

**Status and Bribery:
Evidence from the Revealed Accounting Records of Two South Korean Presidents**

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Abstract

Social status, and the dynamics of social status, may be an important predictor of which firms engage in large-scale bribery, but prior theory is incomplete and prior empirical attempts to study this question have lacked the kind of comprehensive and reliable data on firm-level bribery decisions necessary to test the relevant hypotheses. This paper sheds light on this question with a new theoretical prediction and a novel historical data set with comprehensive data on high-level corruption from South Korea, where the internal accounting books of two presidents from the 1987-1992 time period were unexpectedly opened up ex post to legal and public scrutiny. We find that, controlling for a range of alternative explanations, so-called falling high status, namely high historical social status but current-period economic performance not keeping pace with industry peers, is an economically and statistically significant predictor of large-scale bribery.

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1. Introduction

Bribery is widespread and arguably an important phenomenon because it detracts from public confidence in transparency, the rule of law, and good governance, and because it may distort who ends up being the winners and losers in economic competition, discouraging entrepreneurship and eroding investment and innovation (Rose-Ackerman 1975, 1978, 1999; Shleifer and Vishny 1993; Mauro 1995; Bardhan 1997). Despite a surge in studies of corruption in recent years and a number of important findings from cross-country evidence¹, micro evidence on causes of corruption is still rare. Only a small number of micro-empirical studies have examined firm-level characteristics that influence firms' bribery decisions. These studies have primarily focused on bargaining power-based determinants and left out other plausible determinants like social comparison effects (Ball et al. 2001). Companies' perceptions of how they stand positioned in the market and in society relative to peer companies (in other words, their relative company status) could have a large impact on the extent to which they choose to engage in illicit bribery. In this paper, we examine the role of company status relative to peer companies as a determinant of large-scale corporate bribery.

While the literature on the causes of corruption has provided a number of theoretical and empirical lessons since Rose-Ackerman's seminal research on corruption (1975, 1978), the literature has faced the following limitations. First, the illicit nature of corruption makes data reliability and comprehensiveness a critical issue. The focus on self-reporting led Svensson (2003: 225), in what is the pioneering empirical study of which firms engage in bribery, to say

¹ A set of stylized empirical facts from cross-country evidence suggests that the higher the level of per capita income and the quality of national institutions, the lower the level of (perceived) corruption. The quality of national institutions related to corruption includes government effectiveness, rule of law, regulatory quality, duration of democracy, openness of trade and financial markets, and press freedom, which are positively related to GDP per capita. See Treisman (2007) and Aidt (2011) for detailed discussion on robust country-level determinants of (perceived) corruption. Seldadyo and de Haan (2006) present a summary list of macroeconomic and institutional factors studied in the corruption literature.

that he could not use even his exceptionally well-crafted survey questions about similar firms in the same line of business to study levels in actual bribes made by focal companies. Also, even if self-reporting bias were absent, firms might perceive that Svensson's (2003: 225) cleverly phrased question (asking "Can you estimate what a firm in your line of business and of similar size and characteristics typically pays each year?") as worded is in fact asking them about the actual behavior of peers, where those peers while similar in size, business line, and other unnamed characteristics like geographic location, could also diverge in bribery behavior based on differences in status and economic performance. There have been few prior attempts to use real bribery data in the analysis of determinants of corporate bribery, with Jeong and Weiner (2012)'s focus on Iraq's oil-for-food corruption being a notable exception. A few other prior works, while not focusing on the firm-level determinants of bribery, are also noteworthy for looking at bribe payments in the context of social welfare considerations. McMillan and Zoido (2004) analyzed the Peruvian spy chief's payment of bribes to judges and television broadcasters. Olken and Barron (2009) used direct observation of bribe payments via an experiment to examine how bribes are negotiated in the setting of Indonesia trucking. Sequeira and Djankov (2014) also used direct observation of bribe payments via an experiment to examine the impact of corruption on firm-level trade costs in African ports.

Second, the prior literature on firm-level determinants of corruption was almost exclusively focused on industrial organization (Svensson 2003) and financial and ownership characteristics of firms (Clarke and Xu 2004; Jeong and Weiner 2012; Chavis 2013), which represents an incomplete view of managerial behavior that leaves out insights about social comparison effects from behavioral economics and sociology. We thus take into account the effect of relative company status as suggested by both economics and sociology.

An appreciation among economists for the role of status dates back to Adam Smith, who argued that status is a direct source of utility and that status provides important benefits of deference from others (1759/1976: 52). We focus in this study on the situation where a company can draw upon a historical endowment of high status but fears an impending fall in status due to mediocre economic performance relative to peer companies. We term “falling high status” the condition in which a firm has large historical endowments of high status (based on their firm being a high status employer in the labor market and based on their owner-manager’s family being high status in the elite marriage network) but current-period mediocre economic performance relative to industry peers. For reasons of motivation, resource availability, and the inability to compete through other market means, we predict that firms with falling high status engage more in large-scale bribery than firms in all other status in status continuum, all else equal. We test our falling-high-status hypothesis using unique bribery data from the courts of South Korea, where two former presidents who received bribes from business groups during their terms were unexpectedly prosecuted as part of the country’s democratization. As a result, the two former presidents’ internal bribery accounting records came to light through court rulings, national hearings, and media scrutiny. We find a significant and positive relationship between falling high status firms (in other words, firms that have high historical status but face deteriorating economic performance at the current moment) and the level of bribery that those firms paid.

Our intended contributions are two-fold. We propose (relative) social status, and the dynamics of social status, as an important predictor of which firms engage in large-scale bribery. Prior theory is incomplete and prior empirical attempts to study this question have lacked the kind of comprehensive and reliable data on firm-level bribery decisions necessary to test the

relevant hypotheses. We are fortunate to have extensive public documentation on comprehensive high-level bribery where individual firms pay to the top level of government of South Korea. To our knowledge, the United Nation's Oil-for-Food data set used in Jeong and Weiner (2012) is the only comparable data set on high-level bribery which shows detailed amount of bribes paid by individual firms as a result of public investigations.² Because our data provide comprehensive coverage of high-level bribery by firms to the government, it differs from prior work focused on bribery by Montesinos in the 1990s-era Peruvian government to judges, congressman, and television station owners (McMillan and Zoido, 2004), as well as other pioneering work by Fisman and coauthors on measuring and capturing the economic importance of corruption (Fisman, 2001; Fisman and Miguel, 2007; Fisman and Wei, 2009; Fisman and Wang, 2014).

This paper is organized as follows. In Section 2, we discuss theories of status and bribery. In Section 3, we outline the nature of the South Korean research context. Section 4 presents our empirical strategy where we discuss the data, variables and empirical specification. Section 5 discusses the results, and Section 6 concludes.

2. Status and Bribery

2.1. Economic Perspective on Status

Economics at its modern origins, as well as economics today, has embraced the idea that status plays an important role in economic life and well accepted that status is often an important component of the utility function. Adam Smith in *The Theory of Moral Sentiments* spoke at length about status, which he called “place” (Smith 1759/1976: 57). Smith viewed status as a

² Two prior studies also looked into the United Nation's Oil-for-Food Program (Heaton 2005; Hsieh and Moretti 2006); neither, however, utilized the information on bribery by firms during the Program.

desired position, but one which carried numerous hidden costs. For example, he wrote about the person who suddenly rises dramatically in status, only to find that his new peers resent his entering their club and his old friends resent viewing themselves as subordinate (Smith 1759/1976: 41). As Smith argues, it is because mankind is more predisposed to sympathize with joy than with sorrow, that people ultimately put the acquisition of wealth and rank above all else (Smith 1759/1976:50-52). Because those of the highest rank are believed to have the most joy, Smith argues that as a result mankind shows maximum deference to those with the highest status (Smith 1759/1976: 52). As Smith argues,

“Of such might importance does it appear to be, in the imaginations of men, to stand in that situation which sets them most in the view of general sympathy and attention. And thus, place, that great object which divides the wives of aldermen, is the end of half the labours of human life; and is the cause of all the tumult and bustle, all the rapine and injustice, which avarice and ambition have introduced into this world. People of sense, it is said, indeed despise place; that is, they despise sitting at the head of the table, and are indifferent who it is that is pointed out to the company by that frivolous circumstance, which the smallest advantage is capable of overbalancing. But rank, distinction pre-eminence, no man despises, unless he is either raised very much above, or sunk very much below, the ordinary standard of human nature...” (Smith 1759/1976: 57).

Yet the typical individual and social cost of seeking to rise to high status is unexpectedly high, according to Smith. According to Smith’s argument, those raised in a situation of high status are aware that status is disruptive to one and all, but as Smith further argues, yet only the very few most refined individuals learn from “wisdom and real philosophy” to act the right way without seeking or accepting others’ deference or approval or admiration (Smith 1759/1976: 57). It is worth emphasizing that the implication of Smith’s argument is that those who decline status and the pursuit of status are truly outliers, and that most of mankind is in a sense unreasonably and self-destructively focused on status-seeking behavior.

In addition to Smith, Thorstein Veblen (1899/1965: 28) also spoke disapprovingly of what would be called status today. Veblen viewed the desire for ownership as coming from a

hunger for trophies that can be paraded in front of peers (1899/1965: 28). As Veblen argues, “The motive that lies at the root of ownership is emulation, and the same motive of emulation continues active in the further development of the institution to which it has given rise and in the development of all those features of the social structure which this institution of ownership touches” (1965: 25-26). According to Veblen, status seeking is at the heart of the utility function (1965: 27), even though in his view status seeking is the source of “invidious comparison” (1965: 28). What ultimately leads to status seeking is the fact that the “usual basis of self-respect is the respect accorded by one’s neighbors” (Veblen 1965: 30), neighbors who themselves also think that status attainment is the means to happiness. In summary, the work of Adam Smith and Thorstein Veblen reflects the fact that economics has a rich history of both acknowledging the empirical importance of status as a source of utility, as well as of pointing out both the individually self-destructive as well as the socially destructive ramifications of status-seeking behaviors.

While for much of the 20th century economics had little to say about status, in the last two decades there has been a growing resurgence of interest by economists in the concept of status. As succinctly defined by Ball et al. (2001: 161), status is “a ranking in a hierarchy that is socially recognized and typically carries with it the expectation of entitlement to certain resources.” First, in the view of many but certainly not all modern economists, status is an end goal in and of itself for most individuals (Frank 1985; Frank and Cook 1995; Ellingsen and Johannesson 2007; Frey 2007; Bhattacharya and Dugar 2013; Tran and Zeckhauser 2012). For other economists, status is a source of indirect utility but still quite economically important in influencing work effort, savings behavior, and ultimately even country-level economic growth (Cole et al. 1992).³

³ Auriol and Renault (2008) argue through a formal theory model that status-seeking and wealth-seeking are complements, and that individuals thus have a desire for congruence between their level of status and their level of

Second, in more contemporary economics it appears increasingly accepted that higher individual status leads directly to deference from lower status actors (for example, see Ball et al. 2001).

Third, it has been argued by some contemporary economists (for example, see Ball et al. 2001) that such deference enables higher status actors to increase their monetary earnings.

As shown in a laboratory experimental market by Ball et al. (2001), those with higher status (even when that status is handed out through random assignment) are able to sell at higher prices for a generic good and thus capture a greater share of the surplus than their lower-status counterparts. Not only are lower status actors willing to pay more to purchase goods from higher status actors, but also higher status actors are able to secure more favorable outcomes in the marriage matching market (even controlling for their wealth) (Almenberg and Dreber 2009). Also, contemporary economists have pointed to the idea that attaining an increase in status leads to a release of more happiness-inducing chemicals in the brain (for example, see Frank 1999, who in turn cites pharmacological evidence linking higher status to higher serotonin levels; see also Frank 1985; Huck and Müller 2000; and Becker, Murphy and Werning 2005).

At the same time that there is an ever-growing understanding in the economics literature as to why individuals seek status, contemporary economists have also taken up Smith and Veblen's argument that the very process of seeking status often involves both individually inefficient and socially deleterious investment. Frank and Cook (1994) in particular argue that due in large part to globalization and technological change, there are more winner-take-all professions in the labor market, with too many people overinvesting in an ever-small probability of succeeding in these winner-take-all professions. Other studies by Congleton (1989), Robson

wealth. In other words, in the model of Auriol and Renault (2008), individuals with a high degree of status but a relatively lower degree of wealth are willing to exert extraordinary effort to attain higher wealth. At the same time, individuals with a high degree of wealth but a relatively lower degree of status are willing to exert extraordinary effort to attain higher status (Auriol and Renault 2008).

(1992), Fershtman and Weiss (1993), and Fershtman, Murphy, and Weiss (1996) similarly argue that a significant subset of investment by individuals in status is socially wasteful and diverts resources from their most productive use. Congleton (1989), however, argues that another significant subset of status contests do in fact lead to positive externalities for society (like status contests in academia that lead to socially productive knowledge, and sports tournaments that provide entertainment for a wider audience), and also that even the relatively more inefficient status contests can under scenarios be improved upon or else replaced with more socially efficient designs.

We also draw inspiration from the behavioral economics and criminology literatures. In behavioral economics, Kahneman and Tversky (1979) showed that perceived pain from pending losses or drops is most severe when starting from an initial high point. In criminology, Wheeler applied the logic of Kahneman and Tversky in his field study of white-collar criminals to “speculate” (1992: 114) that perhaps the “fear of falling” was a leading cause of white-collar crime. Together with Wheeler, the criminology authors’ Weisburd, Waring, and Bode’s concept of “fear of falling” painted a picture where an individual had attained a certain level of wealth and status through honest, hard work, but then saw a sudden or impending fall in their income, and then justified short-term crime based on a logic that it would be only temporary and would quickly bring the individual back to the original position (Weisburd, Wheeler, Waring, and Bode 1991: 189). As Wheeler noted, the proposed archetypical white-collar criminal was speculative, but also he expressed both curiosity and uncertainty as to whether a similar logic would apply to firms and their leadership groups (Wheeler 1992: 119).

