

COLLEGE CHOICE AFTER JOB EXPERIENCE OF HIGH SCHOOLER AND LABOR MARKET PERFORMANCE OF POST-COLLEGE CAREER

KIM HYE WON

Korea National University of Education,
E-mail: hwkim@knu.ac.kr

Abstract - We try to find out the characteristics of late college entrants with job experience after high school graduation and compare labor market effect between college graduate with complex school-to-work transition path and graduate with simple transition path. We use the raw data of The Korean Education and Employment Panel Survey(KEEP) from 2004 to 2015. Job experience of high schooler increases the probability of college choice and having good job hinders the college entrance. Association between college major and job contents is not influenced by pre-college job experience but we can see the possibility of career competency enhancing effect for male vocational education path. In these aspects, Korea government's policy of 'Work first, College late' might be able to improve the labor market efficiency.

Keywords - College choice, job experience, career competency, major-job association

I. INTRODUCTION

Many young people suffer unemployment problem after the graduation of the school. Many researcher analysed the issues of school-to-work transition and related problems. Successful school-to-work transition is an important issue of high youth unemployment problems which is prevalent in many countries including Korea and China. In general youth graduates the school, i.e. high school or college and try to find the job and experience a few jobs and determine their own career job. However there are another transition path which is different from traditional path. We can see many high schooler who enter the company at first and then enrol the college after job experience. Existing researches focused on the linear transition path from school to work and did not examined complex transition path including back-to-school phenomenon after the initial school-to-work path. Korea government has tried to decrease too high tertiary education enrolment rate of Korea high school graduates and present the alternative route of 'Work first, College late' and give incentives to high schooler and college especially for vocational high schooler. This paper provides indirect basic empirical evidence of whom this policy help and whether this policy can enhance efficiency of education and labour market or not.

In this paper we study the size, characteristics and performance of high school graduates who enter college after or with job experience. We try to find out the characteristics of late college entrants with job experience after high school graduation and compare labor market effect between college graduate with complex school-to-work transition path and graduate with simple transition path. We use the raw data of The Korean Education and Employment Panel Survey(KEEP). Through empirical analysis, we examine whether job experiences before college

entrance lead to better college choice and higher post-college labor-market outcome or not.

II. LITERATURE REVIEW

Theoretically we adopt human capital theory and career guidance theory. According to human capital theory, college choice depends on the opportunity cost of college in comparison of working with high school diploma. If people have job with high wage, stable employment status, they would not enter college. We will examine whether this theory fits the empirical data in Korea. Career guidance theory emphasizes career capability and more and better information help people choose another education and job ladder. Learning-by-doing will increase match quality between job and education(Polidano et al. (2012), Hanushek et al.(2017), Robst (2016)). In Empirics, there are a few paper which tried to find out who is late entrant with career and whether wage performance exists or not in Korea. Kim et al.(2011), Lee et al.(2016), Moon et al.(2017) use the same data and similar research questions. Our paper is different from these studies as follows. Firstly, our data coverage is broader. Secondly, new important variable, wage is include in college choice model. Thirdly, new labor market outcome variable, i.e. major-job association measure is introduced and examined.

III. DATA AND METHOD OF ANALYSIS

We use the raw data of The Korean Education and Employment Panel Survey(KEEP) from 2004 to 2015 which contains rich information of individual-level education and employment history. KEEP is a longitudinal research study that extracts representative samples from among the population group and traces them for over 12 years. A total of 6,000 samples were selected as the target of this

survey, comprising 2,000 middle school seniors (3rd graders), 2,000 high school seniors (3rd graders), and 2,000 vocational and technical high school seniors (3rd graders). In the fourth year, new 1600 samples of middle school cohort were added because there were too few samples in existing middle school cohort to be used in order to analyse the future course of the cohort by vocational school type (technical, commercial, and others), as 30% of the students entered vocational high schools. In order to answer research questions, we will adopt two regression models. The first regression model is linear probability model of late college entrance among the graduates who do not enter the college immediately after the graduation. There are three types of graduates. The first and second types are young people who do not enter college with job experience or without job experience. The third type is youth who enter college after job experience. Let us examine the of linear probability model.

$$y = \beta_0 + \beta_1 \cdot x_1 + \dots + \beta_k \cdot x_k + u$$

y is a binary variable of college entrant and x is vector of explanatory variables which we explained below. u is error term. If we take expectations the follow equation is such as.

$$P[y = 1 | x] = \beta_0 + \beta_1 \cdot x_1 + \dots + \beta_k \cdot x_k$$

$$\beta_1 = \frac{\Delta P[y = 1 | x]}{\Delta x_1} \text{ coefficient would teach}$$

us how the probability of college entrance will changes when x_1 changes holding all other factors constant.

