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What Do We Know about Non-regular Workers in Korea?*

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A large part of the wage differential between regular and non-regular workers can be attributed to differences in human capital and productivity. In particular, employment status, tenure, level of educational attainment, and demographic factors are shown to be the main factors affecting the wage gap. The discriminative wage gap between regular and non-regular workers decreases with smaller firm size. The regular workers are disadvantageous in terms of wage compared to their non-regular counterparts in firms with less than 10 workers.

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1. INTRODUCTION¹⁾

The term ‘non-regular worker’ is a political term. It was defined through an agreement at the Tripartite Committee on July 22, 2002 as a socio-political means to resolve serious job instability in the aftermath of the financial crisis.²⁾ With non-regular workers bearing the brunt of the post-crisis fallout of labor market polarization, the improvement of treatment for non-regular workers has turned into a politically and socially prominent issue. Non-regular workers face less security in their employment, lower wages, and scarce coverage by social insurance in comparison to regular workers. Years of debate led to the enforcement from July 2007 of three pieces of legislation drafted with the purpose of protecting non-regular workers: ‘Act on the Protection of Fixed-Term and Part-Time Employees’, ‘Act on the Protection of Dispatched Workers’ and ‘Labor Relations Commission Act’.

Both labor and management, however, expressed negative views on these bills. Labor claimed that these bills would end up further increasing non-regular work as the bills failed to limit the reasons for which firms can use temporary workers, would expand dispatched work, and would have no effective means to resolve discrimination; at the same time, management claimed that the bills would decrease the level of flexibility in the labor market. For example, the stipulation that requires the conversion of fixed-term workers to regular workers after 2 years of work was seen by labor as a factor that increases job insecurity since employers can freely dismiss fixed-term workers within the first two years; but the same stipulation was criticized by management as reversing labor market flexibility since fixed-

¹⁾ In this paper we define ‘discriminative wage gap’ as an index to identify the magnitude of unexplained wage differential between regular and non-regular workers not the scale of wage discrimination.

²⁾ While the OECD only collects data on ‘temporary workers’ in Korea, statistics on non-regular work include data on contingent work such as part-time work, atypical work that consists of temporary help agency workers (dispatched workers), workers provided by contract firms independent of contractors (contract company workers), home-based workers, and day laborers.

term workers who work more than two years are required to be regarded as regular workers.

The issue of non-regular work can only be resolved when labor and management engage in concessions and cooperation on the basis of their social responsibility. It is not, however, appropriate to protect non-regular workers through legislation and policies that regard all non-regular workers as a single vulnerable group. We need to recognize that the nature of non-regular work varies widely according to such factors as firm size, gender and age. Employment type and firm size, in particular, cast very different shadows upon the characteristics of non-regular work.

In the past years, non-regular work has been the topic of very heated socio-political discussions in Korea. While reducing discrimination is key to this issue, most debates simply seem to focus on decreasing the number of non-regular workers. Two directions are generally proposed to achieve this end. The first seeks to prohibit firms from hiring non-regular workers, while the second calls for the conversion of non-regular work into regular work through legislations.

Almost a decade has passed since the concept of non-regular work was first introduced, and we see that while the absolute number of non-regular workers in Korea has increased, the proportion of non-regular workers among all waged workers has been falling since reaching a high of 37.0% in August 2004. A closer look tells us that, among all non-regular workers, the proportion of contingent workers is decreasing while proportions for part-time and atypical workers are increasing. By firm size, the proportion of non-regular workers is shrinking in firms with 100 or more workers, while it is growing in firms with less than 100 workers. These trends can be seen very clearly in relevant time-series data. Amongst non-regular workers, there are wide differentials by the employment type and firm size. Non-regular workers in firms with 100 or more workers actually have better working conditions and higher wages than regular workers in micro-businesses with less than 10 workers.

Many researchers have already studied the characteristics of non-regular

workers and the wage differentials between regular and non-regular workers.³⁾ There doesn't exist one clear conclusion explaining the wage differentials between regular and non-regular workers. The analysis of non-regular workers has an intrinsic limits because of the heterogeneity of non-regular workers and different type of data. There are several distinct researches analyzing the wage differential between regular and non-regular workers. Nam (2007) using Data from EAPS (Economically Active Population Survey) 2005, argued that productivity difference between regular and non-regular workers explains up to 91% of wage gap and the discriminatory wage gap is at most 0.2% of hourly wage of regular workers. Using 1st and 2nd KLIPS data and Oaxaca wage decomposition, Ahn (2001) showed one quarter or one third of wage differentials are explained by the price effect that the same characteristics are differently paid by the employment arrangements.

Nam (2013) analyzes that the discriminatory wage gap has been increased in case of the fixed term workers, which is the core of non-regular workers. Using cross-sectional data and Mincer type wage equation, Nam (2013) estimated that the pure discriminatory wage gap of fixed term workers (excluding the gender and age effect) is estimated to 6.5% in August 2008. This wage gap has increased compared to 3.3% in August 2004 to 5.8% in August 2003.

Kim and Park (2006) suggested the hypothesis that the discriminatory wage gap in the firms with labor union is bigger than that without labor union. The process of reducing the labor cost in the firms with labor union affects the wage of non-regular workers negatively. The discriminatory wage gaps are estimated to be greater than 20% either in unionized or in large establishments, and around 30% in unionized large establishments with more than 300 workers. Also, Park and Kim (2007) reported that the discriminatory wage gap of female workers is 15.7-17.9%, while that of male workers is 11.2-12.6%.

³⁾ There are various studies on non-regular workers completed recently including Eskesen (2010), Seong (2011), Ahn (2012), Noh (2011), and Nam (2013).

This paper uses the analytical framework of Oaxaca and Ransom (1994) to examine the regular and non-regular worker wage differentials from a more comprehensive point of view. A large part of the wage differential can be attributed to differences in human capital and productivity. In particular, employment status, tenure, level of educational attainment, and demographic factors are shown to be the main factors explaining the wage gap. The discriminative wage gap between regular and non-regular workers decreases with smaller firm size. The regular workers in firms with less than 10 workers are actually found to be at a disadvantage in terms of wage compared to their non-regular workers in firms with more than 300 workers.

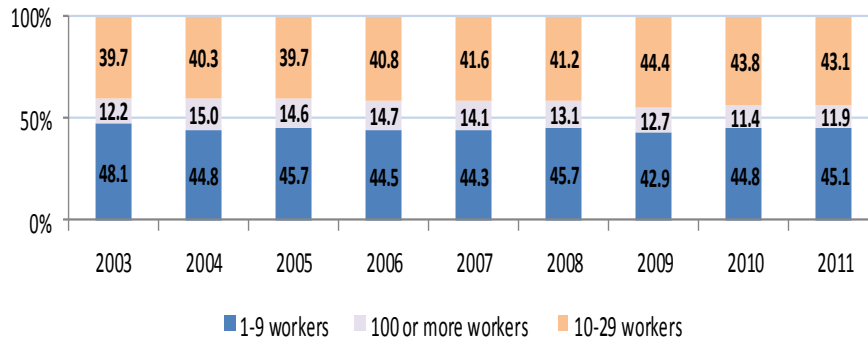
Section 2 of this paper analyzes the status of employment of non-regular workers by looking at trends and composition of non-regular workers and at job insecurity and social insurance participation rates. Section 3 examines non-regular worker wages and engages in an analysis of wage differential decomposition that uses raw data compiled by Statistics Korea from August 2003 to August 2011 in the Economically Active Population Survey Supplementary Survey by Employment Type. Section 4 looks at the policy implications of our analysis and the draw a conclusion of this paper.

