KDI SCHOOL

WORKING PAPER SERIES

KDI 국제정책대학원
KDI School of Public Policy and Management

KDI SCHOOL WORKING PAPER SERIES

Do School Ties Matter? Evidence from the Promotion of Public Prosecutors in Korea

Hyosun KIM, Chung Ang University
Taejong KIM, KDI School of Public Policy and Management
Minkyu LEE, Chung Ang University

July 2005
Working Paper 05-08

Do School Ties Matter? Evidence from the Promotion of Public Prosecutors in Korea

Hyosun Kim, Chung Ang University

Taejong Kim, KDI School of Public Policy and Management*

Minkyu Lee, Chung Ang University

July 11, 2005

JEL Classification Code : J4, J7, J24

Key Words : public sector labor markets, credentialism, discrimination

---

* Corresponding author. Kindly direct inquiries and other correspondences to: Taejong Kim, KDI School of Public Policy and Management, Tongdaemun-gu Chongnyngri 2-dong 207-43, Seoul, Korea, or to tjkim@kdischool.ac.kr via email. The authors are grateful to Soohyung Lee for providing the key data and to Jiyoung Lee for diligent research assistance. Financial assistance from the KDI School of Public Policy and Management is gratefully acknowledged.

Abstract

Does stronger networks capital favor graduates from elite schools over their same-ability peers in promotion? To help answer the question, we examine the public prosecutors' position changes data in South Korea. The key empirical challenge is to control for unobserved individual heterogeneity, such as ability. For the purpose, we employ various techniques such as shared frailty model in duration analysis, instrumental variables estimation, and panel fixed effects estimation. Once we control for individual heterogeneity, the apparent effects of school ties largely disappear. Even when we take OLS evidence at face value, which does not account for unobserved heterogeneity, favoritism based on school ties seems to be a phenomenon limited to the highest echelon of the hierarchy.

I. Introduction

Does stronger networks capital favor graduates from elite schools in promotion over their same-ability peers? To help answer this question, we examine the public prosecutors' position changes data in South Korea.

The answer to this question obviously bears directly on equity, but also has implications for efficiency. The presence of favoritism may discourage workers from investing in productive human capital, if they perceive promotion is determined by criteria other than merit. Favoritism may also disrupt optimal job-worker matching, reducing organizational efficiency.[1]

The widely-shared perception in Korea that people sharing school (or birth-place) ties often help each other in ways legal and illegal makes the question eminently pertinent. The perceived practice of favoritism based on shared personal ties constitutes an important element in what is often characterized as "crony capitalism" in Asian countries, or more generally in developing countries around the world.

While there is no short supply of anecdotes supposedly vindicating the presence of school-ties favoritism, it is not clear how widespread the practice really is. According to a recent poll by Gallup Korea, commissioned by the Government Information Service, 87.7% of 1,048 Korean adults surveyed agreed that discrimination is significant based on where one went to school.[2] In the same study, however, 59.9% of respondents chose individual ability as the single most important factor for success in one's career, followed by school ties (20.4%), socioeconomic status of parents (17.1%), and place of birth (2.5%). Also interesting is the finding that the proportion of people who have personally experienced discrimination based on school ties is relatively small at 31.9%.

---

[1] Preference for an individual with high networks capital may be in line with organization interest in positions featuring extensive external liaison.

[2] See http://www.allim.go.kr/.

In a study that confirms the presence of school-ties favoritism in an intriguing way, Korea Recruit, a private-sector job information provider, surveyed HR managers of large corporations. (Korea Recruit, 2003) The study asked them whether they would agree to stop asking job applicants to provide information on where they went to school. A surprisingly large number of respondents answered positive, the proportion close to 60%. Of those who would agree, about 40% cited as the main reason the concern that school-related information hinders objective evaluation focused on ability.

Given the importance of the question and the high level of public interest, it is surprising that, to our best knowledge, no formal study exists in the Korean literature to examine how serious the problem is in practice. Numerous studies try and document how graduates from elite colleges or high schools dominate in the upper echelon of prestigious organizations in the private sector and public. (Hahm and Yang, 2005) The common problem with the existing studies is their inability to disentangle the school-ties effect from the effect of unobserved individual heterogeneity. In average, it is the more highly able that go to elite schools. When they succeed in their career, it is hard to tell how much of their success is due to their individual ability and how much to their school ties.

In this paper, we measure the strength of an individual's networks capital by the proportion of people in the upper reaches of the organization sharing high school ties, and examine its impact on career duration, promotion, and appointment of key positions. To control for unobserved individual heterogeneity, we employ various econometric techniques such as 2SLS, panel fixed effects model, and shared frailty model in duration analysis. Once we control for individual heterogeneity, the apparent effects of school ties largely disappear. Even when we take OLS evidence at face value, which does not account for unobserved heterogeneity, favoritism based on school ties seems to be a phenomenon limited to the highest echelon of the hierarchy in the Korean Public Prosecutors' Office.

The remainder of the paper proceeds as follows. The next section briefly discusses relevant literature. Section 3 introduces data and empirical strategies. Section 4 presents the results of empirical analysis, to be followed by

concluding remarks in section 5.

II. Literature Review

(This section needs to beefed up)

In contrast to the voluminous literature on discrimination based on race and gender, discrimination (or favoritism) based on school ties has received little attention from researchers. This lack of attention probably reflects that favoritism based on school ties is not really a serious social issue in most rich countries. The economics literature most relevant for the issue of the paper then seems to be the one on the effect of school quality or college selectivity on labor market outcomes. Several recent studies adopted careful and ingenious empirical strategies to control unobserved individual heterogeneity.