In summary, the economic importance of status is well-accepted both at the foundations of economics and in contemporary studies, but yet there is a remaining hole, or at least piece of

unfinished business, in the contemporary literature. While there have been numerous experimental studies, there have been very few non-experimental empirical studies. Moreover, while we know that status is an important source of utility, we do not know how the pursuit of status, and how the dynamics of status rankings, lead actors to change their social and economic behaviors over time. For example, how might the pursuit of status, and more specifically how might a sense of falling status, influence owner-managers of large companies in their choice of how much to bribe government actors? While being consistent with the prior economic literature, we aim to take the literature in a new direction by showing empirically and through the help of sociological theory how what we term “falling high status” explains a significant amount of bribery behavior.

2.2. High Status and Bribery

Whereas the economics literature has been quite attentive to the fact that individuals seek out status, and has been quite focused on the individual and societal effects of widespread investment in status formation, the sociology literature in turn has placed significant attention over the last 60 years to the question of whether higher status leads to greater nonconformity or to greater conformity with social norms and related informal rules of a group or society (for example, see Dittes and Kelly 1956). While that literature on status and conformity had largely gone silent from the late 1980s to 2000, Phillips and Zuckerman (2001) brought forth a renaissance of research on the connection between status and conformity by contributing a much more specified theory as well as rigorous empirical support for the idea that middling or middle status leads to absolute or near-absolute conformity to social norms and rules. We extend the status theory of Phillips and Zuckerman (2001) and moderately reformulate it in ways that help to explain an important dimension of social deviance, namely large-scale corporate bribery.

Within sociology, there have been arguments and a set of supporting empirical evidence for why higher status should lead to nonconformity with social norms (for example, Dittes and Kelly 1956), as well as some rival arguments for why higher status should actually lead to more conformity. We begin with the theoretical logic behind why the highest status firms will be more likely to engage in large-scale bribery and to pay the largest bribes. First, high status firms are confident in their superior competitive status, and hence feel like they have the license to engage in some deviant behavior (Phillips and Zuckerman 2001). In fact, they are so secure in their high social status that they believe that any single scandal that is revealed or discovered will not be able to put a dent in their secure position (Dittes and Kelley 1956). Second, high status firms have the most resources to pay for bribes due to their superior competitiveness and profitability, and they are the ones able to make most productive use of the government largesse gained through bribery (Banerjee 1997). Third, high status firms may be more effective in hiding their bribes, either through slick relationship management or sneakier accounting. This more effective hiding behavior may also cause them to be more likely to choose to bribe and to bribe in large amounts. Fourth, high status firms may believe that their bribes are less likely to lead to severe sanctions, given their powerful position in the society (Becker 1963).

In contrast, there is also a rival set of theoretical arguments based in sociology as to why the highest status firms should be less likely to engage in bribery. First, they have the ability to make money and to change existing rules or policies in legitimate ways like through expert marketing, product development and lobbying (Harstad and Svensson 2011), and thus they don't have the same need to bribe, which makes them do less bribery. Second, regardless of whether their superior profitability comes from marketing or R&D or productivity, high status firms may have attained the requisite market power necessary to name their own price with customers.

Thus, they may have no need to bribe because they are in effect printing money already with their superior business model. Third, the very fact that they make money through marketing and other legitimate ways means that bribery might endanger their ability to keep a good brand image and make superior profitability. Fourth, high status firms are under a kind of public microscope, with higher expectations for the quality of their conduct, and may under certain conditions receive unusually harsh punishment for their nonconformity with social norms (Giordano 1983). Thus, they have the most to lose from having their bribery exposed, which makes them less likely to engage in bribery in the first place (Jeong and Weiner 2012).

Before we get to how we depart from contemporary sociological concepts of status and conformity, it is important to go into further detail into how contemporary sociological theorists divide up the world of firms and individuals based on their status level. Starting with Phillips and Zuckerman (2001), there is the well-accepted idea that some individuals or firms clearly have status (and they are usually referred to as the high status actors), while other individuals or firms have status but perceiving that they might be on the cusp of losing their status altogether (and they are usually referred to as the middle status actors), and while yet other actors have no status and probably have no chance at ever earning any status (and they are usually referred to as the low status actors). What is clear from this sociological perspective is that the world of firms and of individuals can be divided largely into two hypothetical groups, Group A with those who clearly possess high status and another Group B with those who have no status, with a kind of large “limbo” area of people from Group A who have membership in Group A but are paranoid that they are on the cusp of losing their membership in Group A and being deported to Group B.

While we embrace the sociological concept of a border area in which paranoia regarding status loss leads to discernibly different behavior from the norm, we think that the border area

needs to be redrawn and that the basic direction of causality when it comes to large-scale violations of social norms—like illicit bribery—is the opposite of what the contemporary sociological theory would predict. The first place where we differ with the contemporary sociological conception is that we completed field research about how firms think about getting favors from government (Siegel 2007) and, based on that field research, perceive a world in which there actually are three groups (X, Y, Z) with two borders (a border between X and Y, and a border between Y and Z). In Group X, there is the clearly high status group, and that group enjoys numerous societal advantages (access to resources of human capital, finance, and technology) as a result of its high status. In Group Y, there is a clearly demarcated middle-class status group; unlike in the contemporary sociological model, where one either has status, has status but fears being about to lose it, or has no status. We think there is likely a middle class of status that is at least potentially quite stable when thinking about populations of firms or individuals. Members of Group Y enjoy some advantage of resource access in the society, but view themselves as clearly disadvantaged and probably permanently behind the group in Group X. In Group Z, there are those without status. Where we primarily depart from contemporary sociological theory is that we think the most interesting border area is between Groups X and Y, and this border area consists of individuals or firms with membership in Group X based on historical endowment and historical performance, continue to be identified by all citizens of Groups X, Y, and Z as being members of Group X, but yet have a recent deterioration in their relative economic profitability such that they rationally fear an impending drop in status to the point of losing their citizenship in Group X and falling into Group Y territory.

The testable hypothesis that comes out of our different way of looking at the world is the following. Unlike the sociological and economic theories discussed earlier, which state that high

status firms deviate because they can get away with it, we think that when it comes to large-scale violations of social norms, most high status firms do not deviate because they can more productively invest their current resources in R&D, marketing, and human capital formation. In contrast, firms in the border area between Groups X and Y, which are what we would call “falling high status” firms, do have a strong incentive to engage in large-scale violations of social norms, including especially bribery. They have such a strong incentive because they fear based on current economic performance that they simply cannot using legitimate economic means produce the ongoing profit flows necessary to maintain and support their level of status. As a result, they look for nonmarket means of bribery to secure the kinds of government special treatment that can enable them to compete on market means once again the longer term. Also, these firms, by virtue of historical economic and social endowment, have considerably more resources than the middle status firms do, with which to allocate to bribery.

Our falling-high-status theory is also supported by both the behavioral theory of the firm (Cyert and March 1963) and strain theory (Merton 1968). The behavioral theory of the firm suggests that companies will be more likely to engage in misconduct if they are underperforming peers or underperforming relative to their own past success (Greve 2003). Strain theory suggests that organizations undergoing resource scarcity (Finney and Lesieur 1982) and threats to their competitive position (Vaughan 1999) may be more likely to engage in misconduct. What is first notable is that empirical tests of these last two propositions involving for-profit firms are few, and also that the few findings that do exist are often contradictory. That said, as Greve et al. (2010: 65) point out, “Clearly, research in the strain tradition has produced a number of valuable findings, but these findings are sometimes difficult to square with one another.” Returning to Finney and Lesieur (1982), and Vaughan (1999), those works make clear that mere resource

scarcity or mere threats to the organization's competitive position are notable factors but are not sufficient to explain why some organizations but not others engage in misconduct. As explained in Vaughan (1999), NASA ended up tolerating a faulty design inside the Challenger shuttle that resulted in the deaths of astronauts. That toleration of a faulty design occurred, according to Vaughan's detailed historical account, due to a combination of resource pressures, organizational culture, and occupational work norms. According to Vaughan's account, resource pressures by themselves were not sufficient to explain NASA's outcome with the Challenger disaster.

We thus see the need for a significantly further detailed theoretical explanation for why some companies but not others engage in large-scale illicit bribery. As Greve (2003: 3) points out, there is a need to combine strain theory with other behavioral factors. What Greve refers to as "aspiration levels" (2003:3) are part of the theoretical picture we aim to create. These Korean companies aspired to being in the core of the network of their peers based on status. The falling-high-status groups were accustomed to being among the more highly respected groups in South Korea, as manifested by being the groups that other groups desired to marry into and as manifested by the desire of those in the labor market to join their employee ranks. Upon seeing deterioration in their economic performance relative to peers, these groups saw the prospect of falling into middle status. They sought to do whatever they could to avoid falling in social status. A key part of our theoretical perspective is that these groups believed that if they gave large bribes to the two presidents, they could then use the government-provided resources to invest in the market capabilities necessary to restore their market and social status superiority in the longer term. Thus, these groups believed based on a fear of falling further that they needed to engage in large-scale bribery, but also they believe that they could reenter the core of high status through bribery as a first-step in a multi-step process to reasserting their competitive dominance. Thus,

the deterioration in performance relative to past performance and relative to peers' current performance is but one piece of the picture. These groups had to also believe that the gains from bribery could be reinvested in socially legitimate, market-driven performance that would lead them to reoccupy the center of the high-status echelon.

In summary, our discussion on status and bribery above leads us to hypothesize that firms with large endowments of high status (based on their owner-manager's family being high status in the elite marriage network and based on their firm being a high status employer in the labor market) but current-period mediocre economic performance relative to peers will engage in large-scale bribery at a higher rate than all other firms, all else equal. At the same time, we believe that all other types of firms are likely to bribe significantly less than the aforementioned group: robustly high status firms because they have better returns on their investment in market activities; middle status firms either because they fear the kind of social sanction that would cause them to drop into lower status, or because they simply lack the resource scale necessary to gain significant returns from bribery; and low status firms because they completely or almost completely lack the resources necessary to gain significant returns from bribery.⁴

3. Details of the South Korean Context

Chun Doo Hwan and Roh Tae Woo were two successive leaders of South Korea in the 1980-1992 time period. Chun (1980-1987, 5th Republic) took power by a coup d'etat in the chaos of the death of the prior military dictator, and Roh (1988-1992, 6th Republic) who was chosen as the successor by Chun, won the 1987 presidential election in large part based on the

⁴ An alternative view of low status, which is that bribery is the only way through which low status firm might even potentially be able to raise their status over time (Cheung et al., 2012), is certainly possible, but we postulate that the lack of resources is what primarily keeps the low status firms from engaging in frequent or large-scale bribery.

fact that two primary non-military leaders of the democracy movement could not agree to unite behind one candidacy, but instead split the vote (for example, see Seo 2007).

Over time, there had been widespread attention paid to the fact that some chaebols (the huge South Korean business groups) influenced politicians and government bureaucrats with bribes and through personal and familiar relationships (for example, see Park 1988; Yoo 1988; Kim 1997; Kang 2002). According to various sources (Park 1988; Yoo 1988; Kim 1997; Kang 2002), substantial financial contributions were made by leading chaebols during Chun's regime. In turn, these chaebols were believed to have received favored treatment from the state.

Chun and Roh were prosecuted as part of the democratic transition. Their internal accounting books were unexpectedly opened up to the world by the parliamentary investigation and court investigation at the end of 1995. In August 1996, Chun was ordered by the Seoul High Court to pay back 220.5 billion won (\$256 million) that he was found to have amassed through corruption during his 1980s rule. Roh was also ordered to pay back 262.8 billion won (\$305 million) he had received as bribes from businessmen. Several notable business heads (including Samsung's Lee Kun-Hee and Daewoo's Kim Woo-Choong) were found guilty of bribing the former generals-turned-presidents (Suh 2000).

3.1. Case Illustrations Demonstrating Bribery and Its Outcomes

Kukje Group was the seventh-largest chaebol during Chun's administration, yet almost totally refused to pay bribe.⁵ For example, one of the main sources that Chun was collecting bribes was through Ilhae Foundation, a quasi-research foundation established by Chun. Kukje Group contributed 0.5 billion won for Ilhae upon request, while other comparable chaebols (for example, Daewoo, Hyundai, Lotte, and Samsung) contributed 3 to 4.5 billion won (Yoo 1988:389). In 1985, the Chun administration announced Kukje's bankruptcy and dismembering

⁵ See Kim 1997:200-203.

the Group.⁶ Subsequently, numerous Kukje Group affiliates were taken over by Hanil Synthetic Fiber (Hanil), Kukdong Construction, and Dongkuk Steel. These acquirers were much smaller than Kukje, yet paid much larger bribes than Kukje (for example, Yoo 1988; Kim 1997).