2. EMPLOYMENT OF NON-REGULAR WORKERS

2.1. Trends in Non-regular Work

According to the August 2011 Supplement Survey of Statistics Korea, 34.2% of all waged workers or 5.995 million workers are non-regular workers. The absolute number of non-regular workers has increased since August 2003, but the proportion of non-regular workers amongst all waged workers has decreased since peaking in August 2004 at 37.0% and stands at 34.2% as of August 2011.⁴⁾ Contingent workers (including fixed-term

⁴⁾ Our time series data include year 2003 which is the first year surveying non-regular workers. However due to the unreliability of year 2003 data usually we do not include year 2003 data

Figure 1 Distribution of Non-regular Workers by Firm Size

Sources: Statistics Korea, Economically Active Population Survey; Supplementary Survey by Employment Type, each year.

workers) account for the highest proportion of all non-regular workers, but this proportion has been falling since August 2004. Part-time work and atypical work has continued to rise, however, due to structural changes in the overall economy.⁵⁾

Figure 1 tells us that the proportion of non-regular workers in firms with 100 or more workers has decreased since August 2004, while the proportion of non-regular workers in firms with 10 to 99 workers has increased. In absolute numbers, too, the number of non-regular workers in firms with 100 or more workers has decreased over this same time period, while the number has increased in firms with less than 100 workers. The proportion of non-regular workers among all workers has decreased in firms of all sizes, but the decrease is much more prominent in the larger firms. The proportion of non-regular workers has also decreased for micro-businesses, but while there is a pronounced decrease in the proportion of contingent work, there is a quite significant increase in the proportion of part-time work.

in analysis of non-regular workers. We report year 2003 data just as a reference.

⁵⁾ Part-time work as a proportion of waged worker increases in step with higher per capital GDP levels in OECD countries.

2.2. Composition of Non-regular Workers

As can be seen in table 1, non-regular workers are mostly women, youths and older workers who have priorities in protective social policies. The Supplementary Survey of August 2011 tells us that women account for 53.4% of all non-regular workers while men account for 46.6%, youths comprise 20.7%, and older workers at least 55 years of age account for 24.7%. Meanwhile, only 24.3% of all non-regular workers are male workers between 30 and 54 years of age. In terms of monthly average wage, non-regular male workers from 30 to 54 years of age receive 2.073 million KRW (Korean Won) or almost 3 times as much as non-regular older female workers.

Table 1 Composition of Non-regular Workers and Monthly Average Wage

(units: 1,000 persons, %, 10,000 KRW)

			Age			Subtotal
			Youths (15-29)	30-54	Older Workers (55 or more)	
Gender	Male	Number (Proportion)	557 (9.3)	1,459 (24.3)	775 (12.9)	2,791 (46.6)
		Monthly Average Wage	119.1	207.3	127.0	167.4
	Female	Number (Proportion)	686 (11.4)	1,813 (30.3)	704 (11.8)	3,203 (53.4)
		Monthly Average Wage	109.6	119.5	69.6	106.4
Subtotal		Number (Proportion)	1,243 (20.7)	3,272 (54.6)	1,479 (24.7)	5,995 (100.0)
		Monthly Average Wage	113.9	158.6	99.7	134.8

Source: Statistics Korea, *Economically Active Population Survey Supplementary Survey by Employment Type*, August 2011.

Table 2 Distribution of Non-regular Workers by Firm Size

(units: 1,000 persons, %)

Firm Size (workers)	All Non-regular Workers		Contingent Workers		Part-time Workers		Atypical Workers	
	Number	Proportion	Number	Proportion	Number	Proportion	Number	Proportion
1-4	1,546	25.8	572	16.6	739	43.4	745	30.7
5-9	1,156	19.3	573	16.7	337	19.8	532	21.9
10-29	1,483	24.7	922	26.8	349	20.5	631	26.0
30-99	1,097	18.3	773	22.5	175	10.3	396	16.3
100-299	375	6.3	296	8.6	46	2.7	89	3.7
300 or more	337	5.6	307	8.9	56	3.3	32	1.3
Total	5,995	100.0	3,442	100.0	1,702	100.0	2,427	100.0

Source: Statistics Korea, *Economically Active Population Survey Supplementary Survey by Employment Type*, August 2011.

More than 70% of the non-regular workers work in small firms with less than 30 persons, showing us just how concentrated non-regular work is in the smaller firms. Table 2 tells us that in August 2011, of all non-regular workers, only 5.6% worked in large firms with 300 or more workers and only 6.3% worked in firms with 100 to 299 workers. Among non-regular workers, part-time workers and atypical workers⁶⁾ tend to work in smaller workplaces in comparison to contingent workers. More specifically, 17.5% of contingent workers hold positions in workplaces with 100 or more workers, while the same is true for only 6.0% of all part-time workers and 5.0% of the atypical workers.

In table 3, we see that only 17.2% of all workers in large firms with 300 or more persons are non-regular workers and that this proportion increases as

⁶⁾ Among atypical workers, the proportion of home-based workers and day laborers working in micro-businesses is particularly high 86.2% of home-based workers belong to workplaces with less than 10 workers while the same is true for 78.8% of day laborers. Meanwhile 67.9% of independent contractors belong to workplaces with 10 to 99 workers.

Table 3 Proportion of Non-regular Workers by Firm Size

(units: 1,000 persons, %)

Firm Size (workers)	Regular Workers	Non-regular Workers				Total
		Contingent	Part-time	Atypical	All Non- regular	
1-4	1,808 (53.9)	572 (17.0)	739 (22.0)	745 (22.2)	1,546 (46.1)	3,354 (100.0)
5-9	1,821 (61.2)	573 (19.3)	337 (11.3)	532 (17.9)	1,156 (38.8)	2,977 (100.0)
10-29	2,489 (62.7)	922 (23.2)	349 (8.8)	631 (15.9)	1,483 (37.3)	3,972 (100.0)
30-99	2,376 (68.4)	773 (22.3)	175 (5.1)	396 (11.4)	1,097 (31.6)	3,473 (100.0)
100-299	1,394 (78.8)	296 (16.7)	46 (2.6)	89 (5.1)	375 (21.2)	1,769 (100.0)
300 or more	1,626 (82.8)	307 (15.6)	56 (2.9)	32 (1.7)	337 (17.2)	1,963 (100.0)
Total	11,515 (65.8)	3,442 (19.7)	1,702 (9.7)	2,427 (13.9)	5,995 (34.2)	17,510 (100.0)

Note: Proportion (%) in parentheses.

Source: Statistics Korea, *Economically Active Population Survey Supplementary Survey by Employment Type*, August 2011.

the firm size decreases. The proportion of non-regular workers in firms with 1 to 4 workers is almost one half (46.1%). Among non-regular workers, the proportion of contingent workers does not decrease very much according to firm size, whereas the proportion of part-time and atypical workers falls sharply in the larger firms. The numbers tell us that contingent workers account for 15.6% of all workers in firms with 300 or more workers, and a not too different 23.2% in firms with 10 to 29 persons.

For part-time workers, however, the proportion is only 2.9% of all workers in firms with 300 or more workers, but increases steeply to 8.8% in firms with 10 to 29 persons and 22.0% in firms with 1 to 4 persons. The proportion of atypical workers follows a similar trajectory, where most are employed in micro-businesses and where 47.6% replied in August 2011 that they voluntarily chose to engage in non-regular work.

2.3. Social Safety Net for Non-regular Workers

Social safety net for most non-regular workers is very weak. As of August 2011, only 42.3% of all non-regular workers are covered by the Employment Insurance, and only 48.6% participate in the National Pension Scheme. With 95.9% covered by National Health Insurance, it may seem that all blind spots are covered in terms of health insurance, but the reality is that more than half of all non-regular workers are insured in the self-employed category or as dependents of employed persons, while less than half are covered through their workplace. For the National Pension, too, 10.4% of all non-regular workers participate as self-employed, while only 38.2% participate through their workplace.

