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JEL Classification: G32, J24

Keywords: Family firms, Firm performance, Stock ownership

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Revisiting Family Firms[†]

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Revisiting Family Firms

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I propose a novel measure to identify family firms based on the number of family links between high-ranking co-workers. Leveraging this measure, I reexamine previous findings in the literature and derive five novel facts: (1) Measures of stock ownership misclassify firms with a large family presence. (2) Family-run firms outperform non-family firms. (3) Differences in valuations between family-run and non-family-run firms are amplified by selection. (4) Family-run firms are more cost-effective. (5) Family managers behave myopically. I conclude that failing to consider family links can lead to highly misleading results in the study of family firms. (*JEL Codes:* G32, J24)

Family firms are at the center of numerous ongoing academic and policy debates. However, despite a large body of research, the literature lacks a procedure to systematically identify firms in which family relationships play a critical role. In most papers, the main or only criterion to define family firms is whether the percentage of stocks owned by a single family or individual exceeds an arbitrarily chosen threshold (e.g., Anderson, Duru, and Reeb 2012; Anderson, Reeb, and Zhao 2012; and Kang and Kim 2020). This empirical approach, however, presents two shortcomings. On the one hand, many firms in which the founder retains a large equity share—such as Google or Facebook—lack any family dimension. On the other hand, several firms that do employ family members in key positions have more fragmented ownership structures.

In this paper, I introduce a novel measure of family involvement based on the presence of widespread family relationships among co-workers in top jobs. To that end, I take advantage of a disclosure requirement of publicly traded firms in the United States. Listed firms have to report the presence of family connections among high-ranking individuals to alert investors of potential conflicts of interest. More specifically, I gather information from all publicly available proxy statements filed with the Securities and Exchange Commission (SEC). Then, I process the text in the filings using an algorithm that counts the number of connections by blood, marriage, or adoption. This allows me to identify Family-*run* Firms (FFs) as opposed to Blockholder-*owned* Firms (BFs).

Leveraging this measure, I reconsider the role of families in family firms. The emphasis on the nexus of family relationships (rather than fractional ownership or voting rights) yields a host of results that offer new insights into family firms and challenge a number of widely accepted notions. I organize my findings around five novel facts that I discuss in light of previous contributions.[1]

Fact I establishes that, in the context of U.S. public firms, the presence of a large owner is an imperfect proxy for firms in which family relationships play a central role. This claim is supported by two findings. First, I show that standard approaches fail to classify firms with

[1]Notably, I do not revisit all previous findings in the literature on family firms, as that would require far more than one paper. In my selection, I prioritize aspects that are important (as proxied by a large number of papers) and for which the choice of employing a measure based on family links is consequential.

families as family firms, as only 35% of FFs have a large owner. Second, I find that many firms that are commonly classified as family firms lack any family presence. Specifically, about half of the firms with large blockholders do not employ *any* related individuals. This distinction is not just a matter of semantics but is economically consequential, as family-run and blockholder-owned firms are highly different along several meaningful dimensions. The former tend to be *value* firms, characterized by a low Tobin's q, little R&D spending, and a high share of tangible assets. The latter are mostly *growth* firms: young, with substantial R&D expenditures, and high q ratios. These two types of firms operate in different industries, are at different stages of their life cycle, and serve a different share of the product market.

The finding above motivates a reexamination of how family firms perform. *Fact II* establishes that firms with a dense nexus of family links outperform non-family firms according to several metrics. This result contrasts with the predominant view that the presence of a large owner positively impacts performance whereas appointed family members are detrimental (see, e.g., Villalonga and Amit 2006). Furthermore, I find that the economic effect of ownership on performance is substantially reduced when the presence of family links is controlled for. This set of results casts family involvement in a more positive light with respect to the predominant view in previous papers (with a few notable exceptions and a number of important caveats discussed below).

Fact III challenges the notion that investors highly discount (reward) firms run by family members (the founder) (see, e.g., McConnell and Servaes 1990; Villalonga and Amit 2006; and Miller, Le Breton-Miller, Lester, and Cannella Jr 2007). A large body of literature documents a "family discount" (premium) in the valuations of family firms, which is explained by the argument that relatives make bad managers, whereas founders are exceptional CEOs. This claim is empirically supported by the cross-sectional evidence that firms that employ family members (the founder) exhibit significantly lower (higher) q ratios. However, my findings that most FFs are value firms and that many founder firms are growth firms suggest that selection may explain part of the difference in valuations. In accord with previous studies, I find that FFs (founder firms) exhibit lower (higher) q ratios than the average U.S. public firm. However,

when I match FFs (founder firms) with counterfactual firms from the same industries, I find little difference in q ratios. This finding suggests that part of the cross-sectional difference in valuations originates from differences in firm characteristics rather than from differences in managerial skill.

I then turn to the reasons why firms that employ family members outperform. *Fact IV* establishes that FFs are able to substantially compress operating costs. First, I show that FFs pay $22,800 lower costs per employee annually while hiring workers who are only marginally less productive. Second, I establish that FFs are more flexible in adjusting their workforce size to shocks in product demand, which is consistent with the evidence that family managers are tougher in handling labor relations (Mueller and Philippon 2011). By contrast, I find no differences in other expenses (such as marketing or funding costs). I use the Blinder-Oaxaca decomposition technique to quantify the relative importance of different determinants of the superior performance of FFs. Overall, I find that differences in operating costs account only for a relatively small fraction of the superior performance of FFs (about 7%), whereas most of the differential in performance can be explained by differences in R&D. In turn, this points to the fact that family firms perform better mostly because they operate in more mature (high-profit, low innovation) industries rather than because family links *cause* higher performance.

Finally, *Fact V* establishes that FFs invest less than peer firms. Notably, lower investment levels are not necessarily sub-optimal, as FFs have fewer value-creating investment opportunities in the first place. However, I document that FFs also exhibit a lower sensitivity of investment to investment opportunities. This set of findings are important in light of the theoretical work that argues that the presence of family members in family firms foster corporate investment, as they have longer horizons and are less prone to moral hazard (see, e.g., Fama and Jensen 1983 and James 1999). Contrasting with this view, my evidence suggests that family managers behave myopically.

Importantly, I do not claim that family links cause any of the facts above. As the presence of family managers is endogenous to firm outputs, I cannot establish whether the former shape the latter. This limitation is common to this field of research, as the high persistence in a firm's

"family firm status" does not allow researchers to include firm fixed effects in their empirical specifications. In turn, this prevents the examination of how proxies for family firms and firm outputs co-vary within firm over time. Overall, my evidence points to the fact that family links do *not* have a causal effect on firm outputs. In all likelihood, the presence of relatives signals that a firm is different along some dimensions that, in turn, determine endogenously how family firms perform.

This paper contributes to a large body of work on family firms. The previous literature provides conflicting evidence as to how the involvement of families in family firms affects firm value, performance, and investment. In a seminal paper, Anderson and Reeb (2003) document that family-owned firms in the S&P500 index outperform non-family firms. This finding has then been challenged by a stream of work that emphasizes the "dark side" of family firms. Villalonga and Amit (2006), Miller, Le Breton-Miller, Lester, and Cannella Jr (2007), Bertrand, Johnson, Samphantharak, and Schoar (2008), and Lins, Volpin, and Wagner (2013), among many others, argue that the involvement of family members hurts firm profitability and value. Overall, the consensus that emerges from most of the literature is that family ownership is beneficial while the involvement of family members is detrimental to firm performance and value.[2]

However, standard approaches misclassify firms with large individual blockholders, such as Google or Berkshire Hathaway, as family firms.[3] This misclassification is consequential, as firms in which the founder retains a large block of shares tend to be a special class of firms with unique characteristics (Morck, Shleifer, and Vishny 1988). Further exacerbating this issue, previous papers focus on highly selected samples of firms, such as Forbes 500 or S&P 1500 firms. Yet, firms need to be uncommonly successful to make it to such elite sets while the founder is still alive. This, in turn, raises the concern that the documented superior performance of family firms might be the effect of endogenous sample selection. Although these issues are known in the literature (see, e.g., Miller, Le Breton-Miller, Lester, and Cannella Jr 2007), the approach

[2]See Bertrand and Schoar (2006) for an excellent overview of the literature.