Dependent variable is dummy of late college entrance which is 1 if the graduate enter the college and is 0 otherwise. Explanatory variables are gender, type of high school, cohort, household income, residential region, occupations, employment status, wage, part time or full time job, and dummy of job experience. The last variable is 1 if a graduate get the job after school graduation and is 0 otherwise. According to human capital theory, the opportunity cost of college entrance is the main factor and we can expect the following results. High wage, stable employment status and full time work which are the characteristics of the experienced job will increase the opportunity cost of college choice. The second regression model is the linear ordinary least square regression model in which the dependent variable is the degree of major-job association and independent variables are the factors which influence the affinity between the education and the job.

Let us examine the of linear ols model.

$$y = \beta_0 + \beta_1 \cdot x_1 + \dots + \beta_k \cdot x_k + u$$

y , i.e. major-job association measure is likert-scale answer from the survey question about the degree of association between the college major and the job. x sare explanatory variables which we explained below. The main independent variable is dummy of late college choice after job experience. If the coefficient is positive significantly, late college choice with job career improve the match quality of job and major and the efficiency of human capital investment. In many cases high school graduates choose majors of college without enough information about the occupation and the major of education. In addition many high school graduates do not know their own talent and ability. Job experience will help high school graduates build career competencies because they can get more and better information about the occupation and the qualification for the target occupation and can know their own aptitude and gift through the career experience in real work environment.

Other variables include gender, type of high school, cohort, household income, residential region, type of major and type of college. The last variable is 1 if college is junior college and 0 if college is four-year university. Junior college provides vocation-oriented education and job experience before college choice may be more helpful in vocational education rather than in academic education of four-year university.

IV. EMPIRICAL RESULT

4.1 basic statistics

We identified 6 school-to-work transition path and divided all sample to 6 groups. Group A is late college entrant with career and group B is youth without college entrance. Group C is immediate entrant of junior college and group D is immediate entrant of four-year university. Group E is late college entrant without career and Group F is other graduates who are not included in group A, B, C, D and E. Total number of used sample is 6,976 which is less than total sample 7,600 because of attrition of panel in early years. As we see in Table 1, number of Group A is 294 and composition ratio of all graduates is 4.21%. If we exclude group F, share of group A for vocational students is 5.45% which is higher than that for academic students, 3.04%. If we divided total sample to high school cohort and middle school cohort, share of A for high school cohort is 4.48% which is higher than that for middle school cohort. However difference of share levels are smaller if we exclude group F. It means that share of group A may decreased a little or be constant in the mid years of 2000s.

Table 1 Composition of school-to-work transition path

(unit : person, %)

Type of High School	Late college entrant with career (A)	youth without college entrance (B)	immediate entrant of junior college (C)	immediate entrant of university (D)	late college entrant without career (E)	Others (F)	Total
Academic	109	269	606	1909	301	389	3583(51.36)
	3.04	7.51	16.91	53.28	8.40	10.86	100.00
Vocational	185	900	1284	554	34	436	3393(48.64)
	5.45	26.53	37.84	16.33	1.00	12.85	100.00
Total	294	1169	1890	2463	335	825	6976
	4.21	16.76	27.09	35.31	4.80	11.83	100.00

Source : KEEP 2004-2015 raw data

There are four paths to college for group A. One criteria is employment status, stable job or unstable job. Another is criteria of type of college. 2/3 of graduates from academic high school is included in group IV(See table 2). Only 30% of academic graduates experienced stable employment. In contrast majority of graduates from vocational high school are

in group I and 80% of vocational graduates got the stable jobs. Distribution of job duration for group A shows that share of one year experience is 55-59% , that of two year is 18-21% and share of over 3-year is 22-25%. For university entrant, share of over 1 year is over 20%. In contrast, share of over 1 year for junior college is about 45%.

Table 2 Four paths to college for high schooler with career

(unit : person, %)

	Stable-junior college(I)	Stable-university(II)	Unstable-junior college(III)	Unstable-university(IV)	Total
Academic	8	24	4	73	109(37.07)
	7.34	22.02	3.67	66.97	100
Vocational	108	41	19	17	185(62.93)
	58.38	22.16	10.27	9.19	100
합계	116	65	23	90	294
	39.46	22.11	7.82	30.61	100

Source : KEEP 2004-2015 raw data

4.2 regression results

Table 3 shows which factors increase the probability of late college entrance. One result is that job experience enhances the probability of late college entrance which means that experience of work increases make youth desire additional human capital investment. Another important result is that the predictions of human capital theory fit the data. High

wage, stable employment status and full time work increase the opportunity cost of college choice and decrease the probability of late college entrance. In addition, type of occupation affects the college choice. Compared with manufacture job, office job is conducive to college entrance and art and media job hinder getting college diploma.

