

Changing Trends in the Korean Youth Unemployment Crisis: 2004 – 2011

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Abstract

Korea's youth unemployment problem has continued to worsen since 2004. According to an E24, J64, an analysis of raw data from Statistics Korea's Economically Active Population Survey and Supplementary Results of the Economically Active Population Survey on Youths to confirm whether youth unemployment affects all youths, more youths were delaying graduation or taking leaves of absence due to unemployment. In addition, the degree of hardship experienced was found to differ among youths: the younger and less educated tended to suffer more, and women tended to suffer more than men.

Meanwhile, an analysis of whether the youth unemployment problem had a negative impact on the quality of youth jobs showed that, contrary to speculation, during the period between 2004 and 2011 the quality of jobs improved or at least remained the same in almost every respect, including wage levels, percentage of permanent or above-one-year contract positions, and social insurance subscriptions. According to a time-series analysis of the effect of business size on wages performed to investigate the cause of this phenomenon by applying an estimated wage function, during the period from 2004 to 2011, the wage premium according to business size increased among not only youths but all wage workers.

Such a result contradicts the government's previous claim that youth unemployment can be solved by creating "decent jobs." While it is important to create "decent jobs," what is also important is to bridge the gap in the quality of jobs. In other words, it is necessary to improve the quality of jobs located in the margins of the job ladder in order to solve the youth unemployment issue, and achieving this requires improvement of the competitiveness and working conditions at small and medium-sized enterprises and middle-standing enterprises.

Keywords: Youth Unemployment, Decent Jobs, Korea

JEL Classification: E24, J64

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1. Introduction

Youths are the biggest victims of a sluggish job market. Youth unemployment can undermine the formation of human resources in youths in the early years of their social lives and result in a life-long loss of income. The percentage of youths ages 18 to 29 who were unemployed as of 2011 stood at 7.6%, twice the overall unemployment rate of 3.4% for the same period.

As seen in Figure 1, changing population structures, a lack of jobs, and the rising rate of students advancing to college has caused the unemployment rate of youths age 18 to 29 to continuously fall since 2000. Youth employment, on the other hand, has fallen from 55.7% in 2004 to 51.9% in 2011 to levels seen in 1998, when the Asian financial crisis was in full swing.

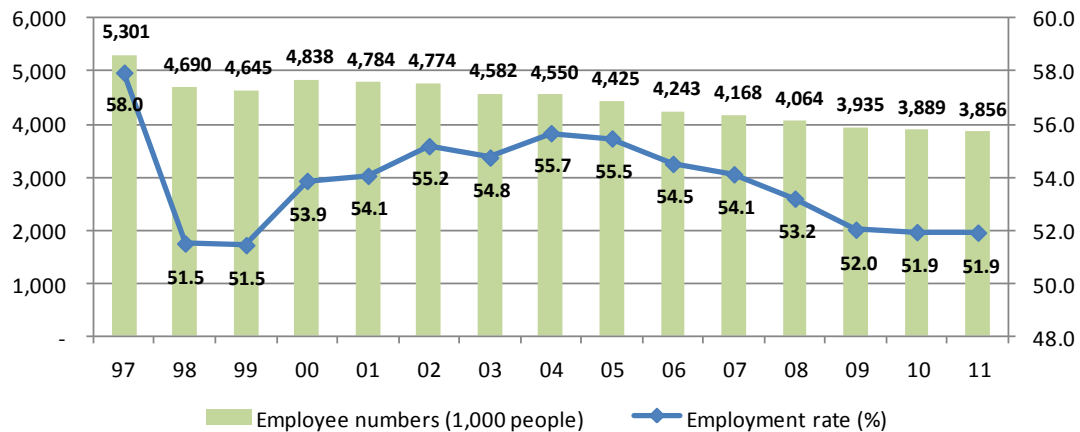


Figure 1: Trend of the number of all employed youths age 18 to 29 (Unit: 1,000) and the rate of their employment (%).

Source: Statistics Korea, Economically Active Population Survey, each year.

Two questions can be raised regarding the youth unemployment crisis. The first is “Are all youths struggling against unemployment?” To answer these questions and to assess the reality of the unemployment problem, this paper will refer to the raw material used to compile the Economically Active Population Survey between 2004 and 2011 by Statistics Korea. To more closely observe the social economic activity of youths by age, this paper observed the changes after grouping the youths into different age brackets, with each group composed of youths within a closer 3-year, rather than the typical 5-year, range.

The second question is “Has the quality of youth employment deteriorated” because of the decline in the employment rate? In most cases, job quality decreases in tandem with the employment rate. But a time-series analysis conducted for this paper showed that the quality of jobs improved despite worsening job market conditions. Further, even when compared with those in the 30-to-54 age bracket, with the exception of the aftermath of the global financial crisis, there was no proof that the relative quality of jobs deteriorated. This finding

begs a question about the fundamentals of youth unemployment. That is, it appears that a lack of decent jobs is at the core of youth unemployment, but the analysis results reveal that even when a sufficient number of decent jobs is created, it will not be easy to completely resolve the youth unemployment problem unless the gap between different jobs is narrowed.

There are a number of reasons why the quality of jobs has improved despite worsening youth unemployment during the period 2004–2011, but this paper focuses on explaining this phenomenon in terms of the size of business establishments. If the wage premium corresponding to business size has been increasing, it can be seen as one reason why youth unemployment has worsened despite an overall improvement in employment quality. The job that youths want is not an absolutely decent job but a relatively decent job, which is why even if the quality of jobs improves, youths will be more motivated to find employment at a larger, better company. Consequently, this will lead to delays in graduation and a deepening unemployment problem.

2. Victims of Youth Unemployment

Central Victims of Youth Unemployment: Younger Youths, Males, and the Undereducated

To determine whether the unemployment problem applies to all youths, this paper will use data from the Economically Active Population Survey conducted by Statistics Korea during the period 2003–2011 to observe the growth of unemployment rates by gender and age. Youths ages 18 to 29 were divided into 3-year brackets for the purpose of studying the unemployment rate of each bracket. Because most youths age 15 to 17 are either attending or on leave from school and are prone to little change as time

goes by, this age group was excluded from the study. (A total of 96.6% of youths age 15 to 17 in 2011 were either in school or on leave from school, and this percentage ranged from 96.6% to 97.6% from 2003 to 2011)

Figure 2 shows employment of youths in different age brackets. In Figure 2, the employment rate fell for most age brackets beginning in 2004; for the 27-to-29 age bracket, however, it increased. Also, although the employment rate declined for youths in the 18-to-20, 21-to-23, and 24-to-26 age brackets, the decline was steepest among youths in the 21-to-23 age bracket.

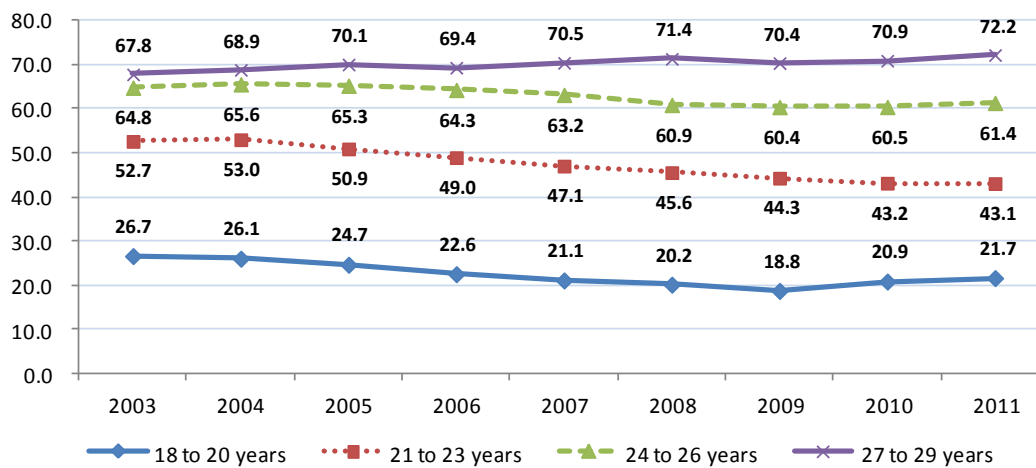


Figure 2: Employment rate growth trends of all youths age 18 to 29: 2003–2011 (year).

Source: Statistics Korea, Economically Active Population Survey, each year.

Including these temporary jobs as employment would risk distorting the unemployment problem; for instance, if youth employment was found to have improved due to a significantly larger number of students taking on part-time jobs to cope with rising tuition fees, the reality of youth unemployment would be downplayed. Therefore, to more accurately evaluate the situation, employment rates were studied after limiting the subject of this analysis to youths who had either graduated or dropped out of school. The results are as shown in Table 1. In this case, subjects whose major weekly activity involved attending a preparatory academy were excluded, as they were considered to possess an almost identical attitude toward jobs as students who were attending school.

As seen in Table 1, when subjects were

limited to those who had either graduated or dropped out of school to exclude those attending preparatory academies, the employment rate fell by a bigger rate for the younger youths. That is, the younger they were, the bigger the decline in rate of employment. A closer look showed that the employment rate for youths age 18 to 20 fell 17.3 percentage points during the period 2003–2011, while the rate for those ages 21 to 23 declined by a smaller clip of 8.0 percentage points. The rate was further reduced to 1.9 percentage points for youths age 24 to 26. On the other hand, the employment rate for youths in the 27-to-29 age bracket rose from 68.9% in 2003 to 73.9% in 2011.

Table 1: Employment Rate of Youths per Age Bracket Who Graduated or Dropped Out and Are Not Attending Academies (%)

Age range	2003	2004	2005	2006	2007	2008	2009	2010	2011
18–20	56.3	52.6	49.8	48.2	45.9	45.3	39.8	38.8	39.0
21–23	72.3	71.4	70.2	70.6	70.1	68.0	65.8	66.2	64.3
24–26	74.4	73.8	73.6	73.3	73.2	70.8	71.2	71.6	72.5
27–29	68.9	70.0	71.1	70.8	72.1	73.4	72.1	73.0	73.9
18–29	70.3	70.2	70.5	70.6	71.0	70.4	69.3	69.6	69.8

Source: Statistics Korea, Economically Active Population Survey, each year.

Next, in terms of how employment rates change according to gender or age, there are certain characteristics, which can be seen in Table 2. First, the employment rate for all youths in the 18-to-29 age bracket, both male and female, declined during the period 2003–2011. But the rate of decline was steeper for males (56.7% → 51.2%) than for females (53.0% → 52.6%), showing that men were bigger victims of the employment problem than women.¹ Second, the employment rate for males in all age brackets has fallen since 2004, and the rate of decrease was bigger for those who were younger. Third, the employment-rate pattern changes for females were different from those for men.² The employment rate for women ages 18 to 20, 21 to 23, and 24 to 26 all declined in 2004, as with males, but the decline rate for women was smaller than that for men. Further, the employment rate of women ages 27 to 29 rose from 55.6% in 2004 to 66.1% in 2011. Therefore, as can be seen in Figure 2, the rise in youth employment of those in the 27-to-29 age bracket was actually owing to a rise in female employment.