In particular, Hanil ranked the second in the top 30 businesses that made the largest contributions during 1983-1987 (see Table 2: Yoo 1988).⁷ Hanil acquired several affiliates of Kukje Group in 1986. It was the year when Hanil's contribution (4.6 billion won) grew by 53% compared to the previous year (3 billion won). The last year of Chun's administration (1987) saw more of such cases—paying more bribes than expected for purported benefits. The amount of Hanil's contributions reached nearly 7.3 billion won (an increase by 56%) in 1987. In that same year, Hanil was given the government's blessing to take over Jinhae Chemical, the largest producer of compound fertilizer. In the case of Korean Air Line (KAL), its payment grew suddenly by 66% (to about 5.1 billion won) in 1987 vis-à-vis the year before. KAL then was able to acquire Korean Shipping Line, a company whose CEO testified at the 1989 national hearing that he declined Chun's request for political funds.⁸ Most notably, Kumho Group increased its payment by more than 900% from 0.3 billion won in 1986 to nearly 2.8 billion won in 1987. Kumho, which was known for tires and express bus services at the time, won the bid for South Korea's second largest private airline a day before Chun's last day as president in 1988 (for example, see Yoo 1988:389).

⁶ In 1993, the Constitutional Court of Korea ruled the government's dismembering Kukje Group as unconstitutional.

⁷ Hail also ranked the sixth in selected contributions and political funds among the 22 chaebols compared while it ranked the 16th in sales in 1992 (see Table 4.1., Kang 2002).

⁸ <http://www.sisapress.com/news/quickViewArticleView.html?idxno=28768>

3.2. South Korean Public Survey Evidence on Bribery

South Korea is one of a large number of countries in which bribery is believed to be moderate to severe (for example, see Transparency International's Corruption Perception Index, various years), and South Korea is also representative of a large number of countries in which large-scale corporate bribery is condemned by the broader public. The official cultural rule book of South Korea comes from Confucianism.⁹ It has two opposing teachings. Emphasis on kinship bonds push people in the direction of less transparency with kin and tolerance of some deviant behavior by kin. Another strand of Confucianism urges people to act righteously and transparently. These two opposing strands of Confucianism lead to a tension, and some people will end up veering away towards low transparency and bribery, while a large part of the society at the same time registers sharp disapproval of bribery and related behavior.¹⁰ That is why one sees both a high incidence of bribery as well as sharp public disapproval of it.

Consistent with this view, several public opinion surveys conducted at different times (described below) reveal that Koreans largely view that corruption is widespread and severe in the society. Yet, they also believe that businesses should never pay unofficial political funds, and that corruption is the serious national concern. For example, in 1981, near the beginning of Chun's new administration, the Center for Social Sciences (CSS) in Seoul National University asked the public whether corruption is a serious problem in the society.¹¹ 58.4% of the respondents (sample size: 1,220, aged 18 or older) answered that it is either hugely problematic (26.6%) or somewhat problematic (31.8%).

⁹ The social philosophy of Confucianism provided the structural frame of the last and longest-lived imperial dynasty of Korea, Choson (1392–1910) and has been deeply rooted in the Korean culture.

¹⁰ For further discussion, see Qingping (2007).

¹¹ The data from this survey were accessed via the Korea Social Science Data Archive (KSSDA), a non-profit organization with an expertise in the acquisition, preservation, and dissemination of Korean social science data and literatures. <http://www.kosssda.or.kr/eng/>

At the end of 1987, right before Roh's new administration, the CSS also asked the public whether they expect that the problem of corruption in the society would be eased under the new government. 51.8% of the respondents (sample size: 1,513, aged 20 or older) answered that the problem would be either slightly worse (46.1%) or severely worse (5.7%), and 39.4% of the respondents indicated no change. It is also notable that 32.8% of the respondents (frequency: 497) in the same survey chose corruption as the most urgent social issue that the new government should address, among other social problems, while another 32.8% of the respondents (frequency: 496) chose the gap between the rich and the poor as the most urgent one. The outcome suggests that Koreans view the problem of corruption as just as serious as the problem of social inequality.

A year after Roh's administration launched (1988), the CSS asked householders about the severity of corruption in the society. 87.8% of the respondents (sample size: 1,497) answered that it is either very severe (49%) or somewhat severe (38.8%), consistent with the outcome in the previous year. For the question asking the reason of why South Korean business groups came to thrive over time, more than half of the respondents in the same survey indicated the cozy relationship between politics and business as the reason, rather than their competitiveness. A series of more recent surveys (2006-2011) by the Anti-Corruption and Civil Rights Commission of Korea also show that on average over the time period of 2006-2011, one in two Koreans (aged 20 and older) perceived that the society is either corrupt or severely corrupt, suggesting that South Koreans take the problem of corruption seriously and condemn corruption as a practice.

Domestic and global public opinion surveys also demonstrate how Koreans view on company bribery and their concern about political corruption. Soon after the grand corruption was unveiled in the Korean National Assembly meeting in 1995, the CSS asked the public about

the behavior of the businesses that provide unofficial political funds. More than 96% of the respondents (sample size: 1,768, ages 20-60) answered that businesses should never supply such funds because the demeanor harms the fairness of politics (51.5%), destroys the constructive social value (25.8%), enhances business groups' influence in the society (9.9%), and blocks economic development (8.2%). A global survey by the Pew Research Center (2002) asked respondents in 44 countries to rate their country's most serious national problems. In the case of Korea, 75% of the respondents (sample size: 719) rated corruption as the biggest national concern while the majority of other countries indicated crime as the top national problem.¹²

In summary, South Koreans have long been influenced by Confucianism. One strand of Confucianism leads people to tolerate bribery for kin. The other strand teaches people about being honest and righteous. Consistent with this view, several public opinion surveys discussed above show that the society is perceived as widely and severely corrupt, but at the same time, many view that company bribery is intolerable and corruption is a big national problem. Corruption may be pervasive and persistent in the society, but South Koreans' negative view on corruption remains until today.

4. Empirical Strategy

4.1. Data

The illicit nature of corruption makes data reliability and comprehensiveness a critical issue. Few past studies have been able to see the full accounting books of a significant bribe

¹² The Pew Research Center's Global Attitudes Project conducts public opinion surveys around the world on a broad array of subjects ranging from people's assessments of their own lives to their views about the current state of the world and important issues of the day. In the summer 2002 survey, 38,263 interviews were conducted across 44 nations including South Korea. For detailed survey results, see Chapter 2. Global Publics View Their Countries <http://www.pewglobal.org/2002/12/04/chapter-2-global-publics-view-their-countries/>. For the specific questionnaire used, see Q.15 (p.21) of the Pew Research Center for the People and the Press 2002 Global Attitudes Survey FINAL TOPLINE at <http://www.people-press.org/files/legacy-questionnaires/165.pdf>. Countries covered and their sample sizes can be found (p.25) at <http://www.people-press.org/files/legacy-pdf/165.pdf>.

recipient paid by firms as a result of public investigations (Cheung et al. 2012; Jeong and Weiner 2012) or direct observation (Sequeira and Djankov, 2014). South Korea's "Trial of the Century" in 1996 enables us to overcome this issue. Public investigations and prosecution exposed the full accounting books of two former South Korean presidents, Chun and Roh leading to them receiving convictions together with the chairmen of several leading business groups including Samsung, Daewoo, and Dong-a. This monumental trial in the history of South Korea provides a useful research context because the bribery was exposed and the detailed data on who bribed and when was made available.

Our bribery data come principally from two main sources: South Korea's court verdicts and the National Assembly of South Korea. The first set of bribery data comes from the South Korean trial court's records (The Seoul District Court 1996; The Seoul High Court 1996; The Supreme Court of Korea 1997; hereafter court data). The Seoul District Court verdict (1996) indicates that companies paid a total bribe of 220.5 billion won (equivalent to USD 256 million in 1996) to Chun during the Fifth Republic and 283.9 billion won to Roh during the Sixth Republic, respectively. The data show that, of the business entities in South Korea that met the minimal size by regulation to be required to disclose publicly audited financial statements in at least two years during the time period 1987-1992, there were 40 business groups that each gave at least a nonzero bribe in at least one year during that same sample time period. Each business group among these 40 business groups had multiple affiliates (with 589 affiliates meeting the minimal standard to be required to have publicly audited financials), but the groups typically paid the bribes not at the individual affiliate level but at the group level. These 40 business groups have towered over the South Korean economy during and subsequent to our sample time period. This can be seen in terms of the 30 largest business groups' share of their total sales in

South Korea's gross national product, which was 70.1% in 1988 (Cho 1997: 81). Note that 13 other entities also were originally reported to have paid at least modest-sized bribes to Presidents Chun and Roh, but 10 entities did not have affiliates meeting the minimal regulatory size standard for them to have to report publicly audited financial data during our sample time period, one business group (Kukje) was dismembered by President Chun by the start of our sample time period, one business group (Hangyang) did not pay bribes in the four years during our sample time period in which it had publicly available financial data, and another business group (Asia Cement) did not meet the minimal regulatory size standard to have to report two or more years of publicly audited financial data during our sample time period.

Note also that the Seoul High Court on an appeal let President Chun relieve himself of legal penalty on a small subset of bribes involving five groups in our sample. We choose deliberately not to drop those data because it is clear that those bribes were in fact collected in the name of President Chun by his closest aides and were used for political funds designed to benefit President Chun. The only reason why President Chun was able to relieve himself of legal penalty on those few observations is because the prosecutors could not prove that Chun himself had contacted the firms or received the funds in person. That said, Chun himself admitted in sworn testimony that he called for the collection of funds that were then collected by his closest aides and then deposited into a political fund designed to aid Chun's political group. Because some of the foundations that received funds were managed by Chun's spouse, we do not think it matters for this context whether Chun himself called up these firms or received the money in person. What matters is that the clique at the very top of the South Korean government received the payment and used it for the benefit of that clique.

We base our bribery data on the Seoul District Court verdict and augment the data by adding monetary contributions made by 40 business groups to key quasi-foundations that Chun and Chun's spouse established during Chun's presidency. They include the Ilhae Foundation, a quasi-research foundation established by Chun and the New Generation Heart Foundation as well as the New Generation Education Foundation established by Chun's spouse. The contribution amounts come from the South Korea's National Assembly investigative report (The National Assembly of the Republic of Korea, 1990: 149-151, 264-284) which was published as a result of the National Hearings on High-level Corruption Scandals during the Fifth Republic of South Korea in 1988. We were able to cross-check the bribery data with the results of a series of in-depth South Korean media investigations. This included consulting a comprehensive set of South Korea's major political periodicals, South Korea's major daily newspapers, books that analyzed the political era of Presidents Chun and Roh, and transcripts from South Korea's major news broadcasters.¹³ The grand corruption is detailed in the court verdict, the National Assembly investigative report, and the media archive, providing the information on how much each business group paid and when.

Next, we match the bribe data with audited statutory financial statements from the National Information and Credit Evaluation (NICE) agency. NICE is the leading credit-rating

¹³ Daily newspaper periodicals include *Chosun Ilbo*, *Donga Ilbo*, *Hankyora*, *Korea JoongAng Daily*, and *MK Business News* (August 1995 - April 1997). Other periodical publications include *Monthly Chosun*, *Shindonga*, and *Weekly Chosun* (various years). News Broadcasting includes KBS News and MBC News (various years). A list of original book references is available upon request. The books we consulted include *Korean Chaebols* (Cho 1997), *A Study on South Korean Chaebols* (Choi 2014), *Prosecutor Hong's Investigation Stories* (Hong 1996), *100 Exclusive News in South Korea's Press* (Huh 2000), *Contemporary History of South Korea: 1980s Vol. 1-4* (Kang 2011), *Contemporary History of South Korea: 1990s Vol. 1-3* (Kang 2011), *Chaebol and the Korean Economy* (Kang 1996), *Corporate Governance of Chaebols and Their Marriage Ties and Social Networks* (Kim et al. 2005), *History of South Korean Chaebols* (Lee 2010), *Stories on Special Investigations in the Contemporary History of South Korea* (Lee 2012), *Reporter Lee Sang Ho's X File* (Lee 2012), *Past Policy on Chaebols and Its Evaluation* (Mun et al. 2008), *Rewriting Contemporary History of South Korea, Vol. 3* (Park 1998), *Roh Tae Woo: Autobiography Vol. 1, 2* (Roh 2011), *Chaebol's Social Networks Vol. 1, 2* (Seoul News Press 2007), *Civil Strife for Democratization during June 1987* (Seo 2011), and *Republic of Thieves: Power and Cheabols* (Yang et al. 1997).

agency in South Korea and is the major source of financial statements of South Korean firms.¹⁴ To be included in the analysis, the statutory companies should meet our criteria of both being part of one of the 40 business groups and having financial data that are audited during this 1987-1992 time period.

As a result of this filtering process, our final sample consists of 589 companies that are affiliated with 40 business groups during 1987-1992 (2,522 firm-year observations). The final sample of 589 companies belonging to 40 business groups includes privately held affiliates that met the relatively modest asset requirements which made them subject to mandatory disclosure of financial statements. For a year-group-affiliate identification, we use NICE's unique historical company-group codes and verify the information using various online and offline sources including yearly Korean Company Handbooks (by various publishers for different years, for example, Korea Productivity Center, and Korea Listed Companies Association, and so on.), company websites, news articles, KISLINE and KISVALUE (comprehensive Korean commercial corporate databases by NICE) and DART (a Korean electronic disclosure system by the Korean Financial Supervisory Service).

Lastly, we also utilize the following two sources for Falling High Status measures (discussed below): (i) yearly survey results on the "most preferable working place and best corporate image (Top 10)" from the annual reports of *Recruit* (1986-1992) published monthly by the Korea Economic Daily Media Group and (ii) our hand-collected relational database that shows the detailed marriage network among the controlling owners' families of South Korean business groups over time. *Recruit* is the major publication for employment information in South Korea. Our comprehensive marriage tie database was constructed and checked over time

¹⁴ Each firm gives its financial statement to the Korea Securities Supervisory Board. Upon receiving the financial data from the board, NICE checks the integrity of the data.

based on a number of different South Korea's online and offline public sources that show personal profiles in detail.¹⁵ Figure 1 depicts those South Korean business groups with marriage ties to other South Korean business groups at the beginning and at the end of our 1987-1992 sample time period. A line between two business groups represents a direct marriage tie between them. Other business groups not in the Figure are isolates without any marriage ties to any other South Korean business groups.