Table 4 and table 5 set forth social insurance participation rates by worker characteristic. In order to examine the extent of social safety provided through the workplace, only workplace-based coverage for health insurance and national pension are included in the numbers, while self-employed coverage and coverage dependents are excluded.

Table 4 shows us that for health insurance, 80.9% of all regular workers are insured through the workplace, while only 44.1% of the non-regular workers have workplace-based coverage. For national pension, too, 79.1% of the regular workers participate through the workplace, while this is true for only 38.2% of the non-regular workers. Among regular workers of different genders, we can see that the participation rate is higher for men than for women in terms of employment insurance, health insurance and the national pension. By age, the numbers tell us that regular worker participation in social insurance programs is highest for those in their 30s and continues to decrease for the more advanced age groups. Also, regular workers with higher levels of education tend to participate more in social insurance schemes.

Social insurance participation patterns for non-regular workers are quite similar in terms of gender and age to that of regular workers. More men than women participate in social insurance schemes and those in their 30s

Table 4 Social Insurance Participation Rates for Regular and Non-regular Workers by Worker Characteristic

(unit: %)

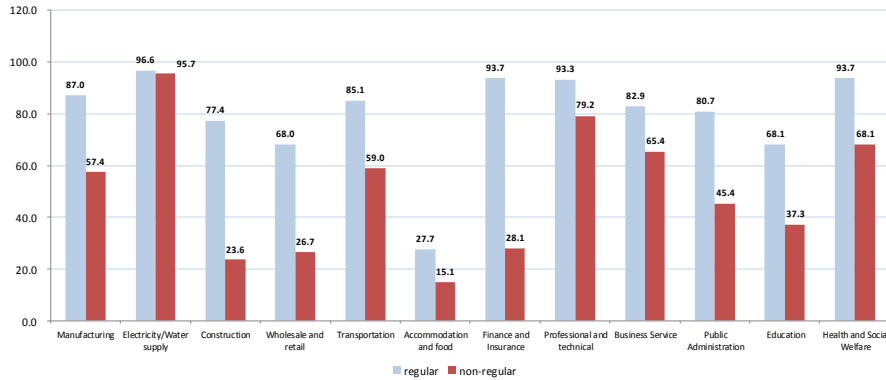
Category		Employment Insurance		Health Insurance (Workplace-based)		National Pension (Workplace-based)	
		Regular Worker	Non-regular Worker	Regular Worker	Non-regular Worker	Regular Worker	Non-regular Worker
All of Wage Workers		77.4	42.3	80.9	44.1	79.1	38.2
Gender	Male	82.4	44.2	85.7	47.4	83.4	38.2
	Female	68.9	40.6	72.7	41.3	71.9	38.2
Age	15-29	76.6	46.1	77.4	48.1	77.5	47.4
	30-39	84.4	55.0	87.0	55.2	86.8	55.3
	40-49	79.4	42.1	82.6	41.1	82.5	40.8
	50-59	70.9	42.8	77.1	39.3	76.6	38.5
	60 or more	37.0	21.7	51.1	36.1	4.8	1.3
Education	Elementary or Lower	47.1	22.6	51.3	28.0	41.3	12.7
	Middle School	55.6	33.1	57.5	34.5	51.8	24.0
	High School	71.5	37.4	73.0	37.5	71.6	33.2
	Professional College	86.7	65.8	88.1	66.2	87.8	65.7
	University or Higher	87.8	59.9	92.3	63.2	91.0	59.9

Source: Statistics Korea, *Economically Active Population Survey Supplementary Survey by Employment Type*, August 2011.

have the highest rate of workplace-based participation. For the national pension, however, there is no gender difference in participation rates among non-regular workers.

Level of educational attainment, however, has a different influence on social participation rates for non-regular workers compared to that on regular workers. For regular workers, the social insurance participation rate is higher for those with university degrees than those with professional college

Figure 2 Employment Insurance Participation Rates in Major Industries by Employment Type (%)



Source: Statistics Korea, *Economically Active Population Survey Supplementary Survey by Employment Type*, August 2011.

degrees, but for non-regular workers, the opposite holds true.⁷⁾ While the reason for this discrepancy is not clear, this phenomenon may be caused by the difference in social insurance participation rates among different industries. Compared to university graduate non-regular workers, professional college graduates who hold non-regular positions tend to engage more in industries such as health and social welfare, business facilities management and business support services and manufacturing; and as can be seen in figure 2 the social insurance participation rate of non-regular workers in such industries is higher than that of other industries. Meanwhile, non-regular workers who are university graduates are relatively concentrated in education, where the non-regular worker social insurance participation rate is lower than the average for all industries.⁸⁾

⁷⁾ The difference in participation rates for professional college graduates and university graduates is statistically significant at a significance level of 10%.

⁸⁾ The employment insurance participation rate for non-regular workers in health and social work is 68.1% while that for business facilities management and business support services and manufacturing is 65.4% and manufacturing 57.4% all of which are significantly higher than the average of 42.1% for all industries. Meanwhile, the employment insurance participation rate for workers in education is only 37.3% where 26.7% of all university graduate non-regular workers engage in this industry. This can also be found for health insurance and pension participation rates.

Table 5 Social Insurance Participation Rates for Regular and Non-regular Workers by Job Characteristics

(unit: %)

Category		Employment Insurance		Health Insurance (Workplace-based)		National Pension (Workplace-based)	
		Regular Worker	Non-regular Worker	Regular Worker	Non-regular Worker	Regular Worker	Non-regular Worker
Firm Size (workers)	1-4	37.8	16.6	39.8	17.5	38.2	13.3
	5-9	67.7	32.2	69.8	33.3	67.7	26.6
	10-29	82.7	48.9	85.0	50.3	82.5	42.5
	30-99	93.0	60.0	94.7	62.9	92.7	57.9
	100-299	95.8	74.1	97.4	76.5	96.2	69.4
	300 or more	97.1	78.4	98.5	79.2	97.9	74.4
Written Work Contract	Yes	94.7	70.9	95.9	75.0	94.0	65.4
	No	58.6	11.8	66.0	10.7	64.4	8.7
Labor Union	No union	71.7	37.9	73.9	39.4	71.9	33.5
	Not eligible	91.9	57.8	95.0	59.5	92.1	52.7
	Eligible but not member	97.6	90.0	98.9	92.1	98.5	89.2
	Member	97.8	92.9	99.4	96.6	98.7	91.1
Employment Status	Permanent	96.5	89.0	98.6	95.6	97.2	85.7
	Temporary	30.5	26.8	30.2	27.7	27.0	21.4
	Daily	4.5	5.1	1.3	0.2	1.3	0.1

Note: 'Not eligible' for 'labor union' category refers to cases where the workplace does have a union, but the worker is not eligible for union membership, while 'eligible but not member' refers to workers who are eligible to join the labor union but who have not done so.

Source: Statistics Korea, *Economically Active Population Survey Supplementary Survey by Employment Type*, August 2011.

Social insurance participation rates fluctuate widely not only by industry but also according to firm size, the existence of a written work contract and labor union membership. Table 5 tells us that social insurance participation rates increase for both regular and non-regular workers together with firm size. The gap in participation rates is quite pronounced between the 1 to 4 person firms and the 5 to 9 person firms, and then between the 5 to 9 person firms and the 10 to 29 persons firms. We also see that the smaller the firm,

the wider the participation rate gap between regular and non-regular workers.

For employment insurance, for instance, the regular worker participation rate is 2.28 times higher than the non-regular worker participation rate in firms with 1 to 4 workers, but this figure falls to 1.69 in the 10 to 29 person firms and to 1.24 in firms with 300 or more workers. This pattern is also observed for workplace-based participation in health insurance and the national pension.

While we generally believe that non-regular workers are situated within the blind spot of social insurance, the participation rates tell us that regular workers in micro-businesses with less than 10 workers are actually worse off than non-regular workers in firms with 100 persons or more. This clearly signifies that insufficient social safety coverage is not just a problem of non-regular work, but is an issue pertaining to very small firms.