[3]A non-exhaustive list of papers that consider the share of stocks or votes held by families or individuals in family firms includes Holderness and Sheehan (1988), La Porta, Lopez-de Silanes, and Shleifer (1999), Claessens, Djankov, and Lang (2000), Faccio and Lang (2002), Anderson and Reeb (2003), Maury (2006), Sraer and Thesmar (2007), Anderson, Duru, and Reeb (2009), Mueller and Philippon (2011), Anderson, Duru, and Reeb (2012), Anderson, Reeb, and Zhao (2012), Lins, Volpin, and Wagner (2013), and Kang and Kim (2020).

of identifying family firms based on ownership was arguably the best option given the data available when the methodology was first developed. The measure I introduce in this paper exploits new data to sidestep the problems discussed above, as (1) it is based on actual family links rather than stock ownership and (2) it is computable for *all* U.S.-listed firms.

Importantly, my paper does not dispute the finding that family-run firms do comparatively worse when descendants of the founder are appointed as CEOs (see, e.g., Pérez-González 2006; Bennedsen, Nielsen, Pérez-González, and Wolfenzon 2007; Bloom and Van Reenen 2007; and Adams, Almeida, and Ferreira 2009). In my empirical analysis, I cannot differentiate relatives appointed as CEOs from the majority of relatives who are hired in a variety of other roles. More importantly, in most FFs in my sample, firm's control *cannot be passed down to the heirs*, as family members do not own a controlling share. Hence, the generational turnover plays a limited role in the setting of my paper.

Finally, my paper adds to a small literature on family connections and nepotism. Corak and Piraino (2011) find that between 6% and 9% of young Canadians have the same employer as their fathers, and Gagliarducci and Manacorda (2020) show that, in Italy, family connections to politicians influence individuals' labor market outcomes. In the finance literature, Chuprinin and Sosyura (2018) find that mutual fund managers from poor families are promoted only if they out-perform, whereas those from rich families are promoted regardless of performance. From a theoretical perspective, Goldberg (1982) shows that nepotism can lead to long-run wage differentials within firms and Prendergast and Topel (1996) analyze the conditions under which favoritism is costly to organizations.

Overall, the overwhelming majority of work warns against the presence of relatives in the same organization. A notable exception is Mehrotra, Morck, Shim, and Wiwattanakantang (2013) who find that family firms passed down to heirs outperform in Japan. However, this finding is driven by features that are unique to the Japanese setting and do not apply to other countries. Similarly, my findings that family ties are associated with higher performance is, in all likelihood, influenced by the fact that U.S. public firms are heavily scrutinized and activist investors can easily intervene to force out unqualified relatives in top jobs. Therefore, my

findings do not necessarily apply to other countries where governance mechanisms are weaker. Notably, a number of results in my paper are in line with the findings of Sraer and Thesmar (2007) for family-owned French firms. This is likely due to the fact that, in France, there is a greater overlap between firms with largely concentrated ownership and firms that employ relatives, whereas this appears to be less the case in the United States. In all likelihood, proxies of family firms based on ownership are more reliable in contexts in which there are relatively fewer tech firms held by large owners and descendants of the founders tend to retain control of the firm.

I. Data description and summary statistics

I obtain the information for my analysis from a variety of sources:

Family links. I extract information on the presence of family links among executives, directors, and top managers of public firms in the United States from the proxy statements available from EDGAR. Regulation S-K (items 401a-f) requires public firms to disclose in 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 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.

I employ textual analysis to extract family links from the proxy statements. Specifically, I develop an algorithm that analyzes the content of each proxy statement, accounting for possible "false positives" and extracting all reported links (the procedure is described in detail in the Online Appendix). Notably, the filings disclose any links of executives and directors with other significant employees including appointed and nominated executives, directors, and persons such as production managers, sales managers, or research scientists "who are not executive officers but who make or are expected to make significant contributions to the business." The presence of a family relationship between employees without strategic responsibilities is not disclosed in

the filings (as it does not create a conflict of interest) and, as a consequence, is not considered in the analysis. Links are mostly disclosed from the perspective of the highest-ranking individual. For example, if the CEO of a firm hires his son in a managerial position, a "son connection" is usually 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 my sample are asymmetrical, i.e., there are more children (sons and daughters) than parents (fathers and mothers) and more wives than husbands. This is because in my sample, fathers, mothers, and husbands are on average higher up in the hierarchy of the firm than sons, daughters, and wives.

Importantly, my algorithm counts the number of *links*, not the number of relatives. For instance, if a significant employee is the *son* of a director I count one link, if he is the *son* of a director and the *husband* of another director, I count two links. Notably, I cannot extract the exact job title of the relative, her background information, or her pay (even when this information is disclosed in the statements). This is because the information on the relatives is disclosed in different sections, with different wording, and in different detail from one proxy statement to the other, which makes it difficult to extract it in a systematic way. I examine manually a number of randomly selected statements to obtain a better insight into the role of the relatives. I find that almost all disclosed links involve individuals who hold top jobs (e.g., managers, directors, or heads of divisions). In all likelihood, firms do not disclose relationships between, e.g., an executive and a low-ranking relative because there is no obligation to disclose connections that do not create a conflict of interest that shareholders should be aware of. Furthermore, executives and directors appear to be less likely to appoint relatives to low-ranking positions in the first place.

Inevitably, my measure contains some noise. For instance, I cannot rule out the possibility that my algorithm sometimes counts the same link twice due to repetitions in the proxy statements (I discuss in the Online Appendix the procedure that I adopt to minimize these occurrences). Similarly, I cannot address the entire universe of "false positives." For example, in a sentence disclosing one director's previous affiliation with "Lehman *Brother*s," my algorithm originally mistakenly reported a "*brother* link." I manually checked and improved the accuracy

of the algorithm by iterating the procedure several times and adjusting it to address common sources of misclassification (a number of examples are discussed in the Online Appendix). However, some errors have inevitably gone unnoticed. Importantly, there is no reason why miscounting due to occasional misclassification by my algorithm should be correlated with firm outputs. Therefore, the presence of noise presumably works against finding a significant relationship between family links and firm-level variables.

Table 1 reports the frequency of each family link as a percentage of the total number of links counted by the algorithm. The most common family links in my sample are "son," "brother," and "wife." Sons are four times more common than daughters, which is consistent with previous evidence indicating that parents are more likely to hire their sons; see Bennedsen, Nielsen, Pérez-González, and Wolfenzon (2007).[4] By contrast, firms in my sample disclose few uncles (1.26%), nephews (2.08%), and ex-wives (0.04%).

Overall, family links between top employees are quite common in U.S. public firms: around 33% of the companies in my sample disclose at least one family relationship, and the average U.S. public firm discloses one relationship every 10 directors. Both the number of links and the percentage of firms with family involvement are highly stable over time (see Figure 1). I report the sample distribution of the number of family links per director in Figure A.1 of the Online Appendix.

BFs & FFs. Following the standard definition of family firms used in the literature, I classify a firm as a blockholder-owned firm (BF) if 20% or more of the shares are held by a single individual or family.[5] This translates to about 18% of family-owned firms in my sample. I consider as alternative equity ownership thresholds 5%, 10%, and 25% (see the Online Appendix). The exact threshold selected appears of little importance for most results.

[4]In the table, I do not distinguish between "sons" and "sons-in-law," between "daughters" and "daughters-in-law," between "son" and "stepson" and so on.

[5]Examples of papers that set the threshold of equity ownership exactly at 20% of the shares or the voting rights include Sraer and Thesmar (2007) and Mueller and Philippon (2011). Other thresholds that have been used in the literature are 5% (e.g., Anderson, Duru, and Reeb 2012 and Kang and Kim 2020), 10% (e.g., La Porta, Lopez-de Silanes, and Shleifer 1999), 25% (e.g., Lins, Volpin, and Wagner 2013), and 50% (e.g., Ding, Levine, Lin, and Xie 2021).