For analysis, we constructed the data at the pooled cross-sectional and panel levels, respectively. Our sample is the 40 business groups for the pooled cross-sectional analysis and 237 group-year observations for the panel analysis. The panel analysis has 237 group-year observations because one of the 40 groups has three years of available audited financials whereas the other 39 groups have audited financials for all six years of the sample time period.

[INSERT FIGURE 1 ABOUT HERE]

4.2. Variables

4.2.1. Dependent Variable

Our dependent variable is 'Six-year Sum of Each Business Group's Bribery' which takes the six-year sum for year 1987-1992 of the annual group bribery amount in KRW billion for our cross-sectional analysis. For our panel analysis, we use 'Yearly Bribe Paid by Business Group' which is the annual bribe amount paid by each business group. Table 1a shows summary statistics on group characteristics at the pooled cross-sectional and at the panel levels. As shown

¹⁵ This database was constructed with the help of a team of 10 undergraduate and graduate research assistants during the period of June 2004-June 2005 in South Korea. During that time, data on family structure and individual family members' resumes were collected and cross-checked with over 25 respected Korean data sources, including the Donga Newspaper People Database and the JoongAng Daily Newspaper People Database, two sources that collect life-long resumes on over 200,000 Korean citizens. While these two sources were highly impressive in their coverage, there were some missing data points. To maximize the comprehensive nature of the data set, we collected further data and cross-checked all observations with over 25 other sources respected in South Korea. This effort foremost focused on the Korean Integrated News Database System (KINDS), the Korean version of Lexis-Nexis.

in Panel A, the six-year sum of each business group's bribery ranges from 0.2 billion won to 35 billion won, and each group paid 8.57 billion won on average. Panel B shows that the annual group bribery amount ranges from zero to 14 billion won with an average of 1.45 billion won.

[INSERT TABLE 1a ABOUT HERE]

4.2.2. Falling High Status

Our falling high status hypothesis suggests that those groups with high historically-constructed status but current-period economic performance not keeping pace with industry peers will engage in the largest-scale bribery. To test the hypothesis, we construct several different measures of "Falling High Status" to capture the different ways in which status might be measured in an elite network. One set of measures is based on a business group being a high status employer in the labor market, and a second set of measures is based on the business group's owner-manager family being high status in the intergroup marriage network. Status is falling when a group that has an endowment of high status suddenly lags behind its peers in return on assets (ROA).

In particular, Falling High Status Definition 1 is an interaction term between a dummy for high status employer which indicates whether the business group was named as one of the top 10 most respected employers in the 1986 *Recruit* survey and a dummy for middling economic performance which indicates whether the group's ROA performance is between the 25th and 75th percentile of the distribution of the 40 business groups in that particular year (Middling ROA Performance). The dummy for high status employer from 1986 *Recruit* survey is replaced with the dummy for high status employer for that year from annual *Recruit* survey for panel data analysis. This becomes Falling High Status Definition 3.

Falling High Status Definition 2 is the interaction term between the business group's high status score, using the commonly used Bonacich (1987) measure of status, in the Year 1987 marriage network among the South Korean business groups ('Bonacich Measure of Status') and the dummy for middling economic performance. Bonacich's (1987) $c(\alpha, \beta)$ measure is one of the standard measures for relational data on status.¹⁶ We calculate this marriage network-based Bonacich measure of status using the software program UCINET (Borgatti, Everett, and Freeman 2002), where the standard setting for the Beta term in calculating the Bonacich measure is $0.995/\text{maxeigen}$. Falling High Status Definition 4 replaces the high status score term in the Year 1987 marriage network with the one in that particular year's marriage network among the South Korean business groups.

4.2.3. Relational Ties

Our marriage tie-based falling high status measures focus on the strength of the business group's marriage ties with other business groups during the sample time period, which lead them to a higher status among the peers. We also consider other types of relational ties of the business groups that may influence their bribery decisions when they face current-time middling economic performance. We thus construct a set of indicators that capture the effects of the relational ties of the business groups. They include whether the group had at least one marriage tie to a senior government official or politician ('Marriage Tie to a Senior Gov't Official or Politician') by 1987 and by that particular year, respectively, whether the business group has a school or marriage tie to Chun or Roh ('Group Has School or Marriage Tie to Chun or Roh'),

¹⁶ Formally, the measure is defined as follows:

$$c(\alpha, \beta) = \alpha \sum_{k=0}^{\infty} \beta^k \mathbf{R}^{k+1} \mathbf{1}$$

where α is a scaling factor, β is a weighting factor, \mathbf{R} is a relational matrix, which is 0 along the main diagonal and in which cell r_{ij} summarizes the relative superiority (or inferiority) of group i with respect to group j , and $\mathbf{1}$ is a column vector of ones. For detailed explanations on this measure, see Podolny (2005: 57-58).

and whether the business group has its origins in the Jeolla Region defined as either the group was founded in the Jeolla region or the group's founder was born or raised in the Jeolla region ('Group Has Its Orgins in the Jeolla Region').

4.2.4. Financial and Industry Characteristics

Lastly, we control for a number of financial and industry characteristics of the business groups in the sample. They are 'Export Intensity' calculated by $(\text{export sales}/\text{total sales}) + 1$, 'Export Intensity Squared', 'Industry-adjusted ROA' which is each group's average industry-adjusted ROA calculated by taking each affiliate's ROA relative to its four-digit industry ROA performance, and then weighting by the relative asset size of the group's affiliates, and then adding the number 10 so that 10 is the baseline number and anything below 10 means that the group is lagging behind its industry peers, 'Industry-adjusted ROA Squared', 'Group ROA by Year' computed by $\text{total operating profit}/\text{total assets}$ at the group level, 'R&D Intensity' computed by $(\text{R\&D expenditure}/\text{Total Sales}) + 1$, 'R&D Intensity Squared', 'Advertising Intensity' computed by $(\text{Advertising expenditure}/\text{Total Sales}) + 1$, 'Advertising Intensity Squared', 'Training Expenditure Intensity' computed by $(\text{Human Capital Training Expenditure}/\text{Total Sales}) + 1$, and 'Training Expenditure Intensity Squared'. We have centered these financial variables on the mean, so that they shift the scale over, but retain the unit. This helps reduce the possible collinearity of the main effect of a variable and its own squared term (which we frequently examine in the tables to test for curvilinear effects). For a final robustness check table where we test the significance of Falling High Status in consideration of industry competition, we also calculate each business group's asset-weighted industry Herfindahl ('Asset Weighted Industry Herfindahl') at different industry digit levels. Specifically, we first take each industry's Herfindahl measure using data from NICE, and then calculate each group's asset-

weighted Herfindahl by accounting for the distribution of each group's asset portfolio across industries in each year. Industry is defined alternatively at the two-digit, three-digit, four-digit, and five-digit levels.

Overall, Panel A of Table 1a reveals that 10% of the 40 groups were named as a most respected employer in 1986 but with middling economic performance, in other words, having the group's asset-weighted pooled average ROA in the middle of the distribution of the 40 groups, 53% of them have at least one immediate political marriage tie by 1987, 18% of them have a school or marriage tie to Chun or Roh by 1987, and 10% of them either was founded in the Jeolla region or the group's founder was born or raised in that region, which was politically oppressed by the military dictators including Chun and Roh in the modern history of South Korea's politics. Table 1b provides pairwise correlations among the variables of interest at the pooled cross-sectional and panel levels, respectively. As shown in Panel A of Table 1b, the pooled cross-sectional pairwise correlations between different falling high status measures are moderately correlated with each other with a correlation of 0.57 (p-value <0.01). This is partially as a result of the fact that the measures are capturing status as perceived by different audiences and partially because the marriage network-based Falling High Status definition is more of a continuous variable whereas the labor market-based Falling High Status definition is about measuring the very most respected employers. We see similar overall patterns in the panel data pairwise correlations in Panel B of Table 1b. There, each of the four measures of falling high status (Definitions 1-4) is all positively and significantly correlated with bribery.

[INSERT TABLE 1b ABOUT HERE]

4.3. Empirical Specification

We first conduct a cross-sectional ordinary least squares (OLS) regression analysis using Equation 1:

$$(1) \quad \text{Six-year Sum of Each Business Group's Bribery}_i = \alpha_0 + \alpha_1 \text{FallingHighStatus}_i + \sum \alpha_j \text{RelationalTies}_{j,i} + \sum \alpha_k \text{FinancialCharacteristics}_{k,i} + u_i,$$

where the dependent variable represents the bribery amount paid by business group i summed over the 1987-1992 time period, and the independent variables include the business group's falling high status (Definitions 1 and 2), variables of the relational ties of the business groups (Marriage Tie to a Senior Gov't Official or Politician by 1987, Group Has School or Marriage Tie to Chun or Roh, and Group Has Its Orgins in the Jeolla Region), and financial characteristics that include Group ROA by Year (asset-weighted pooled average), Industry-adjusted ROA and its squared term, Export Intensity and its squared term, Advertising Intensity and its squared term, R&D Intensity and its squared term, and Training Expenditure Intensity and its squared term.

We then conduct the panel analysis using Equation 2:

$$(2) \quad \text{Yearly Bribe Paid by Business Group}_{it} = \beta_0 + \beta_1 \text{FallingHighStatus}_{it} + \sum \beta_j \text{RelationalTies}_{j,it} + \sum \beta_k \text{FinancialCharacteristics}_{k,it} + \sum \beta_t \text{Year}_t + (\sum \beta_g \text{Group}_g) + \varepsilon_{it},$$

where the dependent variable represents the bribery amount paid by business group g in year t , and the independent variables include the business group's falling high status (Definitions 1-4), a set of variables of both relational ties and financial characteristics as described above in Equation 1 for the panel data, and year fixed effects. Using Equation 2, we first run OLS and then Tobit regressions (Tobin 1958) on the panel data. Note that when the outcome values are censored at zero like our panel data where some business groups did not pay any bribes in some years during the sample time period, OLS estimates are inconsistent, but can still be informative

in terms of direction and significance (Wooldridge 2002: 525). OLS estimates are also known as being less sensitive to misspecification than the Tobit model that fits censored data. For Tobit regressions, we perform additional specification tests to assess the appropriateness of the model.

Lastly, building on Equation 2, we conduct Poisson quasi-maximum likelihood estimator (QMLE) analysis on the panel data. For our further robustness check tests, we also include business group fixed effects and a set of controls that include the log of group assets (Log of Group Assets by Year), group-level total liabilities divided by total assets (Group Leverage by Year), the effect of status (Bonacich Panel Measure of Status) and middling economic performance (Middling ROA Performance). The Poisson QMLE specification with fixed effects and clustered standard errors is consistent with that shown by Gourieroux, Monfort, and Trognon (1984) and advocated by Santos Silva and Tenreyro (2006) for non-count data with both a meaningful percentage of true zero values and relatively few distinct values for the dependent variable. Notably, the data do not need to be Poisson for the estimator to be consistent (Santo Silva and Tenreyro 2006: 645).

5. Results

Figure 2 contrasts the yearly average of the total group bribe amounts of falling high status groups with that of other groups over the time period of 1987-1992. As visually illustrated, we see, regardless of falling high status definitions, that falling high status groups pay far more bribes on average across all years. We further examine this bivariate relationship between falling high status and bribery using a nonparametric χ^2 test and report the results in Table 2. As shown in Panel A, the propensity to bribe for falling high status groups (Definition 3) is 76 percent vs. 38 percent for non-falling high status groups. The difference in the propensity to

bribe between the two groups is 38% (p-value <0.01), suggesting that the effect of falling high status on the business groups' bribery decisions is not only statistically significant but also strong. We perform the same test using falling high status definition 4 after we modify the variable as a dummy which takes the value one if the variable has a positive value; otherwise, zero. Panel B of Table 2 shows that the difference in the propensity to bribe between the two groups in the case of falling high status definition 4 is 27% which is also statistically significant at the 1% level. Together this then points us to the next step of examining the theory of falling high status in a multivariate context.

[INSERT FIGURE 2 AND TABLE 2 ABOUT HERE]

Table 3 reports the results from pooled cross-sectional OLS regressions with robust standard errors using the Huber-White sandwich estimators. Consistent with what we saw in Table 2, we find that falling high status is positively and significantly associated with the amount of bribes paid over the pooled 1987-1992 cross-section, suggesting that business groups in falling high status pay larger bribes compared to all other groups, all else equal. In particular, this is the case in Models 3 and 4, when focusing on Falling High Status Definition 1, which suggests that business groups perceived as the most respected employers, but with middling economic performance relative to peers pay larger bribes, all else equal. This is also the case in Models 5 and 6, when focusing on Falling High Status Definition 2, which suggests that business groups being more connected to other business groups via marriage (higher Bonacich measure score) in year 1987 marriage network among Korean business groups, but with middling economic performance relative to peers pay larger bribes, all else equal. Both of those variables of interest are also robust to the inclusion of the full battery of controls. Models (1a) thru (6a) show the results without Training Expenditure Intensity and its squared term because Training

Expenditure Intensity is relatively highly correlated with R&D Intensity (0.79, p-value < 0.01) and with Advertising Intensity (0.68, p-value < 0.01). The results do not change.