In analyzing the raw data from Statistics Korea, it becomes evident that it is not only

¹ Even in the case the subjects are limited to youths who have graduated from school or dropped and are not attending academies to prepare for college entrance exams, Annex Figure 1 shows that males suffer more from unemployment than the females. Another fact revealed from Annex Figure 1 is that in the case of female youths who are not attending academies but either graduated from school or have dropped out, the employment rate rose, which was contrary the results in Table 2. The employment rate for these females rose from 64.0% in 2003 to 69.8% in 2011.

² The change in the employment rate per age bracket of all youths who are not attending academies but have either graduated from school or dropped out can be seen in Annex Figure 1 and Annex Figure 2.

youths who are being victimized by the unemployment problem. Within this group, the younger youths are inflicted with greater damage, whereas in terms of gender, men are the bigger victims. There are a number of reasons why males are hit harder, such as the higher education levels of women, their increased desire for social activity, and changing matrimonial cultures.³ There is also a possibility of female competitiveness exceeding that of their male counterparts in the job market.

The drop in the employment rate of younger youths up until their early 20s can be attributed to two reasons. First is that the number of youths in school—including those attending school, on leave from school, or attending preparatory academies—has increased. Generally speaking, not only are youths who are attending or on leave from school young in age, but their resolve for employment is comparatively weaker than that of youths who have already graduated or dropped out. If the percentage of students in school or on leave has increased, this would trigger a decline in the employment of younger youths.

Second is the discrimination that younger youths face in the job market. Youths in their early 20s who have graduated from school are mostly women or have at most a high school or 2-year-college diploma. If the job market in turn is more hostile to females or to those with less education, then this could also result in lower employment rates for younger youths.

³ Increased emphasis on women's economic capacities as a condition for marriage is one factor of change in matrimonial culture.

Table 2: Employment Rate fo All Youths by Gender and Age (%)

Gender and age range	2003	2004	2005	2006	2007	2008	2009	2010	2011
Males									
18–20	22.2	21.6	20.5	18.3	16.9	15.9	14.6	15.8	17.0
21–23	45.6	46.2	42.4	41.5	40.9	37.9	38.2	36.6	37.5
24–26	61.4	60.9	60.7	58.9	57.5	54.9	53.6	53.5	54.0
27–29	83.0	81.6	81.2	79.5	78.5	77.3	76.5	77.7	78.2
18–29	56.7	56.8	55.8	54.6	53.8	52.6	51.7	51.2	51.2
Females									
18–20	30.3	29.8	28.2	26.0	24.7	23.5	22.0	24.8	25.3
21–23	57.7	57.8	56.8	54.1	51.5	51.2	48.8	48.6	47.6
24–26	68.5	70.2	69.9	69.9	69.0	66.8	67.4	67.6	69.1
27–29	52.8	55.6	58.7	59.1	62.2	64.9	63.9	64.1	66.1
18–29	53.0	54.7	55.2	54.5	54.4	53.8	52.4	52.6	52.6

Source: Statistics Korea, Economically Active Population Survey, each year.

Growing Number of Youths on Leave From School

Rising percentage of students on leave. The percentage of youths in school—either attending, on leave, or attending preparatory academies—has increased. To determine whether this increase was due to more students taking leave as a result of employment

problems, this paper observed the percentage of youths on leave, as seen in Figure 3 and Table 3. First, there was a partial increase and also some volatility in the declining rate, but in general, more youths were on leave from school. Consequently, the percentage of students on leave rose from 6.5% in 2003 to 8.2% in 2011, as seen in Table 3.

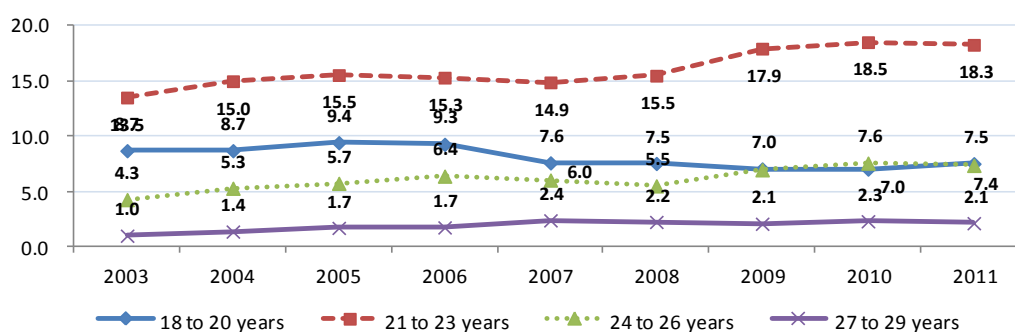


Figure 3: Percentage of youths on leave by age: 2003–2011.

Source: Statistics Korea, Economically Active Population Survey, each year.

Second, as seen in Figure 3, the percentage of students on leave rose in all age brackets with the exception of those ages 18 to 20. In particular, the percentage of those ages 21 to 23 rose from 13.5% in 2003 to 18.3% in 2011, contributing significantly to the overall increase in the number of students on leave.¹ Third, in terms of gender, the increase in the percentage of youths on leave was the most conspicuous

among females age 21 to 23, and males age 24 to 26 showed the greatest propensity to take a leave from school. Upon closer look, the percentage of women age 21 to 23 on leave rose from 4.6% in 2003 to 10.8% in 2011, whereas the percentage for men in the 24-to-26 age bracket rose from 6.8% to 12.0% during the same period. The average age of youths who drop out of one was 25.6 years for men as of May 2011, and 23.4 years for women. These results show that a growing number of students are choosing to take leave shortly ahead of graduation.

¹ In 2011, 99.9% of youths ages 21 to 23 who were attending school or on leave were in 2-year colleges or above. In more detail, 74.6% were attending 4-year universities, while 23.6% attended 2-year colleges and 1.7% attended graduate school.

Table 3: Percentage of Youths on Leave From School (%)

Gender and age range	2003	2004	2005	2006	2007	2008	2009	2010	2011
Males									
18–20	14.2	13.6	14.7	14.2	11.3	11.1	10.3	10.4	10.7
21–23	26.0	27.6	28.5	28.8	26.6	25.6	29.2	28.4	27.7
24–26	6.8	8.6	9.4	10.6	9.4	9.0	11.6	12.4	12.0
27–29	1.5	2.0	2.2	2.3	3.4	3.2	2.9	3.3	3.1
18–29	10.8	11.6	12.0	12.1	11.0	10.4	11.6	12.1	12.0
Females									
18–20	4.2	4.6	5.1	5.2	4.5	4.7	4.5	4.4	5.0
21–23	4.6	6.1	6.7	6.1	6.4	8.0	9.7	10.6	10.8
24–26	1.6	2.0	2.0	2.0	2.6	2.1	2.3	2.6	2.5
27–29	0.4	0.6	1.2	1.2	1.3	1.1	1.2	1.3	1.1
18–29	2.6	3.3	3.6	3.4	3.5	3.7	4.1	4.4	4.7
All									
18–20	8.7	8.7	9.4	9.3	7.6	7.5	7.0	7.0	7.5
21–23	13.5	15.0	15.5	15.3	14.9	15.5	17.9	18.5	18.3
24–26	4.3	5.3	5.7	6.4	6.0	5.5	7.0	7.6	7.4
27–29	1.0	1.4	1.7	1.7	2.4	2.2	2.1	2.3	2.1
18–29	6.5	7.2	7.6	7.5	7.1	6.9	7.7	8.1	8.2

Source: Statistics Korea, Economically Active Population Survey, each year.

Table 4: Cause for Taking Leave From School (%): Multiple Responses Permitted

Cause of leave	Year and month				
	2007. 5	2008. 5	2009. 5	2010. 5	2011. 5
Percentage of students taking leave	23.0	25.3	26.8	27.0	29.8
For job preparations	2.1	2.9	3.9	3.1	3.2
For certification exam preparations	1.3	1.4	1.7	2.1	2.1
Language courses	1.6	2.4	3.0	3.2	3.6
Internships and other job experience	0.7	0.5	0.5	0.8	1.0
Family issues	1.0	1.0	0.9	0.7	0.6
To earn tuitions/living	2.9	3.2	3.3	3.5	3.7
Military duty	17.0	17.7	18.7	18.2	20.1
Others	1.8	1.7	1.5	1.9	2.7
Have not taken leave	77.0	74.7	73.2	73.0	70.2

Source: Statistics Korea, Supplementary Results of Economically Active Population Survey on Youths, May of each year.

Employment crisis and growing number of youths on leave. To determine the cause for taking leave, a study conducted by Statistics Korea in May every year, the Supplementary Results of Economically Active Population Survey on Youths, began in 2007 to ask graduates whether they have experience taking leave from school, and if yes, why. Students were allowed to give multiple answers for why, and the results of why and whether they did take leave are shown in Table 4. As Table 4 shows, the percentage of graduates who have experience taking leave rose from 23.0% in 2007 to 29.8% in 2011. In particular, the

percentage of students who took time off for employment-related reasons, such as to prepare for job-related exams, certification exams, and language courses, increased from 5.6% in 2007 to 9.8% in 2011, an indirect indication that more students are taking leave from school as a result of job market problems¹

3. Delayed Graduation

Not all students who were nervous about their

¹ The percentage of students who took leave for employment-related reasons stood at 7.1% in 2008, 8.2% in 2009, and 9.2% in 2010.

future as a result of uncertain job market conditions were choosing to take leave from school. It was easy to find many others choosing instead to extend the number of semesters they attend. For instance, instead of graduating in the required eight semesters for a 4-year college, they would continue to attend classes for a ninth or tenth semester. One indirect way to determine whether students were extending semesters in order to cope with employment problems was to observe the change in the percentage of students who are attending school. As seen in previous analyses, there is no proof that education levels have been increasing since 2003. Therefore, if more youths are in school, this could be seen as indirect evidence that more students are extending semesters to cope with the employment crisis.

Figure 4 shows the percentage of youths in school age 18 to 29, and in this illustration, the

percentage can be seen increasing beginning in 2004. The percentage of students in school rose from 20.5% in 2004 to 27.1% in 2011. This phenomenon can be seen in both males and females, thereby showing that due to job market problems, an increasing percentage of youths are delaying graduation by extending semesters. In terms of age, the increase was as expected; the most dramatic seen in the 21-to-23 age bracket. The percentage of students age 21 to 23 who were in school rose from 31.0% in 2004 to 41.3% in 2011, a significant increase, of 33.2%. (During the same period, the percentage of students age 18 to 20 who were in school rose from 67.1% to 75.2%, while the same percentage of such students who were age 24 to 26 rose from 16.7% to 19.2%. For the 27-to-29 age bracket, the percentage rose from 4.6% to 5.3%).

