Family Control and Expropriation of Not-for-Profit Organizations: Evidence from Korean Private Universities

Kee-Hong Bae[a*], Seung-Bo Kim[b], Woochan Kim[c]

[a]Schulich School of Business, York University, Canada
[b]Korea Research Institute for Vocational Education and Training
[c]KDI School of Public Policy and Management, Seoul, Korea

First version: October 2006
This version: January 2011

*Corresponding author, kbae@schulich.yorku.ca.
We are grateful for comments from seminar participants at the KDI School of Public Policy and Management, Seoul National University, and the Forum on Education Reform. We also thank Philip Altbach, Warren Bailey, Jun-Koo Kang, John McHale, and Yishay Yafeh for useful comments. We thank Sandra Sizer for editorial assistance. All errors are our own.

Family Control and Expropriation of Not-for-Profit Organizations: Evidence from Korean Private Universities

This version: January 2011

Abstract

We examine the agency problems of not-for-profit organization, university, with a special focus on the conflict between the controlling family and other stakeholders including outside donors, students, and faculty. Using a sample of Korean private universities, we find that measures of family commitment (proxy for good governance) are positively related to the university performance, while measures of family control (proxy for bad governance) are negatively related. We also find that poorly governed universities are more likely to undergo a dispute between the controlling family and other stakeholders. Finally, we show that our results are not driven by the reverse causality that better performance leads to better university governance.

Key Words: Nonprofit, Governance, Expropriation, Donation, Private University
JEL Classifications: G30, I22, L31

The literature on the governance of not-for-profit organizations is gradually growing. Yet, the agency problems studied so far are limited to the conflict between outside donors and nonprofit managers, and much of the literature focuses on the compensation of nonprofit managers (Roomkin and Weisbrod 1999, Brickley and Van Horn 2002, Ballou and Weisbrod 2003, Cornell 2004, Fisman and Hubbard 2005, Core, Guay, and Verdi 2006). This literature shares a common ground with the literature on the governance of for-profit firms in the U.S. that examines executive compensation. In emerging economies, however, the key agency problem in nonprofit organizations is not necessarily due to conflict between managers and donors.

In case of for-profit organizations in emerging markets, it is well documented that the key conflict exists between the controlling family and minority shareholders (e.g. Claessens et al. 2000, Khanna and Yafeh 2007). By forming business groups, which dominate these economies, controlling families often have power over firms that exceed their cash flow rights. As controlling-minority shareholders à la Bebchuk, Kraakman, and Triantis (2000), these family members have both the power and the incentive to expropriate minority investors. To describe the transfer of resources out of firms for the benefit of controlling shareholders, Johnson et al. (2000) coin the term "tunneling."

The question we ask in this paper is whether similar agency problems also exist in not-for-profit organizations in emerging economies. That is, do families with disproportionately large power over the organization relative to their initial donation level expropriate outside donors or other stakeholders, and thereby deteriorate performance? We examine such possibility using a sample of private universities in Korea.

There are several features that make tunneling likely in many of Korea's private universities. First, many private universities are under the control of founding families, but there are few mechanisms to monitor their malpractices that abuse university resources. To encourage the private sector to supply higher education services, the government has given considerable leeway to the founding families.

Second, Korean private universities are legally structured in a way that makes them prone to tunneling. The *Private School Law* in Korea requires that a founder first establish a private school foundation, which is an incorporated foundation. The foundation can then establish a university and other business entities, including for-profit firms. The university does not have its own board of trustees. Instead, the board of the private school foundation has the exclusive right to make all major decisions, and also all the decisions on the university's subsidiary for-profit firm matters. This legal structure gives the founding family a strong incentive to divert resources from the universities and to the for-profit entities in which it has direct or indirect equity stakes.

Examples of misbehavior are abundant, ranging from outright thefts to more subtle transactions that circumvent the law. For example, the founder may own a for-profit construction company, which he then uses to build school facilities, paying greatly inflated construction fees. Other examples include taking bribes upon the appointment of new faculty, misappropriation of tuitions for personal use, overcompensating board members and/or related administrative staff, and the personal use of university properties such as a house or vehicles. According to the results of the National Assembly inspection in 2004, losses incurred from 45 private universities and colleges due to improper management amounted to 300 billion won (300 million dollars) during the period 1999-2004.Such improper behavior

often creates many campus disputes between the founding family and other stakeholders of the university, including faculty and students. During the period of 1997-2000, 44 universities were engulfed with some form of disputes (Lee, Park, and Kim, 2004).

Using a sample of Korean private universities during 2001-2003, we find that poorly governed universities suffer more from agency problems and perform more poorly. We construct several measures of university governance and examine their links with university performances. Our measures of university performances include per-student donations, per-student expenses, the ratio of part-time lecturers to full-time faculty, faculty research, SAT scores, and whether the university experienced a campus dispute between the founding family and other stakeholders of the university. Our measures of family commitment to improve the quality of university (good governance) are the financial transparency of the university and annual financial contributions per student made by the university founder to the university. We measure the extent of family control (poor governance) by the number of the founder's relatives in university management and the number of restrictions on student activity.

We find that measures of good (bad) governance are positively (negatively) related to performance, and that poorly governed universities are also more likely to undergo a campus dispute. The impact of governance on performance is striking. For example, if the founder increases the amount of contributions to the university by one standard deviation, the donation increases by 1.4 million won (1,400 dollars) per student, an increase almost twice as large as the median donation. A transparent university gets 80 percent more than the median donation. In contrast, one additional relative of the founder in university management (an increase of about one standard deviation) decreases the donation by 152,000 won (152 dollars) per student, a 20 percent drop in donation from the median donation. We also show that the

results are not driven by the reverse causality that better university performance leads to better university governance.

The relevance of our results is not limited to Korea. According to Altbach (2005), family control of private universities is prevalent in a number of countries, including Mexico, Thailand, Taiwan, Japan, South Korea, the Philippines, Argentina, India, and China. Altbach (2005) also notes that family universities are often established with the idea of making money or wielding influence, and typically have very strong and centralized administrative control, where administrative offices are in the hands of family members.

This paper proceeds as follows. Section I discusses the related literature. Section II describes the characteristics of private universities in Korea, and Section III develops the hypothesis. Section IV describes the data and construction of our main variables. Section V presents empirical results. Section VI summarizes and concludes the paper.

I. Related Literature

This paper is related to several strands of governance literature. First, it is related to the literature on the governance of non-profit organizations. To our knowledge, Fama and Jensen (1983) is the first work that examines non-profit organizations with the principal-agent framework. Since then, the literature grew, but so far limited to the conflict between outside donors and nonprofit managers. Much of the literature focuses on the compensation of nonprofit managers. This is analogous to the literature on the governance of for-profit firms in the U.S., which is dominated by papers on executive compensation. Also, most of the works are on nonprofit hospitals (Roomkin and Weisbrod 1999, Brickley and Van Horn 2002, Ballou and Weisbrod 2003, Eldenburg, Hermalin, Weisbach, and Wosinska 2003). Studies on

the governance of universities, which is the subject of this paper, are limited (McCormick and Meiners 1988 and Cornell 2004). McCormick and Meiners (1988) study the degree of faculty participation in university decision making and its impact on university performance. Cornell (2004) investigates managerial compensation in private universities.

Our paper is also closely related to the law and finance literature that increasingly underscores the importance of minority investor protection. Studies on investor protection provide convincing evidence that better protection of minority investors is related to higher values of stock markets (La Porta et al., 1997), a greater number of listed firms (La Porta et al., 1997), a higher valuation of listed firms relative to their asset values (Claessens et al., 2002; La Porta et al., 2002), and greater use of external finance (La Porta et al., 1997, 1998, 2000). Many of these studies are based on the idea of investor expropriation, also referred to as self-dealing or tunneling. Bae et al. (2002), Joh (2003), Baek et al. (2004, 2006), Bertrand et al. (2002), Cheung et al. (2004), and Atanasov (2005) provide evidence of tunneling using data from Korea, India, Hong Kong, and Bulgaria. Recently, Djankov et al. (2005) construct a country-level index that measures the extent of preventing self-dealing transactions. They show that this index, which they call the "anti-self-dealing index," predicts a variety of stock market outcomes. We provide evidence that lack of mechanisms to prevent self-dealing transactions has a strong negative impact on performance even in non-profit organizations.

Our paper is also closely related to the literature that documents a positive link between corporate governance and firm value or performance. Gompers et al. (2003), Core et al. (2005), and Bebchuk, Cohen, and Ferrell (2009) find a positive link between governance and firm value in the U.S. Black (2001). Black et al. (2006) find a link in Russia and Korea, respectively. Durnev and Kim (2005), and Klapper and Love (2004) report a positive link in a

multi-country setting. In this paper, we show that this positive link also applies to non-profit organizations.

