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A New Approach for Estimating the Number of Dependent Self-employed Contractors in South Korea

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I. Introduction

Changes in the way work is controlled have led to the diversification of employment patterns. Rather than maintaining traditional employment relations, companies are creating new types of employment relations that reduce corporate management costs and increase individuals' responsibility, such as outsourcing and signing individual contracts for work. One of the most dramatic changes resulting from such move involves the employment status of workers, that is, former employees who offered labor under a labor contract becoming independent self-employed contractors. Taxi drivers, product salespeople, and freight drivers have experienced such a change. From the standpoint of a company, having a contract-based relationship with independent self-employed contractors means an opportunity to cut costs related to tax, insurance, and welfare benefits associated with direct

employment relations. On the other hand, those who transition from employees to independent self-employed contractors are placed in an unfavorable situation where they continue to offer labor as in the past but have no shield of protection as employees do. Therefore, these changes in employment relations have triggered a debate over the extent to which basic labor rights should be protected for independent self-employed contractors, and it has emerged as an important research topic in the field of industrial relations and labor law.

Although the issue of misclassification of dependent self-employed contractors has widely been discussed, there have been few empirical studies on the issue. In order to distinguish dependent self-employed contractors that exist among employees and independent self-employed contractors, a clear definition of dependent self-employed contractor was needed because much ambiguity existed regarding who is a dependent self-em-

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ployed contractor and who is an independent self-employed contractor. This study focuses on how to define and estimate the size of the dependent self-employed contractor population, followed by the discussion on the legal protection of dependent self-employed contractors. Therefore, a reliable survey tool was first developed in this study to distinguish genuine employees and genuine independent self-employed contractors from dependent self-employed contractors. Next, by excluding genuine employees from all employees, the author was able to sort out the dependent self-employed contractors that had been misclassified as employees. Also, by excluding genuine independent self-employed contractors from all independent self-employed contractors, the author separated out the dependent self-employed contractors that had been misclassified as independent self-employed contractors.

To this end, a survey questionnaire with validity and reliability was prepared through various stages, and a sample survey was conducted on 30,632 people aged 15 years or over in Korea. According to the analysis results, the size of the dependent self-employed contractor population in Korea was relatively big at 2.2 million, taking up 8.2% of all employed persons. In particular, the percentage of dependent self-employed contractors among those who perceive themselves as independent self-employed contractors was 36.4%, indicating that majority of the dependent self-employed contractors regard themselves as independent self-employed contractors.

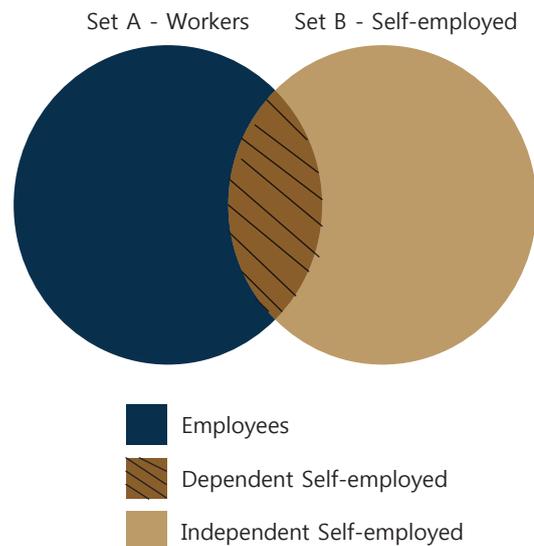
II. Literature Review

Defining the concept of dependent self-employed contractor should start with an understanding of its misclassification. The misclassification of dependent self-employed contractors means that they are classified only as self-employed although they have the characteristics of both em-

ployees and self-employed workers. This has become an important issue for dependent self-employed contractors because the misclassification results in their being excluded from the protection of the labor law.

Burchell, Deakin and Honey (1999) argue that a dependent self-employed contractor displays the characteristics of both employees and self-employed workers although there is no legal basis or terminology for the concept of ‘dependent self-employed contractor’. They explain that, although the two categories of ‘employee’ and ‘self-employed’ are mutually exclusive, those of ‘worker’ and ‘self-employed’ overlap, and ‘dependent self-employed contractors’ exist in the overlapping area between the two (see Figure 1).

