Topic 4
Topic 2
Topic 3
Topic 1
Topic 5

Topic3
p7, p21, p28

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FAMILY FIRST? NEPOTISM AND CORPORATE INVESTMENT*

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Abstract

An open puzzle in financial economics is why firms invest less than they should according to their available investment opportunities. Notably, an element that economic research overlooks is how firms select the individuals in charge of investment decisions. This paper explores how the presence of kinship ties among high-ranked employees affects corporate investment. To measure kinship ties, we build a unique dataset of connections among individuals hired in strategic positions by the same firm. We address endogeneity concerns using the heterogeneity in ancestries and family arrangements across U.S. counties to instrument kinship ties. We find that firms headquartered in counties where locals inherited stronger family values hire more relatives and we show that the presence of kinship ties hinders investment. Overall, we argue that lower investment levels arise because of nepotism: opportunistically hired workers are less skilled and have a lower incentive to exert effort.

JEL Codes: G31, G40, J33

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I Introduction

Investment drives capital formation, and the stock of capital is a key determinant of output and consumption levels. But what determines a firm's ability to invest? Although this question has been the focus of decades of academic research, standard models have a hard time explaining the investment levels observed empirically (see, e.g., Whited (1998) and Erickson and Whited (2000)). An element that is mostly overlooked by the related literature is how firms recruit individuals in charge of selecting and implementing investments. Does nepotism in hiring decisions pose an impediment to investment?[1] While many papers emphasize the positive role of family firms[2]—firms *owned* in large part by a single family or individual—there is little empirical evidence on the effects of kinship ties among individuals *employed* by the same firm. Our paper aims at filling this gap.

From a theoretical perspective, the implications of the presence of kinship ties for investment are ambiguous. On the one hand, a strong family presence can mitigate managerial short-termism and reduce the separation between managers and employees, thereby decreasing agency costs and fostering investments (James (1999)). On the other hand, implementing profitable investments requires management skills and effort throughout the different stages of the investment process. Individuals selected on family rather than merit may lack decision-making abilities (Caselli and Gennaioli (2013)) or be less incentivized to exert effort (Prendergast and Topel (1996)).

To measure kinship ties, we rely on a disclosure requirement of public firms in the United States. In particular, listed firms have to report in their proxy statements the presence of kinship connections among individuals appointed to top positions in the

[1] "Nepotism" is commonly defined as the act of using power or influence to get good jobs or unfair advantages for family members (definition from the Cambridge Dictionary).

[2] Family-owned firms outperform nonfamily firms on a variety of metrics see, e.g., Anderson and Reeb (2003), Zahra (2005), Sraer and Thesmar (2007), and Mueller and Philippon (2011).

same company. We gather information from more than 50,000 proxy statements filed with the Securities and Exchange Commission (SEC). We then process the text in the filings by developing an algorithm that counts the number of connections by blood, marriage, or adoption. We consider the number of kinship connections scaled by the number of managers (*KIN*) as our main explanatory variable.

As an illustrative example, Cablevision Systems Corporation discloses the highest number of ties out of the firms in our sample. Providing anecdotal support to our identification strategy, in march 2014 the firm was sued by a shareholder 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 included 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 did not attend any board meetings in person during 2013, despite drawing a $341,000 salary.[3]

We provide evidence that kinship ties among high-ranked employees hinder investment. In our analysis, we find that a one standard deviation increase in *KIN* is associated with investment levels that are 3.2% lower than average. Investment levels are 7.6% lower for firms in the top decile of the *KIN* distribution. We further attempt to disentangle whether high-*KIN* firms invest less because they avoid value-wasting investments or fail to seize value-enhancing opportunities. Consistent with the latter explanation, we find that these firms are more likely to pass up *valuable* investment opportunities.

A potential concern with our result is, however, that unobservable factors may simultaneously affect both investment decisions and the number of kinship ties. For

[3]See case number 9425 in Delaware Court: "Friedman v. Dolan et al."

instance, low-skilled directors may overlook value-enhancing investments *and* hire close relatives. Alternatively, firms may be more likely to hire relatives when they need to invest. We tackle such endogeneity concerns in two ways: first, we use within-firm variations in nepotism to show that an increase in the nexus of family ties lowers investment *within* the same firm. Second, we adopt an instrumental variable (IV) approach to estimate the causal effect of kinship ties on investment.

To construct the first instrument, we rely on a feature unique to the United States. American citizens descend from a multiplicity of ancestries, with different norms and values. As norms are generally passed down from one generation to another (see, e.g., Bertrand and Schoar (2006); Algan and Cahuc (2010)), we conjecture that the attitude of individuals toward family members may be correlated with that of their ancestors. We then proceed in three steps. First, we use a representative survey of individuals' values (the World Value Survey) to assess the strength of family ties for different nationalities. Second, we use CENSUS data to determine the largest ancestry in each U.S. county. Third, we link each ancestry to the family values of the corresponding nationality. For instance, if the largest ancestry in a U.S. county is *Italian* we assume that locals have similar family values to those of *Italian* respondents to the World Value Survey. Consistent with our conjecture, we find that the strength of family values inherited in a given U.S. county is positively correlated with *KIN* in firms headquartered in that county.

As a second instrument, we focus on the percentage of *family* households (versus *single-person* households) in the county. The idea behind this approach is that persons living by themselves presumably attach lower importance to family ties and, when in managerial positions, lack close relatives to favor over external candidates. Importantly, neither inherited family values nor the percentage of family households are likely to be directly related to corporate investment. Our IV approach identifies a large causal effect of kinship ties on investment.

Why do kinship ties hinder investment? Drawing from previous research we can formulate three hypotheses. First, relatives might be less qualified than outside workers because they are selected from a much smaller pool of candidates and for reasons that are unrelated to their skill (Burkart, Panunzi, and Shleifer (2003); Pérez-González (2006)). Consequently, they may fail to recognize valuable investment opportunities when they arise. Second, relatives may have an incentive to choose to exert a sub-optimal level of effort. This can be the case because they are arguably less likely to be fired if they fail to accomplish their tasks or because they are rewarded regardless of performance. In other words, a moral hazard problem arises because the incentives of the individuals in charge of the hiring process are not aligned with those of the shareholders (Shleifer and Vishny (1997); Bertrand and Mullainathan (2003)). Third, the presence of kinship ties could allow employees to extract private benefits, which may result in a greater risk of defaulting on external debt. This, in turn, could translate into higher costs of borrowing for the firm ex ante, thereby curbing the supply of resources to fund investment (Ellul, Pagano, and Panunzi (2010)).

Our results are broadly consistent with the first two hypotheses. In fact, we find that the number of kinship ties is negatively associated with the number of highly qualified employees in the firm (after controlling for the industry in which the firm operates and other likely co-determinants). Furthermore, we find that the turnover among high-ranked employees is significantly lower in high-*KIN* firms. Yet, the *fixed* part of the compensation package of top employees is higher, whereas the *variable* compensation is similar to that of peer firms. This evidence suggests that, in high-*KIN* firms, both the risk of being fired and the percentage of salary based on performance are lower, thereby incentivising top employees to slack off. Conversely, using a large dataset of firm borrowing conditions, we do not find evidence supporting the hypothesis that high-

KIN firms pay a higher cost of debt. This rules out the possibility that a credit supply channel explains underinvestment.

Our paper contributes to different streams of literature. First, a large number of papers study family firms, which are commonly defined as firms of which 20% or more is held by a single family or individual.[4] Yet, this classification does not necessarily identify firms employing families. Many *concentrated*-ownership firms employ few related individuals (for instance, this is the case of firms like Google, Amazon, Facebook, and Oracle). In addition to that, *fragmented* ownership actually attenuates shareholder's monitoring over the directors, thereby facilitating opportunistic hiring. In this paper, we adopt a novel approach by focusing on kinship ties rather than ownership. Concentrated ownership is beneficial for businesses because large owners limit managerial expropriation (Demsetz and Lehn (1985); Shleifer and Vishny (1986)), have longer horizon (James (1999)), are more likely to have political connections (Faccio (2006)), and are more effective monitors (Anderson, Mansi, and Reeb (2003)). Superior monitoring, in turn, can lead to more investment and productivity (Giroud (2013)) and better research and innovation (Aghion, Van Reenen, and Zingales (2013)). By contrast, we find that the presence of actual kinship ties has mostly negative implications. Importantly, all our findings remain similar when family firms are excluded.

Our work stresses the "dark side" of family connections. In this regard, the papers most closely related to ours are Pérez-González (2006) and Bennedsen, Nielsen, Pérez-González, and Wolfenzon (2007). The former paper shows that family firms that appoint relatives as CEOs underperform. The latter uses a unique dataset from Denmark to show that family successions have a causal effect on family firm performance.[5]

[4]See, e.g., Masulis, Pham, and Zein (2011) and Hsu, Huang, Massa, and Zhang (2015).