II. Characteristics of Korean Private Universities

The Korean educational market in higher education has seen a spectacular expansion since the 1970s. The enrolment figure increased from 200,000 in 1970 to 3.4 million in 2000.[1] The enrolment rate in higher education is one of the highest in the world. Throughout this period of rapid expansion, the private sector supplied much of the higher education services, since the government concentrated its scarce resources mostly into primary and secondary educations. As of April 2004, there are 158 two-year junior colleges and technical colleges in Korea. Out of these 158 colleges, 143 (90.5 percent) are private institutions, accommodating more than 95 percent of the students. There are 189 four-year colleges and universities, 155 (82 percent) of which are private. Out of about 440,000 students newly enrolled in four-year universities, 82 percent of them are in private institutions.

There are several distinctive features in the structure of Korean private universities. We explain these features according to the old *Private School Law* (hereafter, the Law), which governed the legal structure of private universities during our study period. The Law went through a major revision in December 2005, mainly as a result of public concern over the cronyism prevailing in private schools.

Private School Foundation as a Holding Company. Private universities are established as one of many business units of a non-profit organization. These units are called a *private school foundation*. The foundation may establish many other educational entities, including high schools or elementary schools; run non-educational businesses; and even invest in for-

[1] All statistics on Korean education are from the Ministry of Education.

profit firms. The non-educational and for-profit companies are allowed by law for the purpose of generating revenue that can be transferred later to the educational entities. According to the Law, a founder must first establish a private school foundation, which in turn establishes a university. The university does not have its own board of trustees. Instead, major decisions are made exclusively by the board of the private school foundation (hereafter called the foundation board), which also makes decisions on for-profit firm matters.[2]

In a sense, the private school foundation can be considered as a holding company of a pyramidal business group. The foundation has its own business units and equity holdings in many subsidiaries. The difference is that the private school foundation is a not-for-profit organization, and its major business is the provision of education services.

Figure 1 illustrates this point. The founder contributes to the private school foundation and typically sits on the foundation board as a chair (link ① in *Figure 1*). The foundation then runs a number of educational entities (link ②). To generate revenue, the foundation may run a number of non-educational businesses (link ③). Instead of running the business directly, it might also hold equity stakes in for-profit firms (link ④). The founding family might also have direct equity stakes in these for-profit firms or those not directly related to the foundation (link ⑤). The dotted line in *Figure 1* indicates a business-unit relationship, and the solid line indicates equity holdings.

From the perspective of a self-interested founder who runs a not-for-profit university as well as for-profit firms, the stable stream of cash flow the university generates (e.g., tuition

[2]This feature is not completely unique to Korea. Harvard University is governed by Harvard Corporation (more often known as the President and Fellows of Harvard College), which also engages in for-profit activities. Yale University is governed by Yale Corporation.

revenue) is the first, most natural candidate for expropriation when a for-profit firm in which the founder has a large equity stake is in financial distress.

Family control. The founding family has almost complete control over the foundation board, which in turn controls all educational and non-educational entities. The Law requires that a school foundation board consist of at least seven directors, and it delegates the election of directors to the foundation board. The foundation board itself has the right to elect board members. The usual practice is to give the founder the exclusive right to nominate directors, and to let the founder himself serve as a board chairman. No other stakeholders representing students, faculty, staff, or even alumni can influence the composition of the foundation board.

The foundation board also has the exclusive right to dismiss directors. Further, it is normal practice for immediate family members or relatives to serve as board members. If the founder passes away, his or her heir normally assumes the position of a board chairman.

The Law requires that university presidents be appointed either by the foundation board or by the founder himself, and the typical foundation charter requires that the university president be appointed by the chairman of the board. The typical charter also allows a member of the board – usually the founder's immediate family member – to be appointed as university president. Members of the founding family often work as staff members of the school foundation or assume managerial positions in the university.

According to a recent survey conducted by National Assemblyman HoonSeol, 75 out of 83 universities have immediate family and/or relatives of the founder working as either board members or administrative personnel. *Table 1* shows the details of the survey results.[3] *Panel A* of *Table 1* shows that in the 75 universities surveyed, there are 247 people who are related to

[3] We thank National Assemblyman HoonSeol for providing this statistic.

the founding family. Out of 247, 115 (46.6 percent) serve as board members, 29 (11.7 percent) as either president or dean, 59 (23.9 percent) as professors, and 44 (17.8 percent) as administrative staff. *Panel B* of the table shows their relationship to the founder. Out of 226 people identified as having a relationship with the founder, 30 (13.3 percent) are the founder's spouse, 99 (43.8 percent) are offspring, 12 (5.3 percent) are siblings, and 85 (37.6 percent) are others. The statistics show that immediate family members account for more than 60 percent of those who are related to the founder. At one extreme, there is a university where 11 family members are serving in different capacities: the founder is the board chairman; the founder's son is the president; the founder's wife and a grandson are board members; two nephews, a nephew's wife, and a son-in-law are professors; and a nephew, a niece's husband, and a grandson are on the administrative staff. There are 21 universities in which more than five family members serve within the university. The survey results also show that 23 private school foundations have been inherited or are in the process of being inherited by the immediate family members.

Opaqueness. The Law requires that a private school foundation have at least two auditors. However, the typical foundation charter allows the foundation board to elect the auditors, who must carry out the challenging task of monitoring those who elect them. The foundation board also has the exclusive right to dismiss auditors. The Law requires that university budgets and accounts be reviewed by a special advisory committee. The committee should consist of at least ten members who are either professors or university staff, but the Law delegates the election of committee members to the foundation charter. The typical charter allows the foundation board to fill half of the committee with university staff, and committee members are appointed by the university president.

Not surprisingly, the disclosure of financial information is not strictly enforced. Although beginning in 2000, the Ministry of Education has required that private school foundations disclose their financial statements, the compliance rate has not been satisfactory.[4] This unsatisfactory compliance is especially true for the accounts of non-educational business units, the compliance rate of which was only 60 percent in 2003 (Lee, Park, and Kim, 2004).

The Law is not completely silent on rules that may constrain the founding family's control over the university. One set of rules restricts the number of the founder's relatives that can serve as foundation board members (e.g., no more than one third) and keeps relatives from serving as auditors. Also, the chairman of the board cannot serve as the university president. However, since the university president and auditors are under the control of the foundation board, which in turn is under the control of the founding family, these restrictions are not likely to be effective in constraining malpractices.

The Law gives the Ministry of Education the authority to discipline misconduct. For example, the Ministry can dismiss board members and appoint temporary directors. However, this mechanism depends solely on the willingness of the government to take action. Historically, the government has been lenient toward founding families.

III. Hypothesis

It is well documented that Korean business groups, chaebols, suffer from serious agency problems (Bae et al., 2002; Joh, 2003; Baek et al., 2004). The essence of the agency problems in chaebols lies in the pyramidal ownership structure of a business group that allows founding families to control the firms without actually having equity stake in them.

[4] This disclosure requirement is not mandated by the old Private School Law. It was mandated by a Ministerial Ordinance.

In many respects, private school foundations in Korea are similar to the chaebols. First, both have complex ownership structures. The ownership structure of the school foundation is similar to that of chaebols, which have many affiliated firms with a complex web of inter-firm shareholdings. *Figure 2* shows the ownership structure of Daeyang Academy, the private school foundation that runs Sejong University, as of March 2003.[5]We note here that Sejong University is just one of many businesses that Daeyang Academy runs. Daeyang Academy directly runs four educational entities (Sejong University, Seoul Sejong High School, Sejong Elementary School, and Sejong Cyber University), and one non-educational entity (Daeyang Farm). There are also for-profit firms in which Daeyang Academy has direct or indirect equity ownerships.

Second, school foundations, like chaebols, are under the control of founding families. This controlling power is often handed down to the founder's heir, a practice that we also observe in many of the controlling families of chaebols. Third, although they put up only a small portion of equity stakes, the controlling families of chaebols have full control over the firms within the business group, which creates an incentive to expropriate. Similarly, the founding families of school foundations have no monetary stakes in the university, but they nevertheless have complete control. As a result, they have both the incentive and the discretionary power to expropriate other stakeholders within the university to maximize their own welfare.

The main findings of corporate governance studies predict that firms with high cash flow ownership by the controlling shareholders have less expropriation risk, while those with high

[5]Sejong University is one of the seemingly better private universities, ranked 13th in terms of SAT scores as of 2002. The Daeyang Academy is under the control of the Choo family.

disparity between cash flow and control rights are subject to high expropriation. Thus, we hypothesize that:

H1: Universities that have a greater financial commitment by the founder have less expropriation risk and attract more donations.

Our reasoning is that the greater the financial contributions the founder commits to the university, the less incentive he has to expropriate the university resources, since he would not have made such contributions in the first place if he planned to expropriate them. Large contributions can also signal the founder's strong commitment to build a better university, which outside donors would perceive as a lower expropriation risk. Thus, we would expect a positive relation between contributions by the founder and donations.