Figure 1. Relationship between Employee, Self-employed, and Dependent Self-employed Contractor



Source : Burchell, Deakin, & Honey (1999: 19)

According to the previous studies, an important criterion for distinguishing dependent self-employed contractors from independent self-employed contractors is dependence. Samuel (2001) distinguishes an employee from a worker who personally performs remunerated work, and explains that a self-employed worker is not an employee but a worker. In addition, the author views an independent worker who does not depend on an employer

as 'self-employed', but describes the other self-employed workers who are dependent as 'dependent self-employed workers'. He explains that a person's dependence is high if he uses the means of production provided by an employer; performs work along with others (coordinated by an employer); and depends on a particular business owner economically (Samuel, 2001).

There was a study that discussed the current status and characteristics of dependent self-employed contractors. Williams and Lapeyre (2017) examined the differences between genuine independent self-employed contractors and dependent self-employed contractors in their working paper, and analyzed the current situations of dependent self-employed contractors in Europe. According to their study, the European Union (EU) developed the following three criteria in 2010 to determine whether a self-employed person without workers is a genuine self-employed person or an economically dependent self-employed contractor: (1) they have more than one client; (2) they have the authority to hire staff, and/or (3) they have the authority to make important strategic decisions about how to run the business. If those classified as self-employed meet two or more of the criteria, the EU categorized them as genuine independent self-employed contractors. Analyzing the 2015 European Working Conditions Survey, the finding in the EU 28 countries was that 53% of the self-employed without employees were genuine independent self-employed contractors, while 47% were dependent self-employed contractors (Williams & Lapeyre, 2017).

Bidwell and Briscoe (2009) analyzed a total of 2,823 people working in the IT industry in the United States to examine the characteristics of dependent self-employed contractors. According to Bidwell and Briscoe (2009), dependent self-employed contractors do not enjoy particular benefits. For example, the wage analyses showed no significant differences between the wages of dependent self-employed contractors and regular employees. And

most of the dependent self-employed contractors returned to regular employment. In fact, 75% of the dependent self-employed contractors returned to regular employment within 400 days.

Böheim and Muehlberger (2006) compared 527 dependent self-employed contractors with 5,273 self-employed workers and 32,925 employees using the British Labour Force Survey data. The results indicated that the proportion of male dependent self-employed contractors was approximately twice that of female dependent self-employed contractors. Also, the higher the age, the higher the probability of being a dependent self-employed contractor was. In addition, dependent self-employed contractors had lower formal education levels and shorter tenure than employees (Böheim & Muehlberger, 2006: 15).

Lamare, Lamm, McDonnell, and White (2015) use the case study of the Pike River Coal Mine explosions in New Zealand to argue that many independent self-employed contractors are in fact dependent, vulnerable individuals, and that dependent self-employed contractors are particularly vulnerable with regard to occupational health and safety. Böheim and Muehlberger (2006) argue that dependent self-employed contractors have the characteristics that can make them be classified as either employees or self-employed in the labor market, and at the same time, the findings are evidence of their being low-skilled workers who occupy a more vulnerable labor market position.

Finally, dependent self-employed contractor being excluded from any labor law protections owing to the misclassification and occupying a more vulnerable labor market position have prompted the need to protect them. In particular, employers have considerable incentive to classify their workers as independent contractors rather than as employees. For example, Kennedy (2005) states that in the current labor law system of the United States, an employer does not have to pay employment taxes when contracted with an independent self-employed contractor, and it will ultimately benefit because it does not have

to respect minimum wage and overtime standards for independent contractors. Conversely, dependent self-employed contractors lose out in pension, unemployment insurance, and tax contributions from their employers. (Kennedy, 2005: 150).