[5]Other papers that find that family firms tend to underperform when passed down to the heirs include Villalonga and Amit (2006), Bloom and Van Reenen (2007), Bertrand, Johnson, Samphantharak, and Schoar (2008), and Anderson, Duru, and Reeb (2009). By contrast, Mehrotra, Morck, Shim, and Wiwattanakantang (2013) find that family firms passed down to the heirs outperform in Japan, whereas Bach (2016) finds that the negative effect of family control is small after accounting for

Both papers provide evidence that goes in the same direction as our result. However, our paper is broader in scope: CEO successions in family-owned firms are relatively infrequent because of the entrenchment of family CEOs. By contrast, the phenomenon that we document in our paper is widespread: every year nepotism influences the allocation of jobs at different hierarchical levels both in family- and non-family-owned firms. To the best of our knowledge, this paper is the first to assess the extent and the effects of nepotism in a context alternative to that of family successions.

Finally, our work has implications for the macroeconomic literature. Previous work shows that the strength of family ties in a country is negatively related to its GDP per capita (Bertrand and Schoar (2006)) and is an important determinant of trust, participation of women to the labor force, and geographical mobility (Alesina and Giuliano (2010)). Our paper provides a micro-foundation for these findings. In particular, we show that the presence of kinship ties stifles corporate investment, which is a sizeable component of GDP and a key source of capital formation.[6] Importantly, our analysis is likely to understate the extent of kinship ties, as we focus only on U.S. public firms. The costs of nepotism are presumably higher in countries with less developed institutions and in economies where fewer firms are public.

The remainder of the paper is structured as follows. Section II presents the data and the summary statistics. Section III reports the empirical findings. Section IV discusses possible underlying economic mechanisms, Section V presents additional results, and Section VI concludes.

dynastic preferences. See Bertrand and Schoar (2006) for a comprehensive overview of the literature.

[6]In this regard, our paper adds to a large literature studying the determinants of corporate investment (e.g., Chaney, Sraer, and Thesmar (2012); Hau and Lai (2013); and Asker, Farre-Mensa, and Ljungqvist (2014)).

II Data Description and Summary Statistics

We obtain the information to conduct our analysis from a variety of sources:

Kinship ties. We extract information on the presence of kinship ties for *all* public firms in the United States from the proxy statements available from EDGAR (some examples are included in the Online Appendix). In particular, Regulation S-K (see items 401(a)-(f)) requires public firms to disclose in the proxy statements the presence of any relationships by blood, marriage, or adoption, not more remote than first cousin when such relationships can create a conflict of interests. This definition identifies as relatives of current employees 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 same household.

We use textual analysis to extract the information regarding kinship ties from the proxy statements. Specifically, we develop an algorithm that analyzes the content of each proxy statement, extracting all reported ties (the procedure is described in details in the Online Appendix). Notably, only ties among "relevant" employed individuals are disclosed. This includes directors, executive officers, nominees to directors and executive positions, and persons such as production managers, sales managers, or research scientists *who make or are expected to make significant contributions to the business.* The presence of a family relationship between two employees without strategic responsibilities will not be disclosed in the filings and, as a consequence, will not be considered in our analysis. Ties are commonly disclosed from the perspective of the highest-ranked person. For example, if the CEO of a firm hires his son in a non-directorial position usually a "son connection" is reported but *not* a "father connection." As a consequence, family relationships are not necessarily even and reciprocal. In fact, most of the disclosed relationships in our sample are asymmetrical, i.e., there are more children (sons and daughters) than parents (fathers and mothers) and more wives than husbands.

This is the case because in our sample, fathers, mothers, and husbands are on average higher up in the hierarchy of the firm than sons, daughters, and wives.[7]

Inevitably, our measure contains some noise. For instance, we cannot exclude that our algorithm sometimes counts the same tie twice due to repetitions in the proxy statements (we discuss the procedure that we adopt to minimize these occurrences in the Online Appendix). Similarly, we cannot address the whole universe of "false positives." For instance, in a sentence disclosing one director's previous affiliation with "Lehman *Brothers*", our algorithm originally mistakenly reported a "*brother* tie." We manually check and improve the accuracy of our algorithm by iterating our procedure several times and adjusting it to address common sources of misclassification. However, some errors have necessarily gone unnoticed. Importantly, there is no reason why miscounting due to occasional misclassification by our algorithm, should be correlated with future investment decisions. Therefore, the presence of noise is presumably working against finding a significant relation between kinship ties and investment.

We aggregate the results of our textual analysis by year and firm. When multiple proxy statements are available for the same firm in the same year we consider the most recent one. In the original filings the firms are identified by CIK code. We link the CIK codes to CUSIP and GVKEY in order to merge the sample with additional data needed for our analysis.

Table I reports summary statistics for the connections disclosed. Column (2) presents the frequency of each kinship tie out of the total number of ties counted by our algorithm. Column (3) indicates the percentage of firms that disclose the presence of each tie. The most common kinship tie in our sample is "son," which is four times more frequent than "daughter" (this is consistent with previous evidence of preferen-

[7] Our algorithm counts the number of *ties* not the number of relatives. For instance, if employee X is the *son* of a director we count 1 tie, if he is the *son* of a director and the *husband* of another director, we count 2 ties. See the Online Appendix for more details on the measurement of family ties.

tial treatment towards sons, see Bennedsen, Nielsen, Pérez-González, and Wolfenzon (2007)). In particular, 27% of the ties disclosed by the firms in our sample are "son ties" and 15% of the firms report the presence of at least one employed son.[8] Besides sons, the relatives that are more common in our sample are brothers and wives. By contrast, the presence of uncles, grandparents, and ex-wives is quite rare.

KIN. We build our main measure of kinship ties at the firm level as follows:

$$KIN_{i,t} = \frac{Kinship\ Ties_{i,t}}{Number\ of\ Managers_{i,t}}, \tag{1}$$

where $Kinship\ Ties_{i,t}$ measures the number of ties disclosed by firm i in year t, and $Number\ of\ Managers_{i,t}$ is the number of managers employed by firm i in year t. In the Online Appendix, we present results obtained using alternatively as the main independent variable i) the number of kinship ties without any scaling, ii) the number of kinship ties scaled by the number of employees, and iii) a dummy variable that takes a value of 1 if the firm discloses the presence of at least one kinship tie and takes a value of 0 otherwise (see Table A.2). All the results remain qualitatively similar. This rules out the possibility that the relation between investment and kinship ties is driven by the number of managers (the denominator of KIN) rather than by the number of relatives. To conduct our main analysis, we standardize KIN in order to simplify the interpretation of the results.

Importantly, our variable does not necessarily indicate the presence of unfair hiring practices. We do find the presence of kinship ties in a number of highly successful firms and we cannot exclude the possibility that some hired family members are more skilled than alternative candidates. Likewise, we cannot assess whether some underqualified individuals are actually hired only to attract highly qualified partners, which the firm would not be able to hire or retain otherwise. In our analysis, we simply aim at assessing

[8] In this analysis, we do not distinguish between "sons" and "sons-in-law."

the *average* effect of widespread kinship ties on investment.

Figure 1 plots the average value of (non-standardized) *KIN* across the 48 Fama-French industries. All industries disclose the presence of some kinship ties. All sectors but three (*Tobacco*, *Laboratory Equipment*, and *Coal*) display on average more than one tie every 20 managers. Kinship ties are prevalent in high volume, low margin industries (e.g., *Publishing*, *Alimentary*, *Soft Drinks*, *Textile*, and *Agriculture*). Two industries (*Publishing* and *Alimentary*) report on average the presence of more than one kinship tie every four managers.

Financial Variables. We obtain most of the financial variables from COMPUSTAT. The main variable of interest, *Investment*, is computed following the related literature as capital expenditure (CAPX) normalized by the lagged book value of properties, plant, and equipment (PPE). This approach is analogous to, e.g., Bertrand and Schoar (2003), Chaney, Sraer, and Thesmar (2012), and Hau and Lai (2013). *R&D* is computed as R&D expenditures (XRD) over lagged total assets (AT). We also consider a number of control variables. *Size* is the log of total assets (AT). Q is computed as the market value of equity, calculated as the number of common stocks (CSHO) times the end-of-year close price of common shares (PRCC_F), plus the book value of assets (AT) minus the value of common equity (CEQ), the resulting value is then normalized by total assets (AT). *Leverage* is defined as long-term debt plus debt in current liabilities (DLTT+DLC) over total assets (AT), *Profitability* is earnings before interest and taxes (EBIT) over total assets (AT). All variables are winsorized at the 1% level to account for the presence of misreporting and outliers.

We obtain variables related to educational attainment, tenure, and compensation at the individual level from CAPITAL IQ People Intelligence. *Undergraduate Degree* is the percentage of employees in top roles holding an undergraduate degree, *Graduate Degree* is computed as the percentage of employees in top roles holding an MBA, a master's degree, or a PhD. *Tenure* is the average length of employment of high-ranked employees in the same role (in years). Only the tenure of individuals that ended their mandate in the period covered by our data is considered (as we need a beginning and an end date to calculate the length of the job assignment). *Fixed Pay* is the average annual base salary of high-ranked employees in dollars, *Variable Pay* is the average annual bonus of high-ranked employees in dollars.