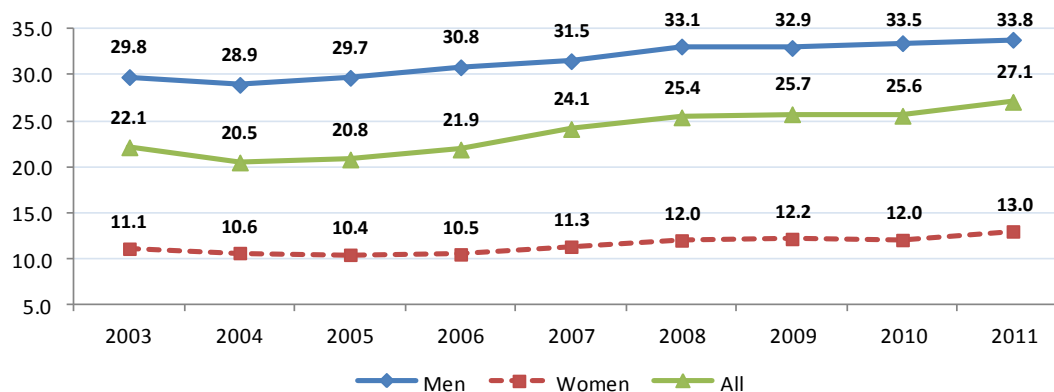


Figure 4: Percentage of youths age 18 to 29 attending school (%).

Source: Statistics Korea, Economically Active Population Survey, each year.

Increase in number of years until graduation and in graduation age. In the Supplementary Results of Economically Active Population Survey on Youths, questions are asked about respondents’ time of admission, transfer, graduation, taking leave, or dropping out. The answers provide an opportunity to calculate the time taken from admissions until graduation, as well as the age when students graduate from or drop out of school. Further, based on observing the patterns in how long it takes to graduate and the age of youths when they graduate or drop out, one can indirectly calculate whether students are delaying graduation, and any related changes.

Figure 5 shows the length of time taken to

graduate from a 4-year university.¹ This figure has been increasing since 2007 for both men and women. Overall, compared with the 58.8 months it took to graduate in 2007, the time increased by 2.2 months, to 61.0 months, in 2011. In particular, the time to graduation increased more rapidly for women than for men.

¹ Cases where it took less than a year to graduate were excluded from the analysis.

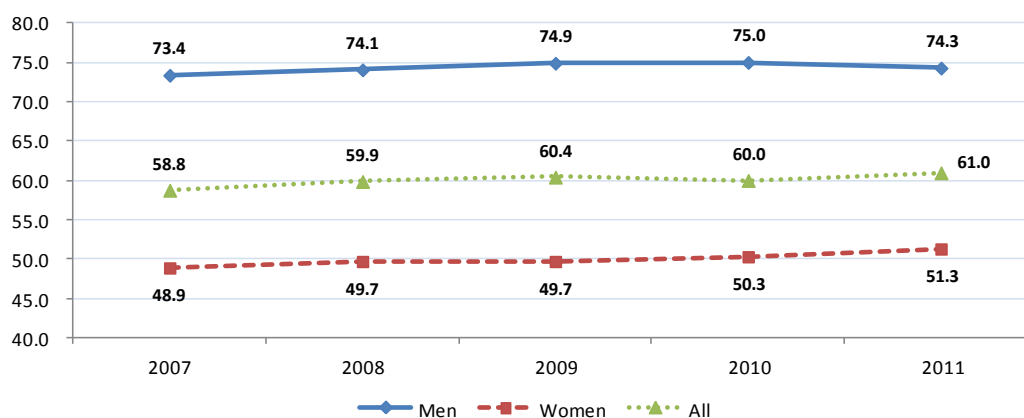


Figure 5: Time taken until graduation from a 4-year university (months): Ages 18 to 29.

Source: Statistics Korea, Supplementary Results of Economically Active Population Survey on Youths, May of each year.

Another barometer for detecting graduation delays, including taking leave from school, is the age when youths graduate or drop out. This average age is shown in Table 5, and the figure has been on the rise for both men and women since 2005. As with the previously explained amount of time needed to graduate, in the case of 2-year colleges, there is no change in the age when youths graduated or dropped out of school, but for 4-year colleges, the age rises notably. The age of graduation or dropping out was 24.02 years in 2005, but it rose by approximately 3.1 months over a period of 6 years, to 24.28 years in 2011. In terms of

gender, the growth rate of age of graduation or dropout was bigger for females than for males.

To cope with the employment crisis, many youths took leave from school or extended semesters to delay graduation. This in turn led to a decline in the employment rate for younger youths. Further, the percentage of youths in school or on leave was higher for men than for women, but in terms of the growth pace, females grew at a faster pace than men to gradually close the gap with men. A similar reduction in the gap between females and males can also be observed in the time needed to graduate and the graduation age.

Table 5: Age at Graduation or Dropping out: Ages 18 to 29

Education level and sex	Year and month						
	2005. 5	2006. 5	2007. 5	2008. 5	2009. 5	2010. 5	2011. 5
All education levels							
Males	21.38	21.50	21.76	21.82	22.00	21.94	22.21
Females	20.50	20.73	20.90	20.94	21.02	21.16	21.10
All	20.88	21.06	21.28	21.33	21.45	21.50	21.58
Two-year college							
Males	23.21	23.07	23.31	23.22	23.13	23.16	23.19
Females	21.18	21.15	21.28	21.25	21.31	21.16	21.16
All	21.89	21.82	22.05	21.98	21.99	21.89	21.91
University							
Males	25.38	25.35	25.46	25.34	25.48	25.52	25.55
Females	23.05	23.03	23.22	23.26	23.32	23.41	23.35
All	24.02	23.94	24.12	24.13	24.23	24.23	24.28

Source: Statistics Korea, Supplementary Results of Economically Active Population Survey on Youths, May of each year.

4. Declining Employment Rate of Graduates and Dropouts

Declining employment rate of undereducated implies youths who have graduated or dropped out. In Table 1, the pattern of changes in the

employment rate for youths who graduate or drop out but do not attend college preparatory academies shows that the younger the youths, the bigger the decrease clip of the employment rate. That is to say, youth unemployment, which

has worsened since the 2000s, was being materialized not only in the form of delayed graduations but also as a decline in the

employment rate of youngsters who have either graduated or dropped out of school.

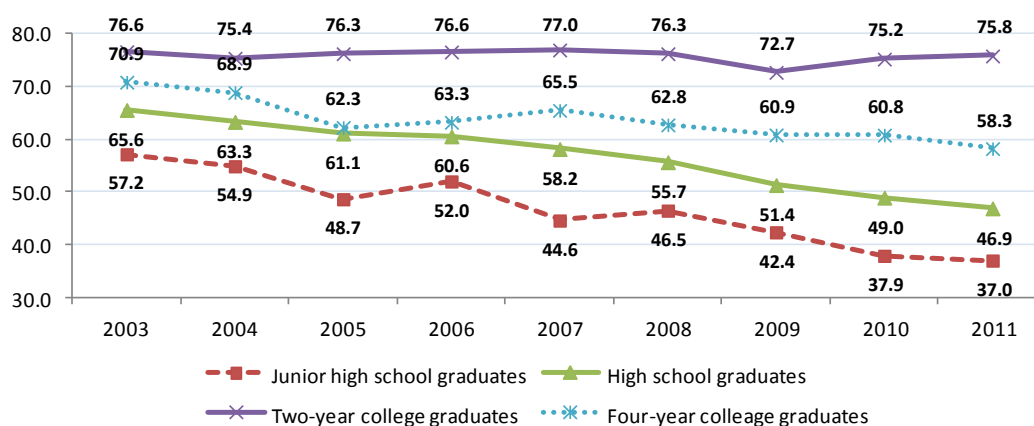


Figure 6: Employment rate of college graduates and dropouts (excluding youths attending preparatory academies) by education level (%): 2003–2011.

Source: Statistics Korea, Economically Active Population Survey, each year.

One reason for this decline is that the employment crisis has made it increasingly difficult for less-educated youths to find jobs, and, consequently, the employment rate for younger youths has fallen at a faster pace. The educational attainment of younger youths who graduated or dropped out from their final stage of school is most likely lower than that of older youths. As of 2011, the distribution of the educational status of youths age 18 to 23 who graduated or dropped out shows that 57.2% held diplomas from a high school or higher educational institution, whereas only 11.2% had a university education or higher. In the 24-to-29 age bracket, the percentage of youths with a high school education or less was almost halved, to 30.3%, whereas the share of those with a university or higher education rose to 40.2%.¹

If the decline in the employment rate of youths with a high school education or less is more significant than that for youths with a university education or higher, this may indicate that youths of lower educational status are bigger victims of the difficult job market. Furthermore, the steeper decline can also offer an explanation for the question “Why is the employment rate decline steeper for the younger youths who have graduated or dropped out?”

Figure 6 shows the changes in the employment rate of youth graduates or dropouts who are not attending preparatory schools, according to their respective educational status since 2003. The decline in the employment rates of youths with a high school education or less was steeper than the decline for youths with a 4-year university education. Broken down, the employment rate of youths with a high school education shed 28.5%, from 65.6% in 2003 to 46.9% in 2011. During the same period, the employment rate of youths who graduated from 4-year universities fell 17.8%. The employment rate of youths with diplomas from 2-year colleges showed no significant change. This was because while 4-year university graduates encroached upon the jobs of 2-year college graduates, the 2-year college graduates in turn encroached upon the jobs of high school graduates.

As a result, it can be derived that there were no conspicuous shifts in the employment rates.² Worsening job market conditions, therefore, are seen to be inflicting bigger damage on youths with less education, which, as shown in Table 1, has led to a bigger decrease in the employment rate of younger youths, among whom the percentage of those with less education is higher.

¹ The percentage of 2-year college graduates was 31.6% for those age 18 to 23, and 29.4% for those age 24 to 29.

² To evaluate the propriety of this statement, changes in job quality such as wages and working conditions should also be assessed.

Increase in number of graduates and dropouts with no work experience. In the Supplementary Results of Economically Active Population on Youths conducted by Statistics Korea, youths who graduated or dropped out of schools of their final level of education were asked how many times they have been employed since their graduation or dropout, including their current jobs. Figure 7 shows the percentage of youths devoid of work

experience, a figure that has grown since 2005. The percentage of youths with no work experience rose from 8.1% in 2005 to 10.9% in 2011, whereas in terms of gender, the growth in the percentage rate was more significant in men than in women. Due to worsening job market conditions, more youths were unable to find jobs following graduation or after dropping out, and this has become yet another reason for the drop in youth employment.