For identifying family-run firms, an issue with the measure of family links presented above is that the number of *possible* links grows with the number of executives and directors. For example, a firm employing only two high-ranking employees can disclose at most *one* link between them. By contrast, a firm with four high-ranking employees could in principle disclose up to *six* connections. This implies that larger firms will have more family connections simply because they employ more directors. I therefore scale the number of family links by the number of possible links among directors. I measure the number of possible links with the number of possible pairwise combinations of directors, $plinks$, defined as $plinks = \frac{n!}{2!(n-2)!}$, where n is the number of directors.[6] Notably, $plinks$ is a lower bound for the number of possible connections, as proxy statements disclose also links with significant employees who are not directors.

In the Online Appendix, I confirm the robustness of the result by scaling the number of family links by the number of directors (rather than by the potential number of links). This latter approach however is potentially problematic. In fact, previous papers document a strong negative relation between board size and q (Wintoki, Linck, and Netter 2012 and Jenter, Schmid, and Urban 2019), which, in turn, could mechanically induce a positive correlation between family links scaled by board size and q. The main scaling variable I consider in my analysis sidesteps this issue, as I find no correlation between potential family links and a firm's q (see Table A.2 in the Online Appendix).

I define a firm as family run (FF) if the number of family links scaled by the number of possible connections, $links/plinks$, is in the top 20% of the annual sample distribution, for symmetry with the definition of BFs. My approach allows me to compare firms that have the highest number of family links with firms that disclose few or no family links. I present results using four alternative measures to ensure that my results are not driven by the scaling variable or by the arbitrary cut-off threshold at 20%. Namely, I consider (i) the number of family links scaled by the number of directors, ii) a dummy variable that takes a value of 1 if there is at least one family link disclosed, iii) the number of family links unadjusted, and iv) a dummy variable

[6] I do not use permutations, as disclosed relationships are non-reciprocal (i.e., each relationship is disclosed only once).

that takes a value of 1 if *links/plinks* is in the top 10% (rather than 20%) of the annual sample distribution. Results remain qualitatively similar (see Online Appendix Table A.1).

A couple of examples highlight the importance of distinguishing FFs and BFs. For instance, Molson Coors Beverage Company discloses more than 1 family link per director. However, in the period covered by my sample, insiders own 16% of shares, whereas institutional investors hold more than 80%. While papers that set the relevant threshold at 20% of the shares would not consider Molson Coors a family firm (as the family owns less than 20% of the shares), the company still retains a significant family identity and presence. At the opposing end, Warren Buffett owns 36% of Berkshire Hathaway's shares. Yet, most people would probably not consider Berkshire Hathaway a family firm, as only one family member serves as director and the possibility of passing the company down to the heirs has been explicitly ruled out. Similarly, although the founders of Google-Alphabet own a large fraction of the shares and the majority of the votes, none of their family members hold top jobs in the company. According to their proxy statements, the firms with the most family links in my sample are John B Sanfilippo & Son, Nordstrom, and MSG Networks.

Notably, for simplicity and consistency with the previous literature, in the following I refer to a firm as *blockholder-owned firm* regardless of whether the blockholder is the founder or a family. Likewise, I refer to firms that disclose widespread family links as *family run* regardless of whether family members are mostly appointed as managers, directors, chief scientists, or other top roles.

Other variables. All accounting variables are from COMPUSTAT. They are constructed as reported in Table A and winsorized at the 1% level to mitigate the impact of misreporting and outliers.

Sample selection. I consider only firms that I can match between COMPUSTAT and EDGAR filings. I exclude observations for which the filings downloaded from EDGAR do not contain a

valid identifier. I also exclude firms for which I cannot retrieve the corresponding proxy statements from EDGAR. Furthermore, filings for which I could not identify a unique match are excluded from the sample. Finally, I exclude banks and financial firms. My sample is free of survivorship bias, as I have information for both existing and defunct firms. Importantly, my sample is also free of selection bias, as all listed firms are obligated to disclose the presence of potential conflicts of interest arising from the presence of family links. The time series spans the years 2000 through 2019.

II. Five facts about families in family firms

Fact I: Measures of stock ownership misclassify firms with a large family presence

Family firms are the focus of a large literature spanning finance, economics, and management. To define which firms qualify as "family firms" most papers consider as the only or the main criterion the presence of a large owner (i.e., a family or individual ownership that exceeds a certain threshold). Attempts to supplement measures based on stock ownership with information on individuals have been based on hand-collected data. That, however, has led to a variety of ad hoc solutions, differences in which companies are classified as family firms, and endogenous sample selection (e.g., S&P 500 firms).

In Table 2, I compare blockholder firms with family-run firms in the full population of U.S. public firms. Columns 1-3 show values for all firms in my sample. Column 4 for family-run firms, Column 5 for blockholder firms, and Column 6 for the subset of blockholder-owned firms that I do not classify as family-run because they either disclose no family links or report a number of links scaled by the potential number of links below the 80th percentile. There are two key takeaways from the table. First, only 35% of family-run firms are held in large part by individual or family blockholders. Second, 65% of blockholder firms do not meet the requirement, in terms

of density of family links, to be classified as "family run" and 50% do not disclose *any* family relationships at all (this number is unreported in the table). Overall, the standard approach of identifying family firms on the basis of ownership appears imperfect. About half of the firms that are commonly classified as family firms do not report any family presence, whereas more than half of the firms that disclose widespread family links are not classified as family firms.

The distinction above has a host of material implications as family-run firms and blockholder firms are different along several economically relevant dimensions. Column 4 reports that the average FF is large and old, exhibits a low q ratio, little R&D spending, and a high share of tangible assets. By contrast, I find that most of the BFs that disclose few or no family links are young and small, with high q ratios, a high share of R&D spending, and a low share of tangible assets (see Column 6). In short, FFs exhibit characteristics that are typical of *value* firms, whereas about half of BFs are *growth* firms. Notably, an extensive literature explores how family firms perform (e.g., Anderson and Reeb 2003 and Eddleston, Kellermanns, and Sarathy 2008), invest (e.g., Anderson, Duru, and Reeb 2012), handle labor relations (Mueller and Philippon 2011), withstand crises (e.g., Lins, Volpin, and Wagner 2013 and Ding, Levine, Lin, and Xie 2021), avoid taxes (e.g., Chen, Chen, Cheng, and Shevlin 2010) and innovate (e.g., Duran, Kammerlander, Van Essen, and Zellweger 2016). However, many of these firm outputs are, at least to some degree, affected by market valuations. Incorrectly classifying a large share of growth firms as family firms leads to misleading inference, as it erroneously conflates the implications of family control with those of having superior growth opportunities. I explore the economic implications in greater detail in the next section.

Figure 2 illustrates the distribution of FFs by industry. I find that firms with a large family presence are present in all industries. Yet, low-tech/low-margin industries include a comparatively higher percentage of FFs, and a low percentage of firms with large blockholders and no family links (e.g., Textile, Agriculture, Construction, Food Products, Clothing, Coal, Mining, and Shipping). By contrast, many firms in high-tech/high-margin industries have large owners but disclose few or no family links among employees (e.g., Pharmaceutical, Business Services, Weapons, Computers, Electrical Equipment, and Medical Equipment). Finally, a

number of industries appear to include either a low (e.g., Tobacco and Utilities) or a high percentage of both FFs and BFs (e.g., Alcoholic Drinks).