We obtain data on the number of managers and the ownership structure of firms from OSIRIS. Following the related literature, we define as "family firms" those for which 20% or more of the shares are owned by a single family or individual (see, e.g., La Porta, Lopez-de Silanes, and Shleifer (1999); Faccio and Lang (2002); Masulis, Pham, and Zein (2011); and Hsu, Huang, Massa, and Zhang (2015)).[9] OSIRIS only provides a snapshot of the current ownership structure and not the whole time series. Family ownership is however extremely persistent (see the discussion in Hsu, Huang, Massa, and Zhang (2015)). We find the percentage of family firms in our sample to be around 17%, which is in line with related studies.[10] Importantly, family-owned firms do not necessarily employ related individuals. For instance, this is the case if the founder (or his heir) runs the firm without appointing any relative to managerial positions. By contrast, non-family-owned firms sometimes employ several related individuals. The correlation between *Family Firm* and *KIN* in our sample is 8.6%.

Instruments. For our first instrument, *Inherited Family Values*, we obtain data on the largest ancestry for each U.S. county from the 2011-2015 American Community Survey available from the CENSUS website.[11] We assign to each ancestry a proxy for

[9] Alternatively, a number of papers use either a 10% or a 25% threshold. Our results remain qualitatively similar if we use these thresholds to classify family firms.

[10] In our analysis, we assume that firms for which OSIRIS does not provide ownership information are family owned. The findings for the effects of nepotism do not depend on this assumption.

[11] The relevant ancestries for the firms in our sample are: African, French, German, British, Indian, Irish, Italian, Polish, Portuguese, and American. While there are other large ancestries in the United States, none of the firms in our sample are headquartered in the corresponding counties.

the strength of family values by using data from the fifth wave of the World Value Survey collected in the period 2005-2009.[12] The World Value Survey consists of nationally representative surveys conducted in a large number of countries. One of the questions asked in the fifth wave aims at assessing the strength of family values: The question is "How important is family in your life?". Respondents are asked to select one of the following response "Not at all important"; "Not very important"; "Rather important"; "Very important." We give a score to each answer from one ("Not very important"==1) to four ("Very important"==4) and we compute the average response of all surveyed people from the same country. We then link these values to the corresponding U.S. counties based on the nationality of the dominant ancestry (e.g., we assign Italian family values to firms headquartered in U.S. counties where the main ancestry is Italian). We replace the value for one nationality not covered by the fifth wave of the World Value Survey ("Irish") with the average family value in the sample. As the American Community Survey does not distinguish between different African countries (i.e., the county-level survey reports an aggregate "African" ancestry rather than specifying one ancestry for each African country), we obtain a value for African family values by taking the average across all African countries included in the fifth wave of the World Value Survey weighted by the number of respondents. In any case, results remain qualitatively similar if we exclude firms headquartered in U.S. counties where the dominant ancestries are Irish or African.

Regarding our second instrument, *Family Households*, we obtain information on the percentage of households including two or more members from the county-level CENSUS demographic survey (variable "HC03_VC04").

Sample Selection and Summary Statistics. We impose a number of filters to select the firms for our sample. Specifically, we drop i) financial firms and utilities, ii)

[12] We focus on the fifth wave as it is the one with the largest overlap with the ancestries in our sample in terms of covered countries.

observations for which the value of book assets is zero or negative, iii) firms that report negative sales, iv) firms for which we do not have at least three years of history, v) firms that have a missing CIK code,[13] vi) firms for which OSIRIS does not provide the number of managers, vii) firms for which we cannot recover the proxy statement, and viii) firms for which any of the main variables that we use in our analysis is missing or impossible to compute. This leaves us with 4,814 unique firms. Our time series span the years from 1997 through 2014, as no information on kinship ties is available before 1994 and is reported with gaps between 1994 and 1997. Around 35% of the firms disclose the presence of some kinship ties. Our sample is free of survivorship bias, as we have information for both existing and defunct firms. Importantly, our sample is also free of selection bias, as all listed firms are obliged to disclose the presence of potential conflicts of interest arising from the presence of kinship ties.

Panel A of Table II reports the summary statistics for the main variables. The average value of *KIN*, before standardizing the variable, is 0.10. This indicates that firms in our sample disclose on average one kinship tie every 10 managers. The distribution of *KIN* is however highly skewed: most firms do not disclose any kinship tie, whereas 552 observations (193 unique firms) report more than one kinship tie per manager. Values for the financial variables are in line with other studies conducted on COMPUSTAT covering a similar period (see, e.g., Chaney, Sraer, and Thesmar (2012)). Table II, Panel B reports pairwise correlations among the main variables. *KIN* is negatively related with *Size*, *Q*, and *Undergraduate Degree*, whereas it exhibits a positive correlation with *Leverage* and *Family Firm*.

[13] As we need the CIK code to link firm financials to the information on kinship ties.

III Effects of Kinship Ties

This section is divided in three parts. The first part provides evidence indicating that kinship ties lower corporate investment. The second part tests whether lower investment levels are optimal from a firm's perspective. The third section addresses endogeneity concerns.

III.A Kinship Ties and Investment

A first look at average investment patterns over time is suggestive of a negative relation between *KIN* and corporate investment. In all sample years, firms in the top decile of the *KIN* distribution exhibit lower investment levels than firms that disclose no kinship ties (see Figure 2). However, this result could be explained by differences in investment opportunities or by industry dynamics. To mitigate the influence of confounding factors, we estimate the average effect of kinship ties on investment in a multivariate framework. Our baseline specification is as follows:

$$Investment_{i,t} = \beta\,(KIN_{i,t-1}) + \gamma'\,X_{i,t-1} + \alpha_{t\times s} + \varepsilon_{i,t}, \tag{2}$$

where i indexes firms, t indexes years, $X_{i,t-1}$ is a vector of time-varying control variables, $\alpha_{t\times s}$ are year×industry fixed effects (3-digit SIC codes are used), and $\varepsilon_{i,t}$ is the error term. The year×industry dummies control for aggregate annual fluctuations in investment at the industry level. The controls account for time-varying determinants of investment at a firm level. In our baseline specification, we do not include firm fixed effects, as most of the variables of interest are highly persistent over time (e.g., most firms exhibit no variation in *KIN* in the years covered by our sample). In all our specifications, we cluster standard errors at the firm level to account for the presence of serial correlation in investment behavior. Table III reports estimates from alternative specifications of Equation (2).

Column (1) starts with the baseline estimation. Our coefficient of interest indicates that *KIN* covaries negatively with future investment. A one standard deviation increase in *KIN* has a negative estimated impact of 1.0 percentage point on *Investment*, which is 3.2% of the average value in the sample. The coefficient is statistically significant at the 1% confidence level. The baseline result points to a detrimental effect of nepotism on corporate investment: on average firms employing relatives in top roles invest less. The estimated coefficients for the control variables are in line with the related literature. More profitable firms with better investment opportunities invest more, while large firms and firms burdened by debt invest less.

In Column (2), we replicate the estimation restricting our sample to firms that are not family owned. Our coefficient of interest remains largely unchanged (-1.1), thereby ruling out the concern that the negative effect on investment is driven by family firms or by family successions. This result also mitigates concerns regarding the possibility that lower investment is driven by family infighting over the founder's bequest or succession taxes. Conflicts over the appropriation of resources may lead family members to neglect their management duties, potentially causing lower investment. Consistent with this argument, Bertrand, Johnson, Samphantharak, and Schoar (2008) find that Thai business groups tend to underperform when the founder dies, especially if he or she has many sons (while the negative effect is lower in the case of many daughters). Furthermore, Tsoutsoura (2015) shows that succession taxes lead to a decline in investment around family successions. By excluding family-owned firms, we make sure that our results are not driven by succession wars or succession taxes, as the firms that remain in the sample cannot be passed down to family members.

Column (3) reports the within-firm estimates. A one standard deviation increase in *KIN* is associated with a 0.78 percentage points decrease of investment by the same firm

(2.5% of the baseline ratio). This specification accounts for invariant unobservables, as firm fixed effects absorb invariant factors at the firm level. The statistical significance of the coefficient of interest decreases, as *KIN* is highly persistent over time, but remains significant at the 5% level. This finding indicates that firms invest less after appointing new family members to top positions. This finding also mitigates the concern that persistent unobservables may drive the result (like, for instance, corporate culture, see Guiso, Sapienza, and Zingales (2015)) .

In Column (4), we replace *KIN* with a dummy variable that takes a value of 1 when *KIN* is in the top decile of its distribution (results obtained when *KIN* is greater than zero are reported in the Online Appendix). In this way, we assess the investment behavior of the firms disclosing the highest number of kinship ties relative to employed managers. Firms in the top decile of *KIN* invest 2.4 percentage points less (7.6% less with respect to the baseline ratio of 32%). The result is robust across alternative sample cuts and confirms the finding we obtain with the continuous measure of nepotism.

Column (5) presents the results from a difference-in-difference estimation. Treated firms are those that enter the top decile of the distribution of *KIN* (*High KIN*=1). We find that firms decrease investment by 1.7 percentage points (5% of the average ratio in our sample) when treated with respect to firms that do not receive the treatment.