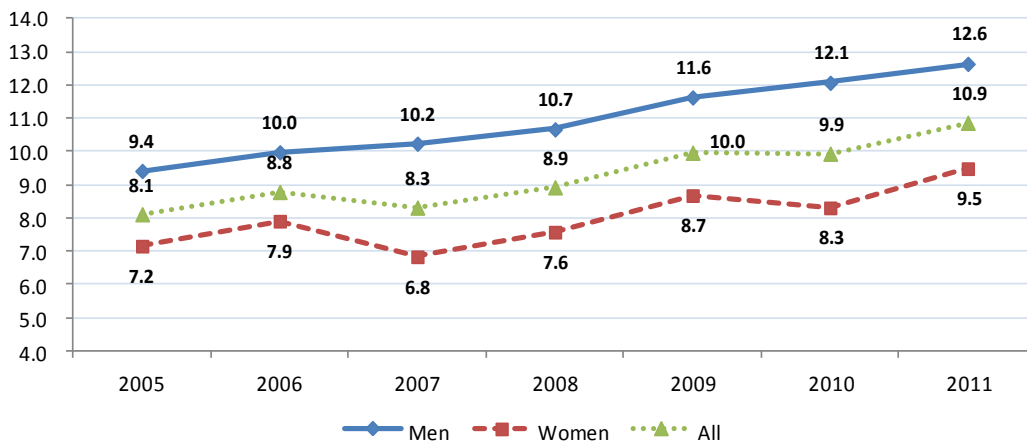


Figure 7: Percentage of youth graduates or dropouts with no work experience (%): Ages 18 to 29.

Source: Statistics Korea, Supplementary Results of Economically Active Population Survey on Youths, May of each year.

There has been a decline in employment frequency and length of service in first jobs. Regarding frequency of employment, “once” was the most widely given answer, with 36.2% answering thus in 2011. Next was “twice” (23.0%), followed by “three times” (15.6%). Based on the time-series analysis, it was difficult to find a certain pattern, as in the case of Table 6. As such, the number of employment opportunities also fails to show any conspicuous changes. The only notable point is that the average number of employments fell by a significant rate during the periods 2005–2006 and 2010–2011.

The service period of a youth’s first job also has been falling steadily since 2006. The possibility is that more youths prematurely quit their jobs upon experiencing growing dissatisfaction after taking on unsatisfying jobs amid labor market uncertainties. Only 40.7% of youths who graduated or dropped out in May 2011 and found their first jobs since then are currently still at the same jobs. The remaining

youths have already quit such jobs. In terms of gender, males and those with more education were more likely to keep their first jobs. One reason for the high unemployment rate and low employment rate of undereducated youths is that their employment is unstable. College graduates, on the other hand, were able to land jobs in comparatively less time after completing their education and were more likely to stay at one job; this reveals a significant employment gap based on education levels.

As of May 2011, youths who quit their jobs had worked an average of 20 months at their first jobs. They mostly cited “unsatisfactory working conditions” as the reason for quitting, followed by other personal or family-related reasons such as “child-rearing,” “home-making,” “health problems,” “marriage,” and “studies.” Up to 9.9% said they quit because their work or job had no prospects. More women than men changed jobs because of unsatisfactory working conditions and lack of prospects.

Table 6: Number of Jobs and Length of Service at First Job After Graduating or Dropping Out of the School of Respondents' Final Level of Education: Ages 18–29

	Year and month						
	2005. 5	2006. 5	2007. 5	2008. 5	2009. 5	2010. 5	2011. 5
Frequency of employment							
None	8.1	8.8	8.3	8.9	10.0	9.9	10.9
Once	35.4	38.5	36.5	36.5	35.1	33.7	36.2
Twice	23.0	22.6	23.3	22.6	22.0	23.2	23.0
Three times	17.4	15.9	17.7	17.5	18.2	17.7	15.6
Four times or more	16.1	14.3	14.2	14.5	14.8	15.5	14.4
Average no. of jobs (including those with no experience)	1.98	1.88	1.93	1.92	1.93	1.95	1.86
No. of months at first job	20.6	21.4	20.9	20.4	20.3	19.4	19.6

Note. "More than four jobs" was treated as four jobs in the average number of jobs.

Source: Statistics Korea, Supplementary Results of Economically Active Population Survey on Youths, May of each year.

5. Quality of Youth Employment

Working status: Increase in permanent workers. Changes in the working status of youths age 15 to 29 who have graduated or dropped but who do not attend preparatory academies are as shown in Table 7: the percentage of permanent workers has risen at a drastic pace, while the percentages of those with temporary or day jobs or who are self-employed has declined. (During the same period, the percentage of students age 18 to 20 who were in school rose from 67.1% to 75.2%, while the same percentage of such students who were age 24 to 26 rose from 16.7% to 19.2%. For the 27-to-29 age bracket, the percentage rose from 4.6% to 5.3 %.) The rise in permanent workers since 2003 is prevalent not only among youths, but in people of all ages. This is mostly due to a decline in temporary job opportunities and economic difficulties that have reduced the number of self-employed.

In terms of gender, as seen in Table 7, the percentage of permanent workers rose among

both males and females. One notable point is that with the exception of 2008, the percentage of permanent workers among female employees was higher than that of men. For instance, in 2011, the percentage of permanent workers among women age 15 to 29 was 65.8%, 4.0 percentage points higher than that of males. Further, the higher the education level, the higher the percentage of regular workers and the lower the percentage of temporary or daily workers. Specifically, 75.2% of employees with a college education or higher held permanent jobs, 17.7% were temporary workers, and 1.1% held daily jobs. Only 6.0% were self-employed. In contrast, only 45.6% of employees with a high school education or less were permanent workers.

Table 7: Changes in the Working Status of Youths Age 15 to 29 (%)

Year	Wage workers				Self-employed			
	Permanent	Temporary	Daily	Total	Employer	Self-employed	Unpaid workers	Total
2003	49.9	35.4	5.5	90.7	1.8	4.4	3.1	9.3
2004	51.2	35.2	5.6	92.0	1.1	4.1	2.8	8.0
2005	53.2	33.6	5.7	92.5	1.0	4.0	2.6	7.5
2006	55.0	32.8	4.9	92.7	0.9	3.9	2.5	7.3
2007	58.1	30.6	4.8	93.4	1.0	3.6	2.1	6.6
2008	59.4	29.4	4.2	92.9	1.2	4.0	1.9	7.1
2009	59.9	29.4	4.1	93.3	1.2	3.5	2.0	6.7
2010	61.7	28.3	3.8	93.8	1.1	3.3	1.8	6.2
2011	64.0	26.5	3.2	93.6	1.3	3.2	1.9	6.4

Source: Data from Statistics Korea, Economically Active Population Survey, each year.

To determine whether the rise of permanent workers is more prominent among youths age 15 to 29 compared with other age brackets, the youths were compared with employees ages 30 to 54 who graduated or dropped out of the school of their final education level. The results show that it is difficult to say that the rate of increase in the percentage of permanent workers among youths age 15 to 29, both males and females, was higher than that of workers age 30 to 54. That is to say, the rates of increase in the

percentages of permanent workers were similar for those ages 15 to 29 and those ages 30 to 54. Furthermore, the percentage of permanent workers among both male and females age 15 to 29 who graduated or dropped out of school but who do not attend preparatory academies was significantly higher than for all other ages. This indicates that youths preferred salaried work over self-employment, and among wage workers, preferred stable jobs.

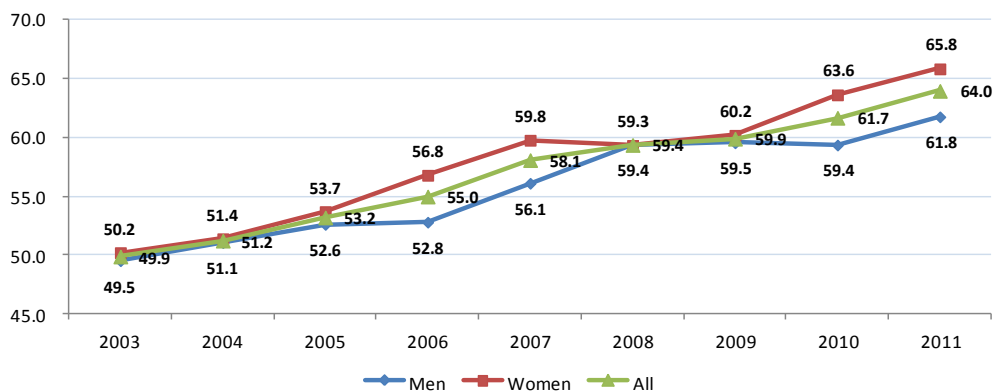


Figure 8: Percentage of permanent workers among employees age 15 to 29.

Source: Statistics Korea, Economically Active Population Survey, each year.

Regular worker status: Increase of regular jobs. Of the entire group of wage workers, youths age 15 to 29 who graduated or dropped out of school but who do not attend preparatory academies are the most likely to have a job as a regular employee whose retirement age is guaranteed. In August 2011, 74.1% of youths were regular employees. This rate was 8.3 percentage points higher than the 65.8% for all wage workers.

Further, the composition of non-regular workers in Table 8 shows that among youths, contingent employment accounted for 20.4%, whereas part-time work accounted for 3.8% and atypical employment accounted for 5.0%¹ On the other hand, the percentage of contingent employment out of all wage workers stood at 19.7%; part-time employment accounted for 9.7%; and atypical employment, 13.9%. Among youths, the percentage of contingent employment was mostly on a par with levels for the entire wage-worker group, but the percentage of part-time employment and atypical employment fell significantly. Youths are thus seen to be reluctant to be employed in

part-time or atypical jobs. This reluctance is seen to be an important factor in increasing the percentage of regular workers among youth employees. This gap in the composition of non-regular employees is shown to have stabilized in time-series terms after August 2003.²

The percentage of non-regular workers measured in terms of time-series measurements, as in Table 8, shows the percentage of regular workers increasing since August 2004, while the percentage of non-regular workers has decreased. The percentage of non-regular employees among youth employees age 15 to 29 who graduated or dropped out of school but who do not attend preparatory academies fell from 30.0% in September 2004 to 25.9% in August 2011. In particular, contingent and atypical employment experienced a dramatic decline. Contingent employment was reduced to 23.0% from 20.4% during the same period, and atypical employment fell from 7.9% to 5.0%. This decline in the percentage of non-regular workers is not limited to youths; it's a phenomenon found in all age brackets.

Figure 9 shows that in terms of gender, the

¹ A typical employment includes services, dispatch work, daily labor, domestic labor, and special employment.