Table 3 Determination of College Entrance(Linear Probability Model)

Variable	Parameter		Standard	t Value	Pr > t
Intercept	-0.091		0.097	-0.94	0.348
Dummy of male	0.009		0.021	0.42	0.674
Dummy of vocational high school	-0.146	***	0.026	-5.63	<.0001
Dummy of high school cohort	0.051	*	0.028	1.8	0.073

Log household income	0.039	**	0.016	2.37	0.018
Dummy of large city	0.057	**	0.022	2.62	0.009
Dummy of job experience	0.289	***	0.032	9.17	<.0001
KECO0-office	0.436	***	0.166	2.63	0.009
KECO1-R&D	0.208		0.165	1.26	0.209
KECO2-public service	0.433		0.365	1.19	0.236
KECO3-health	0.504		0.366	1.38	0.169
KECO4-art and media	-0.396	***	0.212	-1.87	0.061
KECO5-personal service	-0.07		0.043	-1.64	0.102
KECO6-sales, transportation	-0.047		0.039	-1.21	0.227
KECO7-construction	-0.049	***	0.153	-0.32	0.752
KECO9-agriculture, fishery	-0.183		0.363	-0.5	0.615
Dummy of stable employment	-0.201	***	0.064	-3.13	0.002
Log hourly wage	-0.013	***	0.004	-3.52	0.000
Dummy Part time job	0.196	***	0.035	5.68	<.0001
Number of samples	1276				

Source : KEEP 2004-2015 raw data

We can see whether job experience before college enhances major-job association in Table 4. Main result is that the coefficient of job experience variable is insignificant and that college education with career does not affect major-job association. But significance level of coefficient of job experience

variable increase high to 10% level if we focus on junior college and male entrant(The result of regression can be provided if you request). It means that job experience before college entrant enhance career capability and wise major choice for vocational college education path.

Table 4 Determination of Major-Job Association(OLS)

Variable	Parameter		Standard	t Value	Pr > t
Intercept	2.804	***	0.197	14.21	<.0001
Dummy of male	-0.15	***	0.04	-3.73	0
Dummy of vocational high school	-0.18	***	0.043	-4.23	<.0001
Dummy of high school cohort	-0.021		0.037	-0.57	0.57
Log household income	0.033		0.032	1.03	0.302
Dummy of large city	0.035		0.037	0.96	0.339
Dummy of job experience before college	0.007		0.112	0.06	0.95
Dummy of junior college	-0.06		0.043	-1.39	0.165
Dummy of job experience * Dummy of junior college	0.106		0.159	0.67	0.503
Dummy of Major in social science	0.249	***	0.071	3.52	0
Dummy of Major in education	0.988	***	0.099	10.02	<.0001
Dummy of Major in engineering	0.5	***	0.073	6.84	<.0001
Dummy of Major in natural science	0.358	***	0.082	4.34	<.0001
Dummy of Major in medical and medicine	0.886	***	0.089	10	<.0001
Dummy of Major in art and sports	0.44	***	0.08	5.48	<.0001

Source : KEEP 2004-2015 raw data

CONCLUSION

In this study we examine what kind of characteristics late college entrants with career have and whether job experience enhance major-job association or not using Korea Education and Employment Panel Survey data. Job experience increases the probability of college choice and having good job hinder the college entrance. Association between college major and job contents is not influenced by pre-college job experience but we can see the possibility of enhancement for male vocational education path. In these aspects, Korea government's policy of 'Work first, College late' might be able to improve the labor market efficiency.

REFERENCES

- [1] Robst, John (2016), Education and job match: The relatedness of college major and work, *Economics of Education Review* 26, pp. 397-407
- [2] Polidano, Cain; Tabasso, Domenico; Tseng, Yi-Ping (2012) : A second chance at education for early school leavers, Discussion Paper series, Forschungsinstitut zur Zukunft der Arbeit, No. 6769
- [3] Eric A. Hanushek, Guido Schwerdt, Ludger Woessmann, Lei Zhang (2017), General Education, Vocational, Education, and Labor-Market, Outcomes over the Lifecycle, *Journal of Human Resources* 52(1), pp. 48-87
- [4] Kim et al. (2011), College Choice of female vocational school graduates, *Industrial Labor Review* 17(2), pp. 1-27
- [5] Lee et al. (2016), The College Wage Premium among the Korean Youth, *Quarterly Journal of Labor Policy* 16(3), pp. 1-25
- [6] Moon et al. (2017), Analysis of the Decision to Enter Labor Market First and Go to College Later among Female Vocational High School Graduates, *The Women's Studies* 94(3) pp. 79-108

★ ★ ★