Less expropriation also leads to more resources being used to improve university performance, suggesting a positive link between the founder's contributions and other university performance variables. Alternatively, if the founder's contributions are great enough to ensure the provision of educational services, then the university would have less incentive to mobilize donations, suggesting a negative link between the contributions and donations.

H2: Universities that are more transparent have less expropriation risk and attract more donations.

Studies on corporate governance show that transparent firms reduce information asymmetry between managers and outside investors, reducing the cost of capital. The decrease in the cost of capital in turn leads to an increase in firm value.[6] Thus, we hypothesize that transparent universities could reduce information asymmetry between insiders (founding families) and outsiders (possible donors), which would lead to an increase in donations.

H3: Universities that are more heavily controlled by the founding families are more subject to expropriation risks and attract fewer donations.

Holding the level of commitment constant, the greater the control rights held by the founding family, the greater is the risk of expropriation. Also, the less stringent the monitoring to deter self-dealing transactions, the greater the risk of university expropriation is. Studies on corporate governance document a negative relation between control-ownership disparity and firm performance.[7] The main message of such studies is that holding ownership rights constant, the more control rights controlling shareholders have, the more incentive they have to expropriate. Based on these studies, we hypothesize that the more controlling power the founding family has, the more incentive it has to expropriate. The increase in expropriation risk will discourage future donors, leading to fewer donations.

[6]In a multi-country setting, Durnev and Kim (2005) show that firms with higher transparency rankings are valued higher in stock markets. Studies on cross-listing show that cross-listed firms are valued higher because of their compliance to stricter disclosure rules (Lang et al., 2003; Doidge et al., 2004; Reese and Weisback, 2003). Studying five East Asian countries during the Asian financial crisis, Mitton (2002) shows that significantly better stock price performance is associated with firms that had indicators of higher disclosure quality (ADRs and auditors from Big Six accounting firms). In the non-profit organization literature, Desai and Yetman (2005) show that more stringent reporting requirements are associated with lower inside compensation.

[7]Claessens et al. (2000), Claessens et al. (2002), Mitton (2002), La Porta et al. (2002), and Lemmon and Lins (2003) show that firm value is negatively related to the control-ownership disparity.

IV. Data and Variables Construction

To test our hypotheses, we use a sample of four-year private universities in Korea during the period of 2001-2003. We exclude public universities, which differ greatly in terms of their governance structure. We also exclude universities that have existed for less than ten years as of 2001. We impose this restriction because the link between governance and university performance is likely to be different for young universities compared to more established universities.[8] This sample selection process gives a three-year panel with a sample of 259 university-year observations.

The hypothesis we want to test is that certain governance characteristics play an important role in determining university performance. However, unlike that of for-profit firms, the performance of universities is loosely defined and hard to measure. Also, different schools may have different missions, catering to different student clienteles. Hence, we measure performance of universities in a number of ways. Our main variable for university performance is annual donation per student. Other performance measures are per student expenses, fraction of part-time lecturers to full-time faculty, research per faculty, SAT scores, and campus dispute. Research per faculty and SAT scores may be relevant only for research-oriented universities. But, others are also relevant for teaching-oriented universities.

We obtain annual donation per student and annual expenditure per student from the Korea Foundation for the Promotion of Private Schools, which is a non-profit organization that provides loans to private universities. Information on the fraction of part-time lecturers comes from the Office of National Assemblyman HoonSeol. We measure faculty research by the yearly number of journal articles listed in the National Citation Report published per full-

[8] The results are not sensitive to the choice of ten-year restriction. We examine the sample with no restriction and the sample with five-year restriction. The results do not change.

time faculty. We obtain the number of journal articles from the Ministry of Science and Technology. The SAT scores are from Jinhaksa, a private company that produces publications on college entrance examinations.

Our final measure of performance is whether the university has experienced any dispute between the founding family and other stakeholders. Faculty and students often challenge the founding family on the use of university resources, and these challenges often lead to campus disputes. We obtain the information on campus disputes through news article searches and reports issued by the Ministry of Education.

First, we use the Korean Integrated News Database System (KINDS) to identify all articles on campus disputes. In this search, we use all ten nation-wide newspapers and five local newspapers, representing five major provinces. From this initial set, we exclude disputes that take place regularly every spring (for example, disputes over tuition increase), or those not against the school foundation. From this final set, we obtain the list of universities and the years in which disputes were featured in the newspaper. We combine this list with another list of universities whose foundation board is replaced by Ministry-appointed temporary directors. Typically, if a campus dispute reaches a stage where it cannot be resolved among the concerned parties, the Ministry steps in and replaces the foundation board members. Using these two sources, we create a dummy variable that takes the value of one if the university experienced a campus dispute or the foundation board members were replaced by the Ministry of Education, and zero otherwise.

To measure the quality of university governance, we use four different variables, two of which are our proxies for family commitment (good governance), and two that are for family control (bad governance). As the first governance measure, we use annual contributions (per

student) made by the school foundation to the university (hereafter, the foundation contributions). These are contributions coming from the family that established private school foundation. Notice that these donations are not included in our measure of donation. Otherwise the relation between performance and governance would be spurious. We also construct a measure of transparency as our proxy for good governance. We visit the websites of our sample universities and examine the disclosure of financial statement information. We create a transparency dummy that takes the value of one if we can obtain financial statements from the main page of the university website, and zero otherwise.

We use two measures as our proxies for family control (poor governance). The first measure is the number of the founder's relatives. We obtain this variable from a report issued in 2001 by the Millennium Democratic Party. The variable comprises relatives who work as the foundation's staff or assume managerial positions in the university. The second measure is the number of restrictions imposed on student activity. The seven restrictions on student activity are: 1) students must have the rector's permission to establish a new student organization; 2) students are not allowed to participate in any political activity; 3) organized student activities must be supervised by the rector or a professor in charge; 4) the university must establish a committee that supervises the activity of student organizations; 5) for any student meeting of more than ten students, prior permission must be obtained from the rector or a professor in charge; 6) any printed material must be inspected by the rector or a professor in charge; and 7) any student expelled for violence cannot be readmitted to school. We obtain information on student activity restrictions from each university's annual report.

We construct the single governance index that incorporates the information included in each of the four governance measures. First, we scale each governance variable to range from

zero to one. Then we subtract the sum of bad governance variables divided by two from the sum of good governance variables divided by two. The variable ranges from a minimum of -1 to a maximum of one, with a higher score implying better governance. We call this index the *Governance Index.*

Our main hypothesis is that university governance affects performance. Our major concern in testing this hypothesis is that governance is only a proxy for university reputation or quality. If this were so, then the positive relation between governance and performance would be a reflection of omitted variables. That is, universities of good governance are those with a better reputation and quality, so these universities perform better. To control for university reputation, we use the number of years since its establishment. Universities with a long history and tradition tend to have better reputations and presumably attract more donations.

We also use information on whether the university has a religious mission or not. We assume that universities with such a mission have a better reputation, and thus attract more donations.

We gather information on the location of the university to determine whether it is in the metropolitan area. We regard location as an important determinant of donation. We obtain these variables from each university's annual report.

In Table 2 we provide a detailed description of each variable used in the paper. We assume that the governance variables are time-invariant. We measure the governance variables in a single year, with the exception of the foundation contributions that change across time. We measure the number of relatives as of 2001, and the number of restrictions on student activity and the transparency dummy as of 2003. We treat the campus dispute dummy

as if the university experienced a dispute during the whole sample period. This treatment is reasonable given that problems existed some years before and even after the first press appearance of the dispute.

V. Empirical Results

A. Summary Statistics

Table 3, Panel A, shows the summary statistics of main variables. The average level of donation per student is 1.2 million won. There is a large cross-sectional variation in the amount of donations. The donation ranges from a minimum of 70,000 won per student to a maximum of 8.4 million won per student, with a standard deviation of 1.4 million won. The average expense per student is 6.7 million won. Since all our accounting variables are highly skewed, they are logged when we run regressions.

The ratio of part-time lecturers to full-time faculty is very high. It averages 0.97, which means that there are as many part-time lecturers as full-time faculty members.

The publication of journal articles in NCR ranges from zero to 1.09 per faculty, with an average of 0.22. The average SAT score is 66 out of a perfect score of 100. Twenty-nine percent of the universities experienced a campus dispute at least once during the sample period.

The amount of annual foundation contribution is lower than the amount of donation, averaging 754,000 won per student. Nine out of 259 university-year observations show no contribution, even though the Law stipulates that the school foundations must contribute a certain percentage of their annual university budgets. Forty-eight percent of the sample

universities disclose their financial statement to the public through their websites and appear to be more transparent.

The number of relatives in university management ranges between zero and four. We are surprised that the number is so small. However, this variable includes only the number of relatives who have managerial positions at the university. It does not include relatives in the foundation board or relatives without a managerial position in the university. We focus only on the relatives in a managerial position, because these people are the ones actually making important decisions over the university budget. The number of restrictions on student activity ranges between zero and seven, with mean and standard deviations of 4.1 and 2.2, respectively.