For both regular and non-regular workers, the existence of a written work contract boosts the social insurance participation rate, and this is particularly the case for non-regular workers. Social insurance participation rates also increase sharply when a union exists and non-regular workers are eligible to join.

In terms of employment status, social insurance participation rates are much lower for temporary positions than for permanent positions, while workers in daily positions are mostly excluded from social insurance participation regardless of the regularity of the employment situation.⁹⁾ The social insurance participation rate is not very different between regular and non-regular workers of the same employment status. It is therefore recognized that employment status is a more critical factor than regularity of employment in determining social insurance participation.¹⁰⁾

⁹⁾ The permanent worker is the worker whose contract period with employer is one year and longer while the temporary worker is the worker whose contract period is equal to and longer than one month but less than one year. Also the daily worker is the worker whose contract period is less than one month.

¹⁰⁾ Until 2007 Statistics Korea only asked about workplace-based participation in health insurance and the national pension. Whereas more details were asked about from 2008. It is therefore necessary to verify the risk of time inconsistency due to this change in survey questions between 2007 and 2008.

The social insurance participation rate of non-regular workers increases over time. For non-regular workers, the employment insurance participation rate, health insurance participation rate, and national pension participation rate respectively have increased from 29.2% to 42.3%, from 32.6% to 44.1%, and from 30.5% to 38.2% respectively between August 2004 and August 2011. Especially for firms with 1 to 4 workers, the employment insurance participation rate increased from 4.6% in August 2004 to 16.6% in August 2011. Still, the gap in employment insurance participation between firms of different sizes continues to be quite pronounced. Health insurance participation also increased from 40.1% in August 2004 to 44.1% in August 2011, but the increase here is not as significant as the increase in employment insurance participation.

National pension participation, meanwhile, has barely changed over the years, telling us that old age security is still an important issue that remains unresolved for non-regular workers. By firm size, there has clearly been an increase in health insurance and national pension participation rates in small workplaces such as those with 1 to 4 persons.

2.4. Job Stability of Non-regular Worker

We measure job stability through tenure — the number of consecutive years of service — at the current workplace and find that, while regular workers have spent an average of 6.6 years at their current workplace, non-regular workers have only spent 2.2 years on average.

Table 6 tells us that, among non-regular workers, men have spent an average of 2.31 years at their current workplace, while the average for women is much shorter at 2.11 years.¹¹⁾ By age, we see that tenure increases for regular workers until they reach their 50s, while there is almost no difference in tenure for non-regular workers aside from those younger than 30 years of age or older than 60. As for level of education, the average

¹¹⁾ This gender gap for tenure among non-regular workers is statistically significant at a significance level of 1%.

**Table 6 Tenure of Regular and Non-regular Worker
by Personal Characteristics**

(unit: years)

Category		Regular Workers	Non-regular Workers	All
All		6.60	2.20	5.10
Gender	Male	7.69	2.31	6.20
	Female	4.75	2.11	3.62
Age	15-29	1.88	0.96	1.57
	30-39	5.17	2.62	4.55
	40-49	8.98	2.64	7.05
	50-59	11.20	2.68	7.82
	60 or more	7.53	2.06	3.67
Level of Education	Elementary School or Lower	5.54	1.42	2.81
	Middle School	5.00	2.02	3.48
	High School	5.92	1.97	4.42
	Professional College	5.21	2.50	4.51
	University or Higher	8.30	3.21	7.18

Source: Statistics Korea, *Economically Active Population Survey Supplementary Survey by Employment Type*, August 2011.

tenure for regular workers is longest at 8.30 years for university graduates, and for non-regular workers, too, is longest for university graduates.

The relatively longer tenure for workers with higher levels of education even among the non-regular workers is due mostly to the fact that highly educated workers tend more to work in professional and clerical jobs that are higher up on the job ladder. The average tenure for these jobs is characteristically longer than that for persons with jobs on the lower rungs such as manual laborers, technical workers, machine operators and salespersons. This longer average tenure for workers with higher education may also be related to employment status, since workers with higher levels of educational attainment tend more to engage in permanent non-regular work which generally has a relatively longer tenure.¹²⁾

¹²⁾ Workers with higher levels of education tend more to engage in permanent non-regular work. While only 17.4% of non-regular workers who are elementary school graduates or lower work in permanent positions 23.1% of the middle school graduates 28.0% of the high

**Table 7 Regular and Non-regular Worker Tenure
by Job Characteristic**

(unit: years)

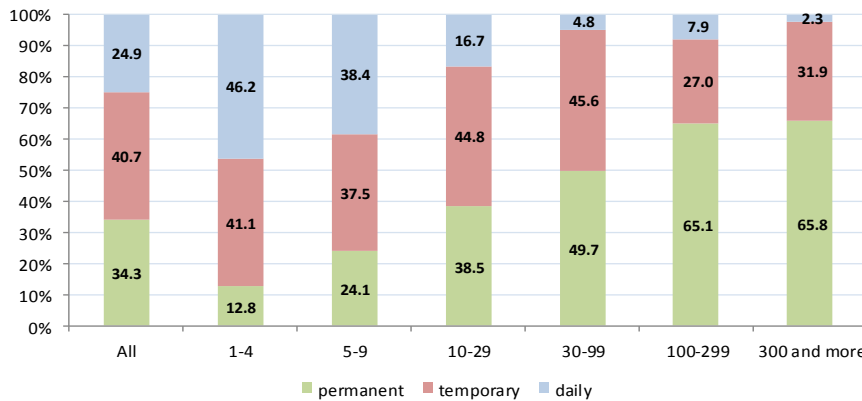
Category		Regular Workers	Non-regular Workers	All
Firm Size (workers)	1-4	3.17	1.33	2.32
	5-9	3.98	1.43	2.99
	10-29	5.80	2.37	4.52
	30-99	7.99	3.14	6.45
	100-299	8.13	3.11	7.06
	300 or more	11.25	4.09	10.02
Written Work Contract	Yes	6.92	2.96	5.53
	No	6.28	1.39	4.66
Labor Union	No union	4.58	1.99	3.59
	Not eligible	11.68	2.30	7.14
	Eligible but not Member	10.87	3.95	9.97
	Member	12.01	7.27	11.62
Employment Status	Permanent	8.09	3.80	7.27
	Temporary	2.19	2.04	2.12
	Daily	1.20	0.27	0.42

Source: Statistics Korea, *Economically Active Population Survey Supplementary Survey by Employment Type*, August 2011.

By firm size, we see that job instability is particularly serious for non-regular workers in very small firms. Table 7 tells us that just among non-regular workers, tenure is 4.09 years for those in firms with 300 or more workers, while it is a mere 1.33 years for workers in firms with 1 to 4 persons. One important reason for this phenomenon is that the proportion of permanent non-regular work is higher in the larger firms. Figure 3 shows that the proportion of permanent work among all non-regular work is only 12.8% in firms with 1-4 workers, but this proportion continues to increase

school graduates 56.1% of the professional college graduates and 54.7% of the university graduates engage in permanent non-regular work. The tenure for non-regular workers according to employment status as set forth in table 7 shows us that the average tenure for permanent non-regular positions is 3.80 years while the tenure is 2.04 years for temporary positions and 0.27 years for daily positions.

Figure 3 Distribution of Non-regular Workers by Firm Size and by Employment Status (%)



Source: Statistics Korea, *Economically Active Population Survey Supplementary Survey by Employment Type*, August 2011.

with firm size to reach 65.8% in firms with 300 or more workers. On the other hand, smaller firms tend more to use non-regular workers in daily positions.