III. Korean Contexts

Among the OECD countries, Korea has a relatively high percentage of non-standard workers and it is also witnessing a rapid increase in the proportion of dependent self-employed contractors. It was in 1997 that dependent self-employed contractors began to emerge in earnest in Korea. At that time, the nation was hit by the 1997 Asian Financial Crisis and received support from the International Monetary Fund. To overcome the crisis, the government implemented a series of labor flexibility policies, such as redundancy and the introduction of temporary agency employment, which caused a crack in the traditional employment relations and a significant growth in independent self-employed contractors. For example, a construction company, after laying off its heavy-duty truck drivers, suggested them that they buy their own trucks and sign a one-to-one contract with the company and receive a commission if they wish to continue working. Freight drivers and parcel delivery workers went through a similar process to become independent self-employed contractors. In other words, their status in the labor market transitioned from an employee working under a labor contract to an independent self-employed contractor offering labor under contracting out arrangements. Later, Korea's dependent self-employed contractors came to include various occupations, such as insurance solicitors, door-to-door salespersons, home-visit tutors, and designated drivers.

The issue surrounding dependent self-employed contractors is about social protection. In Korea, dependent

self-employed contractors have the status of self-employed. Thus, the protection clauses applicable to employees—such as minimum wages, working hours, statutory holidays, and prohibition of gender discrimination in the workplace—do not apply to dependent self-employed contractors. Furthermore, in the case of employees, social insurances such as employment insurance, health insurance and national pension are financed partially by employers. However, as for dependent self-employed contractors, they have to pay the full amount and subscription is not mandatory but optional. In particular, not all dependent self-employed contractors are eligible to sign up for industrial accident compensation insurance. Only nine occupations, including insurance solicitors, golf caddies, home-visit tutors, parcel delivery workers, quick delivery service couriers, loan solicitors, credit card solicitors, designated drivers, can be insured. In addition, while the entire amount of the industrial accident compensation insurance premiums are covered by employers for their employees, dependent self-employed contractors engaged in the above nine occupations must pay the full amount themselves and are insured with a voluntary subscription. Therefore, it can be said that social protection of dependent self-employed contractors is very weak.

According to a survey of the Ministry of Employment and Labor (2017) on the working conditions of the dependent self-employed contractors engaged in seven occupations (insurance solicitors, freight drivers, quick delivery service couriers, concrete mixer truck drivers, dump truck drivers), the coverage rates of social insurances were quite low. For example, the coverage rate of employment insurance was 8.9%, and that of industrial accident compensation insurance was only 29%. It was also found that 66.3% of the respondents worked in a dependent relationship with a particular enterprise, e.g. their job duties were decided by the enterprise owner. These survey results indicate that dependent self-employed contractors work in a dependent relationship just like employees do, but they

enjoy little social protection. For this reason, some argue for a full-scale expansion of industrial accident compensation insurance and employment insurance for dependent self-employed contractors.

Another issue surrounding dependent self-employed contractors is about their trade union activities. Trade unions and dependent self-employed contractors claim that dependent self-employed contractors should be guaranteed the rights stipulated in the labor law because they are the ‘disguised self-employed’. However, dependent self-employed contractors are not considered as workers under Korea’s Trade Union Act so they cannot exercise the rights of association, collective bargaining, and collective action. In other words, they have no right to establish a labor union, negotiate with an employer, or take strike action. However, the reality is slightly different. For example, the head of a local government, who has the authority to approve the establishment of a labor union, often approves a labor union formed by dependent self-employed contractors, and the government institutions recommend that basic labor rights be guaranteed to dependent self-employed contractors. For example, in September 2018, the Seoul Metropolitan Government approved the establishment of the labor union of designated drivers, and the National Human Rights Commission of Korea recommended a law revision to ensure that basic labor rights are guaranteed to dependent self-employed contractors.

IV. New Conceptual Approach to Estimate the Size of Dependent Self-employed Contractor Population

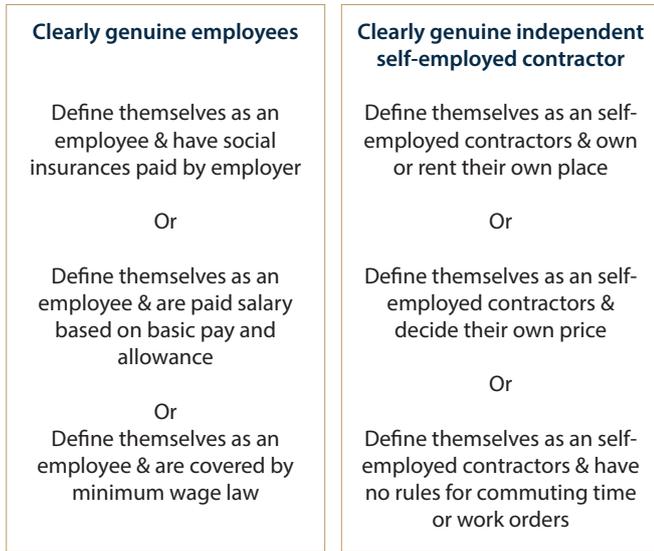
While dependent self-employed contractors look like independent self-employed contractors on the surface, their internal labor processes have considerable dependence that exists in employees. Although they sign a con-