Fact II: Family-run firms outperform non-family firms

The performance of family firms is the focus of dozens of papers. In a seminal contribution, Anderson and Reeb (2003) find that S&P500 family-owned firms perform better than non-family-owned firms. This finding has, however, been challenged by several papers that find that family firms under-perform (e.g., Claessens, Djankov, Fan, and Lang 2002; Cronqvist and Nilsson 2003; Bennedsen, Nielsen, Pérez-González, and Wolfenzon 2007; Miller, Le Breton-Miller, Lester, and Cannella Jr 2007; and Bertrand, Johnson, Samphantharak, and Schoar 2008). After two decades of research, the consensus that emerges from the literature is that family ownership is beneficial, whereas family executives are detrimental to firm performance and value (see, e.g., Villalonga and Amit 2006). However, most previous papers either consider exclusively the family affiliation of the CEO or focus on settings that are not generalizable to U.S. public firms. The innovation of this paper is to consider the entire nexus of relationships among individuals in top jobs for all U.S. public firms. This allows me to improve upon previous classification procedures and reliably identify the set of U.S. public firms that have a substantial family presence. I explore the relation between widespread family links and firm outputs using the specification below:

$$y_{i,t} \;=\; \beta\, FF_{i,t} \;+\; \gamma\, \mathbf{X}_{i,t} \;+\; \lambda_t \;+\; \lambda_s \;+\; \epsilon_{i,t}, \tag{1}$$

where $y_{i,t}$ is firm's i output in year t. In this section, firm outputs $y_{i,t}$ are the performance metrics ROA, ROE, $Payout$, and $Mkt\ Share$. $\mathbf{X}_{i,t}$ is a vector of firm co-variates that includes $Size$, q, $Tangibility$, and $Leverage$. λ_t and λ_s are year and sector fixed effects, respectively. Including year and sector fixed effects is important in my setting to ensure that I am not simply capturing differences in profitability between industries or over time. Notably, as $FF_{i,t}$ is highly persistent, I cannot include firm fixed effects in this specification (similar to papers on family

ownership). In turn, this limitation prevents any type of causal interpretation of the findings: all coefficients discussed below can only be interpreted as correlations.

Table 3 indicates that firms run by families outperform non-family firms according to all metrics. Specifically, FFs earn 4.1 percentage points higher ROA (16% of one standard deviation) and 7.2 percentage points higher ROE (9% of one standard deviation). These findings are particularly striking if one considers that, on average, U.S. public firms earn negative ROA and ROE over the sample period (in line with what other papers find for a similar time frame; see, e.g., Graham and Leary 2018). Furthermore, FFs pay 23 basis points higher dividends (9% of one standard deviation) and have a 22 basis points larger market share (7% of one standard deviation). Notably, all coefficients are statistically significant and economically large. Table A.1 in the Online Appendix shows qualitatively similar results for alternative definitions of family-run firms.

The results above paint a rather benign picture of the role of family members, which is in line with the findings of Anderson and Reeb (2003) but at odds with more recent papers. However, given the high correlation between block ownership and family presence (as 35% of FFs are owned by large shareholders; see Table 2) this finding may be driven by FF capturing a positive effect of ownership on performance. To disentangle the role of ownership from that of family management, I run a "horse race" between FF and BF by including both variables in the same performance regression.

Table 4 reports my findings. Columns 1, 3, 5, and 7 show that, when family links are not considered, the effect of ownership on performance is strongly positive and statistically significant. However, in the horse race between FF and BF, the effect of family ownership on performance is either subsumed or much weaker (see Columns 2 and 4). This finding conflicts with the notion that concentrated ownership fosters profitability, whereas family management destroys firm value. The effect of appointing relatives to top jobs appears more nuanced and possibly beneficial. To my knowledge this is the first empirical evidence that a large number of family links is positively associated with U.S. public firms' performance. Table A.3 in the Online Appendix presents similar results for alternative thresholds of equity ownership to classify

blockholder firms.

Importantly, while the results above cast family management in a more positive light than related papers, they do not indicate that firms outperform because they appoint family managers. Another possibility is, for instance, that successful firms are more likely to retain family members in top jobs.

Fact III: Differences in valuations between family-run and non-family-run firms are amplified by selection

There are two main strands of literature that explore the effect of family involvement on firm valuations. The first strand focuses on differences between firms and documents a valuation discount for firms that employ relatives of the founder and a valuation premium for firms in which the founder acts as CEO (e.g., McConnell and Servaes 1990, Miller, Le Breton-Miller, Lester, and Cannella Jr 2007, and Villalonga and Amit 2006). The second strand explores variations within firm and finds a value discount when control is passed down to the heir of the founder (Pérez-González 2006 and Bennedsen, Nielsen, Pérez-González, and Wolfenzon 2007).

The empirical evidence that supports the first strand of literature largely derives from cross-sectional regressions of q ratios on dummy variables that take a value of 1 if there are block-owners or at least one family member is active in the firm. I argue that it is particularly problematic to interpret lower q ratios in FFs as evidence of a "family discount" in light of *Fact I*. Namely, family managers are significantly more common in value firms. However, value (growth) firms exhibit lower (higher) q ratios regardless of whether relatives are employed or not. Symmetrically, it is problematic to argue that the value premium in firms run by the founder (generally growth firms) is entirely generated by the CEO's exceptional skill. In econometric terms, it is not trivial to disentangle how much of the value discount/premium documented by previous literature is caused by the presence of family managers and how much is an effect of endogenous selection.

To address this issue, I rely on coarsened exact matching to select a sample of firms in which

valid comparisons are possible. Notably, coarsened exact matching is immune to the estimation issues that affect propensity score matching, as it does not rely on a two-stage estimation (e.g., Abadie and Imbens 2016). In my empirical approach, I match FFs to firms that disclose no family links and Founder-CEO firms to non-Founder-CEO firms on the basis of *Age* and the exact industry in which the firm operates (using 4-digit SIC codes). If multiple matches exist, I retain only the firm which is the closest in total asset value in the year the FF enters my sample. If no match exists, I discard the FF as well.

I explore the relation between q and FF in Panel A Table 5. In line with the previous literature, the coefficients estimated on the unmatched sample are negative and statistically significant (see Columns 1 and 2). FFs exhibit 12 percentage points lower q on average (6% less than the average firm). However, in the matched sample the relation between q and FF becomes statistically insignificant (see Columns 3 and 4).

Symmetrically, in Panel B, I consider the effect of founder CEOs on valuations. The relation between q and $Founder\ CEO$ in the unmatched sample is positive and statistically significant: founder-CEO firms exhibit 22 percentage points higher qs, 11% more than the average firm (see Columns 1 and 2). However, in the matched sample the relation becomes statistically insignificant (see Columns 3 and 4).

These results suggest that the role of managerial skill is perhaps overstated by previous papers, whereas the effect of endogenous selection is not fully recognized. Founder CEOs without dynastic aspirations are more common in high-q industries, whereas founders with dynastic aspirations tend to endogenously select low-q industries. This selection mechanism accounts for a sizeable part of the valuation premium/discount. Importantly, this result is not inconsistent with the finding that family-run firms exhibit (even) lower q ratios when the descendants of the founder are appointed as CEO (e.g., Pérez-González 2006). All in all, my evidence only speaks to differences in valuations between firms, whereas I do not make any claim about variations within firm.

Fact IV: Family-run firms are more cost-effective

Costs in family-run firms. In this section, I test whether widespread family links among co-workers allow the business to compress operating costs and whether that explains why family-run firms perform better than non-family firms. The hypothesis that FFs pay lower costs follows from previous research that establishes that family-owned firms borrow at lower rates (Anderson, Mansi, and Reeb 2003) and employ cheaper labor (Sraer and Thesmar 2007). There are reasons to believe that firms that appoint relatives may employ a different labor force altogether, as criteria other than merit enters into the selection process. In turn, workers may be motivated by non-pecuniary incentives such as loyalty to the family member who hired them. Implicit labor contracts may be standard for both family and non-family personnel. In fact, the perceived stability of family managers, who are unlikely to move to a different firm or be fired, enables them to enforce non-legally binding commitments. This is not the case in non-family firms, as promises may not be honored if, for instance, the management changes (Shleifer and Summers 1988). In exchange for such informal commitments, workers may accept a lower compensation, be less likely to go on strike, or to unionize (Mueller and Philippon 2011 and Bach and Serrano-Velarde 2015). In the following, I consider three components of the overall cost of running the firm: direct costs (including labor costs), marketing costs, and funding costs.

