# WORKING PAPER

Factors Contributing to the Wage Inequality Change during 2006-2015

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In order to examine Korea's wage inequality situations during 2006-2015, the changes in the Gini coefficients and the contribution of factors that led to such changes were analyzed with the following results:

1) While total wage Gini coefficient has been increased due to an increase of the number of part-time workers (working less than 35 hours), hourly wage Gini coefficient and total wage Gini coefficient of full-time workers have been decreased.

Figure 1. Total Wage and Hourly Wage Gini Coefficients (Establishments with One or More Workers)
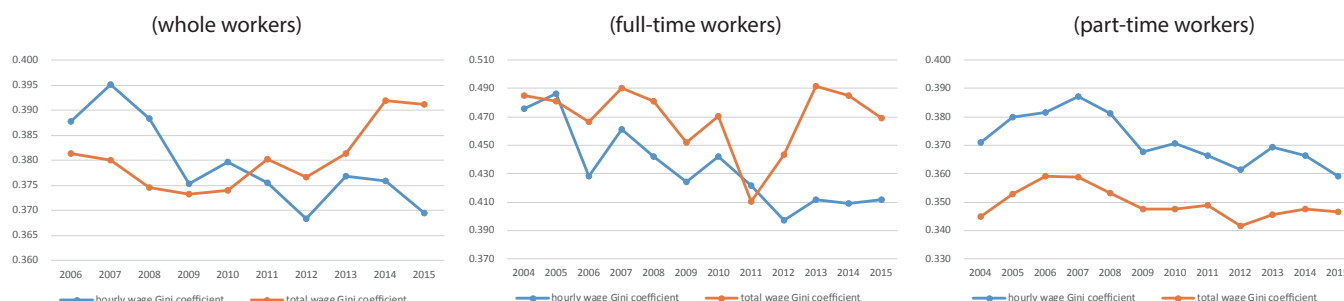
Source : Ministry of Employment and Labor, Labor Conditions Survey by Employment Type, 2006-2015. Each Year.

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2) The increase of the number of part-time workers among total workers (see Table 1) was seen as a factor which raised the total wage Gini coefficient, while the relatively faster rise in the hourly wage of part-time workers than full-time workers (see Table 2) served to lower the hourly wage Gini coefficient.

Table 1. Change Trend of Part-time Work Proportions

		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
percentage to total workers (%)	All	9.6	9.3	10.8	10.5	11.4	13.2	14.2	15.6	17.3	15.9
	Less than 15 hours	0.6	0.6	0.6	0.6	0.7	1.1	2.1	2.4	3.5	3.5
	15-20	1.1	0.9	1.1	1.2	1.6	1.9	2.4	2.3	2.7	2.7
	20-25	1.5	1.4	1.6	1.8	1.8	1.9	2.0	2.1	2.3	1.9
	25-30	3.8	3.7	3.9	4.1	4.1	5.5	4.8	4.7	5.0	4.6
	30-35	2.6	2.7	3.6	2.9	3.2	2.8	2.9	4.1	3.8	3.1
Proportion by weekly working hours (%)	All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.1	100.0	100.0
	Less than 15 hours	6.2	6.0	5.2	5.6	5.9	8.4	14.9	15.1	20.0	22.3
	15-20	11.3	10.0	10.1	11.1	14.0	14.6	16.7	15.0	15.5	17.2
	20-25	15.9	15.4	14.9	17.0	16.1	14.1	13.8	13.6	13.1	11.9
	25-30	39.2	39.5	36.2	39.0	35.8	41.5	34.0	30.2	29.1	29.2
	30-35	27.5	29.1	33.6	27.2	28.1	21.4	20.6	26.1	22.2	19.4

Source: Ministry of Employment and Labor, Labor Conditions Survey by Employment Type, 2006-2015. Each Year.