² Refer to KOSIS or Geum Jae-ho (2012a) for the change in non-regular jobs among the entire wage workers group.

percentage of non-regular workers was higher among female wage workers than male workers, with the exception of August 2007. In August 2011, the percentage of non-regular workers among female wage workers age 15 to 29 was 27.4%, 3.3 percentage points higher than the 24.1% for male wage workers. This shows that female workers age 15 to 29 have a higher propensity to become non-regular workers than men, but when compared with the entire group of wage workers, there is little gender gap. Of all wage workers, the percentage of female non-regular workers continued to be at least 10 percentage points higher than the percentage of male non-regular workers since after August 2003. (Of all wage workers, the percentage of non-regular workers stood at 27.8% for men in August 2011, whereas the percentage for women was 42.9%, 15.1 percentage points higher than the percentage for men. This gender gap has been a steady feature in the survey since August 2003.) Therefore, the high

rate of non-regular workers among female wage workers appears to be a bigger problem for females in their 30s or older or who are in school or taking leave, rather than females age 15 to 29 who graduated or dropped out of school but who do not attend preparatory academies.

The gaps between the percentages of non-regular workers by education level are not big. Time-series analysis shows that due to an overall decline in non-regular workers, the percentage of non-regular workers decreased for youths with a high school education or less and for youths who graduated from 2-year colleges. The percentage of non-regular workers among youths who graduated from 4-year universities, on the contrary, began to increase after August 2009. This increase of non-regular workers was more prominent among women than men.

Table 8: Percentage of Non-Regular Workers Among Youth Wage Workers Age 15 to 29 (In 1,000 people, %)

Year and month	Type of wage worker					All
	Regular	Contingent	Part-time	Atypical	Non-regular total	
'03. 8	2,546 (74.7)	640 (18.8)	113 (3.3)	222 (6.5)	862 (25.3)	3,407 (100.0)
'04. 8	2,391 (70.0)	785 (23.0)	114 (3.3)	268 (7.9)	1,025 (30.0)	3,416 (100.0)
'05. 8	2,355 (71.3)	741 (22.4)	120 (3.6)	211 (6.4)	948 (28.7)	3,303 (100.0)
'06. 8	2,338 (73.1)	708 (22.1)	106 (3.3)	154 (4.8)	862 (26.9)	3,199 (100.0)
'07. 8	2,305 (72.0)	706 (22.0)	123 (3.8)	196 (6.1)	899 (28.1)	3,203 (100.0)
'08. 8	2,236 (73.4)	641 (21.1)	89 (2.9)	172 (5.6)	810 (26.6)	3,045 (100.0)
'09. 8	2,134 (72.6)	631 (21.5)	113 (3.8)	179 (6.1)	807 (27.5)	2,941 (100.0)
'10. 8	2,151 (73.5)	591 (20.2)	137 (4.7)	163 (5.6)	776 (26.5)	2,927 (100.0)
'11. 8	2,126 (74.1)	585 (20.4)	110 (3.8)	144 (5.0)	745 (25.9)	2,871 (100.0)

Note. Figures inside brackets indicate percentages (%).

Source: Data Statistics Korea, Supplementary Results of Economically Active Population Survey by Job Type, August of every year.

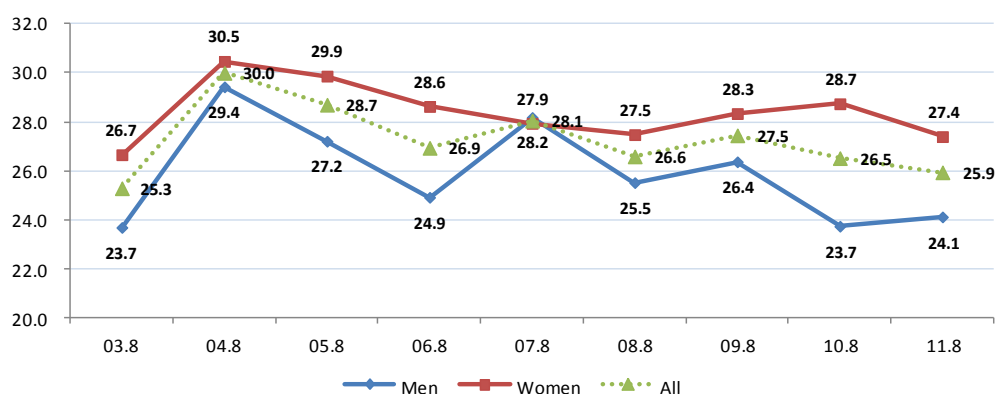


Figure 9: Percentage of non-regular workers among employees age 15 to 29, by gender.

Source: Data from Statistics Korea, Supplementary Results of Economically Active Population Survey on Job Type, August of each year.

The percentage of non-regular workers among male youths from August 2003 to August 2011 was highest for those with a high school education or less, followed by youths who graduated from 2-year colleges, then by those with a 4-year-university education or higher. But the percentage of non-regular workers fluctuates dramatically each year; in addition, there is often a turnaround in groups of

different education levels, making it thus difficult to reach a conclusion. Meanwhile, women, as seen in Figure 10, tend to have higher percentages of non-regular workers as education level increases, with the exception of the 3-year period from August 2006 to August 2008. In particular, since August 2009, the gaps between female youths of different education levels appear to have widened.

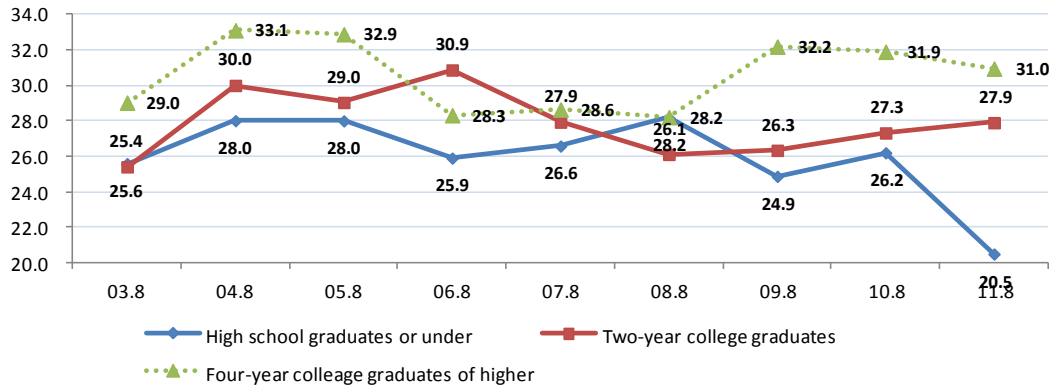


Figure 10: Trend of the percentage of non-regular workers among female employees age 15 to 29, by education level.

Source: Data from Statistics Korea, Supplementary Results of Economically Active Population Survey by Job Type, August of each year.

As seen in Figure 11, with respect to the size of businesses at which youths age 15 to 29 who graduated or dropped out of school but who do not attend preparatory academies are employed, only 23.2% were employed at businesses employing 100 or more workers as of 2011. Meanwhile, 34.0% of these youths were employed at very small businesses, or those employing under 10 employees, meaning the quality of the jobs was very low in terms of size. Compared with all wage workers, the businesses that youths were employed at were slightly bigger than businesses that all wage workers were employed at, but the gap is insignificant. Therefore, instead of moving from a bigger enterprise to a smaller one as they age, nearly 60% of youths start off at small enterprises employing under 30 people.

With respect to gender, the size of businesses employing male youths age 15 to 29 was generally in line with enterprises employing all wage workers, but for females, companies

employing youths age 15 to 29 appeared to be mostly bigger than those employing all wage workers. This indicates that whereas male youths usually work for similar sized companies whether they are in their 20s or in their 30s or older, female youths tend to work for relatively bigger companies in their 20s and later find re-employment at smaller enterprises when they enter their 30s or older.

With respect to education levels, as expected, the higher the level of education, the bigger the chances of finding employment at a larger company. Only 14.1% of youths with a high school education or less were working for companies with 100 or more employees (Figure 12). On the other hand, 31.9% of youths with diplomas from 4-year universities or higher-level schools were employed at such high-scale companies. In particular, almost half of youths with a high school education or less were working for small companies employing fewer than 10 workers.



Figure 11: Distribution of wage workers age 15 to 29 by business size: 2011.

Source: Statistics Korea, Economically Active Population Survey, 2011.

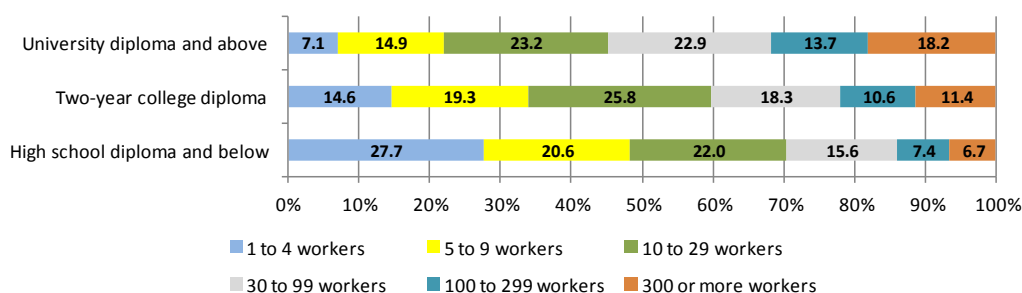


Figure 12: Distribution of wage workers age 15 to 29 by education level and business size: 2011.

Source: Statistics Korea, Economically Active Population Survey, 2011.

The results show the time-series trend in the size of businesses where youth wage workers age 15 to 29 who have graduated or dropped but who do not attend preparatory academies have been employed, but it is difficult to determine based on the information in this table whether business sizes are increasing or decreasing. To get around this problem, this study allocated an index value of 1 to “businesses with 1–4 workers,” 2 to “businesses with 5–9 workers,” and 6 to “businesses with 300 or more workers,”

and then observed the changes in the average of the index value. Figure 13 shows the trend of the index value average by sex. In general, the index value average continues to increase after 2003, although the rate of increase is slow. This means that the businesses where youths between the ages of 15 and 29 are getting employed are getting larger, albeit gradually. Also, men were found to contribute more than women to the increase in business size.

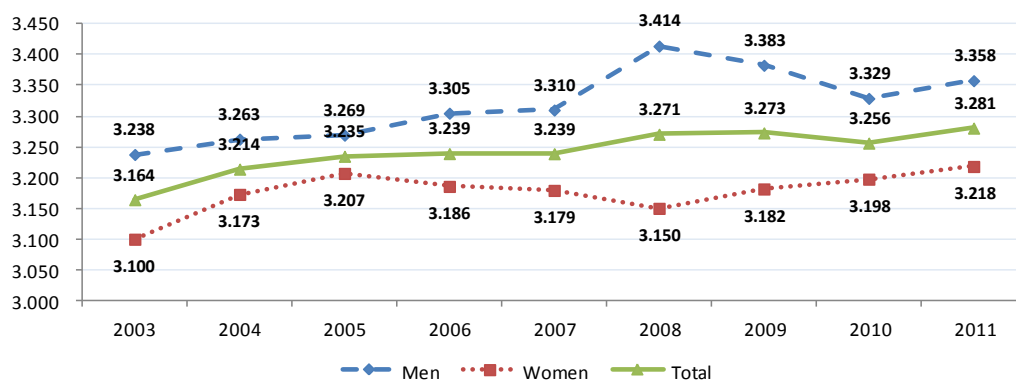


Figure 13: Trend of business size index value (average) of wage workers age 15 to 29.

