Family First: Does Nepotism Hinder Investments at U.S. Firms?

Fabrizio Leone, Gianpaolo Parise, Carlo Sommavilla*

This Version: October, 2016

Abstract

Directors that are not owners directly benefit from nepotism, while only indirectly gain by increasing firm value. This creates an incentive to hire less qualified family members instead of more talented external candidates. This also weakens the incentive to enforce optimal investment. To assess the implications of nepotism, we build a unique database that tracks family connections—by blood, marriage, or adoption—among individuals employed in key positions by the same firm. Our analysis indicates that firms in which nepotism is pervasive invest substantially less than peer firms and are less responsive to changes in investment opportunities. Our results suggest that previous findings by the literature on family-owned firms may not be generalizable to family-run firms.

*Leone is at Collegio Carlo Alberto, Parise is at the Bank for International Settlements, Sommavilla is at the Swiss Finance Institute and at the University of Lugano. Part of this paper has been written while Parise was at Harvard University and Sommavilla was at Columbia Business School. We are thankful for useful comments to Sumit Agarwal, Marco Di Maggio, Alexander Eisele, Francesco Franzoni, Randall Morck (EFA discussant), Giovanna Nicodano, Kim Peijnenburg and to participants at the EFA 2016 conference in Oslo. The views expressed in this paper do not necessarily reflect those of the Bank for International Settlements.

"James Caan got in trouble when—having argued that parents should not give their children a helping hand—it emerged he had employed his two daughters, and given one an employee of the year award."

Financial Times June 10, 2013

I Introduction

Family does matter in the United States.[1] Using Census data, Stinson and Wingnall (2014) find that about 10% of working men have shared an employer with their fathers at some point during their careers. Likewise, Lentz and Laband (1989) show that children of doctors are significantly more likely to be admitted into medical school than children of non-doctors.

While a large literature has been devoted to the study of family firms—commonly defined as firms held for at least 20% by a single family or individual[2]—American corporations often encompass a broad nexus of family linkages that does not necessarily map into ownership. As an illustrative example, the founders of Google and Oracle control over 20% of the voting shares, and yet family connections among their employees are rare. By contrast, around 90% of "John B. Sanfilippo & Son" is held by various institutional investors but most of its board members are related with each other by either blood or marriage.

Family linkages may have important implications for corporate policies. On the one hand, the presence of a family component is often viewed positively in the literature—family-owned firms outperform non-family firms on a variety of measures (see, e.g., Anderson and Reeb (2003) and Sraer and Thesmar (2007)), while the

[1] The initial quote is from "Companies warned that nepotism can hit bottom line" Financial Times – June 10, 2013.

[2] See, e.g., La Porta, Lopez-de Silanes, and Shleifer (1999), Masulis, Pham, and Zein (2011), and Hsu, Huang, Massa, and Zhang (2014).

long-term involvement of the founding family can in principle mitigate managerial short-termism (Bertrand and Schoar (2006)). Family ties among managers and owners can therefore decrease the separation between the principal and the agent, reducing the moral hazard problem (see Shleifer and Vishny (1997)). On the other hand, nepotism—the practice, among those with power or influence, of favoring relatives or friends[3]—can lead to under-qualified family members being appointed to key positions and can foster rent-seeking behaviors that disregard the long-term goals of the firm.

This paper provides an attempt at estimating the effects of nepotism on corporate policies. To measure family ties, we gather information from firms' proxy statements. The Security and Exchange Commission (SEC) requires companies whose securities are registered under Section 12 of the Securities Exchange Act[4] to file a proxy statement when soliciting shareholder votes. Items 401(a)-(f) and 404(a) of Regulation S-K require disclosure in such statement of any family relationships (by blood, marriage, or adoption) among directors or between directors and other employees.

Our identification strategy can be illustrated with a simple example. Consider the case of Standard Motor Products INC, a manufacturer and distributor of automotive parts headquartered in Long Island City (NY) and listed on the New York Stock Exchange. Standard Motor, in the 2003 proxy statement, reported the names of the candidates to eleven director positions. The nominees included, among others, Lawrence Sills (*grandson* of the founder), Arthur Sills (Lawrence's *brother*), Peter Sills (*brother* of Arthur and Lawrence), Arthur Davis, Susan Davis (Arthur's *wife*),

[3]Definition from the Oxford Advanced Learner's Dictionary. The word originates from the practice of granting privileges to a pope's "nephew," usually an euphemism to indicate his natural son (see the On-line Etymology dictionary).

[4]All companies that have securities listed on a national securities exchange or have more than $10 million in assets and 2,000 or more holders of any class of equity securities.

and Marilyn Cragin (*sister* of Susan). We use a crawling algorithm to count the number of family ties disclosed in each filing, by each firm, in each year. We conjecture that family members appointed to top positions might be less qualified on average. In the case of Standard Motor, out of the 11 nominees at least three joined the firm from outside the automotive industry. Mrs. Cragin was the co-owner of an art gallery and prior to that she was a practicing psychotherapist, Peter Sills was a writer, Arthur Sills was an educator and administrator in the Massachusetts school districts. The original founding family retains less than 10% of the shares. Do family connections at the top matter anyway, regardless of who owns the firm?

We find that widespread family ties have an economically sizeable negative effect on corporate investment. A one standard deviation increase in nepotism, defined as the average number of family connections per director, leads to a decrease in investment of 1.2 percentage points (a 3.5% decrease with respect to the baseline level). This negative effect on investment appears to be particularly severe when children (sons and daughters) and brothers of existing directors are employed. By contrast, partners, sisters, and more distant relatives have either lower or no impact.

Overall, our results suggest that a dense network of family linkages magnifies the agency problem. In frictionless markets investment should be determined exclusively by the availability of positive NPV projects. We find, however, that high-nepotism firms are more likely to pass up valuable investment opportunities. Consistent with the hypothesis that nepotism weakens the governance mechanisms of the firm, we show that in nepotistic companies top employees are less skilled—as measured by their education level—and receive higher wages. This suggests that directors in those firms internalize the benefits of nepotism, while the costs are (at least partially) paid by the owners. By contrast, we do not find evidence supporting the hypothesis that lower investment is driven by constraints to the ability to fund

positive NPV projects.

A potential concern with our result is, however, that unobservable factors may simultaneously affect both investment and nepotism. For instance, firms for which ex-ante investment opportunities were lower may be more likely to appoint family members to the board, or firms in which family ties are not present may be more prone to wasteful investments. We tackle such endogeneity concerns by constructing from firms' statements a proxy for the total number of directors' children, regardless of whether employed or not, and we use it to instrument nepotism. We conjecture that a larger number of children will increase the pool of candidates that a nepotistic director may favor over external candidates. At the same time, it is unlikely to be directly related to corporate investment. Consistent with this argument, we show that the number of children positively predicts family ties and instrumented nepotism has an economically and statistically significant effect on investment.

Our paper contributes to two streams of literature. First, a large literature documents the effect of family ownership on firms' performance and policies with mixed findings.[5] The literature usually defines a firm as "family owned" when at least 20% of the shares are held by a family or individual. Additionally, most of the papers focus only on S&P500 firms due to data availability, thereby implicitly imposing the requirement that firms in the sample have been in the past at least successful enough to make it to the top 500 firms in the U.S. (which could, in turn, be related to cur-

[5]For instance, Khanna and Palepu (2000), Anderson, Mansi, and Reeb (2003), Zahra (2005), and Sraer and Thesmar (2007) show that family firms and firms that have a strong family presence outperform their peers. Demsetz and Lehn (1985) argue that large ownership may mitigate managerial expropriation, James (1999) indicate that family ties, loyalty, insurance, and stability are expected to be effective in lengthening the horizons of managers. Conversely, DeAngelo and DeAngelo (2000), Bloom and Van Reenen (2007), Pérez-González (2006), Bennedsen, Nielsen, Pérez-González, and Wolfenzon (2007), Bertrand, Johnson, Samphantharak, and Schoar (2008) provide evidence suggesting that family ownership destroys firm value. Villalonga and Amit (2006) show that founders create value when they serve as CEOs, while when their descendants serve as CEOs, firm value is destroyed. Mehrotra, Morck, Shim, and Wiwattanakantang (2013) find this not to be the case in Japan. A more comprehensive review of the literature is presented in the following section.

rent profitability and policies). In this paper, we show that family-owned firms and firms where family linkages are widespread have a relatively small overlap. Additionally, while previous papers document an effect of family ownership and family successions on performance, the focus of this paper is on the source of such (under-) performance. Specifically, we argue that investment decisions by nepotistic firms are suboptimal, which may in turn lead to lower future performance.

Second, a growing literature documents the effects of CEOs on performance and corporate policies. For instance, Bertrand and Mullainathan (2001) show that CEOs reward themselves for good luck, Malmendier and Tate (2005) find that overconfident CEOs overinvest, Pérez-González (2006) and Bennedsen, Nielsen, Pérez-González, and Wolfenzon (2007) find that firms that appoint family CEOs underperform. Yet, most firms employ a larger number of individuals with decisional power. The most gifted CEO will be forced to delegate part of her tasks to subordinated employees.[6] Ultimately, the joint effort and abilities of the CEO and the other key employees will determine a firm's success. While the evidence from our paper goes in the same direction as previous papers warning against nepotism, our scope is more general. For instance, the evidence provided in Pérez-González (2006) and Bennedsen et al. (2006) only regards CEO successions in family-owned firms, a relatively infrequent occurrence (as CEO turnover is significantly lower for family firms).[7] Conversely, every year a large fraction of American family and non-family owned firms appoint to key positions less skilled family members who will ultimately take strategic corporate decisions. We argue that this favoritism significantly contributes to explain underinvestment.

[6]Consistent with our argument, Bertrand and Schoar (2003) find that CFOs and other directors also matter for corporate policies.

[7]In Pérez-González (2006)'s sample, family CEO successions are 36.4% of the total, while the remaining 63.6% are non-family related. Additionally, Gomez-Mejia, Nunez-Nickel, and Gutierrez (2001) show that entrenchment is more severe in family firms.

The rest of the paper proceeds as follows. Section II briefly reviews the related literature. Section III describes our methodology to gather information on family ties and the construction of the corporate variables. Section IV presents the empirical results. Section V concludes.

II Why Should Nepotism Matter?

Nepotism and its implications are recurrent topics both in the public debate and in the literature. While most of the previous research focuses on ownership, some of the arguments why family presence should be beneficial or detrimental to investment are generalizable to the case of family connections among top managers. In the following, we briefly summarize the main arguments put forward by previous papers and provide the framework guiding our empirical analysis.

II.A The Benefits of Family Ties

Overall, family ties may be positive for the firm. Previous research emphasizes that family owners are more effective monitors while atomistic investors may have an incentive to free ride (Anderson and Reeb (2003)). Superior monitoring can in turn lead to more investment and productivity (Giroud (2013)) and more research and innovation (Aghion, Van Reenen, and Zingales (2013)).

Families are additionally more likely to retain a presence in the firm for longer periods. Historical families such as the Rockfellers, the Du Ponts, and the Mellons have maintained a direct involvement in the family firms for over a century. Longer presence of the main shareholders in the firm potentially mitigates managerial myopia (James (1999)). This can help in limiting the incentive to boost current earnings (Bertrand and Schoar (2006)) and reduces the distortion in investment decisions

(Stein (1988), Stein (1989), and Asker, Farre-Mensa, and Ljungqvist (2014)). Additionally, the long-term presence of the family in the firm has reputational benefits that lower the cost of debt financing (Anderson, Mansi, and Reeb (2003)), improves the innovativeness of the firm (Hsu, Huang, Massa, and Zhang (2014)), may help at coping with difficult labor relations (Mueller and Philippon (2011)), and could foster political connections (Faccio (2006)).[8] In short, a dense network of family ties could increase stability and limit short-termism, thereby enhancing corporate investment.

