesses tend to utilize women mainly as irregular human resources. In summary, we can say that the probability of being an irregular employee is higher among the women employed by small businesses, traditional service kinds such as wholesale, retail, restaurant and hotel businesses, and the companies with many women workers.

Among individual characteristics, all of the variables related to age and education have significant impact as in the bivariate relationship analysis. The higher the age, the higher the probability of being an irregular employee, and the probability of being an irregular employee is significantly decreased when the level of education is 'high school graduate or above' compared to those below, and the degree of decrease is higher with the higher level of education.

Finally, even after controlling all these characteristics, the past job experiences of female wage workers turn out to have significant impact on whether they still have irregular employment or not. Compared to the women who have no previous job or who are regular wage workers, the women who were irregular employees in the previous job had significantly high probability of being irregular (Significance level 1%). The fact that the previous job is an irregular employment increases the probability of being an irregular employee at the current job compared to the new employment as wage worker without previous job experience shows that for women, the irregular employment is not an employment to pass through to move toward regular employment, but becomes a shackle that ties down women so that they would continue to be unable to get out of irregular jobs.

## References

Abraham, Katharine G. and Susan K. Taylor, (1996). "Firm's Use of Outside Contractors: Theory and Evidence," Journal of Labor Economics, Vol. 14, No.3.

Ahn, Joo-yup, Jae-lyang Nahm, In-jae Lee, Ji-mi Sung, and Kang-shik Choi, (2007). Labor and Discrimination (II): Cognition and Reality, Korean Labor Research Institute .

Ahn, Joo-yup, Dong-bae Kim, and Shi-kyun Lee, (2003). The state of Irregular Employment and Policy Tasks (III), Korean Labor Research Institute.

Ahn, Joo-yup, Joon-mo Cho, and Jae-lyang Nahmn, (2002). The state of Irregular Employment and Policy Tasks (II), Korean Labor Research Institute.

Bae, Kyu-shik, Sang-min Lee, Pil-kyu Baek, Woon -taek_ Lim, and Kyu-yong Lee, (2006). Employment Relations of Small Manufacturing Businesses, Korean Labor Research Institute.

Davis-Blake, Alison and Brian Uzzi, (1993). "Determinants of Employment Externalization: A Study of Temporary Workers and Independent Contractors," Administrative Science Quarterly, Vol. 38.

Eun, Soo-mi Eun, (2006). Changes in Irregular Employment and Korean Labor-Industry Relations, Korean Labor Research Institute.

Houseman, Susan N., (2001). "Why Employers Use Flexible Staffing Arrangements: Evidence From an Establishment Survey," Industrial and Labor Relations Review, Vol.55, No.1.

Kim, Jong-sook, Kim, Hyong-ok Chung, and Min-jong Kang, (2005). The Characteristics of Female Irregular employment and Policy Tasks, Korea Women's Development Institute.

Kim, Woo-young, (2007). "An Analysis of Dynamics of Irregular Employment Decision, and t h e Gender Gap in Irregular Employment," An Article submitted to the Korea Labor Panel Academic Conference.

Kim, Yoo-sun, (2003a). "Factors determining the Irregular Employment Usage Rate of Businesses," An Article submitted to the Korea Labor Research Institute Academic Conference on Business Panel Research.

------ (2003b). "Determining Factors of Irregular Employment," An Article submitted to Korea Labor Panel Academic Conference.

Kwon, Hye-ja (2000). "Determining Factors of Irregular Labor and Economic Effect," Korea  L a b o r Union Central Research Institute.

Lautsch, Brenda A., ( 2002). "Uncovering and Explaining Variance in the Features and Outcomes of Contingent Work", Industrial and Labor Relations Review, Vol. 56, No.1.

Lee, Byong-hee and Sung-mee Chung, (2007). "Changes in the Size and Composition of Irregular Employment: Using the Economically Active Population Supplementary Research of August, 2007," Labor Review, November.

Lee, Byung-hoon and Dong-bae Kim, (2003). "A Research on the Labor Union Effect of Using Irregular Human Resources," An Article submitted to the Academic Conference of the Korean Labor Research Institute on Business Panel Research.

Lee, Joo-hee and Sung-kyun Lee, (2003). Labor-Industry Relations of Irregular Employment, Korean Labor Research Institute.

Lee, Sung-kyun, (2002). "Softening of Labor Market,." Sung-jin Chung et.al. Structural Adjustment of New Liberalism and Changes in Labor System. Seoul: Hanwool.

Lee, Taek-myon, (2005). "Economic-sociological Analysis of Determining Factors of Irregular Employment: Application and Verification of Transaction Cost Theory," Korean Sociology, Vol. 39, No.4.

Montgomery, Mark, (1988). "On the Determinants of Employer Demand for Part-Time Workers," The Review of Economics and Statistics, Vol. LXX .

Nahm, Jae-lyang, (2008). A Research on the Dynamic Characteristics of Labor Market, Korea  L a b o r Research Institute.

Park, Woo-sung, (2003). "Labor Union and the Use of Irregular Employment: Empirical Analysis and Implications," An article submitted to an Academic Conference of Korea  Labor Research Institute on Business Panel Research.

Uzzi, Brian and Zoe I. Barsness, (1998). "Contingent Employment in British Establishments: Organizational Determinants of the Use of Fixed-Term Hires and Part-Time Workers," Social Forces, Vol.76, No.3.
Won, In-sung, (2002). "A Research on the Use of Irregular Employment by Domestic Information Processing Industry," Research on Industry Economy, Vol.15, No.1.

Yoon, Yun-kyu, (2007). A Research on the Employment Adjustment of Business: With Focus on Net Employment Change by Workers and Business Characteristics in Response to Product Demand Impact , Korean Labor Research Institute.