The average age of the universities is around 34 years. About one third of the universities in the sample have a religious mission. More than half are in the Seoul metropolitan area.

Table 3, Panel B, shows the correlations between the variables. Per-student donation, per-student expenses, faculty research, and SAT scores are all positively (negatively) and significantly related to the variables that are proxies for good (bad) governance. In contrast, the ratio of part-time lecturers to full-time faculty is negatively (positively) related to measures of good (bad) governance. Most of the correlation coefficients are significantly different from zero. Campus dispute is not related to most of the governance variables, with the exception of foundation contribution, to which it is negatively related.

B. The Impact of Governance on Donation

Since we use panel data, the *t*-values of the OLS coefficients can be biased. This bias arises because the residuals for each university are likely to be correlated over the years

(temporal correlation), and the residuals might be correlated across universities within a single year (spatial correlation).

One way to address this problem is to run a regression model with university fixed-effects and year dummies. However, the data structure does not allow this. We measure all the main variables of interest in measuring university governance – transparency, number of relatives, and student activity restrictions – as time-invariant, with the exception of foundation contributions. Thus, these measures would be completely captured by university fixed-effects. As an alternative, we use university random-effects with year dummies.

Table 4 shows the results of the random-effects model, in which we regress the log of annual donation per student on governance variables with other control variables. In Model (1), we use year dummy variables to control for any time trend, together with the age of the university (history), the religion dummy (religion), and the metropolitan dummy (metro) as additional control variables. The coefficient estimate of the history is positive and significant at the five percent significance level, which suggests that universities with a long tradition and a good reputation attract more donations. Religious universities also receive more donations, probably because of the stable provision of donations from their religious affiliations. Universities located in a metropolitan area attract more donations, but the relation is only marginally significant with a p-value of 0.11. Although not reported here, the coefficient estimates of year dummies show that donations have been increasing over the years. The overall R^2 is 15.5 percent, suggesting that the control variables capture the variation in donations reasonably well.

In Model (2), we add the log of foundation contributions and the transparency dummy variable. These two variables are proxies for the degree of good governance. The estimates of

both coefficients are positive and significant at the one percent level. The magnitude of the estimates is also economically significant. If a school foundation increases the foundation contributions by one standard deviation, the log of donation increases by 1.08, which is a rise in donation of 1.4 million won per student for a university with median donation. The increase in donation is almost two times larger than the median donation. The commitment by the founding family strongly signals to possible donors that their donations will not be expropriated, thus leading to a large increase in donation.

Transparency also has a significant impact. It increases the log of donation by 0.59, which translates into an increase of donation by 580,000 won per student. That is, a transparent university will get an 80 percent higher donation than the median donation. We also note that the overall R^2 increases to 47.3 percent, suggesting that the good governance variables are jointly important determinants of donation economically as well as statistically. Adding the two additional governance variables decreases the magnitude and significance of the controlling variables. This attenuation in significance is partly due to a positive correlation between the governance and control variables. It also suggests that the governance variables are more important determinants of donation than are the general reputation variables.

In Model (3), we replace the family commitment variables with the family control variables. Family control variables are the number of relatives and the number of restrictions on student activities. These two variables measure the degree of poor governance. The coefficients on the number of relatives and the number of student activity restrictions are negative and significant at the one and five percent significance levels, respectively. The magnitude of the coefficient estimates is also economically significant. One additional relative of the founder in university management (approximately a one-standard deviation

increase) will decrease the log of donation by 0.24, which represents a drop in donation of 152,000 won per student from the median donation of 713,000. This decrease amounts to an approximate 20 percent drop in donation. If the foundation increases the number of relatives to four, donations per student will drop by 444,000 won, a decrease of more than 60 percent.[9] The impact of restriction on student activity is moderate. One additional restriction decreases the log of donation by 0.099, which is a fall in donation of 67,000 won per student, a drop of 9 percent.

In Model (4), we use all the variables together. All of the governance variables are significant and have the expected signs.

In Model (5), we use one single governance index that incorporates information on all the four governance variables used in Model (4). The coefficient on the governance index is positive and highly significant. Holding all other control variables at their mean levels, if we improve the governance index from the 25th percentile value to the 75th percentile value, then we see that the donation increases from 468,000 won to 1.17 million won, a 1.5 times increase. Overall, the results in *Table 4* suggest that governance has a strong impact on donation.

C. Robustness Checks

Table 5 presents the results of a number of robustness checks. In Models (1)-(3), we run year-by-year OLS tests. We find that the coefficient estimates on per-student contributions, the transparency dummy, and the number of relatives are all significant and have the expected

[9] In addition to the number of relatives, we also examined the fraction of relatives in the foundation board. This variable turns out to be insignificant. This evidence is consistent with the view that the non-relative board members are not independent from the founding family and the board of the school foundation plays no monitoring role.

signs, but that the number of restrictions on student activity is not significant. The control variables are mostly not significant, with the exception of the metropolitan dummy, which is positively related to the log of donation.

In Models (4) and (5), we partition the sample into non-religious and religious universities, because the governance characteristics of the two groups of universities might be different. For the non-religious universities, we find that all governance variables are significant and have the expected signs. For the religious group, the restriction on student activity is not significant.

Model (6) is the same as Model (4) in *Table 4*, except that we replace the metropolitan dummy with the SAT score, which may better capture the reputation of universities in Korea. Comparing the two models shows that the coefficients of the governance variables change very little.

As discussed previously, the governance variables are time-invariant except for the foundation contribution, which is the reason we use the random-effects model instead of the fixed-effects model. In Model (7), we estimate the fixed-effects model, in which we regress the log of donation on foundation contribution, history, SAT score, and the year dummies. The coefficient estimate on the foundation contribution is 0.06 with a *t*-statistic of 1.96. Overall, the results indicate that the impact of university governance on donation is robust to the choice of time periods, estimation method, and subsamples.

D. Alternative Performance Variables

In *Table 6*, we examine other performance variables. We use the random-effects model in all regressions. In Model (1), as a performance measure, we use per-student university

expenses (measured in logarithms). If the founder tunnels resources from the university to other for-profit firms, then fewer resources will be available to be spent on the university. The results show that a university with more relatives in school management and more restrictions on student activity spends less per student. In contrast, universities that are more transparent and that have more foundation contributions spend more per student.

In Model (2), we use the fraction of part-time lecturers as an alternative measure of university performance. Our reasoning is that universities that suffer more from expropriation tend to hire less full-time faculty and instead hire more part-time lecturers, who are less expensive and have little voice on university matters. The estimation result indicates that universities with more foundation contributions tend to have a lower fraction of part-time lecturers. It also shows that universities with more restriction on student activities have a higher fraction of part-time lecturers.

In Model (3), we use faculty research as the dependent variable. The results show that faculty members of universities with more relatives in school management and more restrictions on student activities have less research output. The results also show that more transparent universities tend to be more productive in the area of faculty research.

In Model (4), we replace faculty research with SAT scores. The estimation results indicate that universities with more relatives in school management and more restrictions on student activities attract fewer high-quality students.

In Model (5), we use campus dispute as the dependent variable. Since campus dispute is a binary variable, we run a probit model. The results show that universities with fewer foundation contributions and those with more restrictions on student activity tend to experience more campus disputes. Universities with a religious mission tend to suffer less

from campus disputes. We note that universities with a long history tend to have a higher probability of dispute. This relation could be partly due to selection bias. Since we rely on newspaper articles to identify universities with disputes, it is possible that the measure is biased toward well-known universities with longer histories and traditions. Campus disputes in relatively new and unknown universities are not likely to attract interest from the general public, and thus are less likely to be covered by newspapers.

E. Reverse Causality

So far, we have assumed that the governance variables are exogenously determined. A major challenge in studying the relationship between governance and performance is the possibility of reverse causality. It could be that universities that receive large donations improve governance, instead of well-governed universities receiving more donations. This reverse causality is quite plausible, since donors can attach strings to their donations and force the receiving university to improve its governance. For example, a large donation can impose a condition that requires the school foundation to contribute a matching fund to the university, or a condition that requires the university to improve its transparency.

A standard way to address the issue of reverse causality is to find an instrumental variable for the governance variables, run a two-stage least squares (2SLS) test, and show that governance variables cause performance. However, we do not follow this route, because we are not able to find a good instrumental variable that has a high correlation with the governance variables but not with the performance variables. Instead, we show that performance does not cause governance change, and take it as indirect evidence that governance does cause performance.

We use the metropolitan dummy as an instrumental variable for donation and other performance variables and run 2SLS tests. In the first stage, we regress donation on the metropolitan, history, religion, and year dummies. In the second stage, we use the fitted values of donation obtained from the first stage as a variable to explain university governance, along with other control variables. If the coefficient on the fitted donation values is statistically insignificant, it shows that an exogenously determined donation does not cause change in governance. We take this result as evidence against reverse causality.