II.B The Costs of Nepotism

Most of the arguments in favor of family ties rely, however, on the assumption that family members derive utility only (or mostly) by increasing firm value. In reality, this is not always the case. For example, there is abundant anecdotal evidence that executives highly value the appointment of relatives to key positions.[9]

In particular, when directors are not owners, they fully internalize the private benefits of nepotism, while only indirectly gain by increasing firm value. This can be clarified with an example. Consider a framework in which a CEO (Principal) hires a related employee (Agent) to perform a task. The value of the firm $V(e, w)$ increases with the agent's effort e and decreases with the cost of the work contract w. By contrast, the utility of the agent $A(e, w)$ depends positively on wage, and negatively on effort. Assume that the CEO is rewarded with a share of the firm s but also values the utility of the related employee. Specifically, the weight of the agent's utility into the CEO utility function is given by d (with $0 \leq d \leq 1$). Abstracting from uncertainty about the state of nature and from asymmetric information, the part of the problem

[8] See Bertrand and Schoar (2006) for a nice discussion on the existing literature on family firms.

[9] For instance, see "Family Feud" Forbes 10/27/2007 and "J.P. Morgan Hired Friends, Family of Leaders at 75% of Major Chinese Firms It Took Public in Hong Kong" - The Wall Street Journal Nov. 30, 2015.

regarding the CEO utility maximization may be rewritten as:

$$max\ U_p = sV(\underset{+}{e}, \underset{-}{w}) + dA(\underset{-}{e}, \underset{+}{w}), \tag{1}$$

that is, the utility of the CEO depends both on the value of the firm and the utility of the agent. When $s = 1$ (the CEO completely owns the firm) and $d = 0$ (the CEO and the agent are not related) equation (1) reduces to the one in the standard principal-agent problem (see, e.g., Hölmstrom (1979)). However, when $d > 0$ the CEO benefits from increasing the agent's utility. This could, in turn, lead her to pay a higher than optimal wage and to tolerate a lower effort. This is especially the case when $s < 1$, as the value created by the agent's effort is not fully appropriated by the Principal. At the extreme, if the performance of the CEO is fixed (i.e., it does not depend on the value of the firm) and $d > 0$, the CEO will just transfer value from the firm to the agent. In the Appendix, we present a simple framework that builds on this intuition to provide theoretical guidance for our analysis.

Indirect support to our framework is provided by Asker, Farre-Mensa, and Ljungqvist (2014). The authors show that private firms—i.e., firms for which ownership is concentrated and delegation is less common—invest more and are more sensitive to investment opportunities than publicly held firms. Their finding suggests that ownership concentration in the hands of the founder ($s = 1$ in equation (1)) mitigates the agency problem.

Importantly, our framework does not offer clear predictions regarding family-owned firms. Even when the Principal has full ownership ($s = 1$), she might still have an incentive to enforce lower effort when her utility depends also on that of the agent. Whether there will be a net effect on investment or not will depend on the (unobservable) weight that each component has in the utility function of the CEO. Additionally, ownership is likely to be (relatively) scarcely concentrated also in *pub-*

licly held family firms (different from Asker, Farre-Mensa, and Ljungqvist (2014), we do not have private firms in our sample). Therefore, in our empirical analysis, we explore the implications on family ties among employees, regardless of the ownership structure. In particular, our emphasis in on investment, as we assume that investment requires effort. This is the case because investment forces the management to seek funding, monitor the implementation and the progress of the projects, and potentially held it responsible if the project fails. Consistent with our assumption, Bertrand and Mullainathan (2003) show that, in the presence of weaker governance, managers are more likely to live a quiet life (by minimizing corporate activities) than to engage in empire building. In this paper, we posit that nepotism fosters opportunistic behaviors, thereby reducing investment.

III Data and Variables Construction

III.A Measuring Nepotism

To conduct our analysis, we construct a unique database estimating how widespread family ties are in a sample including virtually all American public firms. In order to identify and measure the diffusion of family ties we exploit a regulatory requirement from the SEC (see items 401(a)-(f) and 404(a) of Regulation S-K). The rationale of this regulation was to increase disclosure requirements. For our purposes, it provides information about family ties among executive officers, directors, shareholders, and other key individuals with an economic or financial interest in the firm.

We download the annual proxy statements of *all* public firms in the U.S. from the SEC EDGAR database. We take into account only those forms in EDGAR whose filing type is equal to DEF 14A (annual proxy statement). The word "DEF" stands for definitive, or final, proxy statement. 14A refers to the fact that proxy statements are

filed pursuant to Section 14(a) of the Securities Exchange Act of 1934 (as an example, we include in the Appendix an extract from Cablevision 2013 proxy statement.)

Our approach allows us to directly identify high nepotism firms on the basis of the number of relatives disclosed in the filings. We consider as *family ties* only those relations among immediate family members, as defined in the item 404 of Regulation S-K. The primary source of our identification is the set of words that the SEC uses to define immediate family members of firms' officers, i.e., any relationship by blood, marriage, or adoption, not more remote than first cousin. This includes: any child, stepchild, parent, step-parent, spouse, ex-spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, and any person sharing the household of any director, nominee for director, executive officer, or significant shareholder of the company.

Importantly, only ties where at least one of the two connected individuals has a strategic role in the firm are disclosed (for example, at least one family member is the CEO, CFO, a director, or another key executive). A family relationship between two employees with no managerial responsibility will not be reported in the filings. Importantly, the relationships are disclosed in hierarchical order from the top to the bottom. For example, if the CEO of a firm hires his son a "son relationship" will be disclosed but *not* a "father relationship." As a result, most of the relationships are asymmetric, i.e., there are more children (sons and daughters) than parents (fathers and mothers) and more wives than husbands (this is because in our sample fathers, mothers, and husbands are on average higher up in the hierarchical structure than sons, daughters, and wives).

We measure the number of family ties present in each firm/year by counting the number of family keywords in each filing. To do so, we create an algorithm that operates in the following way. First, it starts from the text files (.txt) downloaded from

the Edgar database and clean them from any kind of encoding-related wording (e.g. HTML tags and special characters, codes originated from the presence of images and charts in the original files). Second, it drops any dot that appears in the file and, presumably, does not mark the end of a sentence (e.g. “Mr.", “Ms.", "Dr.", “Inc.", “A. Smith", “18.97" etc.). This step is important in our procedure as we are going to define *a sentence* as anything that stands between two dots. Third, it removes from the filings all sentences that contain words (or group of words) from a predefined set of family-related words that do not indicate the actual presence of a family tie. Such standard wording may actually contain some of the keywords we use to count family-ties (e.g., “wife” or “son”), but should not be counted in our analysis as it does not disclose a real family tie. One of the most frequent among these “false positives" is the following: “For purposes of these procedures, immediate family members means any child, stepchild, parent, stepparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law or sister-in-law, and any person (other than a tenant or employee) sharing the household with the executive officer, director or 5% beneficial owner.” This sentence mentions several family ties but does not actually disclose the presence of any, as it is just a common phrasing for introducing a part of the proxy statement dedicated to the presence of family ties. Therefore, our code excludes all these sentences before the last step of our analysis is performed.

Finally, our measure is obtained by counting the number of times each family tie is mentioned in the filings. We double check one by one the firms for which the highest number of family ties have been found to make sure that the value does not result from mistakes in our procedure. It is worth pointing out that our algorithm does not count the number of related *people* in the firm, but the number of *relationships*. For instance, if the CEO is related to two different directors, our measure will

take a value of two (even though three different individuals are related).

Another problem arises from the fact that, together with the family members employed by the firm, the proxy statement discloses also the stock ownership by family members *non*-employed by the firm. For example, the most popular family tie in our sample—by simple word counting—is "wives." However, most of the sentences involving wives do not disclose actual employment by the firm but just stock ownership. To overcome this problem, we drop all sentences that include words indicating ownership (e.g., "stock", "shares", "owned by", "held by", etc) before we run the algorithm counting the number of family ties. We use some of these sentences to conduct our IV analysis (see below).

Our measure contains noise. For instance, we cannot exclude that the same family tie gets sometimes disclosed multiple times in different sentences. Likewise, we cannot cover the whole universe of "false positives." For instance, in a sentence disclosing that one director has worked for "Lehman *Brother*s" before joining the firm our algorithm mistakenly identified a "brother tie." Running our algorithm several times, we have identified the most common mistakes and refined our procedure accordingly. Yet, some errors have necessarily gone unnoticed. Importantly, there is however no reason why ex-ante mistakes due to the sentence structure in the filings should be correlated with a firm's future investment decisions. Therefore, the presence of noise induced by our measurement procedure is probably not going to significantly bias our findings.

We aggregate the results of our textual analysis by year and firm name. In the original filings the firms are identified by CIK code. We therefore link the CIK codes to CUSIP and GVKEY in order to easily obtain other financial/firm-level variables needed for our analysis. Table I reports the number of family ties disclosed per year. The relatively low number of ties in the first years included in the sample is due to

the fact that reporting was voluntary at first.[10]

We build our main proxy of nepotism by scaling the number of ties by the number of directors obtained from the OSIRIS database. The reason for such normalization is evident: one family tie every ten directors has probably different implications than ten family ties for ten directors. Importantly, the variable $Nepotism$ may exceed a value of 1 if there is more than one family relationship for each director. In the Appendix, we report results computing the variable $Nepotism$ in a number of different ways, i.e., i) without scaling it by anything (i.e., the variable is just equal to the number of family ties), and scaling it by ii) the number of employees, iii) the number of individuals for which we have education and salary information (this number depends on the coverage of Capital IQ), and iv) the number of all possible pairwise combinations of ties among directors. The results are qualitatively similar.

Figure 1 plots the average number of family ties per firm in different industries using the Fama and French classification. All industries display at least some nepotism. In particular, all sectors exhibit at least one family connection every 20 directors on average, with the exceptions of "Tobacco" and "Lab. Equipment." Nepotism appears particularly dominant in large volume—low margin industries (e.g., Books, Soda, Clothing, Food, Agriculture). Two industries (Soda and Books) report a family tie every 5 directors on average.

III.B Other Variables

Additional information comes from COMPUSTAT (accounting measures), CAPITAL IQ People Intelligence (salaries and education), and OSIRIS (ownership). The main dependent variable we are interested in is $Investment$. We define $Investment$ as cap-

[10] To make sure that this is not affecting our findings, we replicate our analysis for different subsamples.

ital expenditures (CAPX) scaled by Property, Plant, and Equipment at the end of the previous year similar to Bertrand and Schoar (2003), Chaney, Sraer, and Thesmar (2012), and Hau and Lai (2013). We present results in the main paper scaling capital expenditures by Property, Plant, and Equipment net of amortization (PPENT), we provide results for capital expenditures scaled by *gross* Property, Plant, and Equipment in the Online Appendix. $Profitability$ is computed as earnings before interest and taxes, scaled by book assets. Q is market value of assets + book value of assets - book value of equity over book value of assets. $Size$ is the log of total book assets. $Stock\ Return$ is the annual stock return adjusted for share outstanding. $R\&D$ is R&D spending over book assets at the beginning of the year. $Salary$ is the average dollar base salary unrelated to performance (excluding bonuses and stock options) of all employees covered by CAPITAL IQ People Intelligence (usually the CEO, CFO, directors, and top managers).

To identify family firms we get ownership data from OSIRIS and, following the related literature, we define "family firms" as those owned for more than 20% by a family or individual. As in related studies, the measure of ownership is not perfect as OSIRIS only provides a snapshot of the current ownership structure and not the whole time series. We find the percentage of family firms in our sample to be around 9%, this number is consistent with related studies (La Porta, Lopez-de Silanes, and Shleifer (1999), Masulis, Pham, and Zein (2011).

III.C Summary Statistics

Our data span from 1994 through 2014. We also impose a number of filters to select the firms in our sample. Specifically, we drop i) financial firms and utilities, ii) observations for which book assets is zero or negative, iii) observations that exhibit negative sales, iv) firms that stay in the database for less than 3 years, v) firms

that have a missing "cik" code, vi) firms for which we do not have the number of directors, vii) firms for which we cannot recover the proxy statement, and viii) firms for which any of the main variables we use in our analysis is missing or impossible to compute. This leaves us with 5,336 unique firms. Our sample is free from survivorship bias (as both existing and defunct firms are included). Additionally, the sample is unaffected by selection bias, as all listed firms are obligated to disclose the presence of potential conflicts of interest due to the presence of family ties.