Brewer, Eide, and Ehrenberg (1999) explicitly model high school students' choice of college type based on individual and family characteristics, and estimate selectivity-corrected outcome equations. Behrman, Rosenzweig, and Taubman (1996) difference out unobserved individual and family characteristics using twins data. Both papers find a substantial impact of college quality on subsequent earnings. Dale and Krueger (2002) compare college quality and earnings among students who are accepted and rejected by a comparable set of colleges, and are comparable in terms of observable variables. Interestingly, the latter study finds no impact of college selectivity on later earnings. Kim (2004) takes advantage of the highly unusual admission freeze at the University of Tokyo in 1969 as a natural experiment, and finds that the cohort denied a chance to study at the prestigious university did not suffer disadvantages in terms of promotion in government service.

We have also to mention the literature in administrative science motivated by sociology of networks. One interesting study by Seidel, Polzer, and Stewart (2000) for instance reports that lack of social ties (as indicated by job referral by a friend already working for the firm) largely explain the minority workers' failure to secure a negotiated pay increase.

A fair summary of the relevant literature then seems that there is no consensus view on the impact of school ties (or school selectivity) on labor market outcomes. The current paper contributes to the literature by employing a highly direct measure of individuals' networks capital in the form of the proportion of superiors sharing school ties. That we are examining the public sector labor market in a country that is often suspected of favoritism based on personal ties and thus provide a useful data point should also be counted as a contribution.

III. Data and Empirical Strategies

The main data to be analyzed come from public announcements of annual personnel changes in the Pubic Prosecutors' Office (PPO henceforth) in Korea.[3] Additional personal information is gathered from the database provided by OSEO.com, a private-sector information provider on legal services, and also from the *Korean Who's Who in the Legal Profession* (2004).[4] The supplementary personal information includes high school and college attended, years of attendance, college major, and biographic information such as birth date and place of birth.

The resulting longitudinal data set traces initial appointment, position change and promotion, and resignation from the prosecutorial service for 1,730 individual prosecutors for the period from 1992 to 2004. We have observations for 14,350 person-years in total.

Despite the relatively large sample size, the number of observations available for some analyses can be quite small due to interaction between temporal coverage in our data set and years it takes a typical prosecutor to be promoted to a higher rank.

To understand this, see Figure 1. The first column represents the annual entry

---

[3] The authors are grateful to Soohyung Lee of *The Donga Ilbo*, a Korean daily, for providing this data.

[4] *Hankuk bupjo daekwan*. (in Korean)

cohorts running from 1 to 32. Because of the mandatory military service for male citizens, the actual year a newly appointed prosecutor begins to work for the PPO may vary, depending on whether one is exempted from the service due to physical or other considerations. In the hierarchy of the PPO,[5] new prosecutors are assigned the initial rank of 6. Typically, it takes about 9 years to be promoted to rank 5, then further 7 years to rank 4. With additional 4 years of service, he may be promoted to rank 3, what one might consider the bottom rank in the senior echelon of the organization. Suppose one wants to examine whether school ties affect promotion from rank 5 to rank 4. The relevant cohorts for this examination run from entry cohort 9 to 14. Throwing in earlier or later cohorts would confound the effects of school ties with a selection bias and other noise.

Figure 2 compares survival estimates between graduates of elite high schools and others. In the figure, elite high schools are defined as the seven top schools in terms of the personnel share in the PPO. The comparison unequivocally establishes that graduates from elite high schools tend to survive longer.[6] The up-or-out rule of internal competition within the pyramidal organization means that the raw probabilities of promotion are higher for the group. The essential question that we attempt to address in the paper asks whether this is due to differential endowment of networks capital or due to ability differences between the two groups.

The empirical investigation sets up the stage by measuring the high-school networks capital for each individual prosecutor by the proportion of superiors from the same high school.[7] Using this measure, we examine the impacts of school ties on various employment outcomes, such as employment duration, promotion to a higher rank, and appointment to coveted strategic positions. The

---

[5] As of 2004, the PPO had 1,381 public prosecutors in total. The hierarchy consisted of 861 prosecutors in rank 6, 400 in rank 5, 79 in rank 4, 31 in rank 3, and 9 in rank 2. Only one person fills the sole position in the top rank, the Prosecutor General.

[6] Peto-Peto test resoundingly rejects the null hypothesis that survival rates are equal between the two groups.

[7] We focus in this paper on school ties among high school alumni, ignoring school ties among college graduates. We employ the information on where one went to college as a control variable partly capturing individual ability. This asymmetric treatment reflects the popular observation that cliques within the PPO, to the extent they exist, tend to be formed based on high-school networks.

last outcome measure reflects the widely-shared consensus evaluation among the public prosecutors themselves and the journalists covering the PPO for news media.[8]

The key empirical challenge is how to control for unobserved individual heterogeneity, such as ability. Our baseline empirical strategy lines up proxy variables for individual ability (or aptitude for service in the PPO).

The proxy variables employed include college attended; age when the individual passed the national certification exam for lawyers; college major; and the first post upon promotion to rank 5. Institutions of higher education are quite strictly stratified along academic achievement. Reflecting this observation, regression controls include dummy variables for top four universities in terms of their graduates' representation in the PPO.[9] The age when the individual passed the exam and whether he majored in law in college, we argue, reflect the individual's aptitude for career as a public prosecutor. There is a well-established hierarchy among posts usually manned by first-year rank-5 prosecutors. The relative importance of each post is widely understood to reveal the organizational evaluation of performance and competence. We classify these posts into 22 groups, and field dummy variables representing these groupings as a part of our regression control.