As for the impact on average tenure of the existence of a written work contract, for both regular and non-regular workers, tenure is longer when there exists a written contract. Meanwhile, tenure is also found to be longer for union members. For union members, average tenure is 7.27 years for even non-regular workers, indicating the substantial contribution of labor unions in ensuring job stability. In terms of employment status, tenure is longest for both regular and non-regular workers in permanent positions, followed by those in temporary positions and, lastly, those in daily positions.

3. WAGE OF NON-REGULAR WORKER

3.1. Wage Differential between Regular and Non-regular Workers

A simple wage comparison of non-regular and regular workers as set forth

Table 8 Monthly Average Wage for Regular and Non-regular Workers by Firm Size

(units: 10,000 KRW, %)

Firm Size (workers)	All Waged Workers	Regular Workers (A)	Non-regular Workers				Wage Ratio (B/A)
			All (B)	Contingent	Part- time	Atypical	
1-4	121.7	148.7	90.3	101.4	50.7	101.4	60.7
5-9	161.8	190.0	117.4	129.9	60.4	119.9	61.8
10-29	194.6	228.1	138.3	141.6	66.0	142.2	60.6
30-99	231.0	261.5	164.9	161.9	76.5	176.4	63.1
100-299	255.8	273.2	191.1	200.9	84.0	165.9	69.9
300 or more	326.2	347.7	222.9	226.9	84.2	206.6	64.1
All	203.2	238.8	134.8	150.2	60.4	132.1	56.4

Source: Statistics Korea, *Economically Active Population Survey Supplementary Survey by Employment Type*, August 2011.

in table 8 shows us that the level of non-regular worker wages is only 56.4% of that of regular workers.¹³⁾ When firms of equal sizes are compared, however, non-regular worker wages are anywhere between 60.6% and 69.9% of the regular worker wage level. The fact that the non-regular to regular wage ratio is higher when firms of similar sizes are compared than for all workers combined reflects the fact that 45.1% or almost half of all non-regular workers work in firms with less than 10 persons that offer low wages.

The wage difference is quite pronounced even among non-regular workers according to the size of the firm at which the workers are employed. Non-regular workers at firms with 300 or more persons receive wages that are similar to that of regular workers in firms with 10-29 persons; and non-regular workers in firms with 100-299 persons receive wages almost equal to that of regular workers in firms with 5-9 persons.

Since non-regular workers generally work fewer hours than regular workers,

¹³⁾ As of August 2011 46.4% of all non-regular workers receive less than 1 million KRW in monthly wages while 25.2% receive between 1 million and 1.5 million KRW and 28.4% receive more than 1.5 million KRW. Meanwhile 66.6% of the regular workers receive more than 1.5 million KRW while only 9.2% receive less than 1 million KRW.

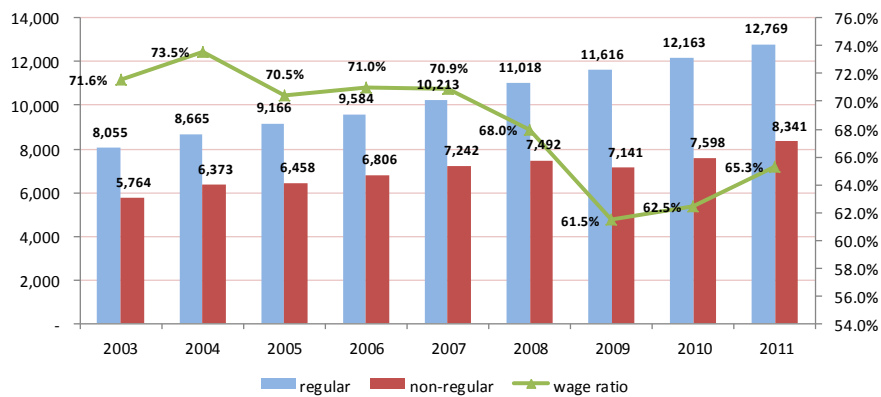
Table 9 Hourly Wage for Regular and Non-regular Workers by Firm Size

(units: KRW, %)

Firm Size (workers)	All Waged Workers	Regular Workers (A)	Non-regular Workers				Wage Ratio (B/A)
			All (B)	Contingent	Part-time	Atypical	
1-4	6,701	7,191	6,128	6,197	5,956	6,017	85.2
5-9	8,697	9,664	7,172	7,264	7,303	6,607	74.2
10-29	10,687	12,094	8,326	8,149	8,220	7,881	68.8
30-99	12,790	14,125	9,900	9,576	10,262	9,965	70.1
100-299	14,169	14,942	11,294	11,657	11,838	9,110	75.6
300 or more	18,702	19,634	14,204	14,361	14,563	11,744	72.3
All	11,253	12,769	8,341	8,853	7,574	7,466	65.3

Source: Statistics Korea, *Economically Active Population Survey Supplementary Survey by Employment Type*, August 2011.

Figure 4 Regular and Non-regular Hourly Wage and Non-regular to Regular Worker Wage Ratio Trends



Source: Statistics Korea, *Economically Active Population Survey Supplementary Survey by Employment Type*, August 2011.

the wage gap between regular and non-regular workers becomes smaller when hourly wage is used for comparison instead of monthly wage. The non-regular to regular worker wage ratio for hourly wage is 65.3% (see table 9).

The wage gap between regular and non-regular workers decreases with smaller firm size, in a very consistent manner from August 2008. As shown in figure 4, wages for regular workers have increased at a faster pace than wages for non-regular workers, causing the wage ratio (=non-regular wage/regular worker wage) to fall since August 2004 from 73.5% to 61.5% in August 2009. While the wage ratio did recover somewhat after August 2009, it still remains at 65.3% as of August 2011.

Non-regular workers also suffer from a high degree of discrimination in terms of fringe benefits. Table 10 tells us that 78.4% of regular workers are likely to receive retirement allowance, but only 38.4% of the non-regular workers can expect to receive this benefit. For bonuses, too, 80.4% of the regular workers and only 35.5% the non-regular workers can expect to receive a bonus. Also, 69.2% of regular workers and a mere 30.5% of non-regular workers have access to paid holidays and leaves.

In table 10, we can see that the pattern is very similar to that found in table 5 on social insurance participation rates. In other words, the lower the social insurance participation rate, the lower the likelihood of receiving fringe benefits. By firm size, we see that in all categories including retirement allowance, bonuses, overtime pay and paid holidays and leaves, workers in larger firms are more likely to receive fringe benefits. This holds true for both regular and non-regular workers. As was the case for social insurance participation rates, the smaller the firm, the larger the relative gap between regular and non-regular workers in terms of how likely they are to receive fringe benefits.

This gap in fringe benefits for regular and non-regular workers widens in the smaller firms, but what is more problematic is that in micro-businesses with less than 10 workers, the likelihood for even regular workers to receive fringe benefits such as retirement allowance, overtime pay and paid holidays and leaves is lower than that for non-regular workers in workplaces with 100 or more persons. This tells us that, for fringe benefits as well, firm size plays an equally important role as regularity of work, and shows us the gloomy reality that a large number of micro-businesses are not able to provide

**Table 10 Likelihood that Worker Will Receive Fringe Benefits
by Worker Characteristic**

(unit: %)

Category		Retirement Allowance		Bonus		Overtime Pay		Paid Holidays and Leaves	
		Regular	Non-regular	Regular	Non-regular	Regular	Non-regular	Regular	Non-regular
Firm size (workers)	1-4	37.2	15.6	49.5	17.0	13.6	7.0	27.8	9.7
	5-9	64.3	28.1	71.1	27.6	31.1	12.7	51.6	19.6
	10-29	81.7	43.3	82.0	38.0	53.7	21.6	68.9	31.9
	30-99	93.0	55.6	90.4	48.8	72.3	36.3	83.9	47.4
	100-299	96.6	68.8	94.2	62.5	78.0	50.0	89.5	61.2
	300 or more	97.9	66.8	96.5	62.4	85.0	47.7	96.9	68.1
Written Work Contract	Yes	94.3	65.9	92.0	57.0	66.9	35.2	85.2	53.1
	No	62.6	8.6	69.0	12.1	43.2	7.8	53.4	6.0
Labor Union	No Union	70.6	35.2	74.2	32.6	43.1	18.7	59.1	25.8
	Not Eligible	92.0	39.9	88.5	36.0	69.9	27.5	88.6	43.9
	Eligible but not Member	99.1	86.7	98.2	85.4	87.4	67.6	96.4	84.5
	Member	99.2	95.5	97.6	85.1	89.1	70.2	95.9	85.8
Employment Status	Permanent	99.4	96.6	96.9	82.1	70.2	50.1	88.6	76.1
	Temporary	16.6	12.7	33.1	16.4	9.2	9.5	11.5	10.5
	Daily	0.7	0.3	8.5	2.3	8.7	3.9	2.4	0.3
Average		78.4	38.4	80.4	35.5	55.0	22.0	69.2	30.5

Note: 'Not eligible' for 'Labor union' category refers to cases where the workplace does have a union, but the worker is not eligible for union membership, while 'Eligible but not member' refers to workers who are eligible to join the labor union but who have not done so.