Table II, Panel A reports summary statistics for the main variables. All variables are winsorized at the 1st and 99th percentiles to mitigate the effect of outliers and misreporting. The average value for $Nepotism$ is 0.010 but its distribution is highly skewed: most firms do not disclose any family tie, while 641 observations report more than one family tie per director. Values for other corporate variables are analogous to similar studies conducted on the whole Compustat for a similar period. Table II, Panel B shows pairwise correlations among the main variables. $Nepotism$ is negatively related with $Size$, Q, $Investment$, and $College\ Degree$. $Investment$ has a positive correlation with $College\ Degree$ and Q.

IV The Real Effects of Nepotism

IV.A Nepotism and Investment

The emphasis of our analysis is on the implications of nepotism for corporate investment. A first look at median investment patterns over time is suggestive of a negative relation with family ties. Firms in the top decile of $Nepotism$ exhibit higher investment than firms that disclose 0 family ties ($Nepotism = 0$) in 19 out of 20 sample years (see Figure 2). However, this difference may be explained by heterogeneity in investment opportunities or industry specificities. To test whether nepotism hin-

ders investment, we estimate its effects in a multivariate framework. Our baseline specification is the following:

$$Investment_{i,t} = \beta\,(Nepotism_{i,t-1}) + \boldsymbol{\gamma}'\,\boldsymbol{X}_{i,t-1} + \alpha_t + \alpha_s + \epsilon_{i,t}, \tag{2}$$

where i indexes firms, t indexes years, $\boldsymbol{X}_{i,t-1}$ is a vector of time-varying control variables, α_t and α_s are time[11] and industry fixed effects (3-digit SIC codes are used), and $\epsilon_{i,t}$ is the error term. In particular, the time dummies control for aggregate fluctuations in investment, while the industry fixed effects account for between industry differences. We always cluster standard errors at the firm level to account for the presence of serial correlation in investment behavior. We, however, do not include firm fixed effect, as nepotism is highly persistent over time. Table I reports estimates of various specifications of equation (2).

Column (1) starts with our baseline estimation. Nepotism covariates negatively with future investment. A standard deviation increase in $Nepotism$ has an estimated impact of -1.2 percentage points on $Investment$ (a 3.5% decrease with respect to the baseline level of 34%). The coefficient is significant at the 1% confidence level. The estimated coefficients for the control variables are in line with the related literature. Firms with better investment opportunities, more profitable, and exhibiting higher past stock returns invest more (see, e.g., Hau and Lai (2013)).

In Column (2), we replicate the estimation performed in Column (1) excluding firms that do not report any family tie (i.e., $Nepotism = 0$). This specification accounts for the possibility that firms might be opportunistically disclosing the presence of family ties. The disclosure of such information is mandatory. However, if a

[11] Lins, Volpin, and Wagner (2013) show that family firms have decreased investment more during the financial crisis. Time fixed effects account for the possibility that family firms' decrement of investment during the financial crisis is driving the correlation between $Nepotism$ and $Investment$. In unreported regressions, we additionally replicate our results excluding the crisis period (2007-2009) from our sample. Results are analogous.

firm strategically decides to fail to comply with regulation S-K (for example, because the cost of revealing the presence of family ties would be higher than the cost of being sanctioned), our measure might be biased. To mitigate this concern, we replicate our analysis on the sample of disclosing firms only (i.e., on the firms that report *at least* one family tie). Specifically, we test whether firms that report higher $Nepotism$ invest less than firms that report lower (but positive) $Nepotism$. Our estimated coefficient falls to 3.8% but remains significant at the 1% confidence level.

Column (3) excludes family firms (family ownership$\geq$ 20%) and firms for which we do not have ownership information. This mitigates concerns regarding the possibility that $Nepotism$ is just a proxy of family ownership. Additionally, we want to rule out the possibility that the lower investment in high nepotism firms is driven by family infighting over the founder's bequest. Focusing on the appropriation of resources may lead family members to neglect the managing of the firm, causing lower investment. Consistent with such an explanation, Bertrand, Johnson, Samphantharak, and Schoar (2008) find that families that have relatively more sons tend to show a larger discrepancy between control and ownership rights, which is usually associated with poor governance. Excluding family-owned firms, we make sure that our results are not driven by succession wars. The results reported in Column (3) show that the coefficient remains stable.

In Column (4), we replace $Nepotism$ with a dummy variable that takes a value of one when nepotism is in the highest decile of its distribution ($High\ Nepotism = 1$). This choice is driven by three considerations. First, the effect of nepotism on investment might be non-linear.[12] Second, the dummy variable mitigates the concern that our result might be driven by a few outliers reporting an abnormally high number of family ties. Third, this limits the effect of mis-measurements by our counting

[12]Unreported results suggest however that this is not the case.

algorithm due to repetitions, misreporting, or double counting (as, in this way, we do not focus on the *exact* number of disclosed ties). Firms in the highest decile of nepotism invest 2.6 percentage points less than the other firms in the sample (7.7% less with respect to the baseline investment level of 34 percentage points).

Column (5) reports the estimates for the effects of nepotism on R&D spending. Family ties could in principle enhance innovation, as a family member is less exposed to the risk of being fired if a risky project does not pay out due to bad luck (Aghion, Van Reenen, and Zingales (2013)). At the same time, R&D spending may be undermined when less qualified family members are hired either because they lack the necessary technical skills to pursue research or because they prefer to lead a "quiet life" is strong (Bertrand and Mullainathan (2003)). We find that a one standard deviation increase in nepotism decreases R&D spending by 0.72 percentage points (6% less with respect to the baseline level of 12 percentage points).

Overall, all tests indicate that family ties among employees are detrimental to investment in both physical and intangible assets.

IV.B Sensitivity to Investment Opportunities

Table III shows that high nepotism firms invest less than no-nepotism (or low nepotism) ones, contrary to the hypothesis that firms in which family ties are predominant have a longer-term perspective. This pattern is consistent with the prediction that nepotism leads to the appointment of low skill family members to key positions and disincentives effort. Yet, at least two other explanations would be consistent with such a finding. First, high nepotism firms may simply have lower investment opportunities that are not completely accounted for in our baseline specification. Second, low-nepotism firms may engage in empire building or other types of wasteful investments, that could actually be limited by the presence of family ties (under

the assumption that family members are better monitors see, e.g., Anderson and Reeb (2003)).

To disentangle these possibilities, we explore how high-nepotism firms respond to changes in investment opportunities. Under the assumption of no market imperfections, investment should be a function of a firm's investment opportunities, up to the point at which its marginal q equals one. Marginal q is however unobservable empirically. Hayashi (1982) shows that under a set of assumptions marginal q is equal to the average (and observable) Q. As a result, Q is widely used in the literature as a proxy of investment opportunities (see, e.g., Jung, Kim, and Stulz (1996), Malmendier and Tate (2005), and the discussion in Asker, Farre-Mensa, and Ljungqvist (2014)). More recently, Peters and Taylor (2016) show that, by incorporating intangible capital in the computation of Q, a better proxy of the unobservable investment opportunities of the firm can be obtained.

Therefore, we interact our measure of nepotism with both proxies of investment opportunities (one at the time, as they are highly correlated) and we then regress investment on the resulting interaction terms. Importantly, in this setting we also include firm fixed effects, as we are interested in within-firm variations of investment behavior as a response to changes in investment opportunities. Formally:

$$Investment_{i,t} = \beta_1 \left(Nepotism_{i,t-1} \times Q_{i,t-1}\right) + \beta_2 \left(Nepotism_{i,t-1}\right) + \beta_3 \left(Q_{i,t-1}\right) + \boldsymbol{\gamma}' \boldsymbol{X}_{i,t-1} + \alpha_t + \alpha_i + \epsilon_{i,t}, \quad (3)$$

where $Q_{i,t-1}$ is alternatively Tobin's (average) Q and Peters and Taylor's total Q.

Results are reported in Table IV and indicate that firms in which nepotism is prevalent are substantially less sensitive to changes in investment opportunities. In particular, a one standard deviation increase in total Q leads, on average, to an in-

crease in investment of 12 percentage points when there are no family ties. The analogous estimate is 10 percentage points when nepotism is at its 90th percentile level[13] and less than 6 percentage points when there is a family tie per director on average. In short, the response to an increase in investment opportunities is half as big for firms that report widespread nepotism. This result indicates that managers in nepotistic firms are more likely to pass up valuable investment opportunities.

IV.C Which Ties are Detrimental to Investment?

The previous sections have established that high nepotism firms are less responsive to valuable investment opportunities and this, in turn, hinders investment. Bertrand and Schoar (2003) show that, besides the CEO, the CFO and other directors also matter for corporate policies. Yet, their paper leaves for future research to establish which directors' traits are relevant in explaining corporate policies. In this regard, it may be of interest to further explore which family ties are the most detrimental to investment. In our sample, we have a large variety of family ties. In the following, we focus only on the most common ones: sons, daughters, husbands, wives, brothers, and sisters. Specifically, we construct our independent variables as the frequency of each type of tie within the same firm scaled by the number of directors. For example, if in a firms there are 10 directors, and three of them had their sons employed, the variable $Sons$ will take a value of 30%, while the variable $Daugthers$ will be equal to 0. Formally,

$$Investment_{i,t} = \sum_{f} (\beta_f \; Tie_{f,i,t-1}) + \boldsymbol{\gamma}' \boldsymbol{X}_{i,t-1} + \alpha_t + \alpha_s + \epsilon_{i,t} \tag{4}$$

where $Tie_{f,i,t-1}$ stands respectively for $Sons$, $Daughters$, $Husbands$, $Wives$, $Brothers$,

[13] As $-0.027 * 0.31 * 2.45 + 0.05 * 2.45 = 0.10$ (using specification (4)).

and *Sisters*. All other family ties are unreported since they are less frequent and have a more moderate effect on investment. As the variables of interest are highly correlated, we report results obtained by regressing investment on one type of family tie at the time (Columns from 1 to 6) and also by including all variables at the same time in the same specification (Column 7). Importantly, all variables are standardized to make the estimated coefficients comparable.

Most of family ties have a negative effect on investment. Three facts emerge from our analysis. First, employing sons or daughters of directors have a similarly negative impact on investment (−0.0047 versus −0.0062). Second, partners seem to have less of an effect when other family ties are controlled for. This finding may explained by the fact that directors are more likely to employ less qualified partners but unwilling to delegate authority to them. We have however no way to test this hypothesis in a convincing way. Third, we show that the presence of siblings has a highly asymmetric effect: the number of brothers severely affect investment, while the number of sisters appear irrelevant when other family ties are accounted for.[14] This is in principle consistent with the fact that men are more overconfident than women, and thereby more likely to approve value wasting investments (see, e.g., Huang and Kisgen (2013)).

Overall, results in this section indicate that most types of family ties inhibit or are, at best, neutral to investment.

IV.D Endogeneity of Nepotism

Our results suggest that nepotism has a substantial negative effect on investment. Yet, our baseline empirical approach cannot exclude the possibility that lower in-

[14]Bertrand, Johnson, Samphantharak, and Schoar (2008) also find that sisters are less detrimental than brothers in the case of successions.

vestment is the result of unobservable differences between firms that are likely to manifest preferential treatment for family members and those that are not. For example, we cannot rule out the possibility that myopic directors are more likely to hire relatives in the first place. Results exploiting within-firm variations in nepotism mitigate this concern as increasing nepotism lowers investment at the same firm (even though only weakly, see Appendix). Nevertheless, time-varying factors may still go unaccounted in our specifications. To further support our causality claim, we follow an instrumental variable (IV) approach.