Finally, Column (6) reports estimates for the effects of *KIN* on R&D spending. This test is of particular interest as it provides some insight on the channel through which investment is affected. On the one hand, kinship ties could be positive for innovation, as family members are less exposed to the risk of being fired if a risky project does not pay out due to bad luck. This, in turn, could incentivize top employees to undertake more research (Aghion, Van Reenen, and Zingales (2013)). On the other hand, investing in innovation usually requires technical qualifications that managers unfairly appointed to top roles are less likely to have. Consistent with a negative effect of nepotism on innovation, we find that a one standard deviation increase in *KIN* decreases R&D spending by 0.92 percentage points, which corresponds to 7.7% of the baseline ratio. The magnitude of the effect on R&D is almost double the one estimated for capital investment. Additional robustness tests are presented in Table A.1 of the Online Appendix.

III.B Kinship Ties and Sensitivity to Investment Opportunities

Results in the previous section indicate that firms prone to nepotism invest less, which is consistent with theoretical models of favoritism (see, e.g., Prendergast and Topel (1996)). A lower investment level is, however, not necessarily sub-optimal. In fact, high-*KIN* firms could be less likely to engage in empire building or other types of wasteful investments (assuming that relatives are better monitors, see Anderson, Mansi, and Reeb (2003)).

To ascertain whether underinvestment is sub-optimal, we test whether the investment levels of high-*KIN* firms are less responsive to increases in investment opportunities. A lower sensitivity would suggest that these firms fail to take advantage of available opportunities. According to the neoclassical Q theory, investment should be a function of a firm's investment opportunities, up to the point at which its marginal Q equals one. However, marginal Q is unobservable. Hayashi (1982) shows that under a set of assumptions the marginal Q of a firm is equal to its (observable) average Q. As a result, average Q is widely used to proxy investment opportunities in the literature. More recently, Peters and Taylor (2017) find that, by incorporating intangible capital in the computation of Q, a superior proxy of the unobservable investment opportunities of the firm can be obtained (named "total Q").

To estimate the sensitivity of corporate investment to investment opportunities, we interact *KIN* with both proxies of investment opportunities (one at the time, as they are highly correlated), and we regress investment on the resulting interaction terms. Importantly, in this setting we are particularly interested in the specification that includes firm fixed effects, as we aim to estimate the sensitivity of investment behavior to changes in investment opportunities within the same firm. Formally:

$$\begin{aligned} Investment_{i,t} = \beta_1 \left(KIN_{i,t-1} \times Q_{i,t-1}\right) + \\ \beta_2 \left(KIN_{i,t-1}\right) + \beta_3 \left(Q_{i,t-1}\right) + \gamma' X_{i,t-1} + \alpha_{t\times s} + \alpha_i + \varepsilon_{i,t}, \quad (3) \end{aligned}$$

where $Q_{i,t-1}$ is alternatively Tobin's average Q (Table IV, Columns 1 and 2) and Peters and Taylor's total Q (Table IV, Columns 3 and 4).

Firms prone to nepotism are substantially *less* sensitive to changes in investment opportunities. We find that a one standard deviation increase in total Q leads, on average, to an increase in investment of 8.9 percentage points. However, the estimated coefficient falls to only 7.9 percentage points when *KIN* is one standard deviation higher (11% lower).[14] In short, firms that do not employ relatives in top roles are more responsive to changes in investment opportunities. Interestingly, the coefficient estimated for the effect of non-interacted *KIN* becomes non-statistically different from zero (see Columns 1, 2, and 4). This suggests that the lower investment levels of high-*KIN* firms are entirely explained by their lower sensitivity to investment opportunities. This result is of particular interest considering that an open question in finance is why firms appear to have lower sensitivity to investment opportunities than predicted by the Q theory (see, e.g., the discussion in Asker, Farre-Mensa, and Ljungqvist (2014)). Our findings indicate that nepotistic practices explain a significant part of this lower

[14] As $-0.0039 * 2.61 + 0.0343 * 2.61 = 0.079$ (using specification 4).

sensitivity.

III.C Endogeneity of Kinship Ties and Investment

Results in the previous sections suggest that *KIN* is negatively associated with investment. Yet, our baseline empirical approach cannot exclude the possibility that lower investment is the result of unobservable differences between firms that manifest preferential treatment for family members and those that do not. Our previous results exploiting within-firm variations in kinship ties do mitigate this concern. Nonetheless, unaccounted time-varying factors could still be affecting our estimations. For example, hiring and investment are likely to be positively correlated, as firms that increase investment need arguably more new workers than firms that are downsizing. If most relatives are hired when a firm invests, the OLS coefficient is likely to be upward biased, as the *negative* effect of nepotism on investment might be partially balanced out by the *positive* relation between investment and hiring. This suggests that the negative effect of *KIN* on investment should be economically bigger than the one estimated with OLS regressions. To improve our identification, we follow an instrumental variable (IV) approach.

The instruments that we are going to use need to provide exogenous variation in the propensity to unfairly favor relatives without directly affecting or being affected by investment. We consider two candidate variables that are likely to satisfy these requirements. Our first instrument, *Inherited Family Values*, proxies for the strength of family ties in the U.S. county where the firm is headquartered. We use information on the nationality of the dominant ancestry in each U.S. county to infer the importance of family ties for locals. To give an illustrative example, the largest ancestry in New York County is Italian. Therefore, we assign to firms headquartered in New York County a value for the strength of family ties based on how Italians respond to the World

Value Survey question "How important is family in your life?". The rationale for this proxy stems from the persistence of social norms (see, e.g., Bertrand and Schoar (2006); Guiso, Sapienza, and Zingales (2006); Giuliano (2007); Algan and Cahuc (2010); and Voigtländer and Voth (2012)). Norms and values of current U.S. residents are passed down from ancestors who immigrated into different areas of the United States, thereby creating a heterogeneity of cultural backgrounds and family values. The presence of a heritable component in social norms suggests that the family values of people currently employed by U.S. firms are likely to be correlated with those of their ancestors.[15] Importantly, the family values of ancestors who arrived in the United States in past decades are unlikely to directly affect current corporate investment decisions.

This empirical approach presents an important advantage with respect to considering individuals *currently* living in the United States. Notably, the family values of American residents may be correlated with unobservable factors that affect the investment levels of all firms headquartered in the same geographical area (e.g., local labor market dynamics). By contrast, most of the respondents to the World Value Survey do not live in the United States. Hence, their responses to questions in the World Value Survey are unlikely to be driven by U.S. county-level unobservables. This mitigates the possibility that the exclusion restriction may be violated.

One concern with this approach is, however, that the largest ancestry may have had an impact on the economic development of a U.S. county, potentially affecting the investment opportunities of firms through a channel different from nepotism. To mitigate the concern that ancestry affects investment via other economic variables, we run an additional IV regression including as further controls the average Tobin's Q of *all* firms located in the same county and the state-level GDP pro capita. These additional

[15] An implicit assumption of our research design is that U.S. public firms mostly employ local managers or non-local managers that have family values similar to those of the locals. In any case, the presence of foreign managers should work against finding a positive correlation between *KIN* and *Inherited Family Values* in the first stage of the IV regression.

variables aim at controlling for the effect on investment of the economic environment where the firm operates.

The second instrument we consider is the percentage of family households (versus single-person households) in the U.S. county where the firm is headquartered.[16] The choice of starting a family is in general driven by prevalent customs and conventions, the willingness to manifest externally internal feelings, or the goal to make a relationship more stable for the children (Eekelaar (2007)) and is arguably unrelated to corporate investment. For the purpose of our analysis, a high fraction of family households signals the presence of a pool of relatives that an opportunistic director can favor over external candidates. Additionally, a widespread presence of families suggests that locals have strong family values. All things considered, the percentage of family households is likely to be correlated with *KIN*. Table V implements the instrumental variable strategy.

Column (1) of Table V reports the coefficients for the regression of *KIN* on *Inherited Family Values*, *Family Households*, and controls (first-stage regression). Both instruments are strongly positively correlated with *KIN*. Figure 3 illustrates that there is significant heterogeneity in family values across U.S. counties. In particular, moving from a U.S. county where family ties are the weakest to a county where family ties are the strongest increases *KIN* by 0.12 percentage points.[17] Likewise, a one percentage point increase in the fraction of families in the county increases *KIN* by 0.0041 percentage points. All F-tests for nullity of the instruments exceed the rule of thumb for strong instruments ($F \geq 10$) suggested by Staiger and Stock (1997) as well as all the critical thresholds proposed by Stock and Yogo (2005). Further supporting our choice of instruments, the test of overidentifying restrictions (J-statistic) cannot reject the joint null hypothesis that the instruments are uncorrelated with the error term and correctly

[16] Alternatively, if we use the fraction of family household *with at least one child* as instrument, we obtain similar results.

[17] As $0.68 * (3.94 - 3.76) = 0.12$.

excluded from the second-stage regression.