The metropolitan dummy satisfies all the conditions of a good instrumental variable. First, it is exogenous. It is hard to imagine that a university would change its location because of donations or other measures of university performance, such as faculty research. Second, the metropolitan dummy is highly correlated with annual donations. The correlation between the two variables is 0.27 and significant at the one percent level. Third, it is not correlated with the *Governance Index*. The correlation between the two is 0.04 with a p-value of 0.56. For this reason, in the following tests of reverse causality, we focus on the relation between university performance and the *Governance Index*.

Each panel in *Table 7* shows the 2SLS results. In *Panel A*, we see that donation does not cause the degree of university governance. In Model (1), we run the first-stage regression, regressing the log of donation on the metropolitan dummy and other control variables. We note that the coefficient estimate on the metropolitan dummy is highly significant.

In Model (2), we run the second-stage regression of *Governance Index* on the fitted values of log of donation from Model (1) with the history, religion, and year dummies as controls. The coefficient estimate on the fitted values of the log of donation is insignificant (a *t*-value of 0.6), which suggests that donation does not cause the change in governance.

We conduct similar tests in the subsequent panels for four other performance variables: per-student expenses, ratio of part-time lecturers to full-time faculty, faculty research, and SAT scores. The second-stage regression in each panel shows that the performance variables do not cause governance.

Although we cannot completely dismiss the possibility of reverse causality, we conclude that the correlation between governance and performance exists, not because performance causes governance, but because governance affects performance.

VI. Conclusion

In this paper, we examine the agency problems of Korean private universities. In many Korean private universities, founding families have almost total discretionary power over management, while there are few mechanisms to monitor their misbehavior. We argue that such a governance structure creates strong incentives for founding families to expropriate university resources for their own benefit, at the expense of students, faculty and other stakeholders in the university.

The empirical results and anecdotal evidence appear consistent with the following scenario. Poor university governance increases the expropriation risk and a higher probability of expropriation discourages donations. Good researchers stay away from those universities, leading to poor faculty research. As a result of expropriation, per-student expenses are low and more part-time lecturers are hired, leading to poor educational services. In the most extreme circumstances, campus disputes take place.

The dominance of family control over private schools in the Korean education market is not confined to higher education. According to the Ministry of Education, as of 2005, there

are 821 private school foundations and 1,391 primary and secondary schools, and one fifth of these schools' principals are related to founding families. Among the 821 foundations, 21.7 percent, or 178, school principals are spouses of board chairmen, children, siblings, or other relatives. Given the evidence presented in this paper, such family control is likely to lead to poor educational services in primary and secondary schools.

Poor school governance appears to have many ramifications in social costs. Poor school governance inevitably results in poor education services. Disappointed with the poor quality of education services in schools, parents have been turning to costly private institutions and tutors. According to the Korean Educational Development Institute, private tutoring costs in 2003 were estimated to be 13.6 trillion won (13.6 billion dollars). This figure represents 2.3 percent of the Korean GDP. Furthermore, an increasing number of young Korean students (perhaps students of better quality) now go abroad to study, as parents seek higher-quality education for their children while escaping the high private tutoring costs in Korea. According to the Korean Educational Development Institute, in primary and secondary schools the annual number of students going overseas surged to 16,446 in 2004 from 1,562 in 1998. The spending on overseas education also hit a record high of more than three billion dollars in 2005. To put this number in perspective, we note that it equals nearly 11 percent of the annual government budget for education.

The social costs incurred due to poor school governance appear enormous and could be a source of serious long-term concern for the Korean economy. Given the prevalence of family control over for-profit firms in emerging economies, we suspect other emerging economies are likely to suffer from similar agency problems in school governance. It would be

interesting to document the extent of agency problems in not-for-profit organizations from other emerging economies.

REFERENCES

Altbach, Philip. 2005 “Universities: Family Style” *International Higher Education* No.39 Spring, pp.10-12

Atanasov, Vladimir. 2005. "How Much Value Can Blockholders Tunnel? Evidence from the Bulgarian Mass Privatization Auctions." *Journal of Financial Economics*, 76: 191-234.

Bae, Kee-Hong;Kang, Jun-Koo and Kim, Jin-Mo. 2002. "Tunneling or Value Added: Evidence from Mergers by Korean Business Groups." *The Journal of Finance*, 62: 2695-740.

Baek, Jae-Seung, Jun-Koo Kang, and Inmoo Lee. 2006. “Business Groups and Tunneling: Evidence from Private Securities Offerings by Korean Chaebols”, *Journal of Finance*, 61:2415-2449

Baek, Jae-Seung, Jun-Koo Kang and Kyung Suh Park. 2004. "Corporate Governance and Firm Value: Evidence from Korean Financial Crisis." *Journal of Financial Economics*, 71: 265-313.

Ballou, Jeffrey and Burton Weisbrod. 2003. “Managerial Rewards and the Behavior of For-Profit, Governmental, and Nonprofit Organizations: Evidence from the Hospital Industry,” *Journal of Public Economics* 87:1895-1920

Babchuk, Lucian, Alma Cohen, and Allen Ferrell. 2009. “What Matters in Corporate Governance?” *Review of Financial Studies*, 22:783-827

Bebchuk, Lucian, Reiner Kraakman, and George Triantis. 2000. “Stock Pyramids, Cross Ownership, and Dual Class Equity: the Mechanisms and Agency Costs of Separating Control from Cash-Flow Rights.” In *Concentrated Corporate Ownership*, ed. Randall Morck, 295-318. National Bureau of Economic Research and the University of Chicago Press.

Bertrand, Marianne, Paras Mehta and Sendhil Mullainathan. 2002. "Ferreting out Tunneling: An Application to Indian Business Groups." *The Quarterly Journal of Economics*, 117: 121-48.

Black, Bernard. 2001. "The Corporate Governance Behavior and Market Value of Russian Firms." *Emerging Markets Review*, 2: 89-108.

Black, Bernard S., Hasung Jang and Woochan Kim. 2006. "Does Corporate Governance Affect Firms' Market Values? Evidence from Korea." *Journal of Law, Economics, & Organization*, 22(2): 366-413

Brickley, James and Lawrence Van Horn. 2002. “Managerial Incentives in Nonprofit Organizations: Evidence from Hospitals,” *Journal of Law and Economics* 45:227-249

Cheung, Steven Yan-Leung, P. Raghavendra Rau and Aris Stouraitis. 2006. "Tunneling, Propping and Expropriation: Evidence from Connected Party Transactions in Hong Kong." *Journal of Financial Economics*, 82:343-386

Claessens, Stijin, Simeon Djankov, Joseph P.H. Fan and Larry H.P. Lang. 2002. "Disentangling the Incentive and Entrenchment Effects of Large Shareholders." *The Journal of Finance*, 62: 2741-71.

Claessens, Stijin, Simeon Djankov and Larry H.P. Lang. 2000. "The Separation of Ownership and Control in East Asian Corporations." *Journal of Financial Economics*, 58: 81-112.

Core, John, Wayne Guay and Tjomme Rusticus. 2006. "Does Weak Governance Cause Weak Stock Returns? An Examination of Firm Operating Performance and Investors' Expectations." *Journal of Finance*, 56: 655-687

Core, John, Wayne Guay, and Rodrigo Verdi. 2006. "Agency Problems of Excess Endowment Holdings in Not-for-Profit Firms," *Journal of Accounting and Economics* 41:307-333

Cornell, Brad. 2004. "Compensation and Recruiting: Private Universities versus Private Corporations," *Journal of Corporate Finance* 10:37-52

Desai, Mihir A. and Robert J. Yetman. 2005. "Constraining Mangers without Ownership: Governance of the Not-for-Profit Enterprise." *NBER Working Paper No. 11140*.

Djankov, Simeon, Rafael La Porta, Florencio Lopez-De-Silanes and Andrei Shleifer.2005. "The Law and Economics of Self-Dealing." *Journal of Financial Economics*, 88: 430-465.

Doidge, Craig, G. Andrew Karolyi and Rene M. Stulz. 2004. "Why Are Foreign Firms Listed in the U.S. Worth More?" *Journal of Financial Economics*, 71: 205-38.

Durnev, Artyom and E. Han Kim. 2005. "To Steal or Not to Steal: Firm Attributes, Legal Environment, and Valuation." *Journal of Finance*, 60: 1461-93.

Eldenburg, Leslie, Benjamin Hermalin, Michael Weisbach, and Marta Wosinska. 2003. "Governance, Performance Objectives, and Organizational Form: Evidence from Hospitals," *Journal of Corporate Finance* 10:527-548

Fama, Eugene and Michael Jensen. 1983. "Agency Problems and Residual Claims," *Journal of Law and Economics* 26(2):327-349

Fisman, Raymond and Glenn Hubbard. 2005. "Precautionary Savings and the Governance of Nonprofit Organizations." *Journal of Public Economics*, 89: 2231-43.

Gompers, Paul, Joy Ishii and Andrew Metrick. 2003. "Corporate Governance and Equity Prices." *Quarterly Journal of Economics*, 118: 107-55.