The instrument we are going to use needs to provide exogenous variation in the incentive to favour relatives without directly affecting or being affect by investment. To accomplish that, we construct a proxy of the total number of directors' children owning shares of the firm, regardless of their employment status. The number of children is mostly driven by demographic factors, such as the fertility rate, the local culture, and the age at marriage (Whelpton, Campbell, and Patterson (1964)) and is arguably unrelated to corporate investment. At the same time, a larger family increases the pool of related candidates that an opportunistic director could appoint to top positions. For example, consider a CEO that puts her family's interests before those of the firm. When the CEO has only one child, she could favor *at most* one child over external candidates that are more qualified. In addition, the more children the directors have, the higher would presumably be the incentive to transfer resources from the firm to them.

In particular, we exploit the fact that directors of all firms in our sample are obligated to disclose in the proxy statements whether their family members own stocks of the firm. Stock ownership by children in the firm where the parents are employed is common. For instance, Berkman, Koch, and Westerholm (2014) show that a non-negligible fraction of stock owners in Finland are in the 0-10 and 11-

20 age categories and, yet, they appear to have insider information. However, the *number* of children is unlikely to be caused by corporate investment or have a direct effect on it. A potential threat to our identification arises from the possibility that directors might consider to donate shares to children when the firm is expected to become more valuable. Importantly, this would however create a *positive* correlation between investment and the number of children. Therefore, if anything, it should bias our estimates *against* finding a negative effect of nepotism on investment.

To construct our instrument we use the following procedure. We count the number of times that the words *son*, *daughter*, *child*, and *children* are included in each proxy statement *in the same sentence* as words indicating financial ownership (e.g., *stock*, *ownership*, *held by*, etc.). When the word "children" is mentioned without specifying the exact number, we assume that the director has two children (as according to Census data the average family in the U.S. has slightly less than 2 children). We scale this variable by the number of directors. The resulting variable, $children$, measures the average number of children owning the firm's stocks. Importantly, this variable represents a lower bound for the total number of children (as children that do not own any stocks are necessarily unaccounted for).

We run a two-stage least square procedure in which we estimate the effect of instrumented nepotism on $Investment$. The first stage regression results, reported in Table VI Column (1), indicate that the number of children is highly correlated with nepotism. Furthermore, the Cragg-Donald Wald F-statistic significantly exceeds the rule of thumb for strong instruments ($F \geq 10$) suggested by Staiger and Stock (1997) as well as the Stock and Yogo (2005)'s 10% threshold. The estimated coefficient for the effect of instrumented nepotism on investment is still negative and statistically significant at the 5% level (see Column 2), consistent with a causal effect of nepotism on investment. To mitigate the concern that the influence on investment arises be-

cause of the voting rights of the children instead of via their parents' hiring choices, we replicate our analysis excluding firms owned for 20% or more by a family (Column 3). The estimated coefficient for instrumented nepotism remains substantially unchanged.

Overall, results in this section support a causality claim.

IV.E Evidence on the Channel

The previous sections have provided evidence which points in the direction of a causal effect of nepotism on investment. In this section, we provide some (suggestive) evidence on which type of frictions may trigger such an effect.

IV.E.1 Moral Hazard

A first plausible theoretical explanation for our findings derives from the classic agency problem. Directors that own little or none of the firm may extract private benefits, as the monitoring ability of the owners is limited. Private benefits in this setting arise from favoring relatives over unrelated employees. That may be the case because parents derive utility from their children success or because the wage assigned to the spouse remains in the household.

Favoritism may, however, hurt the firm for at least two reasons. First, relatives might be less skilled than outside workers because they are chosen among a much smaller pool of candidates and for reasons that are unrelated to their skill. Therefore, they may fail to recognize valuable investment opportunities when they arise (for instance, Bloom and Van Reenen (2007) and Bloom and Van Reenen (2010) show that firms in which the current CEO is the eldest son are substantially worse managed). Second, relatives may enjoy "special treatment," such as protection from firing when results are poor or an unjustifiably high remuneration that is unrelated

to their performance. This in turn would incentivize them to exercise minimal effort (see, e.g., Burkart, Panunzi, and Shleifer (2003), Caselli and Gennaioli (2005), Pérez-González (2006), Bennedsen, Nielsen, Pérez-González, and Wolfenzon (2007), Caselli and Gennaioli (2013)).

As an illustrative example consider the case of Cablevision Systems Corp (now Altice USA). Cablevision is the company with the highest number of disclosed family ties in our sample. The company was sued by a shareholder in March 2014 alleging that Charles Dolan (the former chairman) and his relatives "treated the company as a family coffer, with 10 family members on the 16-seat board and more than $100 million worth of compensation flowing to various relatives since 2010." The suing shareholder's allegations also include claims that Charles Dolan's three daughters on the board had little relevant experience beyond working for charities founded by their family, and that one of them has not been to any board meetings in person in 2013, despite drawing a $341,000 salary.[15]

It is, however, difficult to test directly these hypotheses in our setting. To develop a test that aims at assessing whether nepotistic firms indeed employ suboptimal workers, we collect data on a firm's key employees from Capital IQ People Intelligence. Capital IQ provides information on the most relevant employees of the firm (board members, CEO, directors, and managers) and, in particular, information on their education and salary. We therefore aggregate these variables at the firm level and compute the percentage of key people holding i) a college degree, ii) a graduate degree (master, PhD, or MBA), and iii) their base salary unrelated to performance. Our approach is motivated by previous research. Pérez-González (2006) shows that, in family firms, CEOs who did not attend top college institutions destroy value. Bertrand and Mullainathan (2001) argue that unmonitored directors

[15]See Friedman v. Dolan et al., case number 9425, in the Delaware Court.

set their own pay, irrespectively of their performance. Bertrand and Mullainathan (2003), Giroud and Mueller (2010), and Giroud and Mueller (2011) show that when governance weakens, white collars enjoy a "quiet life," as wages increase while both plants creation and destruction fall.

It is worth pointing out that we cannot match directly relatives to their educational background (to extract the names of all relatives for all American firms and match them to their education and salary is hardly feasible). Therefore, we focus on estimating a firm-level correlation between nepotism and the percentage of key employees holding a college degree, a master degree, and their average salary (excluding bonuses and stock options). We furthermore control for all variables that are likely to have a confounding effect. Therefore, we run the following specifications:

$$y_{i,t} = \beta \left(Nepotism_{i,t-1}\right) + \boldsymbol{\gamma}' \boldsymbol{X}_{i,t-1} + \alpha_t + \alpha_s + \epsilon_{i,t}, \tag{5}$$

where the dependent variable $y_{i,t}$ is alternatively: *College Degree*, *Graduate Degree*, and $Salary$. We find that an increase of one standard deviation in $Nepotism$ decreases by 2% the percentage of top employees holding a college degree (see also Figure 3), by 1.5 the percentage of top employees holding a graduate degree and, at the same time, increases by about $3,000 their base salary.

Overall, our results suggest that nepotistic firms are inefficient in their contracting with the workforce, as less skilled employees earn a higher wage, unconditional on performance. Such employees may thereby be more prone to overlook profitable investment opportunities and would probably prefer to live a "quiet life." Some caveats are however in order. Our proxy of skill is necessarily very rough. We cannot rule out the possibility that family members that are appointed to key positions compensate lower education with exceptional skills, acquired through the proximity with their family members (see, e.g., Bertrand and Schoar (2006)). Yet, the negative

effect of nepotism on investment suggests that this is not the case on average.

IV.E.2 Frictions in the Funding Market

Another explanation for our results is that, while family members are well aware of the available investment opportunities and would be willing to take advantage of them, lenders are less willing to fund them. Ellul, Pagano, and Panunzi (2010) argue that when inheritance law confers strong rights to noncontrolling heirs over the founder's estate the firm's ability to pledge future income to external financiers is reduced, thereby constraining the ability of the firm to fund investment. Their framework is not directly applicable to our setting, as the U.S. law confers to the founder high discretion on how to dispose of the bequest. However, similar dynamics may be at play if lenders perceive firms employing a large number of family members as riskier.[16]

To test these hypotheses, we match our main sample to a database of syndicated loans obtained from *Dealscan*, containing the spread over the Libor paid by a firm on each loan. We therefore construct a sample of loan-year observations. In our regressions, we additionally control for the maturity and the the size of the loan with respect to the size of the firm because of the likely correlation with the actual spread paid. The reason why we focus on loans instead of other sources of financing is twofolds. First, bank lenders enjoy a closer relationship with the firms that they finance, making them aware of existing conflicts of interest due to family connections. Second, a pecking order framework would suggest that the firm would favor debt over equity financing. Our sample and methodology are common in the literature examining debt issues (see, e.g., Valta (2012) and Parise (2016)). The regression

[16] An alternative hypothesis proposed by Anderson, Mansi, and Reeb (2003) is that family ties and a founder's presence may actually lower the cost of debt due to the fact that family members are involved in firms' activity in the long-term.

we run is the following:

$$Cost\ of\ Debt_{j,t} = \beta\ (Nepotism_{j,t-1}) + \delta_1(Maturity_{j,t}) + \delta_2(Loan\ Size_{j,t}) + \delta_3(Inv.\ Grade_{j,t}) + \boldsymbol{\gamma}'\boldsymbol{X}_{j,t-1} + \alpha_t + \alpha_s + \epsilon_{j,t}, \quad (6)$$

where $Cost\ of\ Debt_{j,t}$ is the interest paid on loan j, issued in year t by a given firm. All the firm-level variables are matched with the firm issuing the debt. In Column (1), we consider the same controls as in our baseline specification. Column (2) adds loan-level controls. Column (3) also adds a dummy variable to account for loan type fixed effects. The results reported in Table VIII do not display any statistically significant relation between nepotism and the interest paid on debt. Therefore, we conclude that our results are less likely to be driven by a more costly access to external funds.

V Conclusion and Extensions

Family ties within American corporations are widespread. We show that roughly one third of public firms in the U.S. report the presence of family connections among directors or between directors and other employees. Such a relevant incidence of family relationships in the economy warns about the existence of a severe conflict of interests, as family members' interests are likely to be favored over those of shareholders and unrelated employees.

While the literature documenting the effects of family ownership on performance and corporate policies is large, the findings are often mixed. We posit that one of the reasons why this is the case is that the most widely used definition of family firms—based on ownership by the same individual or family—confounds two

types of firms. The first type comprises successful enterprises where actual family ties among employees are rare but the entrepreneur retains a large fraction of ownership (e.g., Microsoft, Google, Oracle). The second type consists, by contrast, of firms in which several key employees are related by blood, marriage, or adoption regardless of who actually owns the firm. Our paper focuses on this second type of firms.

We find that (too many) family ties signal widespread nepotism and are detrimental to investment both in physical assets and R&D. Nepotistic firms invest less and are more likely to pass up valuable investment opportunities than their peers. This is especially the case when several sons, daughters, and brothers are employed. We instrument nepotism using the number of children of the directors, providing evidence in favor of a causal interpretation of our result. We additionally show that our results are only marginally affected by the exclusion of family-owned firms from the sample. Finally, we provide some evidence suggesting that our result might be explained by agency problems, as family members appointed to top roles tend to be on average less skilled and better paid.

We believe that our identification strategy may also be of use for future research. In general, our methodology allows to explore in greater detail the "family structure" within family and non-family firms. Follow up work may, for instance, explore further the implications of gender, family size, and age for corporate policies and performance. Finally, our framework might have implications for more macro-level investigations. For instance, Bertrand and Schoar (2006) and Alesina and Giuliano (2014) find that stronger family ties in a country are associated with lower GDP per capita. Our findings offer a rationale for why this might be the case and call for further investigation on cross-country heterogeneity in nepotism and its implications for economic growth.

References

Aghion, Philippe, John Van Reenen, and Luigi Zingales, 2013, Innovation and institutional ownership, *The American Economic Review* pp. 277–304.

Alesina, Alberto, and Paola Giuliano, 2014, *Family Ties*, vol. 2A . pp. 177–215 (North Holland).

Anderson, Ronald C, Sattar A Mansi, and David M Reeb, 2003, Founding family ownership and the agency cost of debt, *Journal of Financial Economics* 68, 263–285.