The results for the effect of instrumented *KIN* on investment (second-stage estimation) are reported in Column (2). The coefficient of interest is still negative and statistically significant. In terms of economic magnitude, all else equal, a one standard deviation higher *KIN* triggers a decrease of 0.15 percentage points in corporate investment, a significantly larger effect than that estimated using OLS regressions. This finding is consistent with the presence of a positive correlation between kinship ties and hiring, which leads to underestimate the magnitude of the effect of kinship ties on investment when we rely on OLS regressions.

Column (3) replicates the regression presented in Column (2) including time-varying controls at the county and state level. The magnitude of the coefficient of interest becomes bigger, thereby suggesting that, by omitting controls for the economic opportunities at a county level, we bias the estimation *against* finding a negative effect of *KIN* on investment. This finding further mitigates concerns about violations of the exclusion restriction.

Overall, results in this section confirm a causal effect of *KIN* on investment and indicate that the OLS estimator is likely to underestimate the magnitude of this effect.

IV Evidence on the Channel

The previous section shows that kinship ties stifle corporate investment, as firms overlook valuable investment opportunities. However, why that happens remains unclear. In this section, we test a number of (non-mutually exclusive) explanations consistent with this finding.

IV.A Adverse Selection or Moral Hazard?

Favoritism may have negative spillover effects on investment for at least two reasons. First, relatives might be less qualified than outside workers because they are selected from a much smaller pool of candidates and for reasons that are unrelated to their skill (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)). On top of that, the family members more in need of being unfairly recruited are the least skilled, as they are probably less likely to find a high-paying job otherwise. As a result, they may lack the skill to recognize valuable investment opportunities when they arise. Second, relatives may enjoy "special treatment," such as protection from firing when results are poor or receive an unjustifiably high remuneration that is unrelated to their performance (Prendergast and Topel (1996)). This can be the case because parents derive utility from helping their children to succeed (e.g., Becker and Tomes (1986)) or because the remuneration of partners remains in the household. Practices involving favoritism, in turn, could incentivize appointed relatives to exert minimal effort.

To construct a test that aims at assessing whether high-*KIN* firms employ less qualified workers and/or fail to provide them with the right incentives, we collect information on top employees from Capital IQ People Intelligence. Capital IQ provides data on the highest-ranked employees of the firm (e.g., top managers, executives, heads of units or divisions, members of committees) including their educational attainment and salary. We use this information to assess the qualifications and the incentive to exert effort for top employees in high-*KIN* vis-à-vis low-*KIN* firms. 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 and Bertrand and Mullainathan (2001) find that unmonitored directors set their own pay, irrespectively of performance. Furthermore, Bertrand and Mullainathan (2003), Giroud and Mueller (2010), and Giroud and Mueller (2011) find that, when governance weakens, white collar employees tend to mismanage the firm.

There are a few shortcomings in our empirical design that need to be pointed out. First, we cannot match the names of the relatives to their educational background (as it is hardly feasible to extract the names of all relatives from the proxy statements and match them to their educational background and salary). Therefore, in the analysis we estimate the relation between *KIN* and the fraction of all high-ranked employees holding a degree, including also those who have no family connections. Second, we have information only on the individuals covered by Capital IQ People Intelligence. If the information regarding a top employee is missing in the database, it will necessarily be omitted in our analysis. Third, Capital IQ data do not cover all firms. As a consequence, we run our analysis on a subset of the original sample. We however confirm that all other results hold in this subsample as well (these results are unreported).

Table VI presents the results of this analysis. We find that an increase of one standard deviation in *KIN* is associated with a 1.5 percentage points lower fraction of top employees holding an undergraduate degree (2.3% with respect to the baseline of 64%), and a 1.6 percentage point lower fraction of top employees holding a graduate degree (3.9% with respect to the baseline of 41%). Furthermore, we find that an increase of one standard deviation in *KIN* is associated with longer tenure (roughly 6 months longer, see Column 3) and $3,547 higher fixed pay on average (Column 4). By contrast, *KIN* is unrelated to the variable part of compensation (Column 5).[18]

Overall, the evidence in this section points to two explanations why high-*KIN* firms underinvest. First, our results indicate that these firms assign top jobs to less qualified

[18] The economic magnitude of the effect of *KIN* on these variables is even larger when estimated using the IV approach (results available upon request).

workers.[19] Second, these workers have a lower incentive to exert effort. Value-enhancing investment requires effort. For instance, managers need to seek sources of funding, have to supervise several involved parties, and may ultimately be held responsible if the project fails. Managers in high-*KIN* firms receive a higher fraction of compensation that is unrelated to performance. This indicates that the incentive to exert additional effort to increase their remuneration is relatively lower. At the same time, these managers are more entrenched, thereby suggesting that they are less likely to be fired if they slack off. All considered, top employees in high-*KIN* firms lack both the skill and the incentive to pursue valuable investment opportunities.

IV.B Frictions in the Funding Market?

A competing hypothesis is, however, that lenders charge a higher cost to fund investments by high-*KIN* firms. 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. This framework is not directly applicable to our setting, as there is no bequest motive (most of high-*KIN* firms are not family owned) and, in any case, U.S. law confers to the founder the choice of 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.

To test this hypothesis, we match our main sample to a sample of loans from *Dealscan*. There are two reasons why we focus on loans instead of other sources of financing. First, bank lenders enjoy a closer relationship with the firms that they finance, making them more aware of existing conflicts of interest arising from kinship

[19] We cannot however rule out the possibility that individuals appointed to top positions compensate for lower education with other exceptional skills, acquired thanks to the proximity to their family members.

ties. Second, a pecking order framework would suggest that firms favor debt over equity financing. Our approach is similar to that of papers in the literature exploring the determinants of debt contract conditions.[20] The regression we run is the following:

$$Cost\ of\ Debt_{j,t} = \beta\ (KIN_{j,t-1}) + \delta_1 (Maturity_{j,t}) + \delta_2 (Loan\ Size_{j,t}) + \delta_3 (Inv.\ Grade_{j,t}) + \gamma' X_{i,t-1} + \alpha_{t \times s} + \varepsilon_{j,t}, \quad (4)$$

in which *Cost of Debt* is the interest paid on loan j, issued in year t, by firm i. In Column (1) of Table VII, we include the same firm-level controls as in our baseline specification ($X_{i,t-1}$). Column (2) adds loan-level controls (the size of the loan scaled by the size of the firm, a dummy that takes a value of 1 if the firm is ranked BBB- or higher, and the maturity of the loan). Column (3) also includes loan type fixed effects. In all specifications, we fail to reject the null of no effect of kinship ties on the cost of debt. Overall, our findings do not support the hypothesis that the underinvestment is driven by a credit supply channel.

V Further Results and Robustness

V.A Which Kinship Ties Hinder Investment?

In the previous sections, we have constructed our nepotism proxy by counting the number of kinship ties, regardless of the relationship type. However, the effect of different kinship ties on investment may be asymmetric. In the following, we separate kinship ties into four categories: *Children* (sons, daughters, sons-in-law, daughters-in-law), *Siblings* (brothers, sisters, brothers-in-law, and sisters-in-law), *Partners* (husbands, wives, ex-husbands, and ex-wives), and *Other Relatives* (all other ties). More specifically, we

[20] See, e.g., Graham, Li, and Qiu (2008); Valta (2012); and Parise (2017).

construct our independent variables as the number of each specific tie scaled by the number of managers. Importantly, all variables are standardized to make the estimated coefficients comparable. Formally,

$$Investment_{i,t} = \sum_{f} (\beta_f \, Tie_{f,i,t-1}) + \gamma' X_{i,t-1} + \alpha_{t \times s} + \varepsilon_{i,t}, \tag{5}$$

where f identifies the type of family tie and $Tie_{f,i,t-1}$ stands respectively for *Children*, *Siblings*, *Partners*, and *Other Relatives*. As the variables of interest are highly correlated, we report results obtained both by regressing investment on one type of kinship tie at the time (Table VIII, Columns from 1 to 4) and by including all kinship ties in the same specification (Table VIII, Column 5).

Three facts emerge from this analysis. First, all ties have a negative correlation with investment, even though in some cases the effect is non-statistically different from zero. Second, *Partners* and *Other Relatives* have no direct effect on investment when the presence of other kinship ties is accounted for. This finding may be explained by the fact that directors do employ partners and more distant relatives but are unwilling to delegate real authority to them. We have however no way to test this hypothesis in a satisfactory way. Third, we find that the presence of siblings and children has the most detrimental effect on investment. Importantly, the presence of *children* ties imply the presence of parents employed in comparable or higher roles. This rules out the possibility that the findings might be driven by descendant CEOs (as in Pérez-González (2006) and Bennedsen, Nielsen, Pérez-González, and Wolfenzon (2007)). Overall, results in this section indicate that most types of kinship ties inhibit or are at best neutral to investment.

V.B Future Firm Performance

The main focus of our paper is on investment. That said, kinship ties are likely to affect other corporate variables and, in particular, the future value of the firm. This can happen because of lower investment or via other channels. In Table IX, we report the results for regressions of the market to book value ratio (in year $t + 1$) and sales growth (from year t to year $t + 1$) on *KIN*. We find that a higher number of kinship ties is detrimental to future firm performance. Results using an instrumental variable approach confirms a causal effect on future profitability (these results are unreported).