[INSERT TABLE 3 ABOUT HERE]

Table 4 reports the results from our panel regression analysis with robust standard errors that allow for clustering at the business group level (Moulton 1990). As found in the cross-sectional analysis, we also find that falling high status is a highly economically and statistically significant predictor of the amount of bribes paid by year in the panel analysis, suggesting that business groups with falling high status pay larger bribes compared to all other firms, all else equal. This is true both when we look at falling high status just prior to or at the beginning of the panel period and when we look at falling high status as an annual panel measure. This result holds true no matter whether we focus on business groups being one of the top 10 most respected employers, but with middling economic performance relative to peers or focus on business groups being far more connected to other business groups via marriage ties (higher score in Bonacich (1987) measure of status) in the marriage network among the South Korean business groups, but with middling economic performance relative to peers. Each of these variables of interest is also robust to the inclusion of the full battery of controls. Of the control variables, it is evident from examining in detail the nonlinear relationship between industry-adjusted group-level ROA and bribery that those business groups with the highest industry-adjusted group-level ROA pay significantly less in bribes. This is consistent with our overall theory, given that the very most profitable business groups simply do not need to pay large bribes. Also, there is some evidence in this table that those business groups with origins in the Jeolla region pay smaller bribes, although that particular statistical relationship between origins in the Jeolla region and bribery amount is only modestly statistically significant.

[INSERT TABLE 4 ABOUT HERE]

Similar to Table 4, we proceed in Tables 5 and 6 with the same dependent variable (Yearly Bribe Paid by Business Group) and a set of independent variables with robust and clustered standard errors at the group level, but this time using Tobit and Poisson QMLE regressions, respectively. Each of the Tobit models in Table 5 also reports the results from both the conditional moment (CM) test that checks the normality of the error term and the Lagrange Multiplier (LM) test that examines the Tobit specification, against the alternative of a model that is non-linear in the regressors and contains an error term that can be heteroskedastic and non-normally distributed. The CM test results show that three out of 15 Tobit models reject the null of normal errors at the conventional level, but the LM tests show the results in favor of Tobit specification across all Tobit specifications, suggesting the appropriateness of the model. Consistent with the prior results, we find the significant and positive effects of Falling High Status (p -value < 0.01) on bribery across all model specifications in both Tables 5 and 6.

[INSERT TABLES 5 AND 6 ABOUT HERE]

As a couple results of the CM tests in Table 5 show non-normality issues associated with the error term, we further proceed to our final and most rigorous test using a Poisson quasi-maximum likelihood estimator (QMLE), advocated by Gourieroux, Monfort, and Trognon (1984) and by Santos Silva and Tenreiro (2006) for non-count data, with group fixed effects and additional controls as a robustness check in Table 7. It shows that a change from high status into falling high status (using either of the two marriage network-based measures) is associated with a significant increase in bribes, but forming a marriage tie with a senior government official or politician and forming a close social tie to Chun or Roh are associated with a significant decrease in bribes. A possible explanation is that having a close tie with a senior government official or

with Chun or Roh leads to a very different relationship with the government elite. Instead of needing to pay transactional payments to someone like Chun or Roh, the close social tie to Chun or Roh may well facilitate a form of co-ownership in which profit sharing replaces bribery as the method of resource sharing. The fact that under co-ownership, profit sharing may replace the transactional payments known as bribery, is a prediction of Shleifer and Vishny (2002). We also report that the Jeolla origins variable is dropped because of its time-invariance, and none of the other added controls used for this robustness check (Log of Group Assets by Year, Group Leverage by Year, Middling ROA Performance, and Bonacich Panel Measure of Status) is statistically significant.

For falling high status, note that it is the two measures based on the intergroup marriage network which are robust to using group fixed effects in a Poisson QMLE specification. Because human beings are known in both sociological research and in behavioral economics to measure themselves foremost against their peers, and since the marriage network directly reflects their peers' willingness to marry into their families (an important measure of attaining some measure of respect from one's peers during an era and in a context in which marriages were typically arranged between families), it therefore makes intuitive sense that status as measured using the marriage network (a peer-based measure of respect) is even more statistically robust across our tables than is status as measure alternatively using the labor market image (a measure primarily of employees' positive opinion).

Lastly, note that for a one unit change in the Falling High Status, the difference in the logs of expected counts is expected to increase by 0.164 in Model (2) of Table 7, given the other predictor variables in the model are held constant. Take the example starting with the dependent variable at its mean; then holding all other variables constant, a one standard deviation increase

in Falling High Status is associated with 2.59 billion won in additional annual bribes, which is economically significant.

[INSERT TABLE 7 ABOUT HERE]

Finally, inspired by the work of Ades and Di Tella (1999), which proposed that increased industrial competition could bring down bribes, we take Table 7 and run all the models with the alternative group-asset-weighted Herfindahls described earlier. We find in Table 8 that not only are the Falling High Status measures robust to including alternative Herfindahls based on alternative specificity of industry definition, but also that industrial competition as proxied by the Herfindahl measure is not by itself a consistent or significant predictor of the level of bribery over time in our South Korean data set.

[INSERT TABLE 8 ABOUT HERE]

6. Conclusion

We find that, controlling for a range of alternative explanations, falling high status, namely high historical social status but current-period economic performance not keeping pace with industry peers, is an economically and statistically significant predictor of large-scale bribery. We see this evidence through the unexpected public revelation of the internal accounting books of two South Korean presidents. Our theory and findings show that the prior conception of status in economics and sociology can be extended and moderately reformulated in ways that help to explain an important dimension of social deviance, namely large-scale corporate bribery.

In conclusion, the findings about falling high status also can be useful for those interested in how institutions might be used to reduce bribery and its negative social welfare effects. To the

extent law enforcement and media attention are undercapitalized due to resource constraints, it always pay to know which types of companies to apply the highest scrutiny and to target those companies first. Perhaps it makes sense to focus a significant amount of attention on measuring relative company status in a dynamic sense and then examining how falling high status may lead companies to increase their engagement in large-scale bribery. Finally, our study contributes to the burgeoning micro-level corruption literature by examining the relationship between status and bribery, which has not been done by prior studies. Our theory and evidence provides new insights and policy implications on large scale corporate bribery.

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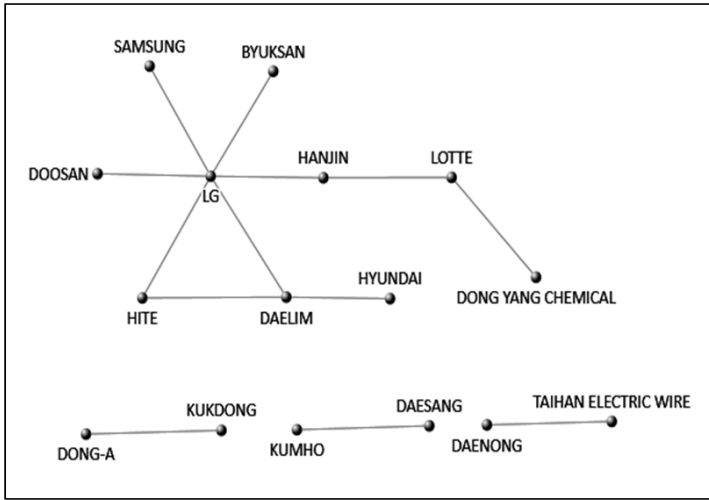
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1987



1992

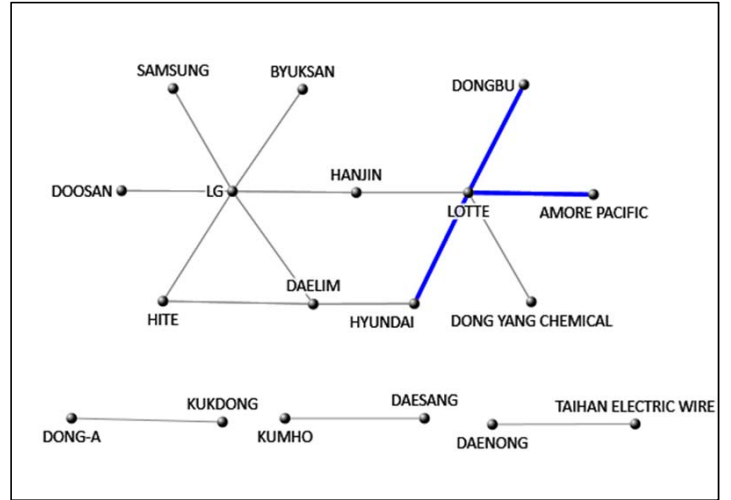


Figure 1. The marriage network at the beginning and the end of the sample time period.

This figure depicts the changes in the marriage ties between pairs of South Korean business groups in 1987 and in 1992.

Table 1a
Summary Statistics on Data

Variables	N	Mean	Median	Std.Dev.	Min.	Max.
Panel A. Pooled Cross-sectional Data						
Six-year Sum of Each Business Group's Bribery (unit: KRW billion)	40	8.57	4.25	9.81	0.20	35
Falling High Status, Definition 1 ^a	40	0.10	0	0.30	0	1
Falling High Status, Definition 2 ^b	40	0.72	0	2.13	0	10.82
Marriage Tie to a Senior Gov't Official or Politician by 1987	40	0.53	1	0.51	0	1
Group Has School or Marriage Tie to Chun or Roh	40	0.18	0	0.39	0	1
Group Has Its Orgins in the Jeolla Region	40	0.10	0	0.30	0	1
Group ROA by Year (asset-weighted pooled average)	40	4.52	4.62	2.78	-4.12	10.76
Industry-adjusted ROA	40	0	-0.22	1.68	-4.36	5.35
Export Intensity	40	0	-2.11	11.31	-12.66	31.10
Advertising Intensity	40	0	-0.69	1.95	-1.18	6.41
R&D Intensity	40	0	-0.19	0.61	-0.31	3.24
Training Expenditure Intensity	40	0	-0.25	0.89	-0.70	4.26
Panel B. Panel Data (1987-1992)						
Yearly Bribe Paid by Business Group (unit: KRW billion)	237	1.45	0	2.54	0	14
Falling High Status, Definition 1 ^a	237	0.13	0	0.33	0	1
Falling High Status, Definition 2 ^b	237	0.66	0	2.07	0	10.82
Falling High Status, Definition 3 ^c	237	0.12	0	0.33	0	1
Falling High Status, Definition 4 ^d	237	0.77	0	2.20	0	11.39
Marriage Tie to a Senior Gov't Official or Politician by 1987	237	0.52	1	0.50	0	1
Marriage Tie to a Senior Gov't Official or Politician by This Year	237	0.57	1	0.50	0	1
Group Has School or Marriage Tie to Chun or Roh	237	0.17	0	0.37	0	1
Group Has Its Orgins in the Jeolla Region	237	0.10	0	0.30	0	1
Group ROA by Year	237	5.79	5.84	3.18	-10.37	16.50
Industry-adjusted ROA	237	0.04	-0.13	2.58	-9.78	10.28
Export Intensity	237	-0.06	-3.80	17.76	-17.84	68.92
Advertising Intensity	237	0.01	-0.65	1.68	-1.14	6.52
R&D Intensity	237	0.00	-0.09	0.29	-0.15	1.75
Training Expenditure Intensity	237	0.00	-0.37	1.48	-0.89	12.62

Note.

^a High status employer from 1986 *Recruit* survey interacted with middling economic performance.

^b High status in year 1987 marriage network among Korean business groups interacted with middling economic performance.

^c High status employer for that year from Annual *Recruit* Survey interacted with middling economic performance.

^d High status in this year's marriage network among Korean business groups interacted with middling economic performance.

**Table 1b
Correlations**

Panel A. Pooled Cross-sectional Data	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) Six-year Sum of Each Business Group's Bribery	1											
(2) Falling High Status, Definition 1 ^a	0.721***	1										
(3) Falling High Status, Definition 2 ^b	0.307*	0.573***	1									
(4) Marriage Tie to a Senior Gov't Official or Politician by 1987	0.018	0.317**	0.323**	1								
(5) Group Has School or Marriage Tie to Chun or Roh	0.011	0.066	-0.157	0.043	1							
(6) Group Has Its Orgins in the Jeolla Region	-0.131	-0.111	-0.113	-0.017	0.066	1						
(7) Industry-adjusted ROA	-0.168	-0.065	-0.004	-0.149	-0.026	-0.059	1					
(8) Group ROA by Year (asset-weighted pooled average)	0.203	0.314**	0.351**	0.030	-0.114	-0.157	0.275*	1				
(9) Export Intensity	0.110	0.099	-0.058	0.020	0.295*	-0.235	0.000	0.074	1			
(10) R&D Intensity	0.068	0.160	0.050	-0.030	-0.138	-0.076	0.085	0.414***	-0.140	1		
(11) Advertising Intensity	-0.173	-0.091	0.164	0.036	-0.174	0.006	-0.031	0.397**	-0.421***	0.418***	1	
(12) Training Expenditure Intensity	-0.081	-0.061	-0.084	-0.119	-0.151	0.056	0.060	0.403***	-0.338**	0.791***	0.682***	1

Panel B. Panel Data (1987-1992)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) Yearly Bribe Paid by Business Group	1														
(2) Falling High Status, Definition 1 ^a	0.443***	1													
(3) Falling High Status, Definition 2 ^b	0.306***	0.553***	1												
(4) Falling High Status, Definition 3 ^c	0.427***	0.865***	0.565***	1											
(5) Falling High Status, Definition 4 ^d	0.321***	0.554***	0.974***	0.566***	1										
(6) Marriage Tie to a Senior Gov't Official or Politician by 1987	0.019	0.189***	0.224***	0.128**	0.224***	1									
(7) Marriage Tie to a Senior Gov't Official or Politician by This Year	0.011	0.177***	0.213***	0.169***	0.213***	0.903***	1								
(8) Group Has School or Marriage Tie to Chun or Roh	0.022	0.071	-0.141**	0.077	-0.156**	0.086	0.156**	1							
(9) Group Has Its Orgins in the Jeolla Region	-0.087	-0.002	-0.106	-0.040	-0.117*	-0.013	-0.047	0.077	1						
(10) Industry-adjusted ROA	-0.072	-0.036	-0.024	-0.035	-0.026	-0.091	-0.065	-0.064	-0.040	1					
(11) Group ROA by Year	-0.048	-0.014	0.045	-0.009	0.037	0.060	0.037	-0.198***	0.010	0.569***	1				
(12) Export Intensity	0.082	0.102	-0.004	0.053	0.001	0.199***	0.171***	0.203***	-0.132**	-0.234***	-0.159**	1			
(13) R&D Intensity	-0.114*	-0.112*	0.008	-0.093	0.019	0.082	0.106	-0.095	0.016	-0.025	0.120*	-0.162**	1		
(14) Advertising Intensity	-0.125*	-0.142**	0.063	-0.144**	0.058	0.020	0.017	-0.186***	0.029	0.082	0.277***	-0.410***	0.359***	1	
(15) Training Expenditure Intensity	-0.095	-0.055	-0.053	-0.061	-0.058	-0.086	-0.092	-0.145**	0.063	0.088	0.257***	-0.260***	0.089	0.608***	1

Note.