We supplement the proxy variables strategy with appropriate methods depending on the context, including instrumental variables estimation, panel fixed effects estimation, and shared frailty model in duration analysis.

In examining the linear probability model for the effects of school ties on promotion to the next rank, we also use as an instrument shared region-of-birth ties with the reigning president. As head of the executive branch of the government, the Korean president and his office staff are known to have a significant influence in the appointment of top cadres in the PPO, including the appointment of the Prosecutor General, but rarely stoop so low as to manage

---

[8] We would like to thank Soohyung Lee of The Donga Ilbo for sharing his expert knowledge regarding this classification.

[9] The top four institutions are Seoul National, Korea, Yonsei, and Sungkyunkwan.

personnel movement in the lower echelon of the PPO. As a result, there is a good chance that the proportion of superiors from the same high school will be higher if the individual prosecutor in the lower part of the hierarchy shares the region-of-birth with the president. At the same time, we argue that whether an individual prosecutor hails from the same region as the president is not likely to be correlated with the prosecutor's unobserved ability. The region-of-birth tie shared with the president makes a valid instrument if the variable is correlated with endogenous regressors, but not with the error term.

When we examine the effects of school ties on appointment to key positions, we take advantage of repeated observations for a given individual in our panel data. If the assumption is granted that the correlation between the regressors including the school ties variable and the disturbance term is due to individual-specific time-invariant factor, then differencing or within transformation eliminates the individual fixed effect. OLS estimates based on the transformed model would then be consistent.

We also model how different factors, including the school ties variable, affect duration of one's career within the PPO. In duration analysis, modeling focuses on the hazard rate, or the conditional probability of exit at time t, given that the individual has survived up to time t. The proportional hazard model with Weibull distribution assumes the following parametric form the hazard rate λ(t):

$$\lambda(t) = pt^{p-1}\lambda_{0,} \quad (1)$$

where the component pt^{p-1} represents the baseline hazard. The baseline hazard exhibits positive duration dependence if p>1, negative duration dependence with p<1, and no duration dependence with p=1. Individual or environmental factors (X) are assumed to shift the baseline hazard up or down as follows:

$$\lambda_0 = exp(X_i\beta). \quad (2)$$

In an attempt to control for unobserved heterogeneity, our duration analysis also estimates the shared frailty model, the equivalent of panel fixed effects model in duration analysis.

IV. Results

Table 2 presents the results of duration analysis. The estimated models are duration models with proportional hazard representation, assuming Weibull distribution. To utilize the information on competence and performance evaluation contained in the first rank-5 post, we confine our analysis to individuals who have reached rank 5. To avoid selection bias, we focus on prosecutors belonging to entry cohort 10 or later. This leaves us with 2,933 person-years.

Models (1)-(3) differ from each other in the extent of regression controls adopted. Throughout the models (1)-(3), the school ties variable has a significant negative impact on the hazard. This means that the greater the proportion of superiors sharing school ties, the more postponed the exit will be for the individual concerned. It is interesting, however, that the estimated negative coefficient for the school ties variable gets smaller and smaller in absolute value, as we employ more and more extensive list of proxy controls. The estimated coefficient for the school ties variable in the first three models suggests that one standard deviation increase in the school ties variable, or about 5 percentage point increase, would reduce the hazard rate by 15-20%.

Models (4) and (5) assume shared frailty, among graduates from the same high school (model (4)) and among observations for a given individual (model (5)). In both the models, it is remarkable that the estimated coefficient is not statistically significant any more. As noted above, shared frailty in duration analysis is equivalent to the fixed effects assumption in panel linear models.

Tables 3-5 report the results of OLS estimation of linear probability models. The outcome variable is whether one gets promoted to the next rank (from rank 5 to 4 in Table 3; from rank 4 to 3 in Table 4; from rank 3 to 2 in Table 5). The message from the results is simple: favoritism based on school ties, if it exists at all, is a phenomenon limited to the highest echelon in the hierarchy.

The result of OLS estimation of a simple linear probability model reported in column (1), Table 3, suggests a modest, but positive and significant impact of

school ties on prosecutors' promotion from rank 5 to rank 4. However, as we control for various proxy measures of one's unobserved ability or aptitude in later columns, the estimated coefficient drops down dramatically, and loses its statistical significance. In Table 4, all the regression results suggest lack of any impact of school ties on one's promotion from rank 4 to rank 3.

When we examine the impacts of school ties on promotion from rank 3 to rank 2 in Table 5, however, we witness a remarkable change in the patterns. Estimated coefficients for the school ties variable are not only statistically significant, but quite large in terms of implied impacts. The effects of school ties persist even when we control for an extensive list of control variables.

The IV estimation results in Table 6 suggest that we had better take the results reported in Table 5 with a grain of salt. The instrument used is the region-of-birth tie shared with the reigning president. The estimated coefficients for the school ties variable are statistically insignificant, and vary a lot depending on specifications.

Finally, Table 7 estimates the linear probability model, examining the effects of school ties on appointment to coveted strategic positions. As the 57 strategic positions are scattered throughout the lungs of the organizational ladder, a given prosecutor may occupy a key position in one year to move to a not-so-important position the next, or the other way round. What is significant for our analysis is that repeated observations allow us to estimate panel models, both random effects and fixed effects. Both the models assume that the error term is the sum of individual-specific fixed effect and idiosyncratic error. The panel fixed effects model allows for possible correlation between the individual fixed effect and regressors (but not between the idiosyncratic error and regressors), and addresses the problem by eliminating the fixed effect using transformations such as differencing or within transformation. The resulting estimates based on the fixed effects assumption would then be consistent whether the individual fixed effect is correlated with regressors or not, under the maintained assumption that idiosyncratic error is not. If the individual fixed effect is correlated with regressors, OLS (or pooled OLS, POLS) or random effects estimates would be biased.