Source: Statistics Korea, *Economically Active Population Survey Supplementary Survey by Employment Type*, August 2011.

even their regular workers with statutory retirement allowances, overtime pay or paid holidays and leaves.

Both regular and non-regular workers are more likely to receive fringe benefits when there is a written work contract, and for non-regular workers, the likelihood of receiving fringe benefits is impacted quite strongly by the existence of such a written work contract. Table 10 tells us that non-regular workers are much more likely to receive fringe benefits in workplaces that

are unionized and where non-regular workers are eligible for membership. Also, compared to permanent workers, temporary workers are much less likely to receive fringe benefits. As for daily workers, both regular and non-regular workers are more or less excluded from access to any fringe benefits. Just as was the case for social insurance participation rates, we see that the fringe benefit gap is not very wide between regular and non-regular workers who share the same employment status. Therefore, employment status — rather than regularity — is deemed to be a more critical factor in determining the likelihood for workers to receive fringe benefits.

3.2. Decomposition of the Wage Differential

The simple comparison in table 8 is not accurate when it tells us that the non-regular worker wage is 56.4% of the regular worker wage. A more accurate comparison of wages for each employment type that takes into consideration hours worked, gender, age, level of education, marital status, tenure, firm size and unionization tells us that the wage differential is actually quite smaller.¹⁴⁾ For hourly wage, in particular, the wage gap between regular and non-regular workers decreases further with much smaller firm size.

This paper uses the analytical framework of Oaxaca and Ransom (1994) to examine the regular and non-regular worker wage gap from a more comprehensive point of view. When regular worker wage is W_m , and non-regular worker wage is W_f , the Oaxaca and Ransom wage gap decomposition equation is as follows.

$$\ln(W_m / W_f) = \overline{X_m}'(\hat{\beta}_m - \hat{\beta}) + \overline{X_f}'(\hat{\beta} - \hat{\beta}_f) + (\overline{X_m} - \overline{X_f})'\beta', \quad (1)$$

= wage premium exceeding productivity for regular workers due to

¹⁴⁾ According to analysis from the Statistical Research Institute the monthly average wage differential between regular and non-regular workers in August 2011 was 11.1% — a 1 percentage point year-over-year decrease.

discriminatory factors
 + wage loss for non-regular workers due to discriminatory factors
 + wage gap between regular and non-regular workers due to the productivity gap.

\overline{X}_m and \overline{X}_f are the average characteristic values for regular and non-regular workers, respectively, while $\hat{\beta}_m$ and $\hat{\beta}_f$ are the actual coefficients of the estimated wage function for regular and non-regular workers. β' is the coefficient of the wage function estimated in the absence of any wage discrimination based on employment type and thus reflects only the gap in productivity between regular and non-regular workers.

The first and second term on the right side of equation (1) represent the wage gap between regular and non-regular workers that can be attributed to discriminatory factors.¹⁵⁾ To elaborate, the first term on the right-hand side $X_m'(\hat{\beta}_m - \hat{\beta})$ represents the wage premium given to regular workers in excess of the workers' productivity that is offered on the basis of discriminatory factors, while the second term $X_f'(\hat{\beta} - \hat{\beta}_f)$ represents wages lost by non-regular workers due to discriminatory factors in comparison to wages that accurately reflect non-regular worker productivity. The final term $(\overline{X}_m - \overline{X}_f)'\beta'$ represents the productivity gap between regular and non-regular workers.

To measure the wage gap between regular and non-regular workers caused by discriminatory factors, we need to identify β' , for which Oaxaca and Ransom (1994) proposes the following.

$$\beta' = \hat{\beta} = (XX)'XY. \quad (2)$$

Using raw data from the August 2011 Economically Active Population Survey Supplementary Survey by Employment Type, this paper estimates β' , $\hat{\beta}_m$, and $\hat{\beta}_f$ in equation (1) to decompose the wage gap between

¹⁵⁾ More accurately, this represents the wage gap that remains unexplained by the model.

different employment types. OLS (Ordinary Least Squares) estimation is used in this process which analyzes men and women who are 15 years of age or older who were employed as waged workers at the time of the survey, and where the natural logarithm of hourly wage is set as the dependent variable.

3.3. Results of the Wage Gap Decomposition

Table 11 shows the OLS estimation results to outline the results of the decomposition of the wage gap between workers of different employment types. First, we see that the discriminatory wage gap (i.e., the unexplained wage gap) that is not explained by any personal characteristics accounts for only 1.1% of the total wage gap. Of this, 0.4% comes from the wage premium given to regular workers in excess of their productivity, while 0.7% is attributed to wages lost by non-regular workers in comparison to what they should actually receive in view of their productivity levels. Meanwhile, 98.9% of the total wage gap is explained by the productivity gap between regular and non-regular workers.

$$\begin{aligned}\ln(W_m / W_f) &= X'_m(\hat{\beta}_m - \hat{\beta}) + X'_f(\hat{\beta} - \hat{\beta}_f) + (\overline{X}_m - \overline{X}_f)' \beta' \\ &= 0.0016(0.4\%) + 0.0032(0.7\%) + 0.4375(98.9\%)\end{aligned}$$

The wage gap between workers of different employment types can therefore mostly be explained by personal characteristics and differences in productivity, while discriminatory factors have almost no impact. Figure 5 gives us a more detailed breakdown and tells us that, within this productivity gap, gender, age, marital status, residential area and other demographic factors explain 19.9% of the total wage gap, while the level of education accounts for 18.1%, tenure for 23.2% and the difference in employment status between regular and non-regular workers accounts for 26.3%. Unionization, firm size and industry also account for small portions of this wage gap.