V.C Poor Governance?

A potential concern with previous findings is that the presence of kinship ties may proxy for poor firm governance. Coefficients estimated including firm fixed effects indicate that the results are robust to controlling for invariant unobservables (see Table III). However, the quality of governance may be time varying because of changes in the competitive environment (Giroud and Mueller (2010); Giroud and Mueller (2011)) or in institutional ownership (see, e.g., McCahery, Sautner, and Starks (2016)). Results reported in Table A.3 of the Online Appendix show that the effect of *KIN* on corporate investment is robust to the inclusion of a battery of different controls for time-varying governance.

VI Conclusions

This article has two goals. First, it aims at measuring the extent of kinship ties among high-ranked employees in a sample of U.S. public firms. Second, it attempts to estimate the effect on corporate investment. We find that the presence of relatives in top roles is fairly common. Around 35% of the firms in our sample disclose the presence of kinship ties, which corresponds to more than double the percentage of family firms among U.S. public firms. Importantly, kinship ties are likely to be even more widespread in private firms or in economies where the regulatory scrutiny is lower.

Regarding the effects of kinship ties, our analysis delivers a number of results. We find that the presence of several ties among high-ranked employees is detrimental to investment both in physical assets and R&D, consistent with widespread nepotistic practices. We show that nepotistic firms invest less because they are more likely to pass up valuable investment opportunities. We mitigate endogeneity concerns by using an IV approach. In particular, we instrument kinship ties with the inherited family values and the fraction of family households in the U.S. county where the firm is headquartered. We show that these instruments are significantly correlated with the number of kinship ties and that the causal effect of kinship ties on investment is economically large. We provide evidence suggesting that our result might be explained by adverse selection (as the appointed relatives are the least qualified) and moral hazard (as appointed relatives have a lower incentive to exert effort). Finally, we show that our results are not driven by a debt supply channel and are robust to the exclusion of family firms.

Overall, our findings indicate that nepotism has large private and social costs, consistent with theoretical models of favoritism. Although a strong family presence among the *owners* of a firm may be optimal, we provide direct evidence that kinship ties among high-ranked *employees* are detrimental to corporate investment. Our analysis indicates that, by limiting the extent of nepotism in corporate hiring, policymakers could increase both the value of firms and the aggregate amount of private investments in the economy. Finally, our results have implications for modeling investment behavior. For instance, we argue that considering the role of non-financial frictions in determining investment choices may be a promising research avenue.

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Tables and Figures

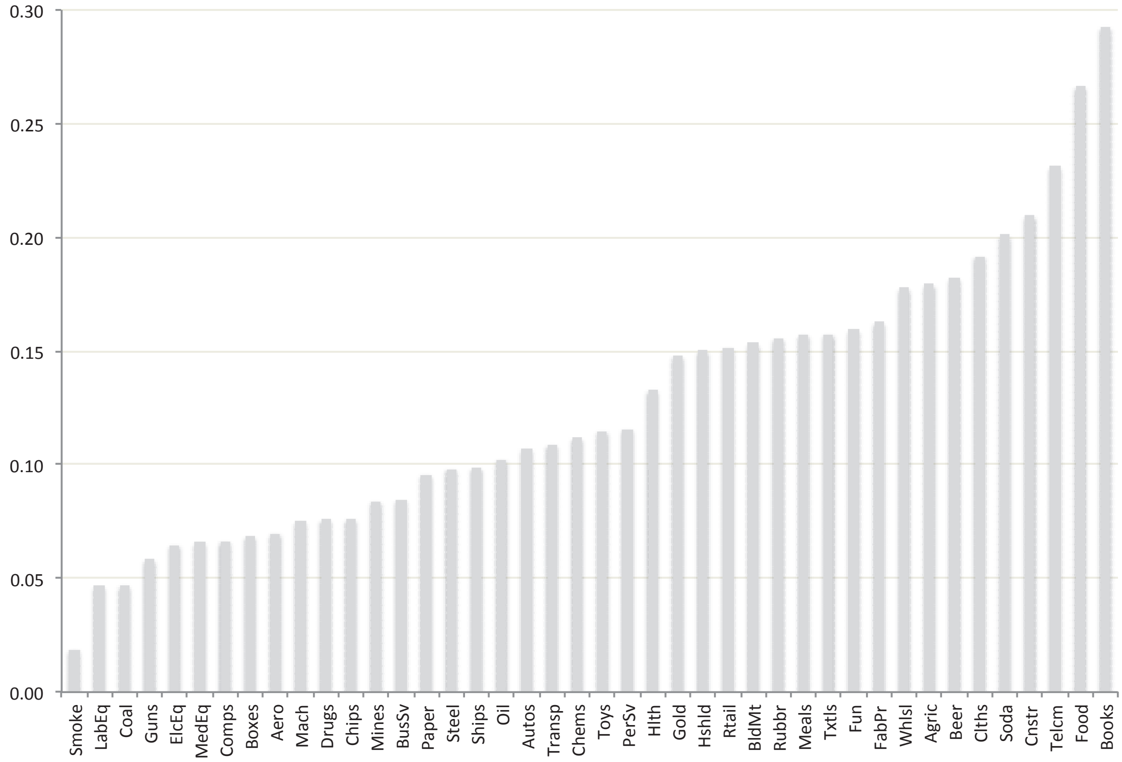

Figure 1: Average *KIN* across the 48 Fama and French industries. Financial and utility firms are excluded. *KIN* is number of relationships scaled by the number of managers (the variable is not standardized).

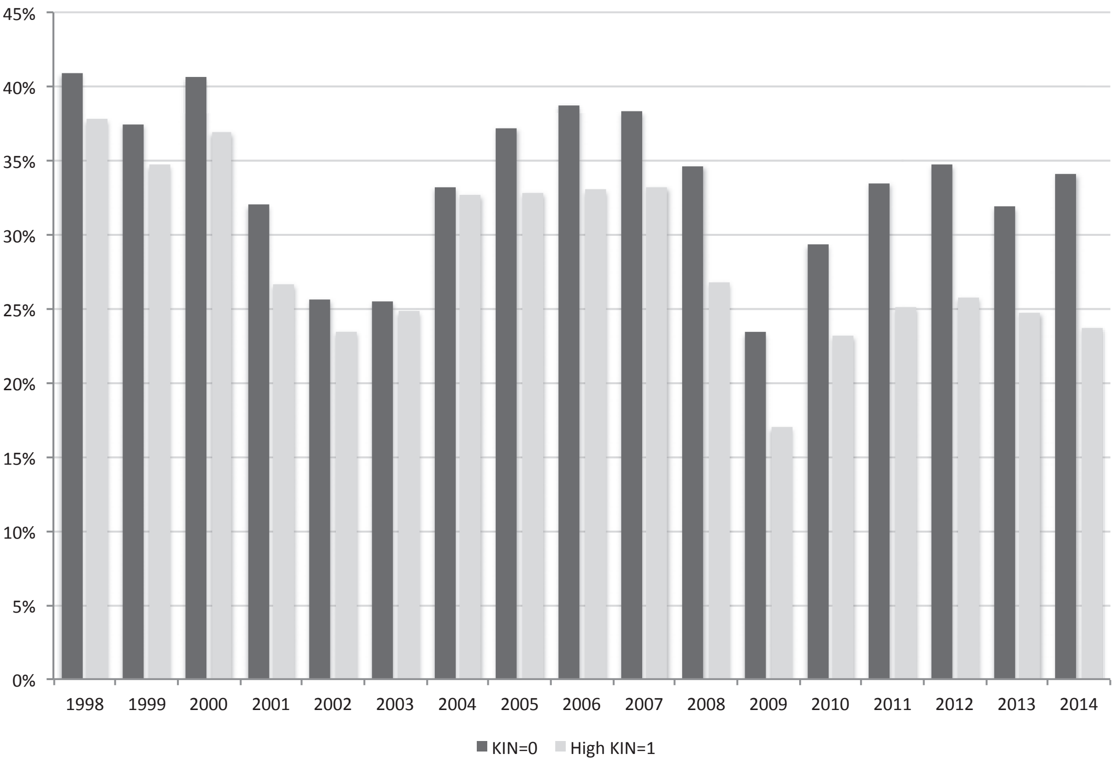

Figure 2: Average annual investment levels for firms disclosing at the end of the previous year no kinship ties (*KIN*=0) and a ratio of kinship ties over managers in the top decile of its distribution (*High KIN*=1). *KIN* is the number of relationships scaled by the number of managers, *Investment* is capital expenditures over the lagged value of property, plant, and equipment.