tract as an independent self-employed person, their work process is similar to that of employees in that they are directed and supervised by the other party to a contract and have limited autonomy in their work; and they are also economically dependent. Therefore, such discrepancy between the contractual status and the actual labor process of dependent self-employed contractors (i.e. discrepancy between form and content) made it difficult to establish a clear concept of dependent self-employed contractor, and consequently it was not easy to estimate their number without defining it first.

This study utilized the concept introduced by Burchell *et al.* (1999) to estimate the size of the dependent self-employed contractor population. Burchell *et al.* (1999) used a questionnaire to estimate the size of the dependent self-employed contractor population among people with an ambiguous employment status (neither clearly employees nor clearly self-employed). The respondents who were clearly employees were those who defined themselves as an employee, were paid a salary or wage, held a permanent job and had no non-standard working patterns (Burchell *et al.*, 1999). At the same time, the respondents who were clearly self-employed were those were a director a partner in own business and/or employ others (Burchell *et al.*, 1999). Similarly, this study also used the important analytical strategy of identifying dependent self-employed contractors that were misclassified as employees or as independent self-employed contractors.

This study focused on the dependent self-employed contractors who have been misclassified as employees and independent self-employed contractors, as suggested by Burchell *et al.* (1999). More specifically, after excluding genuine employees from all employees, the remaining ones were interpreted as dependent self-employed contractors who had been misclassified as employees. Whether a person was a genuine employee was determined by using three criteria. First, the employee defines himself as an employee and has social insurances—employment

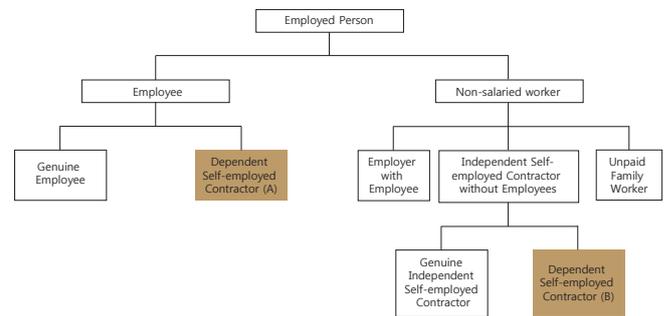
Figure 2. Identifying Those with Clear Employment Status



insurance, industrial accident compensation insurance, health insurance, and national pension—paid by employer. This is because, in Korea, it is mandatory for an employee to be an employer-provided policyholder of social insurances. Second, the employee defines himself as an employee and he says that his income is composed of base pay and various allowances. Third, the employee defines himself as an employee and he is covered by the minimum wage law. In Korea, all employees are subject to the minimum wage law. A respondent was determined as a genuine employee if he met any of the above three criteria.

At the same time, after excluding genuine independent self-employed contractors from all independent self-employed contractors, the remaining ones were considered to be dependent self-employed contractors who had been misclassified as independent self-employed contractors. Again, whether a person was a genuine independent self-employed contractor was determined using three criteria. First, the respondent says he is an independent self-employed contractor without employees; he owns or rents his own place; and he does not have a specified contract partner. Second, the respondent says he is an independent self-employed contractor; and he makes the final decision on the remuneration and the price of his service.

Figure 3. Conceptual Framework to Estimate the Size of Dependent Self-employed Contractor Population



Lastly, the respondent defines himself as an independent self-employed contractor; he does not receive any work orders from a contract partner and have no rules for commuting time. A respondent was determined as a genuine independent self-employed contractor if he met any of the above three criteria. Figure 2 shows the criteria used to distinguish genuine employees and genuine independent self-employed contractors from dependent self-employed contractors.