Source: Statistics Korea, Economically Active Population Survey, each year.

6. Employment Stability

The simplest yardsticks for measuring the level of instability of the labor market are average service period and percentage of short-service-period workers. However, indices such as a decrease in the average service period or an increase in the percentage of short-service-period workers are of limited use as measures of labor market stability. In other words, it is difficult to accurately judge whether the cause of a change in the average service period is either a change in the demographic structure, a change in the economic activity participation rate, an increase in the employment rate, or increased employment instability. Despite such limitations, this paper investigates the trend of employment stability among youths by examining changes in average service periods

and the percentage of short-service-period workers.

Figure 14 depicts an average-service-period (years) distribution that shows how long wage workers age 15 to 29 who have graduated or dropped out but who do not attend preparatory academies have been working at their current jobs. In 2011, the average service period of youths ages 15 to 29 was just 1.84 years. Throughout the entire period covered by the survey, the average service period was longer for women than for men. This is a natural result considering that women begin their careers earlier than men because men are required to undergo years of mandatory military service. The time-series data show that since 2003, the average service periods of youth wage workers have remained at similar levels.

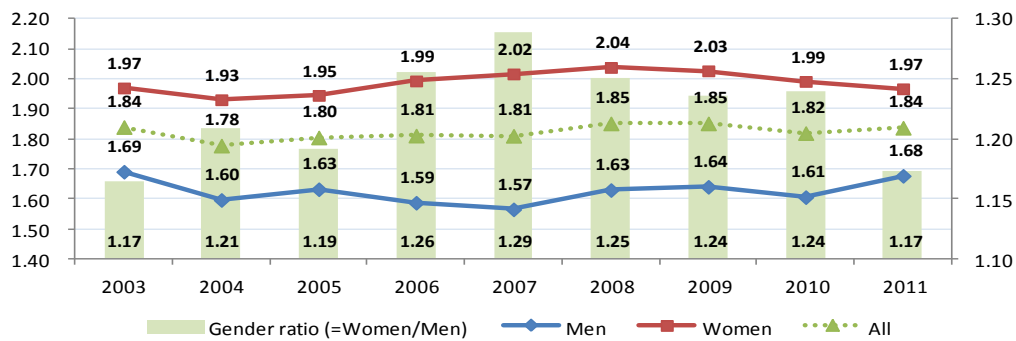


Figure 14: Average-service-year trend for youths age 15 to 29.

Source: Statistics Korea, Economically Active Population Survey, each year.

Change in percentage of those with “less than 1 year of service.” The percentage of people who have been working at their current jobs for less than 1 year among wage workers age 15 to 29 who have graduated or dropped out but who do not attend preparatory academies

was developed by Jaeger and Stevens (1999) as a criteria for measuring employment instability. Table 9 shows the yearly trend of the percentage of workers with service periods of less than 1 year by sex and education level.

Table 9: Distribution of the Percentage of Wage Workers Age 15 to 29 With Service Periods of Less Than 1 Year

Sex and education	2003	2004	2005	2006	2007	2008	2009	2010	2011
Males	49.7	48.8	47.3	48.6	48.1	46.7	46.1	47.8	46.6
High school & below	53.5	54.0	53.4	55.2	56.2	53.5	52.8	54.0	51.4
Two-year college	47.8	43.2	41.2	45.3	42.2	41.1	43.5	43.7	43.4
University & above	42.6	43.6	41.3	39.9	41.2	42.2	39.7	43.6	43.9
Females	44.7	45.3	44.1	42.7	42.0	41.2	43.0	43.5	43.2
High school & below	47.8	48.4	49.6	49.5	48.8	46.8	47.4	49.6	50.0
Two-year college	43.0	43.7	42.9	39.8	40.1	38.1	40.2	40.2	41.6
University & above	41.5	42.6	38.5	39.0	37.6	40.0	42.7	42.6	40.4
All workers	47.0	46.9	45.6	45.4	44.8	43.7	44.4	45.5	44.8
High school & below	50.8	51.3	51.6	52.6	52.9	50.5	50.4	52.1	50.8
Two-year college	44.9	43.5	42.3	41.8	40.9	39.2	41.5	41.5	42.3
University & above	42.0	43.1	39.7	39.4	39.1	40.9	41.5	43.0	41.9

Source: Statistics Korea, Economically Active Population Survey, each year.

The percentage of workers with service periods of less than 1 year continued to fall during the period 2003–2008, and began to grow again starting in 2009 (see Figure 15). It is

possible that the upward shift in 2009 was the result of the employment crisis caused by the global financial crisis.

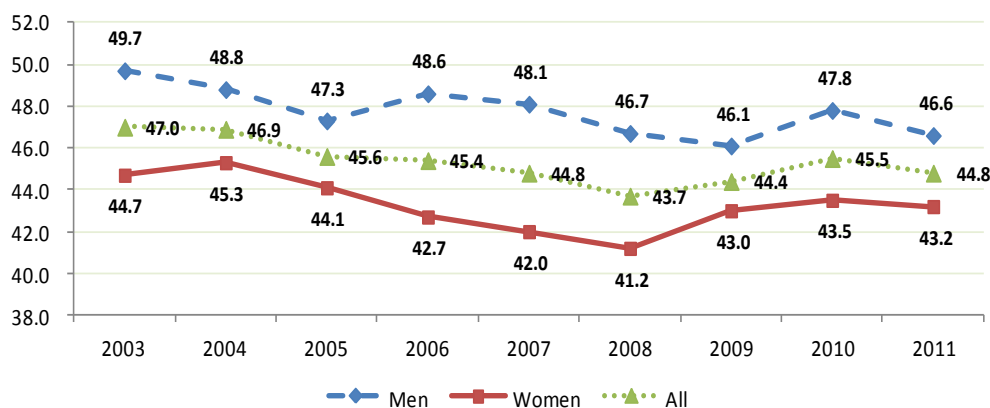


Figure 15: Percentage of wage workers age 15 to 29 with service periods of less than 1 year.

Source: Statistics Korea, Economically Active Population Survey, each year.

The continuous drop in the percentage of workers with service periods of less than 1 year until 2008 implies that there had been improvements in job security, and that men led women in the improvement in job security. And just as with average service periods, the percentage of workers with service periods of less than 1 year was lower among women than among men, since women graduate/drop out of school earlier.¹ By education level, the rate of decrease in the percentage of workers with service periods of less than 1 year was greatest among 2-year college graduates, meaning that they led the improvements in job security (Table 9).

7. Wage and Social Insurance Subscription Rate

The real average monthly wage of wage workers age 15 to 29 who have graduated or dropped out but who do not attend preparatory academies was 1,591,000KRW in August 2011, as seen in Table 10, which is 71.6% of that of the comparison group of wage workers age 30 to 54. The real hourly wage was 8,634 KRW, or

70.6% of that of wage workers ages 30 to 54.² Over the 9-year period from August 2003 to August 2011, the real wage of workers age 18 to 29 increased by a mere 6.1%. Such a low increase is mostly due to reductions in working hours, evidenced by the fact that real hourly wages increased by 18.0% during the same period. In other words, the fact that the increase in real hourly wages is greater than the increase in real average monthly wages means that the number of actual working hours has decreased.

The repercussions of the global financial crisis for wages may be another reason that real average monthly wages increased by only 6.1%. Over the 5-year period from August 2003 to August 2008, real average monthly wages increased by 8.9%, but because of the global financial crisis, in August 2009, real wages fell by a year-to-year 3.6%, and this greatly reduced the increase in real wages.

¹ When looking at all wage workers, job insecurity is much greater among women than among men, and the percentage of workers with less than 1 year of service is relatively higher among women than among men.

² In this study, real wages were calculated by using the Consumer Price Index, with prices for the year 2010 set at 100.

Table 10: Trend of Real Wages (2010 = 100) for Workers Age 18 to 29 (%)

Year and month	Monthly average real wage (10,000 KRW)				Hourly real wage (1,000 KRW)			
	Ages 18–29 (A)	Increase/decrease (%)	Ages 30–54 (B)	Wage ratio (A/B)	Ages 18–29 (A)	Increase/decrease (%)	Ages 30–54 (B)	Wage ratio A/B)
03. 8	149.9		208.0	0.720	7,315		10,320	0.709
04. 8	151.5	1.1	209.9	0.722	7,563	3.4	10,618	0.712
05. 8	154.2	1.8	210.5	0.733	7,675	1.5	10,810	0.710
06. 8	157.3	2.0	212.7	0.739	7,989	4.1	11,018	0.725
07. 8	159.4	1.4	219.5	0.726	8,251	3.3	11,449	0.721
08. 8	163.3	2.4	220.8	0.740	8,558	3.7	11,697	0.732
09. 8	157.5	-3.6	217.3	0.725	8,336	-2.6	11,752	0.709
10. 8	158.9	0.8	221.0	0.719	8,526	2.3	11,996	0.711
11. 8	159.1	0.2	222.4	0.716	8,634	1.3	12,226	0.706

Note. Real wages refers to the amount in wages adjusted for inflation using the Consumer Price Index with the year 2010 at 100.

Source: Statistics Korea, Supplementary Results of Economically Active Population Survey by Job Type, August of each year.

Until August 2008, the gap in both real average monthly wages and real hourly wages for wage workers age 30 to 54 continued to narrow, but widened after the global financial crisis. Real wages for wage workers age 18 to 29 rose from 72.0% of that for wage workers age 30 to 54 in August 2003 to 74.0% in August 2008. But beginning in August 2009, the wage ratio fell again, to 71.6% in August 2011.

A trend similar to that seen in the wage ratio of real average monthly wages can also be seen in the wage ratio of real average hourly wages. When the economy becomes sluggish, initial measures taken by companies to cut costs include laying off or adjust the wages of employees belonging to vulnerable classes such as women, youths, and elderly people. This tendency is seen to have had a profoundly negative impact on the real wages of workers age 18 to 29.

According to the results, wage ratios in the 18-to-29 and 30-to-54 age brackets differ greatly according to sex. Whereas the wage level of workers age 18 to 29 is about 60% of that of workers age 30 to 54 in the case of men, there is hardly any difference in wage level between the two age brackets in the case of women. This implies that men are more likely to move up to high-paying jobs once they have accumulated career experience as they reach their 30s, whereas opportunities to increase wage are limited in the case of women as a result of factors such as career discontinuation and discrimination.

The social insurance subscription trend of

youth wage workers age 15 to 29 who have graduated or dropped but who do not attend preparatory academies is shown in Table 11. Subscription to employment insurance continued to increase, from 61.5% in August 2003 to 76.7% in August 2011. The increase in employment insurance subscription applies not only to wage workers age 15 to 29 but also to those ages 30 to 54.