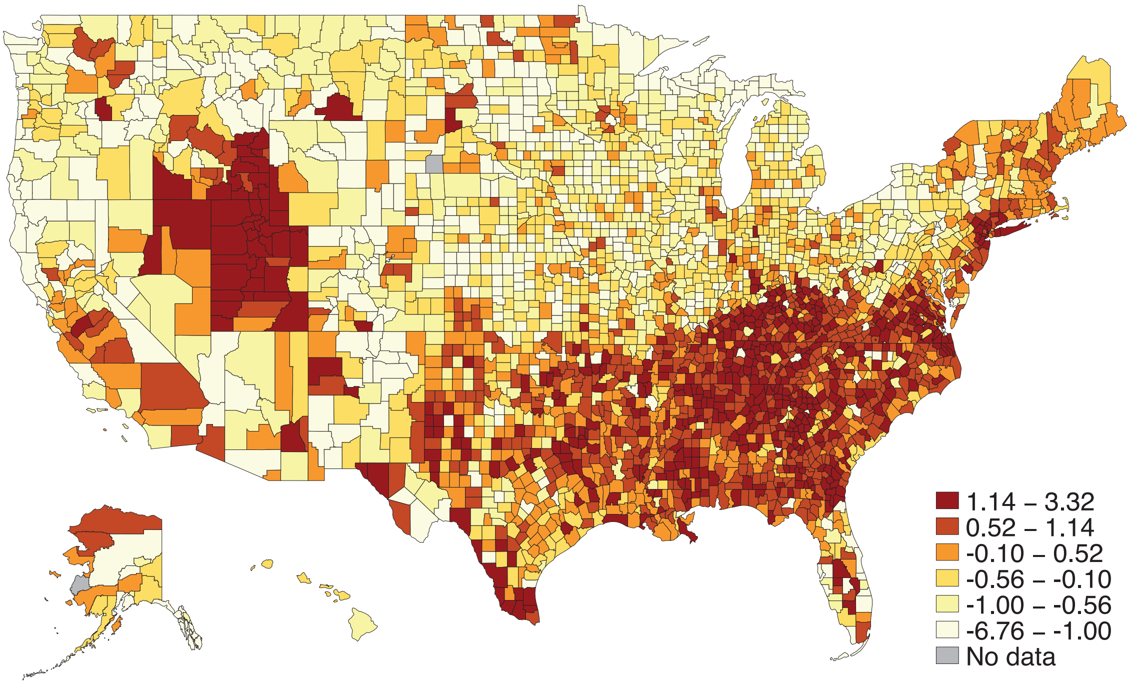

Figure 3: This figure illustrates the strength of family values across U.S. counties based on the first component of a PCA decomposition of *Inherited Family Values* and *Family Households (%)*. The variables are defined in Section II. Darker colors indicate stronger family ties.

Table I: Kinship Ties

Kin	Frequency Among Ties (in%)	Frequency Among Firms (in%)
(1)	(2)	(3)
Son	26.52	15.44
Daughter	6.07	4.21
Husband	3.38	2.76
Wife	12.20	8.34
Father	11.38	8.80
Mother	2.24	1.87
Grandfather	0.47	0.39
Sister	4.96	3.41
Brother	23.90	13.86
Uncle	1.26	0.97
Cousin	4.87	3.00
Nephew	2.10	1.57
Ex-wife	0.02	0.02
Other	0.62	0.90

Notes: This table reports the frequency of kinship ties by type. Column (1) indicates the kinship type, Column (2) reports the number of ties by type over the total number of ties (in percentage), Column (3) reports the number of firms disclosing each tie over the total number of firms (in percentage). The number and the type of ties are inferred from the proxy statements filed with the Security and Exchange Commission (SEC) and available via EDGAR. If multiple proxy statements are available for the same firm in the same year, we consider the most recent. The methodology to extract kinship ties is described in Section II and further detailed in the Online Appendix.

Table II: Summary Statistics

Panel A: Main Variables

	Number of Obs.	Mean	SD	25th pctile	Median	75th pctile
KIN (non-std.)	41,980	0.1125	0.3209	0.0000	0.0000	0.1111
Investment	41,980	0.3175	0.3453	0.1143	0.2135	0.3909
R&D	27,320	0.1191	0.2080	0.0080	0.0498	0.1423
Q	41,980	2.2995	2.9045	1.1296	1.5566	2.4326
Total Q	41,980	1.3162	2.6082	0.2882	0.7010	1.4290
Leverage	41,980	0.2243	0.3052	0.0081	0.1559	0.3326
Profitability	41,980	-0.0430	0.4066	-0.0452	0.0594	0.1153
Family Households (in %)	41,980	64.79	7.57	61.00	66.00	69.70
Inherited Family Values	41,980	3.8068	0.0686	3.7609	3.7609	3.8800
Tenure (in years)	32,273	9.0638	5.2953	5.7272	8.0000	11.0000
Undergraduate Degree	32,273	0.6485	0.3224	0.4000	0.7143	1.0000
Graduate Degree	32,273	0.4081	0.2781	0.2000	0.4000	0.6154
Fixed Pay (in $)	32,273	211,486	128,209	128,250	179,487	255,342
Variable Pay (in $)	32,273	97,356	194,566	0.0000	16,746	97,991

Panel B: Correlations

	KIN	Leverage	Q	Size	Family Firm	Underg. Degree
KIN	1.0000					
Leverage	0.0303	1.0000				
Q	-0.0279	0.0769	1.0000			
Size	-0.0321	0.0702	-0.2028	1.0000		
Family Firm	0.0863	0.0233	-0.0085	-0.0874	1.0000	
Underg. Degree	-0.1253	-0.0505	0.1218	0.1238	-0.1021	1.0000

Notes: Panel A reports summary statistics for (non-standardized) *KIN* and other corporate variables at the firm level. Panel B reports pairwise correlations between the main variables. All the variables are defined in Section II.

Table III: Effects of Kinship Ties

	Dependent Variable: Investment					R&D
Model:	Baseline (1)	Non-family firms (2)	Within-firm (3)	High-KIN (4)	Diff-in-diff (5)	Baseline (6)
KIN	-0.0100***	-0.0107***	-0.0078**	—	—	-0.0092***
	(0.002)	(0.002)	(0.003)			(0.002)
KIN (top decile)	—	—	—	-0.0244***	-0.0171**	—
				(0.007)	(0.008)	
Leverage	-0.1073***	-0.1069***	-0.0833***	-0.1073***	-0.0833***	-0.0378***
	(0.009)	(0.011)	(0.014)	(0.009)	(0.014)	(0.010)
Q	0.0279***	0.0312***	0.0261***	0.0278***	0.0261***	0.0137***
	(0.002)	(0.003)	(0.003)	(0.002)	(0.003)	(0.001)
Profitability	0.1075***	0.1125***	0.1782***	0.1074***	0.1783***	-0.2075***
	(0.009)	(0.010)	(0.014)	(0.009)	(0.014)	(0.011)
Size	-0.0153***	-0.0169***	-0.0425***	-0.0153***	-0.0427***	-0.0051***
	(0.001)	(0.002)	(0.005)	(0.001)	(0.005)	(0.001)
Firm FEs	no	no	yes	no	yes	no
Industry × Time FEs	yes	yes	yes	yes	yes	yes
Obs	41,980	34,811	41,980	41,980	41,980	27,320
R2	0.208	0.229	0.414	0.208	0.414	0.569

Notes: This table reports estimates for the effect of kinship ties on corporate investment and R&D spending. *KIN* is the number of relationships scaled by the number of managers. The variable is standardized. Column (1) reports estimates for the baseline specification, Column (2) excludes firms owned for 20% or more by a single individual or family and firms for which we do not have ownership information, Column (3) adds firm fixed effects, Column (4) regresses investment on a dummy variable that takes a value of 1 if the ratio of relationships scaled by the number of managers is in the top decile of its distribution, Column (5) reports the difference-in-difference estimate, Column (6) reports the effect of *KIN* on R&D spending. All the variables are defined in Section II. Industries are defined based on 3-digit SIC codes. Errors are clustered at the firm level and reported in parentheses below the coefficients. ***, **, *, indicate statistical significance at the 1%, 5%, and 10% respectively.

Table IV: Sensitivity to Investment Opportunities

	Dependent Variable: Investment			
Q computed as:	Tobin's Q		Peter and Taylor's Q	
	(1)	(2)	(3)	(4)
KIN × Q	-0.0030***	-0.0028***	-0.0034**	-0.0039**
	(0.001)	(0.001)	(0.001)	(0.002)
KIN	-0.0028	-0.0007	-0.0051**	-0.0010
	(0.003)	(0.004)	(0.002)	(0.004)
Leverage	-0.1083***	-0.0835***	-0.0820***	-0.0592***
	(0.009)	(0.014)	(0.009)	(0.013)
Q	0.0286***	0.0267***	0.0341***	0.0343***
	(0.002)	(0.002)	(0.002)	(0.002)
Profitability	0.1073***	0.1791***	0.0334***	0.1151***
	(0.009)	(0.014)	(0.008)	(0.013)
Size	-0.0153***	-0.0421***	-0.0179***	-0.0559***
	(0.001)	(0.005)	(0.001)	(0.005)
Firm FEs	no	yes	no	yes
Industry × Time FEs	yes	yes	yes	yes
Obs	41,980	41,980	41,980	41,980
R2	0.210	0.415	0.226	0.427

Notes: This table reports estimates for the effect of nepotism interacted with Tobin's Q or Peters and Taylor's total Q on corporate investment. *KIN* is the number of relationships scaled by the number of managers. The variable is standardized. The fixed effects included in each specification are indicated at the bottom of the table. Industries are defined based on 3-digit SIC codes. All the variables are defined in Section II. Errors are clustered at the firm level and reported in parentheses below the coefficients. ***, **, *, indicate statistical significance at the 1%, 5%, and 10% respectively.