Anderson, Ronald C, and David M Reeb, 2003, Founding-family ownership and firm performance: Evidence from the S&P 500, *The Journal of Finance* pp. 1301–1328.

Asker, John, Joan Farre-Mensa, and Alexander Ljungqvist, 2014, Corporate investment and stock market listing: A puzzle?, *Review of Financial Studies* p. hhu077.

Bennedsen, Morten, Kasper M Nielsen, Francisco Pérez-González, and Daniel Wolfenzon, 2007, Inside the family firm: The role of families in succession decisions and performance, *The Quarterly Journal of Economics* pp. 647–691.

Berkman, Henk, Paul D Koch, and P Joakim Westerholm, 2014, Informed trading through the accounts of children, *The Journal of Finance* 69, 363–404.

Bertrand, Marianne, Simon Johnson, Krislert Samphantharak, and Antoinette Schoar, 2008, Mixing family with business: A study of Thai business groups and the families behind them, *Journal of Financial Economics* 88, 466–498.

Bertrand, Marianne, and Sendhil Mullainathan, 2001, Are CEOs rewarded for luck? the ones without principals are, *Quarterly Journal of Economics* pp. 901–932.

——— , 2003, Enjoying the quiet life? Corporate governance and managerial preferences, *Journal of Political Economy* 111, 1043–1075.

Bertrand, Marianne, and Antoinette Schoar, 2003, Managing with style: The effect of managers on firm policies, *The Quarterly Journal of Economics* 118, 1169–1208.

——— , 2006, The role of family in family firms, *The Journal of Economic Perspectives* pp. 73–96.

Bloom, Nick, and John Van Reenen, 2007, Measuring and explaining management practices across firms and countries, *The Quarterly Journal of Economics* pp. 1351–1408.

Bloom, Nicholas, and John Van Reenen, 2010, Why do management practices differ across firms and countries?, *The Journal of Economic Perspectives* pp. 203–224.

Burkart, Mike, Fausto Panunzi, and Andrei Shleifer, 2003, Family firms, *The Journal of Finance* pp. 466–498.

Caselli, Francesco, and Nicola Gennaioli, 2005, Credit constraints, competition, and meritocracy, *Journal of the European Economic Association* pp. 679–689.

——— , 2013, Dynastic management, *Economic Inquiry* 51, 971–996.

Chaney, Thomas, David Sraer, and David Thesmar, 2012, The collateral channel: How real estate shocks affect corporate investment, *The American Economic Review* 102, 2381–2409.

DeAngelo, Harry, and Linda DeAngelo, 2000, Controlling stockholders and the disciplinary role of corporate payout policy: A study of the Times Mirror Company, *Journal of Financial Economics* 56, 153–207.

Demsetz, Harold, and Kenneth Lehn, 1985, The structure of corporate ownership: Causes and consequences, *The Journal of Political Economy* pp. 1155–1177.

Ellul, Andrew, Marco Pagano, and Fausto Panunzi, 2010, Inheritance law and investment in family firms, *The American Economic Review* pp. 2414–2450.

Faccio, Mara, 2006, Politically connected firms, *The American Economic Review* 96, 369–386.

Giroud, Xavier, 2013, Proximity and investment: Evidence from plant-level data, *The Quarterly Journal of Economics* pp. 861–915.

——— , and Holger M Mueller, 2010, Does corporate governance matter in competitive industries?, *Journal of Financial Economics* 95, 312–331.

——— , 2011, Corporate governance, product market competition, and equity prices, *The Journal of Finance* 66, 563–600.

Gomez-Mejia, Luis R, Manuel Nunez-Nickel, and Isabel Gutierrez, 2001, The role of family ties in agency contracts, *Academy of Management Journal* 44, 81–95.

Hau, Harald, and Sandy Lai, 2013, Real effects of stock underpricing, *Journal of Financial Economics* 108, 392–408.

Hayashi, Fumio, 1982, Tobin's marginal q and average q: A neoclassical interpretation, *Econometrica* pp. 213–224.

Hölmstrom, Bengt, 1979, Moral hazard and observability, *The Bell journal of economics* pp. 74–91.

Hsu, Po-Hsuan, Sterling Huang, Massimo Massa, and Hong Zhang, 2014, The new lyrics of the old folks: The role of family ownership in corporate innovation, *INSEAD Working Paper*.

Huang, Jiekun, and Darren J Kisgen, 2013, Gender and corporate finance: Are male executives overconfident relative to female executives?, *Journal of Financial Economics* 108, 822–839.

James, Harvey S, 1999, Owner as manager, extended horizons and the family firm, *International Journal of the Economics of Business* 6, 41–55.

Jung, Kooyul, Yong-Cheol Kim, and RenéM Stulz, 1996, Timing, investment opportunities, managerial discretion, and the security issue decision, *Journal of Financial Economics* 42, 159–186.

Khanna, Tarun, and Krishna Palepu, 2000, Is group affiliation profitable in emerging markets? an analysis of diversified Indian business groups, *The Journal of Finance* pp. 867–891.

La Porta, Rafael, Florencio Lopez-de Silanes, and Andrei Shleifer, 1999, Corporate ownership around the world, *The Journal of Finance* 54, 471–517.

Lentz, Bernard F, and David N Laband, 1989, Why so many children of doctors become doctors: Nepotism vs. human capital transfers, *Journal of Human Resources* 24, 396–413.

Lins, Karl V, Paolo Volpin, and Hannes F Wagner, 2013, Does family control matter? International evidence from the 2008–2009 financial crisis, *Review of Financial Studies* 26, 2583–2619.

Malmendier, Ulrike, and Geoffrey Tate, 2005, CEO overconfidence and corporate investment, *The Journal of Finance* 60, 2661–2700.

Masulis, Ronald W, Peter Kien Pham, and Jason Zein, 2011, Family business groups around the world: Financing advantages, control motivations, and organizational choices, *Review of Financial Studies* 24, 3556–3600.

Mehrotra, Vikas, Randall Morck, Jungwook Shim, and Yupana Wiwattanakantang, 2013, Adoptive expectations: Rising sons in Japanese family firms, *Journal of Financial Economics* 108, 840–854.

Mueller, Holger M, and Thomas Philippon, 2011, Family firms and labor relations, *American Economic Journal: Macroeconomics* pp. 218–245.

Parise, Gianpaolo, 2016, Threat of entry and corporate debt maturity: Evidence from airlines, *Swiss Finance Institute Research Paper*.

Pérez-González, Francisco, 2006, Inherited control and firm performance, *The American Economic Review* pp. 1559–1588.

Peters, Ryan H, and Lucian A Taylor, 2016, Intangible capital and the investment-q relation, *Forthcoming, Journal of Financial Economics*.

Shleifer, Andrei, and Robert W Vishny, 1997, A survey of corporate governance, *The Journal of Finance* 52, 737–783.

Sraer, David, and David Thesmar, 2007, Performance and behavior of family firms: Evidence from the french stock market, *Journal of the European Economic Association* pp. 709–751.

Staiger, Douglas O, and James H Stock, 1997, Instrumental variables regression with weak instruments, *Econometrica* 65, 557–586.

Stein, Jeremy C, 1988, Takeover threats and managerial myopia, *The Journal of Political Economy* pp. 61–80.

——— , 1989, Efficient capital markets, inefficient firms: A model of myopic corporate behavior, *The Quarterly Journal of Economics* pp. 655–669.

Stinson, Martha, and C Wingnall, 2014, Fathers, children and the inter-generational transmission of employers, *U.S. Census Bureau Working paper No. 265*.

Stock, James H, and Motohiro Yogo, 2005, Testing for weak instruments in linear iv regression, *Identification and inference for econometric models: Essays in honor of Thomas Rothenberg*.

Valta, Philip, 2012, Competition and the cost of debt, *Journal of Financial Economics* 105, 661–682.

Villalonga, Belen, and Raphael Amit, 2006, How do family ownership, control and management affect firm value?, *Journal of Financial Economics* 80, 385–417.

Whelpton, Pascal K, Arthur A Campbell, and John E Patterson, 1964, Trends and determinants of family size in the united states, *American Journal of Public Health and the Nations Health* 54, 1834–1840.

Zahra, Shaker A, 2005, Entrepreneurial risk taking in family firms, *Family Business Review* 18, 23–40.

Tables and Figures

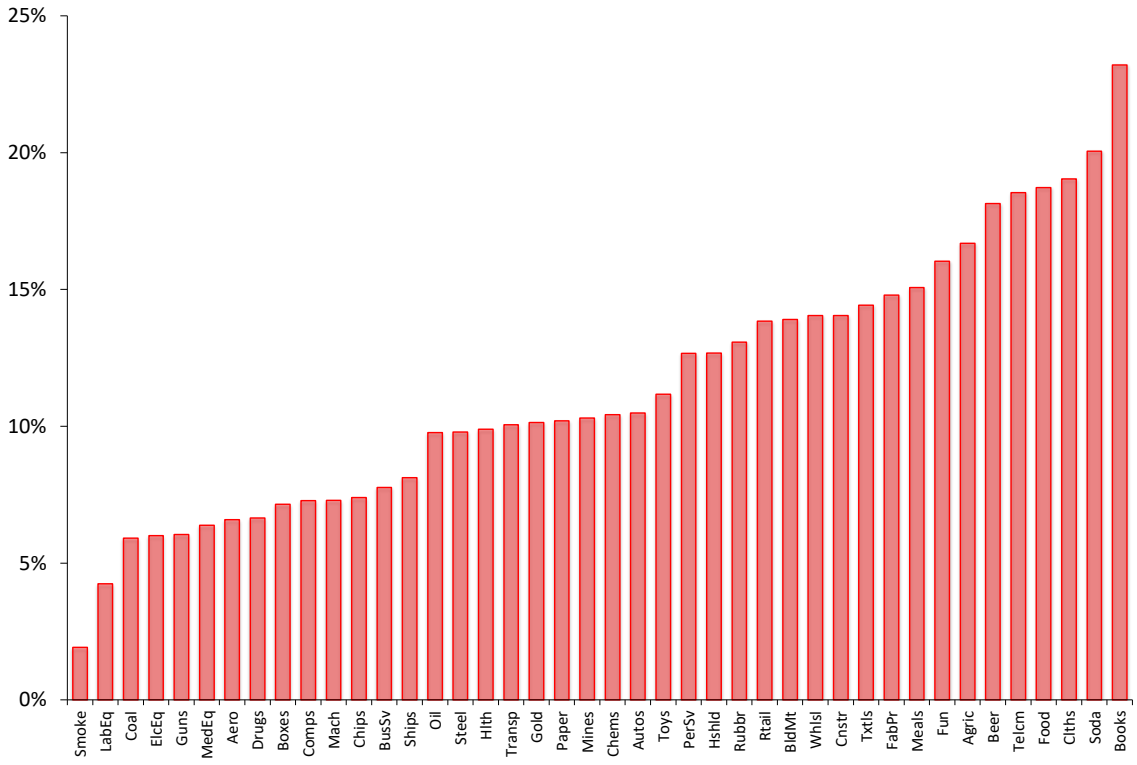

Figure 1: Variations in nepotism between industries. The 48 Fama and French classification framework is employed, financial and utility firms are excluded. *Nepotism* is the number of family ties among directors and between directors and other employees scaled by total directors.