^aHigh status employer from 1986 *Recruit* survey interacted with middling economic performance.

^bHigh status in year 1987 marriage network among Korean business groups interacted with middling economic performance.

^cHigh status employer for that year from Annual *Recruit* Survey interacted with middling economic performance.

^dHigh status in this year's marriage network among Korean business groups interacted with middling economic performance.

* p<0.10, ** p<0.05, *** p<0.01

Comparison of Means of Total Bribery by Year: Falling High Status Group vs. Other

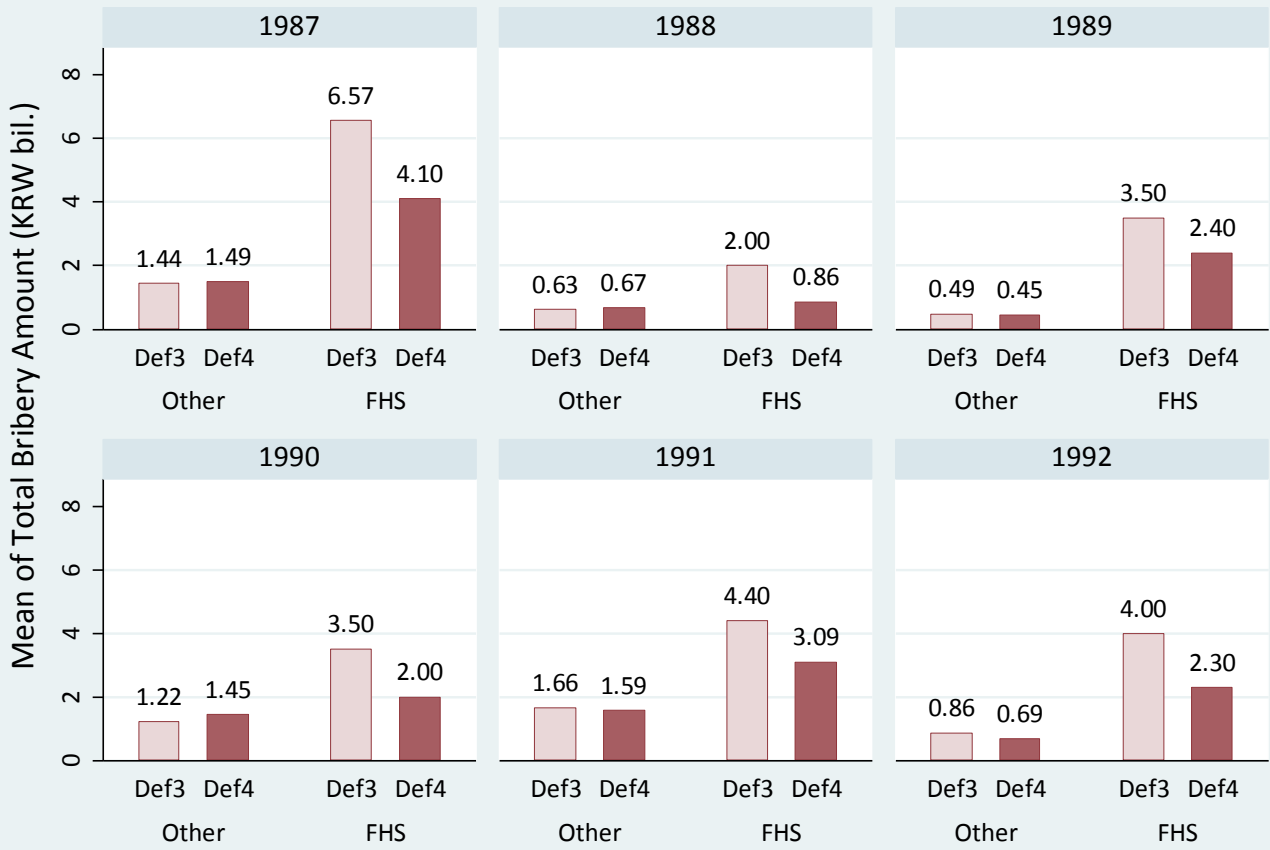


Figure 2. Does business groups in falling high status pay larger bribes?

FHS denotes Falling High Status and Other indicates the groups that are not categorized as Falling High Status. Def 3 denotes FHS Definition 3 and indicates high status employer for that year from Annual *Recruit* Survey interacted with middling economic performance. Def 4 denotes FHS Definition 4 and indicates high status in this year's marriage network among Korean business groups interacted with middling economic performance.

Table 2
 χ^2 Test of Association between Falling High Status and Bribery

Panel A

Falling High Status (Definition 3) ^a	Bribe ^b		Total
	Yes	No	
Yes	22	7	29
(row percent)	(75.86)	(24.14)	
No	79	129	208
(row percent)	(37.98)	(62.02)	
Total	101	136	237
Pearson χ^2 (1)	14.935***		

Panel B

Falling High Status (Definition 4) ^c	Bribe		Total
	Yes	No	
Yes	37	22	59
(row percent)	(62.71)	(37.29)	
No	64	114	178
(row percent)	(35.96)	(64.04)	
Total	101	136	237
Pearson χ^2 (1)	12.973***		

Note.

H_0 : There is no association between falling high status and bribery by business group.

^a Falling High Status indicates whether a business group is in a falling high status in that particular year, according to the definition used. Definition 3 denotes high status employer for that year from Annual *Recruit* Survey interacted with middling economic performance.

^b Bribe indicates whether a business group paid a bribe or not in that particular year.

^c Definition 4 denotes high status in this year's marriage network among Korean business groups interacted with middling economic performance. The original variable is modified as a dummy variable taking the value 1 if FHS Definition 4 value is positive; otherwise, zero.

*** $p < 0.01$

Table 3
Pooled Cross-sectional Regressions

Dependent variable: Six-year Sum of Each Business Group's Bribery	(1)	(2)	(3)	(4)	(5)	(6)	(1a)	(2a)	(3a)	(4a)	(5a)	(6a)
			FHS Definition 1 ^a		FHS Definition 2 ^b				FHS Definition 1		FHS Definition 2	
Falling High Status (FHS)			19.962***	21.434***	1.224**	1.394**			19.223***	21.726***	1.217***	1.520***
			(3.213)	(2.801)	(0.500)	(0.517)			(3.162)	(2.546)	(0.438)	(0.479)
Marriage Tie to a Senior Gov't Official or Politician by 1987				-4.056		-2.809				-5.471**		-4.262
				(2.518)		(3.281)				(2.629)		(3.296)
Group Has School or Marriage Tie to Chun or Roh		3.851	-0.151	0.747	3.872	4.701		3.418	-0.057	1.012	3.725	4.988
		(4.234)	(2.784)	(2.997)	(4.357)	(4.909)		(4.374)	(1.806)	(2.011)	(4.426)	(5.027)
Group Has Its Orgins in the Jeolla Region		-5.927	-4.156	-4.066	-5.595	-5.577		-5.953	-3.255	-3.553	-4.911	-5.157
		(4.146)	(4.512)	(3.983)	(4.574)	(4.268)		(3.698)	(3.727)	(3.417)	(3.923)	(3.644)
Group ROA by Year (asset-weighted pooled average)	0.763	0.734	-0.017	-0.115	0.310	0.221	0.864	0.842	0.134	-0.060	0.428	0.245
	(0.681)	(0.711)	(0.603)	(0.586)	(0.768)	(0.802)	(0.608)	(0.642)	(0.538)	(0.538)	(0.672)	(0.746)
Industry-adjusted ROA	-1.507*	-1.419	-0.926	-0.965	-1.360	-1.405	-1.617*	-1.531*	-0.988	-1.024	-1.42	-1.476
	(0.839)	(0.920)	(0.729)	(0.751)	(0.893)	(0.913)	(0.824)	(0.878)	(0.733)	(0.720)	(0.867)	(0.868)
Industry-adjusted ROA Squared	0.087	-0.043	0.187	0.044	0.065	-0.031	0.012	-0.118	0.076	-0.073	-0.028	-0.141
	(0.196)	(0.259)	(0.232)	(0.264)	(0.277)	(0.289)	(0.158)	(0.225)	(0.188)	(0.210)	(0.245)	(0.260)
Export Intensity	0.347	0.277	0.266	0.219	0.337	0.314	0.252	0.176	0.159	0.132	0.234	0.230
	(0.243)	(0.262)	(0.248)	(0.266)	(0.286)	(0.293)	(0.208)	(0.236)	(0.218)	(0.224)	(0.249)	(0.251)
Export Intensity Squared	-0.020*	-0.021*	-0.011	-0.012	-0.021*	-0.022*	-0.018*	-0.019*	-0.011	-0.011	-0.020*	-0.021*
	(0.010)	(0.011)	(0.009)	(0.009)	(0.011)	(0.012)	(0.010)	(0.011)	(0.009)	(0.009)	(0.011)	(0.012)
Advertising Intensity	-0.61	-0.163	-0.330	-0.05	-0.043	0.176	1.416	2.033	1.964	1.568	2.141	1.866
	(2.970)	(2.780)	(3.055)	(2.926)	(2.978)	(2.959)	(2.385)	(2.292)	(2.234)	(2.059)	(2.457)	(2.256)
Advertising Intensity Squared	0.105	-0.011	0.039	0.021	-0.129	-0.160	-0.525	-0.668	-0.495	-0.36	-0.672	-0.586
	(0.671)	(0.652)	(0.691)	(0.661)	(0.669)	(0.665)	(0.460)	(0.457)	(0.449)	(0.415)	(0.471)	(0.441)
R&D Intensity	1.781	1.620	-4.543	-0.485	0.801	3.813	5.966	6.264	2.118	5.043	6.567	9.342
	(9.729)	(9.517)	(7.396)	(7.830)	(9.434)	(10.455)	(8.385)	(8.011)	(4.670)	(4.581)	(7.342)	(7.792)
R&D Intensity Squared	4.294	4.267	4.487	2.316	3.500	1.879	-1.858	-2.073	-0.879	-2.174	-1.910	-2.999
	(4.814)	(4.724)	(3.912)	(4.277)	(4.636)	(5.294)	(2.569)	(2.470)	(1.435)	(1.476)	(2.222)	(2.463)
Training Expenditure Intensity	5.440	6.194	9.140	6.562	8.019	6.336						
	(7.117)	(7.536)	(6.584)	(6.903)	(7.435)	(7.738)						
Training Expenditure Intensity Squared	-4.351	-4.533	-4.068	-3.125	-4.051	-3.354						
	(3.053)	(3.090)	(2.617)	(2.737)	(3.001)	(3.181)						
Constant	8.852**	9.900**	9.399**	12.198**	10.978**	13.092**	9.542**	10.629**	9.670**	13.419**	11.333**	14.526**
	(3.689)	(4.001)	(3.819)	(4.659)	(4.237)	(5.547)	(3.711)	(4.142)	(3.770)	(4.941)	(4.296)	(5.796)
R ²	0.395	0.432	0.67	0.697	0.476	0.489	0.335	0.370	0.612	0.669	0.426	0.459
Adjusted R ²	0.157	0.148	0.485	0.508	0.183	0.170	0.136	0.123	0.440	0.504	0.170	0.189
F-test ^c	2.33**	1.84*	30.19***	45.25***	3.40***	2.90***	2.42**	1.79	34.63***	37.25***	5.15***	3.91***
N	40	40	40	40	40	40	40	40	40	40	40	40

Note. Robust standard errors using the Huber-White sandwich estimators are reported in parentheses.

^a High status employer from 1986 *Recruit* survey interacted with middling economic performance.

^b High status in year 1987 marriage network among Korean business groups interacted with middling economic performance.

^c H₀: In the model being tested here, the coefficients of interest are simultaneously equal to zero.