Table V: Inherited Family Values and Family Households as Instruments

	First-Stage	IV Regressions (2SLS)	
		Baseline	Local Q
	(1)	(2)	(3)
Inherited Family Values	0.6778***	—	—
	(0.235)		
Family Households (%)	0.0041**	—	—
	(0.002)		
KIN	—	-0.1534***	-0.1896***
		(0.058)	(0.061)
Leverage	-0.0134	-0.1086***	-0.1064***
	(0.034)	(0.012)	(0.012)
Q	-0.0006	0.0278***	0.0269***
	(0.005)	(0.002)	(0.002)
Profitability	0.0310	0.1129***	0.1159***
	(0.021)	(0.010)	(0.010)
Size	-0.0393***	-0.0212***	-0.0228***
	(0.007)	(0.003)	(0.003)
Local Q & GDP	no	no	yes
Industry × Time FEs	yes	yes	yes
Obs	41,980	41,980	41,980
J-statistic (p-value)	—	0.16	0.16
Durbin-Hausman-Wu	—	0.00	0.00

Notes: Column (1) reports the First-Stage regression of *KIN* on *Inherited Family Values*, *Family Households*, and controls. Columns (2) and (3) report the instrumental variable (IV) estimates. The IV estimations display diagnostic statistics for instrument overidentification restrictions (p-values of J-statistics reported) and exogeneity conditions (p-values for Durbin-Hausman-Wu reported). Column (3) includes as additional controls the average Q of firms headquartered in the county and the GDP per capita in the state where the firm is headquartered. *KIN* is the number of relationships scaled by the number of managers. The variable is standardized. All the other variables are defined in Section II. The fixed effects included in each specification are indicated at the bottom of the table. Industries are defined based on 3-digit SIC codes. Errors are clustered at the county level and reported in parentheses below the coefficients. ***, **, *, indicate statistical significance at the 1%, 5%, and 10% respectively.

Table VI: Low Skills or Lack of Incentives?

	Skill		Incentives		
Dependent Variable:	Undergrad. Degree (1)	Graduate Degree (2)	Tenure (3)	Fixed Pay (4)	Variable Pay (5)
KIN	-0.0150***	-0.0158***	0.4628***	3,547***	-197
	(0.004)	(0.003)	(0.093)	(1,178)	(1,866)
Leverage	-0.0405***	-0.0339***	-0.4564**	920	-13,354***
	(0.012)	(0.010)	(0.212)	(2,698)	(4,605)
Q	0.0049***	0.0030***	0.0323	748**	4,319***
	(0.002)	(0.001)	(0.034)	(379)	(775)
Profitability	-0.0973***	-0.0832***	1.4587***	-22,472***	-10,658***
	(0.013)	(0.011)	(0.213)	(2,173)	(3,374)
Size	0.0337***	0.0362***	-0.1367***	38,098***	39,870***
	(0.003)	(0.002)	(0.048)	(707)	(1,376)
Industry × Time FEs	yes	yes	yes	yes	yes
Obs	31,657	31,657	31,657	31,657	31,657
R2	0.340	0.363	0.163	0.651	0.434

Notes: This table reports estimates for the relation between nepotism and education, tenure, fixed and variable pay. *KIN* is the number of relationships scaled by the number of managers. The variable is standardized. *Undergraduate Degree* is the percentage of top employees holding any college degree, *Graduate Degree* is the percentage of top employees holding a graduate degree (an MBA, a master's degree, or a PhD), *Tenure* is the average number of years during which top employees are employed in the same role; *Fixed Pay* is the average base salary of top employees in dollars, *Variable Pay* is the average variable component of the salary of top employees in dollars. All individuals for which information is reported by Capital IQ are considered top employees. All other variables are defined in Section II. The fixed effects included in each specification are indicated at the bottom of the table. Industries are defined based on 3-digit SIC codes. Errors are clustered at the firm level and reported in parentheses below the coefficients. ***, **, *, indicate statistical significance at the 1%, 5%, and 10% respectively.

Table VII: Cost of Funding

	Dependent Variable: Cost of Debt		
	(1)	(2)	(3)
KIN	0.0035	-0.0063	-0.0032
	(0.011)	(0.010)	(0.009)
Leverage	0.9940***	0.8323***	0.6883***
	(0.064)	(0.057)	(0.054)
Q	-0.0672***	-0.0543***	-0.0534***
	(0.017)	(0.013)	(0.012)
Profitability	-0.6480***	-0.7627***	-0.6925***
	(0.112)	(0.101)	(0.094)
Size	-0.2630***	-0.1846***	-0.1743***
	(0.009)	(0.009)	(0.008)
Inv. Grade	—	-0.6127***	-0.5323***
		(0.037)	(0.034)
Loan Size	—	-0.0315***	-0.0272***
		(0.005)	(0.005)
Maturity	—	0.0925***	-0.0235
		(0.013)	(0.016)
Industry × Time FEs	yes	yes	yes
Loan FEs	no	no	yes
Obs	13,249	13,249	13,249
R2	0.645	0.693	0.727

Notes: This table reports estimates for the effect of *KIN* on *Cost of Debt*. *KIN* is the number of relationships scaled by the number of managers. The variable is standardized. *Cost of Debt* is computed as the log of the 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). *Loan Size* is the size of the loan scaled by the size of the firm, *Inv. Grade* is a dummy that takes a value of 1 if the firm is ranked BBB- or higher, and *Maturity* is the log of the maturity of the loan in months. All the other variables are defined in Section II. Observations are at the loan level. The fixed effects included in each specification are indicated at the bottom of the table. Industries are defined based on 3-digit SIC codes. Errors are clustered at the firm level and reported in parentheses below the coefficients. ***, **, *, indicate statistical significance at the 1%, 5%, and 10% respectively.

Table VIII: Which Kinship Ties Hinder Investment?

	Dependent Variable: Investment				
	(1)	(2)	(3)	(4)	(5)
Children	-0.0085***				-0.0066***
	(0.002)				(0.002)
Siblings		-0.0067***			-0.0045*
		(0.002)			(0.003)
Partners			-0.0036		-0.0020
			(0.002)		(0.002)
Other Relatives				-0.0051**	-0.0018
				(0.002)	(0.002)
Q	0.0279***	0.0279***	0.0279***	0.0279***	0.0279***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Leverage	-0.1072***	-0.1073***	-0.1071***	-0.1073***	-0.1072***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Profitability	0.1071***	0.1071***	0.1072***	0.1070***	0.1071***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Size	-0.0151***	-0.0150***	-0.0150***	-0.0151***	-0.0152***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Industry × Time FEs	yes	yes	yes	yes	yes
Obs	41,980	41,980	41,980	41,980	41,980
R2	0.208	0.208	0.208	0.208	0.208

Notes: This table reports estimates for the effect of different kinship ties on corporate investment. *Children*, *Siblings*, *Partners*, and *Other Relatives* are respectively the number of i) son, son-in-law, daughter, and daughter-in-law ties, ii) brother, sister, brother-in-law, and sister-in-law ties, iii) husband, wife, ex-husband, ex-wife ties, and iv) all other ties, scaled by the number of managers. All kinship tie variables are standardized. The fixed effects included in each specification are indicated at the bottom of the table. Industries are defined based on 3-digit SIC codes. All other variables are defined in Section II. Errors are clustered at the firm level and reported in parentheses below the coefficients. ***, **, *, indicate statistical significance at the 1%, 5%, and 10% respectively.

Table IX: Future Firm Performance

	Dependent Variable: P/B	Dependent Variable: Sales Growth
	(1)	(2)
KIN	-0.0545***	-0.0041**
	(0.011)	(0.002)
Leverage	-0.7644***	-0.0276***
	(0.068)	(0.008)
Q	0.3315***	0.0143***
	(0.027)	(0.002)
Profitability	-0.2768***	0.0142*
	(0.068)	(0.008)
Size	-0.0315***	0.0084***
	(0.008)	(0.001)
Industry × Time FEs	yes	yes
Obs	41,980	41,980
R2	0.481	0.145

Notes: This table reports estimates for the relation between *KIN*, *P/B*, and *Sales Growth*. *P/B* is the price to book ratio in year $t+1$, *Sales Growth* is the percentage growth in sales volume from year t to year $t+1$. All variables are defined in Section II. The fixed effects included in each specification are indicated at the bottom of the table. Industries are defined based on 3-digit SIC codes. Errors are clustered at the firm level and reported in parentheses below the coefficients. ***, **, *, indicate statistical significance at the 1%, 5%, and 10% respectively.

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