The total number of dependent self-employed contractors was calculated by adding the number of dependent self-employed contractors misclassified as employees and the number of dependent self-employed contractors misclassified as independent self-employed contractors. Specifically, Figure 3 shows a conceptual framework used for estimating the size of the dependent self-employed contractor population. Through the survey questionnaire, all employed persons among the population aged 15 years and over were identified and categorized into employees and non-salaried workers. After that, the number of dependent self-employed contractors (A) was obtained by excluding genuine employees from all employees. In calculating the number of dependent self-employed contractors (B), independent self-employed contractors without employees were first separated out by excluding employers and unpaid family workers from all non-salaried workers, and then genuine independent self-employed contractors were removed from that group of independent self-employed contractors without employees.

V. Methods

1. Sample

Data were collected through computer-assisted telephone interviewing (CATI) methodology used by Bidwell and Brisco (2009). After generating a total of 200,000 random phone numbers using computers, a total of 36,847 telephone numbers—missing numbers or those outside of the survey's age range—were excluded and a total of 163,153 valid phone numbers were secured. Among them, a total of 132,521 phone numbers that had the reception problem or that declined participation in the survey could not be used. As a result, the final number of samples was 30,632. The response rate among valid phone numbers was 18.8%. The survey was conducted for seven weeks from August to October, 2018 through a professional poll agency. The survey was carried out in two ways in a ratio of 50:50: a direct phone survey by pollsters or a mobile survey. The mobile survey was conducted in order to consider the respondents who were not able to receive

direct calls during their work hours. In particular, before conducting the phone survey, pollsters were trained two times on the purpose of this survey, the concept of dependent self-employed contractors, and the meaning of each survey question, so that they can accurately answer any questions given by respondents.

2. Analytic Strategy

It is crucial to use an objective and relevant survey tool to ensure the reliability of the survey results. Until now, estimating the size of the dependent self-employed contractor population has been a challenge because the concept of dependent self-employed contractor was somewhat ambiguous and there was no agreed survey tool. Therefore, first and foremost, it was important to design the survey questionnaire properly. The survey questionnaire was finalized in three stages. The first step was to draft a survey questionnaire through in-depth discussions with experts who have past experience of conducting research on dependent self-employed contractors. In order to accu-

Table 1. Survey Processes

		Details	Main Purpose
Step 1	Design a Draft Survey Questionnaire	Prepare a draft survey questionnaire based on discussions with experts	Design a survey questionnaire
Step 2	Conduct Interviews with Dependent Self-employed Contractors by Occupation	Conduct focus group interviews with workers engaged in occupations typically employing dependent self-employed contractors; and revise the draft survey questionnaire based on their feedback (70 workers including after-school class teachers, shuttle bus drivers, q motorcycle delivery workers, home-visit tutors, parcel delivery workers, insurance solicitors, designated drivers, concrete mixer truck drivers, dump truck drivers, caregivers, etc.)	Evaluate the validity of survey questions through participation of dependent self-employed contractors in the survey process
	Period	July 3, 2018 (Tue) - July 13, 2018 (Fri)	
Step 3	Pilot Survey	Conduct a pilot survey on 1,787 respondents and further revise the survey questionnaire (Mobile survey: 878 respondents, Phone survey: 909 respondents)	Check for errors of the questionnaire by conducting a pilot survey using the same sampling method and the survey method as those used for the main survey
	Period	July 23, 2018 (Mon) - August 10, 2018 (Fri)	
Step 4	Main Survey	Train pollsters for phone survey and conduct the main survey	Estimate the size of the dependent self-employed contractor population
	Period	October 1, 2018 (Mon) - November 23, 2018 (Fri)	

rately identify dependent self-employed contractors that exist ambiguously among employees and independent self-employed contractors, it was necessary to develop a survey questionnaire that accurately reflects the concept of employee, independent self-employed contractor, and dependent self-employed contractor. Therefore, intense discussions with the experts had to be implemented before drafting the survey questions.