Joh, Sung Wook. 2003. "Corporate Governance and Firm Profitability: Evidence from Korea before the Economic Crisis." *Journal of Financial Economics, 68*: 287-322.

Johnson, Simon, Rafael La Porta, Florencio Lopez-De-Silanes and Andrei Shleifer. 2000. "Tunneling." *The American Economic Review*, 90: 22-27.

Khanna, Tarun and YishayYafeh. 2007, "Business Groups in Emerging Markets: Paragons or Parasites?"*Journal of Economic Literature,* 45: 331-372

Klapper, Leora F. and Inessa Love. 2004. "Corporate Governance, Investor Protection, and Performance in Emerging Markets." *Journal of Corporate Finance*, 10: 287-322.

*Korea Times.*2004. "Young Couples Fill Emigration Fair, " September 20.

La Porta, Rafael, Florencio Lopez-De-Silanes and Andrei Shleifer. 2002. "Investor Protection and Corporate Valuation." *Journal of Finance*, 57: 1147-70.

La Porta, Rafael, Florencio Lopez-De-Silanes, Andrei Shleifer and Robert Vishny. 2000 "Investor Protection and Corporate Governance." *Journal of Financial Economics,* 58: 3-27.

La Porta, Rafael, Florencio Lopez-De-Silanes, Andrei Shleifer and Robert Vishny. 1998. "Law and Finance." *Journal of Political Economy*, 106: 1113-55.

La Porta, Rafael, Florencio Lopez-De-Silanes, Andrei Shleifer and Robert Vishny. 1997. "Legal Determinants of External Finance." *The Journal of Finance*, 53: 1131-50.

Lang, Mark H., Karl V. Lins and Darius P. Miller. 2003. "Adrs, Analysts and Accuracy: Does Cross Listing in the U.S. Improve a Firm's Information Environment and Increase Market Value?" *Journal of Accounting Research*, 41: 317-45.

Lee, Ju-Ho, Jung-SooPark, and Seung-Bo Kim. 2004. "Governance of Private Universities" in *Autonomy and Accountability of University Reform: The Second Phase* ed., Park et al., KDI and KRIVET Press

Lemmon, Michael and Karl Lins. 2003. "Ownership Structure, Corporate Governance, and Firm Value: Evidence from the East Asian Financial Crisis." *The Journal of Finance*, 63: 1445-68.

McCormick, Robert and Roger Meiners. 1988. "University Governance: A Property Rights Perspective," *Journal of Law and Economics* 31(2):423-442

Mitton, Todd. 2002. "A Cross-Firm Analysis of the Impact of Corporate Governance on the East Asian Financial Crisis." *Journal of Financial Economics*, 64 215-41.

Reese, William A., Jr. and Michael S. Weisbach. 2003. "Protection of Minority Shareholder Interests, Cross-Listings in the United States, and Subsequent Equity Offerings." *Journal of Financial Economics*, 66 65-104.

Roomkin, Myron and Burton Weisbrod. 1999. "Managerial Compensation and Incentives in For-Profit and Nonprofit Hospitals," *Journal of Law, Economics, & Organization* 15:750-781

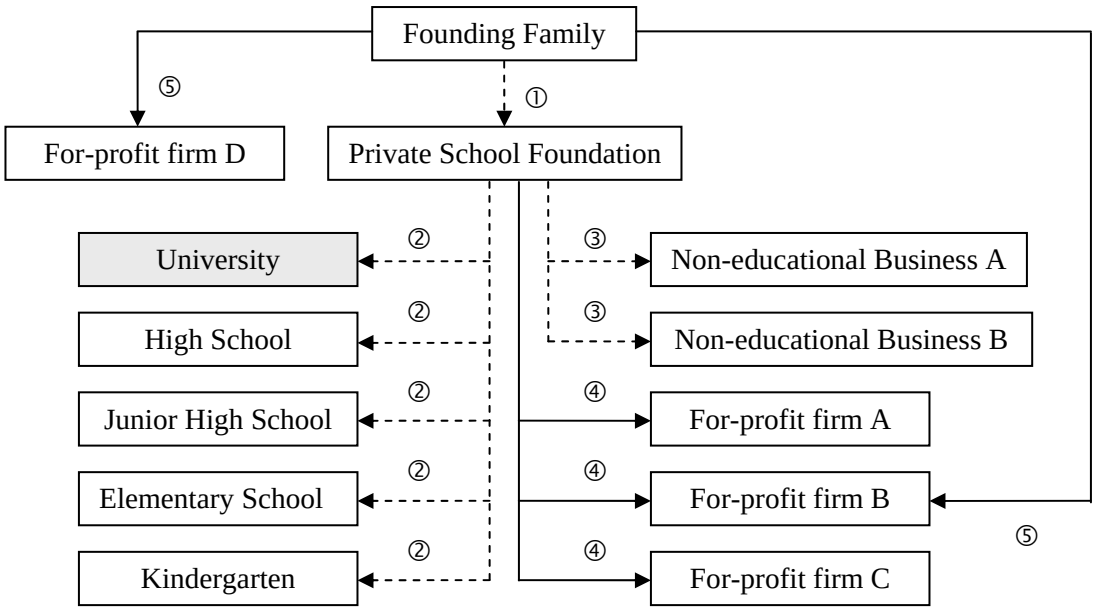

FIGURE 1. STRUCTURE OF KOREAN PRIVATE UNIVERSITIES

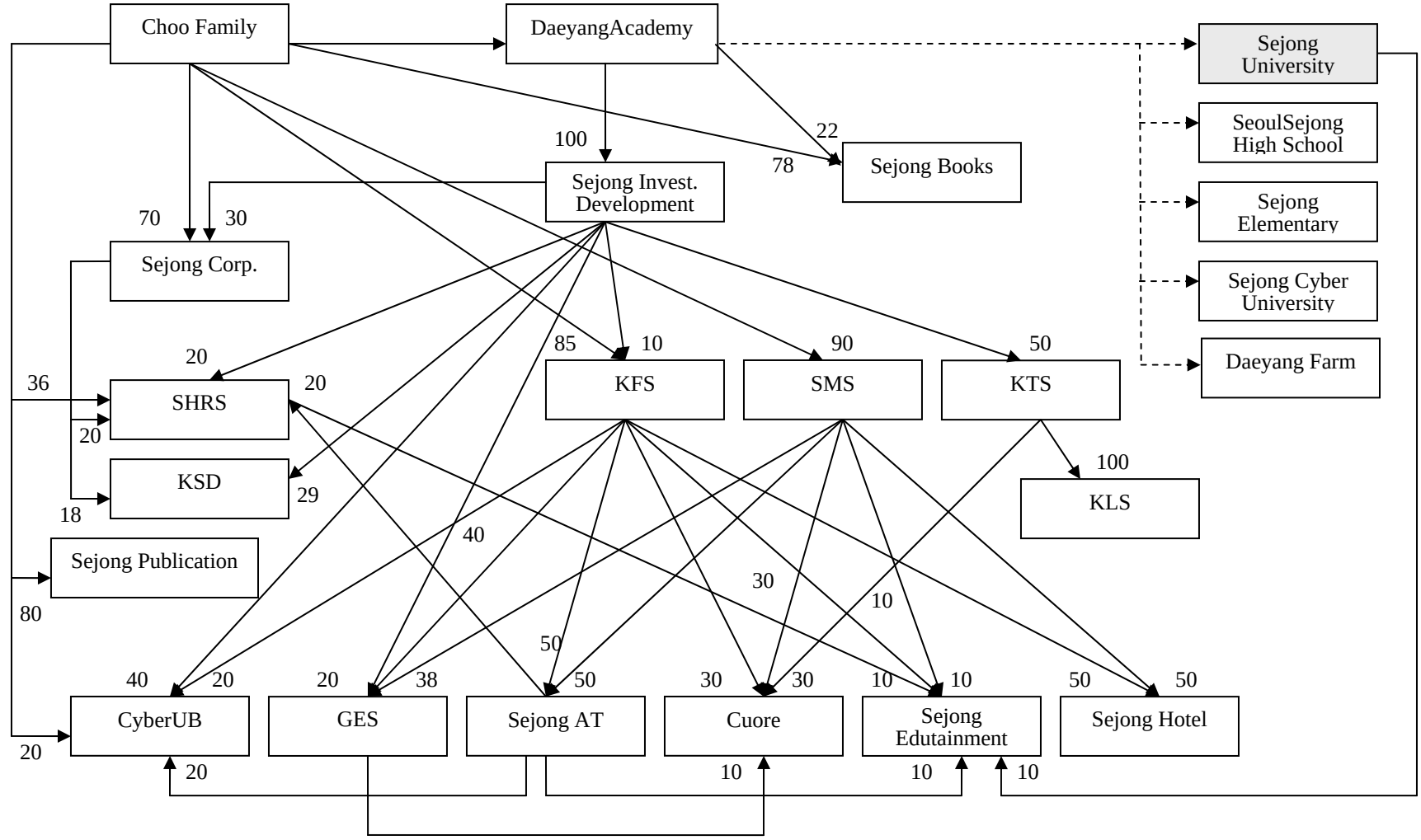

FIGURE 2. OWNERSHIP STRUCTURE OF DAEYANGACADEMY

Table 1—PRIVATE UNIVERSITIES UNDER FAMILY CONTROL

Panel A: Positions taken by founding family

Total	Board Members	President/Dean	Professors	Staff
247	115	29	59	44
(100.0)	(46.6)	(11.7)	(23.9)	(17.8)

Panel B: Relationship with the founder

Total	Spouse	Children	Siblings	Others
226	30	99	12	85
(100.0)	(13.3)	(43.8)	(5.3)	(37.6)

Notes: The table presents the survey results conducted by National Assemblyman HoonSeol for 83 private universities on the extent of the founding family's control over universities. Out of 83 universities that participated in the survey, 75 (90 percent) universities have members of the founding family present in the university management in various capacities. *Panel A* shows the positions that they have within the university. *Panel B* shows their relationship with the founder. "Others" include relatives of the founder who are not immediate family. Numbers in parentheses are percentages of the total.