Table 2. Change of Total Wage and Hourly Wage

(Unit: Nominal KRW)

	All		full-time workers		part-time workers	
	total wage	hourly wage	total wage	hourly wage	total wage	hourly wage
2006	2,071.0	11.1	2,174.2	11.3	932.6	9.2
2007	2,177.7	12.1	2,279.0	12.3	1,060.8	10.5
2008	2,275.1	12.9	2,389.9	13.0	1,259.4	11.9
2009	2,268.6	12.4	2,416.1	12.7	985.4	10.0
2010	2,315.6	12.9	2,471.4	13.1	1,140.9	11.7
2011	2,413.3	13.8	2,633.6	14.2	1,013.4	11.6
2012	2,510.8	15.0	2,750.7	15.3	1,113.4	12.8
2013	2,621.3	16.2	2,846.9	16.5	1,404.6	14.8
2014	2,694.7	16.7	2,996.3	17.2	1,253.1	14.4
2015	2,733.8	16.0	3,036.5	16.4	1,120.5	14.1

Source: Ministry of Employment and Labor, Labor Conditions Survey by Employment Type, 2006-2015. Each Year.

3) Factor decomposition of wage inequality was attempted by means of estimating wage inequality through the Gini coefficients and decomposing the contribution of variables leading to wage inequality in the wage regression equation.

- After decomposing factors leading to a decline in the Gini coefficient only for full-time workers, it was found that variables such as tenure, work experience, occupation contribute greatly to the

reduction of inequality in an absolute sense, while the employment type variable has an insignificant contribution; and the business size variable actually serves to increase wage inequality.

- It was found that variables such as industry, age, and education do not contribute significantly to the change of inequality. This is attributed to the decline of wage premiums for employees with long tenure and those in management and professional jobs and

Table 3. Results of Factor Decomposition (Full-time, Hourly Wage)

Absolute Contribution										
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Gender (Male)	0.011	0.010	0.010	0.013	0.013	0.012	0.011	0.011	0.011	0.012
Age	0.007	0.007	0.007	0.006	0.007	0.006	0.006	0.006	0.006	0.006
Education Years	0.018	0.020	0.019	0.019	0.019	0.019	0.019	0.018	0.018	0.017
Labor union membership	0.001	0.001	0.002	0.002	0.001	0.002	0.002	0.001	0.000	0.002
Tenure	0.033	0.030	0.027	0.030	0.027	0.029	0.026	0.026	0.027	0.027
Work Experience	0.016	0.013	0.012	0.012	0.015	0.014	0.014	0.013	0.014	0.011
Industry	0.002	0.003	0.003	0.003	0.003	0.003	0.002	0.003	0.003	0.002
Occupation	0.016	0.017	0.018	0.012	0.014	0.012	0.013	0.012	0.012	0.011
Employment Type	0.002	0.003	0.002	0.003	0.003	0.002	0.002	0.000	0.002	0.001
Firm Size	0.024	0.023	0.025	0.023	0.028	0.030	0.026	0.026	0.028	0.029
All variables	0.131	0.126	0.125	0.123	0.130	0.128	0.119	0.117	0.121	0.118
Total	0.174	0.170	0.162	0.158	0.157	0.149	0.142	0.141	0.135	0.133
Relative Contribution										
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Gender (Male)	6.1	5.6	6.2	8.0	8.0	8.2	7.8	7.7	8.5	8.8
Age	4.2	3.9	4.1	4.0	4.4	4.1	4.0	4.2	4.3	4.2
Education Years	10.4	11.6	11.5	11.9	12.4	12.5	13.4	13.0	13.5	12.9
Labor union membership	0.6	0.6	1.3	1.1	0.8	1.1	1.1	0.9	0.2	1.2
Tenure	19.2	17.5	16.7	18.8	17.3	19.3	18.0	18.8	20.4	20.3
Work Experience	9.4	7.9	7.4	7.7	9.3	9.5	9.7	9.0	10.1	8.1
Industry	1.2	1.5	2.1	2.1	1.9	2.1	1.3	2.1	2.4	1.7
Occupation	9.0	10.2	11.3	7.5	8.6	8.1	8.9	8.2	9.0	8.5
Employment Type	1.0	1.6	1.5	2.2	2.2	1.3	1.3	0.3	1.2	1.0
Firm Size	13.8	13.6	15.3	14.7	18.0	19.8	18.3	18.8	20.6	22.0
All variables	74.9	74.0	77.4	78.0	82.8	85.9	83.7	83.0	90.2	88.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ministry of Employment and Labor, Labor Conditions Survey by Employment Type, 2006-2015. Each Year.

the increase of wage premiums for large companies.