It is remarkable that while OLS and random effects estimates are positive and statistically significant, the fixed effects estimate is very small, and statistically indistinguishable from zero.

V. Concluding Remarks

We examined the effects of high school ties on various on various employment outcomes such as employment duration, promotion, and appointment to strategic positions in the Public Prosecutors' Office in Korea. Our investigation paid a particular attention to isolating the school ties effects from unobserved individual heterogeneity such as ability. Our key findings are as follows.

First, while graduation from elite high schools is shown to raise employment duration in a raw comparison, the effects lose statistical significance once we control for shared frailty in duration analysis. Second, favoritism based on school ties in promotion decisions, to the extent it exists, seems to be limited to the highest echelon in the hierarchy of the PPO. Third, effects of school ties on appointment probabilities to strategic positions disappear once we control for individual heterogeneity using a panel fixed effects estimator.

Do our results imply that exercised public concern about favoritism or discrimination based on school ties in Korea is, after all, much ado about nothing? Our own assessment is that we do not know the answer to the question yet. On the one hand, the paper investigated an organization in the public sector, where competitive pressure for efficiency may not be as high as in the private sector. On the other hand, public prosecutors' work environment is high unusual, in that their performance and competence are continually put to test and to public scrutiny in court proceedings. Clearly a lot more econometric case studies should precede any attempt at summary assessment of the school-ties favoritism in the country. The authors intend to make further contributions along the line.

References

Behrman, Jere R., Mark R. Rosenzweig, and Paul Taubman. “College Choice and Wages: Estimate Using Data on Female Twins,” *Review of Economics and Statistics,* Vol. 78, No. 4 (November 1996), pp. 672-685.

Brewer, Dominic J., Eric R. Eide, and Ronald G. Ehrenberg. “Does it Pay to Attend an Elite ‘private College?: Cross-Cohort Evidence on the Effects of College Type on Earnings,” *Journal of Human Resources,* Vol. 34 (Winter 1999), pp. 104-23.

Dale, Stacy Berg, and Alan B. Krueger. “Estimating the Payoffs to Attending a More Selective College: An Application of Selection on Observables and Unobservables,” *Quarterly Journal of Economics,* Vol. 117, Issue 4 (November 2002), pp. 1491-1528.

Kim, Taejong and Okita Yoichi, “Is There a Premium for Elite College Education: Evidence from a Natural Experiment in Japan,” unpublished manuscript, 2004.

Seidel, Marc-David, Jeffrey T. Polzer, and Katherine J. Stewart. “Friends in High Places: The Effects of Social Networks onDiscrimination in Salary Negotiations,” *Administrative Science Quarterly,* Vol. 45, No. 1 (March 2000), pp. 1-24

Figure 1. Promotion matrix

Entry cohort	Entry year	promotion to 5th rank	Promotion to 4th rank	promotion to 3rd rank	promotion to 2nd rank
1	72	84	91	95	97
2	73	85	92	96	98
3	74	86	93	97	99
4	75	87	94	98	0
5	76	88	95	99	1
6	77	89	96	0	2
7	78	90	97	1	3
8	79	91	98	2	4
9	80	92	99	3	5
10	81	93	0	4	6
11	82	94	1	5	7
12	83	95	2	6	8
13	84	96	3	7	9
14	85	97	4	8	10
15	86	98	5	9	11
16	87	99	6	10	12
17	88	0	7	11	13
18	89	1	8	12	14
19	90	2	9	13	15
20	91	3	10	14	16
21	92	4	11	15	17
22	93	5	12	16	18
23	94	6	13	17	19
24	95	7	14	18	20
25	96	8	15	19	21
26	97	9	16	20	22
27	98	10	17	21	23
28	99	11	18	22	24
29	0	12	19	23	25
30	1	13	20	24	26
31	2	14	21	25	27
32	3	15	22	26	28