Just as with employment insurance, subscription rates for the National Health Insurance and National Pension have continuously increased. However, the consistency of the data has been damaged following the modification of questions on National Health Insurance and the National Pension subscription in the survey in August 2008.¹ Table 11 shows rates of subscription to employee insurance in the case of the National Health Insurance and employee and self-employed insurance in the case of the National Pension since August 2008. In the case of National Health Insurance, the employee insurance subscription rate for wage workers in the 15-to-29 age bracket was 78.6% in August 2011, higher than the subscription rate of 72.5% for wage workers age 30 to 54. In the case of

¹ Until August 2007, only employee insurance subscription rates for national pension and national health insurance were surveyed, whereas starting in August 2008, rates of subscription to employee insurance and self-employed insurance in the case of the national pension, and employee insurance and self-employed insurance, beneficiaries, and employee-insured dependents in the case of national health insurance, were surveyed.

the national pension, 80.2% of wage workers age 15 to 29 were subscribed to employee or self-employed insurance in August 2011. Another trend that can be identified in Table 11 is that in most cases, subscription to social insurance is greater among wage workers age 15 to 29 than among those in the 30-to-54 age bracket. This is particularly notable in the case of employment insurance.

In addition to subscription to social insurance, benefits such as retirement allowance, bonuses, overtime pay, and paid leaves have continuously improved among wage

workers in the 15-to-29 age bracket. As seen in Table 12, the percentage of wage workers age 15 to 29 eligible for retirement allowance increased from 57.8% in August 2003 to 73.5% in August 2011. Similar trends can be found with respect to bonuses and paid leaves. Regarding benefits, just as with social insurance, the percentage of wage workers age 15 to 29 receiving benefits aside from wages was higher than in the 30-to-54 age group, with the exception of overtime pay.

Table 11: Trend of Social Insurance Subscription for Wage Workers Age 15 to 29 (%)

Year and month	Employment insurance		National health insurance		National pension	
	Age 15–29	Age 30–54	Age 15–29	Age 30–54	Age 15–29	Age 30–54
03. 8	61.5	51.2	66.4	61.9	65.4	60.9
04. 8	63.6	53.0	68.5	62.9	67.6	62.1
05. 8	66.4	54.1	70.6	63.9	71.0	64.4
06. 8	69.0	56.1	73.7	65.0	74.5	65.5
07. 8	70.1	56.5	76.1	65.9	76.3	66.3
08. 8	71.5	58.3	76.2	67.7	78.2	75.2
09. 8	72.4	60.5	76.4	69.8	79.0	77.2
10. 8	73.8	67.2	75.8	70.4	78.2	78.4
11. 8	76.7	69.7	78.6	72.5	80.2	79.2

Note. Questions on National Health Insurance and National Pension subscription were adjusted in August 2008.

Source: Statistics Korea, Supplementary Results of Economically Active Population Survey by Job Type, August of each year.

Table 12: Benefits of Wage Workers Age 15 to 29 (%)

Year and month	Retirement allowance		Bonus		Overtime pay		Paid leave	
	Age 15–29	Age 30–54	Age 15–29	Age 30–54	Age 15–29	Age 30–54	Age 15–29	Age 30–54
'03. 8	57.8	56.8	56.8	55.0	41.7	44.2		
'04. 8	59.7	56.9	57.5	54.5	46.4	46.7	51.4	48.5
'05. 8	60.3	57.5	59.0	55.6	47.3	47.2	50.4	48.4
'06. 8	61.9	57.7	60.6	56.8	46.1	46.1	48.5	47.0
'07. 8	67.4	60.4	65.5	59.3	48.2	47.2	59.4	52.8
'08. 8	71.5	64.5	65.3	60.5	45.6	46.8	62.5	56.1
'09. 8	70.3	65.9	71.0	65.7	47.2	48.2	66.2	60.6
'10. 8	70.9	67.5	72.5	69.5	48.4	49.3	68.0	62.6
'11. 8	73.5	69.8	74.2	70.3	48.4	48.8	66.3	60.8

Source: Data from Statistics Korea, Supplementary Results of Economically Active Population Survey by Job Type, August of each year.

8. Job Characteristics and Wage Function Estimate of Youth Wage Workers

Since 2004, youth unemployment has intensified, and in response, many youths have elected to take leave from school or to delay

graduation by extending their semesters instead of graduating. In general, an increase in unemployment is likely to degrade the quality of the jobs that youths work at. However, since 2004, the quality of jobs for youths age 15 to 29 who have graduated or dropped out but who do

not attend preparatory academies has improved in many respects, including the percentage of permanent and regular employees, size of business, average service period and percentage of workers with less than 1 year of service, real wages, social insurance, and eligibility for other benefits. Despite the improvement in the quality of jobs, youth unemployment remains high, and the possibility that the expectations of youths may also have increased, in addition to the possibility that youths may be seeking “decent jobs” from subjective rather than objective perspectives, may partially explain this.

In order to assess such possibilities, this study, using the Supplementary Results of Economically Active Population Survey by Job Type for the period 2004–2011, estimated the wage function for youth jobs and analyzed the changes in the wage premium according to business size. A continuous increase in the wage premium according to business size will provide a partial answer to the question “Why is youth unemployment still high despite the improvement in the quality of jobs?”

For estimation, the ordinary least square (OLS) method was used,¹ and the logarithm of hourly wage was used as the dependent variable. Explanatory variables include demographic variables such as sex, age, marital status, education level, and area of domicile, and economic variables such as service period, union participation, employment type, business size, and industry. Table 13 shows the wage functions of wage workers age 15 to 29 who have graduated or dropped out but who do not attend preparatory academies estimated by using survey results from August 2011.

The results shown in Table 13 display some notable characteristics. First, in the case of youth wage workers, the age effect on wage was

found to be very weak. In the case of men, although there is no statistical significance, wage decreases with age.² This result is probably because among youths, the age difference between workers is not great, and service period is more important in determining wage than age.³ Second, although wages were higher among men with spouses or marriage experience than among unmarried men, in the case of women, marital status has no impact. Third, in the case of men, the impact of where they lived—cities or countries—on wage was statistically significant, whereas in the case of women, those are living in cities tended to be paid more.

9. Change in Job Characteristics and Wage Premium

¹ The self-selection model in which whether to work or not is determined in the first stage and the wage level in determined in the second stage is more detailed, but because the Economically Active Population Survey Supplementary Survey by Job Type lacks information on variables that affect job searching periods and the decision to work, the use of this model would lead to credibility issues regarding the results. And since the purpose of wage function estimation is to examine the temporal changes of the effect of explanatory variables on wage, this study chose to simply make an estimate of the wage function.

² Those who are found to be older than others after the factor of service period is controlled for are likely to have begun working later than others or may have transferred from another job. They may also have graduated or dropped out of school later than others. Those who began working later than others may have found employment by lowering their standards as their job-searching period became longer. In the case of those who graduated or dropped out of school later than others, they may have done so because of difficulties in finding jobs. In addition, in the case of those who have changed jobs, it may be possible that they relatively lacked the ability to adjust to their jobs. Such explanations indirectly imply the validity of the estimated negative (-) value of the effect of age on wage level.

³ As of August 2011, the average age of youth wage workers age 15 to 29 who have graduated or dropped but do not attend preparatory academies is 26.03, with a standard deviation of just 2.53 years.

Table 13: Wage Function Estimate for Youths Age 15 to 29 Who Have Graduated or Dropped Out But Who Do Not Attend Preparatory Academies: OLS, August 2011

Explanatory variable	Total	Male	Female
Sex (0: female, 1: male)	0.08203(0.000)		
Age	-0.03608(0.322)	-0.05300(0.424)	0.00118(0.978)
Square of age	0.00114(0.117)	0.00148(0.257)	0.00041(0.634)
Marital status (Standard: single)			
Married	0.07425(0.000)	0.12253(0.000)	0.02219(0.273)
Bereaved/divorced	0.24642(0.011)	0.33516(0.007)	-0.07542(0.654)
Education (Standard: high school and below)			
Two-year college	0.11573(0.000)	0.09342(0.000)	0.13057(0.000)
University and above	0.22613(0.000)	0.19211(0.000)	0.25019(0.000)
Current job service period (years)	0.03324(0.000)	0.03890(0.000)	0.03049(0.000)
Area of domicile (0: county, 1: city)	0.04534(0.006)	0.01059(0.679)	0.07789(0.000)
Employment type (Standard: regular)			
Non-regular	-0.07805(0.000)	-0.10348(0.000)	-0.05300(0.001)
Trade union membership (Standard: no union)			
Union exists but is not eligible for membership	-0.00535(0.822)	0.08284(0.040)	-0.05306(0.064)
Eligible for membership but not joined	0.11784(0.000)	0.10485(0.011)	0.13964(0.000)
Joined union	0.14872(0.000)	0.13248(0.000)	0.16629(0.000)
Business size (Standard: 1–4 workers)			
5–9 workers	0.14784(0.000)	0.22154(0.000)	0.09694(0.000)
10–29 workers	0.22816(0.000)	0.29985(0.000)	0.17847(0.000)
30–99 workers	0.28269(0.000)	0.33120(0.000)	0.24500(0.000)
100–299 workers	0.33948(0.000)	0.41933(0.000)	0.26160(0.000)
300 or more worker	0.37771(0.000)	0.45701(0.000)	0.32706(0.000)
Industry (Standard: manufacturing)			
Construction	0.01019(0.733)	-0.00531(0.895)	0.07299(0.119)
Wholesale and retail	-0.02981(0.135)	-0.03256(0.271)	-0.01427(0.607)
Transportation	0.05458(0.123)	-0.00815(0.877)	0.11476(0.018)
Lodging and restaurants	-0.13798(0.000)	-0.19759(0.000)	-0.08029(0.023)
Financial services and insurance	0.10900(0.000)	0.10940(0.007)	0.12398(0.000)
Professional, scientific, and technical services	0.14418(0.000)	0.16083(0.000)	0.13520(0.000)
Business facilities management and business support	0.00546(0.848)	0.00177(0.969)	0.02841(0.438)
Public administration, defense, and social security	-0.10426(0.007)	0.08759(0.206)	-0.19315(0.000)
Education services	0.05608(0.023)	0.17721(0.002)	0.03406(0.238)
Healthcare and social welfare	-0.02810(0.192)	-0.11645(0.033)	-0.01069(0.674)
Association, group, personal services	-0.17990(0.000)	-0.15785(0.002)	-0.20291(0.000)
Other	-0.00780(0.741)	-0.00725(0.833)	0.01727(0.602)
Constant term	8.68208(0.000)	8.94655(0.000)	8.20778(0.000)
No. of samples	3,488	1,472	2,016
F-value	85.61	37.14	54.19
Adjusted R-square	0.4214	0.4160	0.4336

Note. Values in parentheses are $P > |t|$.