**Table 11 OLS Estimation of the Wage Function by Employment Type:
August 2011**

Explanatory Variable	Regular Workers	Non-regular Workers	All
Gender (0: female, 1: male)	0.252(0.00)	0.181(0.00)	0.235(0.00)
Age	0.044(0.00)	0.035(0.00)	0.039(0.00)
Age-squared	-0.001(0.00)	-0.000(0.00)	-0.000(0.00)
Marital status (base: single)			
Married	0.093(0.00)	0.060(0.00)	0.091(0.00)
Previously married	0.026(0.085)	0.062(0.01)	0.064(0.00)
Education (base: elementary school)			
Middle school graduate	0.089(0.00)	0.054(0.01)	0.059(0.00)
High school graduate	0.212(0.00)	0.128(0.00)	0.165(0.00)
Professional college graduate	0.336(0.00)	0.234(0.00)	0.289(0.00)
University and above	0.479(0.00)	0.426(0.00)	0.451(0.00)
Tenure at current workplace (years)	0.022(0.00)	0.023(0.00)	0.023(0.00)
Residential area (0: county, 1: city)	0.044(0.00)	0.080(0.00)	0.060(0.00)
Employment status (base: permanent)			
Temporary	-0.271(0.00)	-0.099(0.00)	-0.204(0.00)
Daily	-0.417(0.00)	-0.311(0.00)	-0.351(0.00)
Union membership (base: no union)			
Unionized but not eligible	0.086(0.00)	-0.030(0.09)	0.033(0.00)
Eligible but not member	0.049(0.00)	0.047(0.16)	0.047(0.00)
Member	0.029(0.00)	0.060(0.06)	0.033(0.00)
Industry (base: manufacturing)			
Construction	0.100(0.00)	0.179(0.00)	0.115(0.00)
Wholesale and retail trade	0.019(0.06)	-0.089(0.00)	-0.028(0.00)
Transportation	-0.150(0.00)	-0.019(0.51)	-0.129(0.00)
Accommodation and food service	-0.043(0.00)	-0.049(0.03)	-0.064(0.00)
Finance and insurance activities	0.237(0.00)	0.274(0.00)	0.247(0.00)
Professional and technical activities	0.185(0.00)	0.172(0.00)	0.173(0.00)
Business support services	0.027(0.19)	-0.141(0.00)	-0.130(0.00)
Public administration	-0.040(0.00)	-0.056(0.04)	-0.045(0.00)
Education	0.064(0.00)	0.069(0.00)	0.058(0.00)
Human health and social welfare	0.014(0.28)	-0.008(0.72)	-0.019(0.09)
Membership organizations	-0.167(0.00)	-0.014(0.62)	-0.132(0.00)
Other	0.025(0.03)	-0.021(0.25)	-0.009(0.33)
Firm size (base: 1-4 workers)			
5-9	0.113(0.00)	0.079(0.00)	0.102(0.00)
10-29	0.165(0.00)	0.113(0.00)	0.149(0.00)
30-99	0.193(0.00)	0.150(0.00)	0.181(0.00)
100-299	0.223(0.00)	0.229(0.00)	0.225(0.00)
300 or more	0.360(0.00)	0.304(0.00)	0.350(0.00)
Constant term	7.569(0.00)	7.794(0.00)	7.707(0.00)
Sample Size	16,871	9,651	26,522
F-value	957.90	223.35	1,275.65
Adjusted R-square	0.652	0.432	0.613

Note: $P > |t|$ for values in parentheses.

Figure 5 Regular and Non-regular Worker Wage Gap Decomposition: August 2011

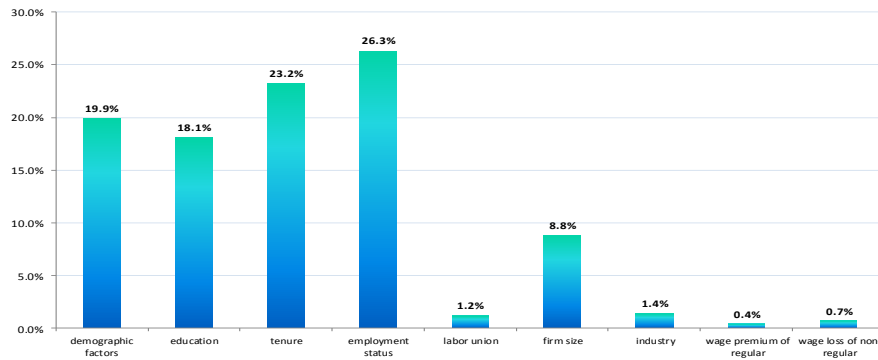


Figure 6 Regular and Non-regular Worker Wage Gap Decomposition by Firm Size: August 2011



A decomposition of the regular and non-regular workers wage gap by firm size tells us that — as is shown in figure 6 — the proportion of the wage gap due to discriminatory factors decreases with smaller firm size. One notable phenomenon is that for firms with 1 to 4 persons and firms with 100 to 299 persons, the non-regular worker wage loss and the regular worker wage premium are all negative (–). In firms with 1 to 4 workers, the regular worker wage premium is –5.0% and the non-regular worker wage loss is –5.9%, while in firms with 100 to 299 workers, the regular worker wage

Table 12 Decomposition of the Regular and Non-regular Worker Wage Gap: August 2003 to August 2011

(unit: %)

	Month								
	2003. 8	2004. 8	2005. 8	2006. 8	2007. 8	2008. 8	2009. 8	2010. 8	2011. 8
Demographic Factors	17.2	15.4	15.2	16.2	15.8	15.8	15.5	17.5	19.9
Level of Education	19.8	19.0	20.0	19.2	20.1	21.4	19.0	17.5	18.1
Tenure	25.0	29.0	27.8	25.7	26.7	26.6	24.1	24.0	23.2
Employment Status	33.5	32.8	33.2	30.1	31.7	28.7	28.8	27.3	26.3
Union Membership	1.6	1.1	1.7	1.9	2.1	2.4	1.5	1.4	1.2
Industry	-6.7	-6.7	-4.8	-3.0	-4.8	-2.3	0.8	0.6	1.4
Firm Size	6.5	7.2	7.0	6.6	7.3	8.1	7.0	8.3	8.8
Regular Wage Premium	1.0	0.9	0.0	1.1	0.4	-0.3	1.2	1.1	0.4
Non-regular Wage Loss	2.1	1.4	0.0	2.0	0.7	-0.5	2.1	2.3	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

premium is -0.2% and the non-regular worker wage loss is -0.7%. In these firms, therefore, non-regular workers do not suffer a loss of wages relative to their productivity, but rather receive higher wages than their regular counterparts.

The August 2011 results that indicate a smaller or negative regular worker wage premium and non-regular worker wage loss in the smaller firms can also be found in analysis of data from 2004 to 2010. In most years, the smaller the firm, the higher the proportion of the wage gap that can be explained by the analytical model. Also, in many cases for microbusinesses with 1 to 4 or 5 to 9 workers, explanatory variables account for more than 100% of the wage gap, signaling the possibility that regular workers are in fact discriminated against in these smaller firms.

Table 12 shows us that from August 2003 to August 2011, the regular

worker wage premium explains only -0.3% to 1.1% of the total wage gap, while the non-regular worker wage loss explains only -0.5% to 2.3% . At all points of observation, therefore, most of the wage gap is explained by the model. Among the variables that affect the wage gap, employment status has the greatest impact, followed by tenure, educational level, demographic factors and industry.

Even when employment status is excluded from the explanatory variables, as is shown in Appendix table A1, throughout the period from August 2003 to August 2011, the regular worker's wage premium and the non-regular worker's wage loss accounts for less than 17% of the total wage gap, while demographic factors, tenure and level of education explain more than 70% of the overall wage gap. These results tell us that policies that encourage workers to stay in one workplace as long as possible — even for non-regular work — and support the accumulation of human capital through such means as training will more effectively reduce the wage gap between regular and non-regular workers.

4. POLICY IMPLICATIONS AND CONCLUSION

The policy implications of the previous discussions on results of the analysis on non-regular workers are as follows. First, non-regular workers do not form one single group, but consist of various groups that include women, older workers (middle-aged and seniors) and youths. Most of these groups are already recognized as being vulnerable and receive policy support. Policies for non-regular workers must therefore exist in harmony with other policies that address the needs of these vulnerable social groups. While the proportion and absolute number of non-regular workers have decreased in firms with 100 or more persons, non-regular work has increased in firms with less than 100 workers, indicating the need for more focused policy support for firms of different sizes, and particularly for non-regular workers in micro-businesses.