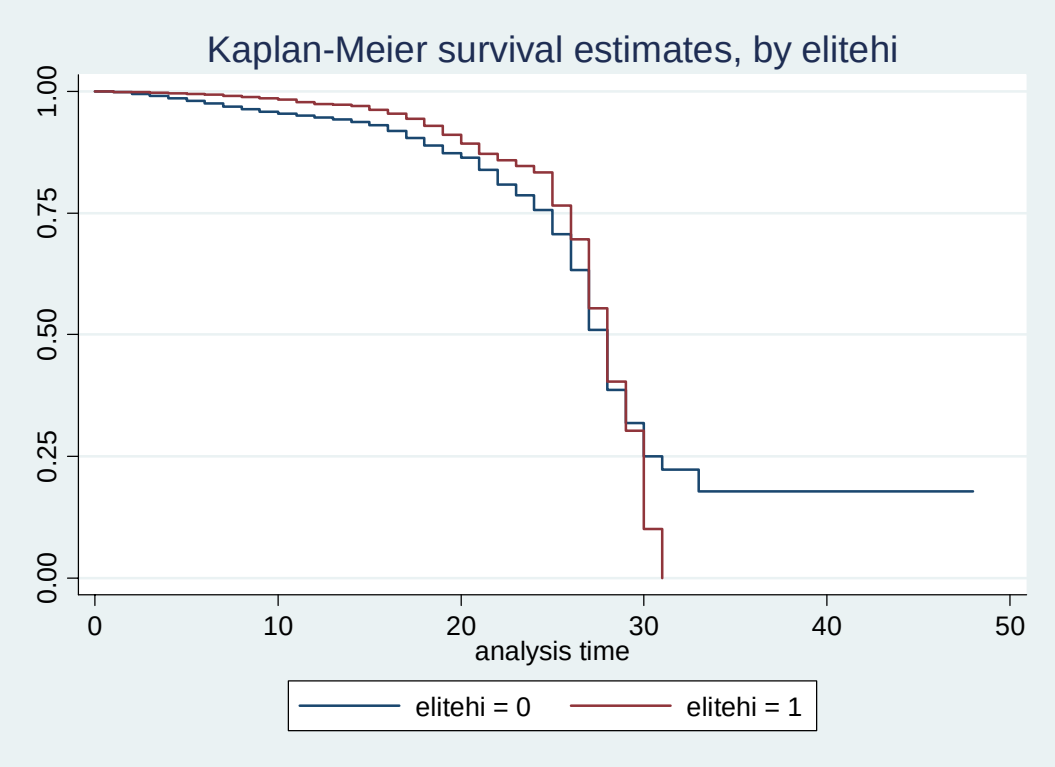

Figure 2. Kaplan-Meier survival estimates

Graduates from elite high schools seem to survive longer. What drives this difference, school-ties favoritism or individual heterogeneity?

Table 2. Impact estimates of high-school ties on employment duration at PPO

	(1)	*(2)*	*(3)*	*(4)*	*(5)*
proportion of superiors sharing high-school ties	-3.8799 (1.3525)**	-3.3225 (1.4128)*	-3.2660 (1.4803)*	-3.9110 (5.1543)	0.8267 (2.9905)
entry cohort		-0.0275 (0.0088)**	-0.0173 (0.0104)+	-0.2271 (0.1444)	-0.0106 (0.0213)
SNU		-0.4817 (0.2037)*	-0.4558 (0.2193)*	0.1928 (0.8646)	-0.5433 (0.2458)*
Korea		-0.0065 (0.2775)	0.3979 (0.3195)	1.9015 (1.2078)	0.3554 (0.3621)
Yonsei		-14.9985 (864.5640)	-15.1922 (1,178.376)	-24.3066 (5,078.876)	-19.4451 (9,824.6089)
SKK		-1.8055 (0.6068)**	-1.8214 (0.6123)**	0.4656 (1.8408)	-2.0420 (0.6543)**
age at appointment		0.1564 (0.0397)**	0.1321 (0.0419)**	0.6097 (0.2054)**	0.1251 (0.0467)**
college major law		-0.2526 (0.3089)	-0.2037 (0.3206)	-0.9216 (1.3265)	-0.3678 (0.3526)
dummy for key positions			-15.1648 (780.9690)	-25.2765 (3,125.675	-19.4834 (4,861.4910)
Constant	-6.3921 (0.2400)**	-10.4788 (1.3062)**	-9.9932 (1.4341)**	-20.6462 (6.2307)**	-9.8913 (1.5535)**
Rank 5 starting place controlled	No	No	Yes	Yes	Yes
Observations	2933	2933	2933	2933	2933

Note: Standard errors in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. The estimated models are duration models with proportional hazard, assuming Weibull distribution. Model 1 has just one regressor, the proportion of superiors sharing high-school ties; models 2 and 3 control for an increasing list of covariates. Models 4 and 5 have the same list of covariates as model 3, but assume shared frailty, the equivalent of panel fixed effects in linear models. Model 4 assumes the frailty is shared within individual, and model 5 within graduates from the same high school.

Table 3. OLS estimates of school-ties impacts on promotion from rank 5 to 4

	(1)	(2)	(3)	(4)
proportion of superiors	1.0552	0.2983	0.4100	0.2818
sharing high school ties	(0.4887)*	(0.4988)	(0.5182)	(0.4906)
entry cohort		-0.1146	-0.1105	-0.1040
		(0.0197)**	(0.0210)**	(0.0199)**
SNU		0.1239	0.1390	0.1128
		(0.0766)	(0.0802)+	(0.0765)
Korea		0.0145	-0.0011	-0.0576
		(0.1080)	(0.1159)	(0.1109)
Yonsei		0.3119	0.3396	0.2426
		(0.1758)+	(0.1880)+	(0.1789)
SKK		0.1315	0.1639	0.0622
		(0.1206)	(0.1265)	(0.1215)
starting place in Seoul		-0.0195	-0.0160	-0.0348
		(0.0612)	(0.0645)	(0.0612)
age at appointment		-0.0037	-0.0034	-0.0042
		(0.0124)	(0.0133)	(0.0127)
college major law		0.0668	0.0359	-0.0465
		(0.1157)	(0.1211)	(0.1153)
Core position at level 5				0.3107
				(0.0586)**
Constant	0.3520	1.8407	1.8023	1.5960
	(0.0365)**	(0.4311)**	(0.4860)**	(0.4605)**
Starting place controlled	No	No	Yes	Yes
Observation	269	269	269	268
Adjusted R-	0.0135	0.1304	0.1028	0.1983

Note: Standard errors in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. Linear probability models examine the effects of high-school ties on promotion from rank 5 to rank 4. The school ties variable has a significant impact in a simple regression, but loses significance as covariates are added.