The second step was to review and revise the validity of the draft questionnaire. To that end, in-depth interviews with dependent self-employed contractors were carried out. A total of 70 workers engaged in occupations commonly known to employ dependent self-employed contractors were invited, including after-school class teachers, shuttle bus drivers, motorcycle delivery workers, parcel delivery workers, golf caddies, insurance solicitors, construction machine operators, caregivers, and designated drivers, and were asked to review whether the questions in the draft questionnaire accurately reflect the characteristics of their work. Based on their feedback, some of the originally designed questions were revised. For example, the questions on the minimum wage and wage decisions were added and adjustments were made to some sentences to make them easier to understand.

The final step was to have a pilot test with the revised questionnaire. The pilot test was conducted with more than 5% of the sample, using the same sampling method and the survey method as those used for the final survey. The pilot survey was conducted for about 2 weeks and participated by a total of 1,787 people. Further discussions on unnecessary or ambiguous phrases took place, and the questionnaire with a total of 15 survey questions was finalized. Table 1 shows the entire process from preparing the survey questionnaire to conducting the actual survey.

The above-mentioned survey steps can ensure reliability in the following aspects. First, with the aim of correctly estimating the population, this study referred to the Economically Active Population Survey and conducted the

survey with almost the same number of samples and ratio. Second, the author tried to reduce possible structural errors of this study through the repeated revisions of the questionnaire by conducting interviews and the pilot survey before implementing the actual survey.

VI. Results

Since the survey was conducted a total of 30,632 samples, the data was weighted to represent the total economically active population. Two types of weight for parameter estimation were used to calculate the size of the entire population. The first one is the sampling weight (WT1) to estimate the gender, age, and location distribution of the population. The other one was post weight adjustment (WT2) applied to calibrate the distribution of the economically active population. The sampling weight (WT1) is as follows:

$$WT1_{ijk} = \frac{N_{ijk}}{n_{ijk}}$$

N_{ijk} = Number of subjects of the survey population

n_{ijk} = Number of samples with valid response

(i = by city/province, j = by gender, k = by age)

The post weight adjustment (WT2) which is applied to calibrate the distribution of the economically active population after applying the sampling weight (WT1) is as follows:

$$WT2_{ijk} = \frac{E_{ijk}}{F_{ijk}}$$

$F_{ijk} = E_{ijk} \times e_{ijk}$

E_{ijk} = Number of subjects of the economically active population

F_{ijk} = Estimated number of subjects of the economically active population

e_{ijk} = surveyed number of subjects of the economically active population

After applying the weights, it was found that the respondents represented a total of 44,266,005 people. Among them, the number of employed persons was 27,093,043. Employed persons were identified as those who answered 'Yes' to the survey question "Did you work more than one hour in the latest one week for the purpose of earning income?"

Next, the number of employees was obtained. Employees were identified as those who answered 'Yes' to the survey question "Are you currently working in any occupation on any basis?" and a total of 20,274,807 respondents were found to be employees. In order to find out the number of dependent self-employed contractors included among employees, the author calculated the number of genuine employees. This approach was based on the reasoning that excluding genuine employees from all employees would leave dependent self-employed contractors (A). An employee was determined as a genuine employee if they met any of the following three criteria. First, they themselves as an employee and are an employer-provided policyholder of social insurances. Second, they define themselves as an employee and they say that their income is composed of base pay and various allowances. Third, they define themselves as an employee and are covered by the minimum wage law. A total of 18,407,258 employees met at least one of these criteria, thus were found to be genuine employees.

The number of employed persons was 20,274,807, and estimating the number of dependent self-employed contractors by means of excluding genuine employees from all employees resulted in 1,777,549 (that is, 20,274,807-18,497,258). However, since this figure may include those who cannot be considered dependent self-employed contractors such as daily workers, a post-verification process involving the following two steps was carried out with an aim to enhance the reliability of the results.