* p<0.10, ** p<0.05, *** p<0.01

Table 4
Panel Regressions of Bribe on Falling High Status (1987-1992)

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Yearly Bribe Paid by Business Group	FHS Definition 1 ^a			FHS Definition 2 ^b			FHS Definition 3 ^c			FHS Definition 4 ^d				
Falling High Status (FHS)			3.015***	3.133***	3.138***	0.331***	0.356***	0.353***	2.875***	2.989***	2.933***	0.333***	0.357***	0.354***
			(0.632)	(0.649)	(0.647)	(0.114)	(0.114)	(0.114)	(0.669)	(0.663)	(0.668)	(0.106)	(0.104)	(0.105)
Marriage Tie to a Senior Gov't Official or Politician by This Year				-0.596			-0.583			-0.57			-0.59	
				(0.465)			(0.488)			(0.436)			(0.471)	
Marriage Tie to a Senior Gov't Official or Politician by 1987					-0.514			-0.463			-0.37			-0.476
					(0.428)			(0.463)			(0.418)			(0.448)
Group Has School or Marriage Tie to Chun or Roh		0.301	0.035	0.185	0.097	0.48	0.651	0.557	-0.016	0.125	0.03	0.523	0.697	0.604
		(0.609)	(0.417)	(0.475)	(0.427)	(0.611)	(0.683)	(0.647)	(0.551)	(0.584)	(0.583)	(0.611)	(0.682)	(0.647)
Group Has Its Orgins in the Jeolla Region		-1.084**	-0.954*	-1.051**	-0.980**	-0.822*	-0.902**	-0.833*	-0.814*	-0.901**	-0.831*	-0.780*	-0.860**	-0.790*
		(0.509)	(0.504)	(0.444)	(0.427)	(0.447)	(0.427)	(0.417)	(0.473)	(0.424)	(0.430)	(0.439)	(0.415)	(0.408)
Group ROA by Year	-0.002	0.013	-0.01	0.003	0.003	-0.005	0.007	0.006	-0.012	0	-0.003	-0.005	0.006	0.006
	(0.089)	(0.085)	(0.066)	(0.067)	(0.067)	(0.076)	(0.076)	(0.074)	(0.066)	(0.067)	(0.067)	(0.076)	(0.076)	(0.075)
Industry-adjusted ROA	-0.033	-0.05	-0.041	-0.047	-0.051	-0.037	-0.042	-0.045	-0.033	-0.039	-0.04	-0.038	-0.043	-0.046
	(0.077)	(0.079)	(0.061)	(0.065)	(0.065)	(0.072)	(0.074)	(0.072)	(0.062)	(0.065)	(0.064)	(0.072)	(0.073)	(0.071)
Industry-adjusted ROA Squared	-0.029***	-0.031***	-0.019**	-0.023**	-0.022**	-0.025***	-0.029***	-0.028***	-0.019**	-0.023**	-0.021**	-0.024***	-0.028***	-0.027***
	(0.009)	(0.010)	(0.008)	(0.009)	(0.008)	(0.008)	(0.009)	(0.009)	(0.007)	(0.009)	(0.008)	(0.008)	(0.009)	(0.009)
Export Intensity	0.02	0.019	0.008	0.012	0.012	0.014	0.017	0.017	0.012	0.016	0.014	0.013	0.016	0.015
	(0.019)	(0.019)	(0.017)	(0.017)	(0.017)	(0.019)	(0.019)	(0.019)	(0.018)	(0.017)	(0.018)	(0.019)	(0.019)	(0.019)
Export Intensity Squared	-0.001	-0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Advertising Intensity	0.011	0.107	0.145	0.227	0.202	-0.031	0.037	0.01	0.175	0.255	0.217	-0.05	0.019	-0.008
	(0.260)	(0.253)	(0.243)	(0.236)	(0.240)	(0.248)	(0.243)	(0.246)	(0.239)	(0.232)	(0.239)	(0.228)	(0.220)	(0.224)
Advertising Intensity Squared	-0.04	-0.07	-0.06	-0.077	-0.07	-0.05	-0.065	-0.057	-0.064	-0.081*	-0.071	-0.046	-0.061	-0.053
	(0.051)	(0.053)	(0.045)	(0.047)	(0.047)	(0.046)	(0.047)	(0.046)	(0.045)	(0.047)	(0.047)	(0.042)	(0.042)	(0.042)
Training Expenditure Intensity	0.067	0.252	0.08	0.074	0.056	0.349	0.357	0.341	0.098	0.093	0.083	0.369	0.379	0.361
	(0.263)	(0.316)	(0.242)	(0.225)	(0.227)	(0.363)	(0.342)	(0.347)	(0.283)	(0.271)	(0.276)	(0.357)	(0.334)	(0.339)
Training Expenditure Intensity Squared	-0.001	-0.012	-0.001	-0.001	-0.001	-0.017	-0.018	-0.017	-0.003	-0.003	-0.002	-0.019	-0.02	-0.019
	(0.016)	(0.019)	(0.015)	(0.014)	(0.014)	(0.022)	(0.021)	(0.021)	(0.017)	(0.017)	(0.017)	(0.022)	(0.021)	(0.021)
R&D Intensity	0.347	-0.669	-0.385	-0.291	-0.324	-0.556	-0.466	-0.504	-0.498	-0.412	-0.46	-0.572	-0.482	-0.52
	(1.220)	(0.550)	(0.455)	(0.402)	(0.379)	(0.451)	(0.404)	(0.389)	(0.404)	(0.349)	(0.354)	(0.445)	(0.399)	(0.382)
R&D Intensity Squared Included	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	3.010***	3.075***	2.502***	2.795***	2.711***	2.694***	2.973***	2.877***	2.464***	2.742***	2.619***	2.662***	2.945***	2.851***
	(0.795)	(0.799)	(0.689)	(0.754)	(0.731)	(0.743)	(0.823)	(0.795)	(0.687)	(0.742)	(0.731)	(0.729)	(0.798)	(0.773)
R ²	0.12	0.132	0.275	0.285	0.283	0.199	0.209	0.206	0.255	0.265	0.26	0.207	0.217	0.214
Adjusted R ²	0.056	0.065	0.215	0.223	0.22	0.133	0.14	0.136	0.193	0.201	0.195	0.141	0.149	0.145
F-test ^e	4.76***	3.97***	9.58***	9.62***	10.58***	4.84***	3.97***	4.38***	8.83***	8.44***	9.13***	5.45***	4.50***	5.00***
N	237	237	237	237	237	237	237	237	237	237	237	237	237	237

Note. Robust standard errors clustered by business groups are reported in parentheses.

^a High status employer from 1986 *Recruit* survey interacted with middling economic performance.

^b High status in year 1987 marriage network among Korean business groups interacted with middling economic performance.

^c High status employer for that year from Annual *Recruit* Survey interacted with middling economic performance.

^d High status in this year's marriage network among Korean business groups interacted with middling economic performance.

^e H₀: In the model being tested here, the coefficients of interest are simultaneously equal to zero.

* p<0.10, ** p<0.05, *** p<0.01

Table 5
Tobit Regressions of Bribe on Falling High Status for Panel Data (1987-1992)

Dependent variable: Yearly Bribe Paid by Business Group	(1)	(2)	(3)	(4) (6) (5) FHS Definition 1 ^a			(7) (8) (9) FHS Definition 2 ^b			(10) (11) (12) FHS Definition 3 ^c			(13) (14) (15) FHS Definition 4 ^d		
Falling High Status (FHS)				3.722***	3.970***	3.989***	0.414**	0.467***	0.461***	3.508***	3.731***	3.642***	0.426***	0.472***	0.468***
				(0.960)	(0.972)	(0.978)	(0.170)	(0.170)	(0.171)	(1.031)	(1.000)	(1.013)	(0.162)	(0.160)	(0.161)
Marriage Tie to a Senior Gov't Official or Politician by This Year					-1.253			-1.253			-1.180			-1.244	
					(0.924)			(0.944)			(0.875)			(0.917)	
Marriage Tie to a Senior Gov't Official or Politician by 1987						-1.126			-1.054			-0.881			-1.057
						(0.889)			(0.938)			(0.882)			(0.917)
Group Has School or Marriage Tie to Chun or Roh			1.145	0.634	1.024	0.840	1.365	1.815*	1.606	0.659	1.030	0.822	1.424	1.873*	1.669
			(0.919)	(0.720)	(0.835)	(0.794)	(0.940)	(1.094)	(1.072)	(0.939)	(1.023)	(1.053)	(0.946)	(1.095)	(1.075)
Group Has Its Orgins in the Jeolla Region			-2.345**	-1.876*	-2.078**	-1.908**	-1.847*	-2.036**	-1.865*	-1.679	-1.858*	-1.700*	-1.760*	-1.948**	-1.777*
			(1.160)	(0.993)	(0.870)	(0.859)	(1.052)	(1.008)	(1.010)	(1.037)	(0.958)	(0.971)	(1.036)	(0.987)	(0.994)
Group ROA by Year		-0.094	-0.056	-0.091	-0.058	-0.057	-0.084	-0.050	-0.051	-0.095	-0.064	-0.068	-0.084	-0.050	-0.051
		(0.196)	(0.184)	(0.141)	(0.142)	(0.141)	(0.167)	(0.165)	(0.163)	(0.144)	(0.144)	(0.144)	(0.167)	(0.165)	(0.163)
Industry-adjusted ROA	-0.151	-0.113	-0.138	-0.106	-0.129	-0.143	-0.096	-0.117	-0.129	-0.100	-0.121	-0.130	-0.093	-0.114	-0.127
	(0.144)	(0.202)	(0.200)	(0.160)	(0.164)	(0.163)	(0.185)	(0.185)	(0.180)	(0.164)	(0.168)	(0.166)	(0.184)	(0.184)	(0.179)
Industry-adjusted ROA Squared	-0.132***	-0.132***	-0.137***	-0.093***	-0.103***	-0.101***	-0.114***	-0.126***	-0.123***	-0.095***	-0.105***	-0.102***	-0.111***	-0.122***	-0.119***
	(0.036)	(0.035)	(0.034)	(0.025)	(0.028)	(0.027)	(0.027)	(0.030)	(0.029)	(0.027)	(0.029)	(0.028)	(0.027)	(0.029)	(0.028)
Export Intensity	0.057	0.052	0.052	0.038	0.043	0.044	0.042	0.048	0.048	0.042	0.048	0.047	0.041	0.047	0.047
	(0.035)	(0.036)	(0.035)	(0.032)	(0.032)	(0.032)	(0.035)	(0.035)	(0.035)	(0.032)	(0.032)	(0.033)	(0.035)	(0.035)	(0.035)
Export Intensity Squared	-0.001*	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Advertising Intensity	0.099	0.139	0.154	0.314	0.453	0.433	-0.012	0.092	0.068	0.337	0.470	0.430	-0.047	0.055	0.032
	(0.519)	(0.537)	(0.449)	(0.446)	(0.427)	(0.441)	(0.455)	(0.440)	(0.454)	(0.442)	(0.425)	(0.440)	(0.432)	(0.418)	(0.430)
Advertising Intensity Squared	-0.020	-0.009	-0.025	-0.047	-0.074	-0.066	-0.002	-0.025	-0.016	-0.041	-0.066	-0.056	0.003	-0.020	-0.011
	(0.126)	(0.126)	(0.105)	(0.091)	(0.091)	(0.091)	(0.098)	(0.098)	(0.098)	(0.094)	(0.094)	(0.094)	(0.095)	(0.095)	(0.095)
Training Expenditure Intensity	3.801	5.591**	6.631**	4.442**	4.510**	4.382**	5.911**	6.045**	5.927**	4.992**	5.086**	4.996**	5.816**	5.952**	5.831**
	(2.773)	(2.648)	(2.575)	(2.116)	(1.959)	(2.024)	(2.487)	(2.390)	(2.471)	(2.306)	(2.189)	(2.273)	(2.461)	(2.366)	(2.450)
Training Expenditure Intensity Squared	-2.013	-2.695**	-2.915**	-2.036**	-2.080**	-2.050**	-2.566**	-2.621**	-2.596**	-2.284**	-2.336**	-2.316**	-2.505**	-2.559**	-2.534**
	(1.227)	(1.254)	(1.159)	(0.912)	(0.835)	(0.858)	(1.082)	(1.018)	(1.044)	(0.986)	(0.928)	(0.960)	(1.063)	(1.002)	(1.029)
R&D Intensity	4.096	-3.514**	-3.326**	-2.279	-1.853	-2.035	-2.823**	-2.406	-2.626*	-2.648*	-2.268	-2.507*	-2.827**	-2.419*	-2.635*
	(3.904)	(1.558)	(1.596)	(1.427)	(1.449)	(1.363)	(1.409)	(1.462)	(1.386)	(1.353)	(1.373)	(1.335)	(1.398)	(1.450)	(1.375)
R&D Intensity Squared Included	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	6.570***	7.252***	7.667***	5.783***	6.379***	6.203***	6.603***	7.188***	7.001***	6.018***	6.589***	6.381***	6.460***	7.046***	6.860***
	(1.733)	(1.854)	(1.785)	(1.608)	(1.580)	(1.563)	(1.796)	(1.762)	(1.772)	(1.672)	(1.649)	(1.681)	(1.744)	(1.702)	(1.715)
Pseudo R ²	0.089	0.082	0.088	0.111	0.116	0.115	0.099	0.103	0.102	0.108	0.112	0.110	0.101	0.105	0.104
CM test ^e	2.581	1.491	1.462	4.226	4.537	4.509	2.406	2.017	2.31	5.843*	5.696*	6.420**	2.715	2.195	2.523
LM test ^f	1.282	1.012	0.872	0.685	0.524	0.569	0.933	0.757	0.816	0.852	0.685	0.760	0.954	0.779	0.836
N	237	237	237	237	237	237	237	237	237	237	237	237	237	237	237

Note. Robust standard errors clustered by business groups are reported in parentheses.

^a High status employer from 1986 *Recruit* survey interacted with middling economic performance.