TABLE 2—DESCRIPTION OF VARIABLES

Variable	Definition
Performance Variables	
Donation	Annual donation per student (in thousand won). Donation does not include foundation contributions. We obtain this information from the Korea Foundation for the Promotion of Private Schools.
Per Student Expenses	Annual university expenditure per student (in thousand won). We obtain this information from the Korea Foundation for the Promotion of Private Schools, a non-profit organization, the business of which is to provide loans to private universities.
Part-Time Lecturers	Ratio of part-time lecturers to full-time faculty members. We obtain this information from the Ministry of Education.
Faculty Research	Yearly number of articles published per full-time faculty in the journals listed in the National Citation Report. We obtain this information from the Ministry of Science and Technology.
SAT	Average test score of admitted students in government-administered college entrance examination. We obtain this information from Jinhaksa, a private company that produces publications on college entrance examinations.
Campus Dispute	Dummy variable that is equal to one if the university experiences a dispute between the founding family and other stakeholders during the sample period, and zero otherwise. We obtain this information from the Korean Integrated News Database System (KINDS).
Governance Variables	
Good governance variables that proxy for family commitment to improve the university	
Foundation Contributions	Annual contribution per student contributed by school foundation to university (in thousand won). Foundation contributions are not included in donations. We obtain this information from the Korea Foundation for the Promotion of Private Schools.
Transparency	Dummy variable that is equal to one if financial statements are available from the main page of the university's website, and zero otherwise. The data source is each university's homepage.
Bad governance variables that proxy for family control over the university	

Relatives	Number of relatives in university management (either working at the school foundation or the university). The variable does not include relatives on the board of the school foundation and those relatives with no managerial positions. We obtain this information from a report issued by the Millennium Democratic Party.
Restrictions	Number of restrictions on student activity. We obtain this information from each university's annual report.
Governance Index	To construct the single governance index that incorporates the information included in each governance measure, we scale each governance variable such that it ranges from zero to one. Then, we subtract the sum of bad governance variables divided by two from the sum of good governance variables divided by two. That is, governance index = [(Contribution/12521) + (Transparency)] / 2 – [(Relatives/4) + (Restriction/7)] / 2. The variable can range from the minimum of -1 to the maximum of one. A higher score implies better governance.
Control Variables	
History	Number of years since its establishment. We obtain this information from each university's annual report.
Religion	Dummy variable that is equal to one if the university has a religious mission, and zero otherwise. We obtain this information from the Association of Private School Foundations.
Metro	Dummy variable that is equal to one if the university is located in the Seoul metropolitan area (including Incheon and Kyunggi Province), and zero otherwise. We obtain this information from each university's annual report.

TABEL 3—SUMMARY STATISTICS AND CORRELATIONS

Panel A: Summary statistics

Variable	No. of Obs.	Mean	Std. Dev.	Minimum	25th percentile	Median	75th percentile	Maximum
Performance Variables								
Donation (in thousand won)	259	1,221	1,429	70	374	713	1,267	8,403
Per Student Expenses (in thousand won)	259	6,742	4,721	2,833	4,764	5,674	7,381	67,588
Part-Time Lecturers	177	0.97	0.42	0.12	0.68	0.91	1.25	2.28
Faculty Research	253	0.22	0.25	0.00	0.06	0.15	0.26	1.09
SAT (0 ~ 100)	259	65.60	19.56	18.14	50.04	66.12	82.03	98.01
Campus Dispute (0 or 1)	259	0.29	0.46	0.00	0.00	0.00	1.00	1.00
Governance Variables								
Foundation Contribution (in thousand won)	259	754	1,438	0	54	211	647	12,521
Transparency (0 or 1)	259	0.48	0.50	0.00	0.00	0.00	1.00	1.00
Relatives	259	0.77	1.03	0.00	0.00	0.00	1.00	4.00
Restrictions on Student Activity	256	4.08	2.15	0.00	2.03	4.97	6.02	7.00
Governance Index	259	-0.11	0.38	-0.85	-0.42	-0.13	0.21	0.59
Control Variables								
History (in years)	259	34.46	16.90	10.00	16.00	35.00	51.00	60.00
Religion (0 or 1)	259	0.32	0.46	0.00	0.00	0.00	1.00	1.00
Metro (0 or 1)	259	0.52	0.50	0.00	0.00	1.00	1.00	1.00

Panel B: Correlations													
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
[1] *ln*(donation)	1.00												
	-												
[2] *ln*(per student expenses)	0.73	1.00											
	(0.00)	-											
[3] Part-Time Lecturer	-0.33	-0.34	1.00										
	(0.00)	(0.00)	-										
[4] Faculty Research	0.57	0.58	-0.39	1.00									
	(0.00)	(0.00)	(0.00)	-									
[5] SAT	0.39	0.52	-0.08	0.57	1.00								
	(0.00)	(0.00)	(0.30)	(0.00)	-								
[6] Campus Dispute	-0.10	0.00	-0.07	0.02	0.13	1.00							
	(0.10)	(0.95)	(0.36)	(0.77)	(0.04)	-							
[7] *ln*(foundation contribution)	0.66	0.58	-0.37	0.37	0.29	-0.13	1.00						
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.03)	-						
[8] Transparency	0.40	0.36	-0.22	0.36	0.11	0.03	0.28	1.00					
	(0.00)	(0.00)	(0.00)	(0.00)	(0.08)	(0.66)	(0.00)	-					
[9] Relatives	-0.34	-0.35	0.03	-0.30	-0.28	-0.04	-0.19	-0.09	1.00				
	(0.00)	(0.00)	(0.67)	(0.00)	(0.00)	(0.48)	(0.00)	(0.14)	-				
[10] Restrictions	-0.23	-0.26	0.26	-0.44	-0.30	0.03	-0.12	-0.22	0.06	1.00			
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.61)	(0.07)	(0.00)	(0.33)	-			
[11] Governance Index	0.56	0.55	-0.31	0.55	0.31	0.00	0.40	0.82	-0.46	-0.58	1.00		
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.96)	(0.00)	(0.00)	(0.00)	(0.00)	-		
[12] History	0.30	0.52	-0.16	0.47	0.63	0.16	0.23	0.25	-0.24	-0.33	0.39	1.00	
	(0.00)	(0.00)	(0.03)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	-	
[13] Religion	0.14	0.16	0.14	-0.17	-0.02	-0.13	0.19	0.12	-0.21	0.28	0.07	-0.08	1.00
	(0.02)	(0.01)	(0.06)	(0.01)	(0.81)	(0.03)	(0.00)	(0.05)	(0.00)	(0.00)	(0.29)	(0.22)	-
[14] Metro	0.27	0.35	0.18	0.27	0.72	0.06	0.16	-0.10	-0.15	-0.08	0.04	0.28	0.13
	(0.00)	(0.00)	(0.02)	(0.00)	(0.00)	(0.32)	(0.01)	(0.13)	(0.02)	(0.20)	(0.56)	(0.00)	(0.03)

TABLE 4—RANDOM EFFECTS REGRESSION OF DONATION ON GOVERNANCE VARIABLES

Variable	(1)	(2)	(3)	(4)	(5)
ln(foundation contribution)		0.149*** (5.63)		0.154*** (5.93)	
Transparency		0.595*** (3.94)		0.494*** (3.48)	
Relatives			-0.240*** (-2.68)	-0.230*** (-3.46)	
Restrictions			-0.099** (-2.27)	-0.066** (-2.00)	
Governance Index					1.452*** (6.82)
History	0.412** (2.45)	0.163 (1.21)	0.207 (1.23)	0.025 (0.19)	0.017 (0.11)
Religion	0.379** (2.07)	0.142 (0.96)	0.384** (2.09)	0.117 (0.81)	0.245 (1.56)
Metro	0.317 (1.61)	0.396*** (2.58)	0.256 (1.38)	0.318** (2.23)	0.423** (2.59)
Constant	4.789*** (8.56)	4.601*** (10.58)	6.081*** (9.41)	5.577*** (11.37)	6.263*** (12.26)
Year dummies	Yes	Yes	Yes	Yes	Yes
Observations	259	250	256	247	259
No. of Universities	93	92	92	92	93
Within R^2	0.148	0.136	0.150	0.135	0.168
Between R^2	0.145	0.497	0.251	0.565	0.429
Overall R^2	0.155	0.473	0.238	0.533	0.393

Notes: The table presents the regression results of the random effects model in which we regress the log of donation per student on the governance and control variables. All variables are defined in *Table 2*. Numbers in parentheses are *t*-statistics. ***, **, and * denote significance levels of 1, 5, and 10 percent, respectively.