My empirical evidence supports the argument that FFs are more cost-efficient. Column 1 of Table 6 shows that FFs pay 28 percentage points lower costs (COGS) (23% lower with respect to the baseline). This relation is statistically significant at the 1% and economically large. In terms of cost per worker, this means that FFs pay annually $22,800 lower COGS per employee (see Column 2).[7] This is, however, an imprecise proxy of labor costs, as COGS include also non-labor-related direct expenses, as, e.g., raw materials or distribution costs. COMPUSTAT provides information on exact staff expenses only for a small selection of firms (499 firms in my sample, for a total of 3,443 observations). A t-test on the selection of firms for which I have

[7]Notably, the finding that these firms pay lower wages at an aggregate level does not imply that they pay lower wages to appointed relatives too. Given that the number of family members is in all cases only a fraction of the whole workforce, I cannot rule out that relatives are overpaid, whereas workers without family connections are underpaid.

precise salary information indicates that FFs pay annually a $9,400 lower salary per worker, i.e., 41% of the lower direct costs, statistically significant at the 1% level (see Table A.4 in the Online Appendix). A back-of-the-envelop calculation suggests that the corresponding savings are sizeable: as the average firm in my sample employs 11,486 workers, FFs save about $108 million per year or 2.4% of the asset value of the average firm in my sample. However, the selection of firms that report staff expenses is in all likelihood non-random, which prevents me from generalizing this result to all firms. Importantly, FFs employ workers that, while cheaper, exhibit similar labor productivity (see Column 3).

When looking at other costs, I find no evidence that FFs are more efficient in terms of marketing expenses or that they can borrow at lower rates (Columns 4 and 5).

Scalability of the workforce in response to shocks in product demand. In the following, I explore the hypothesis that FFs are better able at scaling down (up) labor in response to a contraction (expansion) in product demand. On the one hand, this could be because it is easier to dismiss redundant workers in downturns, as family managers are tougher in handling labor relations and their workers are less likely to unionize (Mueller and Philippon 2011). On the other, family managers can reduce search costs by recruiting directly from the pool of relatives, without going through a formal hiring process. The ability to expand and contract the workforce as needed creates a competitive advantage. In fact, businesses that cannot downsize in bad times are forced to retain on payroll costly and unnecessary workers. Symmetrically, firms that cannot scale up production to meet a sudden increase in demand leave potential clients to the competition. I follow the empirical approach of Sraer and Thesmar (2007) and estimate the sensitivity of firm employment to industry sales shocks as follows:

$$log(Emp_{i,t}) \;=\; \alpha_i \;+\; \lambda_t \;+ \beta\, log(Sales_{s,t}) + \;\gamma\, \mathbf{X}_{i,t} \;+\; \epsilon_{i,t}, \tag{2}$$

where $log(Emp_{i,t})$ is the log of the number of firm i's employees in year t, and $log(Sales_{s,t})$ is the log of the average firm sales in the industry s in which firm i operates, weighted by each

firm size at the beginning of the year. α_i are firm fixed effects and λ_t are time fixed effects. The coefficient β measures how firm employment changes in response to industry-level demand shocks.

Column 1 of Table 7 shows that FFs exhibit a significantly higher sensitivity of employment to product demand. This finding indicates that FFs have greater workforce scalability and helps to explain their comparative advantage in achieving cost-efficiency. In sum, firms run by families employ cheaper and more flexible labor. Interestingly, this result is the opposite of what Sraer and Thesmar (2007) document for French family-owned firms. In an attempt to reconcile my results with theirs, I consider in Columns 2 and 3 the sensitivity of labor to industry shocks in family-owned firms (rather than FFs). I find that BFs are *less* likely to adjust employment to industry sales (the coefficient is however not statistically significant). The negative coefficient is consistent with the hypothesis that family owners offer implicit insurance from layoffs to their workers in downturns (in line with the findings of Sraer and Thesmar 2007 and Bach and Serrano-Velarde 2015), whereas family managers are tougher in handling labor relations (consistent with Mueller and Philippon 2011).

Performance decomposition. How much of the superior performance of FFs documented by *Fact II* is explained by lower costs? I rely on a twofold Blinder-Oaxaca decomposition to disentangle the performance gap between non-FFs and FFs in its individual components. In this analysis, I consider as channels all co-variates included as controls in previous analyses, the cost measures considered in Table 6, and firm age, cash holdings, and R&D spending, as these latter variables exhibit large differences in means between FFs and non-FFs (as shown in Table 2). Intuitively, this methodology assumes that the contribution of each channel variable to the difference in profitability is equal to the change in the average predicted profitability obtained from replacing its distribution for FFs with that for non-FFs, while holding the distributions of the other variables constant.

Table 8 reports that 61% of the difference in ROA between FFs and non-FFs is explained by observable differences (-0.014/-0.023). Out of the part that can be explained by observables, only

a relatively small part of around 12% (-0.002/-0.014) arises because of differences in operating costs ($COGS$), which corresponds to $0.12 \times 0.61 = 7\%$ of the total delta in performance. The most important co-determinant in terms of magnitude is $R\&D$, which increases the delta in performance between FFs and non-FFs by 0.025. This finding supports the hypothesis that FFs operate in more mature sectors, in which firms can achieve higher profits while there is less scope for innovation. Differences in cash holdings, q, and leverage also contribute to increase the difference in performance. By contrast, differences in size, tangibility, age, and borrowing costs are either irrelevant or contribute to decrease (rather than increase) the gap in performance between FFs and non-FFs. Overall, differences in $R\&D$ and, to a lesser degree, operating costs, cash holdings, and q account for most of the superior performance of firms run by families.

Fact V: Family managers behave myopically

Existing theories derive conflicting predictions as to whether families foster corporate investments. On the one hand, the stability of the family at the helm of the corporation should be beneficial, as it promotes long-horizon corporate policies. This should limit the under-investment problem and reduce the scope for managerial short-termism (James 1999). Furthermore, the reduced separation between ownership and control should limit moral hazard and incentivize family managers to exert effort (Fama and Jensen 1983). On the other hand, families may be reluctant to fund investments by issuing new stocks, as that dilutes their holdings and increases the risk of losing control of the firm (Amihud, Lev, and Travlos 1990). Furthermore, the presence of family links among co-workers may exacerbate opportunistic behaviors. For example, family links between supervisors and underlings may give rise to favoritism, thereby resulting in ineffective monitoring and sub-optimal effort (Prendergast and Topel 1996). One of the main concerns with appointing relatives of directors to top positions is that they may enjoy "special treatment," such as undeserved promotions or protection from firing when results are poor. This can be the case because parents derive utility from helping their children to succeed (e.g., Becker and Tomes 1986) or because firing a spouse may decrease the joint income of the household or lead to family conflicts. Protection from the risk of being fired, in turn, could incentivize family

managers to enjoy a "quiet life," slacking off instead of pursuing value-increasing investment opportunities (Bertrand and Mullainathan 2003). Previous research has examined investment in family firms both theoretically and empirically with mixed findings (e.g., Ellul, Pagano, and Panunzi 2010; Anderson, Duru, and Reeb 2012; Lins, Volpin, and Wagner 2013; Tsoutsoura 2015; Duran, Kammerlander, Van Essen, and Zellweger 2016; Amore and Minichilli 2018; and Kang and Kim 2020).

I explore the relation between investment and family links in Table 9. Column 1 shows that FFs invest 1.8 percentage points less than peer firms (6% less than the average investment of 0.30). In Columns 2 and 3, I explore the hypothesis that family managers who own a large block of shares actively avoid dilution by under-investing. Specifically, I interact the variable FF alternatively with BF and a dummy that takes a value of 1 if the founder still holds a position in the firm ($Founder\ in$), as employed heirs of the founders might be reluctant to issue new shares to fund investments after the founder left. While both interaction coefficients have a negative sign, they are statistically insignificant. Furthermore, the coefficient of FF remains negative and significant, thereby suggesting that the negative effect on investment is not driven by an attempt to avoid dilution. To evaluate whether lower investment levels are the result of a lower sensitivity to investment opportunities, I estimate the following equation:

$$Investment_{i,t+1} = \lambda_i + \lambda_t + \lambda_s + \beta\, FF_{i,t} \times q_{i,t} + \delta\, FF_{i,t} + \gamma\, \mathbf{X}_{i,t} + \epsilon_{i,t}, \qquad (3)$$

where a higher β would indicate that FFs are more responsive to changes in investment opportunities proxied by $q_{i,t}$.