(Step 1) Based on the occupation data, we filtered out the respondents who were clearly not dependent self-em-

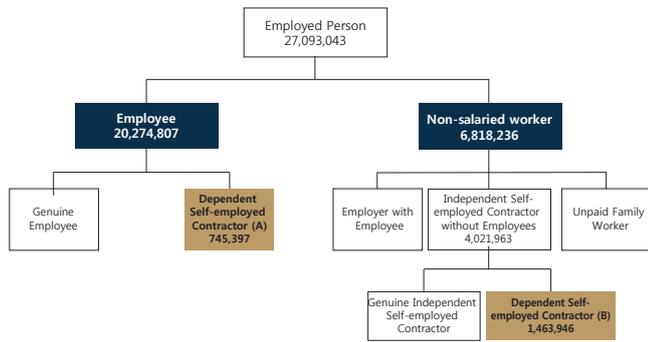
ployed contractors. More specifically, the respondents with the following occupations were excluded; and the number of daily workers amounted to 870,659. Thus, by subtracting this number from the previously estimated number of dependent self-employed contractors, a total of 906,890 (1,777,549-870,659) was obtained.

(Step 2) Next, we further filtered out those who responded positively to all the survey questions describing an employee (thus, cannot be considered dependent self-employed contractors). Among the respondents who met all of the following criteria: not owning or renting their own workplace; having a specified contract partner (individual or company); the final decision on the remuneration or the price of their service being made by a contract partner in almost all cases; receiving detailed work orders from a contract partner; and receiving detailed orders regarding working hours and commuting time, 161,493 of them said they were subject to the minimum wage law. Therefore, the author was able to calculate that the number of dependent self-employed contractors was 745,397 by subtracting 161,493 from 906,890.

However, these 1,616,056 employees need to be verified further because there are some employees who do not receive social insurance coverage from companies nor receive wages in the form of base pay. An example of such employees would be daily workers (i.e. those who are employed on a daily basis and receive daily-based wages) in Korea. Thus, the post-verification process was carried out in two ways: by looking at the occupation data and excluding the respondents who said they were daily workers in various forms. There were 870,659 respondents who identified themselves as daily workers. Therefore, the author subtracted 870,659 daily workers (engaged in simple part-time jobs) from 1,616,056 people who had been found to be genuine employees to obtain 745,397 persons.

The number of dependent self-employed contractors (B) among non-salaried workers was obtained. Non-salaried workers were first categorized into employers,

Figure 3. Total Size of the Dependent Self-employed Contractor Population



unpaid family workers, and independent self-employed contractors, after which genuine independent self-employed contractors were identified among all independent self-employed contractors. Next, excluding genuine independent self-employed contractors from all independent self-employed contractors would leave dependent self-employed contractors (B). According to the survey results, there were 2,797,604 respondents who were either employers who hire employees, or unpaid family workers who work at a company or a store operated by their family without pay. In addition, a total of 4,021,963 respondents identified themselves as ‘independent self-employed contractor’. However, among those who defined themselves as a self-employed person without employees, genuine independent self-employed contractors had to satisfy all the following three criteria: first, only those who own or rent his own place and do not have a specified contract partner; second, only those who make the final decision on the remuneration and the price of service; and third, only those do not receive any work orders from a contract partner and have no rules for commuting time. Among those who identified themselves as independent self-employed contractors (4,021,963 people), only those who satisfied all of the three criteria were considered genuine independent self-employed contractors. A total of 2,487,523 people were found to be genuine independent self-employed contractors. Therefore, by subtracting 2,487,523 genuine independent self-employed contractors from 4,021,963

Table 2. Number of Dependent Self-employed Contractor by Age Group (Unit : person, %)

	Person	Ratio
15~19 years	19,554	0.9
20~29 years	270,468	12.2
30~39 years	308,135	13.9
40~49 years	623,096	28.2
50~59 years	595,016	26.9
60 years or above	393,074	17.8
Total	2,209,343	100.0

independent self-employed contractors, the author was able to calculate that the number of dependent self-employed contractors (B) was 1,534,440. Filtering out the number of daily workers and those engaged in real estate business—those who cannot be classified as dependent self-employed contractors—resulted in a total of 1,463,946. Therefore, the total size of the dependent self-employed contractor population was 2,209,343 (745,397 (A) + 1,463,946 (B)), taking up 8.2% of the all employed persons. Also, it was found that 3.7% of the respondents who perceived themselves as employees were actually dependent self-employed contractors, and 36.4% of those who defined themselves as independent self-employed contractors were dependent self-employed contractors. These findings are summarized in Figure 4.