4) The Figure 2 shows estimations of wage premiums of variables in the wage regression equation and presents them with changes of variable values.

- Despite the increase in the proportion of employees with long tenure during 2006-2011, the wage premium for tenure itself declined drastically, leading to a drop in the contribution of tenure to wage inequality.

- The large decline in wage premium for employees in management and professional jobs resulted in decreasing proportion of those jobs, causing a drop in the contribution of those jobs to wage inequality.

- Despite the drop in wage premium for education, the actual years of education increased, so its contribution to wage inequality did not decrease noticeably.

- Although the wage premium for regular workers declined, the proportion of regular workers has not been changed significantly, leading to only a slight reduction of its overall contribution to inequality.

- In terms of firm size, with little changes in the proportion of large companies with more than 300 employees, the wage premium increase for large company led to a rise in its contribution to wage inequality.

Figure 2. Wage Premium of Major Variables by Year and Change of Their Proportions
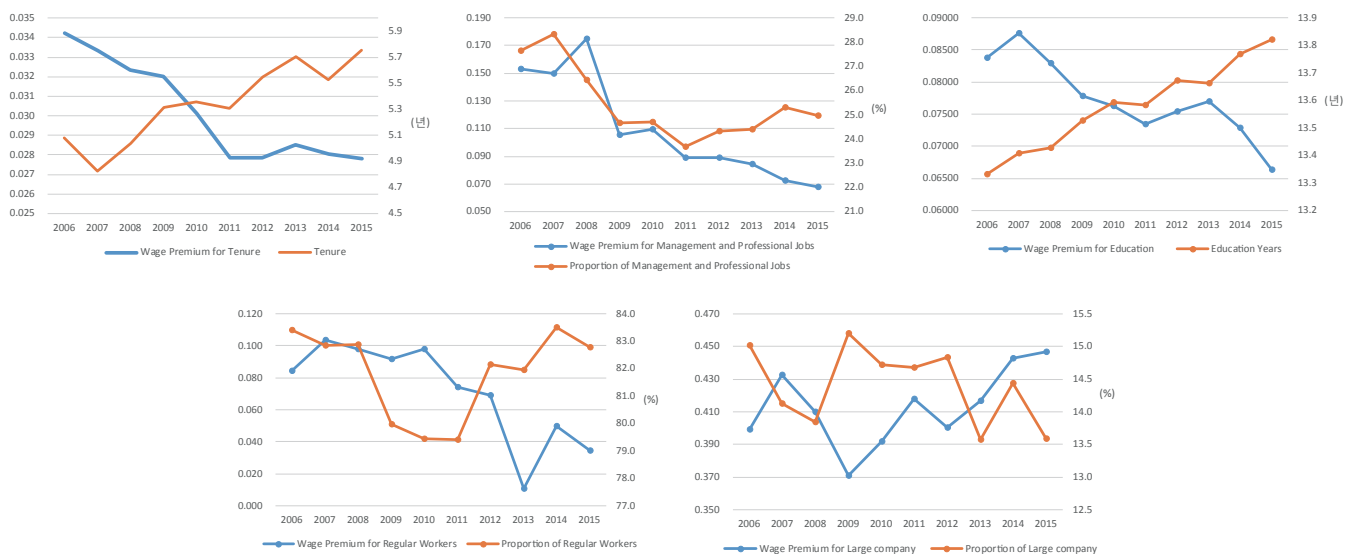
Note : 1) The wage premiums of variables were estimated by adding the cross-term of variables and year dummies to wage regression equation.

2) The term "regular workers" refers to all workers excluding those in non-regular forms of employment (fixed-term, part-time, temporary agency, subcontract, home-based, daily work, special types of employment, etc.) and the "large company" refers to the establishments employing more than 300 employees.

Source : Ministry of Employment and Labor, Labor Conditions Survey by Employment Type, 2006-2015. Each Year.