Column 4 shows that FFs exhibit *lower* sensitivity to investment opportunities, which is consistent with the hypothesis that family managers pass up valuable opportunities either because they lack the ability to take advantage of them or because they lead a quiet life.[8]

Summing up, my findings are consistent with the fact that family-run firms are traditional

[8]Notably, a potential issue with my empirical approach is that q is measured with error. This is because the correct proxy for investment opportunities is the (unobservable) marginal q rather than the average q that I use in my regressions, and the two coincide only under stringent conditions (Hayashi 1982).

firms operating in low-q industries and with a limited emphasis on creating value in the long run through innovation and investment. This appears to be the case regardless of whether the founder still holds a position in the firm or not (see Table A.5 in the Online Appendix). By contrast, blockholder-owned firms that do not employ related managers tend to be more common in high-q industries and to have a longer horizon. I do not find any evidence that the presence of family managers "causes" this outcome. My findings point to the fact that founder-CEOs without dynastic aspirations tend to endogenously select growth industries, whereas founders with dynastic aspirations are more common in value industries.

III. Conclusions

Family firms are the backbone of the U.S. economy. Despite their importance, the academic literature lacks a systematic approach to identify firms that employ family members as opposed to firms held by large owners but with no relatives involved (such as, e.g., Google, Oracle, or Moderna). This article has two goals. First, it proposes a novel approach to identify firms with widespread family links among high-ranking co-workers for *all* U.S. public firms. Second, it leverages this measure to reassess widely accepted notions about family firms.

I structure my findings around five facts. First, the prevalent approach that defines family firms on the basis of stock ownership leads to misclassify a large number of firms. In the U.S., the presence of a large owner is neither a necessary nor a sufficient condition for a firm to disclose widespread family connections. Second, firms run by families perform better than both non-family firms and blockholder-owned firms. The positive effect of ownership on performance documented by previous literature is, at least in part, driven by an omitted variable problem. Third, previous findings in the literature documenting that family firms/founder firms trade at a value discount/premium are amplified by endogenous selection. An empirical approach that compares family firms or founder firms to counterfactual firms from the exact same industry finds little difference in q ratios. Fourth, FFs pay lower operating costs. However, that explains only 7% of their superior performance. Fifth, family managers tend to under-invest.

Overall, my findings challenge the common view that firms that involve family members in the administration of the corporation are "bad firms" and that investors shun away from them. However, three disclaimers are in order. First, the evidence in my paper is not causal. I do not claim that firms run by families outperform because they employ family members. The aim of my paper is mainly descriptive. Second, my findings only apply to U.S. public firms. It is entirely possible that the presence of family members has more negative consequences in settings characterized by weaker governance and institutions, or where activist investors cannot unseat unproductive family members. Third, I do not claim that previous results in the literature are "wrong." Most findings from papers that focus on firms held by large owners are still valid and important to evaluate the implications of blockholding. My findings, however, stress the importance of distinguishing between stock ownership and family involvement, especially in countries like the U.S. where the two do not necessarily coincide.

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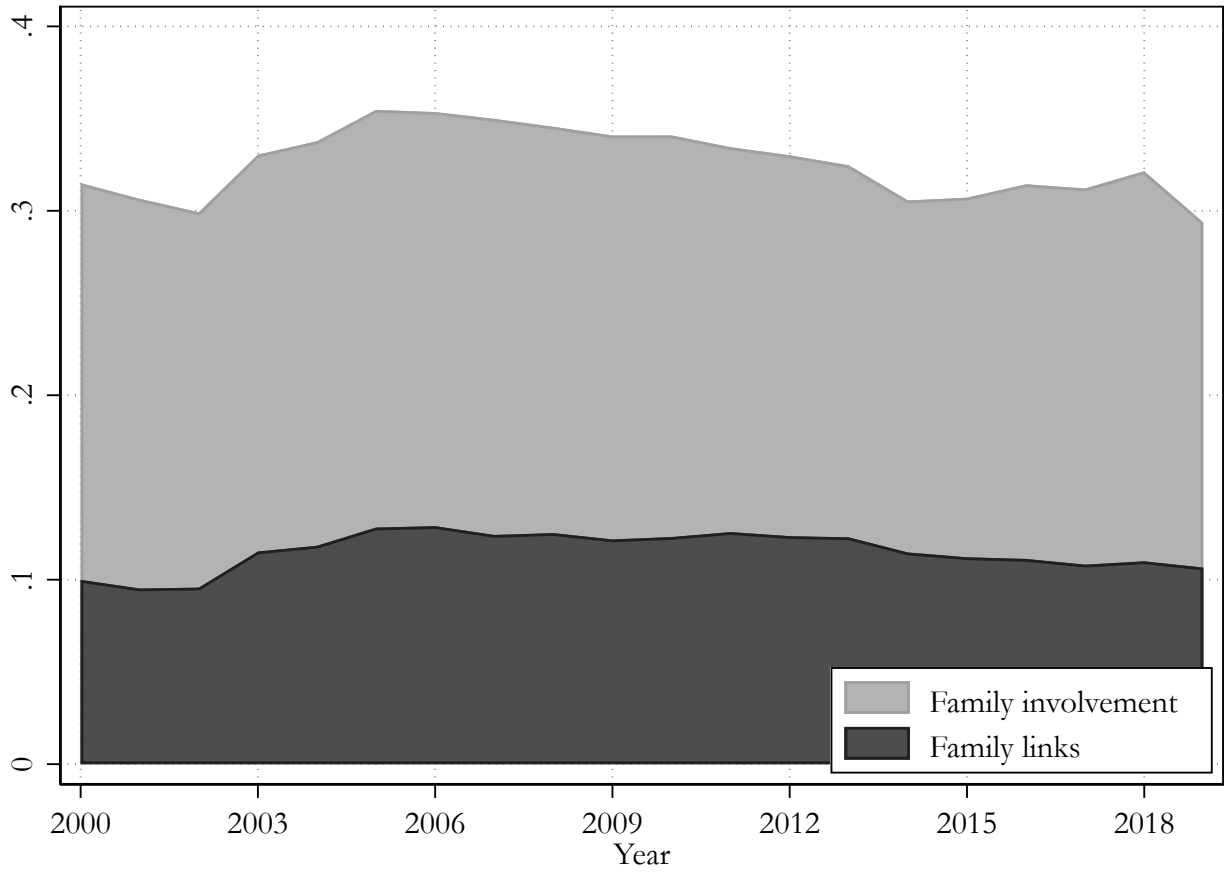

Figure 1: Links over time

Notes: This figure illustrates the percentage of firms that disclose at least one family link out of all U.S. public firms (in light gray) and the average number of family links scaled by the number of directors in the full sample of U.S. public firms (in dark gray). The sample period is 2000-2019.