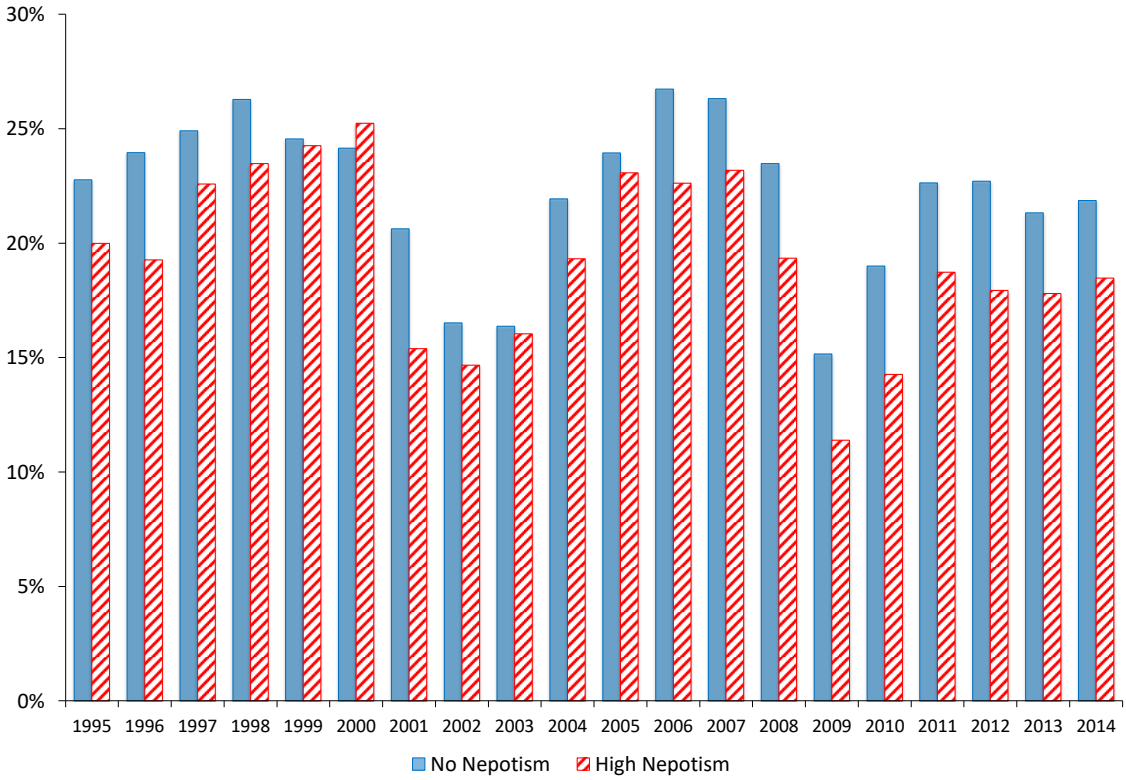

Figure 2: Median annual investment levels for firms displaying no family ties at all ($Nepotism = 0$) and $Nepotism$ above the 90th percentile ($High\ Nepotism = 1$). $Nepotism$ is the number of family ties among directors and between directors and other employees scaled by total directors.

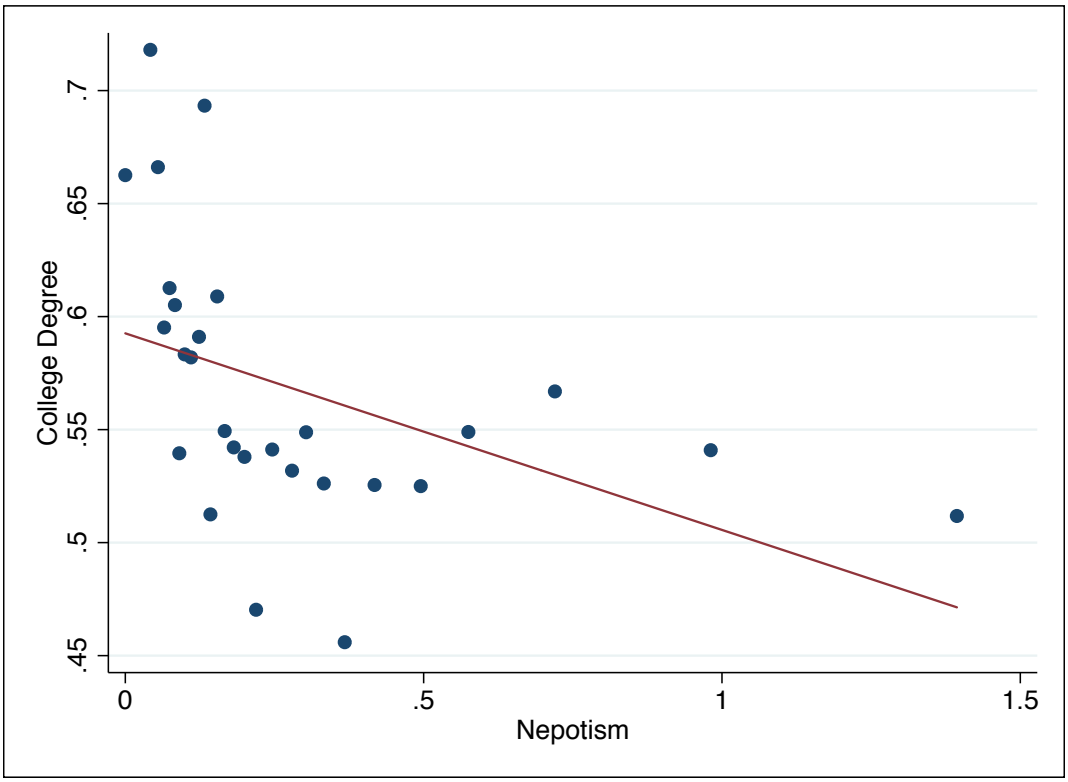

Figure 3: Education level. *College Degree* represents the percentage of key employees in the firm holding a college degree. *Nepotism* is the number of family ties among directors and between directors and other employees scaled by total directors. The observations are collapsed into 30 bins to reduce dispersion. The average for each bin is plotted.

Table I: Ties

This table reports the number and type of family ties that our algorithm captures by counting the number of potential conflicts disclosed by each firm every year in the last proxy statement published. Only the most common family ties are reported.

	Type of Family Tie										# Firms
Year	Sons	Daughters	Husbands	Wives	Brothers	Sisters	Cousins	Nephews	Fathers	Mothers	
1994	147	19	18	85	127	20	57	17	49	8	493
1995	282	44	34	157	227	37	79	34	107	19	1006
1996	383	53	51	204	286	48	82	40	161	30	1479
1997	485	77	89	305	395	58	97	46	235	40	2135
1998	544	102	104	355	463	73	111	48	295	46	2517
1999	559	125	107	339	506	93	112	53	286	52	2716
2000	543	136	112	361	557	97	129	57	280	53	2785
2001	552	125	117	365	557	99	132	47	293	61	2901
2002	573	144	95	334	589	113	124	47	295	58	3035
2003	648	153	109	377	612	132	132	42	294	62	2931
2004	749	178	111	377	673	124	138	55	312	64	2892
2005	873	199	95	352	700	127	135	52	321	52	2851
2006	885	208	85	342	713	150	134	70	319	64	2844
2007	833	196	82	339	685	156	127	58	324	65	2795
2008	820	186	69	330	741	155	127	59	324	63	2756
2009	797	169	83	308	711	180	127	64	298	61	2723
2010	785	176	89	289	665	160	125	55	308	60	2641
2011	728	184	81	271	654	152	119	55	292	56	2528
2012	706	185	80	263	664	163	109	55	252	67	2497
2013	692	177	75	269	645	162	92	54	251	63	2443
Total	12584	2836	1686	6022	11170	2299	2288	1008	5296	1044	48968

Table II: Summary Statistics

Summary statistics for nepotism and corporate variables. Panel A reports the number of observations, the average, standard deviation, 25th percentile, median, 75th percentile for each variable. Panel B reports pairwise correlations among the main variables.

Panel A: Statistics

	Obs.	Mean	St. Deviation	25th percentile	Median	75th percentile
Nepotism	48738	0.1019	0.2257	0.0000	0.0000	0.1111
Investment	48738	0.3407	0.4864	0.1146	0.2114	0.3842
R&D	31624	0.1176	0.2122	0.0078	0.0459	0.1351
Q	48738	2.4521	4.2649	1.1277	1.5466	2.4182
Total Q	48738	1.3171	2.4828	0.2793	0.6877	1.3953
Profitability	48738	-0.0615	0.5962	-0.0366	0.0618	0.1179
Stock Return	48738	0.3094	1.1988	-0.2559	0.0604	0.4582
College Degree	37559	0.6272	0.3339	0.3750	0.6923	0.9444
Graduate Degree	37559	0.3914	0.2816	0.1667	0.4000	0.6000
Salary	37559	208482	128303	126033	176936	253145

Panel B: Pairwise Correlations

	Nepotism	Investment	Q	Size	Profitability	College Degree
Nepotism	1.0000					
Investment	-0.0347	1.0000				
Q	-0.0170	0.1945	1.0000			
Size	-0.0427	-0.1676	-0.2678	1.0000		
Profitability	0.0061	-0.0637	-0.6577	0.4114	1.0000	
College Degree	-0.1200	0.0987	0.0855	0.1243	-0.0926	1.0000

Table III: Effects of Nepotism on Investment

This table reports estimates for the effect of nepotism on corporate Investment and R&D spending. *Nepotism* is the number of family ties among directors and between directors and other employees scaled by total directors. *High Nepotism* is a dummy variable that takes a value of one if *Nepotism* is in the top decile of its distribution and takes a value of zero otherwise. Column (1) reports estimates for the baseline specification, in Column (2) firms that do not disclose any family tie are excluded, in Column (3) firms owned for at least 20% by a single individual or family and firms for which we have no ownership information are excluded, in Column (5) the dependent variable is *R&D*. The fixed effects included in each specification are indicated at the bottom of the table. Errors are clustered at the firm level and reported in parentheses below the coefficients. ***, **, *, indicate statistical significance at the 1%, 5%, and 10% respectively.

	Dependent Variable: Investment				R&D
	Baseline	Disclosure>0	Family Firm≠1	Non-linearity	Intangibles
	(1)	(2)	(3)	(4)	(5)
Nepotism	-0.0539***	-0.0388***	-0.0528***	—	-0.0322***
	(0.011)	(0.013)	(0.013)		(0.007)
High Nepotism	—	—	—	-0.0255***	—
				(0.008)	
Q	0.0222***	0.0199***	0.0262***	0.0222***	0.0060***
	(0.002)	(0.004)	(0.003)	(0.002)	(0.001)
Size	-0.0279***	-0.0282***	-0.0302***	-0.0277***	-0.0100***
	(0.002)	(0.003)	(0.002)	(0.002)	(0.001)
Profitability	0.1078***	0.1094***	0.1292***	0.1077***	-0.1282***
	(0.012)	(0.022)	(0.014)	(0.012)	(0.008)
Stock Return	0.0599***	0.0518***	0.0588***	0.0600***	0.0027**
	(0.004)	(0.006)	(0.004)	(0.004)	(0.001)
Time fixed effects?	yes	yes	yes	yes	yes
Industry fixed effects?	yes	yes	yes	yes	yes
Obs.	48,738	16,922	37,810	48,738	31,624
R2	0.131	0.134	0.148	0.131	0.524

Table IV: Sensitivity to Investment Opportunities

This table reports estimates for the effect of nepotism interacted with Tobin's (average) Q (or Peters and Taylor's total Q) on corporate Investment. *Nepotism* is the number of family ties among directors and between directors and other employees scaled by total directors. The fixed effects included in each specification are indicated at the bottom of the table. Errors are clustered at the firm level and reported in parentheses below the coefficients. ***, **, *, indicate statistical significance at the 1%, 5%, and 10% respectively.

	Dependent Variable: Investment			
	Tobin's Q		Peter and Taylor's Q	
	(1)	(2)	(3)	(4)
Nepotism × Q	-0.0133***	-0.0164***	-0.0262***	-0.0273**
	(0.003)	(0.004)	(0.009)	(0.012)
Nepotism	-0.0212*	0.0124	-0.0220*	0.0033
	(0.012)	(0.021)	(0.013)	(0.022)
Q	0.0240***	0.0259***	0.0467***	0.0501***
	(0.002)	(0.003)	(0.003)	(0.004)
Size	-0.0279***	-0.0666***	-0.0299***	-0.0821***
	(0.002)	(0.008)	(0.002)	(0.007)
Profitability	0.1084***	0.1951***	0.0129***	0.0960***
	(0.012)	(0.020)	(0.009)	(0.019)
Stock Return	0.0596***	0.0455***	0.0501***	0.0366***
	(0.004)	(0.004)	(0.003)	(0.004)
Time fixed effects?	yes	yes	yes	yes
Industry fixed effects?	yes	no	yes	no
Firm fixed effects?	no	yes	no	yes
Obs.	48,738	48,738	48,738	48,738
R2	0.132	0.336	0.156	0.350

Table V: Which Family Ties?