^b High status in year 1987 marriage network among Korean business groups interacted with middling economic performance.

^c High status employer for that year from Annual *Recruit* Survey interacted with middling economic performance.

^d High status in this year's marriage network among Korean business groups interacted with middling economic performance.

^e Conditional moment (CM) test against the null of normal errors.

^f Lagrange multiplier (LM) test of the Tobit specification, against the alternative of a model that is non-linear in the regressors and contains an error term that can be heteroskedastic and non-normally distributed.

* p<0.10, ** p<0.05, *** p<0.01

Table 6
Poisson QMLE Regressions of Bribe on Falling High Status for Panel Data (1987-1992)

Dependent variable:	(1)	(2)	(3)	(4)	(6)	(5)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Yearly Bribe Paid by Business Group				FHS Definition 1 ^a			FHS Definition 2 ^b			FHS Definition 3 ^c			FHS Definition 4 ^d		
Falling High Status (FHS)				0.962***	1.051***	1.074***	0.081**	0.102***	0.099***	0.921***	1.015***	0.988***	0.087**	0.106***	0.104***
				(0.268)	(0.253)	(0.260)	(0.034)	(0.036)	(0.038)	(0.294)	(0.266)	(0.278)	(0.035)	(0.035)	(0.037)
Marriage Tie to a Senior Gov't Official or Politician by This Year					-0.473			-0.486			-0.464*			-0.484*	
					(0.300)			(0.305)			(0.266)			(0.292)	
Marriage Tie to a Senior Gov't Official or Politician by 1987						-0.454			-0.409			-0.363			-0.414
						(0.297)			(0.311)			(0.274)			(0.301)
Group Has School or Marriage Tie to Chun or Roh			0.220	0.023	0.169	0.103	0.313	0.481	0.378	0.024	0.154	0.057	0.340	0.509	0.408
			(0.246)	(0.203)	(0.239)	(0.198)	(0.280)	(0.338)	(0.320)	(0.265)	(0.286)	(0.307)	(0.284)	(0.335)	(0.322)
Group Has Its Orgins in the Jeolla Region			-0.870**	-0.769*	-0.818**	-0.750**	-0.739*	-0.801**	-0.730**	-0.684*	-0.731**	-0.654*	-0.721*	-0.783**	-0.710**
			(0.391)	(0.403)	(0.333)	(0.324)	(0.379)	(0.331)	(0.339)	(0.394)	(0.332)	(0.345)	(0.377)	(0.326)	(0.336)
Group ROA by Year		-0.006	0.003	-0.021	0.000	0.000	-0.004	0.013	0.011	-0.021	-0.001	-0.003	-0.004	0.013	0.011
		(0.053)	(0.050)	(0.045)	(0.047)	(0.045)	(0.050)	(0.050)	(0.048)	(0.047)	(0.048)	(0.047)	(0.051)	(0.050)	(0.049)
Industry-adjusted ROA	-0.086	-0.098	-0.101	-0.093	-0.102	-0.112	-0.089	-0.095	-0.102	-0.091	-0.100	-0.108	-0.088	-0.093	-0.101
	(0.066)	(0.074)	(0.074)	(0.067)	(0.069)	(0.068)	(0.073)	(0.074)	(0.070)	(0.069)	(0.070)	(0.070)	(0.073)	(0.074)	(0.071)
Industry-adjusted ROA Squared	-0.059***	-0.060***	-0.061***	-0.040***	-0.042***	-0.042***	-0.052***	-0.055***	-0.055***	-0.041***	-0.043***	-0.043***	-0.050***	-0.053***	-0.052***
	(0.017)	(0.016)	(0.016)	(0.012)	(0.012)	(0.012)	(0.014)	(0.014)	(0.014)	(0.012)	(0.012)	(0.013)	(0.013)	(0.014)	(0.014)
Export Intensity	0.008	0.006	0.006	0.001	0.005	0.005	0.002	0.006	0.005	0.004	0.009	0.008	0.001	0.005	0.005
	(0.010)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)	(0.012)	(0.011)	(0.012)	(0.010)	(0.010)	(0.011)	(0.012)	(0.012)	(0.012)
Export Intensity Squared	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Advertising Intensity	0.037	0.011	-0.009	0.030	0.089	0.089	-0.050	-0.006	-0.008	0.072	0.140	0.130	-0.066	-0.031	-0.03
	(0.133)	(0.134)	(0.124)	(0.145)	(0.132)	(0.138)	(0.123)	(0.112)	(0.121)	(0.139)	(0.127)	(0.134)	(0.116)	(0.105)	(0.112)
Advertising Intensity Squared	-0.045	-0.031	-0.028	-0.020	-0.034	-0.030	-0.019	-0.033	-0.031	-0.025	-0.04	-0.037	-0.017	-0.030	-0.028
	(0.066)	(0.070)	(0.065)	(0.047)	(0.046)	(0.046)	(0.058)	(0.060)	(0.061)	(0.051)	(0.051)	(0.052)	(0.060)	(0.063)	(0.063)
Training Expenditure Intensity	1.951	2.615**	2.700**	1.924**	1.907**	1.917**	2.441**	2.431**	2.414**	2.235**	2.254**	2.260**	2.409**	2.400**	2.384**
	(1.224)	(1.178)	(1.103)	(0.971)	(0.860)	(0.864)	(1.129)	(1.054)	(1.080)	(1.088)	(1.008)	(1.033)	(1.127)	(1.056)	(1.079)
Training Expenditure Intensity Squared	-1.188*	-1.466**	-1.359**	-0.998**	-0.991**	-1.016**	-1.246**	-1.238**	-1.250**	-1.172**	-1.186**	-1.218**	-1.220**	-1.205**	-1.220**
	(0.644)	(0.661)	(0.580)	(0.476)	(0.428)	(0.417)	(0.580)	(0.552)	(0.550)	(0.539)	(0.512)	(0.511)	(0.573)	(0.547)	(0.543)
R&D Intensity	0.366	-1.234**	-1.125*	-0.694	-0.521	-0.607	-0.947	-0.777	-0.918	-0.908	-0.773	-0.919	-0.954*	-0.790	-0.929
	(1.206)	(0.614)	(0.610)	(0.574)	(0.612)	(0.584)	(0.577)	(0.626)	(0.592)	(0.560)	(0.591)	(0.574)	(0.576)	(0.620)	(0.589)
R&D Intensity Squared Included	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	2.800***	2.833***	2.823***	2.182***	2.317***	2.299***	2.492***	2.647***	2.608***	2.339***	2.483***	2.458***	2.438***	2.591***	2.554***
	(0.625)	(0.688)	(0.610)	(0.666)	(0.593)	(0.597)	(0.677)	(0.602)	(0.615)	(0.704)	(0.649)	(0.664)	(0.669)	(0.594)	(0.606)
Pseudo R ²	0.216	0.194	0.208	0.256	0.269	0.268	0.225	0.238	0.235	0.251	0.263	0.259	0.229	0.242	0.239
N	237	237	237	237	237	237	237	237	237	237	237	237	237	237	237

Note. Robust standard errors clustered by business groups are reported in parentheses.

^a High status employer from 1986 *Recruit* survey interacted with middling economic performance.

^b High status in year 1987 marriage network among Korean business groups interacted with middling economic performance.

^c High status employer for that year from Annual *Recruit* Survey interacted with middling economic performance.

^d High status in this year's marriage network among Korean business groups interacted with middling economic performance.

* p<0.10, ** p<0.05, *** p<0.01

Table 7
Poisson QMLE Regressions with Group Fixed Effects and Clustered Standard
Errors for Panel Data (1987-1992)

Dependent variable: Yearly Bribe Paid by Business Group	(1) FHS Definition 2 ^a	(2) FHS Definition 4 ^b
Falling High Status (FHS)	0.202* (0.104)	0.164** (0.081)
Marriage Tie to a Senior Gov't Official or Politician by This Year		-1.044* (0.621)
Group Has School or Marriage Tie to Chun or Roh	-12.010*** (1.132)	-12.123*** (1.163)
Group ROA by Year	0.066 (0.100)	0.068 (0.098)
Industry-adjusted ROA	-0.007 (0.080)	0.000 (0.080)
Log of Group Assets by Year	0.036 (0.300)	0.005 (0.265)
Group Leverage by Year	-0.432 (1.260)	0.495 (1.689)
Export Intensity	-0.370 (0.294)	-0.230 (0.307)
Advertising Intensity	-0.011 (0.012)	-0.008 (0.011)
Training Expenditure Intensity	0.177 (0.452)	0.220 (0.469)
R&D Intensity	-0.079 (1.390)	0.297 (1.396)
Bonacich Panel Measure of Status		-0.247 (0.168)
Middling ROA Performance	-0.297 (0.282)	-0.407 (0.284)
Year Fixed Effects	Yes	Yes
Group Fixed Effects	Yes	Yes
Constant	-0.830 (7.166)	3.343 (6.197)
Pseudo R ²	0.425	0.436
N	237	237

Note. Robust standard errors clustered by business groups are reported in parentheses.

^a High status in year 1987 marriage network among Korean business groups interacted with middling economic performance.

^b High status in this year's marriage network among Korean business groups interacted with middling economic performance.

* p<0.10, ** p<0.05, *** p<0.01

Table 8
Robustness Check - Taking the Prior Table and Adding Alternative Herfindahl Controls

Dependent variable: Yearly Bribe Paid by Business Group	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	FHS Definition 2 ^a				FHS Definition 4 ^b			
Falling High Status (FHS)	0.206** (0.102)	0.206** (0.104)	0.197** (0.100)	0.198** (0.100)	0.181** (0.080)	0.189** (0.081)	0.166** (0.080)	0.165** (0.079)
Marriage Tie to a Senior Gov't Official or Politician by This Year					-1.307*** (0.501)	-1.397*** (0.485)	-1.216** (0.576)	-1.128* (0.589)
Group Has School or Marriage Tie to Chun or Roh	-11.926*** (1.153)	-11.948*** (1.130)	-11.881*** (1.156)	-11.943*** (1.133)	-11.537*** (1.182)	-11.840*** (1.160)	-12.016*** (1.178)	-12.183*** (1.142)
Group ROA by Year	0.063 (0.103)	0.064 (0.104)	0.074 (0.104)	0.072 (0.102)	0.053 (0.102)	0.058 (0.107)	0.058 (0.106)	0.061 (0.100)
Industry-adjusted ROA	-0.008 (0.082)	-0.007 (0.081)	-0.004 (0.081)	-0.006 (0.081)	-0.006 (0.081)	0.001 (0.081)	-0.003 (0.081)	-0.001 (0.080)
Log of Group Assets by Year	0.028 (0.308)	0.040 (0.297)	0.056 (0.297)	0.038 (0.298)	-0.02 (0.251)	0.074 (0.250)	-0.003 (0.268)	0.013 (0.262)
Group Leverage by Year	-0.399 (1.279)	-0.423 (1.278)	-0.512 (1.262)	-0.597 (1.316)	0.824 (1.656)	0.576 (1.709)	0.555 (1.667)	0.623 (1.686)
Export Intensity	-0.011 (0.012)	-0.011 (0.012)	-0.011 (0.012)	-0.011 (0.012)	-0.009 (0.011)	-0.008 (0.011)	-0.008 (0.011)	-0.008 (0.011)
Advertising Intensity	0.188 (0.469)	0.187 (0.453)	0.174 (0.456)	0.168 (0.455)	0.309 (0.499)	0.337 (0.469)	0.229 (0.461)	0.232 (0.482)
Training Expenditure Intensity	-0.386 (0.315)	-0.385 (0.300)	-0.338 (0.308)	-0.357 (0.308)	-0.272 (0.300)	-0.281 (0.277)	-0.236 (0.294)	-0.227 (0.297)
R&D Intensity	-0.085 (1.401)	-0.076 (1.390)	-0.168 (1.362)	-0.065 (1.381)	0.363 (1.410)	0.457 (1.415)	0.451 (1.395)	0.313 (1.401)
Bonacich Panel Measure of Status					-0.266* (0.153)	-0.254* (0.153)	-0.241 (0.159)	-0.242 (0.168)
Middling ROA Performance	-0.296 (0.282)	-0.297 (0.282)	-0.309 (0.284)	-0.292 (0.280)	-0.436 (0.283)	-0.439 (0.286)	-0.403 (0.285)	-0.417 (0.269)
	<u>Two Digit</u>	<u>Three Digit</u>	<u>Four Digit</u>	<u>Five Digit</u>	<u>Two Digit</u>	<u>Three Digit</u>	<u>Four Digit</u>	<u>Five Digit</u>
Asset Weighted Industry Herfindahl at Different Industry Digit Levels ^c	-0.803 (2.349)	-0.441 (1.827)	1.260 (1.619)	0.801 (1.347)	-5.413* (2.910)	-4.216 (2.626)	-1.651 (2.280)	-0.812 (1.767)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Group Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-0.637 (7.406)	-0.898 (7.108)	-1.478 (7.088)	-0.995 (7.163)	4.620 (5.850)	2.656 (5.819)	3.972 (6.437)	3.377 (6.162)
Pseudo R ²	0.425	0.425	0.425	0.425	0.439	0.439	0.436	0.436
N	237	237	237	237	237	237	237	237

Note. Robust standard errors clustered by business groups are reported in parentheses.

^a High status in year 1987 marriage network among Korean business groups interacted with middling economic performance.

^b High status in this year's marriage network among Korean business groups interacted with middling economic performance.

^c The group's asset-weighted Herfindahl for its portfolio of industries in each year.

* p<0.10, ** p<0.05, *** p<0.01