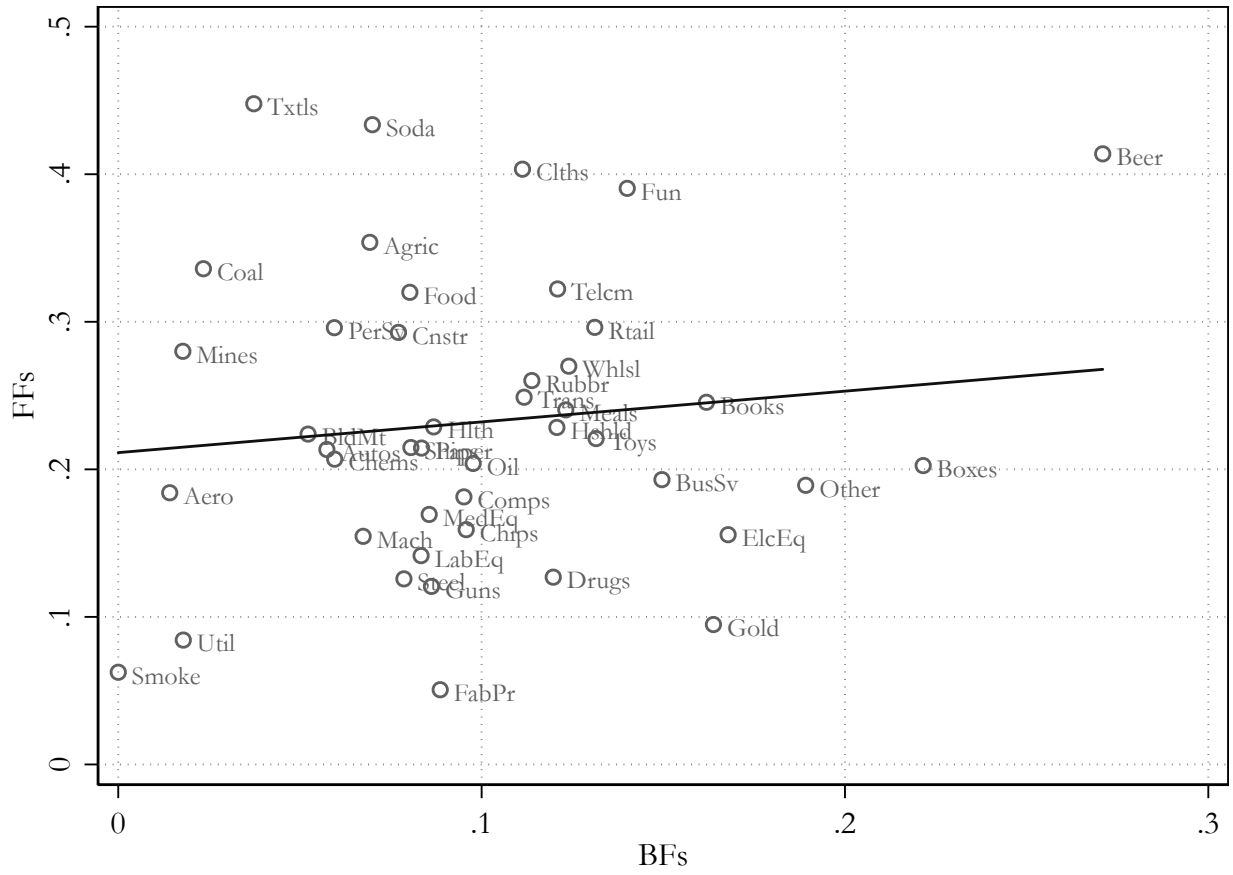

Figure 2: Family ownership and links by industry

Notes: The figure above illustrates the percentage of FFs and BFs (that are not family run) in different industries. Industries are defined using the Fama and French 48-industry classification. FFs are firms for which the number of disclosed family links scaled by the number of directors is in the top 20% of the annual distribution. BFs are firms in which a family or individual owns 20% or more of the firm's shares and the number of disclosed family links scaled by the number of possible links is *not* in the top 20% of the annual distribution. The black tendency line represents the slope of a regression of FF on BF at the industry-year level.

Table 1: Which relatives?

	% of all links
Sisters	5.57
Brothers	24.55
Mothers	2.21
Fathers	10.76
Wives	11.50
Husbands	3.16
Daughters	6.71
Sons	27.83
Uncles	1.26
Cousins	4.33
Nephews	2.08
Ex-wives	0.04

Notes: This table reports detailed information on the 51,997 links disclosed by U.S. public firms in the period 2000-2019. The number of links and the type of family relationship are obtained from the proxy statements filed by U.S. public firms with the Security and Exchange Commission (SEC) and available through EDGAR. If multiple proxy statements are filed during the same year, I consider the most recent. In most cases, family links are disclosed from the perspective of the highest-ranking individual and, therefore, are not even and reciprocal. The methodology to extract and clean the data is described in Section I and further detailed in the Online Appendix.

Table 2: Summary statistics

	Full sample			FFs	BFs	BFs†
	Obs.	Mean	SD	Mean	Mean	Mean
	(1)	(2)	(3)	(4)	(5)	(6)
FF	55,672	0.209	0.406	1.000	0.403	0.000
BF	55,672	0.181	0.385	0.350	1.000	1.000
ROA	55,672	-0.040	0.253	-0.015	-0.068	-0.106
ROE	55,672	-0.045	0.758	-0.006	-0.100	-0.155
Size	55,672	6.211	2.057	5.969	5.342	5.106
Payout	55,672	0.011	0.027	0.013	0.013	0.012
Mkt share	55,672	0.012	0.033	0.012	0.008	0.006
Age	55,672	18.563	14.018	18.967	16.883	15.111
q	55,672	2.084	1.574	1.961	1.984	2.086
Tangibility	55,672	0.250	0.234	0.272	0.247	0.226
Leverage	55,672	0.226	0.225	0.223	0.218	0.212
Cash	55,672	0.214	0.232	0.180	0.214	0.244
COGS	55,672	1.189	3.709	0.999	1.236	1.511
R&D	35,403	0.105	0.153	0.075	0.101	0.124
Investment	52,185	0.296	0.323	0.275	0.282	0.305
Cost per worker	55,233	2.718	3.973	2.577	2.437	2.570
Labor productivity	55,233	4.027	5.274	3.884	3.571	3.635
Marketing	49,345	0.339	0.289	0.345	0.390	0.405
Cost of debt	43,489	0.121	0.298	0.120	0.131	0.147

Notes: This table reports summary statistics for the full sample of U.S. public firms (Columns 1-3), Family-run Firms (FFs) defined as firms that disclose a number of links over the number of possible links in the top 20% of the annual distribution (Column 4), Blockholder-owned Firms (BFs) defined as firms with family or individual stock ownership equal or above 20% following the standard definition of family firms used in the literature (Column 5), and for the subset of firms that are blockholder owned but are not family run (Column 6). All accounting variables are defined in Table A and winsorized at the 1% level. † indicates that FFs are excluded.

Table 3: Do family-run firms outperform?

	ROA	ROE	Payout (%)	Mkt share (%)
	(1)	(2)	(3)	(4)
FF	0.041***	0.072***	0.233***	0.223**
	(0.004)	(0.009)	(0.061)	(0.094)
Controls	Y	Y	Y	Y
Sector FE	Y	Y	Y	Y
Time FE	Y	Y	Y	Y
Observations	55,672	55,672	55,672	55,672
Adj R2	0.245	0.065	0.044	0.212
Mean D. Var.	-0.040	-0.045	1.147	1.179

Notes: This table shows regressions of firm performance on FF. FF is a dummy variable that takes a value of 1 if the number of disclosed family links scaled by the number of possible links is in the top 20% of the annual distribution. Performance is ROA, ROE, $Payout$, and $Mkt\ share$, respectively. Control variables include $Size$, q, $Tangibility$, and $Leverage$. All accounting variables are winsorized at the 1% level and defined in Table A. The bottom row reports the mean of the dependent variable. Standard errors are clustered at the firm level and reported in parentheses. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 4: Blockholder-owned firms vs family-run firms

	ROA		ROE		Payout (%)		Mkt share (%)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
BF	0.021***	0.012*	0.034***	0.018	0.343***	0.304***	0.285***	0.245**
	(0.006)	(0.006)	(0.012)	(0.013)	(0.083)	(0.082)	(0.110)	(0.109)
FF		0.038***		0.068***		0.175***		0.176*
		(0.005)		(0.009)		(0.059)		(0.093)
Controls	Y	Y	Y	Y	Y	Y	Y	Y
Sector FE	Y	Y	Y	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y	Y	Y	Y
Observations	55,672	55,672	55,672	55,672	55,672	55,672	55,672	55,672
Adj R2	0.241	0.245	0.064	0.065	0.045	0.045	0.212	0.212
Mean D. Var.	-0.040	-0.040	-0.045	-0.045	1.147	1.147	1.179	1.179

Notes: This table shows regressions of firm performance on BF and FF. BF is a dummy variable that takes a value of 1 if a single family or individual owns 20% or more of firm's shares following the standard definition of family firms used in the literature. FF is a dummy variable that takes a value of 1 if the number of disclosed family links scaled by the number of possible links is in the top 20% of the annual distribution. Performance is ROA, ROE, $Payout$, and $Mkt\ share$, respectively. Control variables include $Size$, q, $Tangibility$, and $Leverage$. All accounting variables are winsorized at the 1% level and defined in Table A. The bottom row reports the mean of the dependent variable. Standard errors are clustered at the firm level and reported in parentheses. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5: Value premium or discount?