This table reports estimates for the effect of different family ties on corporate investment. *Wives*, *Husbands*, *Sisters*, *Borthers*, *Daugthers*, and *Sons* are respectively the number of wife, husband, sister, brother, and son ties scaled by the number of directors. The fixed effects included in each specification are indicated at the bottom of the table. Errors are clustered at the firm level and reported in parentheses below the coefficients. ***, **, *, indicate statistical significance at the 1%, 5%, and 10% respectively.

	Dependent Variable: Investment						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Sons	-0.0074***						-0.0047*
	(0.003)						(0.003)
Daughters		-0.0080***					-0.0062**
		(0.003)					(0.003)
Husbands			-0.0050**				-0.0038
			(0.002)				(0.002)
Wives				-0.0034			0.0006
				(0.002)			(0.003)
Brothers					-0.0086***		-0.0070***
					(0.002)		(0.002)
Sisters						-0.0038*	-0.0002
						(0.002)	(0.002)
Q	0.0222***	0.0223***	0.0223***	0.0223***	0.0223***	0.0223***	0.0223***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Size	-0.0276***	-0.0275***	-0.0275***	-0.0275***	-0.0275***	-0.0274***	-0.0277***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Profitability	0.1076***	0.1075***	0.1076***	0.1075***	0.1076***	0.1076***	0.1077***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Stock Return	0.0600***	0.0600***	0.0599***	0.0600***	0.0600***	0.0600***	0.0599***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Time fixed effects?	yes	yes	yes	yes	yes	yes	yes
Industry fixed effects?	yes	yes	yes	yes	yes	yes	yes
Obs.	48,738	48,738	48,738	48,738	48,738	48,738	48,738
R2	0.131	0.131	0.131	0.131	0.131	0.131	0.131

Table VI: Endogeneity of Nepotism

Column (1) reports the first-stage regression of *Nepotism* on *Children* and controls. Columns (2) and (3) show the second-stage estimations of corporate investment on instrumented nepotism and controls. In Column (3) firms owned for at least 20% by a single individual or family and firms for which we have no ownership information are excluded. *Nepotism* is the number of family ties among directors and between directors and other employees scaled by total directors. *Children* is the average number of children of directors, irrespectively of whether they work in the same firm as their parents or not. The fixed effects included in each specification are indicated at the bottom of the table. Errors are clustered at the firm level and reported in parentheses below the coefficients. ***, **, *, indicate statistical significance at the 1%, 5%, and 10% respectively.

	First-Stage	Second-Stage	
		All sample	Family Firm≠1
	(1)	(2)	(3)
Children	0.1392***	—	—
	(0.014)		
Nepotism	—	-0.1354**	-0.1246*
		(0.058)	(0.071)
Q	-0.0003	0.0222***	0.0261***
	(0.001)	(0.002)	(0.003)
Size	-0.0090***	-0.0288***	-0.0308***
	(0.001)	(0.002)	(0.002)
Profitability	0.0059	0.1082***	0.1296***
	(0.004)	(0.012)	(0.014)
Stock Return	-0.0019*	0.0597***	0.0586***
	(0.001)	(0.004)	(0.004)
Time fixed effects?	yes	yes	yes
Industry fixed effects?	yes	yes	yes
Obs.	48,738	48,738	37,810
R2	0.129	0.130	0.147

Table VII: Extracting Private Benefits?

This table reports estimates for the effect of nepotism on education and average wage. This table reports estimates for the relation between nepotism and key employees pay and education. *Nepotism* is the number of family ties among directors and between directors and other employees scaled by total directors. *College Degree* is the percentage of top employees holding a bachelor degree, *Graduate Degree* is the percentage of top employees holding a graduate degree (MBA, master, or PhD), *Salary* is the average salary paid to key employees excluding bonuses and stock options. The fixed effects included in each specification are indicated at the bottom of the table. Errors are clustered at the firm level and reported in parentheses below the coefficients. ***, **, *, indicate statistical significance at the 1%, 5%, and 10% respectively.

	Dependent Variable		
	College Degree	Graduate Degree	Salary
	(1)	(2)	(3)
Nepotism	-0.0768***	-0.0669***	13,121***
	(0.017)	(0.013)	(4,513)
Q	0.0004	0.0001	835***
	(0.001)	(0.001)	(202)
Size	0.0324***	0.0339***	37,227***
	(0.002)	(0.002)	(605)
Profitability	-0.0587***	-0.0486***	-16,941***
	(0.007)	(0.006)	(1,533)
Stock Return	0.0086***	0.0056***	-2,310***
	(0.001)	(0.001)	(356)
Time fixed effects?	yes	yes	yes
Industry fixed effects?	yes	yes	yes
Obs.	37,559	37,559	37,559
R2	0.303	0.325	0.605

Table VIII: Costs of External Funding

This table reports estimates for the effect of nepotism on the cost of debt. *Cost of Debt* is computed as the log of all-in-spread drawn from the Dealscan database (i.e., the amount the borrower pays in basis points over LIBOR or LIBOR equivalent for each dollar drawn down). Observations are at the loan level. *Nepotism* is the number of family ties among directors and between directors and other employees scaled by total directors. The fixed effects included in each specification are indicated at the bottom of the table. Errors are clustered at the firm level and reported in parentheses below the coefficients. ***, **, *, indicate statistical significance at the 1%, 5%, and 10% respectively.

	Dependent Variable: Cost of Debt		
	(1)	(2)	(3)
Nepotism	0.0591	0.0097	0.0098
	(0.045)	(0.037)	(0.032)
Q	-0.1091***	-0.0880***	-0.0792***
	(0.024)	(0.018)	(0.015)
Size	-0.2480***	-0.1683***	-0.1623***
	(0.009)	(0.008)	(0.008)
Profitability	-0.9842***	-1.0527***	-0.9427***
	(0.104)	(0.091)	(0.083)
Stock Return	0.0877***	0.0715***	0.0643***
	(0.007)	(0.006)	(0.005)
Investment Grade	—	-0.6362***	-0.5159***
		(0.033)	(0.029)
Loan Size	—	-0.0332***	-0.0274***
		(0.005)	(0.005)
Maturity	—	0.1101***	-0.0433***
		(0.012)	(0.015)
Time fixed effects?	yes	yes	yes
Industry fixed effects?	yes	yes	yes
Loan type fixed effects?	no	no	yes
Obs.	15,490	15,490	15,490
R2	0.526	0.593	0.654

A Online Appendix

A.A Theoretical framework

We build a simple, illustrative model to give an example of how nepotism could have a negative impact on the governance of a firm by incentivizing a lower effort, which translates in a lower firm value.

In the model we have an agent who maximizes her utility, given by a Cobb-Douglas function where the two inputs are free-time and salary. Both free-time and salary in our model are defined as functions of a variable e that we call *effort*. The effort is a latent variable that proxies the extra-mile the agent is willing to go to improve the firm's performance and is bounded between zero and one. The agent's utility is therefore given by:

$$\begin{aligned} &U_A = (1-e)^{\gamma} \left(\theta_F + \theta_B e\right)^{1-\gamma} \\ &\text{where} \quad 0 \leq e, \gamma \leq 1 \quad \text{and} \quad 0 < \theta_F, \theta_B < 1 \end{aligned} \tag{7}$$

The first term $(1-e)$ represents free-time and the second term $(\theta_F + \theta_B e)$ represents the salary earned by the agent. The salary is given by the sum of two elements: a fixed term θ_F, that captures the fixed portion of the total salary, and a second term $\theta_B e$ that captures the variable portion of the salary and is proportional to the effort e. The γ parameter represents the free-time (or, in our case, the 'non-effort') preference of the agent and, just as e, is bounded between zero and one. The agent maximizes her utility in the variable e given her free-time preference γ and the salary parameters θ_F and θ_B.

In the model there is another subject, who acts as the *principal*. The principal's utility positively depends by the firm value, but can be also be (positively) affected by the agent's utility. In this sense we can see the principal as *altruistic*. We model

also the principal's utility as a Cobb-Douglas function in two terms:

$$
\begin{aligned}
&U_P = [1 + e - (\theta_F + \theta_B e)]^{1-N} \; [U_A]^N \\
&\text{where} \quad 0 \leq e, N \leq 1 \quad \text{and} \quad 0 < \theta_F, \theta_B < 1
\end{aligned}
\tag{8}
$$

The first term captures the firm value (normalized to one), increased by the effort e of the agent, net of the salary paid to the agent ($\theta_F + \theta_B e$). The second term is simply the agent's utility U_A, as defined above. The parameter N represents the*nepotistic preference* parameter of the principal and is bounded between zero and one. When parameter N is equal to zero the principal is not affected by the utility of the agent and simply maximizes the firm value; when parameter N is equal to one the principl's utility coincides with the agent's utility and the firm value does not enter into her utility function. The principal maximizes her utilty by changing the salary parameters θ_F and θ_B, given all the other parameters.

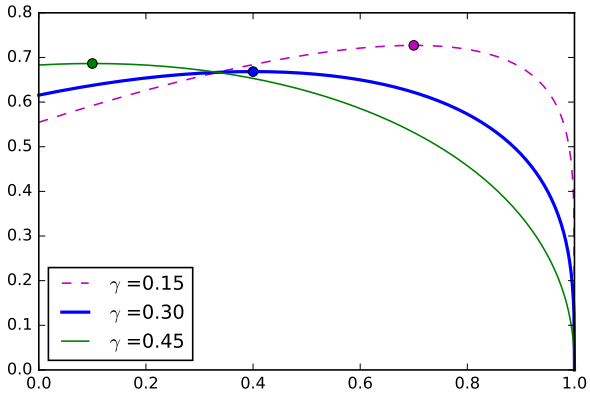

Figure 1: Optimal Agent's Utility as a function of effort e for different values of γ and $\theta_F = \theta_B = .5$

The model is solved as follows. The agent responds to any given set of salary parameters θ_F and θ_B with an optimal effort level $\tilde{e}$, which maximizes her utility function U_A given her free-time preference γ. The principal, knowing the optimal

response of the agent $\tilde{e}$, sets the salary parameters θ_F and θ_B so to maximize her utility function U_P, given her nepotistic preference parameter N.

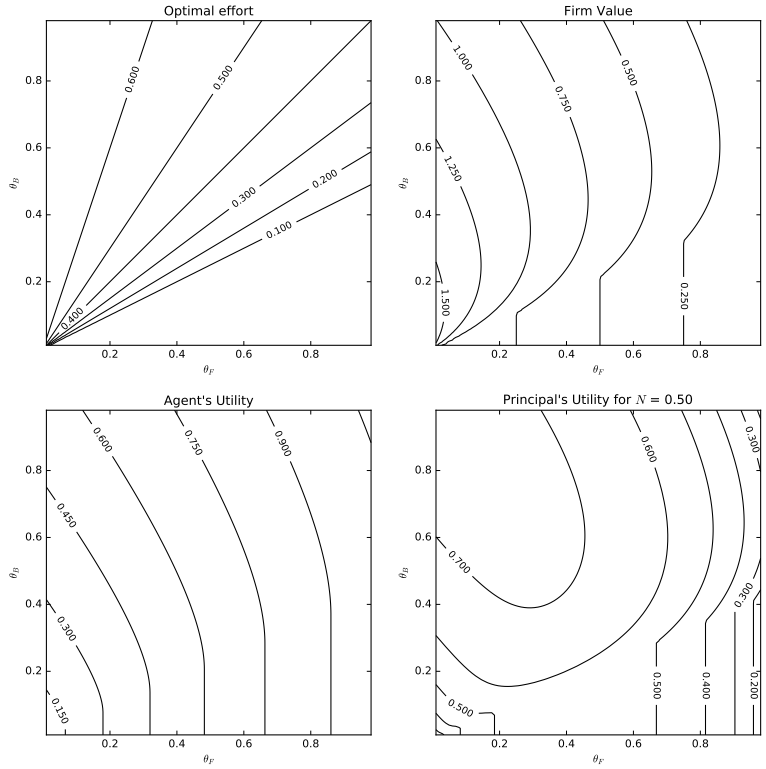

Figure 2: Optimal Effort (upper left) as a function of θ_F and θ_B; Firm Value (upper right), Agent's Utility (lower left) and Principal's utility (lower right), evaluated considering the optimal effort associated to each pair of salary parameters θ_F and θ_B. In all panels $\gamma = .30$.