It was found that dependent self-employed contractors were mainly engaged in construction-related occupations (15.6%) or working as instructors (14%). A large proportion of the dependent self-employed contractors who identified themselves as independent self-employed contractors in the survey were working as insurance solicitors (20.7%) or working in sales (10.0%). In terms of gender, there were more female dependent self-employed contractors (57.1%) than male dependent self-employed contractors (42.9%). By age group, those in their 40s took up the largest proportion of dependent self-employed contractors at 28.2%, followed by those in the 50s (26.9%). It was confirmed that those in their 40s and 50s accounted

for more than half of all dependent self-employed contractors, accounting for 55.1%.

VII. Discussion and conclusion

With the recent increase in the number of independent contractors without employees, which is an extreme form of outsourcing, new jobs are being filled by dependent self-employed contractors, and the existing employees with traditional employment relations are being turned into dependent self-employed contractors. At the same time, a rapid growth in the number of web-based platform employees is threatening traditional employment relations. Moreover, these changes are not just taking place in certain nations but globally, leading to active discussions on various issues surrounding dependent self-employed contractors. Among those issues, the issue of misclassification of employees has gained a lot of attention because they are related to conflicts of interest for the stakeholders of employment relations. For instance, misclassifying employees as independent self-employed contractors can reduce costs for companies, but employees are excluded from various benefits offered by companies (Kennedy, 2005: 150). At the source of the discussion on misclassification is the question raised by dependent self-employed contractors with regard to their labor process. Dependent self-employed contractors' claim that they need to be protected because, although they seem to have a business contract with a company on the surface; in the actual labor process, the company gives them direct or indirect work orders almost unilaterally, and they are financially dependent on a particular company.

The purpose of this study was to estimate the size of the dependent self-employed contractor population, and it developed the study of Burchell *et al.* (1999). According to Burchell *et al.* (1999), while employees and the self-employed are mutually exclusive, dependent self-employed

contractors have the characteristics of both categories. Thus, it was suggested and empirically tested that, by excluding those who are clearly employees and those who are clearly self-employed, it is possible to estimate the number of dependent self-employed contractors with unclear status. This study utilized the method of Burchell *et al.* (1999) but revised some of its details. This study collected a total of 30,632 samples in Korea using a survey questionnaire developed through several stages. According to the analysis results, the number of dependent self-employed contractors was 2.21 million, and when re-calculated after applying the weights, the dependent self-employed contractor population was found to take up 8.2% of the all employed persons.

The findings of this study have two important implications. First, while only 3.7% of the respondents who perceived themselves as employees were actually dependent self-employed contractors, 36.4% of the respondents who perceived themselves as independent self-employed contractor were dependent self-employed contractors. These results indicate that many of the dependent self-employed contractors consider themselves as independent self-employed contractors rather than as employees. Without the clear concept of dependent self-employed contractor, these results are also related to the fact the many of them are now considered as self-employed, even though they have the characteristics similar to those of employees. Second, by excluding genuine independent self-employed contractors from independent self-employed contractors, the number of dependent self-employed contractors was found to be 1.46 million. Although many studies have examined the characteristics of dependent self-employed contractors, they have not been able to demonstrate empirically the heterogeneity of dependence among dependent self-employed contractors. The author expects that such heterogeneity among them would grow even stronger in the future, because employers are likely to continue to attempt to erase the 'employee' characteristics from

dependent self-employed contractors even though they work through a contract with them.

The results of this study also have policy implications in the sense that they suggest the need to protect dependent self-employed contractors in countries such as Korea where there is no clear legal protection mechanism for dependent self-employed contractors. According to the analysis, there are 2.21 million dependent self-employed contractors in Korea, meaning that 8.2% of all employed persons have the same dependence as that of employees but their employment status is classified as self-employed

at present. Such misclassification of employees may not only result in basic labor rights being denied to dependent self-employed contractors, but also increase the burden on the government. This is because dependent self-employed contractors, without an employer with whom they can negotiate matters, tend to raise grievances and seek remedies with the government. Therefore, based on the results of this study, it would be necessary to achieve a balance in employment relations through having active discussions on how to protect dependent self-employed contractors in the future.

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