Table 4. OLS estimates of school-ties impacts on promotion from rank 4 to 3

	(1)	*(2)*	*(3)*	*(4)*
proportion of superiors sharing high-school ties	0.1043 (0.5491)	0.1824 (0.5936)	0.0526 (0.6246)	-0.2916 (0.5459)
entry cohort		-0.0181 (0.0150)	-0.0119 (0.0164)	-0.0006 (0.0144)
SNU		0.2432 (0.1332)+	0.2028 (0.1400)	0.1655 (0.1219)
Korea		0.5250 (0.1871)**	0.4742 (0.1901)*	0.4145 (0.1655)*
Yonsei		0.7795 (0.3033)*	0.8171 (0.3221)*	0.4715 (0.2853)
SKK		0.3356 (0.2173)	0.1363 (0.2429)	0.0755 (0.2119)
starting place in Seoul		0.1922 (0.0897)*	0.1959 (0.0974)*	0.1012 (0.0865)
age at appointment		0.0010 (0.0171)	-0.0037 (0.0174)	-0.0072 (0.0152)
college major law		0.1752 (0.1817)	0.1354 (0.1941)	0.1756 (0.1692)
Core position at level 5				0.3261 (0.0866)**
Core position at level 4				0.3513 (0.0819)**
Constant	0.4968 (0.0561)**	0.0743 (0.5943)	0.6914 (0.7039)	0.2959 (0.6191)
Starting place controlled for	No	No	Yes	Yes
Observation	137	137	137	137
Adjusted R^2	-0.0071	0.0661	0.0815	0.3071

Note: Standard errors in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. Linear probability models examine the effects of high-school ties on promotion from rank 4 to rank 3. The school ties variable is shown to have no significant impact.

Table 5. OLS estimates of school-ties impacts on promotion from rank 3 to 2

	(1)	(2)	(3)	(4)
Proportion of superiors sharing high-school ties	1.0069 (0.7606)	2.3191 (0.8109)**	1.9725 (0.8180)*	2.0577 (0.8955)*
Entry cohort		-0.0864 (0.0259)**	-0.0815 (0.0311)*	-0.0788 (0.0312)*
SNU		-0.0411 (0.2278)	-0.0751 (0.2543)	0.0482 (0.2697)
Korea		0.1627 (0.2669)	0.0728 (0.3052)	0.2660 (0.3307)
Yonsei		0.2213 (0.3687)	0.0680 (0.5368)	0.1093 (0.5968)
SKK		0.4565 (0.3201)	-0.1717 (0.4963)	-0.0323 (0.5464)
starting place in Seoul		-0.0981 (0.1221)	-0.1646 (0.1336)	-0.1605 (0.1339)
age at appointment		-0.0187 (0.0179)	-0.0231 (0.0175)	-0.0254 (0.0178)
college major law		0.4973 (0.3242)	0.4024 (0.4137)	0.4017 (0.5125)
Core position at level 5				0.1354 (0.1998)
Core position at level 4				-0.0459 (0.1421)
Core position at level 3				-0.1773 (0.1271)
Constant	0.2570 (0.0702)**	0.7661 (0.7784)	2.0238 (1.0208)+	1.9336 (1.0443)+
Starting place controlled for	No	No	Yes	Yes
Observation	59	59	59	59
Adjusted R^2	0.0128	0.2438	0.3336	0.3360

Note: Standard errors in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. The school ties variable has a significant positive impact in all the linear probability models presented above.

Table 6. IV estimates of the school-ties impact on promotion from rank 3 to 2

	(1)	(2)	(3)	(4)
Proportion of superiors	0.4522	3.4881	-7.8091	-7.4972
sharing high-school ties	(7.4940)	(5.5141)	(15.7607)	(13.0284)
entry cohort		-0.0885	-0.0610	-0.0740
		(0.0282)**	(0.0775)	(0.0669)
SNU		-0.0907	0.2792	0.1929
		(0.3280)	(0.8065)	(0.6080)
Korea		0.1852	-0.3339	-0.3656
		(0.2919)	(0.9472)	(1.1065)
Yonsei		0.2479	-0.1034	-1.0557
		(0.3963)	(1.2412)	(2.0229)
SKK		0.4707	-0.5477	0.4498
		(0.3335)	(1.2706)	(1.3354)
starting place in Seoul		-0.0811	-0.3274	-0.3069
		(0.1478)	(0.3983)	(0.3474)
age at appointment		-0.0123	-0.0686	-0.0610
		(0.0352)	(0.0828)	(0.0612)
College major law		0.6809	-1.0870	-2.0716
		(0.9179)	(2.5594)	(3.5106)
Core position at level 5				0.8931
				(1.1075)
Core position at level 4				0.0807
				(0.3481)
Core position at level 3				0.1574
				(0.5268)
Constant	0.2835	0.3765	5.2909	4.0452
	(0.3629)	(1.9832)	(5.7124)	(3.6169)
Observation	59	59	59	59
R-squared	0.0208	0.3341		

Note: Standard errors in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. Linear probability models are estimated through IV. The endogenous school-ties variable is instrumented by the individual's shared regional ties with the president in reign. Estimated impacts range widely, depending on the specification.

Table 7. Effects of school ties on employment probabilities to strategic positions

	(1)	(2)	(3)
	OLS	panel, random effects	panel, fixed effects
proportion of superiors sharing hschool ties	0.5539 (0.0528)**	0.4732 (0.0641)**	0.0124 (0.1148)
Constant	0.0442 (0.0035)**	0.0465 (0.0045)**	0.0617 (0.0047)**
Observations	8322	8322	8322
Number of id		851	851

Note: Standard errors in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. The dependent variable is a binary variable for employment to one of 56 identified "strategic" positions in the organization. Once individual heterogeneity, or fixed effects, are controlled for, effects of high school ties disappear as shown in column (3).