TABLE 5—ROBUST TESTS

Variable	(1) 2001	(2) 2002	(3) 2003	(4) Religion=0	(5) Religion=1	(6) Replace Metro with SAT	(7) Fixed effect
ln(foundation contribution)	0.262***	0.299***	0.274***	0.065***	0.300***	0.152***	0.061**
	(5.66)	(7.37)	(5.97)	(2.82)	(5.79)	(5.85)	(1.97)
Transparency	0.531***	0.367**	0.316**	0.658***	0.594**	0.464***	
	(3.11)	(2.36)	(1.97)	(3.80)	(2.39)	(3.35)	
Relatives	-0.242***	-0.235***	-0.188**	-0.233***	-0.234**	-0.212***	
	(-3.06)	(-3.34)	(-2.47)	(-2.95)	(-2.40)	(-3.16)	
Restrictions	-0.035	-0.033	-0.062*	-0.115***	0.069	-0.058*	
	(-0.86)	(-0.87)	(-1.73)	(-2.92)	(1.35)	(-1.75)	
History	-0.036	-0.047	-0.413	-0.233	0.288*	-0.091	-0.452
	(-0.24)	(-0.32)	(-0.27)	(-1.36)	(1.74)	(-0.62)	(-0.39)
Religion	-0.047	-0.141	0.038			0.151	
	(-0.25)	(-0.85)	(0.22)			(1.05)	
Metro	0.236	0.332**	0.412**	0.268	0.702***		
	(1.42)	(2.16)	(2.51)	(1.52)	(3.12)		
SAT						0.010**	0.000
						(2.53)	(0.04)
Constant	5.214***	5.232***	5.425***	7.013***	3.035***	5.384***	7.686*
	(8.71)	(9.09)	(9.06)	(11.56)	(4.09)	(11.02)	(1.89)
Year dummies				Yes	Yes	Yes	Yes
Observations	84	82	81	167	80	247	250
No. of Universities				62	30	92	92
Within R^2				0.353	0.076	0.136	0.156
Between R^2				0.478	0.800	0.572	0.000
Overall R^2				0.496	0.695	0.533	0.002
Adjusted R^2	0.507	0.567	0.529				

Notes: The table presents the results in which we regress the log of donation on governance and control variables. Models (1)-(3) use OLS tests for each sample year during the 2001-2003 period. Models (4) and (5) use random effect regression for the subsamples of non-religious and religious universities, respectively. Model (6) replaces the metropolitan dummy with the SAT score to control for university reputation. Model (7) runs a fixed-effect model. All variables are as defined in *Table 2*. Numbers in parentheses are *t*-statistics. ***, **, and * denote significance levels of 1, 5, and 10 percent, respectively.

TABLE 6—ALTERNATIVE MEASURES OF UNIVERSITY PERFORMANCE

Variable	(1) *ln*(Per Student Expenses)	(2) Part-Time Lecturer	(3) Faculty Research	(4) SAT score	(4) Campus Dispute Dummy
ln(foundation contribution)	0.069***	-0.053***	0.000	-0.056	-0.136***
	(6.06)	(-3.68)	(0.01)	(-0.20)	(-2.56)
Transparency	0.128**	-0.053	0.115***	1.512	0.306
	(2.56)	(-0.60)	(2.76)	(0.71)	(1.54)
Relatives	-0.015***	0.002	-0.011**	-0.523**	-0.054
	(-2.58)	(0.17)	(-2.23)	(-2.09)	(-0.58)
Restrictions	-0.002*	0.005*	-0.005***	-0.135*	0.106**
	(-1.69)	(1.72)	(-4.03)	(-1.92)	(2.27)
History	0.178***	-0.064	0.060***	12.567***	0.406**
	(3.77)	(-0.81)	(2.90)	(6.53)	(2.17)
Religion	0.066	0.095	0.003	-1.706	-0.481**
	(1.25)	(1.12)	(0.37)	(-0.85)	(-2.25)
Metro	0.148***	0.212**	0.084**	23.396***	0.270
	(2.96)	(2.46)	(2.02)	(10.90)	(1.40)
Constant	7.671	1.118***	0.111	19.912***	-1.759**
	(43.66)	(3.45)	(1.19)	(2.75)	(-2.40)
Year dummies	Yes	Yes	Yes	Yes	Yes
Observations	247	170	242	247	247
No. of Universities	91	85	91	91	-
Within R^2	0.210	0.114	0.204	0.657	-
Between R^2	0.641	0.274	0.399	0.784	-
Overall R^2	0.589	0.255	0.412	0.787	-

Notes: The table presents the regression results of the random effects model in which we regress university performance measures on the governance and control variables. As alternative measures of university performance, Model (1) uses the log of per-student expenses, Model (2) the ratio of part-time lecturers to full-time faculty, Model (3) faculty research, Model (4) SAT scores, and Model (5) a dummy variable for campus disputes. All variables are as defined in *Table 2*. Numbers in parentheses are *t*-statistics. ***, **, and * denote significance levels of 1, 5, and 10 percent, respectively.

TABLE 7—TEST OF REVERSE CAUSALITY

Panel A: Annual Donation per Student

	1st Stage *ln*(donation)	2nd Stage Governance Index
ln(donation)		-0.219
		(-1.18)
History	0.441***	0.377***
	(4.26)	(3.40)
Religion	0.286**	0.153*
	(2.31)	(1.69)
Metro	0.342***	
	(2.85)	
Year Dummies	Yes	Yes
Observations	259	259
Adjusted R^2	0.141	-

Panel B: Per Student Expenses

	1st Stage *ln*(per student expenses)	2nd Stage Governance Index
ln(per student expenses)		-0.488
		(-1.30)
History	0.309***	0.432***
	(8.84)	(3.10)
Religion	0.139***	0.159*
	(3.32)	(1.86)
Metro	0.153***	
	(3.78)	
Year Dummies	Yes	Yes
Observations	259	259
Adjusted R^2	0.360	-

Panel C: Part-Time Lecturer

	1st Stage Part-Time Lecturer	2nd Stage Governance Index
Part-Time Lecturer		-0.291
		(-1.05)
History	-0.157**	0.242***
	(-2.92)	(4.56)
Religion	0.084	0.128**
	(1.38)	(2.05)
Metro	0.187***	
	(2.94)	
Year Dummies	Yes	Yes
Observations	177	177
Adjusted R^2	0.070	-

Panel D: Faculty Research

	1st Stage Faculty Research	2nd Stage Governance Index
Faculty Research		-0.890
		(-1.20)
History	0.177***	0.444***
	(7.15)	(2.83)
Religion	-0.084***	0.005
	(-2.84)	(0.06)
Metro	0.084***	
	(2.95)	
Year Dummies	Yes	Yes
Observations	253	253
Adjusted R^2	0.248	-

Panel E: SAT

	1st Stage SAT	2nd Stage Governance Index
SAT		-0.003
		(-1.60)
History	15.986***	0.331***
	(14.88)	(5.71)
Religion	-2.411*	0.083*
	(-1.88)	(1.75)
Metro	23.533***	
	(18.92)	
Year Dummies	Yes	Yes
Observations	259	259
Adjusted R^2	0.765	-

Notes: The table presents the test results of reverse causality. In Model (1), we estimate the first-stage regression of 2SLS, regressing the performance variable on the metropolitan dummy (the instrumental variable), control variables, and year dummies, which are exogenously determined. The metropolitan dummy takes the value of one if the university is located in the metropolitan area, and zero otherwise. In Model (2), we estimate the second-stage regression of 2SLS, regressing the governance index on the fitted values of donation exogenously determined by the metropolitan dummy, control variables, and year dummies. In Model (1), we use the metropolitan dummy as an instrument for the performance variable. All variables are as defined in *Table 2*. *Panels A, B, C, D*, and *E* use as their performance variables the log of per student donation, log of per student expenses, ratio of part-time lecturers to full-time faculty, faculty research, and SAT scores, respectively. Numbers in parentheses are *t*-statistics. ***, **, and * denote significance levels of 1, 5, and 10 percent, respectively.