Since the utility function of the agent is concave in e, first oder conditions, together with the constraints, lead to the optimal agent's response in terms of $\tilde{e}$:

$$\tilde{e} = \max\left(1 - \gamma \frac{\theta_F}{\theta_B}; 0\right) \tag{9}$$

The principal's problem therefore becomes the following:

$$\begin{aligned} \max_{\theta_F,\theta_B} \quad & [1+\tilde{e}-(\theta_F+\theta_B\tilde{e})]^{1-N}\left[(1-\tilde{e})^{\gamma}(\theta_F+\theta_B\tilde{e})^{1-\gamma}\right]^{N} \\ \text{s.t.} \quad & 0<\theta_F,\theta_B<1 \end{aligned} \tag{10}$$

that we need to solve numerically. The final solution of the problem is given by an optimal set of salary parameters $\tilde{\theta}_F$ and $\tilde{\theta}_B$ and clearly depends on the free-time preference γ of the agent and, most importantly, on the nepotistic preference N of the principal.

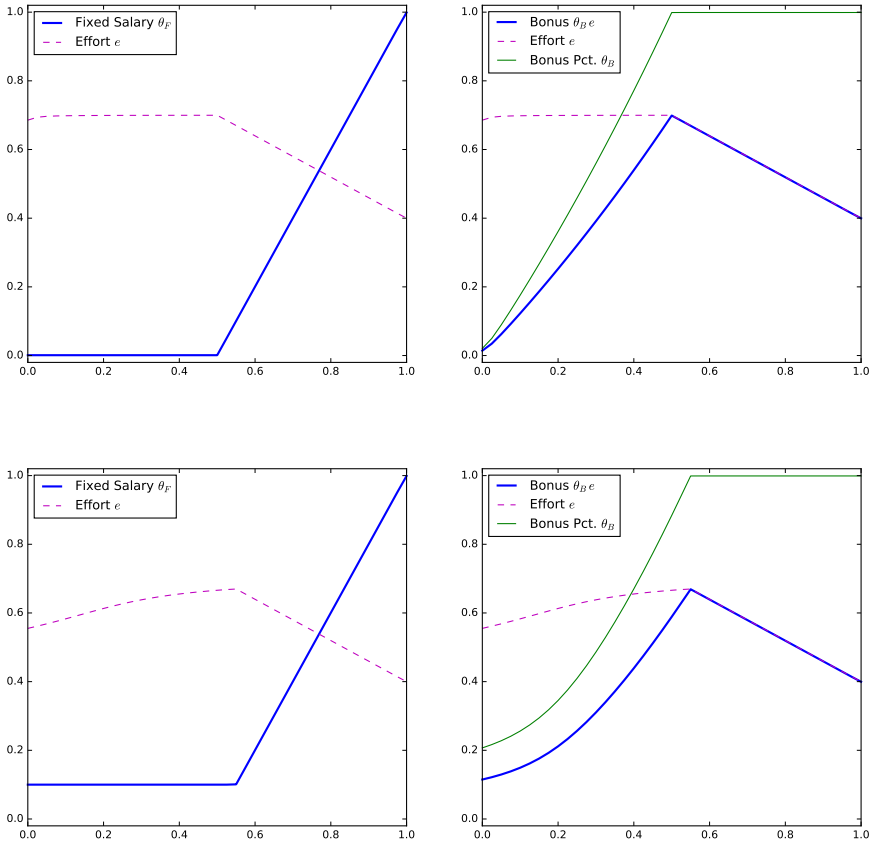

Figure 3: Equilibrium outcome as a function of nepotistic preference N for $\gamma = .30$; the minimum fixed salary θ_F is set at .001 (panels on top) and at .1 (panels below).

The equilibrium we find is the following. As the nepotistic preference N of the

principal increases from zero to one, both salary parameters θ_F and θ_B increase, as describes in Figure 3. For moderate values of N the increase is only in θ_B, which is the share of extra-performance retained by the agent (thin solid line in the right panels of Figure 3). For values of N above a certain threshold, also the parameter θ_F, which is the fixed salary, starts to increase (thick solid line in the left panels of Figure 3). While the increase in θ_B has no negative impact on the optimal response of the agent in terms of effort (and can actually have a positive impact as soon as the lower bound for the fixed salary is greater than zero, see the comparison between the dashed line in the top and bottom panels of Figure 3), the increase in the fixed salary θ_F triggers a decrease in the optimal effort e chosen by the agent. The consequence of this reduction in the optimal effort e from the agent is that, while the share of extra-performace retained by the agent θ_B increases monotonically in N up to the upper bound, the variable salary itself ($\theta_B\, e$) starts to decrease for higher values of N (right panels of Figure 3). Therefore, the variable portion of the salary cashed-in by the agent has a non-monotonic behaviour in N (thick solid line in the right panels of Figure 3). Finally, as the weight of the firm value in the utility function of the principal is decreasing in N, it is no surprise that the firm value in equilibrium is inversely related to the principal's nepotistic preference.

A.B Extract from Cablevision 2013 Proxy Statement

The Board has nominated the seventeen director candidates named below all of whom currently serve as our directors. Of the seventeen nominees for director, twelve are to be elected by the Class B stockholders and five are to be elected by the Class A stockholders. All of the directors are elected for a one year term. Each current director was elected by the stockholders at the last annual meeting. The Company representatives named in the proxy intend to vote for the election of each

of the director nominees below, unless you indicate on your proxy that your vote should be withheld from any or all of the nominees. If a Class A director nominee becomes unavailable before the election, the Company representatives named in the Class A proxy would be authorized to vote for a replacement Class A director nominee if the Board names one. If a Class B director nominee becomes unavailable before the election, the Company representatives named in the Class B proxy would be authorized to vote for a replacement Class B director nominee if the Board names one. Information on each of our nominees is given below. The Board recommends you vote FOR each of the following candidates:

THOMAS C. DOLAN, 60, Director of the Company since 2007. Executive Vice President-Strategy and Development, Office of the Chairman since September 2008. Executive Vice President and Chief Information Officer of the Company from October 2001 until April 2005. Mr. Dolan was on unpaid leave of absence from April 2005 until September 2008. Senior Vice President and Chief Information Officer of the Company from February 1996 to October 2001. Vice President and Chief Information Officer of the Company from July 1994 to February 1996. General Manager of the Company's East End Long Island cable system from November 1991 to July 1994. System Manager of the Company's East End Long Island cable system from August 1987 to October 1991. He also served as a director of the Company from March 1998 to May 2005. He serves as a director of AMC Networks Inc. and The Madison Square Garden Company. Thomas C. Dolan is the **son** of Charles F. Dolan, the **brother** of James L. Dolan, Kathleen M. Dolan, Patrick F. Dolan, Deborah Dolan-Sweeney and Marianne Dolan Weber, the **brother-in-law** of Kristin A. Dolan and Brian G. Sweeney and the **nephew** of Edward C. Atwood. In light of Mr. Dolan's experience as a member of Cablevision's founding family and in various positions with Cablevision since 1987, as well as the knowledge and experience he has gained and

contributions he has made during his tenure as a director of the Company, a majority of our Board of Directors, acting on the recommendation of a majority of the directors elected by the Class B stockholders, has concluded that he should be reelected to the Board. In light of the lawsuit filed by Thomas C. Dolan against Cablevision described under "Related Party Policy and Certain Transactions - Other,âĂİ the following directors abstained from the Board's recommendation on Thomas C. Dolan: Messrs. Araskog, Biondi, Carter, Reifenheiser, Ryan, Tese and Tow.

DEBORAH DOLAN-SWEENEY, 49, Director of the Company since 2008. Director of Dolan Family Foundation since 1986. Director of Dolan Children's Foundation since 1997. She serves as a director of The Madison Square Garden Company. Deborah Dolan-Sweeney is the **daughter** of Charles F. Dolan, the **spouse** of Brian G. Sweeney, the **sister** of James L. Dolan, Kathleen M. Dolan, Patrick F. Dolan, Thomas C. Dolan and Marianne Dolan Weber, the **sister-in-law** of Kristin A. Dolan and the **niece** of Edward C. Atwood. In light of Ms. Dolan-Sweeney's experience as a member of Cablevision's founding family, as well as the knowledge and experience she has gained and contributions she has made during her tenure as a director of the Company, our Board of Directors, acting on the unanimous recommendation of the directors elected by the Class B stockholders, has concluded that she should be reelected to the Board.

BRIAN G. SWEENEY, 48, Director of the Company since 2005. Senior Executive Vice President, Strategy and Chief of Staff since January 2013. Senior Vice President - eMedia of the Company from January 2000 to January 2013. He serves as a director of AMC Networks Inc. and The Madison Square Garden Company. Brian G. Sweeney is the **son-in-law** of Charles F. Dolan, the **spouse** of Deborah Dolan-

Sweeney and the **brother-in-law** of James L. Dolan, Kathleen M. Dolan, Kristin A. Dolan, Patrick F. Dolan, Thomas C. Dolan and Marianne Dolan Weber. In light of Mr. Sweeney's experience in various positions with Cablevision since 1993, as well as the knowledge and experience he has gained and contributions he has made during his tenure as a director of the Company, our Board of Directors, acting on the unanimous recommendation of the directors elected by the Class B stockholders, has concluded that he should be reelected to the Board.

EDWARD C. ATWOOD, 77, Director of the Company since May 2011. Vice President - Multimedia Services of the Company since 1998. Mr. Atwood is the **brother-in-law** of Charles F. Dolan and the **uncle** of James L. Dolan, Kathleen M. Dolan, Patrick F. Dolan, Deborah Dolan-Sweeney, Thomas C. Dolan and Marianne Dolan Weber.

KATHLEEN M. DOLAN, 50, Director of the Company since 2008. Director and Founder of Purple Crayon Productions, Inc., a Woodstock, Vermont based community art and music center since September 2004. Kathleen M. Dolan is the **daughter** of Charles F. Dolan, the **sister** of James L. Dolan, Patrick F. Dolan, Thomas C. Dolan, Deborah Dolan-Sweeney, Marianne Dolan Weber, the **sister-in-law** of Kristin A. Dolan and Brian G. Sweeney and the **niece** of Edward C. Atwood. In light of Ms. DolanâĂŹs experience as a member of Cablevision's founding family, as well as the knowledge and experience she has gained and contributions she has made during her tenure as a director of the Company, our Board of Directors, acting on the unanimous recommendation of the directors elected by the Class B stockholders, has concluded that she should be reelected to the Board.

KRISTIN A. DOLAN, 46, Director of the Company since 2010. President, Optimum Services of the Company since April 2013. Senior Executive Vice President of Product Management and Marketing from November 2011 to April 2013. Senior Vice President of the Company from 2003 to 2011. Ms. Dolan has been an employee of the Company since 1990. She serves as a director of AMC Networks Inc. and The Madison Square Garden Company. Kristin A. Dolan is the **daughter-in-law** of Charles F. Dolan, the **spouse** of James L. Dolan and the**sister-in-law** of Kathleen M. Dolan, Patrick F. Dolan, Thomas C. Dolan, Brian G. Sweeney, Deborah Dolan-Sweeney and Marianne Dolan Weber.In light of Ms. DolanâĂŹs experience in various positions with Cablevision since 1990, as well as the knowledge and experience she has gained and contributions she has made during her tenure as a director of the Company, our Board of Directors, acting on the unanimous recommendation of the directors elected by the Class B stockholders, has concluded that she should be reelected to the Board.