Source: Authors

As shown in Table 14, the wage premium according to business size tended to increase in both men and women during the 8-year period from August 2004 to August 2011, although there is a significant level of fluctuation depending on the date of observation. When “1 to 4 employees” is set as the standard, the wage

premium of businesses with 100 to 299 employees increased from 0.2705 in August 2004 to 0.3395 in August 2011, while the wage premium of businesses with 300 or more employees also increased, from 0.3342 to 0.3777, during the same period.

Youths who are about the same age will probably not look only at wage distribution when searching for jobs. Instead, they will probably decide whether to join a company or not after looking at the overall wage-level trend. Wage functions were estimated and the change

in wage premium according to business size for all workers was analyzed with this in mind. The result is an increase in the wage premium according to business size since August 2004, as seen in Figure 16.

Table 14: Wage Premium of Youths Age 15 to 29 Who Have Graduated or Dropped Out But Who Do Not Attend Preparatory Academies by Business Size: Business With 1 to 4 workers as Standard

Business size	Year and month							
	'04. 8	'05. 8	'06. 8	'07. 8	'08. 8	'09. 8	'10. 8	'11. 8
All								
5-9	0.0978	0.1135	0.0829	0.1074	0.1021	0.0838	0.0772	0.1478
10-29	0.1838	0.2052	0.1825	0.1478	0.1667	0.1767	0.2159	0.2282
30-99	0.2234	0.2304	0.2019	0.2386	0.2317	0.2403	0.2410	0.2827
100-299	0.2705	0.2827	0.2411	0.2338	0.2977	0.2871	0.3077	0.3395
300 and above	0.3342	0.3855	0.3343	0.3712	0.3877	0.3778	0.3978	0.3777
Males								
5-9	0.0449	0.1185	0.0585	0.1071	0.0881	0.0679	0.1038	0.2215
10-29	0.1599	0.2038	0.1800	0.1008	0.1634	0.1697	0.2842	0.2998
30-99	0.1651	0.1853	0.1749	0.2060	0.2353	0.2287	0.2767	0.3312
100-299	0.2068	0.2744	0.2280	0.2258	0.3052	0.3212	0.3704	0.4193
300 and above	0.2918	0.4031	0.3185	0.3892	0.4038	0.3441	0.4387	0.4570
Females								
5-9	0.1237	0.1032	0.1035	0.1024	0.1120	0.0931	0.0628	0.0969
10-29	0.1941	0.2061	0.1829	0.1810	0.1673	0.1833	0.1670	0.1785
30-99	0.2601	0.2681	0.2206	0.2608	0.2325	0.2496	0.2224	0.2450
100-299	0.3257	0.2850	0.2455	0.2347	0.2920	0.2612	0.2579	0.2616
300 and above	0.3659	0.3797	0.3460	0.3514	0.3736	0.4039	0.3752	0.3271

Note. Questions on National Health Insurance and National Pension subscription were adjusted in August 2008.

Source: Authors

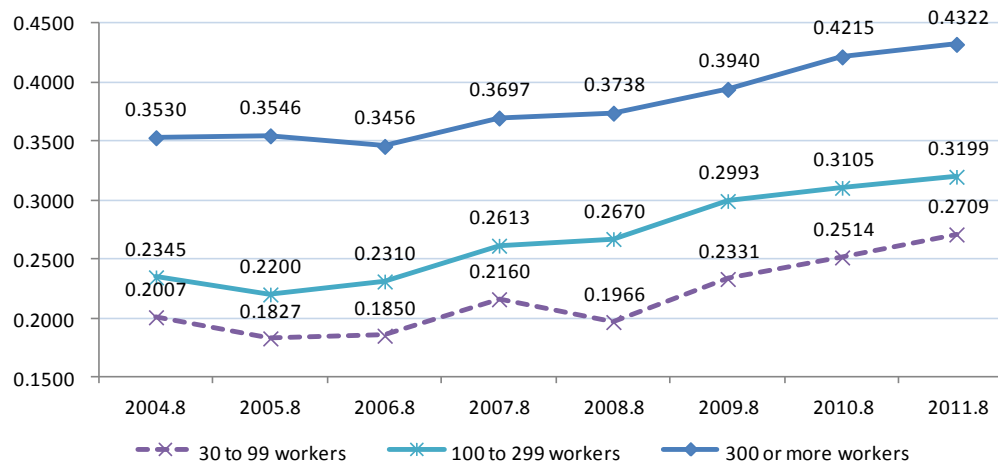


Figure 16: Wage premium trend by business size: From August 2004 to August 2011, all workers Standard is businesses with 1 to 4 employees

Source: Authors

One problem with the wage premium according to business size is that the standard is businesses with 1 to 4 workers, as seen in Table 14. The wage premium according to business size is a relative concept, and although as of 2011, 15.9% of all youths work in businesses with 1 to 4 employees, as seen in Table 14, the wage premium over businesses with 1 to 4 employees is rising not only at businesses with 300 or more employees but at those with 5 to 9 and 10 to 29 employees as well. Therefore, the information in Table 14 alone is not enough to prove that wage levels at small companies

dropped. As one solution to this problem, this study estimated wage functions after categorizing businesses into two groups—those with 1 to 29 employees and those with 30 or more employees—and examined the increase in wage premium at businesses with 30 or more employees in comparison to businesses with 1 to 29 employees. The conclusion, shown in Figure 17, is that while there is some fluctuation, the wage premium for businesses with 30 or more employees has increased since August 2004.

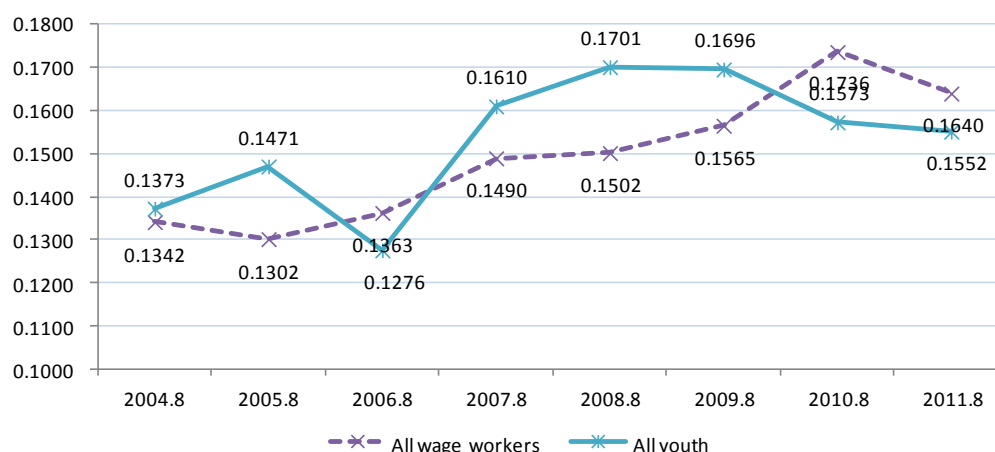


Figure 17: Wage premium trend by business size: From August 2004 to August 2011. Standard is businesses with 1 to 29 employees.

Source: Authors

The above analysis shows that wage gaps between companies of different sizes have increased since 2004, and as a result, despite improvements in the overall quality of jobs, more youths are taking leaves or postponing graduation from school in order to compete to work at large companies. In addition, it shows that in order to solve the youth unemployment problem, although it is important to create “decent jobs,” it is also important to make efforts to improve the distribution of job quality.

10. Conclusion

Youth employment rates, which show the employment situation of youths, have continued to deteriorate since 2004, as shown in Figure 1. An analysis of raw data from Statistics Korea’s Economically Active Population Survey and Supplementary Results of Economically Active Population Survey on Youths performed to

confirm whether youth unemployment affects all youths found that the percentage of youths who were delaying graduation or taking leaves of absence due to unemployment had increased. Also, the degree of hardship experienced was found to differ among youths: the younger and less-educated tended to suffer more, and women tended to suffer more than men.

Meanwhile, in an analysis using the same raw data to see whether the unemployment problem had a negative impact on the quality of youth jobs, contrary to economic theories, during the period between 2004 and 2011, the quality of jobs was found to improve or at least remain the same in almost every respect including wage levels, percentage of permanent or above-one-year contract positions, and social insurance subscription. According to a time-series analysis of the effect of business size on wages performed to investigate the cause of this

phenomenon by applying an estimated wage function, during the period 2004–2011 the wage premium according to business size increased not only among youths but among all wage workers. This result contradicts the government's previous claim that youth unemployment can be solved by creating "decent jobs." While it is important to create "decent jobs," what is also important is to bridge the gap in the quality of jobs. In other words, it is necessary to improve the quality of jobs located in the margins of the job ladder in order to solve the youth unemployment issue, and achieving this requires improvement of the competitiveness and working conditions at small and medium-sized enterprises and middle-standing enterprises.

The analyses in this study also present some additional policy implications. First is the need to develop an index that can accurately assess the youth unemployment problem.

The official unemployment rate for youth ages 18 to 29 in 2011 is 7.6%, but the unemployment rate actually felt by youths is much higher. NEET and "employment difficulty class" are concepts that are used to supplement the official unemployment rate and to measure felt unemployment.¹ However, the analysis that youth unemployment leads to an increase in leaves and in the number of semesters taken by students and thus increases the length of time it takes to graduate from school shows that NEET and "employment difficulty class," both of which are supplementary indices, underestimate the intensity of the youth unemployment problem.

This study also presents the need to categorize youths into incumbent/on-leave students and graduated/dropped-out youths and to conduct separate analyses in order to accurately understand the youth unemployment problem and establish measures to resolve it. Students either attending or on leave from school are highly likely to be temporarily employed in non-regular work such as part-time

side jobs, instead of permanent jobs, and including these temporary jobs as employment would risk distorting the unemployment problem.

It is also necessary to look at the differences in the unemployment problem in young men and young women. This study found the drop in employment rate to be higher for men than for women, and this can be understood as the result of a bridging of the gap between men and women since the 2000s. But women have not yet surpassed men in terms of competitiveness. The economic status of female youths is far lower than that of males. Accordingly, the data show the trend of economic activities of youths who have graduated from 4-year universities or higher by age, men and women display different employment-rate patterns. Women tend to become employed at 24 to 26 years of age, or right after they graduate from university. However, for reasons of marriage, child rearing, and housekeeping, the number of non-employed women increases: just 51.8% of women age 33 to 35 were found to have jobs. On the other hand, the employment rates for men tell a completely different story. Employment rates for men are lower than those for women up until their mid-20s because Korean men must complete mandatory military service. However, the employment rate for men surpasses that of women at the age of 27, and by 30 to 32 years of age, most men will have found jobs. Even as they age, men tend to find jobs by lowering their standards, but in the same situation, women tend to give up job-searching. This means that while youth unemployment affects both men and women in their 20s, women are the ultimate victims of the unemployment problem, and that the socioeconomic status of women is lower than that of men.

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