Working Paper Series

Category	Serial #	Author	Title
Working Paper	99-01	Se-Il Park	Labor Market Policy and The Social Safety Net in Korea: After 1997 Crisis
Working Paper	99-02	Sang-Woo Nam	Korea's Economic Crisis and Corporate Governance
Working Paper	99-03	Sangmoon Hahm	Monetary Bands and Monetary Neutrality
Working Paper	99-04	Jong-Il You Ju-Ho Lee	Economic and Social Consequences of globalization: The Case of South Korea
Working Paper	99-05	Sang-Woo Nam	Reform of the Financial Sector in East Asia
Working Paper	99-06	Hun-Joo Park	Dirigiste Modernization, Coalition Politics, and Financial Policy Towards Small Business: Korea, Japan, and Taiwan Compared
Working Paper	99-07	Kong-Kyun Ro	Mother's Education and Child's Health: Economic Anlaysis of Korean Data
Working Paper	99-08	Euysung Kim	Trade Liberalization and Productivity Growth in Korean Manufacturing Industries: Price Protection, Market Power, and Scale Efficiency
Working Paper	99-09	Gill-Chin Lim	Global Political-Economic System and Financial Crisis: Korea, Brazil and the IMF
Working Paper	99-10 (C99-01)	Seung-Joo Lee	LG Household & Health Care: Building a High-Performing Organization
Working Paper	00-01	Sangmoon Hahm Kyung-Soo Kim Ho-Mou Wu	Gains from Currency Convertibility: A Case of Incomplete Markets
Working Paper	00-02	Jong-Il You	The Bretton Woods Institutions: Evolution, Reform and Change
Working Paper	00-03	Dukgeun Ahn	Linkages between International Financial and Trade Institutions: IMF, World Bank and WTO
Working Paper	00-04	Woochan Kim	Does Capital Account Liberalization Discipline Budget Deficit?
Working Paper	00-05	Sunwoong Kim Shale Horowitz	Public Interest "blackballing" in South Korea's Elections: One-Trick Pony, or Wave of the Future?
Working Paper	00-06	Woochan Kim	Do Foreign Investors Perform Better than Locals? Information Asymmetry versus Investor Sophistication
Working Paper	00-07	Gill-Chin Lim Joon Han	North-South Cooperation for Food Supply: Demographic Analysis and Policy Directions
Working Paper	00-08 (C00-01)	Seung-Joo Lee	Strategic Newspaper Management: Case Study of Maeil Business
Working Paper	01-01	Seung-Joo Lee	Nokia: Strategic Transformation and Growth
Working Paper	01-02	Woochan Kim Shang-Jin Wei	Offshore Investment Funds: Monsters in Emerging Markets?
Working Paper	01-03	Dukgeun Ahn	Comparative Analysis of the SPS and the TBT Agreements
Working Paper	01-04	Sunwoong Kim Ju-Ho Lee	Demand for Education and Developmental State: Private Tutoring in South Korea
Working Paper	01-05	Ju-Ho Lee Young-Kyu Moh	Do Unions Inhibit Labor Flexibility? Lessons from Korea
Working Paper	01-06	Woochan Kim Yangho Byeon	Restructuring Korean Bank's Short-Term Debts in 1998 - Detailed Accounts and Their Implications -
Working Paper	01-07	Yoon-Ha YOO	Private Tutoring as Rent Seeking Activity Under Tuition Control

*** The above papers are available at KDI School Website <http://www.kdischool.ac.kr/faculty/seminar.asp>.**
You may get additional copy of the documents by downloading it using the Acrobat Reader.

Working Paper Series

Category	Serial #	Author	Title
Working Paper	01-08	Kong-Kyun Ro	경제활동인구 변동의 요인분석: 선진국과의 비교분석
Working Paper	02-01	Sangmoon Hahm	Restructuring of the Public Enterprise after the Crisis : The Case of Deposit Insurance Fund
Working Paper	02-02	Kyong-Dong KIM	The Culture of Industrial Relations in Korea : An alternative Sociological Approach
Working Paper	02-03	Dukgeun Ahn	Korean Experience of the Dispute Settlement in the world Trading System
Working Paper	02-04	BERNARD S. BLACK Hasung Jang Woochan Kim	Does Corporate Governance Matter? (Evidence from the Korean Market)
Working Paper	02-05	Sunwoong Kim Ju-Ho Lee	Secondary School Equalization Policies in South Korea
Working Paper	02-06	Yoon-Ha YOO	Penalty for Mismatch Between Ability and Quality, and School Choice
Working Paper	02-07	Dukgeun Ahn Han-Young Lie	Legal Issues of Privatization in Government Procurement Agreements: Experience of Korea from Bilateral and WTO Agreements
Working Paper	02-08	David J. Behling Kyong Shik Eom	U.S. Mortgage Markets and Institutions and Their Relevance for Korea
Working Paper	03-01	Sang-Moon Hahm	Transmission of Stock Returns and Volatility: the Case of Korea
Working Paper	03-02	Yoon Ha Yoo	Does Evidentiary Uncertainty Induce Excessive Injurer Care?
Working Paper	03-03	Yoon Ha Yoo	Competition to Enter a Better School and Private Tutoring
Working Paper	03-04	Sunwoong Kim Ju-Ho Lee	Hierarchy and Market Competition in South Korea's Higher Education Sector
Working Paper	03-05	Chul Chung	Factor Content of Trade: Nonhomothetic Preferences and "Missing Trade"
Working Paper	03-06	Hun Joo Park	RECASTING KOREAN *DIRIGISME*
Working Paper	03-07	Taejong Kim Ju-Ho Lee	Mixing *versus* Sorting in Schooling: Evidence from the Equalization Policy in South Korea
Working Paper	03-08	Naohito Abe	Managerial Incentive Mechanisms and Turnover of Company Presidents and Directors in Japan
Working Paper	03-09	Naohito Abe Noel Gaston Katsuyuki Kubo	EXECUTIVE PAY IN JAPAN: THE ROLE OF BANK-APPOINTED MONITORS AND THE MAIN BANK RELATIONSHIP
Working Paper	03-10	Chai-On Lee	Foreign Exchange Rates Determination in the light of Marx's Labor-Value Theory
Working Paper	03-11	Taejong Kim	Political Economy and Population Growth in Early Modern Japan
Working Paper	03-12	Il-Horn Hann Kai-Lung Hui Tom S. Lee I.P.L. Png	Direct Marketing: Privacy and Competition
Working Paper	03-13	Marcus Noland	RELIGION, CULTURE, AND ECONOMIC PERFORMANCE
Working Paper	04-01	Takao Kato Woochan Kim Ju Ho Lee	EXECUTIVE COMPENSATION AND FIRM PERFORMANCE IN KOREA
Working Paper	04-02	Kyoung-Dong Kim	Korean Modernization Revisited: An Alternative View from the Other Side of History