Panel A: Family discount

	Unmatched sample		Matched sample	
	(1)	(2)	(3)	(4)
FF	-0.112***	-0.121***	-0.084	-0.081
	(0.035)	(0.034)	(0.061)	(0.059)
Controls	Y	Y	Y	Y
Sector FE	N	Y	N	Y
Time FE	N	Y	N	Y
Observations	55,672	55,672	22,245	22,245
Adj R2	0.079	0.123	0.098	0.154
Mean D. Var.	2.084	2.084	2.358	2.358

Panel B: Founder premium

	Unmatched sample		Matched sample	
	(1)	(2)	(3)	(4)
Founder CEO	0.191***	0.217***	-0.016	0.040
	(0.066)	(0.065)	(0.105)	(0.102)
Controls	Y	Y	Y	Y
Sector FE	N	Y	N	Y
Time FE	N	Y	N	Y
Observations	35,647	35,647	6,621	6,621
Adj R2	0.088	0.143	0.061	0.146
Mean D. Var.	2.084	2.084	2.783	2.783

Notes: This table shows regressions of q on FF (Panel A) and $Founder\ CEO$ (Panel B). q is winsorized at the 1% level and defined in Table A. FF is a dummy variable that takes a value of 1 if the number of disclosed family links scaled by the number of possible links is in the top 20% of the annual distribution. $Founder\ CEO$ is a dummy variable that takes a value of 1 if the founder is the current CEO. Columns 1 and 2 report OLS regressions. Columns 3 and 4 are based on a coarsened exact matching estimator that selects control firms among those that do not disclose any family link (Panel A) or those in which the current CEO is not the founder (Panel B), operate in the same industry defined using SIC 4-digit codes and are the same age. If multiple control firms exist, only the one closest in size is retained. Control variables include $Size$, $Tangibility$, and $Leverage$. All accounting variables are winsorized at the 1% level and defined in Table A. Standard errors are clustered at the firm level and reported in parentheses. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 6: Do family-run firms pay lower costs?

	Direct costs			Marketing costs	Funding costs
	COGS	Cost per worker	Labor productivity	Advertising	Cost of debt
	(1)	(2)	(3)	(4)	(5)
FF	-0.276***	-0.228**	-0.183	-0.004	-0.007
	(0.064)	(0.095)	(0.129)	(0.007)	(0.005)
Controls	Y	Y	Y	Y	Y
Sector FE	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y
Observations	55,672	55,233	55,233	49,345	43,489
Adj R2	0.101	0.135	0.179	0.399	0.071
Mean D. Var.	1.189	2.718	4.027	0.339	0.121

Notes: This table shows regressions of firm costs on FF. FF is a dummy variable that takes a value of 1 if the number of disclosed family links scaled by the number of possible links is in the top 20% of the annual distribution. Control variables include $Size$, q, $Tangibility$, and $Leverage$. All accounting variables are winsorized at the 1% level and defined in Table A. The bottom row reports the mean of the dependent variable. Standard errors are clustered at the firm level and reported in parentheses. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 7: Sensitivity of employment to industry sales

	$Log(Emp)$		
	(1)	(2)	(3)
$Log(Sales_{s,t}) \times FF_{i,t}$	0.005***		0.005***
	(0.001)		(0.001)
$Log(Sales_{s,t}) \times BF_{i,t}$		-0.000	-0.001
		(0.002)	(0.002)
$Log(Sales_{s,t})$	0.038***	0.039***	0.039***
	(0.004)	(0.004)	(0.004)
Controls	Y	Y	Y
Firm FE	Y	Y	Y
Time FE	Y	Y	Y
Observations	54,361	54,361	54,361
Adj R2	0.974	0.974	0.974
Mean D. Var.	1.325	1.325	1.325

Notes: This table shows regressions of firm $Log(Emp)$ on industry $Log(Sales)$. $Log(Emp)$ is the log of firm employees; $Log(Sales)$ is the log of the weighted average of industry sales where the weights are given by each firm's size at the beginning of the year. FF is a dummy variable that takes a value of 1 if the number of disclosed family links scaled by the number of possible links is in the top 20% of the annual distribution. BF is a dummy variable that takes a value of 1 if a single family or individual owns 20% or more of firm's shares. Control variables include $Size$, q, $Tangibility$, $Leverage$, FF (only Columns 1 and 3), and BF (only Columns 2 and 3). All accounting variables are winsorized at the 1% level and defined in Table A. The bottom row reports the mean of the dependent variable. Standard errors are clustered at the firm level and reported in parentheses. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 8: Performance decomposition

	Coef. (1)	Std. Err. (2)
Difference in *ROA*	-0.0232***	0.0043
Explained	-0.0143***	0.0030
Unexplained	-0.0089***	0.0029
Explained by:		
Size	0.0123***	0.0011
Leverage	-0.0016**	0.0008
q	-0.0019***	0.0003
Tangibility	0.0026***	0.0005
COGS	-0.0017***	0.0006
Cash	-0.0021***	0.0004
R&D	-0.0253***	0.0020
Cost of debt	-0.0003	0.0003
Age	0.0001	0.0001

Notes: This table reports the individual contribution of differences in firm-level observables to the difference in *ROA* between non-FFs and FFs from a twofold Blinder-Oaxaca decomposition. FFs are firms in which the number of disclosed family links scaled by the number of possible links is in the top 20% of the annual distribution. The sample includes 25,698 observations. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 9: Investment

	Investment			
	Baseline	Dilution		Inv. Opportunities
	(1)	(2)	(3)	(4)
FF	-0.018***	-0.012**	-0.022***	0.009
	(0.005)	(0.005)	(0.006)	(0.009)
$FF \times BF$		-0.003		
		(0.011)		
BF		-0.025***		
		(0.007)		
$FF \times Founder\ in$			-0.011	
			(0.013)	
Founder in			0.035***	
			(0.008)	
$FF \times q$				-0.008*
				(0.005)
Controls	Y	Y	Y	Y
Firm FE	N	N	N	Y
Sector FE	Y	Y	Y	Y
Time FE	Y	Y	Y	Y
Observations	52,185	52,185	34,369	51,379
Adj R2	0.205	0.206	0.243	0.384
Mean D. Var.	0.296	0.296	0.296	0.296

Notes: This table shows regressions of capital investment on FF (Column 1) and FF interacted with BF, $Founder\ in$, and q (Columns 2-4). FF is a dummy variable that takes a value of 1 if the number of disclosed family links scaled by the number of possible links is in the top 20% of the annual distribution. BF is a dummy variable that takes a value of 1 if a single family or individual owns 20% or more of firm's shares. $Founder\ in$ is a dummy variable that takes a value of 1 if the founder holds a position in the firm. Control variables include $Size$, q, $Tangibility$, and $Leverage$. All accounting variables are winsorized at the 1% level and defined in Table A. Standard errors are clustered at the firm level. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table A: Description of variables

This table provides a detailed description of the accounting variables used.

Variable	Definition
COGS	The ratio of the cost of goods sold and firm's sales
Cost of debt	The ratio of the total expense for interests and total debt
Cost per worker	The ratio of the cost of goods sold and the number of employees
Investment	The ratio of future capital expenditures and current property, plant, and equipment
Labor productivity	The ratio of dollar sales and the number of employees
Leverage	The ratio of total debt (debt in current liabilities plus long-term debt) and total assets
Mkt share	The ratio of the firm's sales and the total sales in the firm's industry
Payout	The ratio of dividends and lagged total assets
q	The ratio of a firm's market value of assets (market value of equity and debt) and total book assets
R&D	The ratio of R&D expenses and lagged total assets
ROA	The ratio of net income and lagged total assets
ROE	The ratio of income before extraordinary items and lagged common equity
Size	The logarithm of firm's total assets
Tangibility	The ratio of property, plant, and equipment and total assets