Second, working conditions vary widely for non-regular workers according to demographic factors including gender, age and level of education; firm size; and industry. More specifically, a considerable gap exists among non-regular workers in terms of social insurance participation rates, tenure, wage levels and fringe benefits. Regular workers in micro-businesses do not fare much better than other non-regular workers. Regular workers in these small micro-businesses may be treated somewhat better than their non-regular counterparts in terms of wage in reflection of their loyalty and commitment to the firm and their longer tenure, but these regular workers in micro-businesses usually face more difficult conditions than non-regular workers in large firms. Policy instruments must therefore be developed to separately target non-regular workers in large firms and those in small firms. For instance, for large firms with a high proportion of fixed-term work, policies should focus on increasing job stability through the conversion of non-regular work to regular work, while for micro-businesses where part-time work and atypical work is prevalent, policies should work to secure increased social insurance participation, greater career development opportunities and more stable income.

Third, one important challenge faced by non-regular workers is that more than half of these workers remain in the blind spot of social insurance. To resolve this issue, social insurance coverage should be extended to temporary and daily workers, while measures to encourage written work contracts and to open union doors to non-regular workers should also be considered. These efforts will ultimately contribute to resolving differences between regular and non-regular workers in terms of fringe benefits such as retirement allowance, bonuses, overtime pay and paid holidays and leaves. Social insurance participation by workers in micro-businesses should be better enforced through stronger integration of social insurance coverage and collection operations and by improving the social insurance management system so that all accounts for a single individual can be managed in an integrated manner.

Fourth, the regular and non-regular worker wage gap decomposition tells

us that most of the wage gap can be attributed to differences in human capital and productivity, while only 1.1% of the wage gap in August 2011 can be regarded as being discriminatory. While we need, therefore, to eliminate discriminatory practices against non-regular workers, it is all the more important that we enhance non-regular worker productivity and support human capital development for non-regular workers. Non-regular workers need more opportunities for education and training, and the government must continuously invest in non-regular workers so that they can make the jump into better jobs. More programs such as the New-Start program for youths are needed to systematically and intensively provide support for non-regular workers to build capacity and leap higher in the labor market.

Fifth, we should consider an extension to the limit on continuous employment of non-regular workers — in particular, fixed-term workers — from the current 2 years to perhaps 3 or 4 years. Among the 20 OECD members, only 8 countries limit the years of employment for non-regular workers to 2 years. When non-regular workers are still not converted to regular positions after 3 or 4 years of employment, it is highly likely that there either exists employer moral hazard or that inefficient employment relations are being maintained. Even our results from the decomposition of the regular and non-regular worker wage gap tell us that the wage gap is likely to decrease when non-regular workers engage in more years of consecutive service at their workplace.

Sixth, the scope of ‘non-regular work’ must be fine-tuned. The OECD does not use the concept of ‘non-regular work’, but instead uses ‘temporary work’ which — compared to the definition of non-regular work used in Korea — excludes part-time work with no fixed term, contract company workers, independent contractors and home-based workers.¹⁶⁾ While all the work so far to protect non-regular workers has led to a decrease in the proportion of contingent work, the proportion of part-time work and atypical work continues to grow. With further economic growth and the

¹⁶⁾ If the OECD definition is used to measure the non-regular workforce 19.6% of all waged workers are non-regular workers as of August 2011.

implementation of job sharing programs, part-time work is expected to keep increasing, and it may therefore be desirable to carve away part-time work from the concept of non-regular work and manage part-time work in a separate system.

In its examination of wages, fringe benefits and social insurance participation rates in firms of different sizes, this paper finds that non-regular workers in firms with 100 or more persons may be disadvantaged in comparison to regular workers in firms of the same size, but are in fact treated much better than regular workers in very small firms with less than 10 persons. This implies that the overall direction for policies supporting non-regular workers should focus not only on eliminating discrimination and improving treatment, but particularly on improving working conditions in micro-businesses.

We also need to dispel the myth that the issues of non-regular work can be resolved simply by converting non-regular workers into regular workers. Most of our non-regular workers work in micro-business, and it is very difficult to expect that these very small firms with their very weak competitiveness will be able to convert their non-regular workers into regular workers. This is perhaps why legislation on non-regular work has not been successful in meeting expectations on the reduction of non-regular workers in firms with less than 100 persons where most non-regular workers work. Policies that focus on converting non-regular work to regular work in large firms or the public sector — where it is relatively easier to do so — may actually be unfair to non-regular workers in very small firms. Rather than focus on the conversion to regular work, efforts should be concentrated under the principle of ‘equal pay for equal work’ on ensuring that non-regular workers are not treated unfairly in terms of social insurance participation and wages. As was implied in the results of the regular and non-regular worker wage gap decomposition, while it is still important that we eliminate discrimination against non-regular workers, we must place equal emphasis on enhancing non-regular worker productivity and encouraging the development of human capital in non-regular workers.

**Table A2 OLS Estimation of the Wage Function by Employment Type:
Excluding Employment Status, August 2011**

Explanatory Variable	Regular Workers	Non-regular Workers	All
Gender (0: female, 1: male)	0.264(0.00)	0.187(0.00)	0.249(0.00)
Age	0.049(0.00)	0.038(0.00)	0.043(0.00)
Age-squared	-0.001(0.00)	-0.000(0.00)	-0.001(0.00)
Marital status (base: single)			
Married	0.101(0.00)	0.062(0.00)	0.096(0.00)
Previously married	0.019(0.00)	0.057(0.00)	0.057(0.00)
Education (base: elementary school)			
Middle school graduate	0.093(0.00)	0.067(0.00)	0.067(0.00)
High school graduate	0.242(0.00)	0.156(0.00)	0.193(0.00)
Professional college graduate	0.405(0.00)	0.301(0.00)	0.362(0.00)
University and above	0.552(0.00)	0.490(0.00)	0.526(0.00)
Tenure at current workplace (years)	0.025(0.00)	0.029(0.00)	0.027(0.00)
Residential area (0: county, 1: city)	0.037(0.00)	0.081(0.00)	0.056(0.00)
Union membership (base: no union)			
Unionized but not eligible	0.081(0.00)	-0.026(0.00)	0.023(0.00)
Eligible but not member	0.069(0.00)	0.081(0.00)	0.072(0.00)
Member	0.048(0.00)	0.094(0.00)	0.057(0.00)
Industry (base: manufacturing)			
Construction	0.076(0.00)	0.080(0.00)	0.031(0.00)
Wholesale and retail trade	-0.002(0.00)	-0.080(0.00)	-0.046(0.00)
Transportation	-0.164(0.00)	-0.007(0.00)	-0.139(0.00)
Accommodation and food service	-0.134(0.00)	-0.063(0.00)	-0.126(0.00)
Finance and insurance activities	0.232(0.00)	0.283(0.00)	0.214(0.00)
Professional and scientific activities	0.196(0.00)	0.226(0.00)	0.187(0.00)
Business support services	0.021(0.00)	-0.076(0.00)	-0.095(0.00)
Public administration and social security	-0.052(0.00)	0.003(0.00)	-0.061(0.00)
Education	0.034(0.00)	0.099(0.00)	0.022(0.00)
Human health and social work activities	0.013(0.00)	0.057(0.00)	0.005(0.00)
Membership organizations	-0.175(0.00)	-0.004(0.00)	-0.143(0.00)
Other	0.008(0.00)	-0.002(0.00)	-0.022(0.00)
Firm size (base: 1-4 persons)			
5-9 persons	0.167(0.00)	0.107(0.00)	0.143(0.00)
10-29 persons	0.252(0.00)	0.172(0.00)	0.219(0.00)
30-99 persons	0.301(0.00)	0.223(0.00)	0.266(0.00)
100-299 persons	0.337(0.00)	0.308(0.00)	0.318(0.00)
300 or more persons	0.457(0.00)	0.369(0.00)	0.428(0.00)
Constant Term	7.267(0.00)	7.520(0.00)	7.434(0.00)
Sample Size	16,871	9,651	26,522
F-value	915.48	219.09	1246.32
Adjusted R-square	0.627	0.412	0.593

Note: $P > |t|$ for values in parentheses.

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