*** The above papers are available at KDI School Website <http://www.kdischool.ac.kr/faculty/seminar.asp>.**
You may get additional copy of the documents by downloading it using the Acrobat Reader.

Working Paper Series

Category	Serial #	Author	Title
Working Paper	04-03	Lee Seok Hwang	Ultimate Ownership, Income Management, and Legal and Extra-Legal Institutions
Working Paper	04-04	Dongsoo Kang	Key Success Factors in the Revitalization of Distressed Firms : A Case of the Korean Corporate Workouts
Working Paper	04-05	Il Chong Nam Woochan Kim	Corporate Governance of Newly Privatized Firms: The Remaining Issues in Korea
Working Paper	04-06	Hee Soo Chung Jeong Ho Kim Hyuk Il Kwon	Housing Speculation and Housing Price Bubble in Korea
Working Paper	04-07	Yoon-Ha Yoo	Uncertainty and Negligence Rules
Working Paper	04-08	Young Ki Lee	Pension and Retirement Fund Management
Working Paper	04-09	Wooheon Rhee Tack Yun	Implications of Quasi-Geometric Discountingon the Observable Sharp e Ratio
Working Paper	04-10	Seung-Joo Lee	Growth Strategy: A Conceptual Framework
Working Paper	04-11	Boon-Young Lee Seung-Joo Lee	Case Study of Samsung's Mobile Phone Business
Working Paper	04-12	Sung Yeung Kwack Young Sun Lee	What Determines Saving Rate in Korea?: the Role of Demography
Working Paper	04-13	Ki-Eun Rhee	Collusion in Repeated Auctions with Externalities
Working Paper	04-14	Jaeun Shin Sangho Moon	IMPACT OF DUAL ELIGIBILITY ON HEALTHCARE USE BY MEDICARE BENEFICIARIES
Working Paper	04-15	Hun Joo Park Yeun-Sook Park	Riding into the Sunset: The Political Economy of Bicycles as a Declining Industry in Korea
Working Paper	04-16	Woochan Kim Hasung Jang Bernard S. Black	Predicting Firm's Corporate Governance Choices: Evidence from Korea
Working Paper	04-17	Tae Hee Choi	Characteristics of Firms that Persistently Meet or Beat Analysts' Forecasts
Working Paper	04-18	Taejong Kim Yoichi Okita	Is There a Premium for Elite College Education: Evidence from a Natural Experiment in Japan
Working Paper	04-19	Leonard K. Cheng Jae Nahm	Product Boundary, Vertical Competition, and the Double Mark-up Problem
Working Paper	04-20	Woochan Kim Young-Jae Lim Taeyoon Sung	What Determines the Ownership Structure of Business Conglomerates? : On the Cash Flow Rights of Korea's Chaebol
Working Paper	04-21	Taejong Kim	Shadow Education: School Quality and Demand for Private Tutoring in Korea
Working Paper	04-22	Ki-Eun Rhee Raphael Thomadsen	Costly Collusion in Differentiated Industries
Working Paper	04-23	Jaeun Shin Sangho Moon	HMO plans, Self-selection, and Utilization of Health Care Services
Working Paper	04-24	Yoon-Ha Yoo	Risk Aversion and Incentive to Abide By Legal Rules
Working Paper	04-25	Ji Hong Kim	Speculative Attack and Korean Exchange Rate Regime
Working Paper	05-01	Woochan Kim Taeyoon Sung	What Makes Firms Manage FX Risk? : Evidence from an Emerging Market
Working Paper	05-02	Janghyuk Lee Laoucine Kerbache	Internet Media Planning: An Optimization Model

*** The above papers are available at KDI School Website <http://www.kdischool.ac.kr/faculty/seminar.asp>.**
You may get additional copy of the documents by downloading it using the Acrobat Reader.

Working Paper Series

Category	Serial #	Author	Title
Working Paper	05-03	Kun-Ho Lee	Risk in the Credit Card Industry When Consumer Types are Not Observable
Working Paper	05-04	Kyong-Dong KIM	Why Korea Is So Prone To Conflict: An Alternative Sociological Analysis
Working Paper	05-05	Dukgeun AHN	Why Should Non-actionable Subsidy Be Non-actionable?
Working Paper	05-06	Seung-Joo LEE	Case Study of L'Oréal: Innovation and Growth Strategy
Working Paper	05-07	Seung-Joo LEE	Case Study of BMW: The Ultimate Driving Machine
Working Paper	05-08	Taejong KIM	Do School Ties Matter? Evidence from the Promotion of Public Prosecutors in Korea

*** The above papers are available at KDI School Website <http://www.kdischool.ac.kr/faculty/seminar.asp>.**
You may get additional copy of the documents by downloading it using the Acrobat Reader.